

User Manual

IND400

Weighing Terminal



METTLER TOLEDO

METTLER TOLEDO Service

Congratulations on choosing the quality and precision of METTLER TOLEDO. Proper use of your new equipment according to this Manual and regular calibration and maintenance by our factory-trained service team ensures dependable and accurate operation, protecting your investment. Contact us about a service agreement tailored to your needs and budget. Further information is available at www.mt.com/service.

There are several important ways to ensure you maximize the performance of your investment:

- 1 **Register your product:** We invite you to register your product at www.mt.com/productregistration so we will provide you with information tailored to your specific needs. Additionally, you will receive promotions that you as a METTLER TOLEDO product owner can benefit from at your convenience.
- 2 **Contact METTLER TOLEDO for service:** The value of a measurement is proportional to its accuracy – an out of specification scale can diminish quality, reduce profits and increase liability. Timely service from METTLER TOLEDO will ensure accuracy and optimize uptime and equipment life.
 - ➔ **Installation, Configuration, Integration and Training:** Our service representatives are factory-trained weighing equipment experts. We make certain that your weighing equipment is ready for production in a cost effective and timely fashion and that personnel are trained for success.
 - ➔ **Initial Calibration Documentation:** The installation environment and application requirements are unique for every industrial scale so performance must be tested and certified. Our calibration services and certificates document accuracy to ensure production quality and provide a quality system record of performance.
 - ➔ **Periodic Calibration Maintenance:** A Calibration Service Agreement provides on-going confidence in your weighing process and documentation of compliance with requirements. We offer a variety of service plans that are scheduled to meet your needs and designed to fit your budget.

FCC Notice

This device complies with Part 15 of the FCC Rules and the Radio Interference Requirements of the Canadian Department of Communications. Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for uncontrolled equipment and meets FCC radio frequency (RF) Exposure Guidelines. This equipment should be installed and operated with at least 2cm and more between the radiator and person's hands.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

IC Notice

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans la présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :

- (1) L'appareil ne doit pas produire de brouillage ;
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with IC radiation exposure limits set forth for uncontrolled equipment and meets IC radio frequency (RF) Exposure Guidelines. This equipment should be installed and operated with at least 2cm and more between the radiator and person's hands.

Avis : Pour répondre à la IC d'exposition pour les besoins de base et mobiles dispositifs de transmission de la station, sur une distance de séparation de 2 cm ou plus doit être maintenue entre l'antenne de cet appareil et les personnes en cours de fonctionnement. Pour assurer le respect, l'exploitation de plus près à cette distance n'est pas recommandée. L'antenne(s) utilisé pour cet émetteur ne doit pas être localisés ou fonctionner conjointement avec une autre antenne ou transmetteur.

For indoor use only.

Caution:

- 1) The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
- 2) For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;
- 3) For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p limits specified for point-to-point and non-point-to-point operation as appropriate;

And DFS(Dynamic Frequency Selection) products that operate in the bands 5250-5350MHz, 5470-5600MHz, and 5650-5725MHz.

Avertissement:

- 1) Le dispositif fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
- 2) Le gain maximal d'antenne permis pour les dispositifs avec antenne(s) amovible(s) utilisant les bandes 5250-5350 MHz et 5470-5725 MHz doit se conformer à la limitation P.I.R.E.;
- 3) Le gain maximal d'antenne permis pour les dispositifs avec antenne(s) amovible(s) utilisant la bande 5725-5850MHz doit se conformer à la limitation P.I.R.E spécifiée pour l'exploitation point à point et nonpoint à point, selon le cas.

Les produits utilisant la technique d'atténuation DFS (sélection dynamique des fréquences) sur les bandes 5250-5350 MHz, 5470-5600 MHz et 5650-5725MHz.

Safety Instructions

- Read this manual BEFORE operating or servicing this equipment and FOLLOW these instructions carefully.
- SAVE this manual for future reference.

Compliance information

National approval documents, e.g. the FCC Supplier Declaration of Conformity, are available online and/or included in the packaging. ► www.mt.com/ComplianceSearch

Manuals download

Please use the link ► www.mt.com/IND400-downloads or scan the QR code below to download more manuals.



Feedback

We always strive to provide high-quality information and value your feedback. If you find ambiguous information or mistakes in this manual, please do not hesitate to let us know by e-mail.

► feedback.manuals.Industry@mt.com



NOTICE

- 1 **Power on the battery-powered terminal via adapter to activate battery at first startup.**
- 2 **Do not use the battery charger in humid or dusty rooms or below 0 °C (32 °F) ambient temperature.**
- 3 **The device is for indoor use only. Avoid direct exposure to sunlight.**
- 4 **Avoid plastic covers over the equipment. The protection cover used must be officially approved by METTLER TOLEDO.**
- 5 **Replacing equipment components with non-original parts can lead to performance losses and property damage. Use only original or compatible spare parts and accessories from METTLER TOLEDO.**
- 6 **Be certain that the communication circuits are wired exactly as shown in the installation section of its corresponding user manual. If the wires are not connected correctly, the equipment or interface board may be damaged.**
- 7 **Use the device only for weighing in accordance with its corresponding user manual. Any other type of use and operation beyond the limits of technical specifications is considered as not intended.**



WARNING

- 1 **The mains connection of the power supply unit must be made by a professional electrician authorized by the owner and in accordance with the respective terminal diagram, the accompanying installation instructions as well as the country-specific regulations.**
- 2 **Before service, disconnect power from this device.**
- 3 **The protective ground connection must be checked after service work is performed. Perform the check between the protective ground contact on the power plug and the housing. This test must be documented in the service report.**



⚠️ WARNING

- 1 Observe precautions for handling electrostatic sensitive devices.
- 2 Keep the equipment away from processes that generate high charging potential such as electrostatic coating, rapid transfer of non-conductive materials, rapid air jets, and high pressure aerosols.



⚠️ WARNING

- 1 Only permit qualified personnel to service the equipment. Exercise care when making checks, tests and adjustments that must be made with power on. Failure to observe this precaution could result in bodily harm and/or property damage.
- 2 Ensure proper equipotential grounding of the equipment, mounting accessories, and the scale base.
- 3 If the keyboard, display lens or enclosure is damaged, the defective component must be repaired immediately. Remove power immediately and do not reapply power until the display lens, keyboard or enclosure has been repaired or replaced by qualified service personnel. Failure to do so could result in bodily harm and/or property damage.
- 4 Only the components specified in the user manual can be used in this device. All equipment must be installed in accordance with the installation instructions detailed in the user manual. Incorrect or substitute components and/or deviation from these instructions can impair the intrinsic safety of the equipment and could result in bodily injury and/or property damage.
- 5 For continued protection against shock hazard, connect to properly grounded power source only. Do not remove the grounding connection.
- 6 When this equipment is included as a component part of a system, the resulting design must be reviewed by qualified personnel who are familiar with the construction and operation of all components in the system and the potential hazards involved. Failure to observe this precaution could result in bodily harm and/or property damage.
- 7 All equipment must be installed in accordance with the installation instructions detailed in its corresponding user manual. Deviation from the instructions can impair the intrinsic safety of the equipment and void the agency approval.
- 8 Before connecting/disconnecting any internal electronic components or interconnecting wiring between electronic equipment always remove power and wait at least thirty (30) seconds before any connections or disconnections are made. Failure to observe these precautions could result in damage to or destruction of the equipment and/or bodily harm.
- 9 Batteries must be disposed of properly in accordance with local environmental and any other applicable regulatory requirements. Do not discard in normal domestic waste.
- 10 Improper handling of batteries can lead to leaking, fire or explosion which can cause serious injury or property damage.

In conformance with the European Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE), this equipment may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.

Please dispose of this equipment in accordance with local regulations at the collecting point specified for electrical and electronic equipment. If you have any questions, please contact the responsible authority or the distributor from which you purchased this equipment. Should this equipment be passed on to other parties, the content of this directive must also be passed on to the other party.



Battery disposal

Batteries contain heavy metals and therefore must not be disposed of in the normal refuse.

- Observe local regulations on the disposal of materials that are hazardous to the environment.

Table of Contents

1	Introduction	5
1.1	Presentation	5
1.1.1	Device Overview	5
1.1.2	Main Screen	6
1.1.3	Hard and Softkeys	7
1.1.4	Data Integrity	8
1.1.5	Quick Setting Menu	8
1.2	Specifications	9
1.2.1	Technical Data	9
1.2.2	Physical Dimensions	11
1.2.3	Panel Cutout Dimensions	12
1.2.4	Power Requirement	12
1.3	Model Configuration	13
1.3.1	Stainless Steel Version	13
1.3.2	Aluminum Die Cast Version	14
1.4	Connections	15
1.4.1	Connection Ports	15
1.4.1.1	Stainless Steel Version	15
1.4.1.2	Aluminum Die Cast Version	15
1.4.2	Base Board Connections, Ports and Switches	16
1.4.3	Weighing Platform Connection	16
1.5	Inspection and Contents Checklist	17
2	Operation	18
2.1	Non-weighing operation	18
2.1.1	Switching on/off	18
2.1.2	Login / logout	18
2.1.3	Login / logout with Data Integrity	18
2.1.4	Login as Domain User	19
2.1.5	Forgetting the Password	20
2.1.6	Data Tables	20
2.1.6.1	Info/log Features	21
2.1.6.2	Recalling the Transaction Table	25
2.1.6.3	Recalling the Alibi Log File	26
2.1.6.4	Filtering Logs and Tables	26
2.1.7	Verification Test	29
2.1.8	Selecting Language	30
2.1.9	Transferring File via VNC	31
2.1.10	Wi-Fi Module Setup via Webserver	33
2.1.10.1	Installing Certificates on xPico 250	34
2.1.11	Configuring Auxiliary Lines	37
2.2	Basic weighing operation	39
2.2.1	Basic weighing settings	39
2.2.1.1	How to set up a printer	43
2.2.1.2	How to Operate Label Print	44
2.2.1.3	How to set up a barcode reader	45
2.2.2	Straight Weighing	46
2.2.3	Switching Units	46
2.2.4	Zeroing / Center of Zero	46
2.2.5	Weighing with tare	46
2.2.5.1	Taring a container	46
2.2.5.2	Clearing the tare	46
2.2.5.3	Clearing the tare automatically	47
2.2.5.4	Automatic taring	47
2.2.5.5	Chain tare	47
2.2.5.6	Tare preset	47
2.2.7	Working in a Higher Resolution	49
2.2.8	Printing/transferring Results	49
2.2.9	Working with Identifications	49

2.2.10	Working with Data Integrity	50
2.2.10.1	Electronic Signature.....	50
2.2.10.2	Transaction Table	53
2.2.10.3	Audit Log	54
2.3	Over/Under checkweighing	55
2.3.1	Activating Over/Under checkweighing	55
2.3.2	Over/Under Checkweighing Settings	55
2.3.3	Over/Under checkweighing operation.....	58
2.3.3.1	Display in Over/Under checkweighing.....	58
2.3.3.2	Setting target values.....	58
2.3.3.3	Over/Under checkweighing.....	59
2.3.3.4	Over/Under checkweighing in Take Away mode	59
2.3.3.5	Totalizing in Over/Under checkweighing.....	60
2.3.3.6	Over/Under checkweighing transaction table	60
2.4	Counting	62
2.4.1	Activating Counting Application.....	62
2.4.2	Counting Settings.....	62
2.4.3	Counting Operation	65
2.4.3.1	Counting with fix reference number	66
2.4.3.2	Counting with variable reference number	66
2.4.3.3	Counting with a known average piece weight	66
2.4.3.4	Switching between number of pieces and weight	67
2.4.3.5	Counting with APW optimization.....	67
2.4.3.6	Counting in Take Away mode	67
2.4.3.7	Counting with reference balance	67
2.4.3.8	Totalizing in Counting.....	68
2.4.3.9	Counting transaction table	68
2.4.4	Check Counting Operation.....	69
2.4.4.1	Display in Check Counting	69
2.4.4.2	Setting Target Values	70
2.4.4.3	Check Counting	70
2.5	Manual Filling/Dosing	71
2.5.1	Activating Manual Filling/Dosing Application	71
2.5.2	Manual Filling/Dosing Settings	71
2.5.3	Manual Filling/Dosing Operation	73
2.5.3.1	Display in Manual Filling/Dosing	73
2.5.3.2	Setting Target Values	73
2.5.3.3	Manual Filling/Dosing	74
2.5.3.4	Manual Filling/Dosing in Take Away mode	74
2.5.3.5	Totalizing in Manual Filling/Dosing	75
2.5.3.6	Manual Filling/Dosing transaction table	75
2.6	Totalization.....	77
2.6.1	Activating Totalization Application	77
2.6.2	Totalization Settings	77
2.6.3	Totalization Operation	78
2.6.3.1	Totalizing in Standard Mode	79
2.6.3.2	Totalizing in Take Away Mode	79
2.6.3.3	Totalizing to a target.....	80
2.6.3.4	Totalizing with subtotals	81
2.6.3.5	Totalization transaction table	82
2.7	Animal Weighing.....	83
2.7.1	Activating the Animal Weighing Application	83
2.7.2	Animal Weighing Settings	84
2.7.3	Animal Weighing Operation	85
2.7.3.1	Single sample - manual operation	85
2.7.3.2	Multi sample - manual operation	85
2.7.3.3	Single sample - automatic start and transfer	85
2.7.3.4	Animal Weighing transaction table	86
2.8	Classification.....	86
2.8.1	Activating the Classification application	86
2.8.2	Classification Settings.....	87

2.8.3	Classification Operation	89
2.8.3.1	Setting the Active Target	89
2.8.3.2	Clearing the Material and Target Information	90
2.8.3.3	Classification Process in Standard Mode	90
2.8.3.4	Classification in Take Away Mode	90
2.8.3.5	Saving and Transferring the Classification Results.....	91
2.8.3.6	Totalizing in Classification	91
2.8.3.7	Transaction Table in Classification	92
2.8.4	Exiting the Classification application	93
2.9	Remote SQC	94
2.9.1	Connection Configuration	94
2.9.2	Configuring IND400 in FreeWeigh.net	95
2.9.3	Doing A Data Sampling	96
2.10	Remote Scale.....	97
2.10.1	Connection Setup	97
2.10.2	Operation of Remote Scale Function	98
3	Configuration	99
3.1	Operating the Setup	99
3.2	Scale setup.....	100
3.2.1	Metrology Setup	100
3.2.1.1	Exact GEO Code	101
3.2.2	SICSprom/Analog/POWERCELL Scale Setup	101
3.2.3	Default Settings.....	111
3.3	Applications Setup.....	113
3.3.1	Application -> Use Last Active App	113
3.3.2	Application -> Memory	113
3.3.3	Application -> Basic Weighing	113
3.3.4	Application -> Over/Under	114
3.3.5	Application -> Manual Filling/Dosing.....	114
3.3.6	Application -> Counting	114
3.3.7	Application -> Classification.....	114
3.3.8	Application -> Totalization	114
3.3.9	Application -> Animal Weighing	114
3.3.10	Application -> IDs	114
3.3.11	Application -> Data Integrity	115
3.4	Terminal Setup	115
3.4.1	Terminal -> Device	115
3.4.1.1	Terminal -> Device -> Region	115
3.4.1.2	Terminal -> Device -> License Management	116
3.4.1.2.1	Example: Switch DI License to Multi App License	117
3.4.1.2.2	Example: Merge Two Different Licenses	119
3.4.1.2.3	How to Add and Activate a License	121
3.4.1.3	Terminal -> Device -> Screen Saver	122
3.4.1.4	Terminal -> Device -> Backlight	122
3.4.1.5	Terminal -> Device -> Identification	122
3.4.2	Terminal -> User Management	122
3.4.2.1	Terminal -> User Management -> Role Definition	122
3.4.2.2	Terminal -> User Management -> User Definition	124
3.4.2.3	Terminal -> User Management -> Password Policy	125
3.4.2.4	Terminal -> User Management -> Import/Export	125
3.5	Communication Setup.....	126
3.5.1	Communication -> Template	126
3.5.2	Communication -> Connection.....	131
3.5.3	Communication -> Serial	132
3.5.4	Communication -> Ethernet	132
3.5.5	Communication -> WLAN	133
3.5.5.1	WLAN Setting	133
3.5.5.1.1	Wi-Fi Module Setup via Webserver.....	134
3.5.5.2	Network Setting.....	135
3.5.6	Communication -> Discrete IO.....	135
3.5.7	Communication -> VNC Server	137

3.5.8	Communication -> Web API Server	137
3.5.9	Communication -> MQTT Client	139
3.5.10	Communication -> LDAP Client	143
3.5.11	Communication -> FTP / FTPs Server	144
3.5.12	Communication -> Certification Management	145
3.6	Maintenance Setup	146
3.6.1	Maintenance -> Scale Test	146
3.6.1.1	Maintenance -> Scale Test -> Restore Factory Calibration	146
3.6.2	Maintenance -> Diagnosis	147
3.6.2.1	Maintenance -> Diagnosis -> Scale 1	147
3.6.2.2	Maintenance -> Diagnosis -> Battery	148
3.6.2.3	Maintenance -> Diagnosis -> Device	148
3.6.2.3.1	Test	148
3.6.2.3.2	USB Device Manager	149
3.6.3	Maintenance -> Statistics	150
3.6.4.1	Setting up Tests	151
3.6.4.2	Performing A Routine Test	153
3.6.5	Maintenance -> Enable Logs	153
3.6.6	Maintenance -> Cell Counts	153
3.6.7	Maintenance -> Zero & Overload	153
3.6.8	Maintenance -> Calibration Values	154
3.6.9	Maintenance -> Backup	155
3.6.10	Maintenance -> Restore	155
3.6.11	Maintenance -> Reset	156
4	Maintenance and Service	158
4.1	Error Conditions	158
4.2	Errors and Warnings	158
4.3	SMART5™ Events and Alarms	159
4.3.1	NAMUR alarm / alert classification	159
4.3.2	Error messages	160
4.4	Maintenance	163
4.5	Regular Maintenance	163
4.5.1	Pressure Compensation Valve	163
4.6	Usage and Maintenance of Battery Version	163
4.6.1	Battery Specifications	164
4.6.2	Battery Symbols	164
4.6.3	Battery Status and Information	164
4.6.4	Battery Discharge Time by Configuration	165
4.6.5	Battery Storage Requirements	165
4.6.6	Battery Replacement	165
4.6.6.1	Stainless Steel Version	166
4.6.6.2	Aluminum Die Cast Version	166
5	Appendix	168
5.1	Table of Geo code values	168
5.1.1	Exact GEO Code	170
5.2	Available SICS commands	171
5.3	Available Connection Protocols	172
5.4	ASCII Standard and Control Codes	179
5.4.1	Control Characters	180
5.5	Menu Access Matrix	182
5.6	MQTT Messages	185
5.6.1	Commands	185
5.6.2	Read Measurement	189
5.6.3	Subscribe	192
5.7	ChangeLog for ShareData	192

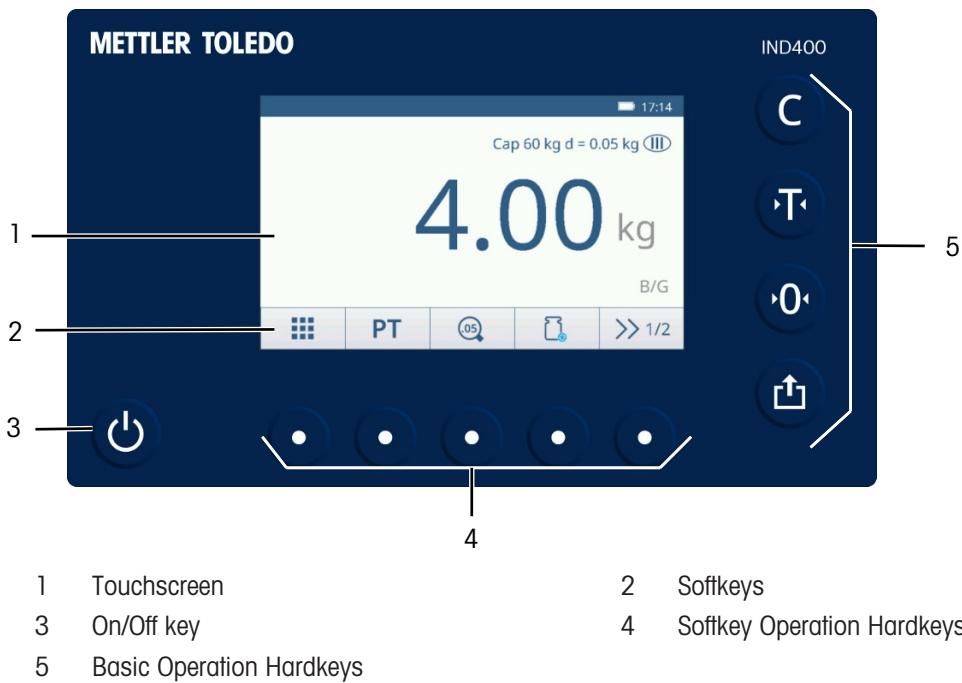
1 Introduction

1.1 Presentation

IND400 is a transaction weighing terminal with touchscreen and additional hardkeys for better operation, e.g. when working with gloves.

IND400 provides one scale interface and two or three optional data interfaces.

1.1.1 Device Overview



1.1.2 Main Screen



System bar

In the system bar the following symbols can be displayed:



APR320 / APR220 printer connected



Message box status



Battery status, for versions with battery only



Time

Status line

In the status line the following symbols can be displayed:



>0< Center of zero



Calculated weight value, e.g. in animal weighing



B/G Gross weight



T Indicates the current tare weight



NET Net weight



PT Indicates the current tare preset



~ Stability monitor



When blinking: MinWeigh error



>|1|< Current weighing range/interval, for multiple range / multi-interval scales
>|2|< only
>|3|<



Indicates that the weight display is in a higher resolution

1.1.3 Hard and Softkeys

Hardkeys

The following hardkeys are available:



On/Off key



Clear



Tare



Zero



Print / transfer data

Softkeys

In the basic weighing application, the following are some of the available softkeys, separated in up to 3 softkey ribbons.



Select application



Information



Prepare



Open transaction table



Higher resolution



Open tare table



Switch unit



Open basic setup



Scroll to the next softkey ribbon



Open Quick setting menu

Input of text or numbers

When an input of numbers or text is required, touch the corresponding input field and a keypad is displayed on the screen.

User ID										EN
										X
1	2	3	4	5	6	7	8	9	0	☒
q	w	e	r	t	y	u	i	o	p	<
a	s	d	f	g	h	j	k	l	-	>
↑	z	x	c	v	b	n	m	,	.	!#
⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	✓

Preset Tare			
20			
7	8	9	☒
4	5	6	< >
1	2	3	✓
⬅	0	.	

Input of special characters

- For special characters touch and hold a character, e.g. "a".
 - The available variants of the character "a" are displayed.



1.1.4 Data Integrity

Data Integrity (DI) ensures the accuracy, completeness, consistency, and security of data. It is maintained through standardized processes to sustain data reliability and regulatory compliance throughout its entire lifecycle.

The IND400 is available in two configurations: with or without the Data Integrity function. Enhanced DI software capabilities can be activated via a licensed process. These features are fully aligned with ALCOA++ principles and comply with FDA CFR21 Part 11, cGMP and relevant WHO electronic data regulations.

IND400 DI Features

DI functionalities guarantee weighing data integrity throughout its entire life-cycle, including:

- User Definition
- User Role Definition
- Local Password Policy
- SHA-256 Data Encrypted memory
- SHA-256 Data Encrypted export
- PDF format export
- Data Integrity Report
- Electronic Batch Report
- Audit trail log
- Electronics signature

Data Integrity on the IND400 is working with the following applications:

- Basic Weighing
- Over/under checkweighing
- Manual Filling/Dosing
- Totalization
- Classification

Note

Data Integrity is not available for the Animal Weighing, Counting, and Remote SQC applications.

For DI operation instructions, refer to [Working with Data Integrity ▶ Page 50]. For DI settings, refer to [Application -> Data Integrity ▶ Page 115].

1.1.5 Quick Setting Menu

Open the Quick setting menu

Touch the swipe-down softkey  in the system bar or softkey  to open the following menu:



Show battery status (Only available in battery version)



Show Wi-Fi status



- Display current user
- Open login/logout



- Display current language
- Open user language setting

30/Mar/2022 Date and time in the format defined in the Terminal setup
15:24:55



Open message box



Open setup, refer to [Configuration ▶ Page 99]



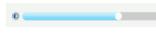
Activate/deactivate a printer



Open information menu, see [Info/log Features ▶ Page 21]



Activate/deactivate Wi-Fi



Set the brightness of the display

Message box

- Depending on the last message and the message box status, there are different icons on the system bar to open the message box.
- Messages are classified with the following icons:



Failure



Out of specification



Maintenance required



Normal condition



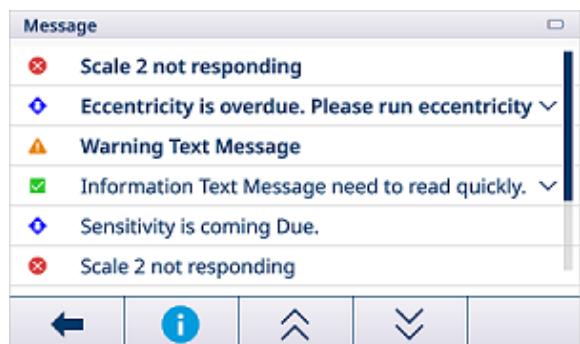
Alarm



No new message since the last recall of the message box

Leave the Quick setting menu

- Touch  in the bottom line to leave the Quick setting menu.
 - The main screen is displayed.



1.2 Specifications

1.2.1 Technical Data

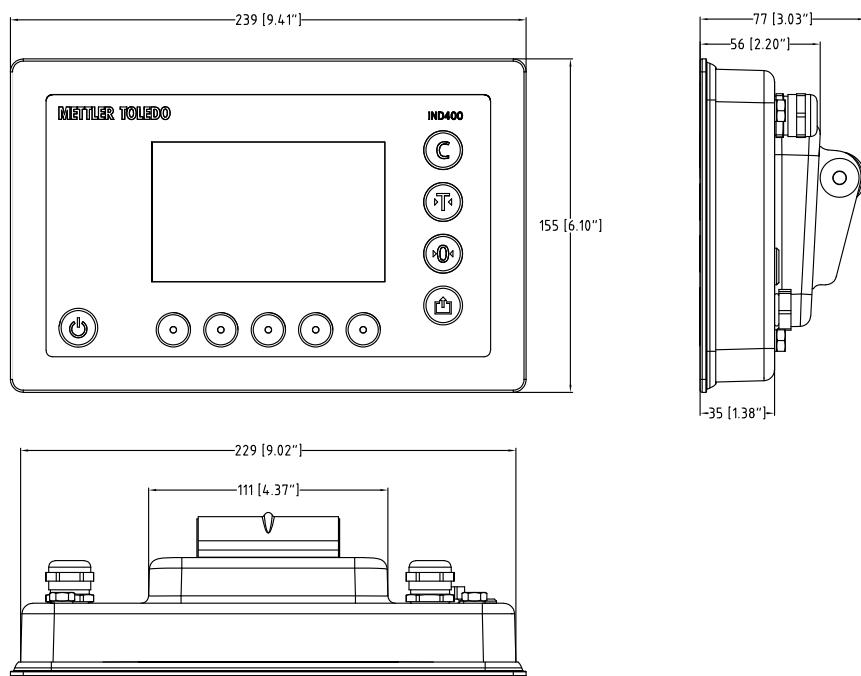
Enclosure Types	Type 304 stainless steel; Aluminum die-cast
Dimensions (w × h × d)	<ul style="list-style-type: none">Stainless Steel: 239 mm × 155 mm × 77 mm (9.41 in. × 6.10 in. × 3.03 in.)Aluminum Die-cast: 246 mm × 164 mm × 77 mm (9.68 in. × 6.45 in. × 3.03 in.)
Package Size	351 mm × 221 mm × 202 mm (13.82 in. × 8.70 in. × 7.95 in.)
Weight	Net weight: 2 kg; Gross weight: 2.5 kg
Environment Protection	<ul style="list-style-type: none">Stainless Steel: IP68 / IP69KAluminum Die-cast: IP65
Environment	Up to 2000 m (6,500 ft) above sea level; Indoor use only
Storage Environment	-20°C to 60°C (-4°F to 140°F); 10% to 95% relative humidity (noncondensing)
Operating Environment	-10°C to 40°C (-14°F to 104°F); 10% to 95% relative humidity (noncondensing)

Power Supply	<ul style="list-style-type: none"> AC Power: 100-240 VAC, 50/60 Hz, 370 mA-200 mA DC Power: 12-30 VDC, 667 mA-267 mA Battery version: 12 VDC, 2.5 A (Powered by external adapter: Input 100-240 VAC, 50/60 Hz, 0.8 A; Output 12 VDC, 2.5 A, or internal 7.2V battery pack)
Pollution Degree	2
Overvoltage Category	II
Display	High-resolution touch graphic display; 5 inches; 800 × 480 px
Font Height	<ul style="list-style-type: none"> Maximum: 20 mm Checkweighing mode: 12 mm (bar graph mode); 15 mm (color mode, including background height)
Keypad	Membrane keyboard
Scale Interface	Analog, SICSpres, POWERCELL (supports up to 12 POWERCELL PDX)
Optional Interfaces	<ul style="list-style-type: none"> Discrete I/O: 4 inputs, 4 outputs RS-232 serial port (300 to 115,200 baud) RS-232 with 5V serial port (300 to 115,200 baud) + 5V DC output RS-485 serial port (300 to 115,200 baud) USB OTG (USB 2.0, up to 12 Mbit/s): Supports USB hub, USB stick, scanner, PC USB Host (USB 2.0, up to 12 Mbit/s): Supports USB hub, USB stick, scanner Ethernet TCP/IP (10/100 Mbps auto-negotiation) Wi-Fi 4 (2.4 GHz / 5 GHz, 802.11 a/b/g/n)
Protocols	<ul style="list-style-type: none"> ASCII commands (CTPZ: Clear, Tare, Print, Zero), SICS commands, Shared Data Server Access Continuous/Transfer mode (up to 10 configurable print templates or remote scale protocols) PSCP (for pharma bioreactors) Modbus TCP/Modbus RTU (weighing data + CTPZ commands) MQTT client (Cloud connections), Open API (external systems) FTP/FTPs client (file transfer); VNC server supported LDAP (remote user access)
Electrical Parameters (Analog Scale Interface)	<ul style="list-style-type: none"> Excitation: 5 V Sensitivity: 2 mV/V or 3 mV/V Impedance: 40 Ohm to 3,000 Ohm Max. Resolution: 10,000 e (OIML) Min. Verification Interval: 0.3 μV/e
Applications	Basic weighing, Counting, Over/under checkweighing, Animal weighing, Manual filling, Totalizing, Classification, Data integrity, REM to Freeweigh.Net
W & M Approvals	<p>Analog</p> <ul style="list-style-type: none"> USA: NTEP Class III/IIIL 10,000d Canada: Class III/IIHD 10,000d Europe: OIML Class III/IIII 10,000d China: CPA Class III 10,000e, 0.3μV/e <p>Digital (POWERCELL, SICSpres)</p> <ul style="list-style-type: none"> USA: NTEP Class II 100,000d; Class III/IIIL 10,000d Canada: Class II 100,000d; Class III/IIHD 10,000d Europe: OIML Class II 100,000d; Class III/IIII 10,000d China: CPA Class III 10,000e (POWERCELL)

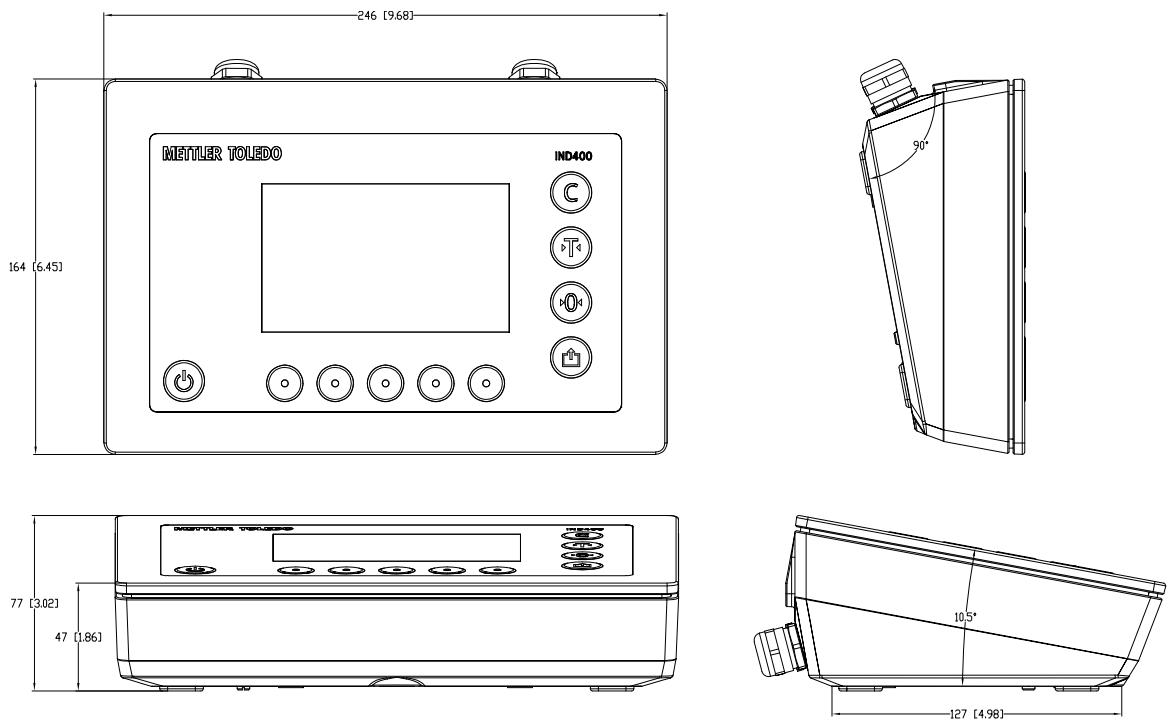
1.2.2 Physical Dimensions

The physical dimensions for the IND400 terminal are shown in the figures below in mm [inch].

Stainless Steel version



Aluminum Die Cast version



1.2.3 Panel Cutout Dimensions

The panel cutout dimensions for the stainless steel IND400 terminal are shown below in mm [inch].

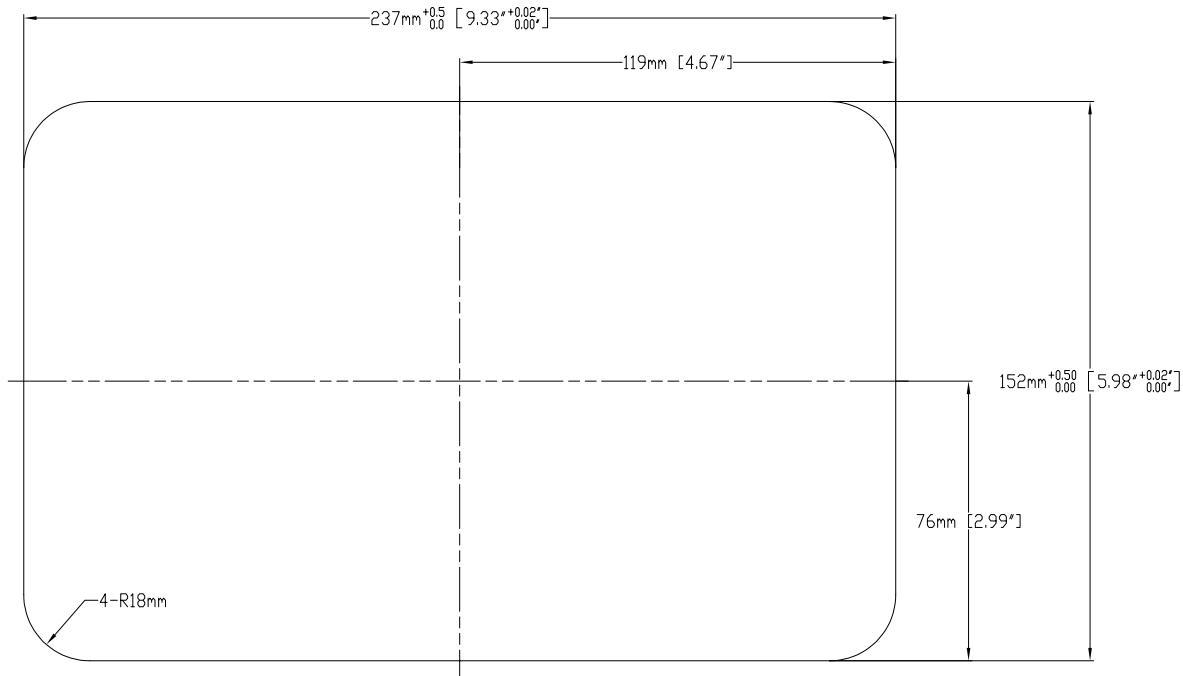


Figure 1: The Front View

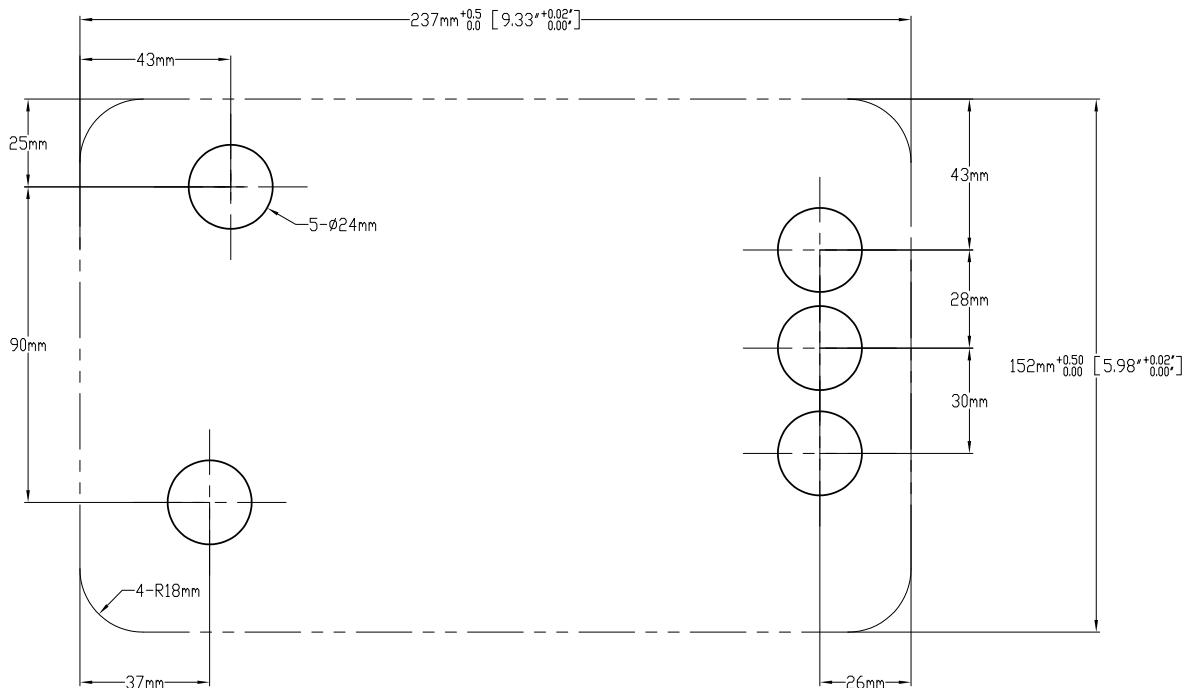


Figure 2: The Rear View

Note

The cutout depth must be greater than 80 mm [3.15 inches].

1.2.4 Power Requirement

The IND400 includes a 2.5 m factory-installed AC power cord and operates on 100–240 VAC, 50–60 Hz, drawing 200–370 mA, with a voltage tolerance of -15% to +10%.



⚠️ WARNING

Risk of electric shock!

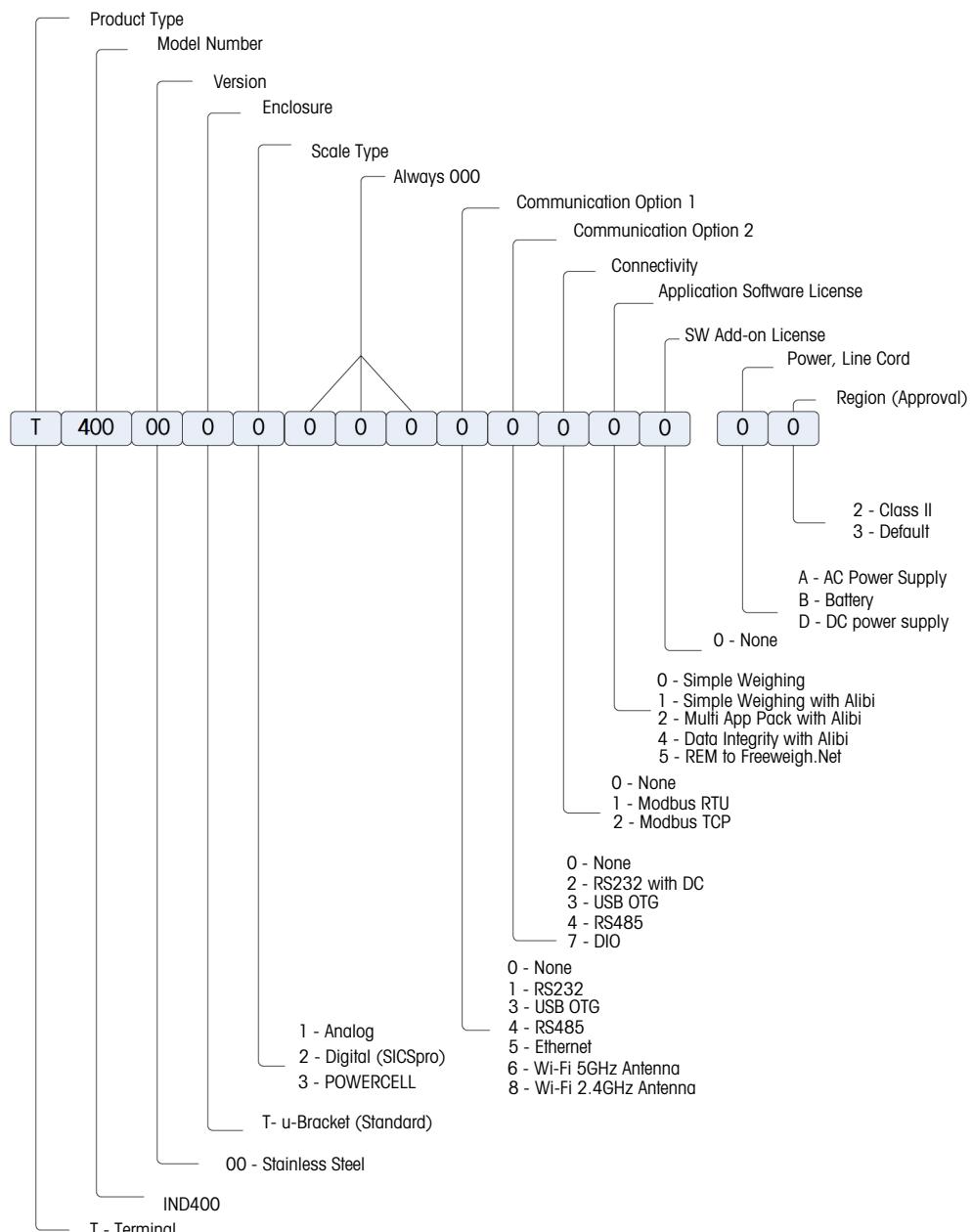
- 1 Before connecting the power supply, check whether the voltage value printed on the label corresponds to your local system voltage.
- 2 Do not, under any circumstances, connect the device if the voltage value on the label deviates from the local system voltage.
- 3 Make sure the weighing platform has reached room temperature before switching on the power supply.

- Plug the power plug into the power socket.
- ⇒ For the startup procedure, refer to [Switching on/off ▶ Page 18].

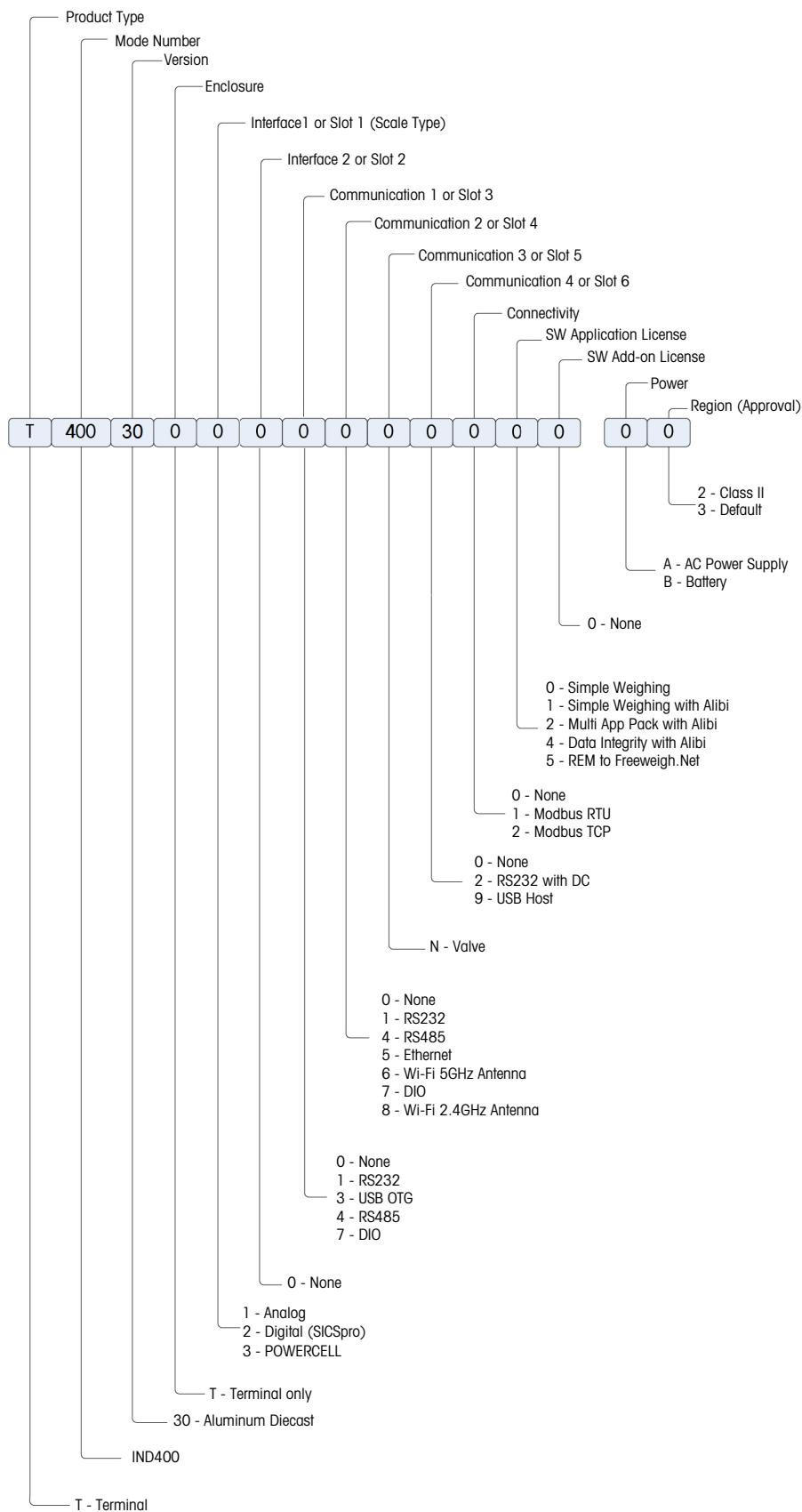
1.3 Model Configuration

The following figure shows the configuration options for the terminal.

1.3.1 Stainless Steel Version



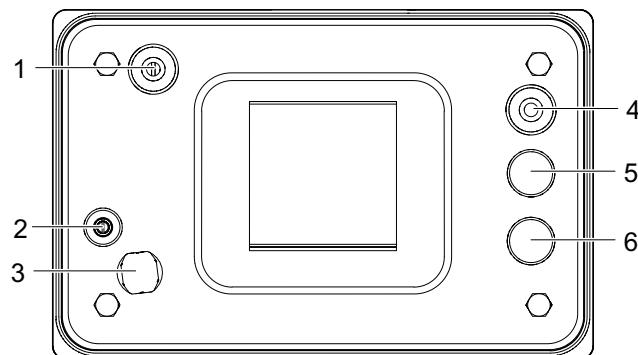
1.3.2 Aluminum Die Cast Version



1.4 Connections

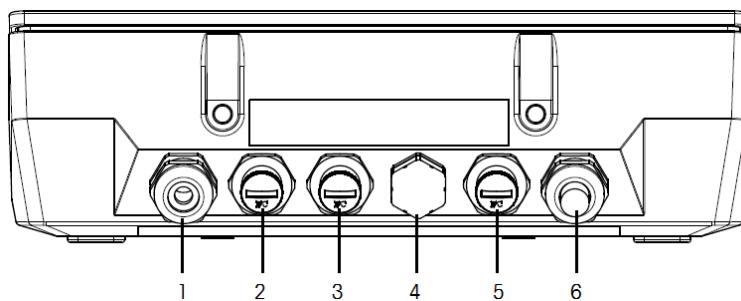
1.4.1 Connection Ports

1.4.1.1 Stainless Steel Version



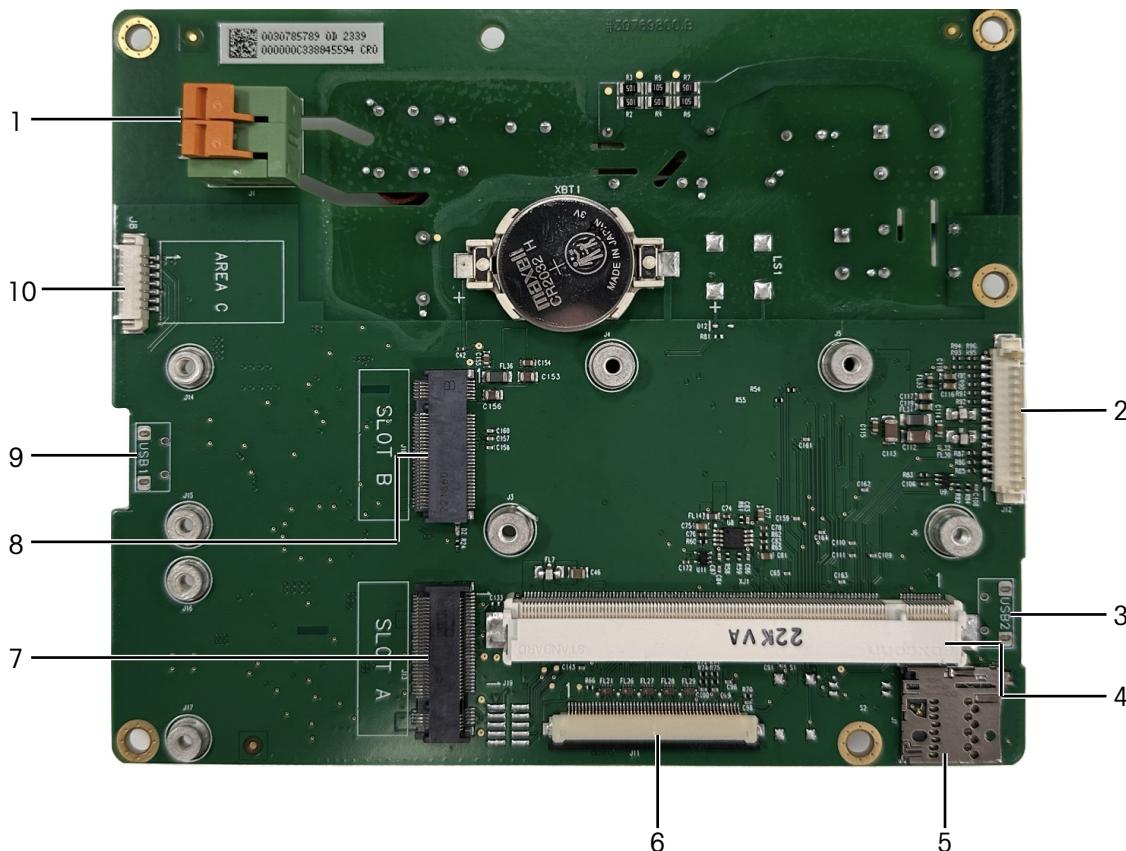
1	Scale interface	2	Metrology sticker/screw
3	Pressure compensation valve	4	AC/DC power supply or battery charging
5	Optional data interface	6	Optional data interface

1.4.1.2 Aluminum Die Cast Version



1	AC power supply or battery charging	2	Optional data interface
3	Optional data interface	4	Pressure compensation valve
5	Optional data interface	6	Scale interface

1.4.2 Base Board Connections, Ports and Switches



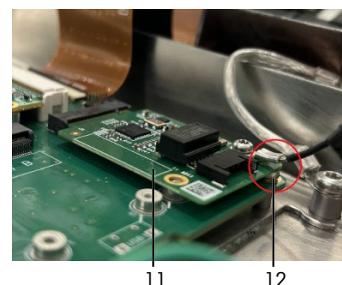
1	Power supply	2	Scale board interface
3	USB 2 (Host only available in Aluminum Die Cast version)	4	Core board interface
5	MicroSD card slot	6	HMI interface
7	Option board interface A (Slot A)	8	Option board interface B (Slot B)
9	include 'OTG' for USB 1	10	RS232 with 5V

Note

- 1 Details for option boards in each slot are listed below.

No.	Installation Position	Available Option Board Types
1	Option board interface A (Slot A)	Wi-Fi, Ethernet, RS232, RS485
2	Option board interface B (Slot B)	Discrete I/O, RS232, RS485

- 2 One screw (12) of the Base Board is covered by the Ethernet Board (11). When replacing the Base Board, the Ethernet Board (11) has to be removed first.



1.4.3 Weighing Platform Connection

Analog weighing platforms

- Call the METTLER TOLEDO service technician to connect an analog weighing platform to the weighing terminal.

Weighing platforms with digital scale interface

- Connect the weighing platform connector to the weighing terminal.



- You can disconnect the weighing platform from the weighing terminal of an approved weighing system without violating the approval.
If another weighing platform is connected to the weighing terminal, the system is not approved.
If the weighing platform of the approved system is connected again, the approval is valid again.
- If you have connected a non-approved weighing platform and want to have the system approved, call the METTLER TOLEDO service technician.

1.5 Inspection and Contents Checklist

Inspection

1. Verify package contents and inspect the shipment immediately upon delivery.
2. If the shipping container is damaged, check carefully for internal damage; file a freight claim with the carrier if necessary.
3. If the container is intact, remove the IND400 terminal from its protective packaging (note the packing method), then inspect all components thoroughly for damage signs.

Shipping

- Use the original shipping container for terminal shipment (strongly recommended) to ensure adequate protection.
- Pack the IND400 terminal securely to guarantee safe transportation.

Package Contents

- IND400 Terminal
- Multilingual Safety Instructions
- Installation Parts Bag (may include grommets, sealing gaskets and other components)

2 Operation

2.1 Non-weighing operation

2.1.1 Switching on/off

Switching on

- Press .
 - For a few seconds the device shows a start-up screen with relevant device data.

Note

For approved weighing systems a countdown is running for warming up.

Switching off

- Press and hold  for approx. 2 seconds.
 - The device is switched off.

Note

- If the power is disconnected by unplugging the power supply when the terminal is in the power-on state, the terminal will automatically power on when the power is reconnected after about 2 seconds.
- If the power is disconnected by first pressing power button  and then unplugging the power supply, the terminal can be started by pressing  when power is reconnected within 2 minutes, while the terminal will automatically power on when power is reconnected after 2 minutes.

2.1.2 Login / logout

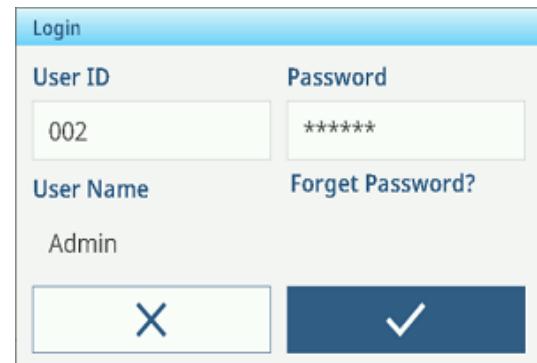
When starting the device or after a logout, the default operator with User ID "005" is logged in.

Users have to be created in the setup, refer to [Terminal -> User Management ▶ Page 122].

Login

To login other than as default operator proceed as follows:

- 1 Open the Quick setting menu, refer to [Quick Setting Menu ▶ Page 8].
- 2 Touch symbol .
- 3 You are asked if you want to log out.
- 4 Touch symbol  to logout.
- 5 Confirm the logout of the default operator with .
- 6 The window to enter User ID and password is displayed.
- 7 Enter your User ID and password and confirm with .
- 8 If the Admin password is forgotten, see [Forgetting the Password ▶ Page 20].
- 9 The new user is logged in and the main screen is displayed.



The image shows a login interface with a light blue header bar. Below it, there are two input fields: 'User ID' containing '002' and 'Password' containing '*****'. To the right of the password field is a link 'Forget Password?'. Below the input fields, the text 'User Name' is followed by 'Admin'. At the bottom of the screen are two large buttons: a white button with a blue 'X' on the left and a dark blue button with a white checkmark on the right.

Logout

- 1 Open the Quick setting menu, refer to [Quick Setting Menu ▶ Page 8].
- 2 Below the symbol , the name of the current user is displayed.
- 3 Touch symbol .
- 4 A safety prompt is displayed.
- 5 Confirm the logout with .
- 6 The current user is logged out and the default operator is logged in.

2.1.3 Login / logout with Data Integrity

When starting the device or after a logout, the default user "Viewer" is logged in. This user has no access rights, except viewing the weight.

Users have to be created in the setup, refer to [Terminal -> User Management ▶ Page 122].

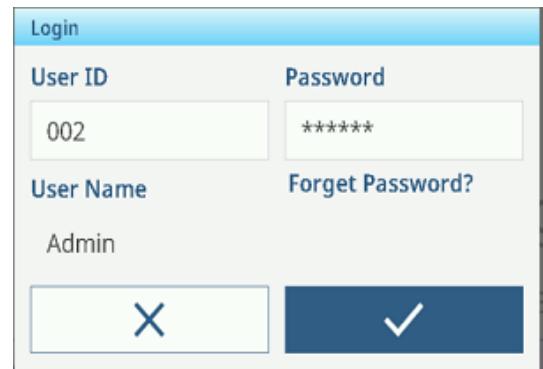
Login

To login proceed as follows:

- 1 Open the Quick setting menu, refer to [Quick Setting Menu ▶ Page 8].
- 2 Touch symbol .
- 3 The window to enter User ID and password is displayed.
- 4 Enter the User ID and password and confirm with  . If the Admin password is forgotten, see [Forgetting the Password ▶ Page 20].
- 5 The new user is logged in and the main screen is displayed.

Note

When you are logging in for the first time, you are asked to change your password.



Logout

- 1 Open the Quick setting menu, refer to [Quick Setting Menu ▶ Page 8].
- 2 Touch symbol .
- 3 Touch symbol .
- 4 A safety prompt is displayed.
- 5 Confirm the logout with .
- 6 The current user is logged out and the default user "Viewer" is logged in.

Note

In the Data Integrity application, the Viewer remains logged in as a view-only mode. In this state, the user can read the weight value and view the serial number in IND400, but no operations can be performed. Any operations require logging in with an account first.

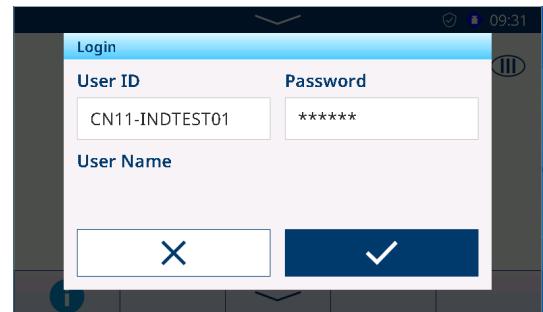
2.1.4 Login as Domain User

With the LDAP (Lightweight Directory Access Protocol) feature, IND400 supports login as a domain user to realize centralized user management, enhanced security, etc. within an organization.

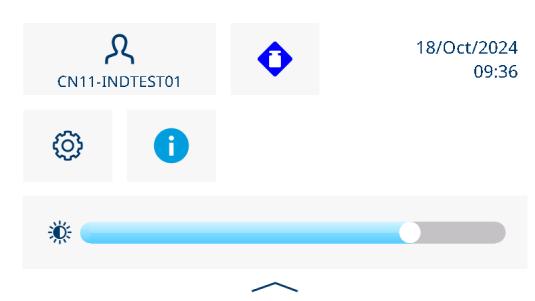
Before the domain user logs in, ensure that the following conditions are met:

- The network communication is established via Wi-Fi or Ethernet.
- The LDAP feature is enabled and configured. See [Communication -> LDAP Client ▶ Page 143]
- The LDAP certificate is imported into terminal. See [Communication -> Certification Management ▶ Page 145]
- The role defined locally is mapped to the domain user's LDAP group. See [Role Mapping to LDAP's DN ▶ Page 124].

- 1 Open the Quick setting menu. Refer to [Quick Setting Menu ▶ Page 8].
- 2 Touch the symbol .
- 3 The window to enter User ID and password is displayed.



3 Enter the User ID and password and confirm with ✓.
 ➔ The domain user is logged in and the main screen is displayed.

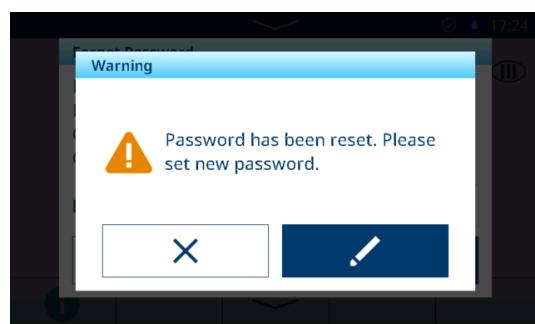


2.1.5 Forgetting the Password

Forget the Admin Password

002 is the default Admin user with an empty password. Once the password is changed, it must be well kept.

- **Solution:** Enter 002 on the login screen and click Forgot Password? to reset the password via OTP. See MT Service login with one-time-password (OTP)
 - Upon the response code input, click the softkey ✎ in the pop-up window to set a new password.



Forget the Common User Password

Solution: Log in the terminal with a higher access level to reset the user's password in the User Definition page. See [Terminal -> User Management -> User Definition ▶ Page 124].

2.1.6 Data Tables

IND400 has three types of data table. The table that follows indicates details of each type of the data table.

Type	Description	Table Name	Capacity (Max. number of records)
Log	<ul style="list-style-type: none"> • It is a kind of read-only data table. • Terminal generates the data rows and user roles can search, read, and print tables. • Supervisor, QA and Admin roles can clear these log tables. 	Calibration Log Event Log Error Log Change Log Maintenance Log Audit Log (for IND400 with Data Integrity only)	10,000 60,000 5,000 5,000 5,000 <ul style="list-style-type: none"> • Software version 1.XX.YYYY: 300,000 • Software version 2.XX.YYYY and higher: 1,000,000
Configurable	<ul style="list-style-type: none"> • This kind of data tables are used to store data used in some applications. • These data are the dynamic configuration for the applications. • The Supervisor or Admin can maintain while the Operator can recall data of these data tables. 	Target Table Tare Table Material Table	5,000

Type	Description	Table Name	Capacity (Max. number of records)
Transaction	• This kind of data tables record the data results generated by different applications.	Alibi Table	300,000
		Transaction Table	

[i] Note

- The data export formats for the Transaction Table and Audit Log are CSV and PDF, while all other table records is only available in CSV format.
- If DI is active, all logs can only be reset (delete all) with a master reset.

[i] Note

Logs cannot be overwritten. The following is the mechanism of the log management:

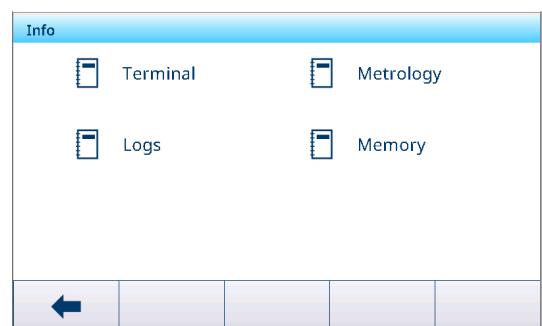
- At 75% capacity, a warning is shown.
- At 90% capacity, multiple warnings are shown.
- At 100% capacity, warnings are shown and related operations are prohibited.

For example, transfers are not allowed when the transaction log is full until it is reset.

2.1.6.1 Info/log Features

Touch **i** in the Quick setting menu to gain access to the following information:

- Touch the desired information category.



Terminal Info

In case you want to contact the METTLER TOLEDO service, a QR code can be displayed with information relevant for a service technician.

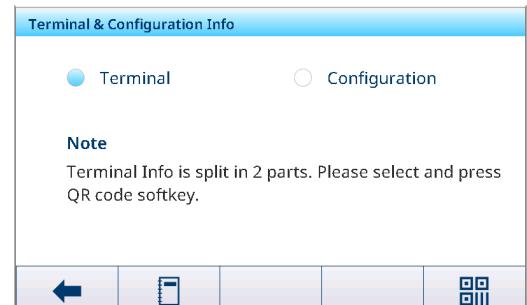
- Either select Terminal or Configuration.
- Touch softkey  to show a QR code, which helps to simplify the basic information collection.

Content list of QR code for Terminal:

1. Service information which can be edited in menu setting
2. Service phone number which can be edited in menu setting
3. Serial number of the terminal
4. Terminal firmware version
5. Smart5 error code

Content list of QR code for Configuration:

1. Configuration (Includes all options with the corresponding firmware version)
2. Interface configuration (e.g., configuration of RS232, RS422/485, Ethernet)
- For detailed information on the device touch softkey .



Content list of Terminal Info.:

1. Terminal Firmware Version
2. Serial Number of the Terminal
3. Configuration (Includes all options with the corresponding firmware version)

Terminal					
Info					
Terminal Firmware Version					
Serial # of the Terminal					123456
Slot S					
Description		POWERCELL Option			
Powercell		0000000001			
					

Metrology Info (for approved scales only)

Analog Scale - Display 1

Metrology Info					
Terminal					
Terminal Firmware Version					
Scale					
Status					
					

Analog Scale - Display 2

Metrology Info					
Status					
Hardware ID					
Log Time					
20/Aug/2023 10:19:19					
Name					
Version					
					

SICSpro Scale - Display 1

Metrology Info					
Terminal					
Terminal Firmware Version					
Scale					
Status					
					

SICSpro Scale - Display 2

Metrology Info					
Status					
Hardware ID					
Log Time					
06/Jan/2023 17:20:16					
Name					
Rainbow(AP:1.0.1 RB:2.13.0 WP:2.0.16 SP:2.2.8)					
Version					
1.0.1.20201229 0.0.0.0.0					
					

Powercell Scale

Display 1

Metrology Info					
Terminal					
Terminal Firmware Version					
Scale					
Status					
Hardware ID					
					

Display 2

Metrology Info					
Log Time					
09/Apr/2024 15:35:32					
Name					
C020220103					
Loadcell1 Serial Number					
007284539905					
Loadcell1 Node Address					
1					
Loadcell1 Version					
1.05					
Loadcell2 Serial Number					
007284539906					
					

Display 3

Metrology Info					
Loadcell2 Node Address					
2					
Loadcell2 Version					
1.05					
Loadcell3 Serial Number					
007284539907					
Loadcell3 Node Address					
3					
Loadcell3 Version					
1.05					
Loadcell4 Serial Number					
007292509901					
					

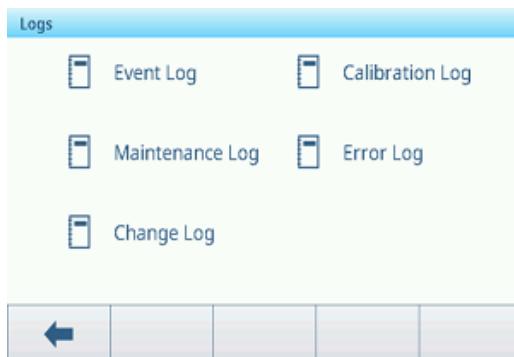
Display 4

Metrology Info					
Loadcell3 Node Address					
3					
Loadcell3 Version					
1.05					
Loadcell4 Serial Number					
007292509901					
Loadcell4 Node Address					
4					
Loadcell4 Version					
1.05					
Version					
					

Note

- The Name display in Metrology Info is the same as the Serial Number display in Setup -> Scale -> Identification.
- After scale, sensor or weighing board replacement in legal metrology applications, it is crucial for users to first set Approval as None in the Scale -> Metrology page, and then set the correct Approval type again to ensure the Log Time information is authentic and effective.
- Breaking the seal and removing the sealing the screw is also required to enable the scale menu to reset LFT parameters.

Logs



User can select a log to display the respective log records.

Event Log

Event Log		
Test Result	Date & Time	Technici
✓	14/Nov/2023 10:27:24	Admin
✓	14/Nov/2023 10:23:39	Admin

The Event Log records all planned actions from routine tests, including Calibration, Sensitivity, Eccentricity, and Repeatability, etc.

Calibration Log

Alibi Table				
ID	Date & Time	Unit	Gross	
7	14/Nov/2023 09:38:55	kg	17.00	
6	14/Nov/2023 09:38:46	kg	19.70	
5	14/Nov/2023 09:38:39	kg	22.35	
4	14/Nov/2023 09:38:32	kg	27.65	
3	14/Nov/2023 09:38:24	kg	17.45	

In the Calibration Log, all calibration operations, including operation datetime, type, operator name, operation result etc., are recorded.

Maintenance Log

Maintenance Log		
Date & Time	User Name	Scale ID
14/Nov/2023 09:48:21	Admin	1
14/Nov/2023 09:47:23	Admin	1
14/Nov/2023 09:45:55	Admin	1
14/Nov/2023 09:45:12	Admin	1
14/Nov/2023 09:44:25	Admin	1

Navigation: Back, Info, Filter, Next, 1/2

In the Maintenance Log, all routine maintenance activities such as capacity and zero captures are automatically recorded.

Error Log

Error Log		
Date & Time	Severity	Error Code

Navigation: Back, Filter, Next, 1/2

In the Error Log, all events and alarms to help customers and technicians trace operations and issues are reported.

Audit Log (for IND400 with Data Integrity only)

Audit Log			
ID	Date & Time	User Name	User
38	20/Sep/2023 08:59:34	Admin	002
37	20/Sep/2023 08:57:29	Admin	002
36	20/Sep/2023 08:56:48	Admin	002
35	20/Sep/2023 08:56:25	Admin	002
34	20/Sep/2023 08:43:32	Admin	002

Navigation: Back, Info, Filter, Up, Down

In the Audit Log, all user operations related to audits are reported.

Change Log

Change Log		
Date & Time	User Name	Object
01/Aug/2023 09:41:26	MT	xs0105

Navigation: Back, Info, Filter, Next, 1/2

In the Change Log, all configuration changes are recorded, tracking who made the updates and when, including parameter settings, HMI table edits, and FTP updates.

Additional actions in the logs



Highlight the log record then press the Info button to display detailed information.

2.1.6.3 Recalling the Alibi Log File

If requested by national regulations, the Alibi memory is available to trace all weighing activities on the scale. Each printout is automatically stored in the Alibi memory with the mandatory data. Up to 300,000 data records can be stored in the Alibi memory.

- 1 Open the Quick setting menu and touch .
- 2 Select Applications -> Memory -> Alibi Table.
 - The Alibi records of the last weighings are displayed.
 - Swipe horizontally to see the complete information on the transactions.
 - Swipe vertically to see further records.

The following information is stored for each transaction:

Alibi Table			
ID	Date & Time	Unit	Gross
12	15/Oct/2024 09:31:30	kg	5.28
11	15/Oct/2024 09:23:00	kg	4.89
10	15/Oct/2024 09:22:43	kg	2.41
9	14/Oct/2024 17:07:16	kg	19.58
8	14/Oct/2024 16:50:17	kg	12.27

    1/2

ID	Serial number of the log
Date & Time	Date and time of the transaction
Unit	Weight unit of the transaction
Gross	Gross weight
Net	Net weight
Tare	Tare weight
Scale #	For IND400: always "1"
Tare Type	"PT" for a tare preset, otherwise blank
User Name	Name of the user logged in

In the Alibi table the following operations are available:

-  Show the above information for the selected Alibi record
-  Filter Alibi records, see [Filtering Logs and Tables ▶ Page 26]
-  Print Alibi log file, with an APR320 / APR220 printer connected
-  Transfer Alibi log file
-  Reset the Alibi log file

Note

When working with data integrity, transferring the Alibi log file is possible for reviewed data only.

2.1.6.4 Filtering Logs and Tables

When filtering logs and tables you can combine up to three filter settings.

You can filter by all parameters of the current log or table.

Activate a filter

- 1 Select a log or a table.
- 2 Touch softkey .

→ A window to activate up to three filter settings is displayed.

- 3 Activate a filter setting.
- 4 For the next steps refer to the following examples.

Filter Settings

1

2

3

X ✓

Example 1:
Searching for successful results, e.g. in the Calibration log

- 1 Select the parameter you want to search for, e.g. Result.
- 2 Select an operator, e.g. ==.
Possible operators: ==, <, <=, !=, >, >= or a range
- 3 Enter or select the searched parameter value.
- 4 If desired, swipe to the next filter setting and proceed as described in the examples.
- 5 When all filters are set, confirm the current filter settings with softkey ✓.
→ The results are displayed in the respective log.

Filter Settings

1

Result ==

Succeed

X ✓

Example 2:
Searching for gross weights in the range of 10.00 to 15.00 kg, e.g. in the Transaction table

- 1 Select the parameter you want to search for, e.g. Gross.
- 2 Select an operator, e.g. Range.
Possible operators: ==, <, <=, !=, >, >= or a range
- 3 Enter the range values in the field From and To.
- 4 If desired, swipe to the next filter setting and proceed as described in the examples.
- 5 When all filters are set, confirm the current filter settings with softkey ✓.
→ The results are displayed in the respective table.

Filter Settings

1

Gross Range

From To

10.00 15.00

X ✓

Example 3:
Searching for all weighings in a time range, e.g. in the Alibi log

- 1 Select the parameter you want to search for, e.g. Date & Time.
- 2 Select an operator, e.g. Range.
Possible operators: <, <=, !=, >, >= or a range
- 3 Enter the range values in the field From and To.
As default the current time is entered.
- 4 If desired, swipe to the next filter setting and proceed as described in the examples.
- 5 When all filters are set, confirm the current filter settings with softkey ✓.
→ The results are displayed in the respective log.

Filter Settings

1

Date & Time Range

From To

14-Aug-2024 14:31 14-Oct-2024 14:31

X ✓

Display of the filtered results

When the filtered results are displayed, there are new softkeys available.



Indicates a filtered list.

To edit the filter settings touch this softkey.



To delete the filter settings and show the complete list touch this softkey.

2.1.6.5 Editing Tables

When opening a table, the following additional softkeys are available:

	Search for a specific entry in the table, refer to [Filtering Logs and Tables ▶ Page 26]
	Add a new entry to the table
	Edit the selected table entry
	Delete the selected table entry
	Reset the table. All data will be deleted. Note Only available for IND400 without Data Integrity. For IND400 with Data Integrity, a reset to clear tables can only be done in the [Maintenance -> Reset ▶ Page 156].

Adding/editing a table entry, e.g. in the material table

- 1 In the table view, touch softkey or mark a table entry and touch softkey .
- 2 The (first) page where you can enter data is displayed.
- 3 Enter or change the displayed data.
- 4 If applicable, swipe to the next page to enter/change further data.
- 5 When finished with entering all data, confirm the table entry with softkey .
- 6 The stored table entry can be selected for further use.

Entry	
ID	Description
1	Flower
<input checked="" type="radio"/> Application	Basic Weighing

2.1.6.6 Importing/exporting Data

Using the import/export function via setup items or via softkeys / allows you to edit lists or tables on an external computer or to transfer lists or tables from one device to another.

Importing data

Setup item	Description	Possible settings / comments
Device	Select the device from which the data will be imported	<ul style="list-style-type: none">Internal FileThe SD card is installed inside the terminal. To store data on the SD card for importing, users should contact METTLER TOLEDO Service for assistance.USB Mass MemoryAfter the USB drive is plugged into the USB port, users can access the data in the IND400 directory.

Setup item	Description	Possible settings / comments
Type	Select data type, for importing templates only	<ul style="list-style-type: none"> • ASCII Naming convention: CSV file with name started with "ASCII_Printout_Template" • Label Naming convention: PRN file with name started with "Label_Printout_Template[n]", [n] = 01 ... 10
Path	Path where the data to be imported has to be stored	Ensure that the data to be imported is stored in the correct folder

Exporting data

Setup item	Description	Possible settings / comments
Device	Select the device where the data will be exported to	<ul style="list-style-type: none"> • Internal File The SD card is installed inside the terminal. To acquire the data exported to the SD card, users should contact METTLER TOLEDO Service for assistance. • USB Mass Memory After the USB drive is plugged into the USB port, users can export the data to the specific IND400 directory.
Type	Select data type, for exporting templates only	<ul style="list-style-type: none"> • ASCII Naming convention: CSV file with name started with "ASCII_Printout_Template" • Label Naming convention: PRN file with name started with "Label_Printout_Template[n]", [n] = 01 ... 10
Path	Path where the exported data will be stored	Ensure that the indicated folder is existent

2.1.7 Verification Test

The weighing instrument is verified if:

- The accuracy class is displayed in the metrological line.
- The approval readability is shown as "e = readability".
- The validity is not expired.

The weighing instrument is also verified if:

- The metrological line shows "Approved scale".
- Labels with the metrological data are placed near the weight display.
- The securing seal is not tampered with.
- The validity is not expired.

Note

The period of validity is country-specific. It is in the owner's responsibility to renew verification in due time.

Analog scale (Strain gauge scale)

Analog scale (Strain gauge scale) use a Geo code to compensate gravitational influence. The manufacturer of the weighing instrument uses a defined Geo code value for verification.

- 1 Check if the Geo code in the instrument corresponds with the Geo code value defined for the user's location.
 - ⇒ The Geo code is displayed in the [Metrology setup ▶ Page 100].
 - ⇒ The Geo code value for location is shown in the [Table of Geo code values ▶ Page 168].
- 2 Call the METTLER TOLEDO service technician if the Geo code values do not match.

Screen display of broken sealing

When the sealing is broken, the screen will automatically open the Scale menu. The actual menu display depends on the user access right. The screen displays below are under Admin access level.



2.1.8 Selecting Language

IND400 supports the configuration of two types of languages. One is the terminal language and the other is the user language.

Terminal Language

Terminal language is set by the Display Message choice. This language is used for the following scopes.

- The font used in PDF exports
- The user language of MT technician and Viewer
- The terminal language corresponding to SICS command M15
- The language used in printed customer templates

1 Open the page for language setting in the path: **Terminal > Device > Region > Language**.

2 Modify the language in the field **Display Message**. For more information about language setting, see [Terminal -> Device -> Region ▶ Page 115].



User Language

The user management function of IND400 allows user definition, in which a specific language for screen display can be selected for a single user.

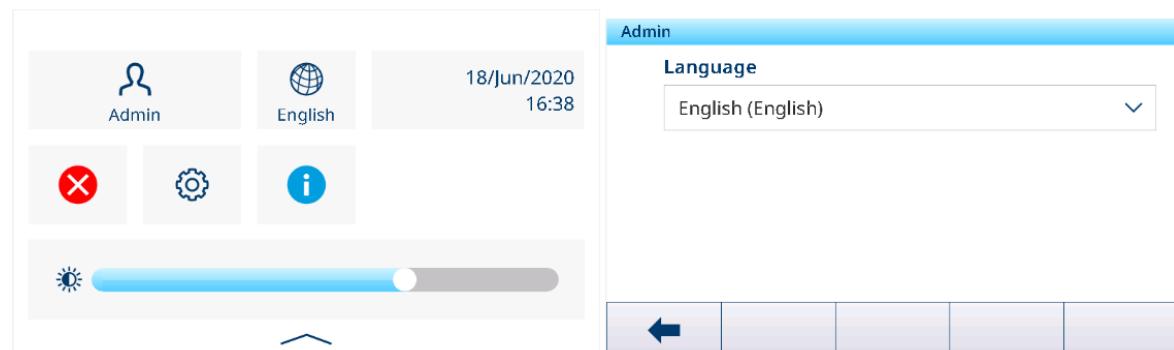
The user language, which affects the display language and input method layout for all terminal interfaces, can be configured in both the quick setting menu and the advanced menu.

Via Quick setting menu

- The user is logged in.

1 Open the Quick setting menu. See [Quick Setting Menu ▶ Page 8]

2 Touch  to open the user language page.



- 3 Use the dropdown list to change language of the currently logged-in user.

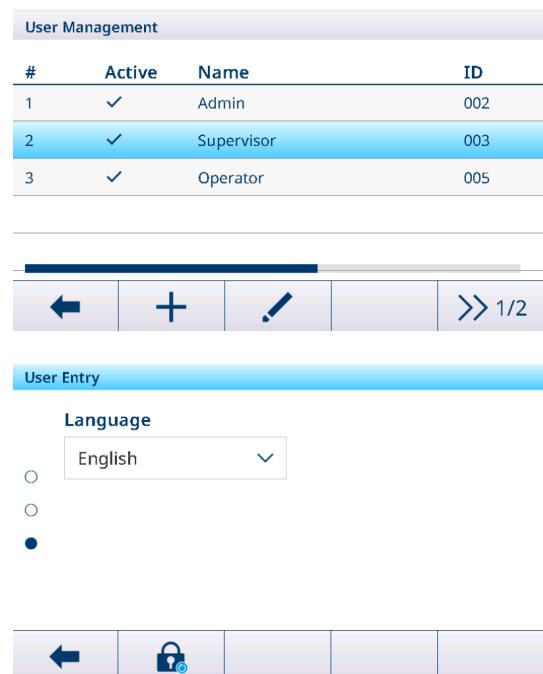
Via Advanced menu

In this method, language of both the currently logged-in user and all users with a role level lower than the currently logged-in user can be modified.

- 1 Open the menu for language setting in the path: **Terminal > User Management > User Definition**.
- 2 Mark the user for language setting.

→ As the currently logged-in user is **Admin**, the language of both the **Supervisor** and **Operator** can be modified.

- 3 Touch the softkey  to open the editing page.



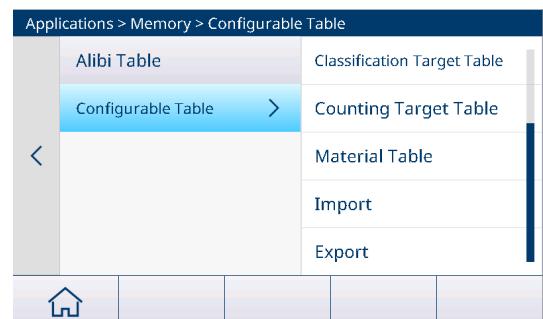
2.1.9 Transferring File via VNC

Only the emVNC from SEGGER supports file transfer. METTLER TOLEDO recommends users to download the latest version from SEGGER website for use.

- Connect IND400 to computer by VNC. See [Communication -> VNC Server ▶ Page 137] about how to enable **VNC Server**.

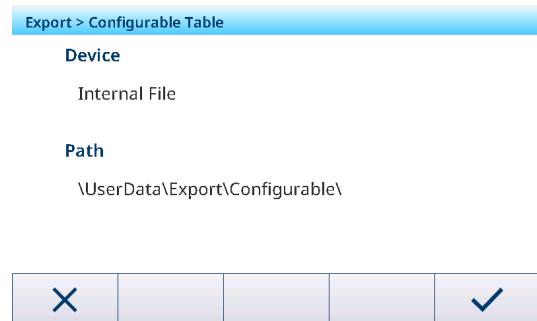
Export file

- 1 In the indicator menu, locate the data or files for export in the path: **Applications > Memory**.
- 2 Select the data or files for export (**Alibi Table** or **Configurable Table**), and export them with the "Internal File" setting for the device setup item. Click **Export**.
- 3 Confirm and start the export with .

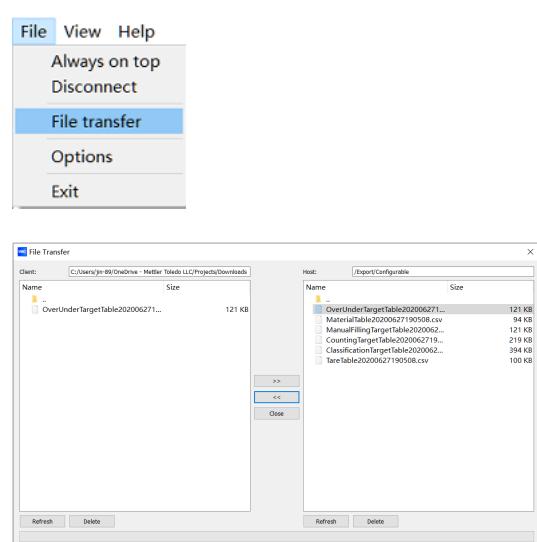


- The data or files are exported to SD card.

- Click File in the VNC window and select File Transfer in the pop-up list.



- Click the left arrow button to move selected files to the specified folder shown on the PC.



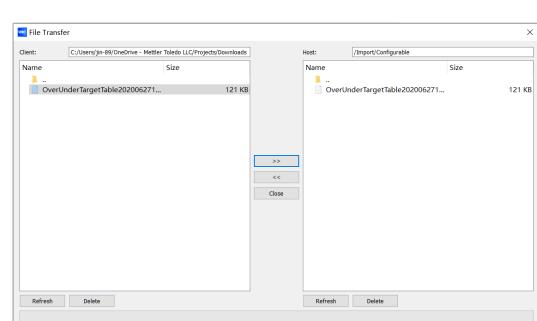
Import file

- The data or files for import are saved in computer.

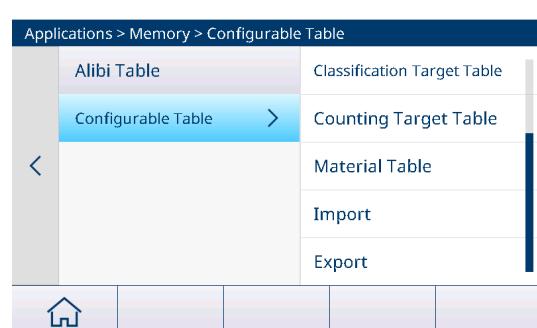
- Click File in the VNC window and select File Transfer in the pop-up list.
- Click the left arrow button to copy the highlighted files from the PC to the folder shown on the Indicator SD card.



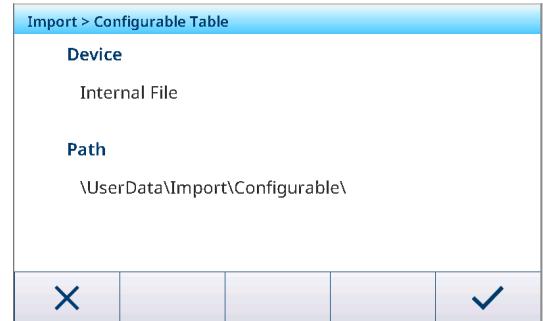
- Click the close button to exit File Transfer mode.
- On the indicator, open the menu **Applications > Memory**.
- Select the location for data import (**Alibi Table** or **Configurable Table**) and click **Import**.



- Confirm and start the import with **✓**.



⇒ The data is imported from the files sent via VNC.



2.1.10 Wi-Fi Module Setup via Webserver

The section introduces how to upload corporate security certificates, adjust settings like radio band and upgrade module FW using the internal webserver.

- The **Configuration Page** and the **AP** functions are enabled. See WLAN Setting.

- 1 Find the network **MT-AP- XXXXXXXXXXXX** on the computer and connect to it with password "PASSWORD".
 - ⇒ **Note** The network name is the same as the default SSID name shown on the Network Setting page.
- 2 By using the PC webbrowser, type IP **192.168.0.1:8080** in the address bar.
 - ⇒ **Note** The IP Address is the same as shown on the Network Setting page.
- 3 Log in to the webpage.
 - ⇒ User name = admin
 - ⇒ Password = PASSWORD

192.168.0.1:8080/#869ab168p

⇒ The webpage is opened.

2.1.10.1 Installing Certificates on xPico 250

- 1 Log in to the webpage xPico 250. See [Wi-Fi Module Setup via Webserver ▶ Page 33].
- 2 Go to the **TLS Credentials** page and click the softkey **Manage** in the page.

admin [Logout](#)

This page allows view, edit, delete or creation of a TLS Credential on the device.

Select a credential for editing by clicking its name; this takes you to the Configuration web page.

Delete one or more credentials by checking their delete checkboxes.

Create a new credential by entering a name in the text box. The new credential initially has empty certificates and keys.

When you name a new credential or check a box, the **Submit** button will appear.

Use the **Submit** button to update the credentials and save them to Flash.

Copyright © [Lantronix, Inc.](#) 2007-2022. All rights reserved. Lantronix® and xPico® are registered trademarks of Lantronix.

- 3 Enter a name for the new credential and click the softkey **Submit**.
- 4 Click the newly created credential name.
 - The configuration page shows.
- 5 Click the softkey **Configuration**.

6 In the configuration page, enter the contents of the PEM format certificate, private key and trusted authority (CA) certificate into the respective fields and click the softkey **Submit**.

Note PEAP does not require a TLS credential. However, to have the xPico 250 validate the RADIUS server's certificate, a TLS credential, which includes a Trusted Authority (CA) certificate must be created. A TLS credential, which does not include a Trusted Authority (CA) certificate, causes the xPico 250 to bypass validation of the RADIUS server's certificate.

Manage PKCS12

Status Configuration

TLS Credential Radius_EAP Configuration

Protocols: TLS1.0 TLS1.1 TLS1.2

Application Layer Protocol:

Ciphers: <There are 8 ciphers enabled> [\[Edit \]](#)

Private Key:

Certificate:

Higher Authority 1

Certificate:

Higher Authority 2

Certificate:

Higher Authority 3

Certificate:

Trusted Authority 1

Certificate:

Trusted Authority 2

Certificate:

Trusted Authority 3

Certificate:

Trusted Authority 4

Certificate:

Trusted Authority 5

Certificate:

Submit

Copyright © Lantronix, Inc. 2007-2022. All rights reserved. Lantronix® and xPico® are registered trademarks of Lantronix.

7 Go to the **WLAN Profiles** page and click on the profile created for IAS authentication.

[QuickConnect](#)

[Status](#)

[Bluetooth](#)

[Bridge](#)

[CLI Server](#)

[Clock](#)

[CPM](#)

[Device](#)

[Diagnostics](#)

[Discovery](#)

[File System](#)

[HTTP Server](#)

[Line](#)

[LPD](#)

[Network](#)

[NTP](#)

[Power](#)

[Radio](#)

[SNMP](#)

[SPI](#)

[TLS Credentials](#)

[Tunnel](#)

[User](#)

[WLAN Profiles](#)

[WPS](#)

[WPS2](#)

[WPS3](#)

[WPS4](#)

[WPS5](#)

[WPS6](#)

[WPS7](#)

[WPS8](#)

[WPS9](#)

[WPS10](#)

[WPS11](#)

[WPS12](#)

[WPS13](#)

[WPS14](#)

[WPS15](#)

[WPS16](#)

[WPS17](#)

[WPS18](#)

[WPS19](#)

[WPS20](#)

[WPS21](#)

[WPS22](#)

[WPS23](#)

[WPS24](#)

[WPS25](#)

[WPS26](#)

[WPS27](#)

[WPS28](#)

[WPS29](#)

[WPS30](#)

[WPS31](#)

[WPS32](#)

[WPS33](#)

[WPS34](#)

[WPS35](#)

[WPS36](#)

[WPS37](#)

[WPS38](#)

[WPS39](#)

[WPS40](#)

[WPS41](#)

[WPS42](#)

[WPS43](#)

[WPS44](#)

[WPS45](#)

[WPS46](#)

[WPS47](#)

[WPS48](#)

[WPS49](#)

[WPS50](#)

[WPS51](#)

[WPS52](#)

[WPS53](#)

[WPS54](#)

[WPS55](#)

[WPS56](#)

[WPS57](#)

[WPS58](#)

[WPS59](#)

[WPS60](#)

[WPS61](#)

[WPS62](#)

[WPS63](#)

[WPS64](#)

[WPS65](#)

[WPS66](#)

[WPS67](#)

[WPS68](#)

[WPS69](#)

[WPS70](#)

[WPS71](#)

[WPS72](#)

[WPS73](#)

[WPS74](#)

[WPS75](#)

[WPS76](#)

[WPS77](#)

[WPS78](#)

[WPS79](#)

[WPS80](#)

[WPS81](#)

[WPS82](#)

[WPS83](#)

[WPS84](#)

[WPS85](#)

[WPS86](#)

[WPS87](#)

[WPS88](#)

[WPS89](#)

[WPS90](#)

[WPS91](#)

[WPS92](#)

[WPS93](#)

[WPS94](#)

[WPS95](#)

[WPS96](#)

[WPS97](#)

[WPS98](#)

[WPS99](#)

[WPS100](#)

[WPS101](#)

[WPS102](#)

[WPS103](#)

[WPS104](#)

[WPS105](#)

[WPS106](#)

[WPS107](#)

[WPS108](#)

[WPS109](#)

[WPS110](#)

[WPS111](#)

[WPS112](#)

[WPS113](#)

[WPS114](#)

[WPS115](#)

[WPS116](#)

[WPS117](#)

[WPS118](#)

[WPS119](#)

[WPS120](#)

[WPS121](#)

[WPS122](#)

[WPS123](#)

[WPS124](#)

[WPS125](#)

[WPS126](#)

[WPS127](#)

[WPS128](#)

[WPS129](#)

[WPS130](#)

[WPS131](#)

[WPS132](#)

[WPS133](#)

[WPS134](#)

[WPS135](#)

[WPS136](#)

[WPS137](#)

[WPS138](#)

[WPS139](#)

[WPS140](#)

[WPS141](#)

[WPS142](#)

[WPS143](#)

[WPS144](#)

[WPS145](#)

[WPS146](#)

[WPS147](#)

[WPS148](#)

[WPS149](#)

[WPS150](#)

[WPS151](#)

[WPS152](#)

[WPS153](#)

[WPS154](#)

[WPS155](#)

[WPS156](#)

[WPS157](#)

[WPS158](#)

[WPS159](#)

[WPS160](#)

[WPS161](#)

[WPS162](#)

[WPS163](#)

[WPS164](#)

[WPS165](#)

[WPS166](#)

[WPS167](#)

[WPS168](#)

[WPS169](#)

[WPS170](#)

[WPS171](#)

[WPS172](#)

[WPS173](#)

[WPS174](#)

[WPS175](#)

[WPS176](#)

[WPS177](#)

[WPS178](#)

[WPS179](#)

[WPS180](#)

[WPS181](#)

[WPS182](#)

[WPS183](#)

[WPS184](#)

[WPS185](#)

[WPS186](#)

[WPS187](#)

[WPS188](#)

[WPS189](#)

[WPS190](#)

[WPS191](#)

[WPS192](#)

[WPS193](#)

[WPS194](#)

[WPS195](#)

[WPS196](#)

[WPS197](#)

[WPS198](#)

[WPS199](#)

[WPS200](#)

[WPS201](#)

[WPS202](#)

[WPS203](#)

[WPS204](#)

[WPS205](#)

[WPS206](#)

[WPS207](#)

[WPS208](#)

[WPS209](#)

[WPS210](#)

[WPS211](#)

[WPS212](#)

[WPS213](#)

[WPS214](#)

[WPS215](#)

[WPS216](#)

[WPS217](#)

[WPS218](#)

[WPS219](#)

[WPS220](#)

[WPS221](#)

[WPS222](#)

[WPS223](#)

[WPS224](#)

[WPS225](#)

[WPS226](#)

[WPS227](#)

[WPS228](#)

[WPS229](#)

[WPS230](#)

[WPS231](#)

[WPS232](#)

[WPS233](#)

[WPS234](#)

[WPS235](#)

[WPS236](#)

[WPS237](#)

[WPS238](#)

[WPS239](#)

[WPS240](#)

[WPS241](#)

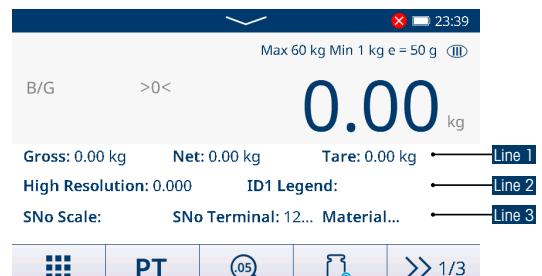
[WPS242](#)

[WPS243](#)

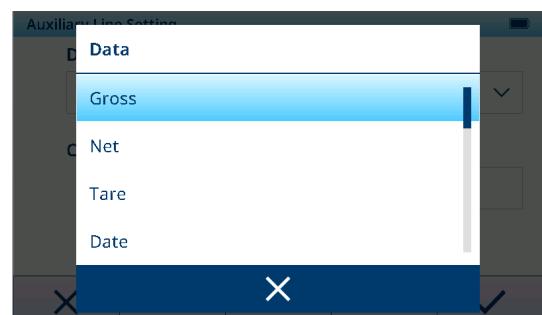
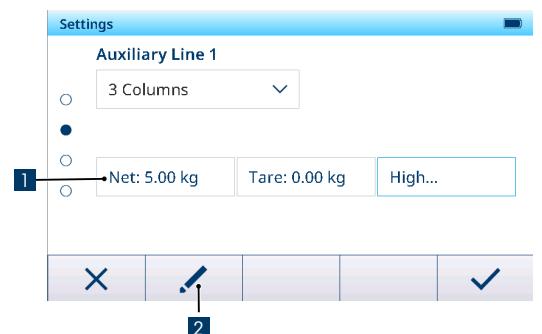
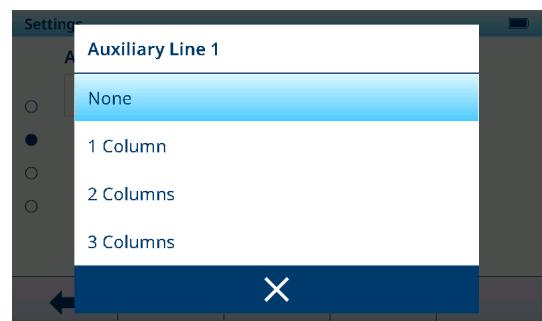
[WPS244](#)

2.1.11 Configuring Auxiliary Lines

The auxiliary line feature enables administrators to configure extra lines displayed below the weighing window, allowing interface customization.



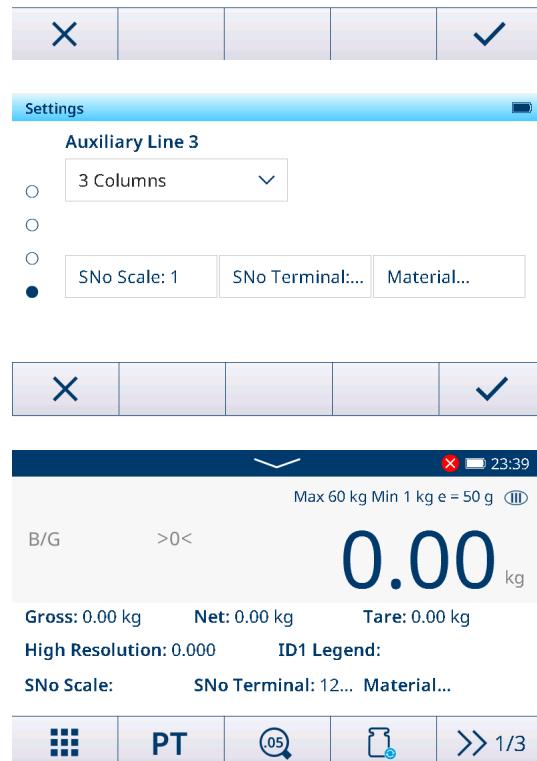
- 1 Select the application needing auxiliary lines in **Application**, then go to **Settings**. Supported applications: Basic Weighing, Over/Under, Totalization, Manual Filling/Dosing, Counting, and Classification.
- 2 Swipe to the next page and select the desired layout from the drop-down menu: None, 1 Column, 2 Columns, or 3 Columns.
- 3 Touch the target area (1) and tap (2) to edit.



5 Merge adjacent columns by selecting the start column (From) and end column (To), such as 1-2, 2-3, or 1-3.



6 Confirm settings with ✓.



⇒ Back to the main screen and the configured auxiliary lines are displayed.

Note

- For the **Manual Filling** and **Classification** applications, the 3rd auxiliary line is fixed and cannot be customized.
- For data menu options specific to each application, refer to [IND400 Weighing Variables ▶ Page 127].

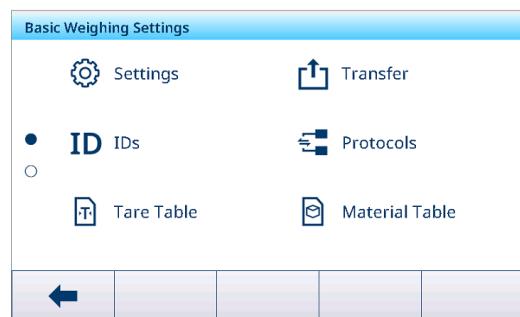
See also

🔗 Communication -> Template ▶ Page 127

2.2 Basic weighing operation

2.2.1 Basic weighing settings

Touching softkey  opens the Basic Weighing Settings menu.



Note

For more settings swipe the screen.

	Settings	Basic weighing application settings.
	Transfer	Settings for transferring the data to a computer or printer, see also [How to set up a printer ▶ Page 43].
	IDs	Setup of the identifications.
	Protocols	Setup of protocols.
	Tare Table	Setup of the tare table for frequently used known tare values.
	Material Table	Setup of the material table for frequently used weighing materials.
	Barcode Reader	Setup of a barcode reader, see also [How to set up a barcode reader ▶ Page 45].
	Discrete IO	Setup of Discrete IO, see also [Communication -> Discrete IO ▶ Page 135].
	Advanced Settings	Open setup, refer to [Configuration ▶ Page 99].

Note

For more information on how to edit tables refer to [Editing Tables ▶ Page 28] and [Filtering Logs and Tables ▶ Page 26].

Settings

The following setup items are available via the :

Setup item	Sub items	Description
Save & Transfer	Manually	Saving and transferring a transaction has to be confirmed manually by using the transfer key  .
	Automatic	Saving and transferring a transaction takes place automatically.
	Clever Print	<ul style="list-style-type: none">• Saving and transferring the last stable weight above the Threshold when the display weight returns below the Threshold.• Use correct and consistent deviation for all application tables.
	Threshold (kg)	<ul style="list-style-type: none">• Range: 0 - Capacity• Default value: 9d

Setup item	Sub items	Description
Material Change	None	The Material Change function is disabled.
	Deviation +/-	To detect a change in weight, a specific deviation is required.
	Deviation (d)	<ul style="list-style-type: none"> Range: 9 – 99 Default value: 30
	Return to Zero (<9d)	Print is only triggered when the gross weight is below 9 d.

Transfer

A list of the existing transfer settings is displayed.

To create/edit a transfer setting the following setup items are available:

Setup item	Sub items	Description
Type	Lot Print	Manual data output to the printer with  .
	Demand Continuous	Ongoing output of all weight values via the interface.
Instant Print	Enable/disable	Manual data output of the current weight value (either stable or not) to the printer with  .
Connection	None	No transfer/print out.
	Connection 1 ... Connection #	Select/edit a connection. <ul style="list-style-type: none"> • COM <ul style="list-style-type: none"> — COM1, COM2, ... • Mode <ul style="list-style-type: none"> — Print • Print Type <ul style="list-style-type: none"> — ASCII Printer — Smart Printer (For more information, please refer to Smart Printer manuals.) — Label Printer • Length <ul style="list-style-type: none"> — 1 ... 100 characters
Template	Basic Weighing Lot Standard	Predefined template for Basic Weighing results.
Copies		Enter the number of copies of the printout.

IDS

Defining up to three IDs for assignment to weighing transactions.

Setup item	Sub items	Description
ID1	Enable/disable (default)	If enabled, the ID softkey is available to enter identification data for the transaction.
ID2		
ID3	Title	Enter the title (name) of the ID. The maximum length of title is 40 bytes.

Protocols

A list of the existing protocol settings is displayed.

Protocols				
Rec. #	Mode	Connection	COM	
1	SICS Server	Connection1		
2	SICS Server	Connection3	EPort2	
3	Second Display	Connection4	EPort3	
4	SICS Server	Connection7		
5	SICS Server	Connection8		

← + trash pen

To create/edit a protocol the following modes are available:

- SICS Server
- SICS Continuous
- Toledo Continuous-W
- Toledo Continuous-C
- Input Template
- Second Display
- Post
- DigiTol
- Demand Mode
- PM
- Remote Scale
- Reference Balance
- Transfer
- Parameter Server
- PSCP
- Modbus RTU / Modbus TCP

i Note

Sub items depend on the selected mode.

Tare Table

A list of the stored tare values is displayed.

Tare Table			
ID	Tare Value	Unit	Description
1	0.30	kg	Coffee for 3 types
2	0.85	kg	Coffee from China.
3	0.20	kg	Coffee from China.
4	0.05	kg	Coffee from China.
5	0.01	kg	Coffee from China.

← trash + pen >> 1/2

To create/edit a tare value the following setup items are available:

Setup item	Description
ID	Tare Weight ID: Numeric (1-5000 max)
Tare Value	Weight value of the tare weight Either enter the weight value numerically or weigh the container. Weighing the container Live Weight (kg) ΔΔ 1 50.25 1 Place the container on the scale. → At the bottom right the weight on the scale is displayed (Live Weight). 2 Touch softkey T to save the displayed weight as tare weight.
Unit	Unit of the tare value.
Description	Description of the tare weight (Up to 40 characters).

Material Table

A list of the existing materials is displayed.

Material Table			
ID	Name	Application	Tare
00000001	Coffee 1	Over/Under	1
00000002	Coffee 2	Over/Under	2
00000003	Coffee 3	Counting	3
00000004	Coffee Mate 1	Counting	4
00000005	Coffee Mate 2	Counting	5

←
✖
✚
✎
>>
1/2

To create/edit a material the following setup items are available:

Setup item	Description
ID	Material ID: Numeric (Max length: 15 characters).
Description	Material Name: Text (Max length: 40 characters).
Application	<p>Select the application for which the material will be used.</p> <p> ⓘ Note</p> <p>If a material is used for several applications you need to save the material for each application.</p> <p>Only materials assigned to the current application can be selected in the application's material table.</p>
Tare ID	If the material is always used in combination with a specific tare weight stored in the tare table, enter the corresponding tare ID.
Target Type	Select the target type, for Over/Under, Manual Filling/Dosing, and Counting applications only.
Target ID	Enter the corresponding target ID, for Over/Under, Manual Filling/Dosing, and Counting applications only.

Barcode Reader

An overview of the existing barcode reader settings is displayed.

Barcode Reader Setting			
Reo.No	Connections	COM	Mode
001	Connection8	COM1	Demand Input

←
✚
✖
✎

To create/edit a barcode reader setting the following setup items are available:

Setup item	Sub items	Description
COM		COM port where the barcode reader is connected.
Mode	Input Template	Fixed setting for a barcode connection.
Preamble Length	<ul style="list-style-type: none"> • Range: 0 ... 20 (characters) • Default value: 0 	<p>The barcode may contain additional data before the relevant data (preamble) and behind (postamble).</p> <ul style="list-style-type: none"> – Enter the number of characters of preamble, (relevant) data and postamble.
Data Length	<ul style="list-style-type: none"> • Range: 1 ... 99 (characters) • Default value: 1 	
Postamble Length	<ul style="list-style-type: none"> • Range: 0 ... 20 (characters) • Default value: 0 	

Setup item	Sub items	Description
Assignment	None (default) Keypad Preset Tare Tare ID ID1 ... ID 3 Target ID Material ID	Select the item to be entered via barcode scanner.
Termination character	None, SOH, STX, ETX, EOT, ENQ, ACK, BEL, BS, HT, LF, VT, FF, CR (default), SO, SI, DLE, DC1, DC2, DC3, DC4, NAK, SYN, ETB, CAN, EM, SUB, ESC, FS, GS, RS, US	Select the termination character used by the connected barcode scanner. For standard definition of these characters, see [Control Characters ▶ Page 180].

Discrete IO

With a Discrete IO option board, terminal can provide the specific Input / Output signal for users to better identify the status of Basic Weighing and start the process by digital input.

i Note: In Basic Weighing, users can only select the Application as General.

2.2.1.1 How to set up a printer

i Note

To initiate a printout via the transfer key , a printer has to be connected on the COM1 (RS232).

Step 1: Setting up the connection

- 1 In the setup go to Communication -> Connection.
- 2 Select the following:
 - COM = COM1
 - Mode = Transfer
 - Print Type = ASCII Printer - for an ASCII printer
 - Print Type = Smart Printer - for the METTLER TOLEDO APR220/320 printer
 - Print Type = Label Printer - for a label printer
- 3 For further connection settings refer to [Communication -> Connection ▶ Page 131].

Step 2: Setting the communication parameters

- 1 In the setup go to Serial -> COM1 (RS232).
- 2 Ensure that the communication parameters (Baud Rate, Parity, Handshake) of the weighing terminal and the printer are the same.
- 3 For further parameter settings refer to [Communication -> Serial ▶ Page 132].

Step 3: Checking the printer templates

i Note

The device offers 10 predefined templates and the possibility to create your own templates. Templates are related to the weighing application.

- 1 In the setup go to Communication -> Templates.
- 2 Check if a suitable template is available. If not, create your own template, refer to [Communication -> Template ▶ Page 126].

Step 4: Setting up the application specific printout

i Note

When working with several weighing applications, the printout for each weighing application has to be set up separately.

Transfer is defined separately for each application and can use the same connected printer previous defined in the communication menu. Each application can use its own standard or custom output template.

- 1 Leave the setup.
- 2 Select a weighing application.
- 3 Touch softkey  to open the application settings.
- 4 Touch  **Transfer**.
- 5 Select a transfer setting or make a new transfer setting using the connection set up in Step 1 and the application specific templates.
- 6 For further transfer settings refer to [Basic weighing settings ▶ Page 39].
- 7 Leave the application settings.

Result

After Steps 1 to 4 have been finished, touching the transfer key  will initiate a printout on the connected printer.

2.2.1.2 How to Operate Label Print

IND400 is able to download the Label Templates from a third-party label designer software, and then does the keyword substitution and sends the whole template to a printer over Ethernet or RS232. It can manage up to 10 label templates.

Step 1: Setting up the connection

- 1 In the setup go to Communication -> Connection.
- 2 Select the following:
 - ➔ COM = COM1
 - ➔ Mode = Transfer
 - ➔ Print Type = Label Printer
- 3 For further connection settings refer to [Communication -> Connection ▶ Page 131].

Step 2: Setting the communication parameters

- 1 In the setup go to Serial -> COM1 (RS232).
- 2 Ensure that the communication parameters (Baud Rate, Parity, Handshake) of the weighing terminal and the printer are the same.
- 3 For further parameter settings refer to [Communication -> Serial ▶ Page 132].

Step 3: Edit a label template externally

The label templates are edited outside of IND400.

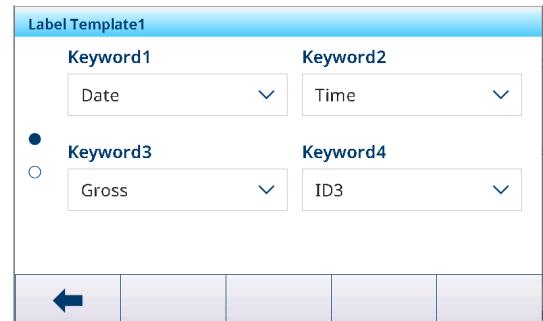
- 1 If a terminal variable needs to be added into the certain position of the label template, insert the specific Template Keyword into the corresponding position. See [IND400 Weighing Variables ▶ Page 127].
- 2 Note the format of the keyword.
- 3 Note name of the label template file, which should be named as "Label_Printout_Template[n]". [n] = 01 ... 10

```
^Q102,3
^W100
^H8
^P1
^S4
^AD
^C1
^R0
~Q+0
^O0
^D0
^E16
~R255
(L
Dy2-me-dd
Th:m:s
AZ1,576,216,1,1,0,0,<?Date/>
AZ1,576,285,1,1,0,0,<?Time/>
AZ1,576,322,1,1,0,0,<?String2/>
AZ1,576,460,1,1,0,0,<?Gross/>
AZ1,576,522,1,1,0,0,<?ID3/>
AZ1,576,653,1,1,0,0,<?String1/>
(E
```

Figure 3: Example: Label template of APR430/530 with print language in EZPL format

Step 4: Importing the label template into terminal and editing

- 1 Import the label template into IND400 via **Internal File**, USB, or VNC. See [Importing/exporting Data ▶ Page 28] and [Transferring File via VNC ▶ Page 31]
- 2 In the page Communication -> Templates, edit the keywords of the imported template with the softkey  and select a weighing application.
- 3 In the Transfer page of the **Basic Weighing Settings** menu, select the imported label template in the field Template.
→ Touch the transfer key  to initiate a printout on the connected printer.



2.2.1.3 How to set up a barcode reader

Note

IDs and a preset tare can be scanned with a barcode reader with serial or USB connection cable.

Step 1: Setting up the connection

- 1 In the setup go to **Communication -> Connection**.
- 2 Select the following:
For a serial connection: COM = COM1 ... COM4
For a USB connection: COM = USB (HID)
Mode = Input Template
- 3 Enter the required data limits and select the input assignment, e.g. an ID.
- 4 For further connection settings, refer to [Communication -> Connection ▶ Page 131].

Note

Alternatively, the barcode reader can be set up in the application settings, refer to [Basic weighing settings ▶ Page 39].

Step 2: Setting the communication parameters

- 1 In the setup go to Serial -> COMx.
- 2 Ensure that the communication parameters (Baud Rate, Parity, Handshake) of the weighing terminal and the barcode reader are the same.
- 3 For further parameter settings, refer to [Communication -> Serial ▶ Page 132].

Result

When the specific input is required, e.g. an ID, this can be entered via barcode.

See also

🔗 Communication -> Template ▶ Page 126

2.2.2 Straight Weighing

- 1 Place the weighing sample on the scale.
- 2 Wait until the stability monitor  disappears.
- 3 Read the weighing result.

2.2.3 Switching Units

The device offers up to three display units. It is possible to switch between these weight units.

- Touch .

→ The weight value is displayed in the next unit.

 Possible units depend on the active scale and the local Weights and Measures regulations.

2.2.4 Zeroing / Center of Zero

Zeroing

Zeroing corrects the influence of slight changes on the load plate or minor deviations from the zero point.

 • The zero function is only available within a limited weighing range.

• After zeroing the scale, the whole weighing range is still available.

Manual

- 1 Unload the scale.
- 2 Press .

→ Zero appears in the display,  appears in the status line.

Center of Zero

Automatic

- For OIML approved scales, the Center of Zero is always activated. The default zero range is 0.5 d.
- In case of non-approved scales, the Center of Zero can be deactivated in the setup or the zero range can be changed.

2.2.5 Weighing with tare

2.2.5.1 Taring a container

- Place the empty container on the scale and touch .
- The zero display appears.
- In the status line, the tare weight with symbol  and the symbol  are displayed.
- The tare weight remains stored until it is cleared or a new tare weight is set.

2.2.5.2 Clearing the tare

- Press .
- The symbol  disappears, the gross weight and the symbol  appear on the display.



If the Auto Clear Tare function is activated in the Scale setup, the tare weight is automatically cleared as soon as the scale is unloaded.

2.2.5.3 Clearing the tare automatically

A tare weight is automatically cleared when the scale is unloaded.

Prerequisite

The Auto Clear Tare function is activated in the Scale setup.



The tare weight must be above than the clear threshold.

2.2.5.4 Automatic taring

If you place a weight on an empty scale, the scale is tared automatically and the NET symbol is displayed.

Prerequisite

The Auto Tare Mode is activated in the Scale setup.



The weight to be tared automatically, e.g. packaging material, must be heavier than the tare threshold.

2.2.5.5 Chain tare

The chain tare functionality is used to allow the user to tare different containers without first clearing the active tare value.

Example

- A 300g container is put on the platform and tared.
- 200g material is put into the container.
- Another container of 300g is put on the platform while the first container is still on the platform.
- Now the user puts some material into the new container and therefore wants to tare the whole weight on the platform.
- The user only needs to press the tare key again.

Practical operation

- 1 Place the first container or packaging material on the scale and press **T**.
 - ⇒ The weight of the packaging is automatically saved as tare weight, the zero display appears.
 - ⇒ In the status line the tare weight with **T** symbol and the NET symbol are displayed.
- 2 Load the sample and read/print out the result.
- 3 Place the second container or packaging material on the scale and press **T** again.
 - ⇒ The total weight on the scale is saved as new tare weight, the zero display appears.
 - ⇒ In the status line the total tare weight with **T** symbol and the NET symbol are displayed.
- 4 Load the sample in the second container and read/print out the result.
- 5 Repeat steps 3 and 4 for further containers.

2.2.5.6 Tare preset

For established container weights the tare weight can be entered numerically or via SICS command. Thus, you do not have to tare the empty container.



The entered tare weight is valid until a new tare weight is entered or the tare weight is cleared.

Tare preset with numeric entry

- 1 Touch **PT** and enter the known tare weight.
 - ⇒ The weight display shows the negative tare weight.
 - ⇒ In the status line the tare weight with **PT** symbol and the NET symbol are displayed.
- 2 Place the full container on the weighing platform.
 - ⇒ The net weight is displayed.

Tare preset with tare table

Note

To setup the tare table refer to [Basic weighing settings ▶ Page 39].

- 1 Touch **PT**.
- 2 Touch  on the top right.
 - The list of stored tare values is displayed.
- 3 Mark the desired tare value.
 - For filtering the tare table refer to [Filtering Logs and Tables ▶ Page 26].
- 4 Touch  to load the tare value.
 - The weight display shows the negative tare weight.
 - In the status line the tare weight with PT symbol and the NET symbol are displayed.
- 5 Place the full container on the weighing platform.
 - The net weight is displayed.



Tare Table			
ID	Tare Value	Unit	Description
1	2.95	kg	Box
2	0.2	kg	Bag
3	7.5	kg	Container small
4	11.25	kg	Container medium
5	19.75	kg	Container large

Tare preset with SICS command from a connected computer

- 1 Enter the known tare weight on the computer using the SICS command TA_Value_Unit.
 - The weight display shows the negative tare weight.
 - In the status line the tare weight with PT symbol and the NET symbol are displayed.
- 2 Place the full container on the weighing platform.
 - The net weight is displayed.

2.2.6 Using the Material Table

Materials including their tare weights can be stored in the material table.

Note

- To setup the material table refer to [Basic weighing settings ▶ Page 39]
- Only materials assigned to the current application can be recalled.

For each material the following information is stored:

- Numerical ID
- Name
- Tare ID
- Target Type (for Over/Under, Manual Filling/Dosing applications)
- Target ID (for Over/Under, Manual Filling/Dosing applications)
- Value of the tare weight
- Unit of the tare weight
- Alphanumeric description of the tare weight

- 1 Touch .
- 2 Mark the desired material.
 - For filtering the material table refer to [Filtering Logs and Tables ▶ Page 26].
- 3 Touch  to load the material.
 - If a tare ID is assigned to the material the weight display shows the negative tare weight. In the status line, the tare weight with PT symbol and the NET symbol are displayed.

 The recalled material is valid until a new material is selected or the material is cleared.



Material Table			
ID	Name	Application	Tare
00000001	Coffee 1	Over/Under	1
00000002	Coffee 2	Over/Under	2
00000003	Coffee 3	Counting	3
00000004	Coffee Mate 1	Counting	4
00000005	Coffee Mate 2	Counting	5

Clearing a material

- Touch softkey  .
 - ⇒ The material and the tare value (if included) are cleared.

2.2.7 Working in a Higher Resolution

The weight value can be displayed in a higher resolution continuously or when required.

- Touch  .
 - ⇒ The weight value is displayed in grey and in a resolution that is at least 10x higher.
 - ⇒ In the status line the symbol  is displayed.



- With approved weighing platforms the higher resolution is displayed for 5 seconds.
- With non-approved weighing platforms the weight value is displayed in a higher resolution until  is touched again.
- In approved mode, the printing and transferring function is disabled in the higher resolution display. In non-approved mode, it allows to print in higher resolution and the weight data is marked with *.

2.2.8 Printing/transferring Results

If a printer or host is connected, weighing results and other information can be printed out or transferred to a computer.

- Press  .
 - ⇒ The data defined in the application specific output template is transferred to the host.
- The printout content can be defined in the Application setup.
 - When Alibi Memory is enabled: transaction results are saved in the Alibi (approved) /Transaction (non-approved) table.

2.2.9 Working with Identifications

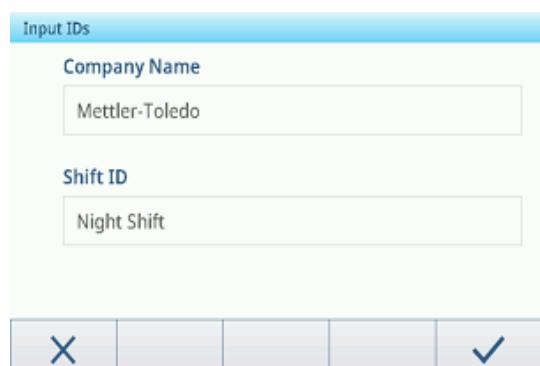
Up to 3 identifications with up to 40 alphanumeric characters or 20 Chinese characters can be assigned to weighing series. Identifications can also be printed out in the protocols. If, for example, a customer name and a batch number are assigned, you can easily identify which batch was weighed for which customer.

Prerequisite

- In the Application setup at least one ID is enabled.

Procedure

- 1 Touch softkey **ID**.
 - ⇒ The required identifications are displayed.
- 2 Enter the required identifications and confirm with  .
 - ⇒ The defined identifications are assigned to the following weighings until the identifications are cleared or new identifications are set.



2.2.10 Working with Data Integrity

For Data Integrity settings refer to [Application -> Data Integrity ▶ Page 115].

2.2.10.1 Electronic Signature

- 1 Navigate to Applications -> Data Integrity.

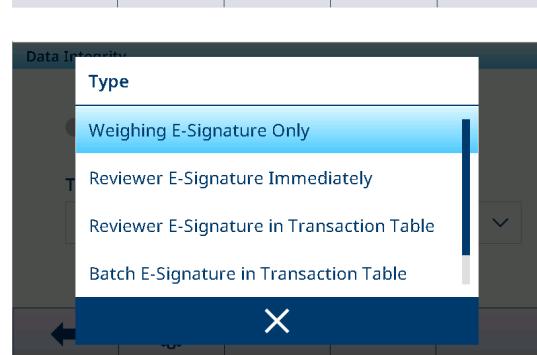


- 2 Toggle Electronic Signature on if required.

⚠️ WARNING: The toggle cannot be disabled once enabled.



- 3 If enabled, select the applicable signature type from the list below.

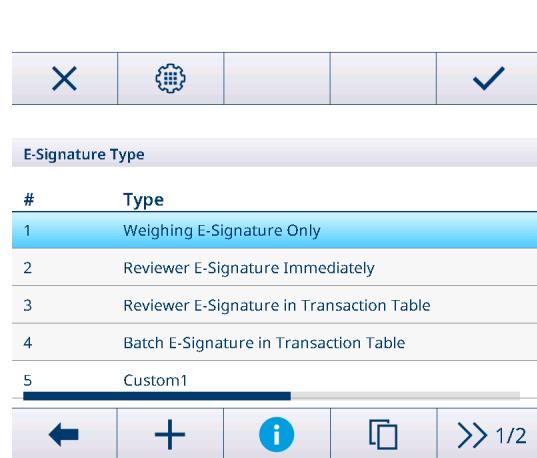


- 4 If none of the four types meet the requirements, select  to open the E-Signature Type Configuration page and create a customized type.



- 5 Select  to add a custom E-Signature type (up to 10 modes).

→ Default settings: **Weighing E-Signature** = ON; **Reviewer E-Signature** = OFF.



- Configure the settings based on the customer-required E-Signature workflow.
 - If **Reviewer E-Signature** is disabled, no further configuration is required.

Type Settings				
Name	Custom1			
<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Weighing E-Signature			
	<input checked="" type="radio"/>	Reviewer E-Signature		

- If the **Skip Allowed** switch is enabled, the reviewer's immediate e-signature is waived.

Type Settings				
Reviewer E-Signature				
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Reviewer E-Signature Immediately			
<input checked="" type="radio"/>	<input type="radio"/>	Skip Allowed		

- When the **Only logged-in user signatures allowed** switch is enabled, only logged-in users can sign. When disabled, the reviewer must verify identity.
- Confirm the settings with .
- Back to the page in step 3 to select the customized e-signature type.

Type Settings				
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Reviewer E-Signature in Transaction Table			
<input type="radio"/>	<input checked="" type="radio"/>	Only logged-in user signatures allowed		
<input checked="" type="radio"/>	<input type="radio"/>	Batch E-Signature Allowed		

Data generation without Electronic signature

- Electronic signature is disabled

- Login to the terminal.
- Perform a weighing operation.
- When the weight value is stable, press the transfer key .
- The weight record is stored in both alibi and transaction table and transferred out in the selected template, if configured.
- The terminal is ready for the next transaction.

Data generation with Weighing E-Signature Only

- Electronic signature enabled
- Weighing E-Signature Only selected

- Login to the terminal.
- Perform a weighing operation.
- When the weight value is stable, press the transfer key .
- The Electronics Signature opens with the logged in user data.
- Enter your password and confirm with .
- The weight record is stored in both alibi and transaction table and transferred out in the selected template, if configured.
- The terminal is ready for the next transaction.

Electronics Signature	
User ID	002
Password	<input type="text"/>
User Name	Admin

Data generation with Reviewer E-Signature Immediately

- Electronic signature enabled
- Reviewer E-Signature Immediately selected

- 1 Login to the terminal.
- 2 Perform a weighing operation.
- 3 When the weight value is stable, press the transfer key .
- 4 Enter your password and confirm with .
- 5 Check the displayed transaction data.
- 6 Touch softkey  to review the transaction.

→ The weight record is stored in both alibi and transaction table, and the record in transaction table is in unreviewed state.

→ The Electronics Signature opens again to review the transaction.

Electronics Signature	
User ID	Password
002	<input type="text"/>
User Name	Admin
	

	Cap 60 kg d = 50 g
B/G	6.45 kg
ID	12
Date & Time	21/Sep/2023 15:33:28
Gross	6.45 kg
Tare	0.00 kg
	

- 7 A different authorized User ID & password must be used as the reviewer, and confirm with .
- 8 The terminal is ready for the next transaction.

Electronics Signature	
User ID	Password
222	<input type="text"/> *****
	

Data generation with Reviewer E-Signature In Transaction Table

- 1 Touch softkey .
- 2 Touch softkey  to see the record's status.
- 3 Touch softkey  to review the record.
- 4 A different authorized User ID & password must be used as the reviewer, and confirm with .

Entry	
ID	9
Date & Time	21/Sep/2023 15:03:21
Status	
Gross	20.35 kg
Tare	0.00 kg
Net	20.35 kg
	
	

Data generation with Batch E-Signature In Transaction Table

- 1 A different authorized User ID must be used as the reviewer, and confirm with ✓.
- 2 Touch softkey .
- 3 The last weighing transactions are displayed.
- 4 Click the first record to be reviewed, then click the last record of the batch to select all pending review records within this range. A maximum of 100 records can be selected at a time.
- 5 Touch softkey  to see the record's status.
- 6 Possible status: Blank, Not Reviewed, Reviewed, and Cancelled.
- 7 Touch softkey  to review each of the selected records.
- 8 The status of the selected records is updated to Reviewed.

Entry	
ID	7
Date & Time	07/Dec/2025 19:45:58
Status	Not-Reviewed
Gross	15.90 kg
Tare	0.00 kg
Net	15.90 kg
	
	

Data generation with Customized E-Signature In Transaction Table

Perform operations and reviews in accordance with the customized E-Signature workflow specified above.

2.2.10.2 Transaction Table

Cancelling a record in the transaction table

Note

- Only records in not reviewed state can be cancelled.
- Once the user confirms the final cancellation, the record will be cancelled finally and can't be reviewed. At this time, the cancel and review softkeys won't display.
- The user has access rights to cancel.
- Softkey  is available.

- 1 Select a record and touch softkey .
- 2 A page to enter the reason for cancelling is displayed.
- 2 Enter the reason for cancelling. This is mandatory and the field cannot be blank.
- 3 The record is marked as cancelled and struck through.

Note

Marking data for deletion does not actually delete the record from the IND400 transaction log. The actions marked for deletion is recorded in the Audit Log.

Entry	
ID	2
Date & Time	26/Sep/2023 15:32:27
Status	Cancelled
Gross	30.75 kg
Tare	0.00 kg
Net	30.75 kg
	

Export functions in the transaction table

- All data records in the transaction table are reviewed.
- Select a report and proceed as described in [Importing/exporting Data ▶ Page 28].

 Note The data is exported in both CSV and PDF formats.

Report	Data integrity report The Data Integrity Report is a distinctive feature of IND400. It will offer a comprehensive overview of all weighing data, including scale details, weighing specifics, and audit trail records for the specified period. This report will equip auditors and third-party inspectors with a thorough understanding of the compliance of the weighing results. This report content is editable. All the fields of the application-specific transaction table can be added to the report.	Electronics batch report The Electronics batch report will feature records of weighing various materials within a single batch, including their total weights, and will also include a section for signatures. This report content is not editable.	Transaction report This report is application-specific.
Softkey			
Contents	<ul style="list-style-type: none"> • ID in the transaction list • Date & Time • Unit • Gross • Tare • Net • Tare Type • Scale # • Material ID • Material Description • ID1 ... ID3 • User Name • Status • Reviewer • Review Time <p> Note Items in bold are default items.</p>	<ul style="list-style-type: none"> • ID in the transaction list • Date & Time • Material ID • Gross • Net • Tare • User Name • Reviewer • Unit 	Refer to the application settings.

See also

🔗 Application -> Data Integrity ▶ Page 115

2.2.10.3 Audit Log

In the Audit Log all user actions are recorded.

 **Note** The data is exported in both CSV and PDF formats.

- Touch softkey .
- ⇒ The Audit Log of the last user actions is displayed.

The Audit Log contains the following information:

- ID in the transaction list
- Date & Time
- User Name
- User ID
- Category
- Event
- Action
- Field

- Old
- New
- Detail

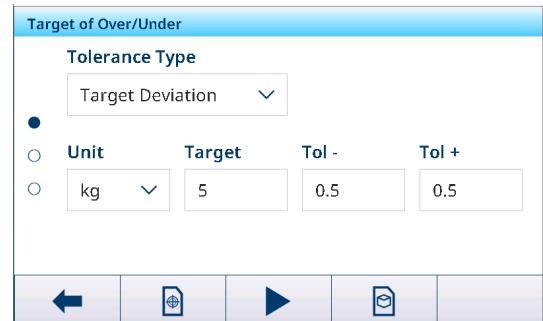
See also

- ☞ Application -> Data Integrity ▶ Page 115
- ☞ Importing/exporting Data ▶ Page 28

2.3 Over/Under checkweighing

2.3.1 Activating Over/Under checkweighing

- 1 On the main screen, touch softkey .
- 2 The available applications are displayed.
- 2 Select  **Over/Under**.
- 3 The window to set the target is displayed.
- 3 Touch softkey  to start the Over/Under checkweighing application.

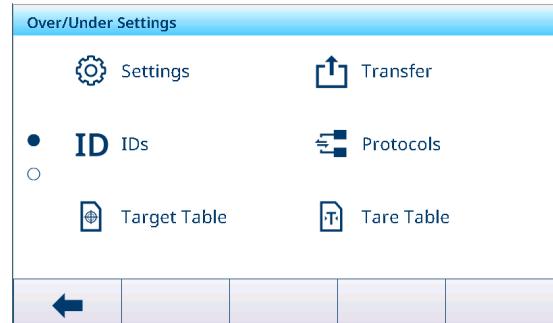


Leaving the Over/Under checkweighing application

- 1 On the 3rd softkey ribbon, touch softkey .
- 2 A safety prompt is displayed.
- 2 Confirm leaving the Over/Under checkweighing application with .
- 3 The Over/Under checkweighing application is closed.
- 4 The Basic Weighing application is active.

2.3.2 Over/Under Checkweighing Settings

When the application is running, touch softkey  on the third softkey ribbon to open the Over/Under checkweighing settings. Thus you do not need to enter the setup for settings regarding the application.



Note

For more settings swipe the screen.

	Settings	Over/Under checkweighing settings, see below.
	Transfer	Settings for transferring the data to a computer or printer, refer to [Basic weighing settings ▶ Page 39] and [How to set up a printer ▶ Page 43].
	IDs	Setup of the identifications, refer to [Basic weighing settings ▶ Page 39].
	Protocols	Setup of protocols, refer to [Basic weighing settings ▶ Page 39].

	Target Table	Setup of the target table for frequently used target values, see below.
	Tare Table	Setup of the tare table for frequently used known tare values, refer to [Basic weighing settings ▶ Page 39].
	Material Table	Setup of the material table, refer to [Basic weighing settings ▶ Page 39]. Note Only materials assigned to the Over/Under checkweighing application can be selected in the material table later.
	Barcode Reader	Setup of a barcode reader, refer to [Basic weighing settings ▶ Page 39] and [How to set up a barcode reader ▶ Page 45].
	Advanced Settings	Open setup, refer to [Configuration ▶ Page 99].

Note

For more information on how to edit tables refer to [Editing Tables ▶ Page 28] and [Filtering Logs and Tables ▶ Page 26].

Settings

The following setup items are available:

Setup item	Sub items		Description
Save & Transfer	Manually		Saving and transferring a transaction has to be confirmed manually using the transfer key  .
	Automatic		Saving and transferring a transaction takes place automatically.
	Clever Print		<ul style="list-style-type: none"> • Saving and transferring the final stable weight above the Threshold once it is taken off from the platform. • Alibi record will not be generated, but only transaction record.
	Threshold (kg)		<ul style="list-style-type: none"> • Range: 0 - Capacity • Default value: 0
Visualization	Bargraph (Default)		Checkweighing status indicated by a bargraph.
	Color Weigh		Checkweighing status indicated by colors.
Threshold (%)	<ul style="list-style-type: none"> • Range: 0 ... 90% • Default value: 10% 		Threshold to determine at which weight the status of Tol- is indicated.
Material Change	None		The Material Change function is disabled.
	Deviation +/-		To detect a change in weight, a specific deviation is required.
	Deviation (d)		<ul style="list-style-type: none"> • Range: 9 – 99 • Default value: 30
	Return to Zero (<9d)		Print is only triggered when the gross weight is below 9 d.
Over Color	Green, Red, Orange, Yellow, Black, Grey, Blue, Cyan, Custom		Select the colors for visualization of the weighing state.
OK Color			
Under Color			
Below Threshold Color			
... Color -> Custom	Text	Black	Black text on white background.
		White (default)	White text on black background.
	Type	RGB (default)	RGB color space. Enter values for R, G and B.
		Hex	Hex code color space. Enter a hex value.

Setup item	Sub items	Description
Totalization	Enable/disable (default)	
	Sub Total	Enable/ disable (Default) sub totals.
	Totalization unit	Select unit for the totals.
	Clear on Transfer	Select one of the following methods to clear the total on transfer: <ul style="list-style-type: none"> Off (Default) Clear Total & Subtotal Clear Subtotal
	Undo Transaction	Only available for IND400 without Data Integrity. Select one of the following methods to undo a transaction: <ul style="list-style-type: none"> Off (Default) Last Transaction Unlimited
	Tare after Transfer in Net Mode	When enabled, the scale is tared after transferring a net weight.
Motion Check	Enable/disable (Default)	When enabled, only stable weight values can be transferred.
Statistic	Enable/disable (Default)	When Enabled, the softkey  shows in the 2 nd softkey ribbon of the Transaction Table. It allows users to enter the Batch # for statistic parameter calculation.
Stealth Mode	Enable/disable (Default)	Only available for IND400 without Data Integrity. If enabled, no weight value is displayed but the colors will indicate the weighing state

Over/Under checkweighing target table

Setup item	Sub items	Description
ID		Enter a numerical ID of the target. Range: 1 to 5000.
Tolerance Type	Target Deviation (Default)	The target weight has to be entered as an absolute weight, upper and lower tolerances as deviations in weight from the target weight.
	Percentage	The target weight has to be entered as an absolute weight, upper and lower tolerances as deviations in percent from the target weight. This setting is not available for counting.
	Exact Limits	A low and a high weight value must be entered. These weights and all weights within this range are treated as being within tolerance.
Tolerance Type = Target Deviation or Percentage	Unit	Unit of target weight and tolerances.
	Target	Weight value of the target weight.
	Tol -	Lower tolerance of the target weight.
	Tol +	Upper tolerance of the target weight.
Tolerance Type = Exact Limits	Unit	Unit of target weight and tolerances.
	Under Limit	Minimum target weight
	Over Limit	Maximum target weight
Mode	Standard (Default)	When totalizing: Adding up the items.
	Take Away	Totalizing when unloading e.g. from a container.
Data Source	Gross Weight	The target is a gross weight.
	Net Weight (Default)	The target is a net weight.
Description		Enter an alphanumerical description of the target (Up to 40 characters).

2.3.3 Over/Under checkweighing operation

The device offers an Over/Under checkweighing function. The colored weight ranges or the bargraph allow a rapid detection of the weight status.

2.3.3.1 Display in Over/Under checkweighing

Depending on the Over/Under checkweighing settings, the following display variants are available:

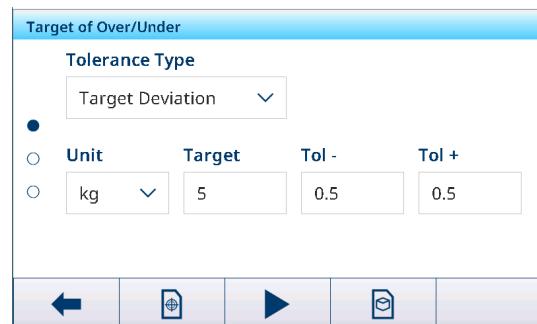
Visualization	Color Weighing	B/G	4.45 kg
		B/G	5.05 kg
		B/G	5.65 kg
Bargraph			
			
			
<p>Note The colors can be set individually, refer to [Over/Under Checkweighing Settings ▶ Page 55]</p>			
Tolerance Type	Target Deviation	Tol -: 0.50	⊕ 5.00 kg Tol +: 0.50
	Percentage	Tol -: 10 %	⊕ 5.00 kg Tol +: 10 %
	Exact Limits	Under Limit: 4.50 kg	Over Limit: 5.50 kg

2.3.3.2 Setting target values

- 1 Touch softkey .
- 2 → A window opens to enter target and tolerance values.
- 2 Enter the target weight and the tolerance values.
- 3 Touch softkey .
- 4 → The Over/Under checkweighing display appears.

Note

With Tolerance Type = Exact Limits, only the upper and lower tolerance have to be specified.



Target of Over/Under			
Tolerance Type			
Target Deviation 			
<input checked="" type="radio"/>	Unit	Target	Tol -
<input type="radio"/>	kg 	5	0.5
<input type="radio"/>	Tol +	0.5	0.5
   			

Using the target table

- 1 Touch .
- 2 → The list of existing targets is displayed.
- 2 Select a target and confirm with .
- 3 → The selected target values are active.
- 3 Touch softkey .
- 4 → The Over/Under checkweighing display appears.

Note

There is no global default tolerance deviation or % so all values must be entered. Previous values are retained until exiting the application and returning to the home screen

Using the material table

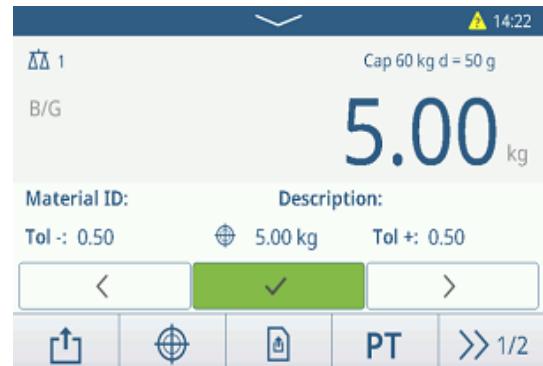
- 1 Touch .
 - ⇒ The list of existing materials is displayed.
- 2 Select a material and confirm with .
 - ⇒ The selected material data are assigned to the following checkweighing operations.
- 3 Touch softkey .
 - ⇒ The Over/Under checkweighing display appears.

Note

Only materials assigned to the Over/Under checkweighing application are available.

2.3.3.3 Over/Under checkweighing

- When the target is set, place the weighing sample on the weighing platform.
 - ⇒ The weight value and the over/under weight status is displayed.



Weight status

  	Target reached. Weight within Tol- and Tol+.
  	Weight outside Tol+.
  	Weight outside Tol-.

Note

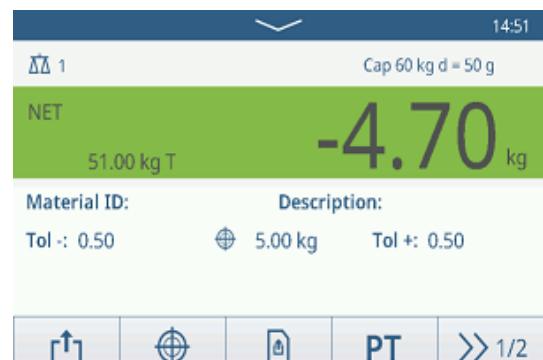
Even if **C** is touched, the target values remain stored in the target input screen until a new target is set or the application is disabled.

2.3.3.4 Over/Under checkweighing in Take Away mode

- 1 Recall a target with mode setting Take Away.
- 2 Put the full container on the weighing platform.
- 3 Tare the full container.
- 4 Remove the first sample from the container.
- 5 Touch  to save and transfer the sample.
 - ⇒ The message "Saving and Transferring" is displayed.
- 6 Tare the container.
- 7 Repeat steps 3 to 5 for further samples.

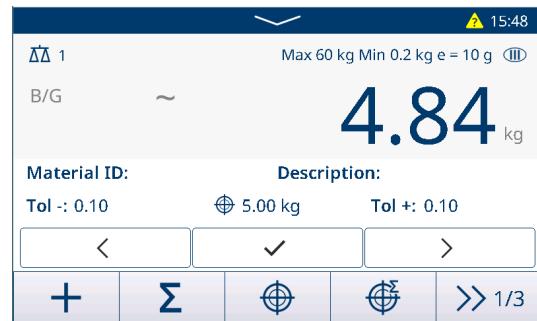
Note

When Tare After Transfer in Net Mode is activated in the Over/Under checkweighing settings, users do not have to tare after each sample.



2.3.3.5 Totalizing in Over/Under checkweighing

- 1 Put the first sample on the weighing platform.
- 2 Touch **+** to add the sample to the total.
 - ⇒ The message "Saving and Transferring" is displayed.
- 3 Unload the sample.
- 4 Repeat steps 1 to 3 for further samples.



- 5 When all samples are totalized, touch **Σ**.
 - ⇒ The total is displayed.
- 6 To clear the total, touch **€**.
 - To clear the subtotal, touch **€**.
 - ⇒ A safety prompt is displayed.
- 7 Confirm clearing the (sub)total with **✓**.
 - ⇒ The weighing terminal is ready for the next process of totalization.



i Note

For more totalization features, refer to [Totalization Operation ▶ Page 78].

2.3.3.6 Over/Under checkweighing transaction table

- Touch softkey **✉**.
 - ⇒ The last checkweighing transactions are displayed.
 - ⇒ Swiping horizontally will show the complete information on the transactions.
 - ⇒ Swiping vertically will show further transactions.

The following information is stored for each transaction in the Over/Under checkweighing application:

Over/Under Transactions			
ID	Date & Time	Result	Batch
3	14/Oct/2024 15:12:29	Under	202410
2	14/Oct/2024 15:12:01	Over	202410
1	01/Aug/2024 16:39:21	OK	202408

ID	Serial number of the transaction
Date & Time	Date and time of the transaction
Status	For IND400 with Data Integrity only: Review status of the weighing
Result	Result of the Over/Under checkweighing transaction
Batch #	Batch number (YearMonthDay+4-digit running number)
Sub #	Number of subtotals
Gross	Gross weight value
Tare	Tare weight value
Net	Net weight value
Deliver Weight	If the Data Source is set as Gross Weight, the Deliver Weight is the Gross Weight. Otherwise, the Deliver Weight is the absolute value of the Net Weight.
Tare Type	<ul style="list-style-type: none"> • Keypad tare • Preset Tare
Scale #	For IND400: always "1"
Material ID	ID of the selected material
Material Description	Description of the selected material
ID1 ... ID3	Identifications

Mode	Over/Under checkweighing mode: Standard or Take Away
Data Source	Gross or Net weight
Target	Target value
Under Limit	Lower tolerance value
Over Limit	Upper tolerance value
Total Value	Total value
Total Counter	Number of items in total
Subtotal Value	Subtotal value
Subtotal Counter	Number of items of the subtotal
User Name	Name of the user logged in

 **Note**

For more actions in the transaction table refer to [Recalling the Transaction Table ▶ Page 25] and [Filtering Logs and Tables ▶ Page 26].

 **Note**

When working with data integrity, additional fields regarding review status and reviewer are shown. Transferring the transaction table is possible for reviewed data only. For more information refer to [Working with Data Integrity ▶ Page 50].

Over/Under checkweighing statistics

The device offers the statistical evaluation of a batch.

- 1 On the second softkey ribbon of the transaction table, touch softkey .
- 2 Select a batch for the statistical evaluation and confirm with .
- 3 The statistical parameters are displayed.
- 4 Scroll to display the following parameters:

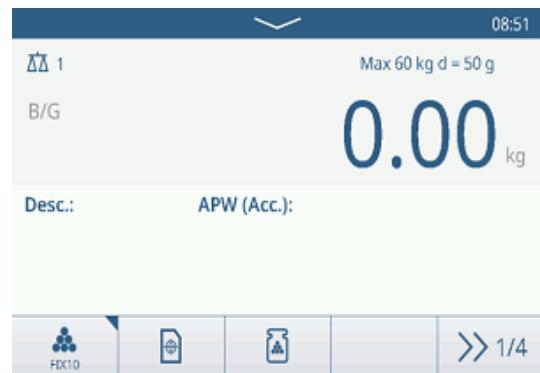
Statistic Parameters	
Item	Value
Batch #	202410140001
Total Value	24.90 kg
Total Counter	4
Limit (Over)	5.10 kg
Limit (Under)	4.90 kg
	

Batch #	Batch number (YearMonthDay+4-digit running number)
Total Value	Total value
Total Counter	Number of items in total
Over Limit	Upper tolerance value
Under Limit	Lower tolerance value
Statistic Size	Number of items in the statistic
Mean Value	Mean value of the batch
Mean Value (OK)	Mean value of the good items
Max. Value	Maximum value of the batch
Min. Value	Minimum value of the batch
Median	Median value of the batch
%Ratio (OK)	Ratio of the good weighings
Number (OK)	Number of the good weighings
%Ratio (Over)	Ratio of the high weighings
Number (Over)	Number of the high weighings
%Ratio (Under)	Ratio of the low weighings
Number (Under)	Number of the low weighings

2.4 Counting

2.4.1 Activating Counting Application

- 1 On the main screen, touch softkey .
→ The available applications are displayed.
- 2 Select  Counting.
→ The Counting application screen is displayed.



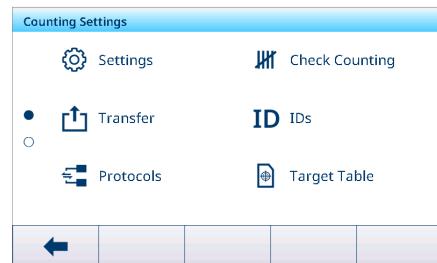
Leaving the Counting application

- 1 On the 4th softkey ribbon, touch softkey .
→ A safety prompt is displayed.
- 2 Confirm leaving the Counting application with .

→ The Counting application is closed.
→ The Basic Weighing application is active.

2.4.2 Counting Settings

Touching softkey  opens the Counting Settings menu. Thus users don't need to enter the setup for settings regarding the application.



Note

For more settings swipe the screen.

	Settings	Counting application settings, see below.
	Check Counting	Check Counting application settings, see below.
	Transfer	Settings for transferring the data to a computer or printer, refer to [Basic weighing settings ▶ Page 39] and [How to set up a printer ▶ Page 43].
	IDs	Setup of the identifications, refer to [Basic weighing settings ▶ Page 39].
	Protocols	Setup of protocols, refer to [Basic weighing settings ▶ Page 39].
	Target Table	Setup of the target table for frequently used target values, see below.
	Tare Table	Setup of the tare table for frequently used known tare values, refer to [Basic weighing settings ▶ Page 39].

	Material Table	Setup of the material table, refer to [Basic weighing settings ▶ Page 39].  Note Only materials assigned to the Counting application can be selected in the material table later.
	Reference Balance	Setup of a reference balance, see below.
	Barcode Reader	Setup of a barcode reader, refer to [Basic weighing settings ▶ Page 39] and [How to set up a barcode reader ▶ Page 45].
	Advanced Settings	Open setup, refer to [Configuration ▶ Page 99].

 **Note**

For more information on how to edit tables refer to [Editing Tables ▶ Page 28] and [Filtering Logs and Tables ▶ Page 26].

Settings

The following general setup items are available:

Setup item	Sub items	Description
Reference pieces	Fix Reference pcs (Default)	In the operating mode users can select from 5, 10, 20, 50, 100 reference pieces. Default value: 10
	Var. Reference pcs	The number of reference pieces can be set in the operating mode.
	Lock ref. pcs	If enabled, the set number of reference pieces cannot be changed in the operating mode.
APW Optimization	Off (Default)	No optimization of the average piece weight.
	Manually	Manual optimization of the average piece weight using sofkey  .
	Automatic	Automatic optimization of the average piece weight.
	Update Target Table	If enabled and the APW is recalled from the target table, the target table will be updated with the optimized average piece weight.
Material Change	None	The Material Change function is disabled.
	Deviation +/-	To detect a change in weight, a specific deviation is required.
	Deviation (d)	<ul style="list-style-type: none"> Range: 9 – 99 Default value: 30
	Return to Zero (<9d)	Print is only triggered when the gross weight is below 9 d.
Save & Transfer	Manually	Saving and transferring a transaction has to be confirmed manually by using the transfer key  .
	Automatic	Saving and transferring a transaction takes place automatically.
	Clever Print	<ul style="list-style-type: none"> Saving and transferring the final stable weight above the Threshold once it is taken off from the platform. Alibi record will not be generated, but only transaction record.
	Threshold (kg)	<ul style="list-style-type: none"> Range: 0 - Capacity Default value: 0
Tare After Transfer in Net Mode	Enabled/disabled (Default)	If enabled, the scale is tared after transferring a net weight
Check Process Tolerance	Enabled (Default)/disabled	If enabled, set the value for the maximum uncertainty allowed in the counting process.
	Value	Default: 20.0 %

Setup item	Sub items	Description
Totalization	Enable/disable (Default)	
	Sub Total	Enable/disable (Default) sub totals.
	Clear on Transfer	Select one of the following methods to clear the total on transfer: <ul style="list-style-type: none"> • Off (Default) • Clear Total & Subtotal • Clear Subtotal
	Undo Transaction	Only available for IND400 without Data Integrity. Select one of the following methods to undo a transaction: <ul style="list-style-type: none"> • Off (Default) • Last Transaction • Unlimited

Check Counting

The following setup items for Check Counting are available:

Setup item	Sub items		Description
Data Source	Counts		Fixed setting for Check Counting
	Motion Check		If enabled, only stable weight values can be transferred.
Visualization	Bargraph (Default)		Checkcounting status indicated by a bargraph.
	Color Weighing		Checkcounting status indicated by colors.
Threshold	<ul style="list-style-type: none"> Range: 0 ... 90% Default value: 10% 		Threshold to determine at which weight the status of Tol- is indicated.
Over Color	Green, Red, Orange, Yellow, Black, Grey, Blue, Cyan, Custom	Select the colors for visualization of the checkcounting state.	
OK Color			
Under Color			
Below Threshold Color			
... Color -> Custom	Text	Black	Black text on white background.
		White (Default)	White text on black background.
	Type	RGB (Default)	RGB color space. Enter values for R, G and B.
		Hex	Hex code color space. Enter a hex value.

Target table

A list of the existing checkcounting targets is displayed.

To create/edit a material the following setup items are available:

Setup item	Sub items	Description
ID		Numerical ID of the APW target. Range: 1 to 5000.
Description		Description of the APW target (Up to 40 characters).
Mode	Standard (Default) Take Away	When totalizing: Adding up the items. When totalizing: Totalizing when unloading e.g. from a container.
APW Unit		Unit of the average piece weight.
Determine APW	Live Weight (Default) Manual Reference Pcs.	Using the weight on the scale as reference weight. 1 Enter the number of reference pieces: 1 ... 10 ... 9999. 2 Touch softkey  to determine the APW out of the reference weight on the scale and the number of reference pieces. ⇒ The APW is determined and displayed. Enter the APW weight value. Enter the number of reference pieces.
APW Opt.%	• Range: 0 ...100 (%) • Default value: 30%	Maximum correction factor when optimizing the APW.
APW Tolerance Type	Target Deviation (Default) Percentage Exact Limits	APW Tol- and APW Tol+ must be entered. APW Tol- and APW Tol+ must be entered in percent. APW Limit (Under) and APW Limit (Over) must be entered.
Check Counting		Enable/disable Check Counting
Check Tolerance Type	Target Deviation (Default) Exact Limits	The target weight has to be entered as a number of pieces, Check Tol- and Check Tol+ as deviations in pieces from the target piece number. Piece numbers for Check Limit (Under) and Check Limit (Over) must be entered. Piece numbers within this range are treated as being within tolerance.
Target (pcs)		Enter the target weight as number of pieces.

 **Note**

The displayed order when editing a target is different from the order in the table.

Reference Balance

If the connection to a reference balance is already existing, the connection details are displayed.

For setting up or editing a scale connection, the following settings are available:

Setup item	Sub items	Description
COM	EPort1 ... EPort3 COM1 ... COM3	Select the port where the reference balance is connected.
	Client	
Mode	Reference Balance	Fixed setting
Port	1701	

 **Note**

Only one reference balance connection is possible.

2.4.3 Counting Operation

The device offers the Over/Under checkweighing function. The colored weight ranges or the bargraph allow rapid detection of the weight status.

2.4.3.1 Counting with fix reference number

- Softkey  or another softkey **FIX...** available.
- 1 Put the indicated number of reference pieces on the scale.
- 2 Touch softkey .
- The weight display indicates the number of reference pieces.
- In the line below the average piece weight with accuracy is indicated.

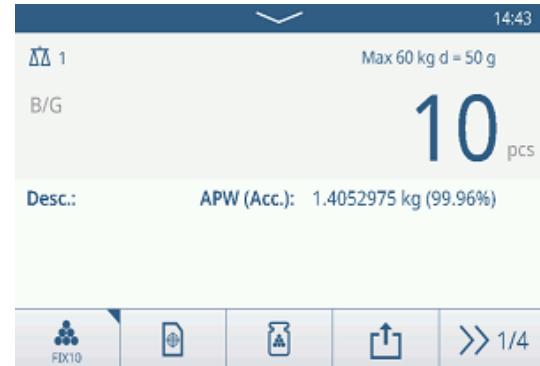
3 Add more pieces.

Note

The number of fix reference pieces can be changed by touching  longer until a pop-up window with the possible fix reference pieces is displayed. Possible settings: 5, 10, 20, 50, 100.

Note

The average piece weight is valid until it is cleared or a new average piece weight is set.



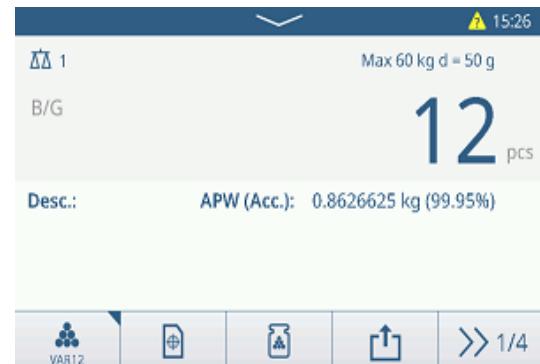
2.4.3.2 Counting with variable reference number

- Softkey  or another softkey **VAR...** available.
- 1 Touch softkey  for a longer time until a window to enter the variable number of reference pieces is displayed.
- 2 Enter the desired number of reference pieces, e.g. 12.
→ The value in the softkey is changed accordingly.
- 3 Put the indicated number of reference pieces on the scale.
- 4 Touch softkey **VAR....**
→ The weight display indicates the number of reference pieces.
→ Below the average piece weight with accuracy is indicated.

5 Add more pieces.

Note

The average piece weight is valid until it is cleared or a new average piece weight is set.

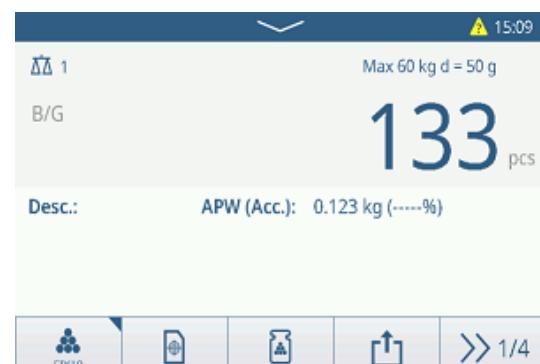


2.4.3.3 Counting with a known average piece weight

- Softkey  available.
- 1 Touch softkey .
- 2 Enter the known average piece weight. In the example: 0.123 kg.
- 3 Put the pieces to count on the scale.
→ The weight display indicates the current number of pieces.
→ In the line below the average piece weight is indicated. When entering the average piece weight, no accuracy can be determined.

Note

The average piece weight is valid until it is cleared or a new average piece weight is set.



2.4.3.4 Switching between number of pieces and weight

- When the number of pieces is displayed, touch softkey .
 - For a few seconds the corresponding weight value is displayed instead of the number of pieces.

2.4.3.5 Counting with APW optimization

The more reference parts, the more exact is the calculated average piece weight.

- Softkey  available.

- Put the indicated number of reference pieces on the scale.
- Touch softkey  (FIX... or VAR...).
 - The weight display indicates the number of reference pieces.
 - In the line below the average piece weight with accuracy is indicated.
- Add more pieces for APW optimization.
- Touch softkey .
 - The new APW is displayed, ideally with higher accuracy.

 **Note**

- If automatic APW optimization is enabled, additional parts after determining the APW are automatically used to optimize the APW. A message is displayed.
- If Update Target Table is enabled and the APW is recalled from the target table, the target table will be updated with the optimized average piece weight.

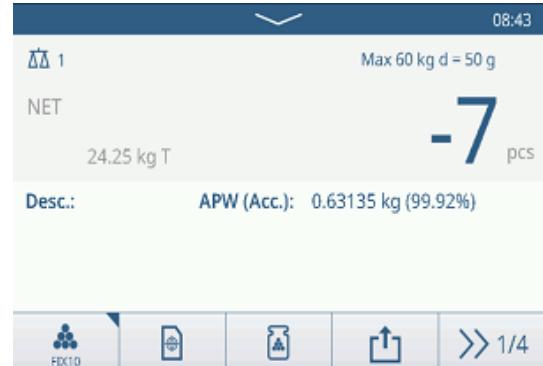


2.4.3.6 Counting in Take Away mode

- Put the full container on the weighing platform.
- Tare the full container.
- Remove the indicated number of reference pieces and touch softkey  (FIX... or VAR...).
 - The negative number of reference parts is displayed.
- Tare the container.
- Remove the desired number of pieces.
- Touch  to save and transfer the sample.
 - The message "Saving and Transferring" is displayed.
- Repeat steps 4 to 6 for further samples.

 **Note**

When Tare After Transfer in Net Mode is activated in the Over/Under checkweighing settings, you do not have to tare after each sample.



2.4.3.7 Counting with reference balance

For higher accuracy, e.g. when counting light items, a reference balance can be connected to determine the APW. Counting will be performed on the bulk scale.

- Reference balance configured, [Counting Settings ▶ Page 62].
- A second balance with higher resolution connected at the reference balance connection.
- Softkey  or another softkey FIX... or VAR... available.

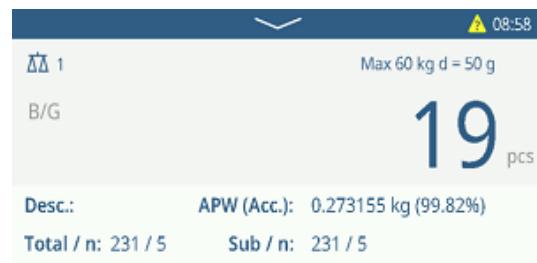
- Put the indicated number of reference pieces on the **reference** scale.
- Touch softkey .
 - After determining the average piece weight the scale is automatically switched to the bulk scale.
 - The weight display indicates the number of reference pieces.

→ In the line below the average piece weight with accuracy is indicated.
3 Add the parts on the bulk scale.

2.4.3.8 Totalizing in Counting

- Softkey **+** available.

- 1 Determine the average piece weight as described before.
- 2 Count a sample.
- 3 Touch **+** to add the sample to the total.
 - ➔ The message "Saving and Transferring" is displayed.
- 4 Unload the sample.
- 5 Repeat steps 2 to 4 for further samples.



- 6 When all samples are totalized, touch **Σ**.
→ The total is displayed.
- 7 To clear the total, touch **€**.
To clear the subtotal, touch **€**.
→ A safety prompt is displayed.
- 8 Confirm clearing the (sub)total with **✓**.
→ The weighing terminal is ready for the next totalization process.



 Note

For more totalization features, refer to [Totalization Operation ▶ Page 78].

2.4.3.9 Counting transaction table

- Touch softkey .
 - The last checkweighing transactions are displayed.
 - Swiping horizontally will show the complete information on the transactions.
 - Swiping vertically will show further transactions.

The following information is stored for each transaction in the Over/Under checkweighing application:



ID	Serial number of the transaction
Date&Time	Date and time of the transaction
Status	For IND400 with Data Integrity only: Review status of the weighing
Result	Result of the Check Counting transaction (OK, Under, Over)
Count	Result of the Counting transaction in pieces
Batch #	Batch number (YearMonthDay+4-digit running number)
Sub #	Number of subtotals
Gross	Gross weight value
Tare	Tare weight value
Net	Net weight value
Tare Type	<ul style="list-style-type: none">• Keypad tare• Preset Tare

APW	Average piece weight
Reference Pcs.	Number of reference pieces
Scale #	For IND400: always "1"
Material ID	ID of the selected material
Material Description	Description of the selected material
ID1 ... ID3	Identifications
Mode	Standard or Take Away
Data Source	Counts
Limit (Under)	Lower tolerance value in pieces
Limit (Over)	Upper tolerance value in pieces
Total Value	Total value in pieces
Total Counter	Number of items in the total
Subtotal Value	Subtotal value in pieces
Subtotal Counter	Number of items in the subtotal
User Name	Name of the user logged in

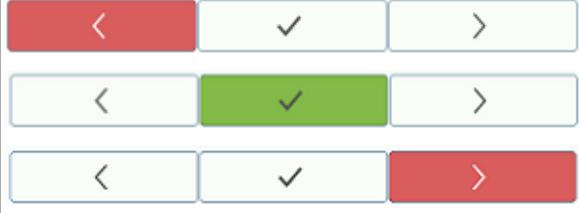
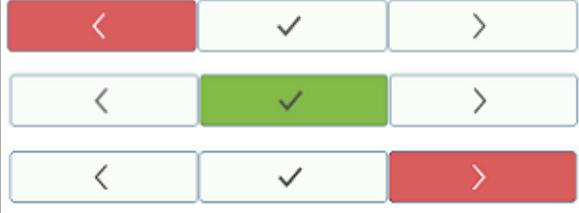
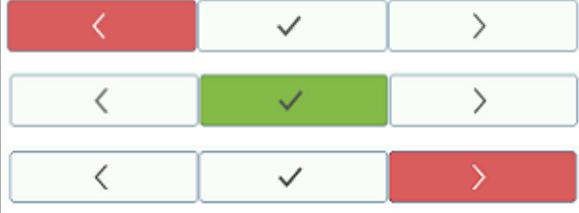
 **Note**

For more actions in the transaction table refer to [Recalling the Transaction Table ▶ Page 25] and [Filtering Logs and Tables ▶ Page 26].

2.4.4 Check Counting Operation

2.4.4.1 Display in Check Counting

Depending on the Over/Under checkweighing settings, the following display variants are available:

Visualization	Color Weighing	
		
		
	Bargraph	  
 Note		The colors can be set individually, refer to [Counting Settings ▶ Page 62].
Tolerance Type	Target Deviation	Tol -: 5  50 pcs Tol +: 5
	Exact Limits	Under Limit: 45 pcs Over Limit: 55 pcs

2.4.4.2 Setting Target Values

- APW determined as described before.

- 1 Touch softkey .
- 2 A window opens to enter target and tolerance values.
- 2 Enter the target piece numer and the tolerance values respectively Under Limit and Limit (Over).
- 3 Touch softkey .
- 4 The Check Counting display appears.

Target of Check Counting		
Tolerance Type	APW (kg)	
Exact Limits	0.461745	
<input checked="" type="radio"/> Unit	Under Lmt.	Limit (Over)
<input type="radio"/> pcs	45	55
 		

Using the target table

- 1 Touch .
- 2 The list of existing targets is displayed.
- 2 Select a target and confirm with .
- 3 The selected target values are active.
- 3 Touch softkey .
- 4 The Over/Under checkweighing display appears.

Using the material table

- 1 Touch .
- 2 The list of existing materials is displayed.
- 2 Select a material and confirm with .
- 3 The selected material data are assigned to the following checkweighing operations.
- 3 Touch softkey .
- 4 The Over/Under checkweighing display appears.

Note

Only materials assigned to the Counting application are available.

2.4.4.3 Check Counting

- When the target is set, place the sample to be checked on the weighing platform.
- The number of pieces and the over/under weight status is displayed.

ΔΔ 1		Max 60 kg d = 50 g
B/G		
54		
pcs		
Desc.:	APW (Acc.): 0.461745 kg (99.89%)	
Under Limit:	45	Over Limit: 55
    		

Weight status

<	✓	>
<	✓	>
<	✓	>

Target reached.
Weight within Tol- and Tol+.

Weight outside Tol+.

Weight outside Tol-.

Note

Even if **C** is touched, the target values remain stored in the target input screen, until a new target is set or the application is disabled.

2.5 Manual Filling/Dosing

2.5.1 Activating Manual Filling/Dosing Application

- 1 On the main, screen touch softkey .
- 2  The available applications are displayed.
- 2 Select .
- 3  The window to set the target is displayed.
- 3 Touch softkey  to start the Manual Filling/Dosing application.



Leaving the Manual Filling/Dosing application

- 1 On the 3rd softkey ribbon, touch softkey .
- 2  A safety prompt is displayed.
- 2 Confirm leaving the Manual Filling/Dosing application with .
- 3  The Manual Filling/Dosing application is closed.
- 3  The Basic Weighing application is active.

2.5.2 Manual Filling/Dosing Settings

When the application is running, touch softkey  on the second softkey ribbon to open the Manual Filling/Dosing settings menu. Thus you do need not to enter the setup for settings regarding the application.

Note

For more settings swipe the screen.



	Settings	Manual Filling/Dosing settings, see below.
	Transfer	Settings for transferring the data to a computer or printer, refer to [Basic weighing settings ▶ Page 39] and [How to set up a printer ▶ Page 43].
	IDs	Setup of the identifications, refer to [Basic weighing settings ▶ Page 39].
	Protocols	Setup of protocols, refer to [Basic weighing settings ▶ Page 39].
	Target Table	Setup of the target table for frequently used target values, see below.
	Tare Table	Setup of the tare table for frequently used known tare values, refer to [Basic weighing settings ▶ Page 39].

	Material Table	Setup of the material table, refer to [Basic weighing settings ▶ Page 39].  Note Only materials assigned to the Manual Filling/Dosing application can be selected in the material table later.
	Barcode Reader	Setup of a barcode reader, refer to [Basic weighing settings ▶ Page 39] and [How to set up a barcode reader ▶ Page 45].
	Advanced Settings	Open setup, refer to [Configuration ▶ Page 99].

Note

For more information on how to edit tables refer to [Editing Tables ▶ Page 28] and [Filtering Logs and Tables ▶ Page 26].

Settings

The following setup items are available:

Setup item	Sub items	Description
Save & Transfer	Manually (Default)	Saving and transferring a transaction has to be confirmed manually using the transfer key  .
	Automatically	Saving and transferring a transaction takes place automatically.
Threshold (%)	<ul style="list-style-type: none"> Range: 0 ... 90% Default value: 10% 	Threshold to determine at which weight the status of Tol– is indicated.
Statistic	Enable/disable (Default)	
Totalization	Enable/disable (Default)	
	Sub Total	Enable/disable (Default) sub totals.
	Totalization unit	Select unit for the totals.
	Clear on Transfer	Select one of the following methods to clear the total on transfer: <ul style="list-style-type: none"> Off (Default) Clear Total & Subtotal
	Undo Transaction	Only available for IND400 without Data Integrity. Select one of the following methods to undo a transaction: <ul style="list-style-type: none"> Off (Default) Last Transaction Unlimited
Tare after Transfer in Net Mode	Enable/disable (Default)	When enabled, the scale is tared after transferring a net weight.
Stealth Mode	Enable/disable (Default)	Only available for IND400 without Data Integrity. If enabled, no weight value is displayed but the colors will indicate the weighing state.

Manual Filling/Dosing Target Table

Setup item	Sub items	Description
ID		Enter a numeric ID for the target. Range: 1 to 5000.
Description		Enter an alphanumeric description of the target (Up to 40 characters).
Target		Weight value of the target weight.
Unit		Unit of the target weight.
Tol -		Lower tolerance of the target weight.
Tol +		Upper tolerance of the target weight.

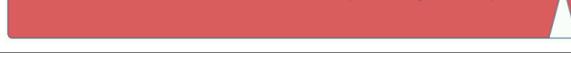
Setup item	Sub items	Description
Tolerance Type	Target Deviation (Default)	The target weight has to be entered as an absolute weight, upper and lower tolerances as deviations in weight from the target weight.
	Percentage	The target weight has to be entered as an absolute weight, upper and lower tolerances as deviations in percent from the target weight. This setting is not available for counting.
Mode	Standard (Default)	When totalizing: Adding up the items.
	Take Away	Totalizing when unloading e.g. from a container.
Data Source	Gross Weight	The target is a gross weight.
	Net Weight (Default)	The target is a net weight.

2.5.3 Manual Filling/Dosing Operation

The device offers a Manual Filling/Dosing function. The colored bargraph allows comfortable filling/dosing to a target.

2.5.3.1 Display in Manual Filling/Dosing

Bargraph

	Weight far below the lower tolerance
	Weight too low, but almost near the lower tolerance
	Weight within the tolerances
	Target reached exactly
	Weight too high

Target indication

Tol -: 0.50	⊕ 5.00 kg	Tol +: 0.50	Target indication with Tolerance Type = Target Deviation
Tol -: 1 %	⊕ 5.00 kg	Tol +: 1 %	Target indication with Tolerance Type = Percentage

Note

In Manual Filling/Dosing the colors green and red are fixed.

2.5.3.2 Setting Target Values

- 1 Touch softkey ⊕.
- 2 Enter the target weight and the tolerance values.
- 3 Touch softkey ▶.

→ The Manual Filling/Dosing display appears.

Note

With Tolerance Type = Exact Limits, only the upper and lower tolerance have to be specified.

Target of Manual Filling/Dosing										
Tolerance Type										
<input checked="" type="radio"/> Percentage <input type="radio"/> Unit <input type="radio"/> kg <table border="1"> <tr> <td>Target</td> <td>Tol - (%)</td> <td>Tol + (%)</td> </tr> <tr> <td>5</td> <td>1</td> <td>1</td> </tr> </table>					Target	Tol - (%)	Tol + (%)	5	1	1
Target	Tol - (%)	Tol + (%)								
5	1	1								
<input type="button" value="◀"/>	<input type="button" value="✖"/>	<input type="button" value="▶"/>	<input type="button" value="✖"/>	<input type="button" value="✖"/>						

Using the target table

- 1 Touch .
- 2 The list of existing targets is displayed.

- 2 Select a target and confirm with .
→ The selected target values are active.
- 3 Touch softkey .
- 4 Touch softkey .

Using the material table

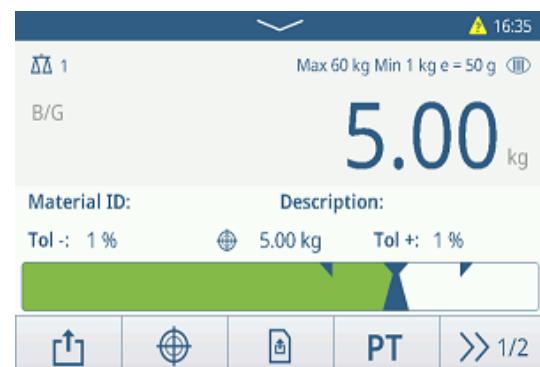
- 1 Touch .
- 2 Select a material and confirm with .
→ The selected material data are assigned to the following filling/dosing operations.
- 3 Touch softkey .
- 4 Touch softkey .

Note

Only materials assigned to the Manual Filling/Dosing application are available.

2.5.3.3 Manual Filling/Dosing

- 1 When the target is set, place the empty container on the weighing platform.
- 2 Tare the container.
- 3 Start filling/dosing the material into the container.
→ The weight value and the filling/dosing status is displayed.



Weight status

	Weight too low, but almost near the lower tolerance.
	Target reached. Weight within Tol- and Tol+.
	Weight too high.

Note

Even if  is touched, the target values remain stored in the target input screen, until a new target is set or the application is disabled.

2.5.3.4 Manual Filling/Dosing in Take Away mode

- 1 Recall a target with mode setting Take Away.
- 2 Put the full container on the weighing platform.
- 3 Tare the full container.
- 4 Fill/dose the first sample from the container.
- 5 Touch  to save and transfer the sample.
→ The message "Saving and Transferring" is displayed.
- 6 Tare the container.
- 7 Repeat steps 3 to 5 for further samples.



Note

When Tare After Transfer in Net Mode is activated in the Manual Filling/Dosing settings, you do not have to tare after each sample.

2.5.3.5 Totalizing in Manual Filling/Dosing

- 1 Fill in the first sample.
- 2 Touch **+** to add the sample to the total.
 - The message "Saving and Transferring" is displayed.
- 3 Unload the sample.
- 4 Repeat steps 1 to 3 for further samples.



- 5 When all samples are totalized, touch Σ .
→ The total is displayed.
- 6 To clear the total, touch \mathbb{C} .
To clear the subtotal, touch \mathbb{C} .
→ A safety prompt is displayed.
- 7 Confirm clearing the (sub)total with \checkmark .
→ The weighing terminal is ready for the next totalization process.



 Note

For more totalization features, refer to [Totalization Operation ▶ Page 781](#).

2.5.3.6 Manual Filling/Dosing transaction table

- Touch softkey .
 - The last filling/dosing transactions are displayed.
 - Swiping horizontally will show the complete information on the transactions.
 - Swiping vertically will show further transactions.

The following information is stored for each transaction in the Manual Filling/Dosing application:

Manual Filling/Dosing Transactions			
ID	Date & Time	Result	Batch
2	14/Oct/2024 17:07:16	OK	20241
1	14/Oct/2024 16:50:17	Under	20241

ID	Serial number of the transaction
Date & Time	Date and time of the transaction
Result	Result of the Manual Filling/Dosing transaction
Batch #	Batch number (YearMonthDay+4-digit running number)
Sub #	Number of subtotals
Unit	Weight unit of the samples
Gross	Gross weight value
Tare	Tare weight value
Net	Net weight value
Deliver Weight	If the Data Source is set as Gross Weight, the Deliver Weight is the Gross Weight. Otherwise, the Deliver Weight is the absolute value of the Net Weight.
Tare Type	<ul style="list-style-type: none">Keypad tarePreset Tare
Scale #	For IND400: always "1"

Material ID	ID of the selected material
Material Description	Description of the selected material
ID1 ... ID3	Identifications
Mode	Manual Filling/Dosign mode: Standard or Take Away
Data Source	Gross or Net weight
Target unit	Weight unit of the target weight
Target	Target value
Under Limit	Lower tolerance value
Over Limit	Upper tolerance value
Totalization unit	Weight unit of the total
Total Value	Total value
Total Counter	Number of items of the total
Subtotal Value	Subtotal value
Subtotal Counter	Number of items of the subtotal
User Name	Name of the user logged in

Note

For more actions in the transaction table refer to [Recalling the Transaction Table ▶ Page 25] and [Filtering Logs and Tables ▶ Page 26].

Note

When working with data integrity, additional fields regarding review status and reviewer are shown. Transferring the transaction table is possible for reviewed data only. For more information refer to [Working with Data Integrity ▶ Page 50].

Manual Filling/Dosing statistics

The device offers the statistical evaluation of a batch.

- 1 On the second softkey ribbon of the transaction table, touch softkey .
- 2 Select a batch for the statistical evaluation and confirm with .
- 3 The statistical parameters are displayed.
- 4 Scroll to display the following parameters:

Statistic Parameters	
Item	Value
Batch #	202410140002
Total Value	5.04 kg
Total Counter	1
Target	5.00 kg
Limit (Over)	5.05 kg
◀ ▶ Print	

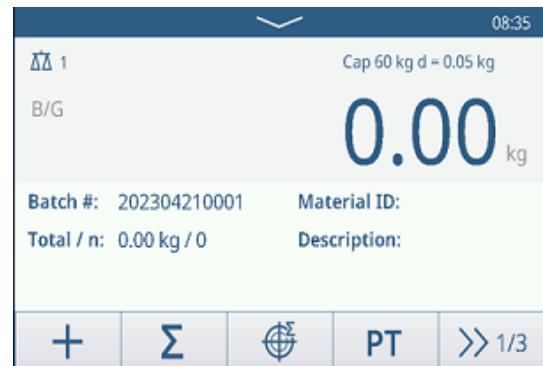
Batch #	Batch number (YearMonthDay+4-digit running number)
Total Value	Total value
Total Counter	Number of items of the total
Target	Target weight
Over Limit	Upper tolerance value
Under Limit	Lower tolerance value
Statistic Size	Number of items in the statistic
Standard deviation	Standard deviation of all items
Standard deviation (OK)	Standard deviation of the good items
Mean Value	Mean value of the batch
Mean Value (OK)	Mean value of the good items
Max. Value	Maximum value of the batch
Min. Value	Minimum value of the batch
Median	Median value of the batch
%Ratio (OK)	Ratio of the good weighings

Number (OK)	Number of the good weighings
%Ratio (Over)	Ratio of the high weighings
Number (Over)	Number of the high weighings
%Ratio (Under)	Ratio of the low weighings
Number (Under)	Number of the low weighings

2.6 Totalization

2.6.1 Activating Totalization Application

- 1 On the main screen, touch softkey .
- 2 The available applications are displayed.
- 2 Select  Totalization.
- 3 The Totalization application screen is displayed.



Leaving the Totalization application

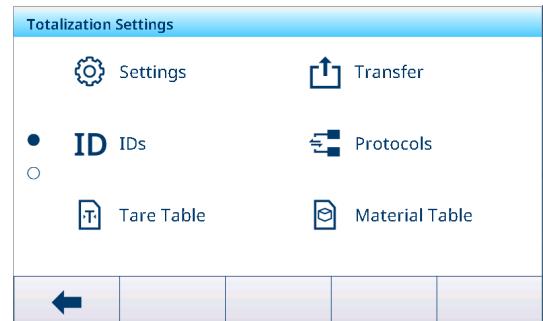
- 1 On the 3rd softkey ribbon, touch softkey .
- 2 A safety prompt is displayed.
- 2 Confirm leaving the Totalization application with .
- 3 The Totalization application is closed.
- 4 The Basic Weighing application is active.

2.6.2 Totalization Settings

Touching softkey  on the second softkey ribbon opens the Totalization settings menu. Thus you do need not to enter the setup for settings regarding the application.

Note

For more settings swipe the screen.



	Settings	Totalization application settings, see below.
	Transfer	Settings for transferring the data to a computer or printer, refer to [Basic weighing settings ▶ Page 39] and [How to set up a printer ▶ Page 43].
	IDs	Setup of the identifications, refer to [Basic weighing settings ▶ Page 39].
	Protocols	Setup of protocols, refer to [Basic weighing settings ▶ Page 39].
	Tare Table	Setup of the tare table for frequently used known tare values, refer to [Basic weighing settings ▶ Page 39].

	Material Table	Setup of the material table, refer to [Basic weighing settings ▶ Page 39]. Note Only materials assigned to the Totalization application can be selected in the material table later.
	Barcode Reader	Setup of a barcode reader, refer to [Basic weighing settings ▶ Page 39] and [How to set up a barcode reader ▶ Page 45].
	Advanced Settings	Open setup, refer to [Configuration ▶ Page 99].

Note

For more information on how to edit tables refer to [Editing Tables ▶ Page 28] and [Filtering Logs and Tables ▶ Page 26].

Settings

The following setup items are available via :

Setup item	Sub items	Description
Totalization unit		Weight unit of the total.
Subtotal	Enable/disable (Default)	Enable/disable subtotals.
Material Change	None	The Material Change function is disabled.
	Deviation +/-	To detect a change in weight, a specific deviation is required.
	Deviation (d)	
Save & Transfer	Return to Zero (<9d)	Print is only triggered when the gross weight is below 9 d.
	Manually (Default)	Saving and transferring a transaction has to be confirmed manually using the transfer key  .
	Automatically	Saving and transferring a transaction takes place automatically.
Mode	Standard (Default)	Adding up the items.
	Take Away	Totalizing when unloading e.g. from a container.
Data Source	Gross Weight	Gross weights will be totalized.
	Net Weight (Default)	Net weights will be totalized.
Tare After Sum	Enable/disable (Default)	When enabled, the scale is automatically tared after each totalization action.
Clear on transfer	Off (Default)	No clearing of the total.
	Clear Total & Subtotal	On each transfer, total and subtotal are cleared.
Undo transaction	Off (Default)	Only available for IND400 without Data Integrity. A transaction cannot be withdrawn.
	Last Transaction	The last transaction can be withdrawn.
	Unlimited	Any transaction can be withdrawn.
Statistic	Enable/disable (Default)	Enable/disable statistics.

2.6.3 Totalization Operation

Batch number

To each total a Batch # is assigned. This number consists of the current date and a running number.

E.g. batch # 20230804007 is the 7th total of August 4th in 2023.

Note

Depending on the Totalization Settings, Totalizing can be performed by adding up the items or by taking away items, e.g. from a container. The following scenarios will show these principles.

2.6.3.1 Totalizing in Standard Mode

- 1 Put the first sample on the weighing platform.
- 2 Touch **+** to add the sample to the total.
 - ⇒ The message "Saving and Transferring" is displayed.
 - ⇒ The total and the number of samples is updated.
- 3 Unload the sample.
- 4 Repeat steps 1 to 3 for further samples.



- 5 When all samples are totalized, touch **Σ**.
 - ⇒ The total is displayed.
- 6 To clear the total, touch **C**.
 - ⇒ A safety prompt is displayed.
- 7 Confirm clearing the total with **✓**.
 - ⇒ The weighing terminal is ready for the next totalization process.



Undoing a transaction

This feature is only available for IND400 without Data Integrity.

When enabled in the Totalization settings, softkey **⌚** is available. There are two possible settings: Last Transaction and Unlimited.

Last Transaction

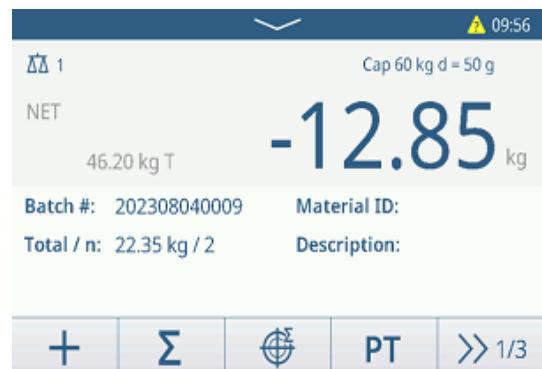
- 1 To undo the last transaction, touch softkey **⌚**.
 - ⇒ A safety prompt is displayed.
- 2 Confirm undoing the last transaction with **✓**.
 - ⇒ The last transaction is deleted from the total.

Unlimited

- 1 To undo one ore more transactions, touch softkey **⌚**.
 - ⇒ The list of the last transactions is displayed.
- 2 Select the transactions you want to delete and confirm with **✓**.
 - ⇒ A safety prompt is displayed.
- 3 Confirm undoing the selected transactions with **✓**
 - ⇒ The selected transaction are deleted from the total.

2.6.3.2 Totalizing in Take Away Mode

- 1 Put the full container on the weighing platform.
- 2 Tare the full container.
- 3 Remove the first sample from the container.
- 4 Touch **+** to add the sample to the total.
 - ⇒ The message "Saving and Transferring" is displayed.
 - ⇒ The total and the number of samples is updated.
- 5 Tare the container.
- 6 Repeat steps 3 to 5 for further samples.



- 7 When all samples are totalized, touch Σ .
→ The total is displayed.
- 8 To clear the total, touch \mathbb{C} .
→ A safety prompt is displayed.
- 9 Confirm clearing the total with \checkmark .
→ The weighing terminal is ready for the next totalization process.

 **Note**

When Tare After Sum is activated in the Totalization settings, you do not have to tare after each sample.

Recall Totals	
Totals	
Batch #	202410140002
Total	37.79 kg
Counter	2
Sub #	1
Subtotal	37.79 kg

2.6.3.3 Totalizing to a target

Setting the target

- 1 Touch .
- 2 Select the target mode:
 - Off – no target to be set
 - Lot(N) – set the target to e.g. 5 samples
 - Weight Value – set the target to a weight value, e.g. 10 kg
- 3 Enter the target, either e.g. 5 (items) or 10 (kg).
- 4 Confirm target settings with \checkmark .
→ The totalizing screen with bargraph is displayed.

Totalizing to a target

- 1 Put the first sample on the weighing platform.
- 2 Touch $+$ to add the sample to the total.
 - The message "Saving and Transferring" is displayed.
 - The bargraph shows the current total. In the line above the total and the number of samples is updated.
- 3 Unload the sample.
- 4 Repeat steps 1 to 3 for further samples.
 - When the target number of samples or the target weight is reached, a message is displayed.



Recall Totals

Totals

Batch #	202410140002
Total	37.79 kg
Counter	2
Sub #	1
Subtotal	37.79 kg

- 5 Touch Σ .
 - The total is displayed.
- 6 To clear the total, touch \mathbb{C} .
 - A safety prompt is displayed.
- 7 Confirm clearing the total with \checkmark .
 - The weighing terminal is ready for the next totalization process.

2.6.3.4 Totalizing with subtotals

- 1 Put the first sample on the weighing platform.
- 2 Touch **+** to add the sample to the total.
 - The message "Saving and Transferring" is displayed.
 - The total and the number of samples is updated.
- 3 Unload the sample.
- 4 Repeat steps 1 to 3 for further samples.

ΔΔ 1 Cap 60 kg d = 50 g
B/G 13.40 kg
Batch #: 202308040012 Sub #: 2
Total / n: 52.00 kg / 4 Material ID:
Sub / n: 13.40 kg / 1 Description:
+ Σ Σ PT >> 1/3

5 When the samples for the subtotal are totalized, touch Σ .
→ The total and subtotal is displayed.

6 To clear the subtotal, touch \mathbb{C} .
→ A safety prompt is displayed.

7 Confirm clearing the subtotal with \checkmark .

8 Repeat steps 1 to 7 for totalizing further subtotals.

9 To clear the grand total and all subtotals, touch \mathbb{C} .
→ A safety prompt is displayed.

10 Confirm clearing the grand total with \checkmark .
→ The weighing terminal is ready for the next totalization process.

Recall Totals	
<u>Totals</u>	
Batch #	202410150002
Total	5.28 kg
Counter	1
Sub #	1
Subtotal	5.28 kg

2.6.3.5 Totalization transaction table

Note

- Touch softkey .
- ⇒ The last weighing transactions are displayed.
- ⇒ Swiping horizontally will show the complete information on the transactions.
- ⇒ Swiping vertically will show further transactions.

The following information is stored for each transaction in the Totalization application:

Totalization Transactions		
ID	Date & Time	Batch #
3	15/Oct/2024 09:31:30	202410150002
2	15/Oct/2024 09:23:00	202410150001
1	15/Oct/2024 09:22:43	202410150001





1/2

ID	Serial number of the transaction
Date & Time	Date and time of the transaction
Batch #	Batch number (YearMonthDay+4-digit running number)
Sub #	Number of subtotals
Unit	Weight unit
Gross	Gross weight value
Tare	Tare weight value
Net	Net weight value
Deliver Weight	If the Data Source is set as Gross Weight, the Deliver Weight is the Gross Weight. Otherwise, the Deliver Weight is the absolute value of the Net Weight.
Tare Type	<ul style="list-style-type: none"> • Keypad tare • Preset Tare
Scale #	For IND400: always "1"
Material ID	ID of the selected material
Material Description	Description of the selected material
ID1 ... ID3	Identifications
Mode	Totalization mode: Standard or Take Away
Data Source	Gross Weight or Net Weight
Totalization Unit	Weight unit of the total
Total Value	Total weight value
Total Counter	Number of items of the total
Subtotal Value	Subtotal weight value
Subtotal Counter	Number of items of the subtotal
User Name	Name of the user logged in

Note

For more actions in the transaction table refer to [Recalling the Transaction Table ▶ Page 25] and [Filtering Logs and Tables ▶ Page 26].

Note

When working with data integrity, additional fields regarding review status and reviewer are shown. Transferring the transaction table is possible for reviewed data only. For more information refer to [Working with Data Integrity ▶ Page 50].

Totalization statistics

The device offers the statistical evaluation of a batch.

- 1 On the second softkey ribbon of the transaction table, touch softkey .
- 2 Select a batch for the statistical evaluation and confirm with .
- 3 The statistical parameters are displayed.
- 3 Scroll to display the following parameters:

Statistic Parameters	
Item	Value
Batch #	202410150002
Total Value	5.28kg
Total Counter	1
Statistic Size	1
Std.Deviation	0.000kg

Batch #	Batch number (YearMonthDay+4-digit running number)
Total Value	Total value of all items
Total Counter	Number of items of the total
Statistic Size	Number of items of the statistic
Std. Deviation	Standard deviation of the items
Mean Value	Mean value of the batch
Max. Value	Maximum value of the batch
Min. Value	Minimum value of the batch
Median	Median value of the batch

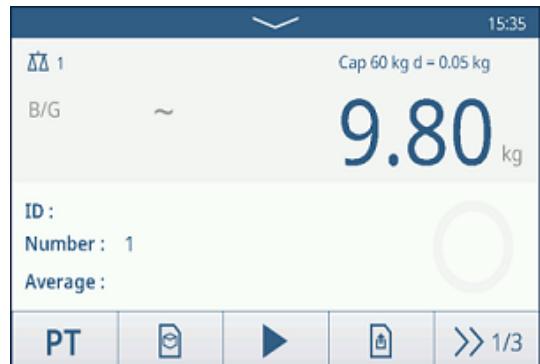
2.7 Animal Weighing

2.7.1 Activating the Animal Weighing Application

Note

Animal Weighing is only available for IND400 without Data Integrity.

- 1 On the main screen, touch softkey .
- 2 The available applications are displayed.
- 2 Select  .
- 3 The Animal Weighing application screen is displayed.

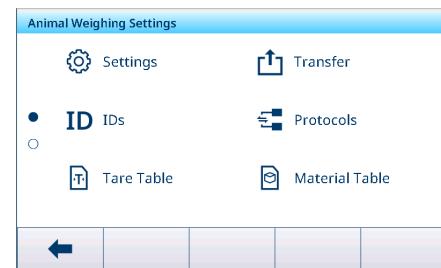


Leaving the Animal Weighing application

- On the 3rd softkey ribbon, touch softkey .
- The Animal Weighing application is closed.
- The Basic Weighing application is active.

2.7.2 Animal Weighing Settings

Touching softkey  on the second softkey ribbon opens the Animal Weighing Settings menu. Thus users don't need to enter the setup for settings regarding the application.



Note

For more settings swipe the screen.

	Settings	Animal weighing application settings, see below.
	Transfer	Settings for transferring the data to a computer or printer, refer to [Basic weighing settings ▶ Page 39] and [How to set up a printer ▶ Page 43].
	IDs	Setup of the identifications, refer to [Basic weighing settings ▶ Page 39].
	Protocols	Setup of protocols, refer to [Basic weighing settings ▶ Page 39].
	Tare Table	Setup of the tare table for frequently used known tare values, refer to [Basic weighing settings ▶ Page 39].
	Material Table	<p>Setup of the material table, refer to [Basic weighing settings ▶ Page 39].</p> <p> Note</p> <p>Only materials assigned to the Animal Weighing application can be selected in the material table later.</p>
	Barcode Reader	Setup of a barcode reader, refer to [Basic weighing settings ▶ Page 39] and [How to set up a barcode reader ▶ Page 45].
	Advanced Settings	Open setup, refer to [Configuration ▶ Page 99].

Note

For more information on how to edit tables refer to [Editing Tables ▶ Page 28] and [Filtering Logs and Tables ▶ Page 26].

Settings

The following setup items are available via :

Setup item	Sub items / Settings	Description
Multi-object Support	Enable/disable (Default)	When weighing several samples of the same kind, the average weight of the samples is calculated.
Sampling time	<ul style="list-style-type: none"> Range: 1...9 Default value: 5 	Enter the time to average the weight value.
Start Mode	Softkey (Default)	Start animal weighing via softkey ▶ .
	Digital Input	Start animal weighing via a digital input signal.
	Automatic	Automatic start of the animal weighing cycle at a change of weight.
Threshold	<ul style="list-style-type: none"> Range: 0...max. capacity Default value: 1 kg 	Enter a threshold for starting animal weighing.

Setup item	Sub items / Settings	Description
Save & Transfer	Manually (Default)	Saving and transferring a transaction has to be confirmed manually by using the transfer key  .
	Automatically	Saving and transferring a transaction is performed automatically.

2.7.3 Animal Weighing Operation

Note

Depending on the Animal Weighing settings, animal weighing can be started manually or automatically. Transferring the transaction can either be configured manually or automatically. The following scenarios will show these principles.

2.7.3.1 Single sample - manual operation

- 1 Put the sample on the weighing platform.
- 2 Start Animal Weighing by touching softkey  .
 - ⇒ A countdown is starting.
 - ⇒ When the countdown is finished, the main weight display shows the total average weight with symbol .
 - In the lower left of the display the average weight is displayed, too.
- 3 Press the transfer key  to transfer or print the weighing result.
 - ⇒ In the lower left of the display the value for the ID of the transaction counter increases.
- 4 Touch  to close the transaction.
- 5 Unload the weighing platform.
 - ⇒ The weighing terminal is ready for the next animal weighing process.



2.7.3.2 Multi sample - manual operation

- 1 Put the samples on the weighing platform.
- 2 Touch softkey  and enter the number of samples.
- 3 Start animal weighing by touching softkey  .
 - ⇒ A countdown is starting.
 - ⇒ When the countdown is finished, the main weight display shows the total average weight with symbol .
 - In the lower left display the average weight of a single sample is displayed.
- 4 Press the transfer key  to transfer or print the weighing result.
 - ⇒ In the lower left display the ID of the transaction counter increases.
- 5 Touch  to close the transaction.
- 6 Unload the weighing platform.
 - ⇒ The weighing terminal is ready for the next animal weighing process.



2.7.3.3 Single sample - automatic start and transfer

- 1 Put the sample on the weighing platform.
 - ⇒ When the weight is about the threshold, a countdown is starting.
 - ⇒ When the countdown is finished, the main weight display shows the total average weight with symbol .
 - In the lower left of the display the average weight is displayed, too.
 - ⇒ The message "Saving and transferring" is displayed.

- In the lower left of the display the value or the ID of the transaction counter increases.

- 2 Touch ■ to close the transaction.
- 3 Unload the weighing platform.

→ The weighing terminal is ready for the next animal weighing process.

2.7.3.4 Animal Weighing transaction table

Note

Animal Weighing results are calculated values. They cannot be stored in the Alibi Memory but in the application-specific transaction table.

- Touch softkey .

→ The last weighing transactions are displayed.

→ Swiping horizontally will show the complete information on the transactions.

→ Swiping vertically will show further transactions.

The following information is stored for each transaction in the Animal Weighing application:

Animal Weighing Transactions		
Total Weight	Number	Average Weight
*26.75	15	*1.80
*44.30	1	*44.30
*18.35	1	*18.35
*2.75	1	*2.75
*30.05	1	*30.05

    1/2

ID	Serial number of the transaction
Date & Time	Date and time of the transaction
Total Weight	Result of the Animal Weighing transaction, marked with a *
Number	Number of samples
Average Weight	Average weight for a single sample
Unit	Weight unit of the transaction
Scale #	For IND400: always "1"
Material ID	ID of the selected material
Material Description	Description of the selected material
ID1 ... ID3	Identifications
User Name	Name of the user logged in

Note

For more actions in the transaction table refer to [Recalling the Transaction Table ▶ Page 25] and [Filtering Logs and Tables ▶ Page 26].

2.8 Classification

The Classification application can be used to categorize products into weight classes, which can range up to 8 different classes., to ensure efficient sorting.

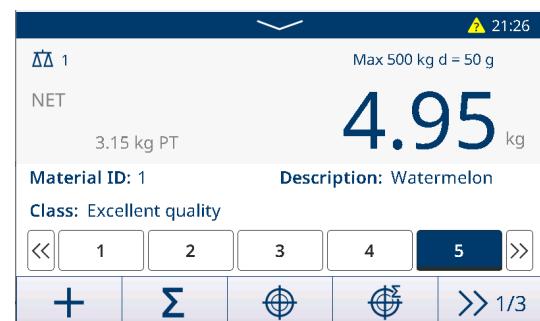
2.8.1 Activating the Classification application

- 1 On the main screen, touch softkey .

→ The available applications are displayed.

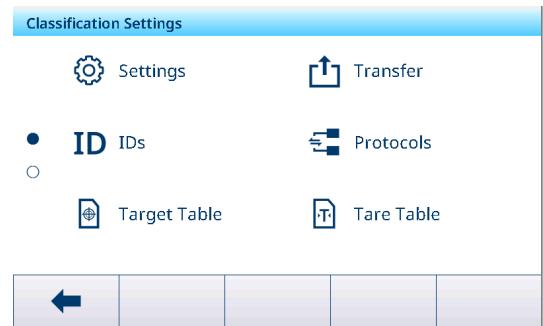
- 2 Select .

→ The **Classification** application screen is displayed.



2.8.2 Classification Settings

When the application is running, user can touch the softkey  on the third softkey ribbon to open the Classification settings.



	Settings	See the [Classification Settings ▶ Page 87] below.
	Transfer	Settings for transferring the data to a computer or printer, refer to [Basic weighing settings ▶ Page 39] and [How to set up a printer ▶ Page 43].
	IDs	Setup of the identifications, refer to [Basic weighing settings ▶ Page 39].
	Protocols	Setup of protocols, refer to [Basic weighing settings ▶ Page 39].
	Target Table	Setup of the target table for frequently used target values, see the [Classification Target Table ▶ Page 89] below.
	Tare Table	Setup of the tare table for frequently used known tare values, refer to [Basic weighing settings ▶ Page 39].
	Material Table	Setup of the material table, refer to [Basic weighing settings ▶ Page 39].  Note Only materials assigned to the Classification application can be selected in the material table later.
	Discrete IO	Setup of Discrete IO, see also [Communication -> Discrete IO ▶ Page 135].
	Barcode Reader	Setup of a barcode reader, refer to [Basic weighing settings ▶ Page 39] and [How to set up a barcode reader ▶ Page 45].
	Advanced Settings	Open setup, refer to [Configuration ▶ Page 99].

Note

For more information on how to edit tables refer to [Editing Tables ▶ Page 28] and [Filtering Logs and Tables ▶ Page 26].

Classification Settings

Setup item	Sub items	Description
Save & Transfer	Manually	Saving and transferring a transaction is to be confirmed manually using the transfer key  .
	Automatic	Saving and transferring a transaction takes place automatically.

Setup item	Sub items	Description
Material Change	None	<p>No Material Change is checked during Save & Transfer.</p> <p>Note Material Change can't be set as None when Save & Transfer is set as Automatic.</p>
	Deviation (30d) +/-	To detect a change in weight, a deviation of at least 30 d is required.
	Return to Zero (<9d)	To detect a change in weight, the scale must be emptied first (below 9 d).
Above Range	Red, Orange, Yellow, Black, Gray, Blue, Cyan, Green, White	Select the colors for visualization of the weighing state.
Below Range		
Class 1 Color		
Class 2 Color		
Class 3 Color		
Class 4 Color		
Class 5 Color		
Class 6 Color		
Class 7 Color		
Class 8 Color		
Totalization	Enable & Disable	Enabled: Totalization is activated. Disabled: Totalization is deactivated.
	Sub Total	Enabled: Sub Total is activated. Disabled: Sub Total is deactivated.
	Totalization Unit	Select unit for the totals.
	Clear On Transfer	<ul style="list-style-type: none"> Off <p>Nothing is done with the Totalization information during transfer.</p> <ul style="list-style-type: none"> Clear Total & Subtotal <p>All Totalization information is cleared during transfer.</p> <ul style="list-style-type: none"> Clear Subtotal <p>All Sub Total information is cleared during transfer.</p> <p>Note If the Sub Total function is not Enabled, this option won't display.</p>
	Undo Transaction	<p>Only available for IND400 without Data Integrity.</p> <p>Select one of the following methods to undo a transaction:</p> <ul style="list-style-type: none"> Off <p>This function is deactivated.</p> <ul style="list-style-type: none"> Last Transaction <p>The softkey  only shows on the 2nd softkey ribbon when a new transaction is saved.</p> <ul style="list-style-type: none"> Unlimited <p>The softkey  shows on the 2nd softkey ribbon when the number of transactions in this batch is greater than zero.</p>
Tare After Transfer In Net Mode	Enable & Disable	When Enabled, the scale is tared after transferring a net weight. Note When Tare After Transfer In Net Mode is Enabled, the Chain Tare Mode needs to be activated at the same time.
Motion Check	Enable & Disable	When Enabled, only stable weight values can be classified and transferred.
Statistic	Enable & Disable	When Enabled, the softkey  shows in the 2 nd softkey ribbon of the Transaction Table. It allows users to enter the Batch # for statistic parameter calculation.

Setup item	Sub items	Description
Stealth Mode	Enable & Disable	Only available for IND400 without Data Integrity. When Enabled in the Operator access level, all weight-related information is hidden and marked with *.

Classification Target Table

Setup item	Sub items	Description
ID	-	Enter a numerical ID of the target.
Description	-	Enter a description of the target ID.
Mode	Standard	Operator always puts objects on the platform and weigh.
	Take Away	Operator always takes objects from the platform and weigh.
Data Source	Gross Weight	The target is a gross weight.
	Net Weight	The target is a net weight.
# Classes	5/6/7/8	Number of classes
Unit	g/kg/oz/lb/t/ton	Select the required unit.
Upper limit	-	Definition of the upper limit value
Class n (>=)	-	Weight value of a specific class
Class n Description	-	Description of the a specific class

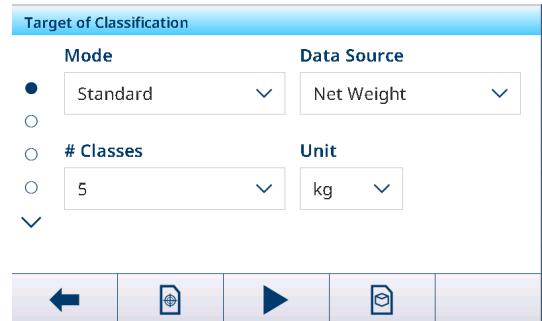
2.8.3 Classification Operation

2.8.3.1 Setting the Active Target

- Scenario 1: Before starting a Classification operation, the Operator needs to set an active target first. The Supervisor can also set the active target as the default target value.
 - Note** The default target value need to be stored in a non-volatile memory such as Flash to support recalling in the power on / off cycle.
- Scenario 2: The user needs to set the active target without exiting the application.

■ The **Classification** application is entered.

- Touch the Target softkey  in the home screen of the application.
 - The window for active target setting pops up.



Set the Target Value Manually

- Set the target values in each page by referring to the [L_CLASSIFICATION L_TARGET_TABLE ▶ Page 89] in [Classification Settings ▶ Page 87].

Set the Target Value by the Target Table or Material Table

- Touch the **Target Table** softkey  or the **Material Table** softkey  to select a target or a material and confirm with .

 - The target value are filled in the relevant fields accordingly.

Set the Target Value via Barcode Scanning

The target value can be set by scanning the barcode with target or material ID assignment.

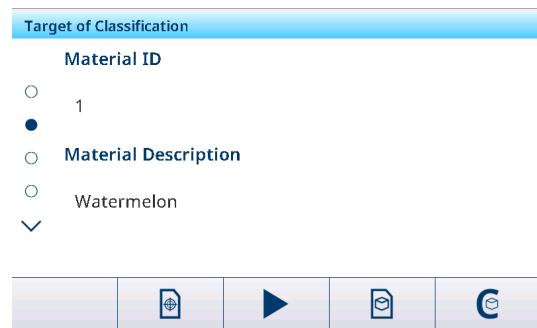
- A barcode reader is connected. See [How to set up a barcode reader ▶ Page 45]
- Use the barcode reader to scan the target ID or the material ID.

- The target value are filled in the relevant fields accordingly.
- The active target is set.

2.8.3.2 Clearing the Material and Target Information

If material information (Material ID and Material Description) is set in the active target value, the Clear Material Information softkey  will display.

User can touch this softkey  to clear the material information, target value, and tare weight.



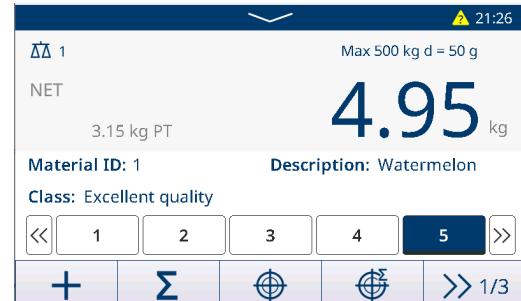
2.8.3.3 Classification Process in Standard Mode

- 1 When the active target is set, touch the Start softkey  to enter the operation process.
- 2 Put the weighing sample on the weighing platform.

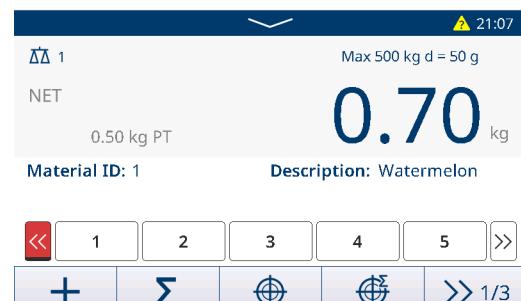
→ The weight value and the **Classification** weight status are displayed.

Weight Status

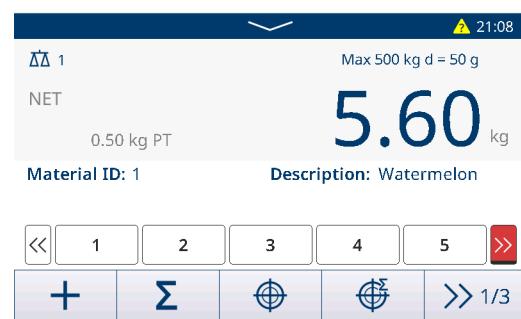
The weight is in the Class 5 (\geq) range.



The weight is below range.



The weight is above range.

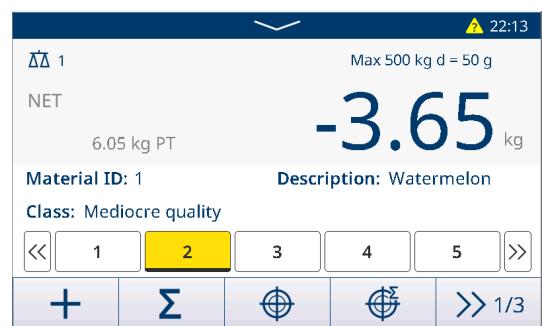


2.8.3.4 Classification in Take Away Mode

In this application scenario, the absolute value of the Net Weight is used as the Data Source to compare with the active target.

- 1 Put the container with stuff or only the stuff on the weighing platform.
- 2 Press the **Tare** hardkey .

- The scale is set into net mode and the terminal shows the **Net Weight** as 0 kg.
- 3 Take some stuff away from the container.
 - The **Net Weight** is shown as a negative value, which is the absolute **Net Weight**.
 - The absolute **Net Weight** is in the range of **Class 2** ($>=$), and the bar of the Class 2 is activated.
- 4 Repeat the steps 2 and 3 to continue to get the **Classification** results in the **Take Away** mode.



2.8.3.5 Saving and Transferring the Classification Results

The Classification results can be saved and transferred manually or automatically depending on setting of Save & Transfer. See [Classification Settings ▶ Page 87].

Save & Transfer Manually

- A weighing process is completed and the weighing result displays.
- 1 If **Totalization** is disabled, touch the Transfer softkey .
- 2 If **Totalization** is enabled, touch the Add softkey .
- The **Classification** results are saved and transferred manually.

Save & Transfer Automatically

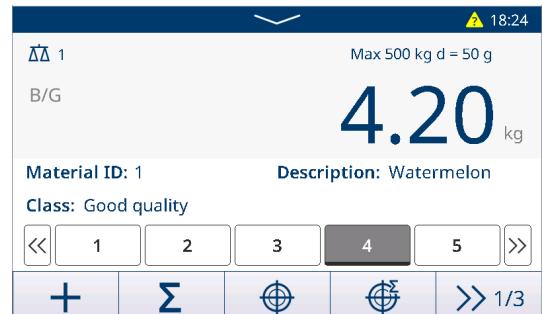
When a weighing process is completed and the weighing result displays, the current transaction is saved and transferred automatically.

2.8.3.6 Totalizing in Classification

- The **Totals** target is set. See [Totalizing to a target ▶ Page 80].
- 1 Put the first sample on the weighing platform.
 - The weight value displays and is classified in a range.
- 2 Touch the softkey  to add the weighing value of the sample to the **Totals**.
 - The message “**Saving & Transferring**” displays.
- 3 Remove the sample.
- 4 Repeat steps 1 – 3 for other samples.
- 5 When all samples are totalized, touch the **Recall Totals** softkey .
- The **Totals** displays.
- 6 To clear the **Totals**, touch the softkey .
- 7 To clear the **Subtotal**, touch the softkey .
- 8 Confirm the clearing with .
- The weighing terminal is ready for the next **Totalization** process.

Note

For more Totalization features, see [Totalization Operation ▶ Page 78].



2.8.3.7 Transaction Table in Classification

- In the **Classification** operation page, touch the **Transaction Table** softkey .
- The recent transactions are displayed.
- Swipe horizontally to show the complete transaction information and vertically to show further transactions.

Classification Transactions														
ID	Date & Time			Class #										
10	29/Aug/2020 18:27:54			Class 4										
9	29/Aug/2020 18:26:50			Class 5										
8	29/Aug/2020 13:49:58			Above										
7	28/Aug/2020 18:56:54			Above										
6	03/Aug/2020 18:58:02			Class 2										



ID	Date & Time	Result	# Classes	Batch #	Sub #	Unit	Gross	Tare	Net	Tare Type	Scale #	Material ID	Material Description	ID1	ID2	ID3	Data Source	Target Unit	Under Limit	Over Limit	Totalization Unit	Total Value	Total Counter	Subtotal Value	Subtotal Counter	User Name	Status	Reviewer	Review Time
10	16/Mar/2022 08:06:06	Class 1	8	202203010001	1	kg	15.00	7.50	7.50	PT	1	20220301	Material 1	ID1	ID2	ID3	Gross	kg	15.00	15.00	kg	5.00	1	5.00	1	Coffee	Uly	16-Mar-2022 08:06:06	
9	15/Mar/2022 09:15:46	Class 5	8	202203010001	1	kg	15.00	7.50	7.50		1	20220301	Material 1	ID1	ID2	ID3	Gross	kg	15.00	15.00	kg	10.00	2	10.00	2	Coffee	Reviewed	Uly	15-Mar-2022 09:15:46
8	14/Mar/2022 09:15:46	Class 7	8	202203010002	2	kg	15.00	7.50	7.50		1	20220301	Material 1	ID1	ID2	ID3	Gross	kg	15.00	15.00	kg	15.00	3	15.00	1	Coffee	Reviewed	Uly	14-Mar-2022 09:15:46
7	13/Mar/2022 09:15:46	Class 4	8	202203010001	2	kg	15.00	7.50	7.50	PT	1	20220304	Material 4	ID1	ID2	ID3	Gross	kg	15.00	15.00	kg	20.00	4	20.00	2	Coffee	Reviewed	Uly	13-Mar-2022 09:15:46
6	12/Mar/2022 09:15:46	Class 4	8	202203010001	2	kg	15.00	7.50	7.50		1	20220304	Material 4	ID1	ID2	ID3	Gross	kg	15.00	15.00	kg	25.00	5	25.00	3	Coffee	Reviewed	Uly	12-Mar-2022 09:15:46
5	11/Mar/2022 09:15:46	Class 5	8	202203010001	1	kg	15.00	7.50	7.50		1	20220304	Material 4	ID1	ID2	ID3	Net	kg	15.00	15.00	kg	4.00	1	4.00	1	Coffee	Reviewed	Uly	11-Mar-2022 09:15:46
4	10/Mar/2022 09:15:46	Class 5	8	202203010001	1	kg	15.00	7.50	7.50		1	20220304	Material 4	ID1	ID2	ID3	Net	kg	15.00	15.00	kg	8.00	2	8.00	2	Coffee	Reviewed	Uly	10-Mar-2022 09:15:46
3	09/Mar/2022 09:15:46	Class 8	8	202203010001	1	kg	15.00	7.50	7.50		1	20220304	Material 4	ID1	ID2	ID3	Net	kg	15.00	15.00	kg	4.00	1	4.00	1	Coffee	Reviewed	Uly	09-Mar-2022 09:15:46
2	08/Mar/2022 09:15:46	Above Limit	8	202203010001	1	kg	15.00	7.50	7.50		1	20220304	Material 4	ID1	ID2	ID3	Net	kg	15.00	15.00	kg	9.00	2	9.00	2	Coffee	Reviewed	Uly	08-Mar-2022 09:15:46
1	07/Mar/2022 09:15:46	Class 6	8	202203010001	1	kg	15.00	7.50	7.50		1	20220304	Material 4	ID1	ID2	ID3	Net	kg	15.00	15.00	kg	12.00	3	12.00	3	Coffee	Reviewed	Uly	07-Mar-2022 09:15:46

Note

For more actions in the transaction table refer to [Recalling the Transaction Table ▶ Page 25] and [Filtering Logs and Tables ▶ Page 26].

Note

When working with data integrity, additional fields regarding review status and reviewer are shown. Transferring the transaction table is possible for reviewed data only. For more information refer to [Working with Data Integrity ▶ Page 50].

Statistic

Users can check the Statistic result of the current data setting in Transaction Table, while only the last 500 lines of transaction data are counted.

- Touch the **Statistic** softkey .
- Select a batch for the statistical evaluation and confirm with .
-  Note Every time the **Classification** Application is launched, a new **Batch #** is created, and exiting the **Classification** Application will end that **Batch #**.
- The statistical parameters are displayed.

Statistic Condition	
Batch #	
202008290002	

					
---	--	--	--	--	---

i Note The standard Statistic template of Classification is shown as below.

```
<CR><LF>
{Report Title}<CR><LF>
-----
{Copy / Total Copies} <CR><LF>
{Date}<CR><LF>
{Time}<CR><LF>
{Batch #}<CR><LF>
-----
{Number of Classes}<CR><LF>
{Grand Total Weight}<CR><LF>
{Grand Total Counter}<CR><LF>
-----
{Statistic Size}<CR><LF>
{Std. (Whole) }<CR><LF>
{Mean. (Whole) }<CR><LF>
{Max. (Whole)}<CR><LF>
{Min. (Whole) }<CR><LF>
{Median (Whole)}<CR><LF>
-----
{Std. (Below) }<CR><LF>
{Mean. (Below) }<CR><LF>
{Max. (Below)}<CR><LF>
{Min. (Below) }<CR><LF>
{Median (Below) }<CR><LF>
{Ratio (Below) }<CR><LF>
{Number (Below) }<CR><LF>
-----
{Class #}<CR><LF>
{Class Desc.}<CR><LF>
{Over Limit}<CR><LF>
{Under Limit}<CR><LF>
{Deliver Weight}<CR><LF>
{Grand Total Counter}<CR><LF>
{Sub #}<CR><LF>
{Sub Total Counter}<CR><LF>
-----
</Repeatable object>
<CR><LF>
<CR><LF>
```

↓

<Repeatable for class>

{Std. (Class n) }<CR><LF>

{Mean. (Class n) }<CR><LF>

{Max. (Class n)}<CR><LF>

{Min. (Class n) }<CR><LF>

{Median (Class n) }<CR><LF>

{Ratio (Class n) }<CR><LF>

{Number (Class n) }<CR><LF>

</Repeatable for class>

{Std. (Above) }<CR><LF>

{Mean. (Above) }<CR><LF>

{Max. (Above)}<CR><LF>

{Min. (Above) }<CR><LF>

{Median (Above) }<CR><LF>

{Ratio (Above) }<CR><LF>

{Number (Above) }<CR><LF>

<Repeatable object>

2.8.4 Exiting the Classification application

- 1 On the 3rd softkey ribbon, touch softkey .

- 2 Alternatively, press the On / Off hardkey .
- ⇒ The **Classification** application is closed.
- ⇒ The **Basic Weighing** application is active.

 **Note** If Totalization is enabled, the Grand Total, Grand Total Counter, Sub Total, and Sub Total Counter will be cleared.

2.9 Remote SQC

The Remote SQC application allows the IND400 terminal to be remote controlled by FreeWeigh.Net in a host computer, and to be used as an input device. The FreeWeigh.Net sends commands to IND400 and gets user inputs from IND400, and IND400 acts as a client placed in the production line or warehouse in this process. FreeWeigh.Net is an application software for Statistical Quality Control (SQC) and Statistical Process Control (SPC).

The enhanced interface command set of remote enables the communication between FreeWeigh.Net and IND400, while the basic SICS commands are supported as well.

2.9.1 Connection Configuration

The connection is to be configured for different communication methods.

- 1 Open the **Connection** page in the path: **Communication** -> **Connection**.
- 2 Touch the softkey  to add a connection.
- 3 Set **COM** as **Client** and **Mode** as Signal Channel.
- 4 Enter the **IP Address** in the field **Remote Server** and the port number in the field **Remote Port**.

 **Note** The default value of **Remote Port** is 8,000.

Connection	
COM	Mode
Signal Client	Signal Channel
Remote Server	Remote Port
172.30.183.157	8000

					
---	--	--	--	--	---

Wireless or Ethernet Communication

- An **Ethernet** option board or a Wi-Fi option board is installed. See Ethernet board and Wi-Fi option board.
- 1 Touch the softkey  to add a connection.
- 2 Enable FreeWeigh.net by switching the toggle
 - ⇒ The connection is configured for wireless or Ethernet communication.

Connections	
COM	Mode
EPort2	SICS Server
Port	 FreeWeigh.Net

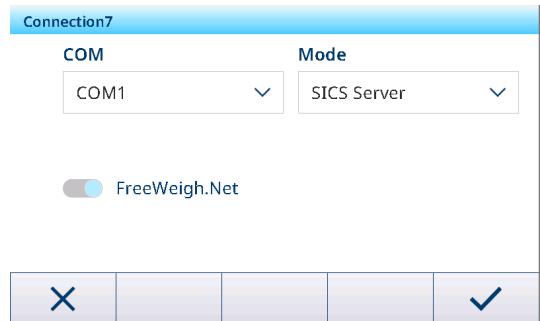
					
---	--	--	--	--	---

Serial Communication

- A serial interface is available.
- 1 Touch the softkey  to add a connection.

- 2 Set **COM** as any port available for **SICS Server**.
- 3 Set **Mode** as **SICS Server**.
- 4 Enable FreeWeigh.Net, which is disabled by default, by switching the toggle.

⇒ The connection is configured for serial communication.

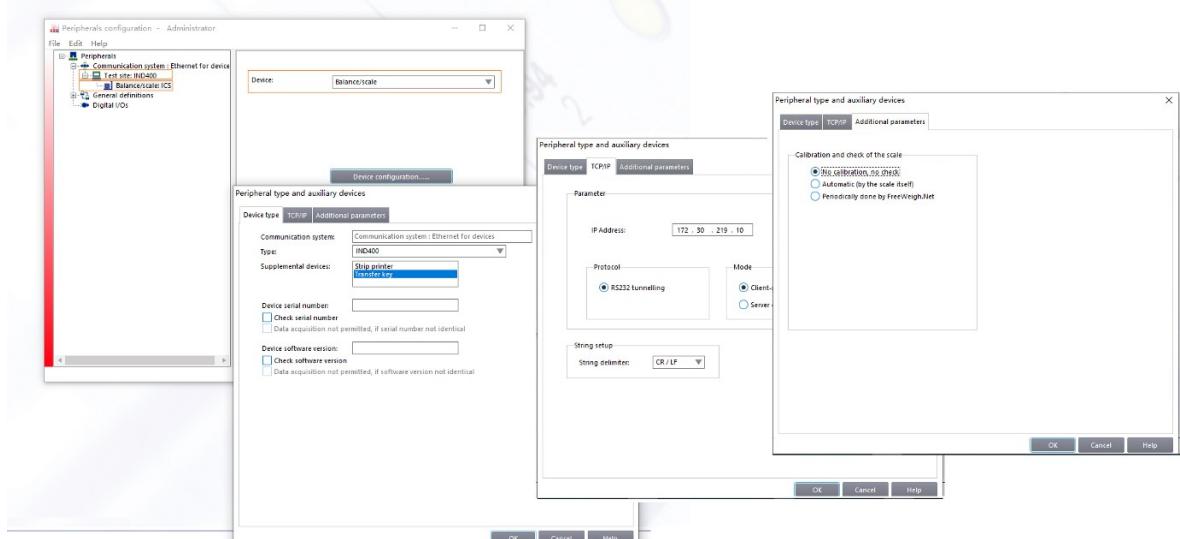


2.9.2 Configuring IND400 in FreeWeigh.net

- 1 Start the FreeWeigh.net application in the remote server.
- 2 To connect IND400 to FreeWeigh.net, configure a peripheral in the FreeWeigh.net application.



- 3 In the left menu column, right click the Communication system menu to add a Test site.



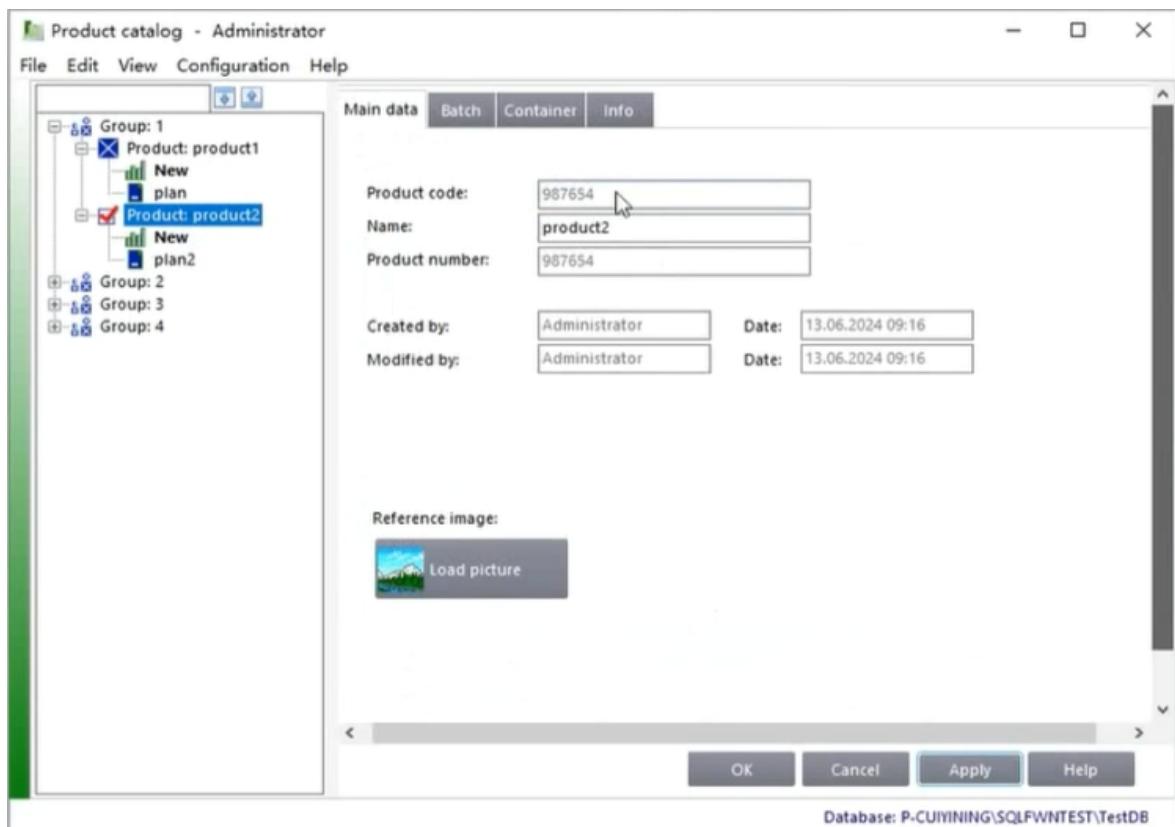
- 4 Double click Test site to edit its name as IND400 and apply the change.
- 5 Right click Test site to add a Device, and select Balance/scale in the Device field in the right setting area.
- 6 Click the button **Device configuration...**.
- 7 In the Device type page of the pop-up window, set the Type as IND400.
- 8 In the TCP/IP page, set the IP Address the same as IND400's.
In this example, the IP Address is 172.30.219.10 and Port is 1702. See [Connection Configuration ▶ Page 94].
- 9 In the Additional parameters page, select the scale calibration and check method.
- 10 Confirm the settings with the button **OK**.

⇒ The communication between IND400 and FreeWeigh.net is started.

2.9.3 Doing A Data Sampling

- 1 Enter the Product code manually or use the Product list view to select a specific product on IND400.

Note The material or product data are maintained on the FreeWeigh.net server side under Catalogs -> Products.



- 2 Touch the Sample softkey on IND400 to collect the weight data.
- 3 Collect the weight data according to the prompt message on the IND400.
 - The items of required number are placed on the weighing platform for weighing data collection one by one.
- 4 Confirm the sampling result in a pop-up window on IND400.
 - The data sampling result is displayed in the FreeWeigh.net monitoring window.

2.10 Remote Scale

2.10.1 Connection Setup

The IND400 can function as a Remote Terminal for another IND400 or for another METTLER TOLEDO product capable of transmitting METTLER TOLEDO SICS Server.

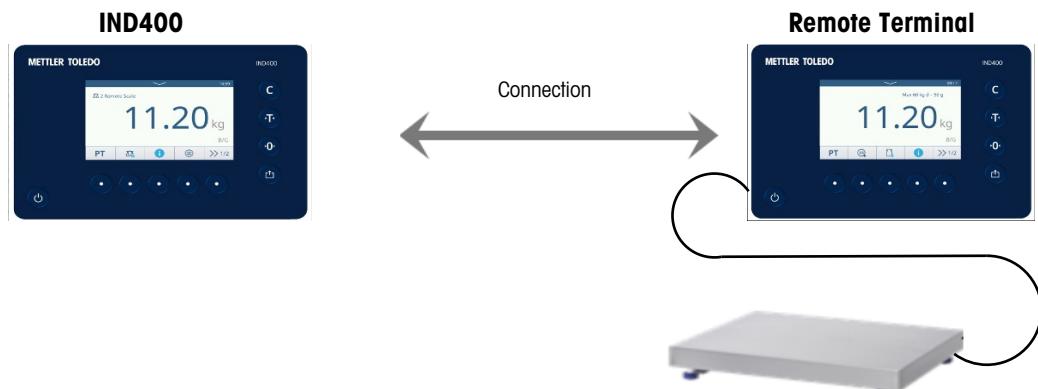


Figure 4: Remote Scale Overview

Home Screen of IND400(Switch to Remote scale)



Three steps to configurate two terminals:

1. Physical Connection between Terminals

The communication between IND400 and Remote Terminal via serial uses a single serial connection. Since the IND400 serial ports can handle one output and one input simultaneously, only one port is required to be connected to IND400. Any of the IND400's serial ports can be used, such as:

- IND400 with RS232 to Remote Terminal with RS232
- IND400 with Ethernet to Remote Terminal with Ethernet

2. Configuration of IND400

Setup Menu	Settings
Communication-> Connections	<ul style="list-style-type: none">• Create a connection on the desired port with an Assignment of Remote scale.<ul style="list-style-type: none">– Supported COM interfaces– Only one Remote Scale connection is supported. 

3. Configuration of the Remote Terminal

Setup Menu	Settings
Communication-> Connections	Create a connection on the desired port with an Assignment of SICS server.

2.10.2 Operation of Remote Scale Function

- "Remote Scale" has been configured in Communication -> Connection.

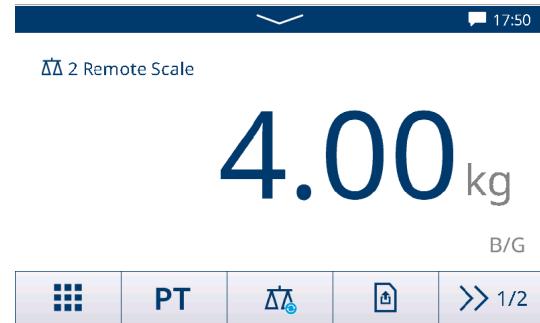
- 1 Touch the softkey  to switch to the remote scale.

⇒ Weight data from remote scale will be shown on the IND400 screen.

- 2 Press the Clear, Print, Tare(including Preset Tare), Zero hardkeys on the right side of the screen to access the remote scale's basic functions.

- 3 To return to IND400, touch the softkey  to switch back to scale #1.

- 4 Touch the softkey  to return to basic weighing applications with the current active scale.



3 Configuration

In the setup, users can modify settings and activate functions to tailor the system to their specific weighing needs. The available menu options depend on the user role that is currently logged into the IND400.

3.1 Operating the Setup

Entering the setup

- 1 In the Quick setting menu touch .
 - The main setup items are displayed.
- 2 Touch the desired setup block.
 - The corresponding sub items are displayed. The selected setup items are highlighted in blue.
- 3 Proceed until the settings page is displayed.
- 4 Make the required settings and confirm with . To leave the settings page without making changes, touch softkey . The previous setup items are displayed again.

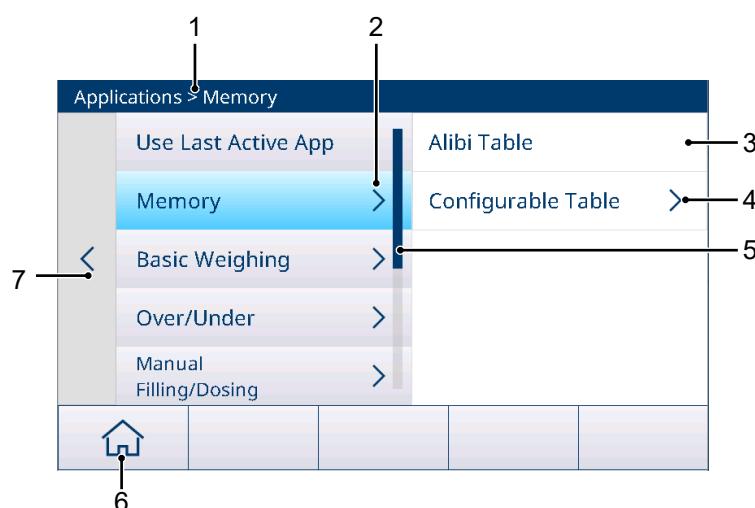
Logged in as Operator (Powercell Scale)

Applications			
Applications	>	Memory	>
Terminal	>	Basic Weighing	>
Maintenance	>	Over/Under	>
		Manual Filling/Dosing	>
		Counting	>

Logged in as Admin (Powercell Scale)

Scale	>	Load Cells	>
Applications	>	System	
Terminal	>	Metrology	
Communication	>	Identification	
Maintenance	>	Capacity & Increment	

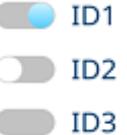
How to navigate in the setup



1	Setup path	2	Open sub item
3	Setup sub item to be edited	4	Open next level of sub items
5	Scroll bar	6	Home button
7	Go to the next higher setup level		

How to operate the setup

Depending on the content, the following options are available to change settings in the setup:

Pull-down menu	<table border="1"> <thead> <tr> <th>Number of Range</th></tr> </thead> <tbody> <tr style="background-color: #0070C0; color: white;"> <td>1 Single Range</td></tr> <tr> <td>2 Multi-Interval</td></tr> <tr> <td>2 Multiple Range</td></tr> <tr> <td>3 Multi-Interval</td></tr> <tr> <td style="text-align: center;">X</td></tr> </tbody> </table>	Number of Range	1 Single Range	2 Multi-Interval	2 Multiple Range	3 Multi-Interval	X	Select an option from the displayed list of settings.
Number of Range								
1 Single Range								
2 Multi-Interval								
2 Multiple Range								
3 Multi-Interval								
X								
Switch		Example ID1 enabled ID2 disabled ID3 not available						
Page display		When there are several pages of settings, this is displayed by the dots on the left side. In the example, there are two pages of settings and the first page is displayed. Go to the next page by swiping vertically.						
(Alpha-)Numeric entries	On-screen keyboards are displayed, see [Hard and Softkeys ▶ Page 7].							

Exiting the setup

- Touch softkey .
- ⇒ The weight display appears and the device will work with the new settings.

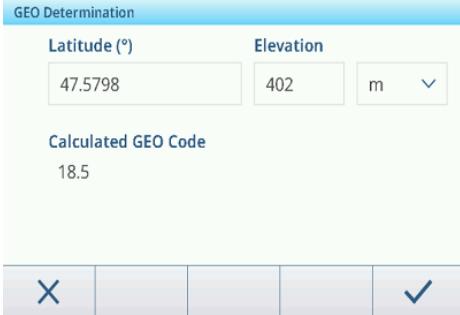
3.2 Scale setup

3.2.1 Metrology Setup

Note

Default settings are shown in **bold**.

Setup item	Sub items / possible settings	Comment
Approval	None , Argentina, Australia, Canada, OIML, USA, Korea, Thailand	Scale settings are restricted according to the local Weights and Measures regulations. A non-approved scale must not be used in legal metrology.
Class (approved scales only)	II, III , III HD (Canada only), III L (USA only), III	When the verification class does not comply with the local Weights and Measures regulations, a message is displayed and you are directed to the respective setup item to correct capacity and increment settings accordingly.

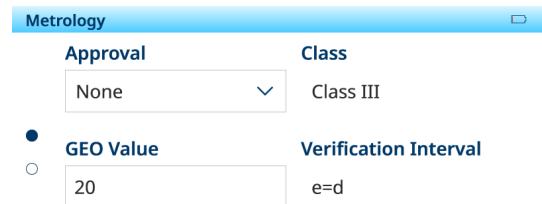
Setup item	Sub items / possible settings	Comment
Geo Value (strain gauge scales only)	<p>Enter the Geo value for your region, see [Table of Geo code values ▶ Page 168].</p> <p>Using softkey  the Geo value can be calculated depending on your geographical latitude and height above sea level.</p>	 <p>The Geo value is calculated with one decimal place.</p>
Lower Limit (°C)	-20°C ... -10 °C ... 59 °C	Setting the lower and upper temperature limits for operating the weighing system according to the connected scale.
High Limit (°C)	19 °C ... 40 °C ... 60 °C	Temperature values outside the approved ranges are highlighted in red. The approved temperature ranges are stored in the load cells.

3.2.1.1 Exact GEO Code

IND400 provides the exact GEO code as the extension for the GEO code feature. The idea of Exact GEO code is to provide more digits in GEO code (Originally the GEO code is an integer value between 0 and 31) to get more accurate "g".

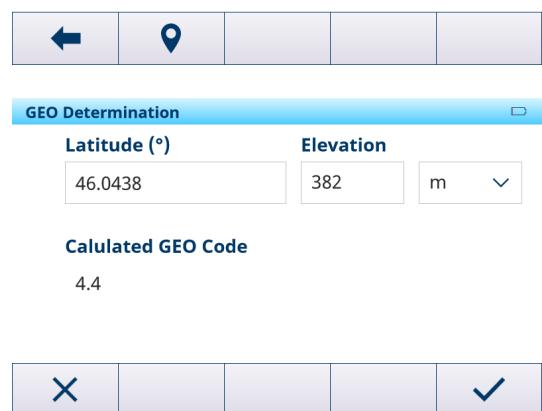
- The terminal is in non-approved mode.

- 1 Open the **Metrology** page in the path **Scale > Metrology**.
- 2 Click the softkey .
- 3 Enter the **Latitude (°)** and the **Elevation** in the pop-up **GEO Code Determination** page.



- ⇒ The **Calculated GEO Code** with one digit after the point is displayed in the page.

- 4 Click the softkey .
- ⇒ The **Calculated GEO Code** is updated to the **GEO Code** field in the **Metrology** page.



3.2.2 SICSpro/Analog/POWERCELL Scale Setup

Overview

The SICSpro/Analog/POWERCELL scale setup consists of the following setup items:

- Load Cells (POWERCELL scale only)
- System (POWERCELL scale only)

- Shift Adjust Scale (POWERCELL scale only)
- Identification
- Capacity & Increments
- Linearization & Calibration
- Control Mode
- Units
- Zero
- Tare
- Filter
- Stability
- MinWeigh
- Warmup (for approved scales only)
- Loading Alert (POWERDECK Floor Scale only)
- Leveling Guidance (POWERDECK Floor Scale only)
- FACT (SICSpro scale only)
- Reset (SICSpro scale only)

Powercell setup

Manual Address

Manual Address can ensure that each load cell has a unique address, helping users quickly locate and repair faulty load cells.

- 1 In the **Manual Address** page, press the softkey  to start the addressing process.
 - ⇒ The terminal is discovering cells.
 - ⇒ The serial number and current node information of the found load cells are indicated.

Manual Address	
Serial Number	Node
	0



- 2 Touch a row to highlight a load cell and click the Edit softkey  to edit the **Node Address** of the load cell.

Manual Address	
Serial Number	Node
7285039912	1
7285039913	2
7285039914	3
7285039915	4



- 3 Click  to start addressing of this single load cell immediately.

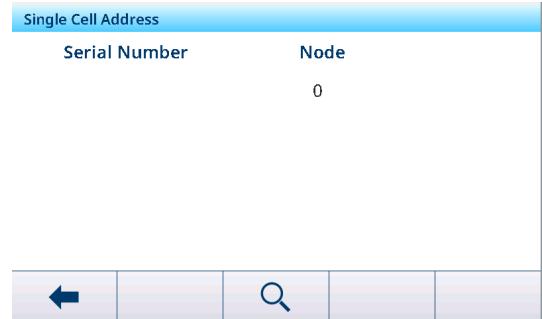
Entry	Serial Number	7285039912
Node	1	



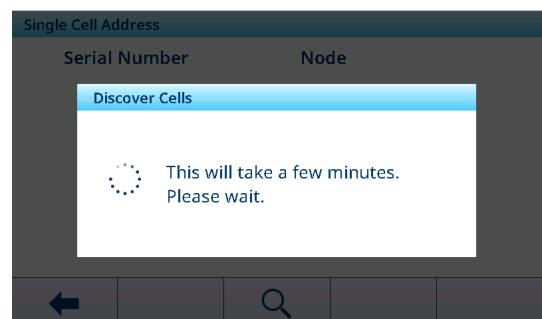
Single Cell Address

Note

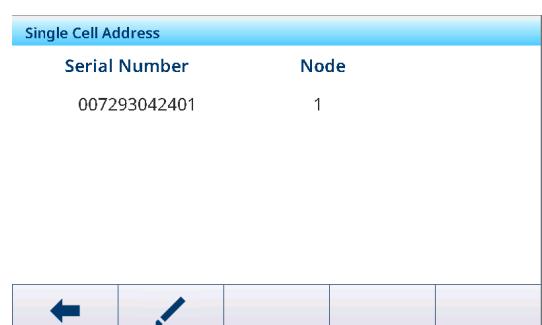
- It is important to make sure that only one load cell is connected to the terminal.
- If multiple load cells are connected, it will only deal with the load cell detected first.



- 1 In the **Single Cell Address** page, press the softkey  to start the addressing process.
 - ⇒ The terminal is discovering cells.
 - ⇒ The serial number and current node information of the found load cell are indicated.



- 2 Click the Edit softkey  to edit the **Node Address** of the load cell.
- 3 Click  to start addressing of this single load cell immediately.



System setup

In the menu page, a platform can be configured for PowerDeck.

System	Displaying/setting system data
Application	<p>Floor Scale (default)</p> <ul style="list-style-type: none">Platform Shape<ul style="list-style-type: none">Square (default)Rectangular <p>System</p> <p>Application</p> <p>Floor Scale </p> <p>Platform Shape</p> <p>Square </p> <p></p> <p>General</p> <ul style="list-style-type: none">The # of Load Cells can be 1 – 12, and the default value is 4. <p>System</p> <p>Application # of Load Cells</p> <p>General  4</p> <p></p> <p></p>

Shift Adjust Scale setup

With the Shift Adjust function, the terminal can produce same weight results at different locations within the PowerDeck platform.

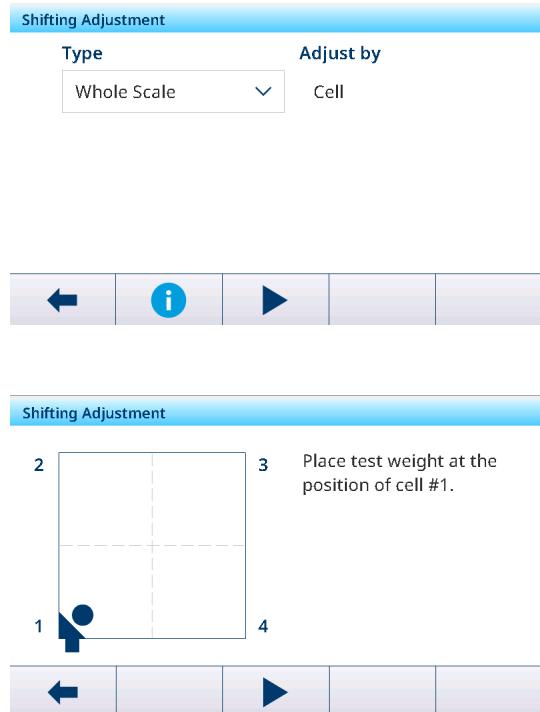
- 1 In the Shifting Adjustment page, click the Edit softkey  to edit the coefficients and click the **Shift Adjust** key  to start shift adjustment.

Shifting Adjustment	
Cell	Shift Values
1	0.958409
2	0.722900
3	1.804703
4	0.814508

- 2 In the pop-up page, click the Information softkey  to view the recommended test weight.
Select to do a **Whole Scale** (default) adjustment or a Partial adjustment in the field **Type**, and press the Start softkey  to start the process.
- 3 Empty the scale as instructed in the display and press .
→ The terminal is doing sampling for the empty scale.
- 4 When the sampling is completed, click .
- 5 Place the test weight at the position of each load cell indicated in the display and press .
- 6 When the process is completed, click .

→ The shift adjustment is done.



Identification setup

Identification	Displaying/setting scale identification data
Serial Number	Entering the serial number of the selected scale.
Scale Model	Entering the scale type, e.g. PBD555 - 15LA.
Scale Location	Entering the scale location, e.g. floor and room.
Scale Identification	Entering the scale identification, e.g. inventory number.

 **Note:** Scale Location and Scale Identification can consist of up to 40 alphanumeric characters.

Capacity & Increments setup

Note

Default settings are shown in **bold**.

Capacity & Increments	Setting capacity and increment
Primary Unit	Select from the following: g, kg , oz, lb, t, ton
#Range/Intervals	Select from the following: 1 Single Range , 2 Multi-Interval, 2 Multiple Range, 3 Multi-Interval, 3 Multiple Range.
Range 1 ... Range 3	<p>Set ranges according to #Range/Intervals.</p> <p> Note</p> <p>With Multi-Interval / Multiple Range observe the following, otherwise a message is displayed: Range/Interval 1 < Range/Interval 2 < Range/Interval 3</p>
Resolution 1 ... Resolution 3	<p>Set resolutions according to #Range/Intervals.</p> <p> Note</p> <ul style="list-style-type: none"> • With Multi-Interval / Multiple Range observe the following, otherwise a message is displayed: Resolution 1 < Resolution 2 < Resolution 3 • For approved SICSpres scales, when the Class is II and $e = 10$ d, the increment must be 1×10^k.
Blank Over Capacity (d)	<p>Blanking of the display is used to indicate an overload condition .</p> <p>Set the number of divisions (d) that the scale is permitted to go over the maximum capacity before blanking.</p> <p>Possible settings: 0 ... 5 ... 99 (d)</p>

Linearization & Calibration setup

Note

Default settings are shown in **bold**.

Linearization & Calibration	Calibrating the scale
Type -> Zero Adjustment	<p>Using this setup item the scale is set to zero.</p> <ol style="list-style-type: none"> 1 Touch softkey ► and follow the instructions on the screen. ⇒ When finished, a message is displayed. 2 Confirm the message. ⇒ The calibration protocol is displayed. <p>Touching softkey  opens a screen for the span adjustment.</p>
Type -> 2-Point	<p>Using this setup item the scale is calibrated by using the zero point and a test weight.</p> <ol style="list-style-type: none"> 1 Enter weight value and name of the test weight. 2 Confirm test weight data with the checkmark. 3 Touch softkey ► and follow the instructions on the screen. ⇒ When finished, a message is displayed. 4 Confirm the message. ⇒ The calibration protocol is displayed.
Type -> 3-Point, 4-Point, 5 Point, 3-P. With Hysteresis, 4-P. With Hysteresis, 5-P. With Hysteresis	<p>Using this setup items the scale is calibrated using the zero point and two or up to 4 test weights.</p> <ol style="list-style-type: none"> 1 Enter weight value and name of the test weights. 2 Confirm test weight data with the checkmark. 3 Touch softkey ► and follow the instructions on the screen. ⇒ When finished, a message is displayed. 4 Confirm the message. ⇒ The calibration protocol is displayed.
Auto Print Cal.	If activated, the calibration data are automatically printed/transferred.
Last Calibration Date	Date of the last calibration.

Calibration protocol

 Print/transfer the calibration protocol

 Enter a comment on the current calibration

Zero Adjustment	
Rec. #	2
Result	Succeed
Date & Time	23/Sep/2024 14:41:22
SNo.Scale	C020220103
Type	Zero Adjustment
Scale FW	Not Available
	
	

Control Mode setup

Control Mode	Weight value in higher resolution
Control Mode	Displaying the weight value in higher resolution.

Units setup

Note

Default settings are shown in **bold**.

Units	Setting display units
Second Unit	Select from the following: g, kg, oz, lb , t, ton
Third Unit	Select from the following: g, kg , oz, lb, t, ton

Units	Setting display units
Powerup Unit	Select which weight unit shall be used at a restart. <ul style="list-style-type: none"> • Primary Unit: The scale restarts in the primary unit. • Restart: The scale restarts with whichever unit was last displayed before the power cycle.
Note	In case of approved scales, individual sub-items of this setup item may not be available or only to a limited extent, depending on the country.

Zero setup

Note

Default settings are shown in **bold**.

Zero	Zero setting options
Startup Zero	Select which zero value shall be used at startup. <ul style="list-style-type: none"> • Capture New: a new zero value is captured • Use Last: the last zero value is used • Use Calibrated: the calibrated zero value is used
Power Up Range - (%)	Set the range for zeroing at power up in % of the scale capacity.
Power Up Range + (%)	Possible settings: -99 ... -10 ... 0 (%) resp. 0 ... +10 ... +99 (%)
Push Button Zero	Activating/deactivating Push Button Zero.
Push Button Range - (%)	Set ranges for Push Button Zero in % for zeroing via •0 .
Push Button Range + (%)	Possible settings: 0 ... 2 ... 99
Auto Zero Tracking	Activating/deactivating automatic zeroing.
Auto Zero Range (d)	Set the range for automatic zeroing. <ul style="list-style-type: none"> Possible settings: 0.0 ... 0.5 ... 9.9 (d)
Center of Zero	Activating/deactivating the indication of symbol >0< for a gross weight within +/- 0.25 e/d. <ul style="list-style-type: none">  Note: In approval mode, this function must be enabled.
Under Zero Blank (d)	Blanking of the display is used to indicate an underload condition  . <ul style="list-style-type: none"> – Set the number of divisions (d) that the scale is permitted to go under zero before blanking. Possible settings: 0 ... 20 ... 99 (d)
Note	In case of approved scales, individual sub-items of this setup item may not be available or only to a limited extent, depending on the country.

Tare setup

Note

Default settings are shown in **bold**.

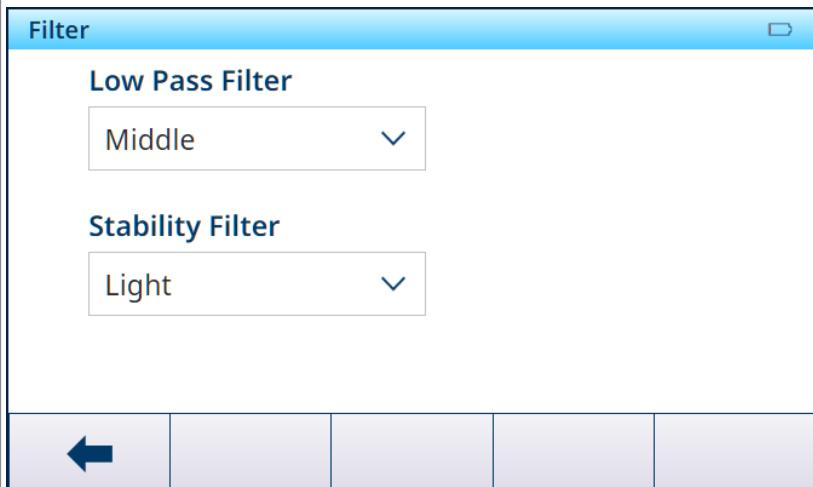
Tare	Tare options
Startup Tare	Selecting which tare value shall be used at startup. <ul style="list-style-type: none"> • Clear: an existing tare value is cleared • Use last: the last tare value is used
Auto Tare Mode	If activated: When a load is placed on the scale and the gross weight exceeds the threshold for automatic taring, the weight is tared automatically.
Threshold (d)	Setting the threshold for automatic taring. <ul style="list-style-type: none"> Possible settings: 0 ... 9 ... 99 (d)
Reset Threshold (d)	Setting the threshold for clearing the tare. <ul style="list-style-type: none"> Possible settings: 0 ... 5 ... 99 (d)
Auto Clear Tare	If activated: When the load is removed and the weight drops below the clear threshold weight, the tare weight is cleared automatically.

Tare	Tare options
Threshold (d)	Setting the threshold for clearing the tare automatically. Possible settings: 0 ... 9 ... 99 (d)
Chain Tare Mode	If activated: It is possible to tare several times if e.g. cardboard is placed between individual layers in a container.
Push Button Tare	If activated, taring via T is enabled.
Keyboard Tare	If activated, the tare weight can be entered numerically.
Clear With Zero	If activated: When the load is removed and the weight drops below zero, the tare weight is cleared automatically.
Net Sign Correction	Under Legal for Trade mode, the Net Sign Correction function should be disabled.

Filter setup

Note

Default settings are shown in **bold**.

Filter	Filter settings
Low Pass Filter	Setting the condition above which all disturbances are filtered out. The lower the setting, the better the disturbance rejection, but the longer the setting time required for the scale. Possible settings: Low, Middle , High, Heavy High
Stability Filter	The stability filter works in conjunction with the standard low pass filter to provide a more stable final weight reading. The stability filter should only be used in transaction weighing applications, since the non-linear action of the filter switching may cause inaccurate cutoffs in batching or filling applications. Possible settings: Off, Light, High <ul style="list-style-type: none"> • For Analog scale, the default value is Off. • For Powercell scale, the default value is Light. <p> Note</p> <p>For Analog scale only, when modifying the Capacity & Increment, the switch of Stability Filter is modified automatically according to the number of divisions. (If the number of divisions is less than 10,000, it is set to Off. If the number of divisions is greater than or equal to 10,000, it is set to Light.)</p> 

Stability setup

Note

Default settings are shown in **bold**.

Stability	Setting the stability detector (weight in motion)
Motion Range (d)	Setting the motion range (in divisions) that the weight is permitted to fluctuate and still have a no-motion condition. Possible settings: 0.1 ... 0.5 ...99.9 (d)
No-motion Interval (s)	The no-motion interval defines the amount of time (in seconds) that the scale weight must be within the motion range setting to have a no-motion condition. A shorter interval means that a no-motion condition is more likely, but may make weight measurement less precise. Possible settings: 0.0 ... 0.5 ...2.0 (s)

MinWeigh setup

Note

Default settings are shown in **bold**.

MinWeigh	MinWeigh function
MinWeigh Mode	Activating/deactivating the MinWeigh function. If activated and the weight on the scale drops below the set minimum value,  is blinking.
Value (kg)	Setting the minimum weight value in kg. Possible settings: 0 ... max. load
Note	If you attempt to record the weight while in the MinWeigh condition, the printout will include an asterisk (*) on the net weight value.

Warmup setup

Note

Default settings are shown in **bold**.

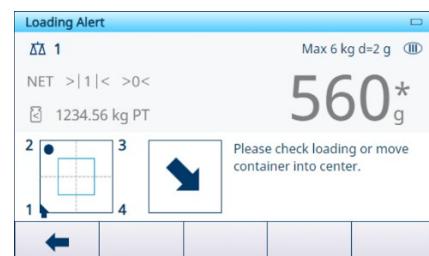
Warmup	Warmup time
Warmup (min)	Setting warmup time at startup, for approved scales only Possible settings: 0 ... 3 ... 99 (min)

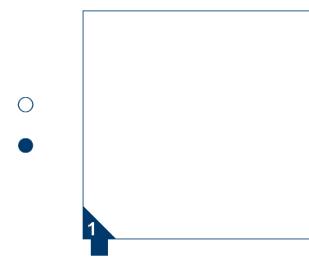
Loading Alert setup

This menu item is only available when:

- The scale type is POWERCELL.
- The platform type is Floor Scale.

Loading Alert determines the "center of gravity" location based on the cell counts. If the location is outside of a certain range (set by the customer) then a loading alert screen is shown. If the container is placed on the scale outside of the customer defined tolerances, Loading Alert will display this window:



Configuration Item	Options	Descriptions
Loading Alert	Disabled (default)	-
	Enabled	<p>Cancel and Continue</p> <ul style="list-style-type: none"> Disabled (default): When Loading Alert is active, the operator must relocate the load to within the OK zone. Enabled: When Loading Alert is active, the operator can ignore and close the warning and continue to work.
		<p>OK Range</p> <p>As definition of the OK zone, this value is in percentage of the distance between load cells.</p> <ul style="list-style-type: none"> Default value: 30 Possible values: 5 – 50
		<p>Example:</p> <p>If the platform size is 1m*1m and the OK Range is set at 50%, the square of the OK Range displayed in the OK Range Operation screen is 0.5m*0.5m.</p>
		<p>Threshold</p> <ul style="list-style-type: none"> Default value: Weight equivalent to 5% of the scale capacity, and rounded to the scale increment Possible values: Equivalent to 5% of scale capacity
	<p>Orientations</p> <p>In this function, user can click the softkey  to change view according to relative position of the first corner, and confirm the selection with .</p> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p style="text-align: center;">Loading Alert</p> <div style="text-align: center; margin-bottom: 10px;">  </div> <div style="display: flex; justify-content: space-around; align-items: center;"> ←  </div> </div>	

Leveling Guidance setup

This function indicates the difference between the current counts of each load cell (non-load condition) and the zero counts of each load cell (non-load condition) stored as initial factory data. MT service technician can use shims for scale leveling according to the prompt by Leveling Guidance.

The prerequisites of using this function are listed below:

- A bubble level has been used to level the platform, but fails to work.
- The platform type is Floor Scale, and the number of load cells is 4 or 6.
- The zero counts stored at factory can be recalled from load cells to terminal.
- The individual measurement output of each load cell is separately available and functioning properly.
- The POWERCELL load cell addressing has been completed.
- This function only works for factory calibrated platforms with all original loads cells intact.

Note The Leveling Guidance function is only allowed after the scale parameter restore (see [Maintenance -> Scale Test -> Restore Factory Calibration ▶ Page 146]). Additionally, if the scale is readdressed, the Leveling Guidance function is not recommended.

- 1 Keep the platform empty.
 - Terminal can get the current raw counts from each load cell, and take these raw counts as the current zero point.
 - Display value = Current zero point – Factory stored zero point
- 2 Check the load cell address with the lowest cell count highlighted.
- 3 Shim first the corner with load cell highlighted.



FACT setup

FACT	Fully Automatic Calibration Test (for SICSpres with internal calibration weight only)
Temperature	<p>FACT is a temperature controlled adjustment device. When the FACT function is enabled, the temperature in the magnet is measured.</p> <p>If the specified temperature change is reached after the last adjustment, an internal adjustment is carried out as soon as the balance has not been used for 3 minutes.</p> <p>An internal adjustment will be performed each time the terminal is started.</p> <p>This adjustment will correct all temperature influences.</p>

Reset setup

Reset	Scale reset (SICSpres scale only)
Perform Reset?	Confirm with the checkmark. The scale settings will be reset to factory settings.

3.2.3 Default Settings

SICSpres / Analog / POWERCELL Scale

Setup items		Default setting	Possible settings
System	Application	Floor Scale	Floor Scale, General
	Platform Shape	Square	Square, Rectangular
	# of Load Cells	4	1 - 12
Metrology	Approval	None	None, Argentina, Australia, Canada, OIML, USA, Korea, Thailand
	if approved	Class III	II, III, III HD (Canada only), III L (USA only), III
	Geo Value	19	0.0 ... 31.0
	Lower Limit	-10 °C	-20 °C to 59 °C
	High Limit	40 °C	-29 °C to 60 °C
	Display (metrology line)	non-approved: Cap/d approved: Max/Min/e	Non-approved: Disabled, Cap/d, Max/Min/e Approved: Max/Min/e
Capacity & Increments	Primary Unit	kg	Non-approved: g, kg, oz, lb, t, ton Approved: g, kg, t
	#Range/Intervals	1 Single Range	1 Single Range, 2 Multi-Interval, 2 Multiple Range, 3 Multi-Interval, 3 Multiple Range
	Blank Over Capacity (d)	5 (d)	0 ... 99 (d)

Setup items		Default setting	Possible settings
Shifting Adjustment	Type	Whole Scale	Whole Scale, Partial
	Cell	1	1 - 12
Linearization & Calibration	Type	Set Zero	Span, 3-Point, 4-Point, 5 Point, 3-P. With Hysteresis, 4-P. With Hysteresis, 5-P. With Hysteresis
	Auto Print Cal.	Off	On, Off
Units	Second Unit	non-approved: lb approved: None	Non-approved: None, g, kg, oz, lb, t, ton Approved: None, g, kg, t
	Third Unit	kg	Non-approved: None, g, kg, oz, lb, t, ton Approved: None, g, kg, t
	Power Up Unit	Primary Unit	Primary Unit, Restart
Zero	Startup Zero	Capture New	Non-approved: Use Last, Capture New, Use Calibrated Approved: Capture New
	Power Up Range - (%)	Non-approved: 10 (%) Approved: 2 (%)	0 ... 99 (%)
	Power Up Range + (%)	Non-approved: 10 (%) Approved: 18 (%)	0 ... 99 (%)
	Push Button Zero	On	On, Off
	Push Button Range - (%)	2	-99 ... 99 (%)
	Push Button Range + (%)	2	-99 ... 99 (%)
	Auto Zero Tracking	On	On, Off
	Auto Zero Range (d)	0.5 (d)	0 ... 9.9 (d)
	Center of Zero	Off	On, Off
	Under Zero Blank (d)	20 (d)	None-approved: 0 ... 99 (d) Approved: 5 ... 20 (d)
Tare	Startup Tare	None-approved: Clear Approved: Clear or Use Last	Clear, Use Last
	Auto Tare Mode	Off	On, Off
	Threshold (d)	9 (d)	0 ... 99 (d)
	Reset Threshold (d)	5 (d)	0 ... 99 (d)
	Auto Clear Tare	Off	On, Off
	Threshold (d)	9 (d)	0 ... 99 (d)
	Chain Tare Mode	On	On, Off
	Push Button Tare	On	On, Off
	Keyboard Tare	On	On, Off
	Clear With Zero	Off	On, Off
Filter	Low Pass Filter	Middle	Light, Middle, High, Heavy
	Stability Filter	Off	On, Off
Stability	Motion Range (d)	0.5 (d)	0.1 ... 99.9 (d)
	No-Motion Interval (s)	0.5 (s)	0.0 ... 2.0 (s)
MinWeigh	MinWeigh Mode	Off	On, Off
	Value (kg)	0 (kg)	0 ... max. load

Setup items		Default setting	Possible settings
Warm up (approved scales only)	Warmup (min)	0 (min)	0 ... 99 (min)
Loading Alert		Disabled	Disabled, Enabled
	Cancel and Continue	Disabled	Disabled, Enabled
	OK Range	30	5 - 50
	Threshold	5	Equivalent to 5% of scale capacity

3.3 Applications Setup

3.3.1 Application -> Use Last Active App

This function allows users to keep the last active application or always use Basic Weighing after restarting the terminal.

This function is disabled by default.



Use Scenarios

- The Use Last Active App function should be enabled if a user wants to stay in the current application after switching user or logout, or a user wants to go back to the last active application after restarting the terminal.
- The Use Last Active App function should be disabled if a user wants to go back to Basic Weighing after switching user or logout or stay in Basic Weighing after restarting the terminal.

3.3.2 Application -> Memory

The Memory setup consists of the following setup items:

- Alibi Table
refer to [Recalling the Alibi Log File ▶ Page 26]
- Configurable Table
 - Tare Table
refer to [Basic weighing settings ▶ Page 39]
 - Over/Under Target Table
refer to [Over/Under Checkweighing Settings ▶ Page 55]
 - Manual Filling/Dosing Target Table
refer to [Manual Filling/Dosing Settings ▶ Page 71]
 - Counting Target Table
refer to [Counting Settings ▶ Page 62]
 - Material Table
refer to [Basic weighing settings ▶ Page 39]
 - Import / Export
refer to [Importing/exporting Data ▶ Page 28]

3.3.3 Application -> Basic Weighing

This setup item is another access to the following sub items:

Setup item	Reference
Settings	[Basic weighing settings ▶ Page 39]
Transfer	[Basic weighing settings ▶ Page 39]
Transaction Table	[Recalling the Transaction Table ▶ Page 25]

3.3.4 Application -> Over/Under

This setup item is another access to the following sub items:

Setup item	Reference
Settings	[Over/Under Checkweighing Settings ▶ Page 55]
Transfer	[Basic weighing settings ▶ Page 39]
Transaction Table	[Recalling the Transaction Table ▶ Page 25]

3.3.5 Application -> Manual Filling/Dosing

This setup item is another access to the following sub items:

Setup item	Reference
Settings	[Manual Filling/Dosing Settings ▶ Page 71]
Transfer	[Basic weighing settings ▶ Page 39]
Transaction Table	[Recalling the Transaction Table ▶ Page 25]

3.3.6 Application -> Counting

This setup item is another access to the following sub items:

Setup item	Reference
Settings	[Counting Settings ▶ Page 62]
Check Counting	[Counting Settings ▶ Page 62]
Transfer	[Basic weighing settings ▶ Page 39]
Transaction Table	[Recalling the Transaction Table ▶ Page 25]

3.3.7 Application -> Classification

This setup item is another access to the following sub items:

Setup item	Reference
Settings	[Classification Settings ▶ Page 87]
Transfer	[Basic weighing settings ▶ Page 39]
Transaction Table	[Transaction Table in Classification ▶ Page 92]

3.3.8 Application -> Totalization

This setup item is another access to the following sub items:

Setup item	Reference
Settings	[Totalization Settings ▶ Page 77]
Transfer	[Basic weighing settings ▶ Page 39]
Transaction Table	[Recalling the Transaction Table ▶ Page 25]

3.3.9 Application -> Animal Weighing

This setup item is another access to the following sub items:

Setup item	Reference
Settings	[Animal Weighing Settings ▶ Page 84]
Transfer	[Basic weighing settings ▶ Page 39]
Transaction Table	[Recalling the Transaction Table ▶ Page 25]

3.3.10 Application -> IDs

This setup item is another access to the setup of ID1 ... ID3. For details refer to [Basic weighing settings ▶ Page 39].

3.3.11 Application -> Data Integrity

This setup item is only available for IND400 with Data Integrity. The following settings are available:

Setup item	Options	Description
Electronic Signature	Enable / Disable	When enabled, electronic signature supports over 4 scenarios to enhance data integrity. Once enabled, it can only be disabled via Master Reset (restricted to MT technician level)
Type	Weighing E-Signature Only	Require users to enter electronic signature again when generating weighing transaction logs to ensure the data integrity of the system.
	Reviewer E-Signature Immediately	Require users to review the transaction immediately when transferring a transaction.
	Reviewer E-Signature In Transaction Table	Require users to review the accuracy of transaction data in the transaction table and enter electronic signature to ensure the data integrity of weighing data.
	Batch E-Signature in Transaction Table	Supports batch signing for multiple transactions in the table, improving efficiency for high-volume centralized verification.
	Custom1	Admin-exclusive customizable mode. Define signature triggers, roles and workflows; appears in dropdown after configuration.

3.4 Terminal Setup

The Terminal setup consists of the following main setup blocks:

- Device
- User Management

3.4.1 Terminal -> Device

3.4.1.1 Terminal -> Device -> Region

Note

Default settings are shown in **bold**.

Setup item	Sub items	Possible settings/description
Language	Display Message	English , Chinese, Deutsch, Français, Italiano, Español, Português, Japanese, Polski
	Onscreen Keyboard	English
	Keyboard Layout	QWERTY , QWERTZ, AZERTY
	External Keyboard	None , English, Português, Français, Español, Italiano, Deutsch

Setup item	Sub items	Possible settings/description
Date & Time	Preview of Time and Date	
	Use 24-Hour Clock	On/Off
	Display Seconds	On/Off
	Show 2-Digit Month	On/Off
	Show 2-Digit Year	On/Off
	Time Separator	: , .
	Date Format	Day Month Year , Month Day Year, Year Month Day
	Date Separator	/, None, (Space), Dash, ., /, :
	Time Zone	Only available if Network Time Synchronization is set to On.
	Daylight Saving Time	On/Off
	Shift (H)	Shift of the daylight saving time
	Start - Summer	Start date of the daylight saving time
	End - Winter	End date of the daylight saving time
	Set Date	Set date and time in the selected format
Hour	Hour	
	Minute	
	Network Time Synchronization	On/Off
	Connect Timeout	1 ... 5 ... 30
	Time	Current time
	Last Synchronization	Time of the last synchronization
	Sync Cycle (Hours)	1 ... 8 ... 99
	Time Server IP Address	IP Address of a time server for your region
	Time Server Port #	123
	Alert (d)	0 ... 1 ... 30
Synchronizing data and time automatically When Network Time Synchronization is set to On and a time server is entered, date and time are synchronized with the time server automatically after the set Sync Cycle has elapsed.		
Synchronizing data and time manually For a manual synchronization with the time server, touch  . After the synchronization a message is displayed and date and time are updated.		
Time zone and daylight saving time When leaving Network Time Synchronization with  you are directed to the Date & Time page with the possibility to set a time zone and the daylight saving time. When Network Time Synchronization is set to On it is not possible to set the date and time.		

3.4.1.2 Terminal -> Device -> License Management

A license is required to enable advanced functionality or specific applications. Licenses included in the order SCK code will be installed and activated in the factory ready to use when delivered. Call Mettler Toledo service to schedule the installation and activation of licenses purchased later in terminals in the field.

Available License Packages

- Basic Weighing
- Alibi
- Remote SQC
- Multi App
- Data Integrity
- Modbus TCP
- Basic Weighing + Modbus TCP
- Alibi + Modbus TCP
- Remote SQC + Modbus TCP
- Multi App + Modbus TCP
- Data Integrity + Modbus TCP
- Modbus RTU
- Basic Weighing + Modbus RTU
- Alibi + Modbus RTU
- Remote SQC + Modbus RTU
- Multi App + Modbus RTU
- Data Integrity + Modbus RTU

This setup item shows a list of software licenses available on the device. The following information is displayed for each license:

Parameter	Icon	Description
#	-	Running number of the license
State	✓	Activated
	✗	Deactivated
	⏳	Pending, i.e. not activated yet
Name	-	Name of the license
License Key	-	License key in the format XXXXX-XXXXX-XXXXX-XXXXX-XXXX
Product	-	Functionality of the license

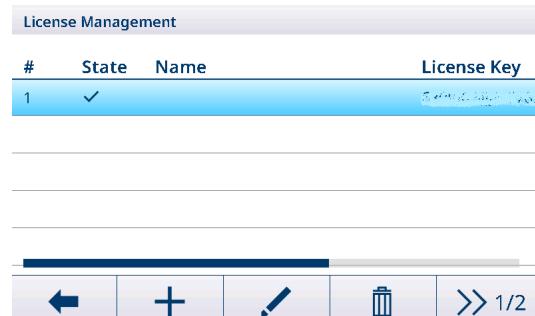
3.4.1.2.1 Example: Switch DI License to Multi App License

This section introduces how to switch the currently activated DI license to the Multi App license.

 **Note** This operation requires MT technician or Admin access level.

Deleting the Activated DI License

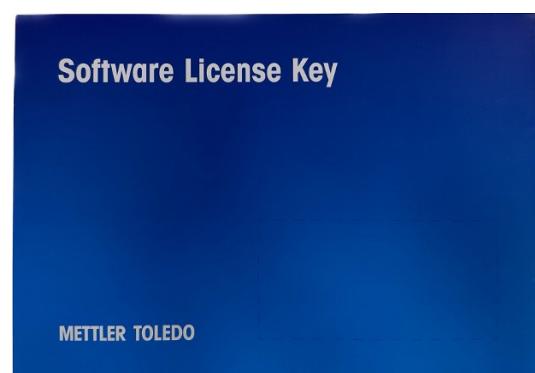
- 1 Mark the activated DI license in the **License Management** page.
- 2 Touch the Delete softkey .
- 3 Confirm the deletion by touching .



Adding the Multi App License to Terminal

- The Multi App license key is found in the Software License Key envelope.

- 1 Touch the Add softkey  in the **License Management** page.



- 2 Enter the **License Key** and touch .



License Management			License Management		
#	State	Name	License Key	License Key	Product
1	X				Multi App

←	+	✎	Delete	» 1/2
←	+	✎	Delete	» 1/2

Activating the Multi App License

- 1 To generate the activation request file, mark the deactivated Multi App license and touch the Export softkey .
- 2 Select to store the file in the SD card or the USB stick.
→ The file is stored at /IND400/Export/License/.
- 3 To generate the activation file with this exported activation request file, access the Activation Portal (<https://activation.mt.com>) from a web browser on the PC.
- 4 Sign in with the required user name and password.

License Management		
#	State	Name
1	X	

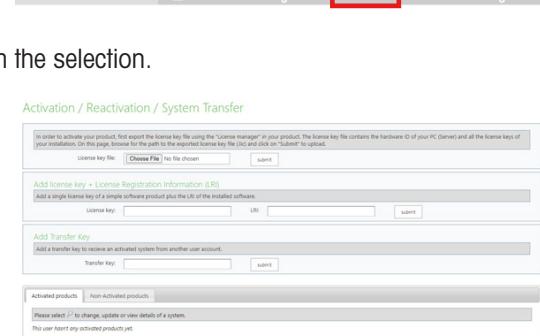
Upload	Download	Delete	» 2/2
------------------------	--------------------------	------------------------	-----------------------



- 5 Click on the **Activation** item in the site's menu bar.



- The **Activation / Reactivation / System Transfer** screen appears. Here, software can be activated or reactivated, or transferred between systems.
- 6 Click the **Choose File** button, navigate to the folder containing the .lic file, select the request file, and confirm the selection.
→ The server will generate an activation file and display a download link.
- 7 Click the link to download the file and copy the activation file to the SD card or the USB stick at / IND400/Import/License/.
- 8 To import the activation file, touch the Import softkey  in the **License Management** page.
→ The Multi App license is activated.
→ The DI license is switched to the Multi App license.



License Management			License Management		
#	State	Name	License Key	License Key	Product
1	✓				Multi App

←	+	✎	Delete	» 1/2
←	+	✎	Delete	» 1/2

3.4.1.2.2 Example: Merge Two Different Licenses

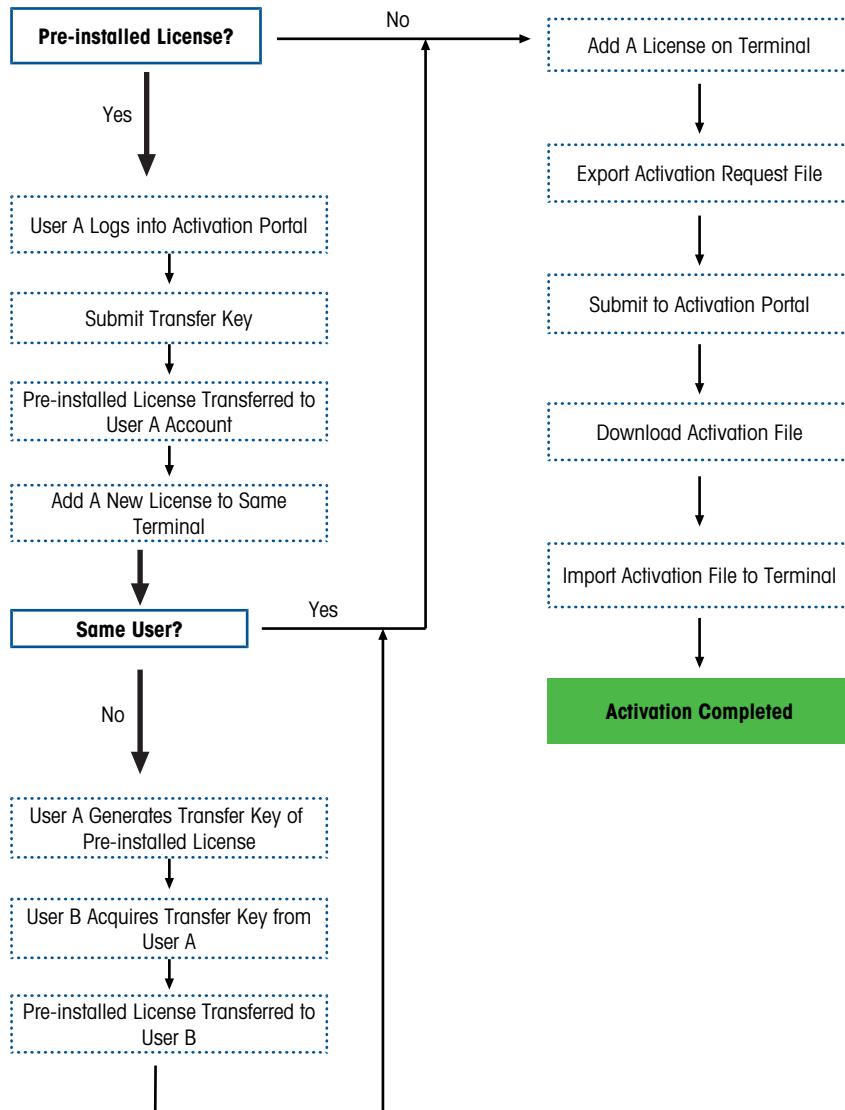


Figure 5: Flow chart

Note:

- Transfer keys are single-use and must be generated by the account currently holding the license.
- All licenses to be activated together must belong to the same user account on the Activation Portal.

Initial License Activation

Scenario: The terminal ships without pre-installed licenses, and the user purchases the first application license later.

User Action: See How to Add A License and How to Activate A License in License Management.

Pre-Installed License Transfer (Scenario 1)

Scenario:

The terminal ships with a pre-installed License A and bound to the factor account (LMES).

The packaging includes a 3x3 transfer key, which is a one-time use code required for license migration.

User Action:

- The user (User A) logs in to the Activation Portal (<https://activation.mt.com>).

2. Navigate to the "Add Transfer Key" section.

3. Enter and submit the transfer key.
4. This transfers License A from the LMES account to the user's (User A) own account. The transferred License A can be found in the section "Activated products".



Figure 6: Transfer Key

Multi-User License Management (Scenario 2)

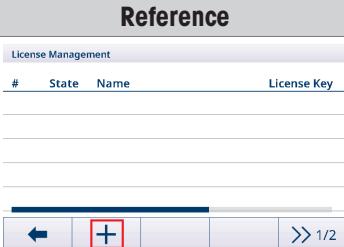
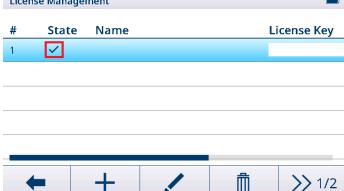
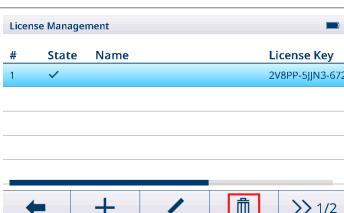
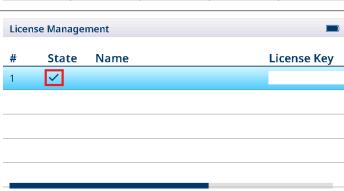
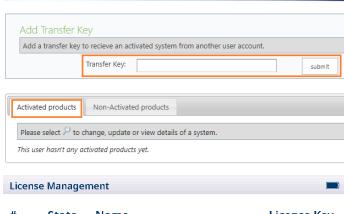
Scenario:

A second user (User B) needs to add License B to the same terminal and do a combined activation of both License A and License B.

User Action:

1. User A logs in to the Activation Portal.
2. Locate the activated License A in the "Activated products" section.
3. Press the symbol  in the License A line.
4. Click the "Set Transfer Key" symbol  to generate a new transfer key of the activated License A.
5. User B acquires the new transfer key from User A, and submits the transfer key in the Portal's "Add Transfer Key".
The activated License A is successfully transferred from User A's account to User B's.
6. Add License B on terminal and export combined activation request file (containing both A and B).
7. Submit the combined activation request file for License A and B in the Portal.
8. Download the merged .lic activation file.
9. Import the activation file to terminal to activate both licenses.

3.4.1.2.3 How to Add and Activate a License

Type	Scenario	Customer Activation Steps	Reference
1	Add the 1st License (Quantity: 0→1)	<ol style="list-style-type: none"> 1 Go to Terminal -> Device -> License Management. 2 Tap softkey +, enter the license key (format: XXXXX-XXXXX-XXXXX-XXXXX-XXXX), then confirm with ✓. 3 Back to License Management page, verify the license status shows ☒ (pending). Select >> 1/2 below and touch export ⬇, then save the License Key file in the SD card or the USB stick. 4 On a PC, visit the Activation Portal and complete registration until your username appears at the top right. Select Activation Activation. 5 Upload the saved license key file and click Submit. 6 After activation, click Save on the next page. In License Overview, click Download Activation File. 7 Return to IND400, select Import ⬆, and import the downloaded activation file from the SD card or USB drive. 8 Confirm the certificate status shows ✓ (Activated). Restart the terminal to enable the license. <p>⇒ The new license is activated.</p>	  <p>Activation / Reactivation / System Transfer</p> <p>In order to activate your product, first export the license key file using the "License manager" in your [Server] and all the license keys of your installation. On this page, browse for the path to the exported License key file.</p> <p>License key file: <input type="button" value="选择文件"/> <input type="button" value="未选择文件"/> <input type="button" value="submit"/></p> 
2	Replace a License (Quantity: 1→1)	<ol style="list-style-type: none"> 1 Navigate to Terminal -> Device -> License Management, select the license, and tap the button ⬇ to delete the current license. 2 Repeat the steps for adding a new license. <p>⇒ The new license is activated.</p>	 
3	Add the 2nd License (Quantity: 1→2)	<p>The process is similar to adding the 1st license, with the following distinctions:</p> <ol style="list-style-type: none"> 1 In Step 3, select "Agree to overwrite" when exporting. The IND400 terminal will then show two license numbers with the status ☒ (Pending). Note: The exported license is a single merged file and requires reactivation. 2 On the PC activation site, find the license card included in the package. <p>⇒ If the 1st license has been installed manually: The "Transfer Key" step should be skipped.</p> <p>⇒ If the 1st license is pre-installed at the factory: Enter the transfer key (format: xxx-xxx-xxx) in the "Add Transfer Key" field, then click "Submit". The transferred license will appear under the "Activated Products" section.</p> <ol style="list-style-type: none"> 3 Select the saved license key file and click "Submit". 4 Complete the remaining steps by following the same process as the initial activation. <p>⇒ The 2nd license is activated.</p>	 

3.4.1.3 Terminal -> Device -> Screen Saver

After a set time without action on the terminal, a blue screen with METTLER TOLEDO can be displayed as screen saver.

- 1 **Enable**/disable the screen saver.
- 2 When enabled, set the timeout after which the screen saver will be active.
Timeout settings: **1 min** to 60 min

Timeout settings: **1 min** to 60 min

3.4.1.4 Terminal -> Device -> Backlight

Set the brightness of the display.



3.4.1.5 Terminal -> Device -> Identification

Setup item	Description
Terminal ID #1	
Terminal ID #2	
Terminal ID #3	
Serial Number	Shows the serial number of the weighing terminal.

3.4.2 Terminal -> User Management

The device offers a user management with roles and users assigned to a role.

3.4.2.1 Terminal -> User Management -> Role Definition

A maximum of 25 roles can be defined when Data Integrity license is active.

Roles without Data Integrity

Role Definition		
#	Name	Group
1	Admin	
2	Supervisor	
3	Operator	

Roles with Data Integrity

Role Definition		
#	Name	Group
1	Admin	
2	Supervisor	
3	QA	
4	Operator	

The default roles are as follows:

- Admin
- Supervisor
- QA (with Data Integrity active only)
- Operator

Each role is assigned to a permission group with authorized permissions as shown in the table below.

Role Details

Touch to show details of the marked role.

Role definition	Admin	Supervisor	QA(DI activated)	Operator
Name	Admin	Supervisor	QA	Operator
Role level	1	2	2	6
Permissions	High	Medium	Medium	Low

Note Users with a higher role level can reset the password of users with a lower role level.

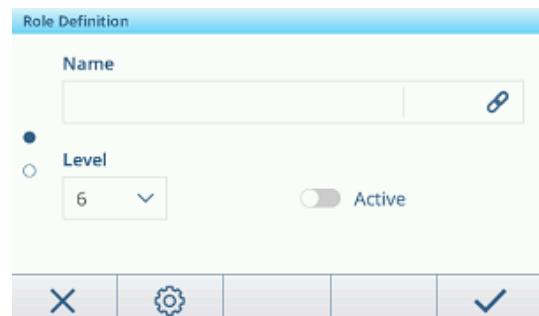
Touch  on the next screen to view the Permission Groups details in the role menu.

Role	Admin			Supervisor			QA	Operator				
	without DI		with DI(with Alibi)	without DI		with DI(with Alibi)		without DI		with DI(with Alibi)		
	without Alibi	with Alibi		without Alibi	with Alibi			without Alibi	with Alibi			
W&M	Level 3			Level 2			Level 2	Level 1				
Miscellaneous	Terminal Device Communication			Terminal Device Communication			Terminal Device Communication	–				
Transaction Memory	–	View Export Reset	View Export Cancel Reprint* Review	–	View Export	View Export Cancel Reprint* Review	View Export Cancel Reprint* Review	–	View Review	View Review		
Application	Application Entry			Application Entry			Application Entry	–				
Material Memory	Operate Configure			Operate Configure			Operate Configure	Operate				
Maintenance Memory	View Print & Export		View Print & Export	View Print & Export			View Print & Export	–				
Audit Trail Memory	Enable & Disable & Reset		Enable & Disable				View Print & Export	–				
Shared Data	Read Write		Read	Read			–	–				
User Management	–		Role Definition Password Policy User Definition	–	Role Definition Password Policy User Definition	Role Definition Password Policy User Definition	Role Definition Password Policy User Definition	–				

* Reprint can be performed 5 times at most. After the 5th Reprint operation, the Reprint softkey won't display.

Add A New Role Level (with Data Integrity active only)

- 1 In the list of roles touch softkey .
- 2 Enter a name for the new role.
- 3 Select the access level for the new role.
- 4 Set the new role to Active, if desired.
- 5 On the second page enter a role description.



The screenshot shows the 'Role Definition' screen. It has a 'Name' field with a placeholder 'Role Name' and a 'Link' icon. Below it is a 'Level' section with a radio button for '6' and a dropdown menu. To the right is an 'Active' toggle switch. At the bottom are three buttons: 'X', 'Settings', and 'Check'.

Linked Users

There are two possibilities to show which users are linked to a specific role:

- On the Role Definition overview screen, mark a role and touch softkey .

The users linked to the role are displayed with their name and ID.

- When the role details are displayed, touch the link symbol  at the right hand side of the role name. The users linked to the role are displayed with their name and ID.

Filter roles

Note

For more information on how to edit tables refer to [Editing Tables ▶ Page 28] and [Filtering Logs and Tables ▶ Page 26].

Role Mapping to LDAP's DN

The roles defined locally need to be mapped to the DN in LDAP server to realize the centralize user management.

To do the mapping, the LDAP group information of the domain user needs to be input in the field Group.



Role Definition	
Group	<input type="text" value="CN=GroupWithAllMembers,OU=T..."/>
Description	<input type="text"/>

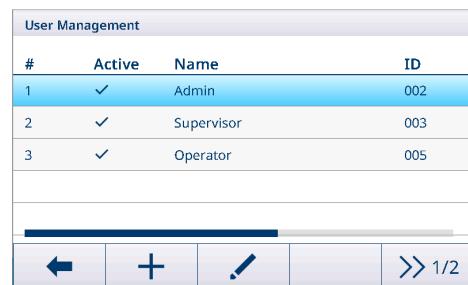
Role Definition		
#	Name	Group
1	Supervisor	CN=GroupWithAllMembers,OU=T...
2	QA	
3	Operator	

◀ ▶ ⓘ 👤 >> 1/2

3.4.2.2 Terminal -> User Management -> User Definition

A maximum of 1000 users can be defined, including both the default users and the customized users.

The list of existing users is displayed.



User Management			
#	Active	Name	ID
1	✓	Admin	002
2	✓	Supervisor	003
3	✓	Operator	005

◀ + ✎ >> 1/2

Create / Edit A User

- To create a new user, touch softkey .
- To edit an existing user, mark the user and touch softkey .
- Do the following settings:

Setup item	Description	Possible settings / comments
Name	User name	Max. 20 alphanumeric characters
Role	IND400 without Data Integrity: Select from Operator or Supervisor IND400 with Data Integrity: Select from Operator, QA, Supervisor or a custom role	 Note There is only one predefined user with the role of the Admin.  Note On the IND400 with Data Integrity, once a user has been activated, it cannot be deleted anymore.
ID	User ID	Use this User ID to login.
Description	Additional information on the user	
Enter Password	Password according to Password Policy	-
Confirm Password		
Active	Set the user to "active"	-
Default Login User	Set user to default user on startup and when logging out	For IND400 without Data Integrity only
Language	Select language of the user interface	English, Français, Deutsch, Español, Polski, Italiano, Português, Chinese, Japanese

Filter Users

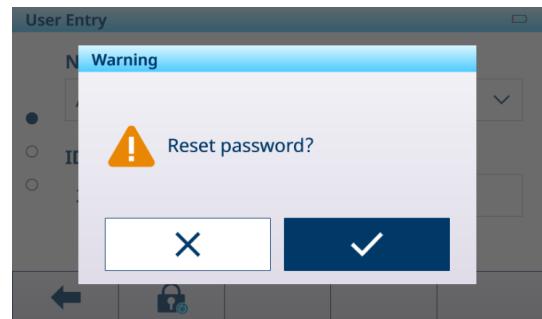
Refer to [Filtering Logs and Tables ▶ Page 26].

Reset Password

- Password only can be reset as empty here.
- Users only can reset password of those with lower access level.
- Only passwords of the users with Operator, Supervisor, QA, and Customized roles can be reset here.

1 Touch softkey .

⇒ A safety prompt is displayed.

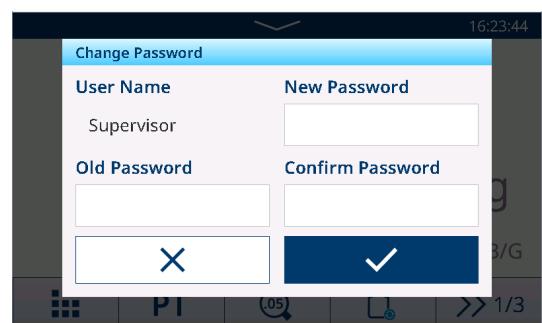


2 Confirm safety prompt with softkey .

⇒ The user password is reset.

 **Note**

- In Data Integrity application, user whose password is reset here must set a new password when logging in the next time.
- Beyond Data Integrity application, user whose password is reset here can choose to set a new password or just leave the password empty when logging in the next time.
- For all cases without Data Integrity license, when password policy is disabled and the password is reset, the user can choose to leave the password empty on next login.



3.4.2.3 Terminal -> User Management -> Password Policy

If Password Policy is enabled, the following settings are available:

Setup item	Description	Possible settings
Upper Case	Upper case letter required.	On/Off
Lower Case	Lower case letter required.	On/Off
Numeric	Number required.	On/Off
Special Character	Special character required.	On/Off
Minimum Length	Required length of the password.	4 ... 8 characters
Password Age (day)	Time after which the password has to be changed.	1 ... 30 ... 366 (days)
Enforce Password History	Ensure that the last passwords are not identical.	1 ... 10
Invalid Logon Attempts	After the specified number of logon attempts, the login is locked.	3 ... 10
Lockout (s)	Time within the login procedure must be finished.	60 ... 600 (s)
Timeout (min)	The user will be logged out if there is no action within the specified time.	0 ... 30 ... 180 (min)

3.4.2.4 Terminal -> User Management -> Import/Export

The User Management settings can be imported and exported. Thus, it is possible to synchronize the User Management settings on several devices for example.

 **Note** The user password can't be exported or imported.

For details refer to [Importing/exporting Data ▶ Page 28].

3.5 Communication Setup

The Communication setup consists of the following main setup blocks:

- Template
- Connections
- Serial
- Ethernet
- VNC Server

3.5.1 Communication -> Template

A template has to be assigned to an application. There are 10 predefined templates available. These templates cannot be changed.

Template		
Rec. #	Template	Application
1	Standard Basic Weighing Lot	General
2	Standard Over/Under Lot	Over/Under
3	Standard Over/Under Final	Over/Under
4	Std. Manual Filling/Dosing Lot	Manual Filling/Dosin
5	Std. Manual Filling/Dosing Final	Manual Filling/Dosin

← **i** **+** **>>** 1/2

Setting up A New Template

i Note

Touch softkey **□** on the second softkey ribbon to copy an existing template for the desired application and to modify it.

For a new template proceed as follows:

- 1 Touch softkey **+**.
- 2 Enter the name of the new template and assign an application.
- 3 Touch softkey **<>**.
→ The last element (Type = -END-) is displayed.
- 4 Touch softkey **+** to add and edit a new element.
→ The following settings are available per element.
→ The new element is displayed ahead of the -END- element.

Setup item	Sub items	Description / possible settings
Type = SD Name	Alignment	Centered, Left, Right
	Data	Gross, Net, Tare, IDs, application specific data, user identification data, ...
	# Characters	Number of characters, depending on the output format
Type = Special Character	Data	Select a special character from the following: 01H_SOH, 02H_STX, 03H_ETX, 04H_EOT, 05H_ENQ, 06H_ACK, 07H_BEL, 08H_BS, 09H_HT, 0AH_LF, 0BH_VT, 0CH_FF, 0DH_CR, 0EH_SO, 0FH_SI, 10H_DLE, 11H_DC1, 12H_DC2, 13H_DC3, 14H_DC4, 15H_NAK, 16H_SYN, 17H_ETB, 18H_CAN, 19H_EM, 1AH_SUB, 1BH_ESC, 1CH_FS, 1DH_GS, 1F_US
	Quantity	Number of special characters
Type = String	Alignment	Centered, Left, Right
	Data	Enter alphanumeric characters
	# Characters	Number of characters, depending on the output format
Type = CR/LF	Quantity	Number of CR/LF characters

Template Preview

- Touch softkey  to get a preview of the template.

Import/Export

Templates can be imported resp. exported. Thus, it is possible to edit templates externally on a computer. For details refer to [Importing/exporting Data ▶ Page 28].

Note

Template import replaces all custom templates in terminal. So be sure any existing custom templates are included in the import file (ASCII) & folder (Label).

Editing A Label Template

The terminal supports the ZPL, EPL, DPL, EZPL label designing languages.

1 To insert a terminal variable into the label template, enter the corresponding template keyword at this position.

2 If a string of the template needs to be editable by the terminal, enter <?StringN/> as an editable string keyword.

The maximum number of String is 50.

The maximum length of a String is 50 characters.

Keyword	Date	Time	Gross	Net	Tare	String #N
String	<?Date/>	<?Time/>	<?Gross/>	<?Net/>	<?Tare/>	<?StringN/>

IND400 Weighing Variables

Variable	Shared Data	Type	ASCII Printer	Label Print Template Keywords		Auxiliary Line	Comments	Appli-cation
Gross	pv0101	string 21	x	x	<?Gross/>	x	With unit	General
Net	pv0102	string 21	x	x	<?Net/>	x	With unit	
Tare	pv0103	string 21	x	x	<?Tare/> <?TarePreset/>	x	With unit	
Date	pv0104	string 21	x	x	<?Date/>	x	According to format	
Time	pv0105	string 21	x	x	<?Time/>	x	According to format	
High Resolution	pv0106	string 21	x	x	<?HighRes/>	x	High resolution net weight	
ID1	pv0107	string 41	x	x	<?ID1/>	x	The input title should be used instead of ID1 once the title defined.	
ID2	pv0108	string 41	x	x	<?ID2/>	x	The input title should be used instead of ID2 once the title defined.	
ID3	pv0109	string 41	x	x	<?ID3/>	x	The input title should be used instead of ID3 once the title defined.	
ID1 Legend			x	x	<?ID1Leg end/>	x		
ID2 Legend			x	x	<?ID2Leg end/>	x		
ID3 Legend			x	x	<?ID3Leg end/>	x		
Material Description	pv0110	string 41	x	x	<?MaterialDesc/>	x		
Material ID	pv0111	string 21	x	x	<?MaterialID/>	x		

Variable	Shared Data	Type	ASCII Printer	Label Print Template Keywords		Auxiliary Line	Comments	Application
Material Info 1			X	X	<?Material Info1/>	X		
Material Info 2			X	X	<?Material Info2/>	X		
Material Info 3			X	X	<?Material Info3/>	X		
Transaction ID	pv0112	string 11	X	X	<?TransactionID/>			
Terminal ID #1	xs0106	string 21	X	X	<?TerID#1/>	X		
Terminal ID #2	xs0107	string 21	X	X	<?TerID#2/>	X		
Terminal ID #3	xs0108	string 161	X	X	<?TerID#3/>	X		
SNo Terminal	xs0105	String 14	X	X	<?SNTerminal/>	X		
SNo Scale	pv0113	String 14	X	X	<?SNScale/>	X		
Scale #			X	X	<?Scale#/>	X		
Scale ID			X	X	<?Scale ID/>	X		
Scale Location			X	X	<?Scale Location/>	X		
MinWeigh			X	X	<?MinWeig h#/>	X		
User Name	pv0114	string 21	X	X	<?UserName/>	X		
Reviewer	pv0115	string 21	X	X	<?Review/>			
Review Date	pv0130	string 21	X	X	<?ReviewDate/>			
Review Time	pv0131	string 21	X	X	<?ReviewTime/>			
IP Address	nt0102	string 40	-	-	-			
Subnet Mask	nt0103	string 40	-	-	-			
Gateway	nt0104	string 40	-	-	-			
Current Copy Number	pv0116	string 11	X	X	<?CurrentCopy/>			
Total Copies	pv0117	string 11	X	X	<?TotalCopies/>			
Mode	pv0140	string 20	X	X	<?Mode/>			
GrossWOUUnit	pv0142	string 21	X	X	<?GrossWOUUnit/>		Without unit	
NetWOUUnit	pv0143	string 21	X	X	<?NetWOUUnit/>		Without unit	
TareWOUUnit	pv0144	string 21	X	X	<?TareWOUUnit/>		Without unit	
Display Unit	pv0146	string 6	X	X	<?DisplayUnit/>		Display unit	
Tare Type	pv0145	string 3	X	X	<?TareType/>		"PT" = preset tare "T" = push-button tare or no tare	
Total Weight	pv0118	string 21	X	X	<?TotalWgt/>			Animal Weighing
Number of Objects	pv0119	string 11	X	X	<?NumberOfObjects/>			
Average Weight	pv0120	string 21	X	X	<?AvgWgt/>			
Batch #	pv0132	string21	X	X	<?Batch#/>	X		Total- ization
Sub #	pv0133	string21	X	X	<?Sub#/>	X		
Grand Total	pv0123	string21	X	X	<?GrandTotal/>	X	With Unit	
Sub Total	pv0125	string21	X	X	<?SubTotal/>	X	With Unit	
Grand Total Counter	pv0124	string21	X	X	<?GTCounter/>	X		
Sub Total Counter	pv0126	string21	X	X	<?STCounter/>	X		

Variable	Shared Data	Type	ASCII Printer	Label Print Template Keywords		Auxiliary Line	Comments	Application
Data Source	pv0129	string21		<?DataSource?>			Gross/Net	Over/ Under
Totalization Target			x	x		x		
Target Deviation			x	x		x		
Deliver Weight	pv0139	string21	x	x	<?Deliver Weight?>		Depends on Data source	
Batch #			x	x	<?Batch?>	x		
Sub #	pv0133	string 21	x	x	<?Sub#?>	x		
Grand Total	pv0123	string 21	x	x	<?GrandTotal?>	x	With Unit	
Sub Total	pv0125	string 21	x	x	<?SubTotal?>	x	With Unit	
Grand Total Counter	pv0124	string 21	x	x	<?GTCOUNTER?>	x		
Sub Total Counter	pv0126	string 21	x	x	<?STCounter?>	x		
Target	pv0128	string 21	x	x	<?Target?>	x	With Unit	Manual Filling
APW Limit (Under)	pv0122	string 21	x	x	<?UnderLimit?>	x	With Unit	
APW Limit (Over)	pv0121	string 21	x	x	<?OverLimit?>	x	With Unit	
Over/Under Result	pv0127	string 21	x	x	<?Over/UnderResult?>	x		
Data Source	pv0129	string 21	x	x	<?DataSource?>		Gross/Net	
Totalization Target			x	x	<?Totalization Target?>	x		
Deliver Weight	pv0139	string21	x	x	<?WeighResult?>		Depends on Data source	
Batch #								
Sub #	pv0133	string 21	x	x	<?Sub#?>			
Grand Total	pv0123	string 21	x	x	<?GrandTotal?>		With Unit	
Sub Total	pv0125	string 21	x	x	<?SubTotal?>		With Unit	
Grand Total Counter	pv0124	string 21	x	x	<?GTCOUNTER?>			
Sub Total Counter	pv0126	string 21	x	x	<?STCounter?>			
Target	pv0128	string 21	x	x	<?Target?>		With Unit	
APW Limit (Under)	pv0122	string 21	x	x	<?UnderLimit?>		With Unit	
APW Limit (Over)	pv0121	string 21	x	x	<?OverLimit?>		With Unit	
Manual Filling/Dosing Result	pv0127	string 21	x	x	<?ManualFilling/DosingResult?>			
Data Source	pv0129	string 21	x	x	<?DataSource?>		Gross/Net	Counting
Totalization Target			x	x				
Deliver Weight	pv0139	string21	x	x	<?WeighResult?>		Depends on Data source	
Batch #								
Sub #	pv0133	string 21	x	x	<?Sub#?>			

Variable	Shared Data	Type	ASCII Printer	Label Print Template Keywords		Auxiliary Line	Comments	Application
Grand Total	pv0123	string 21	x	x	<?GrandTotal/>		Unit = pcs	
Sub Total	pv0125	string 21	x	x	<?SubTotal/>		Unit = pcs	
Grand Total Counter	pv0124	string 21	x	x	<?GTCounter/>			
Sub Total Counter	pv0126	string 21	x	x	<?STCounter/>			
APW Limit (Under)	pv0122	string 21	x	x	<?UnderLimit/>		Unit = pcs	
APW Limit (Over)	pv0121	string 21	x	x	<?OverLimit/>		Unit = pcs	
Check Counting Result	pv0127	string 21	x	x	<?CheckCountingResult/>			
Count	pv0134	string 21	x	x	<?Count/>		Unit = pcs	
APW	pv0135	string 21	x	x	<?APW/>		Unit is the Weight Unit.	
APW.Acc								
Totalization Target			x	x				
Ref. Pieces	pv0136	string 21	x	x	<?Ref.Pieces/>		Unit = pcs	
Ref. Weight	pv0137	string 21	x	x	<?Ref.Weight/>		Unit is the Weight Unit.	
Batch #								Classification
Sub #	pv0133	string 21	x	x	<?Sub#/>			
Grand Total	pv0123	string 21	x	x	<?GrandTotal/>		With Unit	
Sub Total	pv0125	string 21	x	x	<?SubTotal/>		With Unit	
Grand Total Counter	pv0124	string 21	x	x	<?GTCounter/>			
Sub Total Counter	pv0126	string 21	x	x	<?STCounter/>			
APW Limit (Under)	pv0122	string 21	x	x	<?UnderLimit/>		With Unit	
APW Limit (Over)	pv0121	string 21	x	x	<?OverLimit/>		With Unit	
Class Description	pv0141	string 41	x	x	<?ClassDescription/>			
Class #	pv0127	string 21	x	x	<?Class#/>			
Number of Classes	pv0138	string 11	x	x	<?NumberOfClasses/>			
Data Source	pv0129	string 21	x	x	<?DataSource/>		Gross/Net	
Totalization Target			x	x	<?Totalization Target/>			
Deliver Weight	pv0139	string21	x	x	<?WeighResult/>		Depends on Data source	

3.5.2 Communication -> Connection

The list of existing connections is displayed.

Connection			
Rec. #	Connection	COM	Mode
1	Connection1		SICS Server
2	Connection2	EPort1	Transfer
3	Connection3	EPort2	SICS Server
4	Connection4	EPort3	Second Display
5	Connection7		SICS Server

←
✖
✚
» 1/2

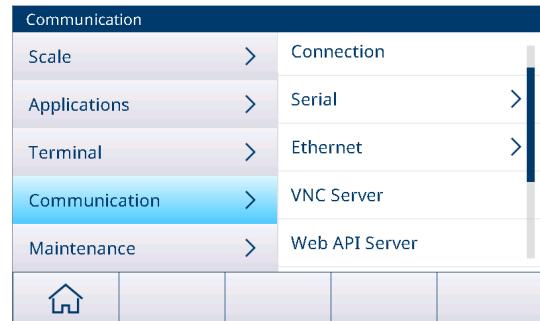
Setting up a connection

Setup item	Sub items	Description / possible settings
COM	COM1 ... COM4	Connection port
	EPort1 ... EPort3	
	Port	<ul style="list-style-type: none"> For COM = EPort1: The port is fixed as 1701. For COM = EPort2 and EPort3: The default port of EPort2 is 1702, and the default port of EPort3 is 1703. They are editable but different from each other.
	Client	Operate the device as a client to a server.
	Remote Server	IP address and port of the remote server or printer.
	Remote Port	
Mode	SICS Server SICS Continuous TOLEDO Continuous-W TOLEDO Continuous-C Input Template Second Display Post DigiTol Demand Mode PM Remote Scale Reference Balance Transfer Parameter Server Modbus TCP/RTU PSCP	Select the connection mode. For details on the protocols, refer to [Available Connection Protocols ▶ Page 172].

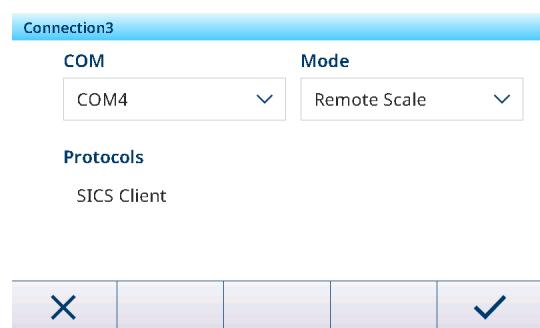
Remote Scale

IND400 terminal can act as Remote Scale with connecting a remote scale through the communication port. The communication protocol between IND400 and the remote scale can be SICS commands and Toledo Continuous. By the connection, IND400 can display the weight from the remote scale and do C/P/T/Z operations over the remote scale.

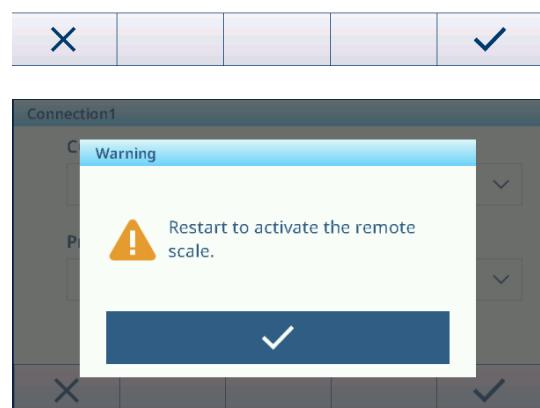
1 To configurate Remote Scale function, via the path:
Communication -> Connection.



2 Then select **Remote scale** in the Mode. The default protocol is SICS Client.



3 Confirm the restart message with **✓**.
 ➔ The Remote Scale function is now available.



3.5.3 Communication -> Serial

Note

Default settings are shown in **bold**.

Setup item	Sub items	Possible settings
COM1(RS232)	Baud Rate	300, 600, 1200, 2400, 4800, 9600 , 19200, 38400, 57600, 115200
	Parity	7 None, 7 Odd, 7 Even, 8 None , 8 Odd, 8 Even
	Handshake	None , Xon/Xoff
	Stop Bit	Not shown because not programmable, always set to 1.

Note

These are the settings of the standard communication interface.

3.5.4 Communication -> Ethernet

Network Setting

Setup item	Description
DHCP	When enabled, all parameters become ready only.
IP Address	-
Subnet Mask	-
Gateway	-
MAC Address	<ul style="list-style-type: none"> • MAC address of the IND400 • Read only

Setup item	Description
Preferred DNS Server	<ul style="list-style-type: none"> IP Address
Alternate DNS Server	<ul style="list-style-type: none"> Default value: 0.0.0.0

MQTT

See [Communication -> MQTT Client ▶ Page 139].

LDAP Client

See [Communication -> LDAP Client ▶ Page 143].

FTP / FTPs Server

See [Communication -> FTP / FTPs Server ▶ Page 144].

3.5.5 Communication -> WLAN

3.5.5.1 WLAN Setting

Enabling a wireless network

- 1 Enable Wireless Setting.
→ The list of the detected wireless networks is displayed. The current connected wireless network is listed on top and marked with ✓.
- 2 If desired, select another wireless network.

Viewing the wireless network settings

- Select a wireless network and touch ⓘ.
→ Network Name and Suite (security status) are displayed.

Adding a new wireless network

- 1 When the list of detected wireless networks is displayed, touch +.
- 2 Enter the network name and select the Suite (security status) out of the following:
Open, WEP, WPA-WPA2 Mix, WPA2, WPA3
Alternatively the suite can be taken from the detected wireless network.
- 3 Depending on the selected suite, make the following settings:

Suite	Sub items	Description
Open	–	No more security settings
WEP	TX Key Index	Number of WEP keys: 1 ... 4
	Key Size	Length of the WEP key: 40 bits (5 characters), 104 bits (13 characters)
	Key 1 ... Key 4	Enter keys according to the TX Key Index and Key Size
WPA-WPA2 Mix	WPAx Authentication = PSK	Get the required settings from the detected network or set them manually.
	WPA2	
WPA3	WPAx Authentication = 802.1X	

Wi-Fi module settings

- WLAN is enabled.
- On the WLAN Setting page touch ⓘ.
→ The following settings are available:

Setting	Description
Configuration page	If set to On, the web page of the Wi-Fi module is enabled.

Setting	Description
AP	If set to On, SSID and IP Address of the Wi-Fi module are displayed (read only). <ul style="list-style-type: none"> SSID = MT-AP-XXXXXXXXXXXX (Note: XXXXXXXXXXXX represents the MAC address, which can be found in the path Setup>Communication>WLAN>Network setting) IP Address = 192.168.0.1 Port = 8080
	Note The above setup items are only for Wi-Fi module configuration. From a security perspective, it is to be disabled immediately after Wi-Fi configuration.
Band	Available communication frequency bands: Dual, 2.4 GHZ Only, 5 GHZ Only
	Note If the terminal can't find the AP when the Wi-Fi module is 2.4G and the usage area is China, user needs to check the working frequency band of the AP and avoid channels 12 and 13.
	Note Selection of the Wi-Fi frequency band needs to match the antenna (marked at the antenna end), and Dual is not recommended.

3.5.5.1.1 Wi-Fi Module Setup via Webserver

The section introduces how to upload corporate security certificates, adjust settings like radio band and upgrade module FW using the internal webserver.

- The **Configuration Page** and the **AP** functions are enabled. See WLAN Setting.

- 1 Find the network **MT-AP- XXXXXXXXXXXX** on the computer and connect to it with password "PASSWORD".
 - **Note** The network name is the same as the default SSID name shown on the Network Setting page.
- 2 By using the PC webbrowser, type IP **192.168.0.1:8080** in the address bar.
 - **Note** The IP Address is the same as shown on the Network Setting page.
- 3 Log in to the webpage.
 - User name = admin
 - Password = PASSWORD

→ The webpage is opened.

3.5.5.2 Network Setting

See [Communication -> Ethernet ▶ Page 132].

3.5.6 Communication -> Discrete IO

Discrete IO setting provides the centralized setting page to set the IO assignment. The Discrete IO setting data shares the same data source with the IO setting page of other application, which means change in the Discrete IO setting page might impact the Discrete IO setting in the each application setting.

The Discrete IO page shows all the current assignments of IO points.

Discrete IO			
Rec.No	Category	Point	Assignment
001	Output	1	OverUnder.Over
002	Output	2	OverUnder.OK
003	Output	3	OverUnder.Under
004	Output	4	Common.Motion
005	Input	1	Common.Tare

Parameter	Description
Category	Categories of the IO points: <ul style="list-style-type: none">• Input• Output
Point	Position of the PIN in the Input or Outputports.
Assignment	The event triggers or actions related to the specific IO point.

Parameter	Description
Application	<p>The specific Application for this IO signal to be applied in.</p> <p>Note If the user selects the General application, it means this IO point will be handled by Basic Weighing and will trigger the output signal and deal with the input signal no matter if there is a specific application (such as Totalization / OverUnder / Manual Filling / Counting and so on) running.</p>

Add A New Input or Output

- 1 Press the Add softkey **+** in the **Discrete IO** page.
- 2 Select the category of an IO point in the field **Category**.
- 3 Press the number to select the **Point** for use.
- 4 Select the **Application** for this IO signal to work for.

Note: The **Application** in the list depends on the activated **Application** license.

⇒ The **Assignment** options will correspond to the selected **Category** and **Application**.

Entry

Category	Point	1 2 3 4
Output	3	1 2 3 4

Application	Assignment
General	Motion

←

Input and Output Assignments

Input	General	Tare
		Clear Tare
		Zero
		Transfer
		Softkey 1
		Softkey 2
		Softkey 3
		Softkey 4
		Softkey 5
	Animal Weighing	Start Signal

Input and Output Assignments		
Output	General	Center of Zero Motion Net Overload System Error Alarm Underload < MinWeigh
	Animal Weighing	In Progress Signal Completion Signal
	Totalization	Exceeds Total Target
	Over/Under	Tolerance OK Over Zone Under Zone Below Threshold
	Manual Filling/Dosing	Tolerance OK Over Zone Under Zone Below Threshold
	Counting	Tolerance OK Over Zone Under Zone Below Threshold
	Classification	Below Class 1 Class 2 Class 3 Class 4 Class 5 Class 6 Class 7 Class 8 Above

3.5.7 Communication -> VNC Server

Using the VNC server you can control the terminal remotely from another computer.

- 1 Enable the VNC Server.
- 2 Set a password for VNC control from another computer.
- 3 Confirm the password.
- 4 Confirm VNC settings with ✓.

i **Note**

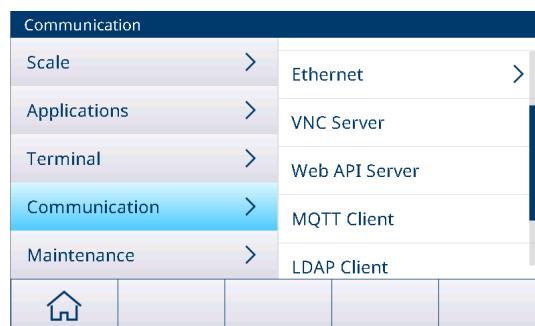
- The password is valid as long as the VNC Server is enabled or until the password is changed.
- The VNC Server Port is fixed and set to 5900.

3.5.8 Communication -> Web API Server

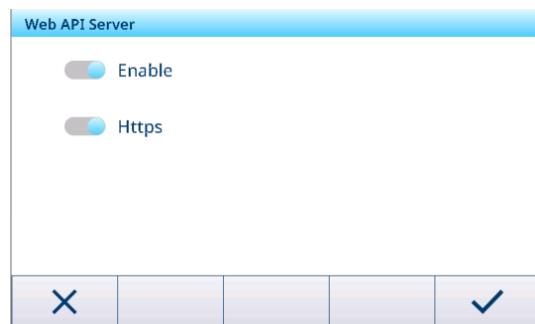
The IND400 features a Web API Server that delivers a lightweight, maintainable, and scalable Web API Service based on REST architecture. This API allows developers to access and manipulate data via create, read, update, and delete operations — enhancing data management and analysis while enabling third-party developers to build new features or applications.

- Ensure the Ethernet or Wi-Fi option board is installed.

- 1 Navigate to Web API Server: **Communication -> Web API Server**.



- 2 Access the Web API Server to configure settings.
 - ⇒ The Web API is ready for use when enabled.
 - ⇒ For enhanced security: Toggle the switch **on** to enable HTTPS; toggle it **off** to use HTTP.



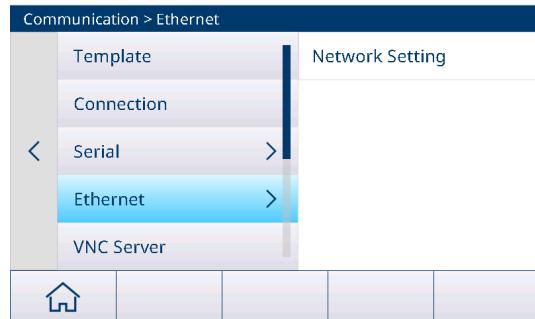
Choose HTTP or HTTPS

HTTP (Hypertext Transfer Protocol) transmits data over the web without encryption. HTTPS is the secure version of HTTP, using SSL/TLS encryption to protect data. The key difference: HTTPS provides data encryption and authentication, while HTTP does not.

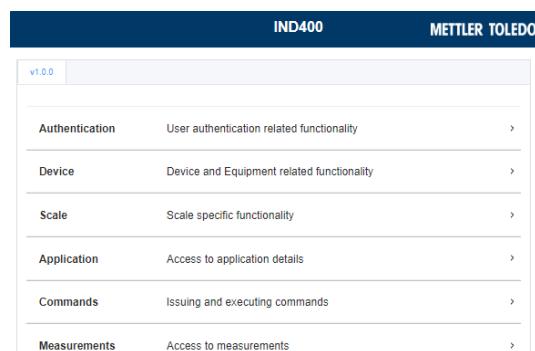
How to Use Online Documentation

The terminal's RESTful API server provides complete interfaces for secondary development. Online documentation enables developers and end users to easily view and interact with API resources.

- 1 Find the terminal IP address: **Communication -> Ethernet -> Network Setting -> IP Address**.



- 2 Open a browser, enter the terminal IP address, and find the Web API section/link in the terminal's web interface.



Key Web API Functionalities

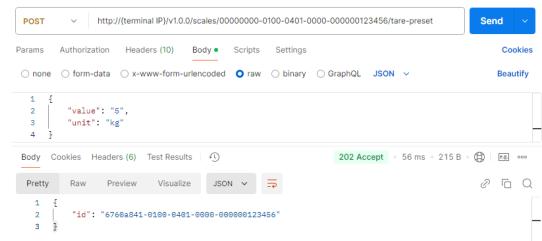
- View API examples and schemas
- Interact with the API and handle responses: Process JSON data returned after each request (e.g., update webpage content or execute operations)

Example: Using Web API for Tare Preset and Printing on IND400

- 1 Open an HTTP request tool (e.g., Postman).
- 2 Send a POST request to `http://[terminal IP]/v1.0.0/login` to log in. Include user credentials in the request body: `{ "userId": "", "password": "" }`.
- 3 Send a GET request to `http://[terminal IP]/v1.0.0/devices` to retrieve the device ID and scale ID.
- 4 Send a POST request to `http://[terminal IP]/v1.0.0/scales/[scale id]/tare-preset` to set the tare preset. Include the tare weight and unit in the request body: `{ "value": "5", "unit": "kg" }`.
- 5 Initiate printing by sending a POST request to `http://[terminal IP]/v1.0.0/devices/[device id]/transfer`.
- 6 Check the print status via a GET request to `http://[terminal IP]/v1.0.0/commands/[command id]`.

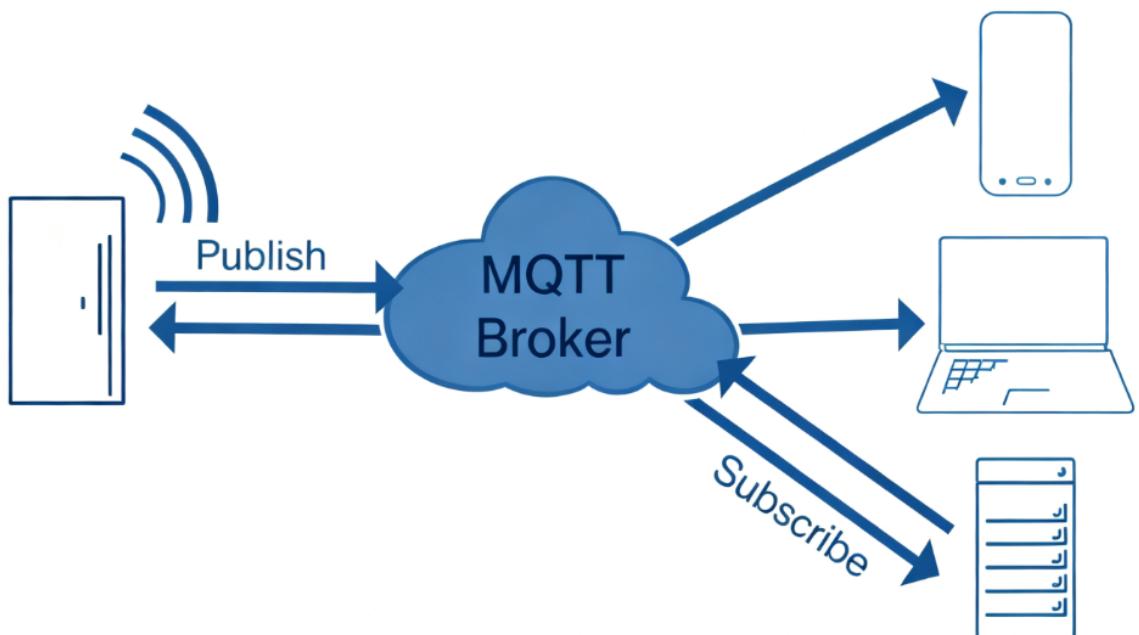
Note

- Understand the parameters and return formats for each API endpoint.
- Handle potential errors (e.g., network issues, API error messages).
- Add authentication if required (e.g., API key).



```
POST http://[terminal IP]/v1.0.0/scales/00000000-0100-0401-0000-000000123456/tare-preset
Params Authorization Headers (10) Body Scripts Settings Cookies
None form-data x-www-form-urlencoded Raw binary GraphQL JSON
1 { "value": "5", "unit": "kg" }
2
3
4
202 Accepted 56 ms 215 B
Pretty Raw Preview Visualize JSON
1 { "id": "6766a841-0100-0401-0000-000000123456" }
2
3
```

3.5.9 Communication -> MQTT Client



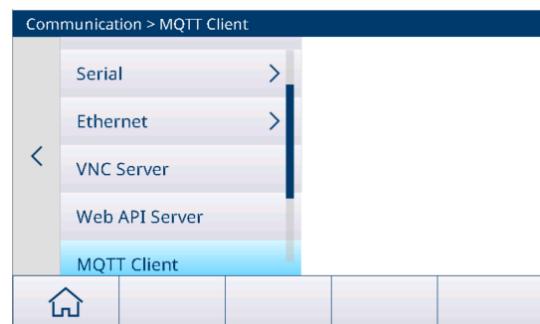
MQTT is a lightweight, open, and simple client-server publish/subscribe messaging protocol designed for easy implementation. The pub/sub model decouples message publishers from subscribers—publishers and subscribers never communicate directly. All messages are filtered and distributed by an intermediary broker.

The IND400 terminal functions as an MQTT Client. It publishes data (e.g., measurement, application, configuration data) to specific topics, and subscribes to topics for clearing, taring, printing, and zeroing operations.

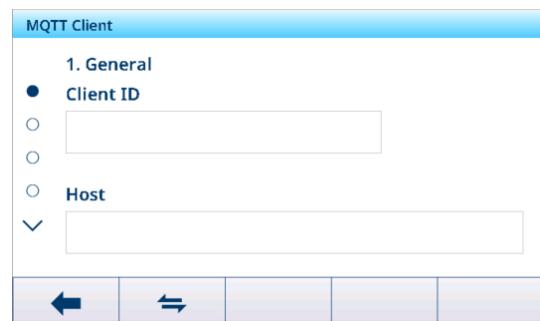
Step 1: Connecting to MQTT Broker

- The Ethernet or Wi-Fi option board has been installed.

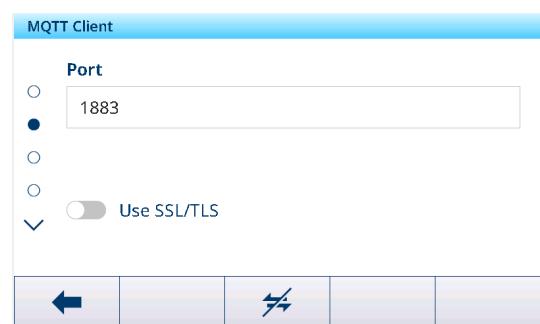
- Navigate to MQTT Client: **Settings** -> **Communication** -> **MQTT Client**.



- Tap **MQTT Client** to open the configuration page.
- Enter the MQTT broker IP address or URL in the Host field. Click  to establish the connection.
- A successful connection is confirmed by the **Connected** icon displayed on the screen.



- The dropdown menu lists three configurable settings: **General Settings**, **Advanced Settings**, **Last Will and Testament**.



General	
Client ID	Generated automatically by broker or input manually.
Host	Address of the MQTT Broker
Port	<ul style="list-style-type: none"> Port number of the MQTT Broker Default value: 8083
Path	-
User Name	-
Password	-
Advanced	
Connect Timeout (s)	<ul style="list-style-type: none"> The waiting time before receiving a server connection acknowledgement <small> Note</small> If no connection acknowledgement is received within the waiting period, the connection fails. Range: 1 – 600s Default value: 60s

Keep Alive (s)	<ul style="list-style-type: none">When no packets are sent, the client sends heartbeat packets to the server at regular intervals according to the value set by Keep Alive to ensure that the connection is not disconnected by the server.If the server does not receive any packets from the client within 1.5 times the time of Keep Alive, it will consider a potential connection problem with the client, and the server will disconnect from the client.Range: 1 – 65535sDefault value: 60s
Clean Session	<ul style="list-style-type: none">Disabled: A persistent session that persists will be created and offline messages will be saved when the client disconnects until the session times out and logs off.Enabled: A new temporary session will be created, and it is automatically destroyed when the client disconnects.Enabled by default.
Auto Reconnect	<ul style="list-style-type: none">Enabled: The client will reconnect to the broker in a defined period after network disconnection.Disabled: The client will not reconnect to the broker after disconnection.Enabled by default.
Reconnect Period (ms)	<ul style="list-style-type: none">Range: 1 – 300000msDefault value: 4000ms
<h3>Last Will and Testament</h3> <p>Note: The Last-Will messages are MQTT's ability of gracefully sending wills to third parties for devices that may experience unexpected disconnections.</p>	
Last-Will Topic	Default value: IND400 last-will topic
Last-Will Qos	<ul style="list-style-type: none">Range: 0, 1, 2Default value: 0
Last-Will Retain	Disabled by default.
Last-Will Payload	As a read-only value, it is fixed as "IND400 plus Terminal Serial Number".

Step 2: Configuring MQTT Connection

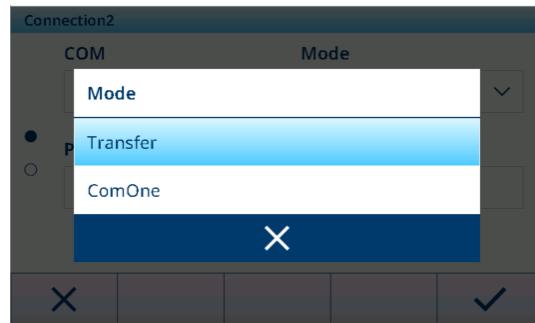
- Ensure the Ethernet or Wi-Fi option board is installed.

1 Navigate to the connection page: **Communication -> Connection**

- 2 Tap **+** to add a connection, then select **MQTT Client** from the COM dropdown list.

- COM
- EPort2
- EPort3
- Client
- MQTT Client

3 Configure the connection using the parameters in the table below.



Parameter	Options	Description
COM	MQTT Client	-
Mode	Transfer	<ul style="list-style-type: none"> In this mode, the Publish Topic is to be set. During communication, content will be published in plain text to the transferring Publish Topic of the MQTT Broker.
	ComOne	<ul style="list-style-type: none"> In this mode, both the Publish Topic and the Subscribe Topic are to be set. The terminal subscribes the topic to which the requests from external device are sent. The terminal publishes the response to the Publish Topic when receiving the request.
Publish Topic	-	<ul style="list-style-type: none"> Max. length: 40 characters Default value: "Transfer" for Transfer Mode; "ComOne Publish" for ComOne Mode.
Subscribe Topic	-	<ul style="list-style-type: none"> Max. length: 40 characters Default value: ComOne Subscribe

Note

Transfer mode only sends data (e.g., print commands), while ComOne mode supports both sending and receiving data.

Step 3: Communicating with IND400 via MQTT Client

Use an MQTT client tool (e.g., MQTTX, MQTT Explorer, Mosquitto CLI, Easy MQTT) for communication. Configure the server and add client information to the server application.

Step 4: Retrieving Data from IND400

1 Tap the transfer key  to send data.



2 View the published data in the corresponding MQTT topic.

Note

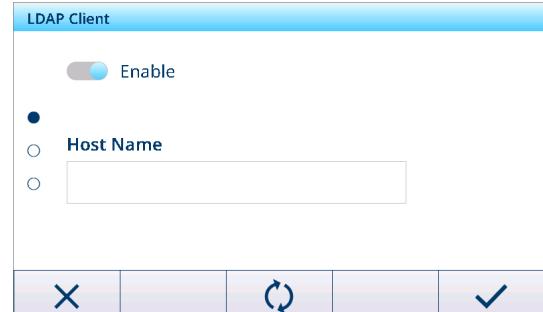
For more details on message types, refer to Appendix [MQTT Messages ▶ Page 185].



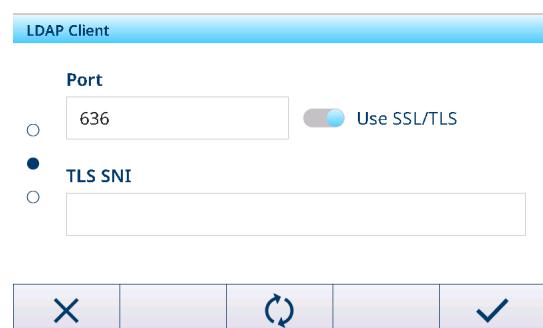
3.5.10 Communication -> LDAP Client

LDAP (Lightweight Directory Access Protocol) is an industry-standard application protocol. It allows clients to access and manage directory services (e.g., OpenLDAP, Active Directory) and provides a unified user authentication mechanism. The IND400 uses this protocol for domain user authentication, eliminating the need to maintain extensive user information on individual terminals.

- 1 Enable the LDAP Client function by switching the toggle.



- 2 When the LDAP Client function is enabled, do the settings according to the below table.



Parameter	Description
Host Name	This parameter specifies the LDAP server, which can be a computer name, an IP address, or a domain name.
Port	<ul style="list-style-type: none"> LDAP traffic port Default value: 389 When SSL/TLS is enabled, the value will automatically change to 636. Range: 0 - 65535
Use SSL/TLS	<ul style="list-style-type: none"> Used to enable LDAPS. Enabled by default.
TLS SNI	<ul style="list-style-type: none"> Server name indication for TLS Indicates when SSL/TLS is enabled.
Base DN	User can use the LDAP Client in PC to get the Base DN.

- 3 After the settings, touch the softkey  to test the LDAP server.

→ The server test result is indicated as "Succeed" or "Failed" in the display.

LDAP FAQ

Q1: Which LDAP servers does the IND400 support?

The IND400 primarily supports Microsoft Active Directory (AD). For other LDAP servers (e.g., OpenLDAP), the following requirements must be met:

- 1 The server supports at least one of these login methods:
 - UPN (user@domain.com)
 - DOMAIN\user (MYDOMAIN\username)
 - sAMAccountName (username)
 - Mail (user@company.com)
- 2 The LDAP server provides the memberOf attribute (typically requires enabling the memberOf overlay).

Q2: What authentication (login) methods does the IND400 support?

The IND400 supports these four authentication methods:

- UPN (user@domain.com)
- DOMAIN\user (MYDOMAIN\username)
- sAMAccountName (username)
- Mail (user@company.com)

Q3: How to Configure the Group Field for a Role on the IND400?

- What to enter: Fill the Group field with the Full Distinguished Name (DN) of the LDAP user group. For example: CN=Finance, OU=Groups, DC=example, DC=com.
- How to get the DN: Contact your LDAP administrator or use tools like ldapsearch or dsquery to find the exact DN of the group.
- Important rules:
 - Uniqueness: Each Group DN must be unique across roles. Using the same DN for multiple roles causes only the first role to match.
 - Accuracy: The DN must exactly match the LDAP group's DN, including spelling and formatting; otherwise, matching will fail.

Q4: How are login users mapped to roles on the IND400?

Role mapping relies on exact string matching between the role's Group field and the user's LDAP memberOf attribute.

- Querying Groups: After successful authentication, the device retrieves the user's memberOf attribute, which lists their group DNs.
- Matching Roles: The device compares each group DN from memberOf against the Group field of each configured role.
- Role Assignment:
 - If an exact match is found (case and spaces must match), the user is assigned that role. Roles are checked in creation order, giving priority to earlier roles.
 - If no roles match, the user is assigned the default role: Operator.

Q5: What should I check if login fails?

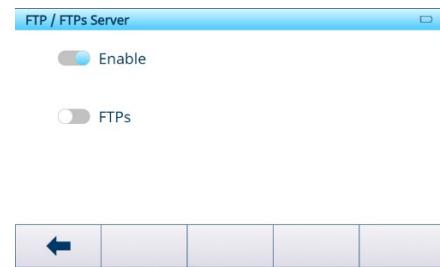
- Verify the LDAP settings on the device are correct.
- Check network connectivity (e.g., ping the LDAP server, test required ports).
- Ensure the username format and password are accurate.
- Confirm the user account on the LDAP server is active (not disabled, locked, or expired).
- Verify the Base DN configuration covers all user locations in LDAP.

Q6: Login succeeds but user has unexpected permissions—what should I check?

- Verify the Group field in the device role exactly matches the group DN in LDAP.
- Confirm the user is actually a member of the target LDAP group.
- Ensure the login account has permission to read the user's memberOf attribute in LDAP.

3.5.11 Communication -> FTP / FTPs Server

The FTP and FTPs function are disabled by default, and users can enable the function by switching the toggle in this page.



FTP

FTP is an application-layer protocol for file transfer between a client and a server on a computer network. Full FTP is composed of an FTP server and an FTP client. The client can upload local files to the server through the FTP protocol or download files from the server to the local computer.

FTPs

FTPs is an enhanced FTP protocol that uses standard FTP protocols and instructions at Secure Sockets Layer, adding SSL security features to the FTP protocol and data channels. FTPs is also known as "FTP-SSL" and "FTP-over-SSL". SSL is a protocol for encrypting and decrypting data over a secure connection between a client and an SSL-enabled server.

3.5.12 Communication -> Certification Management

A digital certificate is issued by a Certificate Authority in accordance with relevant international and domestic standards to prove the digital identity of an individual, organization, website, physical device, etc. on the Internet.

IND400 supports a variety of network applications, so a certificate manager is necessary to manage digital certificates, including importing, viewing, expiration, renewing, deleting, exporting, etc.

View Certification Information

- In the **Certification Management** page, mark a certificate and click the softkey .

⇒ Detailed information of the certificate is displayed.

Certification Management			
Rec. #	Rank	Status	Issued To
1	◆	Coming	Geo Trust TLS DV RSA I
2	◆	Coming	Geo Trust TLS RSA CA C
3	◆	Coming	GlobalSign Organizatio
4	◆	Coming	Go Daddy Secure Certi
5	◆	Overdue	Go Daddy Secure Certi

General

- Issued To
- Issued By
- Valid From

Details

• Version	• Serial Number	• Signature	• Signature Algorithm
• Issuer	• Valid From	• Valid To	• Subject
• Public Key	• Public Key Parameters	• Subject Key Identifier	• CRL Distribution Points
• Key Usage	• Basic Constraints	• Thumbprint	• Friendly Name
• Enhanced Key Usage	• Extended Validation	• Extended Error information	

Certification Path

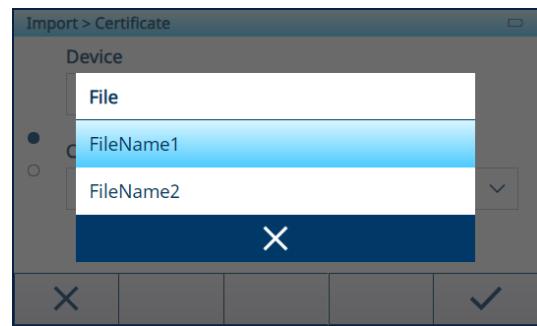
- Certification Path
- Certification Status

Import a Certificate

- 1 Press the softkey .
- 2 Select the location from which the certificate is imported in the field **Device**. See [Importing/exporting Data ▶ Page 28].
- 3 Select the certificate file for import using the dropdown list in the field **Certification File**.

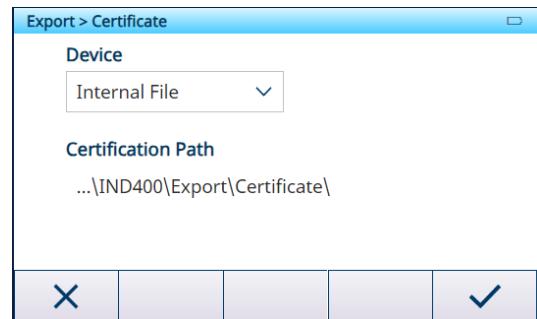
Import > Certificate			
Device			
Internal File			
Certification File			
...\\IND400\\Import\\Certificate\\FileName			
X			✓

- 4 To import the **Private Key File**, switch the **Private Key** toggle on.
- 5 Press **✓** to start the import.



Export a Certificate

- 1 Mark the certificate to be exported in the certification list.
- 2 Press the softkey **⬆**.
- 3 Select the location to which the certificate is exported in the field **Device**. See [Importing/exporting Data ▶ Page 28].
- 4 Press **✓** to start the export.



Update or Delete a Certificate

The certificate can be updated with the softkey **⌚** and deleted with the softkey **⌫**.

Certificate Expiration

The certificate status is checked automatically when the terminal is power up.

If there is a certificate coming due, a warning message will display in the message center. The coming due day is 15 days before the expiration day.

If there is a certificate overdue, a warning message will display in the message center as well.

Note

For the certificate encoding and type, we support only DER encoding and .der type. If not, you must convert them to be .der file. Various programs (examples: openssl, makecert, .net) can be used to do this conversion.

3.6 Maintenance Setup

3.6.1 Maintenance -> Scale Test

3.6.1.1 Maintenance -> Scale Test -> Restore Factory Calibration

When connecting a new POWERDECK scale, a prompt will automatically appear asking if the user wants to restore the factory calibration information.

The factory calibration data can be stored in load cells, and users can manually restore the factory calibration data from the load cells of PowerDeck to create a usable Basic Weighing system without applying test weights on site.

- The scale sealing is broken.
- 1 Click Restore Factory Calibration in the menu.

- ⇒ A window pops up to indicate that the terminal is receiving data from the load cells.

- 2 Confirm to use factory calibration data with .
- 3 In the **GEO Code Determination** page, enter the **Latitude (°)** and **Elevation** values.

Maintenance > Scale Test

- Scale Test > Restore Factory Calibration
- Diagnosis >
- Statistics >
- Routine Test Management
- Enable Logs

GEO Code Determination

Latitude (°)	Elevation
45	4 m <input checked="" type="checkbox"/>

Calculated GEO Code
17.9

X

3.6.2 Maintenance -> Diagnosis

3.6.2.1 Maintenance -> Diagnosis -> Scale 1

Permission Group: W&M -> Level 3

Analog Scale

The Scale 1 page indicates the Signal Quality of the Analog scale connection.

When the signal is sufficient, it is marked with .

Diagnosis	
Scale 1	
Signal Quality	51.5

SICSpro Scale

There is no diagnosis information available.

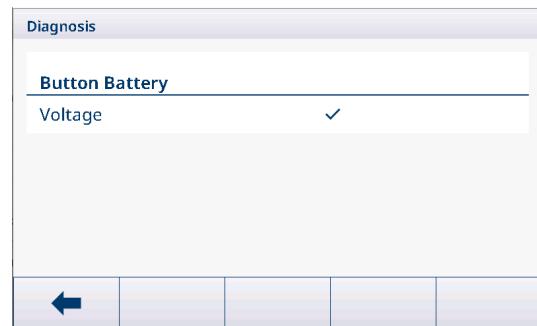
POWERCELL Scale

The Scale 1 page indicates the Signal Quality and the Scale Excitation of the POWERCELL scale connection.

Diagnosis	
Scale 1	
Signal Quality	51.5
Scale Excitation	0.0V / 0.0V

3.6.2.2 Maintenance -> Diagnosis -> Battery

This diagnosis item shows the status of the batteries.



Button battery

The button battery is used for RTC and located on the Main Board.

When the voltage of the button battery is lower than 2.5 V, a SMART5™ message is displayed.

External battery

When an external battery is detected, the battery voltage is displayed.

3.6.2.3 Maintenance -> Diagnosis -> Device

3.6.2.3.1 Test

Display Test

Users are guided through a test sequence to check the display quality.

- 1 Confirm the information screen with ✓.
→ A checkerboard pattern in red is displayed.
- 2 Check if all pixels are displayed correctly.
- 3 Press the transfer key  to switch to the next test screen.
- 4 Check if all pixels are displayed correctly.
- 5 Repeat steps 3 and 4 until the message "Test finished." is displayed.
- 6 Confirm finishing with ✓.

 **Note** Users can exit the display test at any time by pressing **C**.

Touch Test

Users are guided through a test sequence to check the touch functionality.

- 1 Confirm the information screen with ✓.
→ The display is divided into 12 fields.
- 2 Touch all the fields in the order from 1 to 12.
→ When the touch functionality is alright, the field is marked with ✓.
→ After touching the last field the message "Passed." is displayed.
- 3 Confirm the message with ✓.

 **Note** Users can exit the touch test at any time by pressing **C**.

Keyboard Test

Users are guided through a test sequence to check the hard keys.

- 1 Confirm the information screen with ✓.
→ A prompt to check the On/Off key is displayed.
- 2 Touch the requested hard key.
→ A prompt to check the next key is displayed.
- 3 Repeat step 2 until the message "Passed." is displayed.
- 4 Confirm the message with ✓.

 **Note** Users can exit the touch test at any time by pressing **C**.

Serial Port Test

Note

This test will check the COM1 – COM 3 (RS232) serial port.

The ports to be tested need to be loopback wired (transmit and receive shorted).

- 1 Touch ► to start the test.
 - ⇒ The serial port test is performed.
 - ⇒ The serial port status is displayed.
- 2 Leave the Serial Port Test with softkey ←.
 - ⇒ A safety prompt is displayed.
- 3 Confirm leaving the test with ✓.

Network Test

Note

The test mechanism is PING gateway.

- 1 Confirm the information screen with ✓.
 - ⇒ The serial port test is performed.
 - ⇒ The serial port status is displayed.
- 2 Confirm the serial port status with ✓.
 - ⇒ The Network Test is finished.

USB Test

This test will check an external USB device.

- 1 Insert the USB device to be tested.
 - ⇒ The device name is displayed.
- 2 Touch ► to start the test.
 - ⇒ The USB test is performed.
 - ⇒ The test result is displayed.
- 3 Leave the USB Test with softkey ←.

3.6.2.3.2 USB Device Manager

The USB Device Manager shows all connected USB devices.

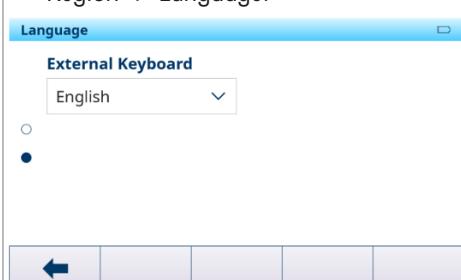
- 1 Touch  to view the settings of the USB device.
- 2 Touch  to edit the USB device.
- 3 Touch  to delete an installed USB device.
 **Note** The **USB Device** CDC is combined with the USB option board, so it can't be deleted.

USB Device Manager		
ID	Device Type	Description
1	USB Device- CDC	COM4 - Mettler-Toledo
2	USB Host - CDC	COM5 - Microsoft
3	USB Host - HID	USB Keyboard - Micro
4	USB Host - MSD	WAL's USB Disk - Data
5	USB Host - Composite	Generic USB Hub - DEI

Supported Device Types

The table that follows lists the device types that IND400 supports.

Device Type	Description	Additional Information
USB Device - CDC	IND400 works as a USB device, which is connected to a USB Host port in other equipment, such as a PC. From the PC side, the IND400 USB Device - CDC is treated as a serial port.	-
USB Host - CDC	IND400 works as a USB Host and only supports USB to Serial Port converter.	-

Device Type	Description	Additional Information
USB Host - HID	IND400 works as a USB Host and only supports the external USB keyboard and barcode scanner.	<ul style="list-style-type: none"> When this Device Type is focused, touch  to edit the external device type (Keyboard or BarCoder).  <ul style="list-style-type: none"> Select language of the External Keyboard via the path: Terminal -> Region -> Language. 
USB Host - MSD	IND400 works as a USB Host and only supports the USB disk (USB Mass Storage device).	-
USB Host - Composite	IND400 works as a USB Host and only supports the connection of multiple USB devices through a USB Hub, namely USB Host - CDC, USB Host - HID, and USB Host - MSD.	-

3.6.3 Maintenance -> Statistics

Scale 1

This page shows the statistics over all the weighings since the last Master Reset. The statistic is grouped as follows:

- Peak Weight
- Scale Weighments (Usage, Capacity ranges)
- Scale Status (Overloads, Underloads, Zero operations, Reset operations)

System

This page gives a system overview.

Statistic - System	
Internal Flash (Used / Total)	1.1 MB / 28.2 MB
Total Power On Time	31.86 Days
Total Use Time	5.96 Days
Current Power On Time	0.74 Days
Total Screen On Time	31.86 Days
Power Cycles	14

Key count

This page gives an overview of the keystrokes of each hardkey.

3.6.4 Maintenance -> Routine Test Management

Using this setup item you can plan and perform routine test events.

Setting up routine tests - general settings

Setup item	Sub items	Description
Event	Calibration Sensitivity Eccentricity Repeatability 1-point Test Walk Test Customized Event	Select the test to perform. For a Customized Event a name can be entered. It can be used for any reminder purposes. See [Setting up Tests ▶ Page 151] and [Performing A Routine Test ▶ Page 153].
On Overdue	No Action Orange Weight No Weight	Select what to be displayed when the test is overdue.
Interval Days		Enter the interval for performing the test.
Reminder Days		Enter the interval for sending a reminder before the next test is due.
Last Date		Display of the date of the last test.
Due Date		Display of the date of the next test.
Reminder Date		Display of the date when the reminder for the next test will be sent.

3.6.4.1 Setting up Tests

Calibration Test

See [SICSprom/Analog/POWERCELL Scale Setup ▶ Page 106].

Sensitivity Test

- Mark a sensitivity test in the list and touch  for further settings.
→ The following settings are available:

Note

Default settings are shown in **bold**.

Setup item	Sub items	Description
Test Load Unit	g kg lb t oz ton	Select the unit of the test load you want to use for the sensitivity test.
Operator Test Weight Edit	Enable/disable	When enabled, the operator is allowed to edit the test weight.
Auto Print Log	Enable /disable	When enabled, a test protocol is printed automatically.

- In the setup page touch  for setting up the test steps.
→ The following settings are available:

Step No.	Automatic number
Test Load	Weight value of the test load
Weight Name	Name of the test load
Warning Limit	When the deviation is bigger than the warning limit but less than the control limit, a warning is displayed.
Control Limit	When the deviation is bigger than the control limit, the test fails.

Prompt When a test event comes due, the prompt text shows on the Home Screen.

Eccentricity, Repeatability and 1-Point Tests

- Mark a respective test in the list and touch  for further settings.
⇒ The following settings are available:

Note

Default settings are shown in **bold**.

Setup item	Sub items	Description
Test Load Unit	g kg lb t oz ton	Select the unit of the test load you want to use for the sensitivity test.
Test Load		Weight value of the test load
Weight Name		Name of the test load
Round		Number of test rounds, for repeatability tests only
Warning Limit		When the deviation is bigger than the warning limit but less than the control limit, a warning is displayed.
Control Limit		When the deviation is bigger than the control limit, the test is failed.
Operator Test Weight Edit	Enable/disable	When enabled, the operator is allowed to edit the test weight.
Auto Print Log	Enable/disable	When enabled, a test protocol is printed automatically.

Walk-Test

This test checks the repeatability and eccentricity of large weighing platforms by walking on the weighing platform.

- Mark a walk-test in the list and touch  for further settings.
⇒ The following settings are available:

Note

Default settings are shown in **bold**.

Setup item	Sub items	Description
Round		Number of test rounds, for repeatability tests only
Repeatability Warning Limit		When the deviation in repeatability is bigger than the warning limit but less than the control limit, a warning is displayed.
Repeatability Control Limit		When the deviation in repeatability is bigger than the control limit, the test is failed.
Eccentricity Warning Limit		When the deviation in eccentricity is bigger than the warning limit but less than the control limit, a warning is displayed.
Eccentricity Control Limit		When the deviation in eccentricity is bigger than the control limit, the test is failed.
Operator Test Weight Edit	Enable/disable	When enabled, the operator is allowed to edit the test weight.
Auto Print Log	Enable/disable	When enabled, a test protocol is printed automatically.

Customized Event Test

A customized event can be used for any reminder purposes.

- Mark a customized event in the list and touch  for further settings.
⇒ The following settings are available:

Note

Default settings are shown in **bold**.

Setup item	Sub items	Description
Prompt		Enter a reminder text.
Auto Print Log	Enable /disable	When enabled, a test protocol is printed automatically.

3.6.4.2 Performing A Routine Test

- 1 Select the required event in the list of events.
- 2 Touch ► to start the test.
 - Users are guided through the test.
 - When the test is finished, the result is displayed.
- 3 Touch ✓ to leave the test.

Summary Results	
Event	Sensitivity
Result	Succeed
User Name	Admin
Date & Time	16/Oct/2024 10:08:22

3.6.5 Maintenance -> Enable Logs

- Enable/disable the respective logs.

Enable Logs

Change Log Maintenance Log Error Log

3.6.6 Maintenance -> Cell Counts

This maintenance items shows the raw weight.

Cell Counts

387518

Total Cell Counts : 387518

3.6.7 Maintenance -> Zero & Overload

Zero Drift Check

With this function, the terminal can make an alarm or disable the weighing process when a zero-drift failure or a load cell overload happens.

Zero & Overload

Zero Drift Check: Alarm Only

Zero Threshold (%): 50

Overload Threshold (%): 100

Parameter	Description
Zero Drift Check	<ul style="list-style-type: none"> • No Action No action is necessary. • Disable & Alarm <p>After user presses OK on the popup message, the POWERCELL scale is disabled.</p> <ul style="list-style-type: none"> • Alarm Only (default value) <p>User needs to confirm the popup message with OK.</p>
Zero Threshold (%)	<ul style="list-style-type: none"> • Range: 50 - 90 • Default value: 50
Overload Threshold (%)	<ul style="list-style-type: none"> • Range: 50 - 100 • Default value: 100

Zero Drift Check

When a scale Zero command is issued the scale is assumed to be empty. The IND400 will first test to see if the Total Zero Drift / Scale Capacity is greater than 1%. If it is, it then tests the percentage of total Zero Drift any one load cell contributes. If it is over the user defined Threshold, either an error is raised and the alarm is logged or an error is raised, the alarm is logged and the scale is disabled.

If an error is triggered, and the Maintenance Log is enabled, the error will be recorded in the Maintenance Log.

To clear an Alarm Only error, the values of either test 1 or test 2 must fall to below 90% of the specified parameter. To clear a Disable & Alarm error, Zero Drift Monitoring must be turned off or changed to Alarm Only and the terminal must be back in the Run Screen.

Note that a Zero Drift Error will not be raised if the zero value is outside the Zero Range. Instead, a Zero Range error will be displayed.

Overload Threshold (%)

The threshold at which a cell overload is logged may be set as a total weight value in primary weight units. The value entered should also account for the pre-load amount and typically not exceed the load cell's rated capacity. The overload trigger is not re-set until the measured weight falls below 90% of the overload threshold value.

3.6.8 Maintenance -> Calibration Values

Note

The available settings depend on the selected type of calibration.

	Span	3-Point	4-Point	5-Point	3-P. With Hysteresis	4-P. With Hysteresis	5-P. With Hysteresis
Counts for Zero	X	X	X	X	X	X	X
#01 Test Load	X	X	X	X	X	X	X
Counts 1	X	X	X	X	X	X	X
Counts 1 Down					X	X	X
#02 Test Load		X	X	X	X	X	X
Counts 2		X	X	X	X	X	X
Counts 2 Down						X	X
#03 Test Load			X	X		X	X
Counts 3			X	X		X	X
Counts 3 Down							X
#04 Test Load				X			X
Counts 4				X			X
Setting	Description						
Counts for Zero	Set the raw counts for zero						
#01 Test Load	Set the #01 test load weight						
Counts 1	Set the raw counts for #01 test load						

	Span	3-Point	4-Point	5-Point	3-P. With Hysteresis	4-P. With Hysteresis	5-P. With Hysteresis
Counts 1 Down	Set the raw counts for #01 test load when unloading						
#02 Test Load	Set the #02 test load weight						
Counts 2	Set the raw counts for #02 test load						
Counts 2 Down	Set the raw counts for #02 test load when unloading						
#03 Test Load	Set the #03 test load weight						
Counts 3	Set the raw counts for #03 test load						
Counts 3 Down	Set the raw counts for #03 test load when unloading						
#04 Test Load	Set the #04 test load weight						
Counts 4	Set the raw counts for #04 test load						

3.6.9 Maintenance -> Backup

This setup item offers a backup of the complete system settings as below:

- All configuration parameters, except Memory under Applications, User Management under Terminal, and Template under Communication
- Printout templates
- User management data (password exclusive)

Manual backup

- For a manual backup touch softkey .
- ⇒ The following settings are requested.

Setup item	Description	Possible settings / comments
Device	Select the device where the data will be exported to.	Internal File, USB Mass Memory.
Path	Enter the path where the exported data will be stored.	Ensure that the indicated folder is existent, especially when USB Mass Memory is selected.

- Confirm settings with .
- ⇒ The backup is in progress. A message is displayed.

Automatic backup

When Auto Backup is enabled, the backup is automatically made according to the following settings.

Setup item	Description
Interval Days	Set the interval of the automatic backup
Last Backup Date	Show the date of the last backup

- Confirm settings with .
- ⇒ The backup is in progress. A message is displayed.
- ⇒ The next backup will be made automatically after set interval.

Note

Users can make a manual backup at any time by touching softkey .

3.6.10 Maintenance -> Restore

This setup item allows to restore the complete system settings.

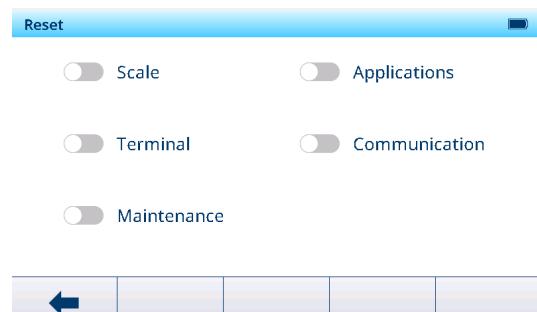
- To restore a system, make the following settings:

Setup item	Description	Possible settings / comments
Device	Select the device from which the data will be imported	Internal File, USB Mass Memory
Path	Path where the data to be imported has to be stored	Ensure that the data to be imported from the correct folder

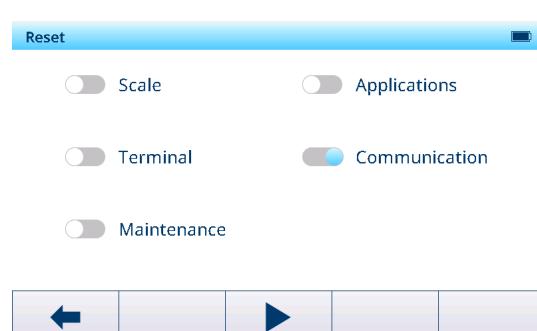
- 1 Confirm settings with ✓.
→ A safety prompt is displayed.
- 2 Confirm restoring and restarting with ✓.
→ Restoring is in progress. A message is displayed.

3.6.11 Maintenance -> Reset

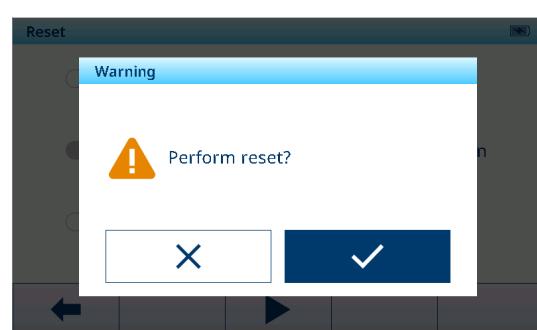
- 1 Go to **Maintenance -> Reset**.
- 2 Select the target reset block and verify the seal status meets requirements.



- 3 Enable the desired reset toggle, then tap ►.



- 4 Confirm the reset by tapping ✓.



Setup Item	Description	Note
Scale	Resets configurations under the Scale block.	W&M-protected metrology parameters cannot be reset if the seal is intact.
Terminal	Resets configurations under the Terminal block.	Parameters restricted from reset remain unchanged.
Applications	Resets configurations under the Application block.	Alibi logs, transaction tables, and configuration tables are retained.
Communication	Resets configurations under the Communication block.	A warning appears ("Transfer settings in the application may be lost"). Tap [Cancel] to abort or [Confirm] to proceed.
Maintenance	Resets parameters under the Maintenance block.	Excludes parameters marked "Reset only by Master Reset"; no impact on system page parameters.
Master Reset	Resets all menu settings (Scale, Terminal, Application, Communication) and clears memories/logs.	Requires MT Technician access level.

Note

- When DI is inactive: All six reset items are accessible to all roles.

- When DI is active: Access is restricted to Admin and MT Technician roles only.

4 Maintenance and Service

4.1 Error Conditions

Error	Cause	Remedy
Display dark	<ul style="list-style-type: none">• Backlight timeout too short• No power supply• Unit switched off• Power supply cable not plugged in• Brief error	<ul style="list-style-type: none">– Increase backlight timeout.– Check power supply.– Switch on unit.– Plug in power supply cable.– Unplug power supply cable and plug in again.
Weight display unstable	<ul style="list-style-type: none">• Unstable installation location• Draft• Unstable weighing sample• Contact between weighing pan and/or weighing sample and surroundings• Power supply fault	<ul style="list-style-type: none">– Adjust environment filter.– Avoid draft.– Ensure that the weighing sample is more stable.– Avoid contact.– Check power supply.
Incorrect weight display	<ul style="list-style-type: none">• Incorrect zeroing• Incorrect tare value• Contact between weighing pan and/or weighing sample and surroundings• Weighing platform tilted	<ul style="list-style-type: none">– Unload scale, set to zero and repeat weighing operation.– Clear tare.– Avoid contact.– Level weighing platform.
	<ul style="list-style-type: none">• Load plate not on the scale• Weighing range not reached	<ul style="list-style-type: none">– Place load plate on the scale.– Set to zero.
	• Weighing range exceeded	<ul style="list-style-type: none">– Unload scale.– Reduce preload.
	• Result not yet stable	<ul style="list-style-type: none">– If necessary, adjust environment filter.

4.2 Errors and Warnings

Error messages

Error messages must be confirmed.



Warnings

You can either cancel a warning or confirm it.

Warning



Clear user data?



Information

The information message has the function of a safety prompt.

Information



Reset all ?



4.3 SMART5™ Events and Alarms

SMART5™ is intended to harmonize events and alarms based on industry standards and common industry practice. These standards originated from the process control industry in chemistry, oil production and refining where there is a very high risk of explosion and bodily harm.

Some of the Smart5® alarms can also be observed at the PLC side. For details refer to the chapter [Error messages ▶ Page 160].

4.3.1 NAMUR alarm / alert classification

The table that follows is an adaptation of NE107 for weighing devices.

Icon	Rank	Type	Description	Result
	5	Failure	Wrong weight / equipment failure	Alarm stops operation: Clearing the alarm will not reset the condition – the device must be repaired to eliminate the alarm.
	4	Maintenance required	Wrong weight / equipment failure expected based on predictive algorithms and sensors like temperature, humidity.	Alarm indicates failure is imminent within a period of one week or more. The alarm can be reset but will recur each day until the cause is eliminated.
	3	Out of specification	Wrong Operator Actions or device / application is operating out of specification.	Alarm and log the event. Alarms are only generated / transmitted at the request of the customer.
	2	Alarm	Routine test, Calibration or Preventative maintenance must be undertaken.	Alarm and log the event. Alarms are only generated / transmitted at the request of the customer.
	1	Normal Condition	Unit is operating correctly.	No action required.

4.3.2 Error messages

Message	Alarm code	Namur level	Error log	Action
Scale Type or Slot Changed!\nMaster Reset\nALL setup blocks.	1001	5	Yes	-
Scale Type or Slot Changed!\nMaster Reset\nALL setup blocks.	1002	5	Yes	-
Scale disconnected.	2012	5	Yes	Check scale connection cable
Transaction log of [Application] is size of 100%.	3038	3	Yes	Pls export the log file.
Transaction log of [Application] exceeds 90%.	3039	2	Yes	Pls export the log file.
Transaction log of [Application] exceeds 75%.	3040	2	Yes	Pls export the log file.
Analog Converter Fail	4041	5	Yes	Check scale connection cable.
Zero fail motion.	4042	0	No	Scale is moving.
Zero fail net.	4043	0	No	Remove load from scale.
Zero out of range.	4044	2	Yes	Remove load from scale.
Zero disabled	4045	0	No	Zero not permitted.
Tare fail motion.	4046	0	No	Scale is moving.
PB tare disabled.	4047	0	No	Tare not permitted.
KB tare disabled.	4048	0	No	Tare not permitted.
Chain tare not permitted.	4049	0	No	-
Chain Tare only allowed with positive net weight.	4050	0	No	-
Tare round fail.	4051	0	No	Tare operation not successful.
Tare too small.	4052	0	No	The scale is too large for this item.
Zero init. Fail.	4053	0	No	Remove load from scale.
Tare out of range.	4054	0	Yes	Tare weight exceeds capacity.
Tare negative fail.	4055	0	No	Zero the scale.
Tare failed - over (range).	4056	0	Yes	-
Clear Tare-Gross Zero	4057	0	No	Remove load from scale.
Tare failed - unknown.	4058	0	No	-
Analog Saturation Fail	4059	0	No	Weight far exceeds scale capacity.
Trade overload.	4064	3	Yes	Scale is too small for this item.
Trade underload.	4065	3	Yes	Pls rezero scale.
Sealing switch broken!	4066	3	Yes	-
Sample size too small.	4067	3	Yes	Choose a smaller scale for this item.
Adjustment failure	4069	3	Yes	Pls attempt a new adjustment.
MP Adjustment Failure	4070	3	Yes	Pls attempt a new adjustment.
Zero Required	4074	3	No	-
Sensitivity is overdue.\nPlease run sensitivity test.	4075	2	Yes	Run sensitivity test.
Calibration is overdue.\nPlease run calibration test.	4076	2	Yes	Run calibration test.
Calibration is overdue.\nScale is disabled.\nReset required.	4077	2	Yes	Run calibration test.

Message	Alarm code	Namur level	Error log	Action
Repeatability is overdue.\nPlease run repeatability test.	4078	2	Yes	Run repeatability test.
Repeatability is overdue.\nScale is disabled.\nReset is required.	4079	2	Yes	Run repeatability test.
1-Point is overdue.\nPlease run 1-Point Test.	4080	2	Yes	Run 1-Point Test.
1-Point is overdue.\nScale is disabled.\nReset required.	4081	2	Yes	Run 1-Point Test.
Walk-Test is overdue.\nPlease run Walk-Test.	4082	2	Yes	Run Walk-Test.
Walk-Test is overdue.\nScale is disabled.\nReset required.	4083	2	Yes	Run Walk-Test.
CustomEvent is overdue.\nPlease run CustomEvent test.	4084	2	Yes	Run custom test.
CustomEvent is overdue.\nScale is disabled.\nReset required.	4085	2	Yes	Run custom test.
Eccentricity is overdue.\nPlease run eccentricity test.	4086	2	Yes	Run eccentricity test.
Eccentricity is overdue.\nScale is disabled.\nReset required.	4087	2	Yes	Run eccentricity test.
Sensitivity is coming due.	4088	2	Yes	Run sensitivity test.
Calibration is coming due.	4089	2	Yes	Run calibration test.
Repeatability is coming due.	4090	2	Yes	Run repeatability test.
1-Point is coming due.	4091	2	Yes	Run 1-Point Test.
Walk-Test is coming Due.	4092	2	Yes	Run Walk-Test.
CustomEvent is coming due.	4093	2	Yes	Run custom test.
Eccentricity is coming due.	4094	2	Yes	Run eccentricity test.
Sensitivity is overdue.\nScale is disabled.\nReset required.	4095	2	Yes	Run sensitivity test.
Empty scale, place new weight on.	90001	3	No	-
Remove object or tare the scale.	90002	3	No	-
Put object on the platform.	90003	3	No	-
Exceeds the total target.	90004	3	No	-
No transaction generated	90005	3	No	-
Transaction not completed, cannot quit.	90006	3	No	-
Transaction is already saved.	90007	3	No	-
Weight is under threshold.	90008	3	No	-
Weight is out of OK range.	90009	3	No	-
Transfer is not allowed within 30d deviation.	90010	3	No	-
Totalization value overflow.	90011	3	No	-
APW optimization succeeded.	90012	1	No	-
Take away mode requires net mode, please tare the scale first.	90013	2	No	-
The take away mode is only applicable for unloading weight from the platform.	90014	2	No	-
The standard mode is only applicable for loading weight onto the platform.	90015	2	No	-
Scale in X10 mode.	90016	3	No	-
Network time synchronization failed.	90017	4	Yes	Please check NTP server setting.

Message	Alarm code	Namur level	Error log	Action
Battery critically low.	90018	5	Yes	Please replace the battery.
Electrical anomaly detected; charging stopped.	90021	3	Yes	Please check the battery.
Discharge anomaly detected.	90022	3	Yes	Please turn off the battery to avoid battery damage.
Battery health is poor.	90023	1	Yes	Please change the battery.
Transferring failed	91001	0	No	-
Transferring failed	91002	0	No	-
Zero is not allowed in current situation.	91003	2	No	-
Tare is not allowed in current situation.	91004	2	No	-
Clear is not allowed in current situation.	91005	2	No	-
Scale In Expanded Mode	91006	0	No	-
Zero failed - zero bad.	91007	0	No	-
Print Error	91010	0	No	-
Scale In Motion	91011	0	No	-
Scale Under Zero	91012	0	No	-
Scale In Expanded Mode	91013	0	No	-
Print Error-No Zero	91014	0	No	-
Print Error	91015	0	No	-
Zero failed - unknown.	91018	0	No	-
Clear failed - unknown.	91019	0	No	-
Operation Fail -Unknown	91020	0	No	-
FACT Cancelled	91021	0	No	-
FACT Successful	91022	0	No	-
FACT Failure - Motion	91023	0	No	-
FACT Failure	91024	0	No	-
FACT In Progress	91025	0	No	-
FACT Failed - 3 Consecutive Failed Attempts	91026	0	No	-
Function disabled.	91027	0	No	-
Template parsing fail	91030	0	No	-
Totals overflow	91031	0	No	-
Target Total Overflow	91032	0	No	-
Tare Total Overflow	91033	0	No	-
ID Not Found	91034	0	No	-
ID Not Found	91035	0	No	-
-	91036	0	No	-
Remote Scale-No Data Transfer	91037	0	No	-
Remote Scale-No Remote Display	91038	0	No	-
Alibi log is size of 100%.	91039	3	Yes	Pls export the log file.
Alibi log exceeds 90%.	91040	2	Yes	Pls export the log file.
Alibi log exceeds 75%.	91041	2	Yes	Pls export the log file.
[Log Name] is size of 100%.	91042	3	No	Pls export the log file.
[Log Name] exceeds 90%.	91043	2	Yes	Pls export the log file.
[Log Name] exceeds 75%.	91044	2	Yes	Pls export the log file.
[Configurable table name] is size of 100%.	91045	3	No	Pls export the log file.
[Configurable table name] exceeds 90%.	91046	2	Yes	Pls export the log file.
[Configurable table name] exceeds 75%.	91047	2	Yes	Pls export the log file.

4.4 Maintenance

Maintenance of the weighing terminal is limited to regular cleaning.

Cleaning



⚠️ WARNING

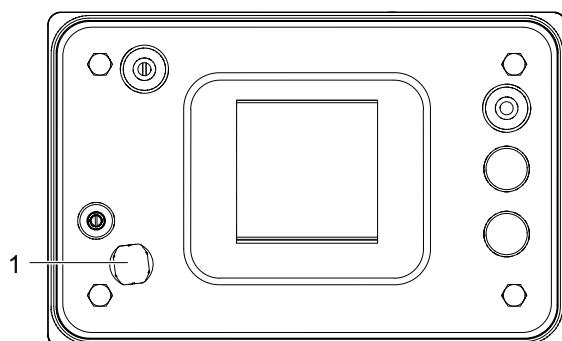
Risk of electric shock

- 1 Do not open the weighing terminal for cleaning.
- 2 Before cleaning, unplug the power plug.

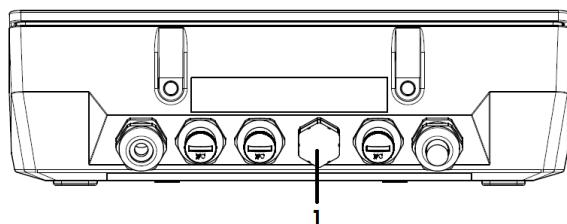
- 1 Make sure that the terminal is disconnected from the power supply.
- 2 Wipe off the terminal with a dry cloth or with a slightly damp cloth dampened only with clean water.

4.5 Regular Maintenance

4.5.1 Pressure Compensation Valve



Stainless Steel version



Aluminum Die Cast version

Interval	Maintenance action
Every 1 to 2 years	Replace the pressure compensation valve (1).

4.6 Usage and Maintenance of Battery Version



⚠️ WARNING

- 1 Do not disassemble, open, crush, bend, deform, puncture, or shred the battery.
- 2 Do not modify, remanufacture, insert foreign objects, immerse in liquids, or expose the battery to fire, explosions, or other hazards.
- 3 Avoid using or storing the battery near high temperatures (e.g., fire, heaters) to prevent overheating, fire, performance loss, and shortened lifespan.
- 4 Do not reverse the positive and negative terminals.
- 5 Keep metal or conductive objects away from battery terminals to prevent short circuits.
- 6 Install and remove the battery properly to avoid fire, explosion, or other hazards.

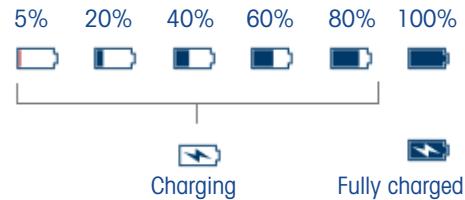
4.6.1 Battery Specifications

General	Battery Type	Lithium Battery
	Nominal Voltage	7.2 V
	Nominal Capacity	6.9 Ah
	Minimum Capacity	6.4 Ah
	Internal Resistance	$\leq 150 \text{ m}\Omega$
	Shipment Voltage	7.2-8.2 V
	Weight	Approximately 200 g
Charge	Charge Cut-off Voltage	8.4 V
	Standard Charge Current	1.38 A
	Maximum Charge Current	3.5 A
Discharge	Discharge Cut-off Voltage	5.2 V
	Standard Discharge Current	1.38 A
	Maximum Discharge Current	3.5 A
Environmental Conditions	Operating Temperature Range	Charge: 0...45 °C Discharge: -10...55 °C
	Storing Conditions (Charge to 50%-70% before storage)	$\leq 3 \text{ months: } -20\text{...}45 \text{ °C}$ $> 3 \text{ months: } 0\text{...}25 \text{ °C}$
	Relative Humidity	65 \pm 20 %

4.6.2 Battery Symbols

The battery icon in the system bar has 8 display styles:

- Charging state: 2 icons (charging, fully charged).
- Discharging state: 6 icons indicating battery levels (5%, 20%, 40%, 60%, 80%, 100%).



4.6.3 Battery Status and Information

- 1 Pull down the quick settings menu to reveal the battery icon.
- 2 Tap the battery icon to view detailed battery information.
- 3 The battery info page displays: Battery Type, State of Charge (SOC), Available Time, Voltage, and Temperature.

Battery	
Battery Type	Li-Ion
SOC	99%
Available Time	1001 min
Voltage	8.3 V
Temperature	27.1 °C

4.6.4 Battery Discharge Time by Configuration

Battery operating life varies with usage intensity, configuration and connected scale.

NO	Configuration	State	Battery Discharge Time
1	Analog	1 sensor	27.5h
	RS232 with 5VDC	SICS Server	
	Screen Brightness	5%, brightness same as ICS	
2	PowerDeck	4 sensor	16.29h
	Ethernet	SICS Server	
	RS232 with 5VDC	SICS Server	
	Screen Brightness	50%	

 **Note**

The values in the table are tested at 25 ± 2 °C.

4.6.5 Battery Storage Requirements

Notes for Operating Devices with Built-in Storage Batteries

- Store the battery pack at room temperature, with a charge level of 50%–70% capacity.
- For over-discharged batteries: Charge them once every 3 months during storage. If stored for more than 6 months, discharge and recharge the battery to reactivate it and restore capacity.
- If the battery is installed in equipment or stored under load: Check the battery power regularly and recharge it promptly to prevent over-discharge and damage.



⚠ CAUTION

Charging the storage battery below 0° C (32 °F) or above 45 °C (113 °F) is prevented by the charging electronics!

- Make sure that the temperature is within the range of 0 °C to 45 °C (32 °F to 113 °F) to charge the storage battery.



⚠ CAUTION

Danger of soiling because the charger for the storage battery is not protected according to IP69K!

- 1 Do not charge the device in humid or dusty rooms.
- 2 After the storage battery has been charged, close the cover cap of the charging socket on the device.

Recommended use of the storage battery

The characteristics mentioned above are only valid if the following recommendations are observed:

- Charge the battery as soon as the warning message "Low battery" appears and the battery symbol starts flashing. When the message appears, you still have enough time (at least 10 minutes), to complete your current task.
- For optimum battery performance, operate the device with built-in storage battery at an ambient temperature range of 10 °C to 30 °C (50 °F to 86 °F). This also applies to discharging the battery.

4.6.6 Battery Replacement

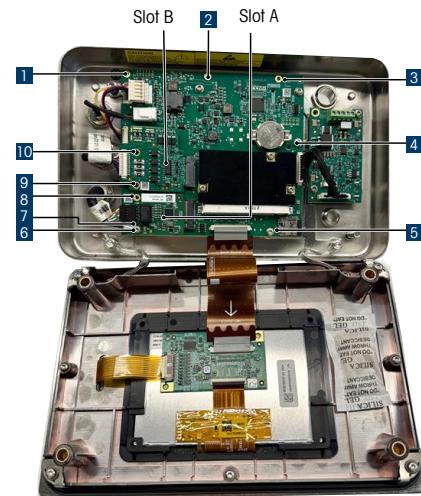


⚠ WARNING

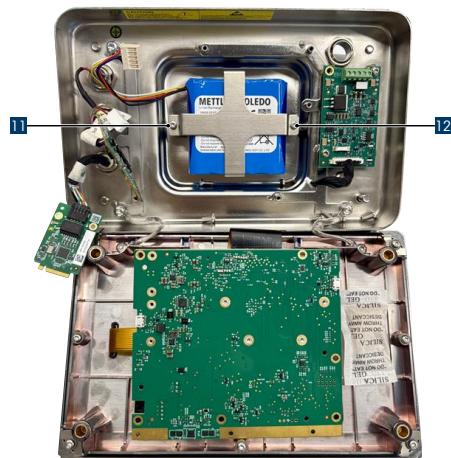
- 1 Before replacing the battery, disconnect the device from power.
- 2 Use only the METTLER TOLEDO-specified battery to prevent damage or hazards.
- 3 Avoid short-circuiting the battery terminals during removal and installation.

4.6.6.1 Stainless Steel Version

- Before replacing the battery, open the enclosure. See Opening the Enclosure.
- 1 Remove the cover, then loosen the 4 M2.5 screws (positions 7-10) to take out Slot A and B.
- 2 Loosen the 6 M3 screws (1-6) and carefully detach the mainboard.

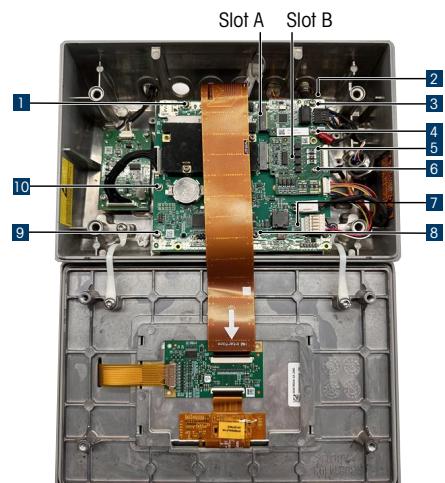


- 3 Unscrew the 2 M3 screws (11-12) that secure the metal battery cover.
- 4 Carefully replace the battery, then fasten the two screws to secure the battery cover.
- 5 Reinstall the mainboard and tighten the 6 M3 screws (1-6) securely..
- 6 Connect the edge connectors of the option boards, then tighten the 4 M2.5 screws (7-10) .
- 7 Reconnect all wiring terminations, close the housing cover, and ensure it is properly sealed.
- ⇒ Battery replacement is complete.



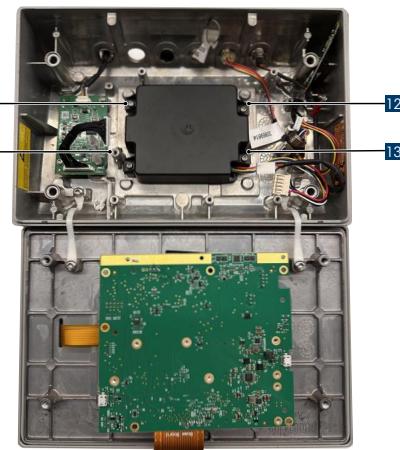
4.6.6.2 Aluminum Die Cast Version

- Before replacing the battery, open the enclosure. See Opening the Enclosure.
- 1 Remove the cover and disconnect all wiring terminations.
- 2 Loosen the 4 M2.5 screws (3-6) to remove Slot A and B.
- 3 Loosen the 6 M3 screws (1-2, 7-10) and carefully detach the mainboard.



- 4 Unscrew the 4 M3 screws (11-14) securing the plastic battery cover.
- 5 Carefully replace the battery, then fasten the four screws to secure the cover.
- 6 Reinstall the mainboard and securely tighten the 6 M3 screws (1-2, 7-10).
- 7 Connect the edge connectors of the option boards and tighten the 4 M2.5 screws (3-6).
- 8 Reconnect all wiring terminations, close the housing cover, and ensure it is properly sealed.

→ Battery replacement is complete.



5 Appendix

5.1 Table of Geo code values

The Geo code feature provided in the weighing terminal permits adjustment by a METTLER TOLEDO service technician due to changes in elevation or latitude without reapplying test weights. This assumes that a previously accurate adjustment was done with the Geo code set properly for that original location and that the Geo code for the new location can be accurately determined.

When a weighing terminal is to be reinstalled at a different geographic location, gravitational and altitude changes can be accounted for by the following steps.

Note that this procedure is not necessary if an on-site adjustment is performed.

Determining the Geo code value

There are two methods to determine the Geo code value for your location.

Method A

- 1 Go to www.welmech.org and find the **Gravity Information** page to obtain the g value (e.g. 9.770390 m/s²) for your specific geographic location.
- 2 Check the METTLER TOLEDO Geo code Table A to select the Geo code according to your g value, e.g. Geo code 20 should be applied if your g value is 9.810304.

Method B

- Use the METTLER TOLEDO Geo code Table B to determine the Geo code for the new altitude and location where the scale will be used.
The latitude and height above sea level can be found using this link www.mapcoordinates.net/en.

Checking the Geo code value in the instrument

Comparing Geo codes

- 1 Compare the determined Geo code with the current Geo code setting of the weighing terminal.
- 2 If the two Geo code values do not match, call the METTLER TOLEDO service technician.
When the system is certified, a re-verification will be necessary.

Note

Using the Geo code value for calibration adjustment is not as accurate as re-applying certified test weights and re-calibrating the scale in a new location.

Table A: Definition of METTLER TOLEDO Geo codes with g value

Geo code	g value (m/s ²)	Geo code	g value (m/s ²)	Geo code	g value (m/s ²)	Geo code	g value (m/s ²)
0	9.770390	8	9.786316	16	9.802295	24	9.818326
1	9.772378	9	9.788311	17	9.804296	25	9.820333
2	9.774367	10	9.790306	18	9.806298	26	9.822341
3	9.776356	11	9.792302	19	9.808300	27	9.824351
4	9.778347	12	9.794299	20	9.810304	28	9.826361
5	9.780338	13	9.796297	21	9.812308	29	9.828371
6	0.782330	14	9.798295	22	9.814313	30	9.830383
7	9.784323	15	9.800295	23	9.816319	31	9.832396

Table B: Definition of METTLER TOLEDO Geo codes with geographic latitude and height

Geographical latitude, North or South	Height above sea level											
	[m]	0 - 325	325 - 650	650 - 975	975 - 1300	1300 - 1625	1625 - 1950	1950 - 2275	2275 - 2600	5600 - 2925	2925 - 3250	3250 - 3575
	[ft]	0 - 1060	1060 - 2130	2130 - 3200	3200 - 4260	4260 - 5330	5330 - 6400	6400 - 7460	7460 - 8530	8530 - 9600	9600 - 10660	10660 - 11730
0° 0' - 5° 46' (0.0° - 5.77°)		5	4	4	3	3	2	2	1	1	0	0
5° 46' - 9° 52' (5.77° - 12.87°)		5	5	4	4	3	3	2	2	1	1	0
9° 52' - 12° 44' (12.87° - 12.73°)		6	5	5	4	4	3	3	2	2	1	1

Geographical latitude, North or South	Height above sea level												
	[m]	0 - 325	325 - 650	650 - 975	975 - 1300	1300 - 1625	1625 - 1950	1950 - 2275	2275 - 2600	5600 - 2925	2925 - 3250	3250 - 3575	
	[ft]	0 - 1060	1060 - 2130	2130 - 3200	3200 - 4260	4260 - 5330	5330 - 6400	6400 - 7460	7460 - 8530	8530 - 9600	9600 - 10660	10660 - 11730	
12° 44' - 15° 6' (12.73° - 15.1°)		6	6	5	5	4	4	3	3	2	2	1	
15° 6' - 17° 10' (15.1° - 17.17°)		7	6	6	5	5	4	4	3	3	2	2	
17° 10' - 19° 2' (17.17° - 19.03°)		7	7	6	6	5	5	4	4	3	3	2	
19° 2' - 20° 45' (19.03° - 20.75°)		8	7	7	6	6	5	5	4	4	3	3	
20° 45' - 22° 22' (20.75° - 22.37°)		8	8	7	7	6	6	5	5	4	4	3	
22° 22' - 23° 54' (22.37° - 23.9°)		9	8	8	7	7	6	6	5	5	4	4	
23° 54' - 25° 21' (23.9° - 25.35°)		9	9	8	8	7	7	6	6	5	5	4	
25° 21' - 26° 45' (23.35° - 26.75°)		10	9	9	8	8	7	7	6	6	5	5	
26° 45' - 28° 6' (26.75° - 28.1°)		10	10	9	9	8	8	7	7	6	6	5	
28° 6' - 29° 25' (28.1° - 29.42°)		11	10	10	9	9	8	8	7	7	6	6	
29° 25' - 30° 41' (29.42° - 30.68°)		11	11	10	10	9	9	8	8	7	7	6	
30° 41' - 31° 56' (30.68° - 31.93°)		12	11	11	10	10	9	9	8	8	7	7	
31° 56' - 33° 9' (31.93° - 33.15°)		12	12	11	11	10	10	9	9	8	8	7	
33° 9' - 34° 21' (33.15° - 34.35°)		13	12	12	11	11	10	10	9	9	8	8	
34° 21' - 35° 31' (34.35° - 35.52°)		13	13	12	12	11	11	10	10	9	9	8	
35° 31' - 36° 41' (35.52° - 36.68°)		14	13	13	12	12	11	11	10	10	9	9	
36° 41' - 37° 50' (36.68° - 37.83°)		14	14	13	13	12	12	11	11	10	10	9	
37° 50' - 38° 58' (37.83° - 38.97°)		15	14	14	13	13	12	12	11	11	10	10	
38° 58' - 40° 5' (38.97° - 40.08°)		15	15	14	14	13	13	12	12	11	11	10	
40° 5' - 41° 12' (40.08° - 41.2°)		16	15	15	14	14	13	13	12	12	11	11	
41° 12' - 42° 19' (41.2° - 42.32°)		16	16	15	15	14	14	13	13	12	12	11	
42° 19' - 43° 26' (42.32° - 43.43°)		17	16	16	15	15	14	14	13	13	12	12	
43° 26' - 44° 32' (43.43° - 44.53°)		17	17	16	16	15	15	14	14	13	13	12	
44° 32' - 45° 38' (44.53° - 45.63°)		18	17	17	16	16	15	15	14	14	13	13	
45° 38' - 46° 45' (45.63° - 46.75°)		18	18	17	17	16	16	15	15	14	14	13	
46° 45' - 47° 51' (46.75° - 47.85°)		19	18	18	17	17	16	16	15	15	14	14	
47° 51' - 48° 58' (47.85° - 48.97°)		19	19	18	18	17	17	16	16	15	15	14	
48° 58' - 50° 6' (48.97° - 50.1°)		20	19	19	18	18	17	17	16	16	15	15	
50° 6' - 51° 13' (50.1° - 51.22°)		20	20	19	19	18	18	17	17	16	16	15	
51° 13' - 52° 22' (51.22° - 52.37°)		21	20	20	19	19	18	18	17	17	16	16	

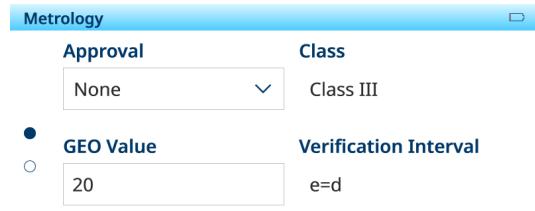
Geographical latitude, North or South	Height above sea level											
	[m]	0 - 325	325 - 650	650 - 975	975 - 1300	1300 - 1625	1625 - 1950	1950 - 2275	2275 - 2600	5600 - 2925	2925 - 3250	3250 - 3575
	[ft]	0 - 1060	1060 - 2130	2130 - 3200	3200 - 4260	4260 - 5330	5330 - 6400	6400 - 7460	7460 - 8530	8530 - 9600	9600 - 10660	10660 - 11730
52° 22' - 53° 31' (52.37° - 53.52°)		21	21	20	20	19	19	18	18	17	17	16
53° 31' - 54° 41' (53.52° - 54.68°)		22	21	21	20	20	19	19	18	18	17	17
54° 41' - 55° 52' (54.68° - 55.87°)		22	22	21	21	20	20	19	19	18	18	17
55° 52' - 57° 4' (55.87° - 57.07°)		23	22	22	21	21	20	20	19	19	18	18
57° 4' - 56° 17' (57.07° - 56.28°)		23	23	22	22	21	21	20	20	19	19	18
56° 17' - 59° 32' (56.28° - 59.53°)		24	23	23	22	22	21	21	20	20	19	19
59° 32' - 60° 49' (59.53° - 60.82°)		24	24	23	23	22	22	21	21	20	20	19
60° 49' - 62° 9' (60.82° - 62.15°)		25	24	24	23	23	22	22	21	21	20	20
62° 9' - 63° 30' (62.15° - 63.5°)		25	25	24	24	23	23	22	22	21	21	20
63° 30' - 64° 55' (63.5° - 64.92°)		26	25	25	24	24	23	23	22	22	21	21
64° 55' - 66° 24' (64.92° - 66.4°)		26	26	25	25	24	24	23	23	22	22	21
66° 24' - 67° 57' (66.4° - 67.95°)		27	26	26	25	25	24	24	23	23	22	22
67° 57' - 69° 35' (67.95° - 69.58°)		27	27	26	26	25	25	24	24	23	23	22
69° 35' - 71° 21' (69.58° - 71.35°)		28	27	27	26	26	25	25	24	24	23	23
71° 21' - 73° 16' (71.35° - 73.27°)		28	28	27	27	26	26	25	25	24	24	23
73° 16' - 75° 24' (73.27° - 75.4°)		29	28	28	27	27	26	26	25	25	24	24
75° 24' - 77° 52' (75.4° - 77.87°)		29	29	28	28	27	27	26	26	25	25	24
77° 52' - 80° 56' (77.87° - 80.93°)		30	29	29	28	28	27	27	26	26	25	25
80° 56' - 85° 45' (80.93° - 85.75°)		30	30	29	29	28	28	27	27	26	26	25
85° 45' - 90° 0' (85.75° - 90.0°)		31	30	30	29	29	28	28	27	27	26	26

5.1.1 Exact GEO Code

IND400 provides the exact GEO code as the extension for the GEO code feature. The idea of Exact GEO code is to provide more digits in GEO code (Originally the GEO code is an integer value between 0 and 31) to get more accurate "g".

- The terminal is in non-approved mode.

- Open the **Metrology** page in the path **Scale > Metrology**.
- Click the softkey .
- Enter the **Latitude (°)** and the **Elevation** in the pop-up **GEO Code Determination** page.



- The **Calculated GEO Code** with one digit after the point is displayed in the page.

4 Click the softkey .

- The **Calculated GEO Code** is updated to the **GEO Code** field in the **Metrology** page.

GEO Determination				
Latitude (°)	Elevation			
46.0438	382 m			
Calculated GEO Code				
4.4				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5.2 Available SICS commands

CLR	Clear key
D	Scale display
DAT	Inquire/set system date
DIO	Inquire input status / set output status
DW	Weight display
DY	Target values
GEO	Inquire Geo value
IO	Inquire all implemented MT-SICS commands
I1	Inquire MT-SICS level and MT-SICS versions
I2	Inquire device data
I3	Inquire terminal software version and type definition number
I4	Inquire serial number
I6	Inquiry of scale build parameters
I10	Inquire/set device identification
I11	Inquire model designation
I12	Inquire/set identifications ID1 / ID2 / ID3
I13	
I14	
I51	Power on time
K	Keyboard monitoring
LDR	Load material
MER	Inquire meridian
M08	Inquire/set display brightness
M15	Language
M21	Inquire/set weight unit
PCS	Send number of pieces immediately
PMC	Set Over/under checkweighing parameters in counting mode
PMI	Inquire Over/under checkweighing parameters in weighing mode
PMW	Set Over/under checkweighing parameters in weighing mode
PRN	Initiate printout
PW	Inquire/set the piece weight
PWR	Switch off
REF	Counting: Build reference
RST	Restart
RO	Enable user input
R1	Disable user input
S	Send stable weight value
SI	Send weight value immediately

SIH	Send net value in high resolution immediately
SIR	Send weight value immediately and repeat
SIRU	Send weight value with currently displayed unit immediately and repeat
SIS	Send current net information
SIU	Send weight value with currently displayed unit immediately
SIX1	Current gross, net, tare values
SIX2	Current gross, net, tare, HighResNet values
SIX3	Current gross, net, tare, HighResNet, MaxResNet values
SM	Send stable net value with range information
SMI	Send net value with range information immediately
SMIR	Send net value with range information immediately and repeat
SM1	Perform animal weighing
SNS	Inquire/set the active scale
SR	Send weight value on weight change
SRU	Send weight value in display unit on weight change and repeat
ST	Send stable weight value after pressing the transfer key
STA	Preset tare value in the defined unit
SU	Send stable weight value in display unit
SV	Send stable net value
SVI	Send net value immediately
SVIR	Send net value immediately and repeat
SWU	Switch display unit
SX	Send stable weighing data
SXI	Send stable weighing data immediately
SXIR	Send stable weighing data immediately and repeat
T	Tare
TA	Inquire/set tare value
TAC	Clear tare value
TI	Tare immediately
TIM	Inquire/set system time
U	Unit change
Z	Zero
ZI	Zero immediately
@	Reset

i Note

For more information on the SICS commands, refer to the MT-SICS Reference manual 30881805.

5.3 Available Connection Protocols

i Note

Default settings are shown in **bold**.

SICS Server

For more information on the SICS commands, refer to the MT-SICS Reference manual 30881805.

SICS Continuous

The terminal continuously sends data packets (about 20 to 25 times) in the following format:

S_S_Weight value_Unit	Current stable weight in the unit currently set for Unit1
S_D_Weight value_Unit	Dynamic (unstable) weight in the unit currently set for Unit 1
S_I	Command understood, but not executable at present

S_+	Scale in overload range
S_-	Scale in underload range.

For more information on the SICS commands, refer to the MT-SICS Reference manual 30881805.

TOLEDO Continuous-W

Weight values are transferred in the following format:

	Status				Field 1							Field 2						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
STX	SWA	SWB	SWC	MSD	–	–	–	–	LSD	MSD	–	–	–	–	LSD	CR	CHK	

Field 1	Weight value without decimal point and unit
Field 2	Tare weight without decimal point and unit
STX	"Start of text", can be activated/deactivated in the menu settings
SWAS, SWB, SWC	Status words, see below
MSD	Most significant digit
LSD	Least significant digit
CR	Carriage Return
CHK	Checksum (2-complement of the binary sum of the 7 lower bits of all the characters sent before including STX and CR), can be activated/deactivated in the menu settings.

Status word A

		Status bit							
Function	Selection	6	5	4	3	2	1	0	
Decimal position	X00	0	1			0	0	0	
	X0					0	0	1	
	0.X					0	1	0	
	0.OX					0	1	1	
	0.00X					1	0	0	
	0.000X					1	0	1	
	0.0000X					1	1	1	
Numerical increment	X1	0	1						
	X2	1	0						
	X5	1	1						

Status word B

Function	Value	Bit
Gross/Net	Net = 1	0
Sign	Negative = 1	1
Underload/Overload	Overload = 1	2
Movement	Movement = 1	3
kg/lb	kg = 1	4
1	1	5
Power up	Power up = 1	6

Status word C

Function/Value				Bit
kg/lb	g	t	oz	
0	1	0	1	0
0	0	1	1	1
0	0	0	0	2

Function/Value	Bit
Print request = 1	3
Expand data X10 =1, Normal = 0	4
Always = 1	5
Always = 0	6

TOLEDO Continuous-C

This protocol is for the counting application. Piece count values are transferred in the following format:

	Status				Field 1										Field 2						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18				
STX	SWA	SWB	SWC	MSD	—	—	—	—	LSD	MSD	—	—	—	—	LSD	CR	CHK				

Field 1	6 Byte for piece count, no leading "0", tailing space If not in counting application: 6 Byte filled with "0"
Field 2	6 Byte filled with "0"
STX	"Start of text", can be activated/deactivated in the menu settings
SWAS, SWB, SWC	Status words, see below
MSD	Most significant digit
LSD	Least significant digit
CR	Carriage Return
CHK	Checksum (2-complement of the binary sum of the 7 lower bits of all the characters sent before including STX and CR), can be activated/deactivated in the menu settings.

Input commands supported

P	Printing out the current result
T	Taring the scale
Z	Zero setting of the display
C	Deleting of the current value
U	Switch unit

Input Template

This protocol is used e.g. for a barcode connection.

Setup item	Possible settings
Preamble Length	0 ... 20 (characters)
Data Length	1 ... 99 (characters)
Postamble Length	0 ... 20 (characters)
Assignment	None , Keypad, Preset Tare, Tare ID, ID1, ID2, ID3, Target ID, Material ID
Termination Character	None, SOH, STX, ETX, EOT, ENQ, ACK, BEL, BS, HT, LF, VT, FF, CR , SO, SI, DLE, DC1, DC2, DC3, DC4, NAK, SYN, ETB, CAN, EM, SUB, ESC, FS, GS, RS, US
	Note For standard definition of these characters, see [Control Characters ▶ Page 180].

Second Display

Setup item	Sub items	Possible settings
Toledo continuous-W	Checksum	On/Off
Toledo continuous-C	STX	
AD-RS-M7		

Post

Setup item	Possible settings
Post	IBP , IBP Demand, IP2420, IP2420 Demand, OPOS

DigTol

Setup item	Possible settings
Gross	G , B, Off
Net	On , Off
Tare	On , Off

Demand Mode

Setup item	Possible settings
Auto	On / Off
Print G	On / Off
Line Format	Multiple , Single, Fixed
Expanded	On / Off
Checksum	On / Off
STX	On / Off

PM

Setup item	Possible settings
Special	On / Off

Remote Scale

Setup item	Sub items	Possible settings
SICS Client		
Toledo Continuous-W	Terminal Model	General, IND231/6, IND245, IND256x, ICS4xx, ICS6xx, IND400 , IND570, IND500x, IND700, IND900 base pack IND900 FA
	Checksum	On / Off
	STX	On / Off

Reference Balance

This mode is used to connect a reference balance for counting. There are no more settings.

Transfer

Setup item	Sub Items	Remark
Print Type	ASCII Printer	All ASCII templates can be used for the printout
	Smart Printer	
	Label Printer	All Label templates can be used for the printout
Length	1 ... 24 ... 100 (characters)	For ASCII Printer and Smart Printer only
Endcoding Format	UTF8 , Unicode, GB2312, Shift_JIS, ISO/IEC 8859-15	

Parameter Server

This mode is used to connect a server for importing/exporting parameters. It is a protocol proprietary for MT internal use. There are no more settings.

PSCP

PSCP is one mode of communication port, and could be activated in menu setting, with Manual mode and Auto mode available for selection. The difference between these two modes is that Auto mode sends data automatically via the interface (same conditions as Auto Print), whereas with the Manual mode, the sending has to be initiated by pressing the transfer key or sending a command.

Setup item	Possible settings
Format	16 Bytes Without ID , 22 Bytes With ID
Auto	On / Off

- Format for 16 Bytes without ID

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
+	*	D	D	D	D	D	D	D	D	*	U	U	U	CR	LF
-	*	D	D	D	D	D	D	D	D	*	U	U	U	CR	LF
*	*	*	*	*	*	*	*	*	*	*	*	*	*	CR	LF

+/ -: Sign

*: Space

D: Digits or display symbol (maximum of 7 with decimal point)

U: Unit symbol (1, 2 or 3 characters; if length is < 3, filled with follow space symbols)

CR: Enter

LF: Line feed

- Format for 22 Bytes with ID

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
I	I	I	I	I	I	+	*	D	D	D	D	D	D	D	*	U	U	U	CR	LF	
I	I	I	I	I	I	-	*	D	D	D	D	D	D	D	*	U	U	U	CR	LF	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	CR	LF	

I: ID code (right align); "N" for net weight, "G" for gross weight, "T" for tare value

+/ -: Sign

*: Space

D: Digits or display symbol (maximum of 7 with decimal point)

U: Unit symbol (1, 2 or 3 characters; if length is < 3, filled with follow space symbols)

CR: Enter

LF: Line feed

- Control Command

ESC P CR LF: Read net weight

ESC U CR LF: Read tare weight

ESC V CR LF: Read gross weight

ESC T CR LF: Tare

ESC Z CR LF: Zero

Modbus RTU / Modbus TCP

Modbus is one kind of commonly available means of connecting industrial electronic devices. It is typically used for communication with I/O systems, including Programmable Logic Controllers (PLCs). Modbus can be assigned to the port installed RS232, RS485/422, and Ethernet option board.

Modbus RTU is applicable for port RS232 or RS485/422, while Modbus TCP is applicable for Ethernet port.

- Byte Order

Configuration Item	Description
Big Endian	An order in which the "big end" (most significant value in the sequence) is stored first, at the lowest storage address
Little Endian	An order in which the "little end" (least significant value in the sequence) is stored first
Byte Swap	Consists of masking each byte and shifting them to the correct location.
Word Swap	Consists of masking each word and shifting them to the correct location

- Modbus Commands

Address	Function	Data Type	Read / Write	Description
40001	Report Default Value	Float	R	Gross weight data in displayed resolution
40003	Report Rounded Gross Weight	Float	R	Gross weight data in displayed resolution
40005	Report Rounded Tare Weight	Float	R	Tare weight data in displayed resolution
40007	Report Rounded Net Weight	Float	R	Net weight data in displayed resolution
40015	Report Weight Unit	Float	R	Weight unit (number representing unit from chart)
40020	Write Preset Tare Weight	Float	W	Sets Preset Tare to Value provided.
40022	Tare	Short	W	Tare executed with motion check. If address 40991 is set to Little Endian or Byte Swap: 0 = Disable 1 = Enable
40023	Report Tare operation status	Short	R	Report Tare operation status (used when triggering tare from acyclic interface).
40024	Zero	Short	W	Zero executed with motion check. If address 40991 is set to Little Endian or Byte Swap: 0 = Disable 1 = Enable
40025	Report zero operation status	Short	R	Report zero operation status (used when triggering zero from acyclic interface).
40026	Clear Tare	Short	W	Motion not checked, clear tare executed. If address 40991 is set to Little Endian or Word Swap: 0=Disable 1=Enable
40027	Tare Immediate	Short	W	Motion not checked, tare executed.
40028	Zero Immediate	Short	W	Motion not checked, zero executed.
40029	Print	Short	W	Demand Print executed. If address 40991 is set to Little Endian or Word Swap: 0 = Disable 1 = Enable
40204	Report d	Float	R	Smallest "d" available digit (MT-SICS:I38)
40206	Report "Nmax"	Float	R	Scale /sensor capacity (MT-SICS:XP9010)
40991	Swap Mode of byte order	Short	R / W	Change byte order swap mode: <ul style="list-style-type: none">• 0-Automatic(unsupported)• 1-Big Endian(default)[a b c d] [a b]• 2-Little Endian [d c b a] [b a]• 3-Byte Swap [c d a b] [a b]• 4-Word Swap [b a d c] [b a]
40993	Automatic Byte Order Setting	Float	R / W	Automatically recognizing the byte order. User writes this index using float value 2.76 with wanted byte order. When user writes to this index, Terminal recognizes the value with different byte order to check if the value is 2.76(0x4030a3d7). If verified, change index 40991's value.
40994				
41001	Rounded Tare weight	Float	R	Tare weight data in displayed resolution
41003	Display weight	Float	R	Gross weight data in displayed resolution

Address	Function		Data Type	Read / Write	Description
41005	.0	Status	Bit	R	Data OK
	.1		Bit	R	Motion
	.2		Bit	R	Net Mode
	.3		Bit	R	Center of Zero
	.4		Bit	R	X10 Status
	.5		Bit	R	Print Status: 0 = No operation 1 = In Process
	.6		Bit	R	Zero Status: 0 = No operation 1 = In Process
	.7		Bit	R	Tare Status: 0 = No operation 1 = In Process
	.8		Bit	R	Empty
	.9		Bit	R	Empty
	.10		Bit	R	Empty
	.11		Bit	R	Empty
	.12		Bit	R	Empty
	.13		Bit	R	Empty
	.14		Bit	R	Empty
	.15		Bit	R	Empty

Note: All of the description in the above table is based on that address 40991 is set to Little Endian or Word Swap mode. Bit order may need to change correspondingly in other mode.

Definition of Address 40015

Index	Weight Unit
1	g
2	kg
3	oz
4	lb
5	t
6	ton

Definition of Address 40023

Index	Weight Unit
0	Tare success
1	Taring
2	Tare fail

When user writes tare command to terminal, the terminal first enters into taring status. Then it will change to tare success or tare fail status. The terminal will keep success or fail status until user writes tare command next time.

Definition of Address 40025

Index	Weight Unit
0	Zero success
1	Zeroing
2	Zero fail

When user writes zero command to terminal, the terminal first enters into zeroing status. Then it will change to zero success or zero fail status. The terminal will keep success or fail status until user writes zero command next time.

5.4 ASCII Standard and Control Codes

DEC	HEX	Symbol	DEC	HEX	Symbol	DEC	HEX	Symbol	DEC	HEX	Symbol
0	00	NUL	64	40	@	128	80	€	192	C0	À
1	01	SOH	65	41	A	129	81		193	C1	Á
2	02	STX	66	42	B	130	82	,	194	C2	Â
3	03	ETX	67	43	C	131	83	f	195	C3	Ã
4	04	EOT	68	44	D	132	84	"	196	C4	Ä
5	05	ENQ	69	45	E	133	85	...	197	C5	Å
6	06	ACK	70	46	F	134	86	†	198	C6	Æ
7	07	BEL	71	47	G	135	87	‡	199	C7	Ç
8	08	BS	72	48	H	136	88	^	200	C8	È
9	09	HT	73	49	I	137	89	%	201	C9	É
10	0A	LF	74	4A	J	138	8A	Š	202	CA	Ê
11	0B	VT	75	4B	K	139	8B	„	203	CB	Ë
12	0C	FF	76	4C	L	140	8C	Œ	204	CC	ì
13	0D	CR	77	4D	M	141	8D		205	CD	í
14	0E	SO	78	4E	N	142	8E	Ž	206	CE	î
15	0F	SI	79	4F	O	143	8F		207	CF	ï
16	10	DLE	80	50	P	144	90		208	D0	Đ
17	11	DC1	81	51	Q	145	91	'	209	D1	Ñ
18	12	DC2	82	52	R	146	92	'	210	D2	Ò
19	13	DC3	83	53	S	147	93	"	211	D3	Ó
20	14	DC4	84	54	T	148	94	"	212	D4	Ô
21	15	NAK	85	55	U	149	95	•	213	D5	Õ
22	16	SYN	86	56	V	150	96	—	214	D6	Ö
23	17	ETB	87	57	W	151	97	—	215	D7	×
24	18	CAN	88	58	X	152	98	~	216	D8	Ø
25	19	EM	89	59	Y	153	99	™	217	D9	Ù
26	1A	SUB	90	5A	Z	154	9A	š	218	DA	Ú
27	1B	ESC	91	5B	[	155	9B	>	219	DB	Û
28	1C	FS	92	5C	\	156	9C	œ	220	DC	Ü
29	1D	GS	93	5D	]	157	9D		221	DD	Ý
30	1E	RS	94	5E	^	158	9E	ž	222	DE	þ
31	1F	US	95	5F	_	159	9F	ÿ	223	DF	ß
32	20		96	60	`	160	A0		224	E0	à
33	21	!	97	61	¤	161	A1	í	225	E1	á
34	22	"	98	62	¤	162	A2	¢	226	E2	â
35	23	#	99	63	¤	163	A3	¤	227	E3	ã
36	24	\$	100	64	¤	164	A4	¤	228	E4	ä
37	25	%	101	65	¤	165	A5	¤	229	E5	å

DEC	HEX	Symbol	DEC	HEX	Symbol	DEC	HEX	Symbol	DEC	HEX	Symbol
38	26	&	102	66	f	166	A6	í	230	E6	æ
39	27	'	103	67	g	167	A7	§	231	E7	ç
40	28	(	104	68	h	168	A8	"	232	E8	è
41	29	)	105	69	i	169	A9	©	233	E9	é
42	2A	*	106	6A	j	170	AA	ª	234	EA	ê
43	2B	+	107	6B	k	171	AB	«	235	EB	ë
44	2C	,	108	6C	l	172	AC	¬	236	EC	ì
45	2D	-	109	6D	m	173	AD		237	ED	í
46	2E	.	110	6E	n	174	AE	®	238	EE	î
47	2F	/	111	6F	o	175	AF	-	239	EF	ï
48	30	0	112	70	p	176	B0	°	240	F0	ð
49	31	1	113	71	q	177	B1	±	241	F1	ñ
50	32	2	114	72	r	178	B2	²	242	F2	ò
51	33	3	115	73	s	179	B3	³	243	F3	ó
52	34	4	116	74	t	180	B4	'	244	F4	ô
53	35	5	117	75	u	181	B5	µ	245	F5	õ
54	36	6	118	76	v	182	B6	¶	246	F6	ö
55	37	7	119	77	w	183	B7	.	247	F7	÷
56	38	8	120	78	x	184	B8	,	248	F8	ø
57	39	9	121	79	y	185	B9	¹	249	F9	ù
58	3A	:	122	7A	z	186	BA	º	250	FA	ú
59	3B	;	123	7B	{	187	BB	»	251	FB	û
60	3C	<	124	7C	|	188	BC	¼	252	FC	ü
61	3D	=	125	7D	}	189	BD	½	253	FD	ý
62	3E	>	126	7E	~	190	BE	¾	254	FE	þ
63	3F	?	127	7F		191	BF	¿	255	FF	ÿ

5.4.1 Control Characters

Symbol	Definition	Function
SOH	Start of Heading	A transmission control character used as the first character of a heading of an information message.
STX	Start of Text	A transmission control character that precedes a text and that is used to terminate a heading.
ETX	End of Text	A transmission control character that terminates a text.
EOT	End of Transmission	A transmission control character used to indicate the conclusion of the transmission of one or more texts.
ENQ	Enquiry	A transmission control character used as a request for a response from a remote station; the response may include station identification and/or station status. When a "Who are you" function is required on the general switched transmission network, the first use of ENQ after the connection is established will have the meaning "Who are you" (station identification). Subsequent use of ENQ may, or may not, include the function "Who are you", as determined by agreement.
ACK	Acknowledgment	A transmission control character transmitted by a receiver as an affirmative response to the sender.
BEL	Bell	A control character that is used when there is a need to call for attention; it may control alarm or attention devices.
BS	Back Space	A format effector that moves the active position one character position backwards on the same line.

Symbol	Definition	Function
HT	Horizontal Tab	A format effector that advances the active position to the next pre-determined character position on the same line.
LF	Line Feed	A format effector that advances the active position to the same character position of the next line.
VT	Vertical Tab	A format effector that advances the active position to the same character position on the next pre-determined line.
FF	Form Feed	A format effector that advances the active position to the same character position on a pre-determined line of the next form or page.
CR	Carriage Return	A format effector that moves the active position to the first character position on the same line.
SO	Shift Out / X-On	A control character that is used in conjunction with SHIFT IN and ESCAPE to extend the graphic character set of the code.
SI	Shift In / X-Off	A control character that is used in conjunction with SHIFT OUT and ESCAPE to extend the graphic character set of the code.
DLE	Data Line Escape	A transmission control character that will change the meaning of a limited number of contiguously following characters. It is used exclusively to provide supplementary data transmission control functions. Only graphic characters and transmission control characters can be used in DLE sequences.
DC1	Device Control 1 (oft. XON)	A device control character that is primarily intended for turning on or starting an ancillary device. If it is not required for this purpose, it may be used to restore a device to the basic mode of operation (see also DC2 and DC3), or for any other device control function not provided by other DCs.
DC2	Device Control 2	A device control character that is primarily intended for turning on or starting an ancillary device. If it is not required for this purpose, it may be used to set a device to a special mode of operation (in which case DC1 is used to restore normal operation), or for any other device control function not provided by other DCs.
DC3	Device Control 3 (oft. XOFF)	A device control character that is primarily intended for turning off or stopping an ancillary device. This function may be a secondary level stop, for example, wait, pause, stand-by or half (in which case DC1 is used to restore normal operation). If it is not required for this purpose, it may be used for any other device control function not provided by other DCs.
DC4	Device Control 4	A device control character that is primarily intended for turning off, stopping, or interrupting an ancillary device. If it is not required for this purpose, it may be used for any other device control function not provided by other DCs.
NAK	Negative Acknowledgement	A transmission control character transmitted by a receiver as a negative response to the sender.
SYN	Synchronous Idle	A transmission control character used by a synchronous transmission system in the absence of any other character (idle condition) to provide a signal from which synchronism may be achieved or retained between data terminal equipment.
ETB	End of Transmit Block	A transmission control character used to indicate the end of a transmission block of data where data is divided into such blocks for transmission purposes.
CAN	Cancel	A character, or the first character of a sequence, indicating that the data preceding it is in error. As a result, this data is to be ignored. The specific meaning of this character must be defined for each application and/or between sender and recipient.

Symbol	Definition	Function
EM	End of Medium	A control character that may be used to identify the physical end of a medium, or the end of the used portion of a medium, or the end of the wanted portion of data recorded on a medium. The position of this character does not necessarily correspond to the physical end of the medium.
SUB	Substitute	A control character used in the place of a character that has been found to be invalid or in error. SUB is intended to be introduced by automatic means.
ESC	Escape	A control character that is used to provide additional control functions. It alters the meaning of a limited number of contiguously following bit combinations.
FS	File Separator	A control character used to separate and qualify data logically; its specific meaning has to be specified for each application. If this character is used in hierarchical order, it delimits a data item called a file.
GS	Group Separator	A control character used to separate and qualify data logically; its specific meaning has to be specified for each application. If this character is used in hierarchical order, it delimits a data item called a group.
RS	Record Separator	A control character used to separate and qualify data logically; its specific meaning has to be specified for each application. If this character is used in hierarchical order, it delimits a data item called a record.
US	Unit Separator	A control character used to separate and qualify data logically; its specific meaning has to be specified for each application. If this character is used in hierarchical order, it delimits a data item called a unit.

5.5 Menu Access Matrix

Menu block	Setup item	Sub items	Admin	Supervisor	QA ¹	Operator	IT ¹
Scale Configuration ²	Metrology	Approval	✓				
		GEO Code	✓				
		Lower template limit	✓				
		Upper template limit	✓				
	Identification	Serial Number	✓	✓	✓		
		Scale Model	✓	✓	✓		
		Scale Location	✓	✓	✓		
		Scale Identification	✓	✓	✓		
	Capacity & Increment	Ranges	✓				
		Base unit/Primary Unit	✓				
		Capacity1	✓				
		Resolution 1	✓				
		Blank over capacity(d)	✓				
	Linearization & Calibration	Auto print calibration log	✓				
		Perform calibration	✓				
	Control Mode		✓	✓	✓	✓	
	Units	Second Unit	✓	✓	✓		
		Third Unit	✓	✓	✓		
		Primary Unit	✓	✓	✓		

Menu block	Setup item	Sub items	Admin	Supervisor	QA ¹	Operator	IT ¹
Zero	Zero	Startup Zero	✓	✓	✓		
		Lower zero capture range(Power up)	✓				
		Upper zero capture range(Power up)	✓				
		Center of Zero	✓				
		Auto zero tracking	✓	✓	✓		
		Auto zero maintenance(range)	✓				
		Black under zero	✓				
		Push button zero	✓	✓	✓		
		Lower push button zero range	✓				
		Upper push button zero range	✓				
Tare	Tare	Startup Tare	✓	✓	✓		
		Auto Tare Mode	✓	✓	✓		
		Chain Tare Mode	✓	✓	✓		
		Auto Clear Tare	✓	✓	✓		
		Auto Clear Tare Threshold (d)	✓	✓	✓		
		Push Button Tare	✓	✓	✓		
		Net Sign Correction	✓	✓	✓		
		Keyboard Tare	✓	✓	✓		
Filter	Filter	Low Pass Filter	✓				
		Stability Filter	✓				
	Stability	Motion Range	✓				
		No-Motion Interval	✓				
	MinWeigh	MinWeigh Mode	✓	✓	✓		
Application Configuration	Reset	-	✓	✓	✓		
	Use Last Active App	-	✓	✓	✓	✓	
	Memory	Alibi Table	✓	✓	✓	✓	
		Configurable Table	✓	✓	✓	✓	
	Basic Weighing	Settings	✓	✓	✓		
		Transfer	✓	✓	✓		
		Transaction Table	✓	✓	✓	✓	
	Over/Under	Settings	✓	✓	✓		
		Transfer	✓	✓	✓		
		Transaction Table	✓	✓	✓	✓	
	Manual Filling/ Dosing	Settings	✓	✓	✓		
		Transfer	✓	✓	✓		
		Transaction Table	✓	✓	✓	✓	
	Classification	Settings	✓	✓	✓		
		Transfer	✓	✓	✓		
		Transaction Table	✓	✓	✓	✓	
	Totalization	Settings	✓	✓	✓		
		Transfer	✓	✓	✓		
		Transaction Table	✓	✓	✓	✓	

Menu block	Setup item	Sub items	Admin	Supervisor	QA ¹	Operator	IT ¹	
Terminal Configuration	IDs	ID1 Legend	✓	✓	✓			
		ID2 Legend	✓	✓	✓			
		ID3 Legend	✓	✓	✓			
	Data Integrity	Electronic Signature	✓	✓	✓			
	Device	Region→Language	✓	✓	✓			
		Region→Date & Time	✓					
		License Management	✓					
Communication Configuration		Screen Saver	✓	✓	✓			
		Backlight	✓	✓	✓	✓	✓	
		Identification	✓	✓	✓			
		Memory Statistic	✓	✓	✓			
User Management	Role Definition	✓	✓	✓		✓		
	User Definition	✓	✓	✓		✓		
	Password Policy	✓	✓	✓		✓		
	Export	✓				✓		
	Import	✓				✓		
Maintenance	Template	-	✓	✓	✓			
	Connection	-	✓	✓	✓			
	Serial	-	✓	✓	✓			
	Ethernet	Network Setting	✓	✓	✓			
	VNC Server	Enable & Disable	✓	✓	✓			
	Web API Server	Enable & Disable	✓	✓	✓			
	MQTT Client	-	✓	✓	✓			
	LDAP	Enable & Disable	✓	✓	✓			
	Certification Management	-	✓					
	Diagnosis	Scale 1	✓					
		Battery	✓	✓	✓			
		Device	✓	✓	✓			
	Statistics	Scale 1	✓	✓	✓			
		System	✓	✓	✓			
		Key Count	✓	✓	✓			
		Service Input	✓	✓	✓			
Routine Test Management	Sensitivity	✓						
	Eccentricity	✓						
	Repeatability	✓						
	1-Point Test	✓	✓	✓				
	Walk-Test	✓	✓	✓				
	Customized Event Name can't be blank.	✓	✓	✓				
	Enable Logs	-	✓					
	Update Firmware	-	✓					
	Backup	-	✓					
	Restore	-	✓					
	Reset	Scale	✓					
		Terminal	✓					

Menu block	Setup item	Sub items	Admin	Supervisor	QA ¹	Operator	IT ¹
		Maintenance	✓				
		Applications	✓				
		Communication	✓				
		Master Reset ³					

 **Note**

- 1: This role is only available in Data Integrity-enabled versions.
- 2: Scale block is only compatible with analog scales.
- 3: MT Technician role is exclusive to METTLER TOLEDO technical service personnel.

5.6 MQTT Messages

5.6.1 Commands

Description	Request	Response
Zero a Scale	<pre>{ "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Request", "ActionCode": "Update", "MessageID": "1234", "Path": "Command" }, "Command": { "DeviceName": "Scale1", "CommandCode": "Zero" } } }</pre>	<pre>{ "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Response", "MessageID": "1733783860810020", "Timestamp": 1733783860810, "Path": "Command", "Response": { "ResponseCode": "OK", "RequestID": "1234" }, "WorkstationID": "IND400-123456" }, "Command": { "DeviceName": "Scale1", "CommandCode": "Zero" }, "Measurement": [{ "id": "00000000-0401-0500-0000-000000123456", "type": "weight", "deviceName": "Scale1", "deviceType": "Analog Scale", "gross": "0.00", "net": "0.00", "tare": "0.00", "stable": true, "uomCode": "kg", "hiResGross": "0.000", "dataOK": true, "centerOfZero": false, "overload": false, "underload": false, "tareMode": "", "legalForTrade": "None", "range": 1, "rangeIncrement": "0.02", "tareIncrement": "0.02" }] } }</pre>

Description	Request	Response
] } }
Tare a Scale	<pre>["Message": { "Header": { "Version": "v1.0.0", "MessageType": "Request", "ActionCode": "Update", "MessageID": "1234", "Path": "Command" }, "Command": { "DeviceName": "Scale1", "CommandCode": "Tare" } }]</pre>	<pre>["Message": { "Header": { "Version": "v1.0.0", "MessageType": "Response", "MessageID": "1733784163730022", "Timestamp": 1733784163730, "Path": "Command", "Response": { "ResponseCode": "OK", "RequestID": "1234" }, "WorkstationID": "IND400-123456" }, "Command": { "DeviceName": "Scale1", "CommandCode": "Tare" }, "Measurement": [{ "id": "00000000-0401-0500-0000-000000123456", "type": "weight", "deviceName": "Scale1", "deviceType": "Analog Scale", "gross": "6.42", "net": "0.00", "tare": "6.42", "stable": true, "uomCode": "kg", "hiResGross": "6.415", "dataOK": true, "centerOfZero": false, "overload": false, "underload": false, "tareMode": "T", "legalForTrade": "None", "range": 1, "rangeIncrement": "0.02", "tareIncrement": "0.02" }]]]</pre>
Preset Tare a Scale	<pre>["Message": { "Header": { "Version": "v1.0.0", "MessageType": "Request", "ActionCode": "Update", "MessageID": "1234", "Path": "Command" }, "Command": { "DeviceName": "Scale1", "CommandCode": "PresetTare", } }]</pre>	<pre>["Message": { "Header": { "Version": "v1.0.0", "MessageType": "Response", "MessageID": "1733784585200023", "Timestamp": 1733784585200, "Path": "Command", "Response": { "ResponseCode": "OK", "RequestID": "1234" }, }]]</pre>

Description	Request	Response
	<pre> "Value": 3.51, "Unit": "kg" } }] </pre>	<pre> "WorkstationID": "IND400-123456"], "Command": { "DeviceName": "Scale1", "CommandCode": "PresetTare", "Value": 3.51, "Unit": "kg" }, "Measurement": [{ "id": "00000000-0401-0500-0000-000000123456", "type": "weight", "deviceName": "Scale1", "deviceType": "Analog Scale", "gross": "6.40", "net": "2.88", "tare": "3.52", "stable": true, "uomCode": "kg", "hiResGross": "6.401", "dataOK": true, "centerOfZero": false, "overload": false, "underload": false, "tareMode": "PT", "legalForTrade": "None", "range": 1, "rangeIncrement": "0.02", "tareIncrement": "0.02" }] } </pre>
Clear a Scale	<pre> { "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Request", "ActionCode": "Update", "MessageID": "1234", "Path": "Command" }, "Command": { "DeviceName": "Scale1", "CommandCode": "Clear" } } } </pre>	<pre> { "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Response", "MessageID": "1733787267945033", "Timestamp": 1733787267945, "Path": "Command", "Response": { "ResponseCode": "OK", "RequestID": "1234" } }, "WorkstationID": "IND400-123456" }, "Command": { "DeviceName": "Scale1", "CommandCode": "Clear" }, "Measurement": [{ "id": "00000000-0401-0500-0000-000000123456", "type": "weight", "deviceName": "Scale1", "deviceType": "Analog Scale", "gross": "6.40", "net": "2.88", "tare": "3.52", "stable": true, "uomCode": "kg", "hiResGross": "6.401", "dataOK": true, "centerOfZero": false, "overload": false, "underload": false, "tareMode": "PT", "legalForTrade": "None", "range": 1, "rangeIncrement": "0.02", "tareIncrement": "0.02" }] } </pre>

Description	Request	Response
		<pre> "net": "6.40", "tare": "0.00", "stable": true, "uomCode": "kg", "hiResGross": "6.400", "dataOK": true, "centerOfZero": false, "overload": false, "underload": false, "tareMode": "", "legalForTrade": "None", "range": 1, "rangeIncrement": "0.02", "tareIncrement": "0.02" }] }] } </pre>
Print Command	<pre> ["Message": { "Header": { "Version": "v1.0.0", "MessageType": "Request", "ActionCode": "Update", "MessageID": "1234", "Path": "Command" }, "Command": { "CommandCode": "Print" } }] </pre>	<pre> ["Message": { "Header": { "Version": "v1.0.0", "MessageType": "Response", "MessageID": "1733784625665024", "Timestamp": 1733784625665, "Path": "Command", "Response": { "ResponseCode": "OK", "RequestID": "1234" }, "WorkstationID": "IND400-123456" }, "Command": { "CommandCode": "Print" }, "Measurement": [{ "id": "00000000-0401-0500-0000-000000123456", "type": "weight", "deviceName": "Scale1", "deviceType": "Analog Scale", "gross": "6.40", "net": "2.88", "tare": "3.52", "stable": true, "uomCode": "kg", "hiResGross": "6.399", "dataOK": true, "centerOfZero": false, "overload": false, "underload": false, "tareMode": "PT", "legalForTrade": "None", "range": 1, "rangeIncrement": "0.02", "tareIncrement": "0.02" }, { "id": " </pre>

Description	Request	Response
		<pre> "00000000-0402-0500-0000-000000123456", "type": "weight", "deviceName": "Scale2", "deviceType": "Remote Scale", "gross": "0.00", "net": "0.00", "tare": "0.00", "stable": true, "uomCode": "kg", "hiResGross": null, "dataOK": true, "centerOfZero": null, "overload": false, "underload": false, "tareMode": "", "legalForTrade": null, "range": null, "rangeIncrement": null, "interval": null, "intervalIncrement": null, "tareIncrement": null]] }] </pre>

5.6.2 Read Measurement

Description	Request	Response
Read all scales in a terminal	<pre> { "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Request", "ActionCode": "Read", "MessageID": "1234", "Path": "Measurement/Weight" } } } </pre>	<pre> { "Message": { "Header": { *** "Response": { *** }, "WorkstationID": "IND400-123456" }, "Measurement": [{ "id": "00000000-0401-0500-0000-000000123456", "type": "weight", "deviceName": "Scale1", "deviceType": "Analog Scale", *** }, { "id": "00000000-0402-0500-0000-000000123456", "type": "weight", "deviceName": "Scale2", "deviceType": "Remote Scale", *** }] } </pre>

Description	Request	Response
Read a specific scale in a terminal	<pre>{ "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Request", "ActionCode": "Read", "MessageID": "1234", "Path": "Measurement/Weight", "DeviceName": "Scale1" } } }</pre>	<pre>{ "Message": { "Header": { *** }, "Response": { *** }, "WorkstationID": "IND400-123456" }, "Measurement": [{ "id": "00000000-0401-0500-0000-000000123456", "type": "weight", "deviceName": "Scale1", "deviceType": "Analog Scale", *** }] }</pre>
Read a specific scale in a terminal and additionally show cell data	<pre>{ "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Request", "ActionCode": "Read", "MessageID": "1234", "Path": "Measurement/Weight", "DeviceName": "Scale1", "View": "All" } } }</pre>	<pre>{ "Message": { "Header": { *** }, "Response": { *** }, "WorkstationID": "IND400-123456" }, "Measurement": [{ "id": "00000000-0401-0500-0000-000000123456", "type": "weight", "deviceName": "Scale1", "deviceType": "Powercell Scale", *** "cellWeight": [***] }] }</pre>

Description	Request	Response
Read everything under Measurement/Weight	<pre>{ "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Request", "ActionCode": "Read", "MessageID": "1234", "Path": "Measurement/Weight", "View": "All" } } }</pre>	<pre>{ "Message": { "Header": { *** }, "Response": { *** }, "WorkstationID": "IND400-123456" }, "Measurement": [{ *** "deviceName": "Scale1", "deviceType": "Powercell Scale", *** "cellWeight": [***], *** { "id": "00000000-0402-0500-0000-000000123456", "type": "weight", "deviceName": "Scale2", "deviceType": "Remote Scale", *** }]] }</pre>
Read everything under Measurement - Include app	<pre>{ "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Request", "ActionCode": "Read", "MessageID": "1234", "Path": "Measurement" } } }</pre>	<pre>{ "Message": { "Header": { *** }, "Response": { *** }, "WorkstationID": "IND400-123456" }, "Measurement": [{ *** "id": "00000000-0401-0500-0000-000000123456", "type": "weight" *** }, { *** "id": "00000000-0301-0503-0000-000000123456", "type": "Over Under", "application": { *** } }] }</pre>

5.6.3 Subscribe

Description	Request	Response
Subscribe	{ "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Subscribe", "MessageID": "1234", "Path": "Measurement/Weight" } } }	{ "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Publish", "MessageID": "1733786920765031", "Timestamp": 1733786920765, "Path": "Measurement/Weight", "Response": { "ResponseCode": "OK", "RequestID": "1234" }, "WorkstationID": "IND400-123456" }, "Measurement": [{ *** }] } }
Unsubscribe	{ "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Unsubscribe", "MessageID": "1234", "Path": "Measurement/Weight" } } }	{ "Message": { "Header": { "Version": "v1.0.0", "MessageType": "Response", "MessageID": "1733787053525032", "Timestamp": 1733787053525, "Path": "Measurement/Weight", "Response": { "ResponseCode": "OK", "RequestID": "1234" }, "WorkstationID": "IND400-123456" } } }

5.7 ChangeLog for ShareData

Share data	Item	Sub Item	Title	Description
cx--01	Cell Shift Adjust	Scale-Shift Adjustment	Shift Constants	Contains one normalized long integer for each cell
xs--01	System Setup	Scale-Metrology	Approval	Approval index system: 0=USA, 1=OIML, 2=Australia, 3=Canada, 4=Argentina, 5=Thailand, 6=Korea, 7=None(Default)
xs--02		Scale-Metrology	LFT	Legal for Trade 0=disabled, 1=enabled
xs--03		-	Software Version	Software version
xs--05		Terminal-Identification	Terminal Serial Number	Terminal Serial Number: Serial #'s are 13 digits + null terminator
xs--06		Terminal-Identification	Terminal ID #1	Terminal ID #1 in menu

Share data	Item	Sub Item	Title	Description
xs--07		Terminal-Identification	Terminal ID #2	Terminal ID #2 in menu
xs--08		Terminal-Identification	Terminal ID #3	Terminal ID #3 in menu
xs--09		Terminal-Date&Time	Daylight Start Time	Daylight Saving Time Start Hour: 1=1:00 am 2=2:00 am [default] 3=3:00 am 4=4:00 am 5=5:00 am
xs--10		Terminal-Date&Time	Date format	Date format: 1=MM_DD_YY; 2=MMM_DD_YY; 3=MM_DD_YYYY; 4=MMM_DD_YYYY; 5=YY_MM_DD; 6=YY_MMM_DD; 7=YYYY_MM_DD; 8=YYYY_MMM_DD; 9=DD_MM_YY; 10=DD_MMM_YY; 11=DD_MM_YYYY; 12=DD_MMM_YYYY
xs--11		Terminal-Date&Time	Time format	Time format: 1=24_MM; 2=12_MM; 3=24_MM_SS; 4=12_MM_SS
xs--12		Terminal-Date&Time	Date Separator	Date Separator: "/"=slash, "-"=dash, "."=period, " "=space, ""=none
xs--15		Terminal-Language	Display Message	Terminal Display Message language: 0=English; 1=French; 2=German; 3=Spanish; 4=Polish; 6=Italian; 8=Portuguese; 9=Chinese; 10=Japanese;
xs--16		Terminal-Language	Keyboard Nationality	Keyboard Nationality: 1=English Keyboard; 3=French Keyboard; 6=German Keyboard
xs--20		Terminal-Date&Time	Daylight Stop Time	Daylight Saving Time End Hour: 1=1:00 am 2=2:00 am [default] 3=3:00 am 4=4:00 am 5=5:00 am
xs--21		Terminal-Energy Saver	Backlight Timeout	Backlight timeout: Range : 1-60
xs--23		Terminal-Date&Time	Time Separator	Time Separator: "."=period ; ":";
xs--24		Terminal-Date&Time	Daylight Start Month	Daylight Saving Time Start Month: Range:1-12

Share data	Item	Sub Item	Title	Description
xs--25		Terminal-Date&Time	Daylight Start Day	Daylight Saving Time Start Day: Range: 1-31
xs--26		Terminal-Language	Keyboard Layout	Keyboard Layout type: 0="QWERTY" ; (default) 1="QWERTZ"; 2="AZERTY"
xs--29		Maintenance-Backup	Auto Backup Enable	Auto Backup Enable: 0=Disable; 1=Enable
xs--32		Terminal-Energy Saver	Energy Saver Enable	Energy Saver Enable: 0=Disable; 1=Enable
xs--33		Terminal-NTP	NTP Alert Time	The last time of NTP alert
xs--35		Terminal-Screen Saver	Screen Saver Timeout	# of minutes inactivity before turning off display. 0=turn off screen saver. Default:30
xs--36		Maintenance-Backup	Auto Backup Interval Day: Range:30~365	Auto Backup Interval Day: Range:30~365
xs--38		Communication-Connection	Eprint 1 server port #	Eprint 1 server port # The port number of Eprint server 1
xs--42		Maintenance-Enable Logs	PDX Performance Log interval	PWCL Log Interval (h): Time Interval in tenths of hours for recording a new entry in the PDX Performance Log. 0=no logging (default). Range:0.1~999.9
xs--50		-	Boot Version	Textual Description of the Installed Software
xs--68		Terminal-Language	Print Decimal/Comma	The separator when printing numbers: 0=Decimal Point; 1=Comma
xs--71		Application-Use Last Active App	Use Last Active App Enable	Enable Use Last Active App: 0=disabled, 1=enabled
xs--74		Terminal-Energy Saver	Auto Power Off Timeout	Power Off timeout:Range:1-60; 0=Disable
xs--75		Communication-Connection	Eprint 2 server port #	Eprint 2 server port # The port number of Eprint server 2
xs--76		Communication-Connection	Eprint 3 server port #	Eprint 3 server port # The port number of Eprint server 3
xs--79		Terminal-Date&Time	Daylight End Month	Daylight Saving Time End Month: Range: 1-12
xs--80		Terminal-Date&Time	Daylight End Day	Daylight Saving Time end Day: Range: 1-31
xs--81		Terminal-Date&Time	Daylight Enable	Daylight Saving Time Enable: 0=Disable; 1=Enable;
xs--82		Terminal-Date&Time	Daylight Shift	Daylight Saving Time Shift : Range: 0-12
xs--83		Terminal-Date&Time	Time Zone	Time Zone : 0=UTC-12:00; 1=UTC-11:00; 2=UTC-10:00; 3=UTC-09:30; 4=UTC-09:00; 5=UTC-08:00; 6=UTC-07:00; 7=UTC-06:00;

Share data	Item	Sub Item	Title	Description
				8=UTC-05:00; 9=UTC-04:00; 10=UTC-03:30; 11=UTC-03:00; 12=UTC-02:00; 13=UTC-01:00; 14=UTC+00:00; 15=UTC+01:00; 16=UTC+02:00; 17=UTC+03:00; 18=UTC+03:30; 19=UTC+04:00; 20=UTC+04:30; 21=UTC+05:00; 22=UTC+05:30; 23=UTC+05:45; 24=UTC+06:00; 25=UTC+06:30; 26=UTC+07:00; 27=UTC+08:00; 28=UTC+08:45; 29=UTC+09:00; 30=UTC+09:30; 31=UTC+10:00; 32=UTC+10:30; 33=UTC+11:00; 34=UTC+12:00; 35=UTC+12:45; 36=UTC+13:00; 37=UTC+14:00
xs--85		Terminal-NTP	NTP Mode	NTP protocol selection. SNTP is the most basic, simplest protocol. 0=None (default), 1=SNTP
xs--86		Terminal-NTP	NTP Sync Interval	How often the device should get synchronization with NTP server. Unit should be in second. range: 1024 - 32768 seconds, default: 3600 seconds.
xs--87		Terminal-NTP	NTP Server IP	IP address of the remote NTP server.
xs--88		Terminal-NTP	NTP Server Port	Port of the remote NTP server.
xs--89		Terminal-NTP	Connect Timeout	This item is used to prompt the user with a warning message when a response cannot be obtained from the server. range: 0 - 30 seconds, default: 5 seconds, 0 means disable prompting.
xs--90		Terminal-NTP	NTP Alert	If NTP sync has not been successful in this period time, inform the customer to check it. range: 0 - 30 days, default: 1, 0 means disable alert feature.
xs--91		Terminal-Memory Statistic	Service Information	Service Web Site
xs--92		Terminal-Memory Statistic	Service Telephone Number	Service Telephone Num
xp--09	System Monitoring & Service Data	Maintenance-Statistic	Installation Date	The date time stamp at service technician install the terminal.
cs--01	Scale Setup: cs01--: Scale 1 Scale Setup cs02--: Remote Scale Setup	-	Scale Type	Scale Type A=Analog Scale, I=IDnet High-Precision Scale, E=Remote scale - continuous, T=T=PDX Power Cell Truck Scale, C=SICS pro Scale R=Remote scale - SICS F=Reference scale N=None.
cs--02		-	Slot Number	Slot Number

Share data	Item	Sub Item	Title	Description
cs--04		Scale-Unit	Third Unit	Third Unit Index: 0=None, 1=lb, 2=kg, 3=g, 4=t, 5=ton, 9=oz
cs--06		Communication-Connection	Checksum of Continuous Remote Scale	Checksum of Continuous Remote Scale 0=Disable; 1=Enable
cs--10		Communication-Connection	Remote Display STX Enable	STX of Continuous Remote Scale: 0=Disable; 1=Enable
cs--11		Scale-Filter	Low Pass Filter	Low Pass Filter Type: 0=Light; 1=Middle; 2=High; 3=Heavy High
cs--12		PG_Weight-Process_Unit	Custom Units Name	
cs--13		PG_ScaleAdaptor	Custom Units Conversion Factor	
cs--18		Scale-Filter	Stability Filter Enable	Ultra-Stability Filter Enable : 0=Off; 1=Light; 2=High
cs--29		Scale-MinWeigh	MinWeigh Enable	MinWeigh Enable: 0=disabled, 1=enabled
cs--33		Scale-Metrology	Low Temperature Limit	Temperature Lower Limit Value: Range : -20~59 , Default value : -10.0 The RST sets this field to the calibration weight value that the SICS Lab Balance requests when performing an external calibration. Each Lab Balance has a fixed external calibration weight that cannot change.
cs--34		Scale-Metrology	576	Temperature High Limit Value: Range:-19~60, Default value : 40
cs--35		Scale-Metrology	GEO Code	Local High "Geo" Value : Range: 0-31. Default value :19.
cs--37		PG_Scale_Reference	Scale Firmware Version	
cs--39		PG_ScaleSICSPro	SICS Software Ident. Number	RST sets this field using data from base
cs--42		Communication-Connection	Remote Display Terminal Mode	Terminal Mode In Remote Display: 0=General; 1=IND231_6; 2=IND245; 3=IND256X; 4=ICS4XX, 5=ICS6XX; 6=IND400; 7=IND570; 8=IND500X; 9=IND700; 10=IND900 base pack, 11=IND900 FA
cs--43		Scale-Metrology	Last Approval Time	Last time of LFT approval changing: dd/MM/yyyy hh:mm:ss

Share data	Item	Sub Item	Title	Description
cs--46		Scale-Unit	Powerup Unit	Restart/reset weight unit while power up: 0=start up at primary weigh unit, 1=start up at current weigh unit
cs--73		Scale-Metrology	Scale Class	Class type in approval: 2=Class II, 3=Class III(Default), 4=Class III HD,5=Class III L, 6=Class III
cs--74		Scale-Metrology	Verification Interval	Verification Interval: 0=e=d(Default), 1=e=10d;
cs--77		-	Software Version	
cs--80		Scale-Warmup	Warmup Timeout	Power-up timer: Range:0-15, 0=disabled, >0=minutes to delay when power up for warming LC warn-up delay in minutes , 0 means disable
cs--81		PG_Scale_Reference	Boot Version	Boot description of Rbrick base
cs--82		Scale-System	PowerCell application scenarios	PowerCell application scenarios: 0=Floor Scale, 99=General
cs--89		Scale-Identification	Scale Model	Current Scale Model: Maximum length:18, Default value: empty
cs--90		Scale-Identification	Scale Location	Scale Location: Maximum length:40, Default value: empty
cs--91		Scale-Identification	Scale Identification	Scale Identification: Maximum length:40, Default value: empty
xa--18	Power-Up Weight Display	Communication-VNC	VNC Server Enable	VNC Server Enable: 0=disabled, 1=enabled
xa--20		Scale-Metrology	Metrology line	Metrology line : 1=Cap/d 2=Disable; 3=Max/Min/e; 4=Max/d(Default)
xa--21		Communication-VNC	VNC Port	The port number of VNC server
xa--22		Communication-VNC	VNC Password	The encrypted VNS password.
nt--01	TCP/IP/Ethernet Network Setup	acmLink	Ethernet MAC Address	Read from Ethernet Adapter.
nt--13		Scale-Metrology	Shared Data Server Access	Shared Data Server Access: 0=Disable, 1=Read/Write(default), 2=Read only
nt--14		Communication-Web API Server	Web API Server Enable	Web API Server Enable: 0=disabled, 1=enabled
nt--25		Communication-Web API Server	Web API Server Https Enable	Https Enable: 0=disabled, 1=enabled

Share data	Item	Sub Item	Title	Description
rp--01	Serial Port Setup: rp01--: the RS232 on base board rp02--: the RS232 with flow-control option on slot A rp03--:the RS485 option on slot A rp04--:the RS232/RS485 option on slot B	Scale- Metrology	Com Interface Type	Interface type : 0=RS232, 1=RS422, 2=RS485
rp--02		Communication-Serial	Com Baud Rate	Baud Rate:0=300, 1=600, 2=1200, 3=2400, 4=4800, 5=9600, 6=19200, 7=38400, 8=57600, 9=115200
rp--03		Communication-Serial	Com Parity	Parity: 0=none, 1=odd, 2=even
rp--04		Communication-Serial	Com Handshake	Flow Control: 0=none, 1=Xon / Xoff
rp--05		Communication-Serial	Com Data Bits	Data Bits: 1=7 bits, 2=8 bits
rp--10		Communication-Serial	Com Bus Terminator	Bus Terminator: 1=Bus terminator ON 0=Bus terminator OFF
nf--01		Communication-FTP/FTPs Sever	FTP Server Enable	FTP Server Enable: 0=no, 1=yes, read/write, 2=yes, read only
nf--14		Communication-FTP/FTPs Sever	FTP Protocol Type	Protocol Type 0=FTP; 1=FTPS; 2=SFTP (reserved)
ce--01	Scale Calibration	PG_ScalePwrcl	First cell node ID	First node ID for Power Cell
ce--02		Scale-System	# of Load Cells	Number Load Cells: 1-12
ce--03		Scale-Capacity & Increment	Primary Unit	Primary Units: 0=None, 1=lb, 2=kg(Default), 3=g, 4=t, 5=ton, 9=oz
ce--04		Scale-Capacity & Increment	#Range/Intervals	Number Ranges/Intervals 1=1 Single Range(Default); 2=2 Multiple Range;

Share data	Item	Sub Item	Title	Description
				3=3 Multiple Range; 4=2 Multi-Interval; 5=3 Multi-Interval
ce--05		Scale-Capacity & Increment	Low Range Increment	Low Range Increment Size in Primary Unit
ce--06		Scale-Capacity & Increment	Middle Range Increment	Middle Range Increment Size in Primary Unit
ce--07		Scale-Capacity & Increment	High Range Increment	High Range Increment Size in Primary Unit
ce--08		Scale-Capacity & Increment	Low-Mid Range Threshold	Low-Mid Range Threshold in Primary Unit
ce--09		Scale-Capacity & Increment	Mid-High Range Threshold	Mid-High Range Threshold in Primary Unit
ce--10		Scale-Capacity & Increment	Scale Capacity	Scale Capacity in Primary Unit
ce--11		Scale-Unit	Second Unit	Second Unit Index: 0=None, 1=lb, 2=kg, 3=g, 4=t, 5=ton, 9=oz
ce--20		Scale-Linearization & Calibration	Zero Calibration Counts	Zero calibration point for all scales
ce--21		Maintenance-Calibration Value	High Calibration Counts	High calibration point for all calibrated scale
ce--22		Maintenance-Calibration Value	High Calibration Weight	Weight is in primary units.
ce--23		Maintenance-Calibration Value	Mid Calibration Counts	Calibration point for non-linear scale bases with 1, 2, or 3 points of non-linearity
ce--24		Maintenance-Calibration Value	Mid Calibration Weight	Weight is in primary units.
ce--26		Scale-Stability	Motion Stability Sensitivity Range	Motion Stability Sensitivity: Range: 0.1~99.9
ce--27		Scale-Stability	No-Motion Interval	Motion Stability Time Period: Range:0~2.0
ce--29		Scale-System	Platform Shape	Powercell Scale Platform Shape: 0=Square, 1=Rectangular
ce--30		Scale-System	Home Run Cable Relative Orientation	Powercell the home run cable relative orientation: 0 - cell 1 at left-bottom 1 - cell 1 at left-top 2 - cell 1 at right-top 3 - cell 1 at right-bottom
ce--32		Scale-Capacity & Increment	Blank Over Capacity	Blank Over Capacity: Range:0-99, Default value:5
ce--33		Maintenance-Calibration Value	# of upscale test points	
ce--37		Scale - Linearization & Calibration	Last Calibration Date & Time	In 1second intervals since 1970

Share data	Item	Sub Item	Title	Description
ce--38		Scale-Identification	Scale Serial Number	Base Serial Number: Maximum length:12, Default value: empty
ce--39		Maintenance-Calibration Value	Low Calibration Counts	Additional Calibration point for non-linear scale bases with 2 or 3 points of non-linearity
ce--40		Maintenance-Calibration Value	Low Calibration Weight	Weight is in primary units.
ce--42		PG_ScaleAdaptor	Load Cell Capacity	Load Cell Sensor Capacity, e.g., 5000 kg
ce--49		Scale-Linearization & Calibration	Adjustment Factor	
ce--50		Maintenance-Calibration Value	Xlow Calibration Counts	Additional Calibration point for non-linear scale bases with 3 points of non-linearity.
ce--51		Maintenance-Calibration Value	Xlow Calibration Weight	Weight is in primary units.
ce--55		-	Calibration High "Geo"	Factory Geo
zr--01	Scale Zero Setup	Scale-Zero	Power-Up Zero Capture Pos Range	Power-Up Zero Capture Pos Range : when Startup Zero is Use Calibration, value is 0.
zr--02		Scale-Zero	Power-Up Zero Capture Neg Range	Power-Up Zero Capture Neg Range : when Startup Zero is Use Calibration, value is 0.
zr--03		Scale-Zero	Pushbutton Zero Positive Range	Push Button Zero Positive Range Range:0-99
zr--04		Scale-Zero	Pushbutton Zero Negative Range	Pushbutton Zero Negative Range: Range:0-99
zr--05		Scale-Zero	Auto Zero Range	Auto-Zero Maintenance Window Approval Range:0~0.5; Not Approval:0~9.9
zr--06		Scale-Zero	Under Zero Blank	Under-Zero Divisions: Approval Range:5~20; Not Approval:0~99
zr--07		Scale-Zero	Push Button Zero Enable	Push Button Zero Enable: 0=disabled, 1=enabled
zr--08		Scale-Zero	Auto-Zero in Gross Mode Enable	Auto-Zero in Gross Mode Enable: 0=disabled, 1=enabled
zr--10		Scale-Zero	Zero-Indication in Gross Mode:	Zero-Indication in Gross Mode: 0=disabled, 1=enabled
zr--12		Scale-Zero	Power-Up Zero Method	Startup zero: 0=use last, 1=use calibration or capture new
ct--02	Scale Tare Setup	Scale-Tare	Push Button Tare Enable	Push Button Tare Enable: 0=disabled, 1=enabled
ct--03		Scale-Tare	Keyboard Tare Enable	Keyboard Tare Enable: 0=disabled, 1=enabled
ct--04		Scale-Tare	Auto Tare Enabled	Auto-Tare Enabled: 0=disabled, 1=enabled

Share data	Item	Sub Item	Title	Description
ct-06		Scale-Tare	Auto Clear Tare Enabled	Auto-Clear Tare Enabled: 0=disabled, 1=enabled
ct-12		Scale-Tare	Chain Tare Enable	Chain Tare Enable: 1=disabled, 0=enabled
ct-13		Scale-Tare	Net Sign Correction Enable	Net Sign Correction Enable: 0=disabled, 1=enabled
ct-18		Scale-Tare	Reset tare on power-up	Reset tare on power-up 0=Restart with current tare, Use Last 1=Reset the tare to zero on power-up, Clear
ct-19		Scale-Tare	Clear With Zero Enable	Clear with Zero Enable: 0=disabled, 1=enabled
wk-19	Working Scale Setup Data	Scale-MinWeigh	MinWeigh Value	MinWeigh weight value: Range :0.0~Max Capacity
wk-34		Scale-Tare	Auto Clear tare threshold (d)	Auto Tare threshold (d) : Range :0~99: Default Value: 9
wk-35		Scale-Tare	Auto Clear tare Threshold(d)	Auto Clear tare threshold (d) : Range :0~99: Default Value: 5
wk-36		Scale-Tare	Reset Tare Threshold (d)	reset tare threshold (d): Range :0~99: Default Value: 9
mx-19	Loading Alert Function	Scale-Loading Alert	Loading Alert Enable	Loading Alert Enable : 0=disabled, 1=enabled
mx-20		Scale-Loading Alert	Loading Alert Threshold(%)	The threshold weight to trigger the checking of loading alert Loading Alert Threshold Weight: Range:5~100
mx-21		Scale-Loading Alert	Loading Alert OK Range (%)	OK Zone of Loading Alert: Range:5~50, Default value: 30
mx-24		Scale-Loading Alert	Loading Alert Cancel and Continue Enable	Cancel and Continue Enable: 1=disabled, 0=enabled
xr-03	System Logs Setup Data: xr01--: Maintenance Log xr02--:Alibi Log xr04-- :Power cell Log xr05--: Change Log xr07--: Error Log	Maintenance-Enable Logs	Enable Logs	Enable logging: 0=Disable; 1=Enable xr0103 - Maintenance Log xr0203 - Alibi Log xr0403- Powercell Log xr0503- Change Log xr0703- Error Log"
ps-03	Product Special Parameter	Terminal-Energy Saver	Show Battery Status Enable	Show Battery Status Enable : 0=disabled, 1=enabled
ps-04		Application-Memory Settings	Alibi Generated by SICS Enable	Alibi Generated by SICSCMD : 0=Disable, 1= Enable

Share data	Item	Sub Item	Title	Description
ps--05		Application-Memory Settings	Transaction Counter	Transaction Counter: Range:1~300000, Default value :1
pp--01	Password Policy	Terminal-Password Policy	Password Policy Enable	Password Policy Enable: 0=Disable; 1=Enable
pp--02		Terminal-Password Policy	Upper Case Character Enable	Upper case character is must contained in password setting or not. 0=Disable; 1=Enable
pp--03		Terminal-Password Policy	Lower Case Character Enable	Lower case character is must contained in password setting or not. 0=Disable; 1=Enable
pp--04		Terminal-Password Policy	Numeric Character	Numeric character is must contained in password setting or not. 0=Disable; 1=Enable
pp--05		Terminal-Password Policy	Special Character	Special character is must contained in password setting or not. 0=Disable; 1=Enable
pp--06		Terminal-Password Policy	Password Minimum Length	Password Minimum length: Range:4-8, Default value: 4
pp--07		Terminal-Password Policy	Password Age (day)	Password Age(day): Range:1~366, Default value:30
pp--08		Terminal-Password Policy	Enforce Password History	Enforce Password History: Range:1-10, 0=Disable
pp--09		Terminal-Password Policy	Invalid Logon Attempts	Invalid Logon Attempts: Range:3~10; 0=Disable
pp--10	"	Terminal-Password Policy	Password Lockout (s)	Password Lockout Timeout: Range:60~600
pp--11		Terminal-Password Policy	Auto Logout Timeout (min)	Auto Logout timeout (min) : Range:0~180
pp--12		Terminal-Password Policy	Default Login User ID	Default Login User ID
dc--01	Data Connections Setup: dcXX--: The meaning of XX is the ID number for the data connection.	Communication-Connection	Connection Mode	Connection Assignment Type: 0=None; 1=ASCII Input; 3=Continuous Output; 7=CTPZ; 8=IP2420; 12=Remote Display; 13=Parameter Server; 14=SICS Server; 15=PM Server; 18=Transfer; 19=Digital; 20 =Modbus RTU; 21=OPOS; 22=Modbus TCP; 23=Demand Mode; 24=AD_RS_M7; 25=PSCP; 26=IBP; 27 =FWN_Signal Channel;

Share data	Item	Sub Item	Title	Description
				28=ComOne; 100=Second Display; 101=Post; 200=MQTT"
dc--07		Communication-Connection	Com Port	Com Type: 0=None; 1=Com1 ; 2=Com2; 3=Com3; 4=Com4; 7=Eport1; 8=Eport2; 9=Eport3; 11=Client; 13=USB CDC1; 14=USB CDC2; 15=USB CDC3; 16=USB HID; 18=Free weight; 19=MQTT Client1.; 20=MQTT Client2; 21=MQTT Client
np--05	TCP/IP/ Ethernet Network Setup: nt01--: Print Client nt02--: FreeWeight.ne t	Communication- Connection	Remote Server Port	Remote Server Port
np--06		Communication- Connection	Remote Server IP Address	Remote Server IP Address
bt--01	Barcode Input Templates Setup	Communication- Connection	Input Template Preamble Length	Preamble length Length of data ignored at beginning of message
bt--02		Communication- Connection	Input Template Data Length	Max data length Maximum input data length
bt--03		Communication- Connection	Input Template Postamble Length	Postamble length Length of data ignored at end of message before the termination character
bt--04		Communication- Connection	Input Template Termination character	Termination character Terminate input whenever this character is encountered
bt--05		Communication- Connection	Input Template Assignment	Application Use 0=application, 1=tare value, 2=tare ID, 3=target ID 4=ID 1(reserved in phase 2) 5=keypad for the input template assignment 6=Target Weigh in 7=Target weight out
mq--12	MQTT Client Configuration	Communication- Connection	MQTT Transfer Publish Topic	MQTT Transfer Publish Topic

Share data	Item	Sub Item	Title	Description
mq--21		Communication-Connection	MQTT Subscribe Topic	MQTT Subscribe Topic
mq--23		Communication-Connection	MQTT Comone Publish Topic	MQTT Comone Publish Topic
uc--02	USB CDC Setup: uc01-- to uc03--: USB CDC uc04--: USB HID	Communication-Serial	USB CDC Baud Rate	Baud Rate: 0=300, 1=600, 2=1200, 3=2400, 4=4800, 5=9600, 6=19200, 7=38400, 8=57600, 9=115200
uc--03		Communication-Serial	USB CDC Parity	Parity: 0=none, 1=odd, 2=even
uc--04		Communication-Serial	USB CDC Handshake	Flow Control: 0=none, 1=Xon/Xoff
uc--05		Communication-Serial	USB CDC Data Bits	Data Bits: 1=7 bits, 2=8 bits
uc--06		Maintenance-USB Device Manager	USB CDC Stop Bits	Stop Bits: 1=1, 2=2
II-01	Internal Ladder Logic Program Setup	Communication-Discrete IO	Number of Ladder Rungs	Number of rungs in the ladder program
II-02		Communication-Discrete IO	Ladder Logic Rungs 1	Each attribute is a Ladder Logic Rung
II-03		Communication-Discrete IO	Ladder Logic Rungs 2	Each attribute is a Ladder Logic Rung
II-04		Communication-Discrete IO	Ladder Logic Rungs 3	Each attribute is a Ladder Logic Rung
II-05		Communication-Discrete IO	Ladder Logic Rungs 4	Each attribute is a Ladder Logic Rung
II-06		Communication-Discrete IO	Ladder Logic Rungs 5	Each attribute is a Ladder Logic Rung
II-07		Communication-Discrete IO	Ladder Logic Rungs 6	Each attribute is a Ladder Logic Rung
II-08		Communication-Discrete IO	Ladder Logic Rungs 7	Each attribute is a Ladder Logic Rung
II-09		Communication-Discrete IO	Ladder Logic Rungs 8	Each attribute is a Ladder Logic Rung
II-10		Communication-Discrete IO	Ladder Logic Rungs 9	Each attribute is a Ladder Logic Rung
II-11		Communication-Discrete IO	Ladder Logic Rungs 10	Each attribute is a Ladder Logic Rung
II-12		Communication-Discrete IO	Ladder Logic Rungs 11	Each attribute is a Ladder Logic Rung

Share data	Item	Sub Item	Title	Description
II--13		Communication-Discrete IO	Ladder Logic Rungs 12	Each attribute is a Ladder Logic Rung
II--14		Communication-Discrete IO	Ladder Logic Rungs 13	Each attribute is a Ladder Logic Rung
II--15		Communication-Discrete IO	Ladder Logic Rungs 14	Each attribute is a Ladder Logic Rung
II--16		Communication-Discrete IO	Ladder Logic Rungs 15	Each attribute is a Ladder Logic Rung
II--17		Communication-Discrete IO	Ladder Logic Rungs 16	Each attribute is a Ladder Logic Rung
II--18		Communication-Discrete IO	Ladder Logic Rungs 17	Each attribute is a Ladder Logic Rung
II--19		Communication-Discrete IO	Ladder Logic Rungs 18	Each attribute is a Ladder Logic Rung
II--20		Communication-Discrete IO	Ladder Logic Rungs 19	Each attribute is a Ladder Logic Rung
II--21		Communication-Discrete IO	Ladder Logic Rungs 20	Each attribute is a Ladder Logic Rung
II--22		Communication-Discrete IO	Ladder Logic Rungs 21	Each attribute is a Ladder Logic Rung
II--23		Communication-Discrete IO	Ladder Logic Rungs 22	Each attribute is a Ladder Logic Rung
II--24		Communication-Discrete IO	Ladder Logic Rungs 23	Each attribute is a Ladder Logic Rung
II--25		Communication-Discrete IO	Ladder Logic Rungs 24	Each attribute is a Ladder Logic Rung
II--26		Communication-Discrete IO	Ladder Logic Rungs 25	Each attribute is a Ladder Logic Rung
II--27		Communication-Discrete IO	Ladder Logic Rungs 26	Each attribute is a Ladder Logic Rung
II--28		Communication-Discrete IO	Ladder Logic Rungs 27	Each attribute is a Ladder Logic Rung
II--29		Communication-Discrete IO	Ladder Logic Rungs 28	Each attribute is a Ladder Logic Rung
II--30		Communication-Discrete IO	Ladder Logic Rungs 29	Each attribute is a Ladder Logic Rung
II--31		Communication-Discrete IO	Ladder Logic Rungs 30	Each attribute is a Ladder Logic Rung
II--32		Communication-Discrete IO	Ladder Logic Rungs 31	Each attribute is a Ladder Logic Rung
II--33		Communication-Discrete IO	Ladder Logic Rungs 32	Each attribute is a Ladder Logic Rung
II--34		Communication-Discrete IO	Ladder Logic Rungs 33	Each attribute is a Ladder Logic Rung
II--35		Communication-Discrete IO	Ladder Logic Rungs 34	Each attribute is a Ladder Logic Rung
II--36		Communication-Discrete IO	Ladder Logic Rungs 35	Each attribute is a Ladder Logic Rung
II--37		Communication-Discrete IO	Ladder Logic Rungs 36	Each attribute is a Ladder Logic Rung
II--38		Communication-Discrete IO	Ladder Logic Rungs 37	Each attribute is a Ladder Logic Rung

Share data	Item	Sub Item	Title	Description
II-39		Communication-Discrete IO	Ladder Logic Rungs 38	Each attribute is a Ladder Logic Rung
II-40		Communication-Discrete IO	Ladder Logic Rungs 39	Each attribute is a Ladder Logic Rung
II-41		Communication-Discrete IO	Ladder Logic Rungs 40	Each attribute is a Ladder Logic Rung
II-42		Communication-Discrete IO	Ladder Logic Rungs 41	Each attribute is a Ladder Logic Rung
II-43		Communication-Discrete IO	Ladder Logic Rungs 42	Each attribute is a Ladder Logic Rung
II-44		Communication-Discrete IO	Ladder Logic Rungs 43	Each attribute is a Ladder Logic Rung
II-45		Communication-Discrete IO	Ladder Logic Rungs 44	Each attribute is a Ladder Logic Rung
II-46		Communication-Discrete IO	Ladder Logic Rungs 45	Each attribute is a Ladder Logic Rung
II-47		Communication-Discrete IO	Ladder Logic Rungs 46	Each attribute is a Ladder Logic Rung
II-48		Communication-Discrete IO	Ladder Logic Rungs 47	Each attribute is a Ladder Logic Rung
II-49		Communication-Discrete IO	Ladder Logic Rungs 48	Each attribute is a Ladder Logic Rung
II-50		Communication-Discrete IO	Ladder Logic Rungs 49	Each attribute is a Ladder Logic Rung
II-51		Communication-Discrete IO	Ladder Logic Rungs 50	Each attribute is a Ladder Logic Rung
II-52		Communication-Discrete IO	Ladder Logic Rungs 51	Each attribute is a Ladder Logic Rung
II-53		Communication-Discrete IO	Ladder Logic Rungs 52	Each attribute is a Ladder Logic Rung
II-54		Communication-Discrete IO	Ladder Logic Rungs 53	Each attribute is a Ladder Logic Rung
II-55		Communication-Discrete IO	Ladder Logic Rungs 54	Each attribute is a Ladder Logic Rung
II-56		Communication-Discrete IO	Ladder Logic Rungs 55	Each attribute is a Ladder Logic Rung
II-57		Communication-Discrete IO	Ladder Logic Rungs 56	Each attribute is a Ladder Logic Rung
II-58		Communication-Discrete IO	Ladder Logic Rungs 57	Each attribute is a Ladder Logic Rung
II-59		Communication-Discrete IO	Ladder Logic Rungs 58	Each attribute is a Ladder Logic Rung
II-60		Communication-Discrete IO	Ladder Logic Rungs 59	Each attribute is a Ladder Logic Rung
II-61		Communication-Discrete IO	Ladder Logic Rungs 60	Each attribute is a Ladder Logic Rung
II-62		Communication-Discrete IO	Ladder Logic Rungs 61	Each attribute is a Ladder Logic Rung
II-63		Communication-Discrete IO	Ladder Logic Rungs 62	Each attribute is a Ladder Logic Rung
II-64		Communication-Discrete IO	Ladder Logic Rungs 63	Each attribute is a Ladder Logic Rung

Share data	Item	Sub Item	Title	Description
II--65		Communication-Discrete IO	Ladder Logic Rungs 64	Each attribute is a Ladder Logic Rung
II--66		Communication-Discrete IO	Ladder Logic Rungs 65	Each attribute is a Ladder Logic Rung
II--67		Communication-Discrete IO	Ladder Logic Rungs 66	Each attribute is a Ladder Logic Rung
II--68		Communication-Discrete IO	Ladder Logic Rungs 67	Each attribute is a Ladder Logic Rung
II--69		Communication-Discrete IO	Ladder Logic Rungs 68	Each attribute is a Ladder Logic Rung
II--70		Communication-Discrete IO	Ladder Logic Rungs 69	Each attribute is a Ladder Logic Rung
II--71		Communication-Discrete IO	Ladder Logic Rungs 70	Each attribute is a Ladder Logic Rung
II--72		Communication-Discrete IO	Ladder Logic Rungs 71	Each attribute is a Ladder Logic Rung
II--73		Communication-Discrete IO	Ladder Logic Rungs 72	Each attribute is a Ladder Logic Rung
II--74		Communication-Discrete IO	Ladder Logic Rungs 73	Each attribute is a Ladder Logic Rung
II--75		Communication-Discrete IO	Ladder Logic Rungs 74	Each attribute is a Ladder Logic Rung
II--76		Communication-Discrete IO	Ladder Logic Rungs 75	Each attribute is a Ladder Logic Rung
II--77		Communication-Discrete IO	Ladder Logic Rungs 76	Each attribute is a Ladder Logic Rung
II--78		Communication-Discrete IO	Ladder Logic Rungs 77	Each attribute is a Ladder Logic Rung
II--79		Communication-Discrete IO	Ladder Logic Rungs 78	Each attribute is a Ladder Logic Rung
II--80		Communication-Discrete IO	Ladder Logic Rungs 79	Each attribute is a Ladder Logic Rung
II--81		Communication-Discrete IO	Ladder Logic Rungs 80	Each attribute is a Ladder Logic Rung
II--82		Communication-Discrete IO	Ladder Logic Rungs 81	Each attribute is a Ladder Logic Rung
II--83		Communication-Discrete IO	Ladder Logic Rungs 82	Each attribute is a Ladder Logic Rung
II--84		Communication-Discrete IO	Ladder Logic Rungs 83	Each attribute is a Ladder Logic Rung
II--85		Communication-Discrete IO	Ladder Logic Rungs 84	Each attribute is a Ladder Logic Rung
II--86		Communication-Discrete IO	Ladder Logic Rungs 85	Each attribute is a Ladder Logic Rung
II--87		Communication-Discrete IO	Ladder Logic Rungs 86	Each attribute is a Ladder Logic Rung
II--88		Communication-Discrete IO	Ladder Logic Rungs 87	Each attribute is a Ladder Logic Rung
II--89		Communication-Discrete IO	Ladder Logic Rungs 88	Each attribute is a Ladder Logic Rung
II--90		Communication-Discrete IO	Ladder Logic Rungs 89	Each attribute is a Ladder Logic Rung

Share data	Item	Sub Item	Title	Description
ll--91		Communication-Discrete IO	Ladder Logic Rungs 90	Each attribute is a Ladder Logic Rung
ll--92		Communication-Discrete IO	Ladder Logic Rungs 91	Each attribute is a Ladder Logic Rung
ll--93		Communication-Discrete IO	Ladder Logic Rungs 92	Each attribute is a Ladder Logic Rung
ll--94		Communication-Discrete IO	Ladder Logic Rungs 93	Each attribute is a Ladder Logic Rung
ll--95		Communication-Discrete IO	Ladder Logic Rungs 94	Each attribute is a Ladder Logic Rung
ll--96		Communication-Discrete IO	Ladder Logic Rungs 95	Each attribute is a Ladder Logic Rung
ll--97		Communication-Discrete IO	Ladder Logic Rungs 96	Each attribute is a Ladder Logic Rung
ll--98		Communication-Discrete IO	Ladder Logic Rungs 97	Each attribute is a Ladder Logic Rung
ll--99		Communication-Discrete IO	Ladder Logic Rungs 98	Each attribute is a Ladder Logic Rung
ra--01	Remote User Authentication	Communication-LDAP Client	LDAP Enable	LDAP Client Enable: 0=disabled, 1=enabled
cm--16	Scale Monitoring Setup	Maintenance-Zero Overload	Zero Overload Threshold (%)	Zero Overload Percentage Threshold Range:50~100
cm--24		Maintenance-Zero Overload	Zero Drift Check	Zero Drift Check Type 0=No Action; 1=Alarm Only; 2=Disable Alarm
cm--25		Maintenance-Zero Overload	Zero Threshold (%)	Zero Threshold Percentage Value Range:50~90
is--01	ID Setting	Application - IDs Setting	ID1 Enable	ID1 Enable 0=Disable; 1=Enable
is--02		Application - IDs Setting	ID2 Enable	ID2 Enable 0=Disable; 1=Enable
is--03		Application - IDs Setting	ID3 Enable	ID3 Enable 0=Disable; 1=Enable
is--21		Application - IDs Setting	ID1 Title	ID1 Value
is--22		Application - IDs Setting	ID2 Title	ID2 Value
is--23		Application - IDs Setting	ID3 Title	ID3 Value
bw--01	Basic Weighing	Application-Basic Weighing Setting	Basic Weighing Save & Transfer	Save Transfer Type: 0=Manually; 1=Automatic; 2=Clever
bw--02		Application-Basic Weighing Setting	Basic Weighing Material Change	Material Change Type: 0=Deviation +/- (Default); 1=Return to Zero(<9d); 2=None

Share data	Item	Sub Item	Title	Description
bw--04		Application-Basic Weighing Transfer	Basic Weighing Transfer Trigger	Each item of array indicate the transfer trigger of application. 11=lot print
bw--05		Application-Basic Weighing Transfer	Basic Weighing Transfer Connection ID	Each item of array indicate the index of connection.
bw--06		Application-Basic Weighing Transfer	Basic Weighing Transfer Template	Each item indicate template ID of one connection 1 - 10 Custom Template 1 - 10 11 - Standard Lot. Print
bw--07		Application-Basic Weighing Transfer	Basic Weighing Transfer Copies	Each item indicate output copies of one connection
bw--08		Application-Basic Weighing Transfer	Basic Weighing Instant Transfer	Instant Print Enable: 0=Disable; 1=Enable
bw--14		Application-Basic Weighing Setting	Basic Weighing Deviation(d)	Deviation threshold value: Range: 9~99, Default value : 30
bw--15		Application-Basic Weighing Setting	Basic Weighing Clever Threshold(primary unit)	Clever Threshold Value: Range:0~Max Capacity, Default value: 0
ad--01	Auxiliary display line ad01-- = basic weighing ad02--= over/under ad03-- = totalization ad04--= manual filling ad05-- = counting ad06-- = classification	Application-Auxiliary of Application Settings	Auxiliary Line 1	Auxiliary Line Column Number: 0=disable 1=1 column 2=2 column 3=3 column
ad--02		Application-Auxiliary of Application Settings	Auxiliary Line 2	Auxiliary Line Column Number: 0=disable 1=1 column 2=2 column 3=3 column
ad--03		Application-Auxiliary of Application Settings	Auxiliary Line 3	Auxiliary Line Column Number: 0=disable 1=1 column 2=2 column 3=3 column
ad--04		Application-Auxiliary of Application Settings	Auxiliary Line 1-1 ID	Auxiliary [1,1] Variable ID
ad--05		Application-Auxiliary of Application Settings	Auxiliary Line 1-1 to	Auxiliary [1,1] that the number of columns occupied
ad--06		Application-Auxiliary of Application Settings	Auxiliary Line 1-2 ID	Auxiliary [1,2] Variable ID

Share data	Item	Sub Item	Title	Description
ad--07		Application-Auxiliary of Application Settings	Auxiliary Line 1-2 to	Auxiliary [1,2] that the number of columns occupied
ad--08	Basic Weighing	Application-Auxiliary of Application Settings	Auxiliary Line 1-3 ID	Auxiliary [1,3] Variable ID
ad--09		Application-Auxiliary of Application Settings	Auxiliary Line 2-1 ID	Auxiliary [2,1] Variable ID
ad--10		Application-Auxiliary of Application Settings	Auxiliary Line 2-1 to	Auxiliary [2,1] that the number of columns occupied
ad--11		Application-Auxiliary of Application Settings	Auxiliary Line 2-2 ID	Auxiliary [2,2] Variable ID
ad--12		Application-Auxiliary of Application Settings	Auxiliary Line 2-2 to	Auxiliary [2,2] that the number of columns occupied
ad--13		Application-Auxiliary of Application Settings	Auxiliary Line 2-3 ID	Auxiliary [2,3] Variable ID
ad--14		Application-Auxiliary of Application Settings	Auxiliary Line 3-1 ID	Auxiliary [3,1] Variable ID
ad--15		Application-Auxiliary of Application Settings	Auxiliary Line 3-1 to	Auxiliary [3,1] that the number of columns occupied
ad--16		Application-Auxiliary of Application Settings	Auxiliary Line 3-2 ID	Auxiliary [3,2] Variable ID
ad--17		Application-Auxiliary of Application Settings	Auxiliary Line 3-2 to	Auxiliary [3,2] that the number of columns occupied
ad--18		Application-Auxiliary of Application Settings	Auxiliary Line 3-3 ID	Auxiliary [3,3] Variable ID
a1--01	Animal Weighing	Application-Animal Weighing Setting	AW-Multi-object Support	Multi-object Support Enable: 0=Disable(Default); 1=Enable
a1--02		Application-Animal Weighing Setting	AW-Sampling Time (s)	Sampling time: Range: 1~99 ; Default value :5
a1--03		Application-Animal Weighing Setting	AW-Start Mode	Start Mode: 0=Softkey (Default); 1=Digital; 2=Automatic
a1--04		Application-Animal Weighing Setting	AW-Threshold	Threshold Value: Range : 0~Max Capacity
a1--05		Application-Animal Weighing Setting	AW-Threshold Unit:	Threshold Unit: 0=None, 1=lb, 2=kg, 3=g, 4=t, 5=ton, 9=oz

Share data	Item	Sub Item	Title	Description
a1--06		Application-Animal Weighing Setting	AW-Save & Transfer	Save & Transfer Mode: 1=Manually(Default); 2=Automatic
a1--07		AW-DIO Settings	Start Signal Enable	Start Signal Enable 0=Disable 1=Enable
a1--08		AW-DIO Settings	Start Signal Index	Start Signal input port ID
a1--09		AW-DIO Settings	In Progress Signal Enable	In Progress Signal Enable 0=Disable 1=Enable
a1--10		AW-DIO Settings	In Progress Signal Index	In Progress output port ID
a1--11		AW-DIO Settings	Complete Signal Enable	Complete Signal Enable 0=Disable 1=Enable
a1--12		AW-DIO Settings	Complete Signal Index	Complete output port ID
a1--14		Application-Animal Weighing Transfer	AW - Transfer Trigger	Each item of array indicate the transfer trigger of application. For application, it must code the trigger from 11.
a1--15		Application-Animal Weighing Transfer	AW - Transfer Connection ID	Each item of array indicate the index of connections.
a1--16		Application-Animal Weighing Transfer	AW - Transfer Template	Each item indicate template ID of one connection 1 - 10 Template 1 - 10 11 - Animal weighing standard
a1--17		Application-Animal Weighing Transfer	AW - Transfer Copies	The number of transfer copy
a2--01	Totalization	Application-Totalization Setting	Totalization Unit	Totalization Unit Index: 0=None, 1=lb, 2=kg, 3=g, 4=t, 5=ton, 9=oz
a2--02		Application-Totalization Setting	Totalization Sub Total Enable	Sub total Enable: 0=Disable(Default); 1=Enable
a2--03		Application-Totalization Setting	Totalization Data Source	Data Source Type: 0=Net Weight (Default) ; 1=Gross Weight
a2--04		Application-Totalization Setting	Totalization Mode	Mode Type: 0=Standard(Default); 1=Take Away
a2--05		Application-Totalization Setting	Totalization Tare After Transfer In Net Mode	Tare After Transfer In Net Mode Enable: 0=Disable(Default); 1=Enable
a2--06		Application-Totalization Setting	Totalization Material Change	Material Change Type: 0=Deviation +/- (Default); 1=Return to Zero(<9d); 2=None

Share data	Item	Sub Item	Title	Description
a2-07		Application-Totalization Setting	Totalization Save & Transfer	Save Transfer Type: 0=Manually(Default); 1=Automatic; 2=Clever
a2-08		Application-Totalization Setting	Totalization Clear On Transfer	Clear On Transfer Enable: 0=Off(Default); 1=Clear Total & Subtotal; 2 =Clear Subtotal
a2-09		Application-Totalization Setting	Totalization Statistic Enable	Statistic Enable: 0=Disable(Default); 1=Enable
a2-10		Application-Totalization Setting	Totalization Undo Transaction	Undo Transaction Type: 0=Off(Default); 1=Last Transaction; 2=unlimited
a2-12		Application-Totalization Transfer	Totalization Transfer Trigger	Each item of array indicate the index of connection.
a2-13		Application-Totalization Transfer	Totalization Transfer Connection ID	Each item indicate template ID of one connection 1 - 10 Template 1 - 10 11 - Standard Lot. Print 12 - Standard final print
a2-14		Application-Totalization Transfer	Totalization Transfer Template	The copy number of print output
a2-21		Application-Totalization Transfer	Totalization Transfer Copies	Instant Print Enable: 0=Disable; 1=Enable
a2-22		Application-Totalization Transfer	Totalization Instant Transfer	Exceeds Total Target DIO Enable 0=Disable 1=Enable
a2-23		Totalization-DIO Setting	Exceeds Total Target DIO Enable	Exceeds Total Target output Port ID
a2-24		Totalization-DIO Setting	Exceeds Total Target DIO Port	DI Report Customized Headers
a2-26		Application- Totalization Transaction	Totalization DI Report Customized Headers	Each item of array indicate the index of connection.
a2-35		Application-Totalization Setting	Totalization Deviation(d)	Deviation threshold value: Range: 9~99, Default value : 30
a2-36		Application- Totalization Transaction	Totalization Statistic Batch# Enable	Batch# Enable: 0=Disable; 1=Enable
a2-37		Application- Totalization Transaction	Totalization Statistic Total Value Enable	Total Value Enable: 0=Disable; 1=Enable
a2-38		Application- Totalization Transaction	Totalization Statistic Total Counter Enable	Total Counter Enable: 0=Disable; 1=Enable
a2-39		Application- Totalization Transaction	Totalization Statistic Size Enable	Statistic Size Enable: 0=Disable; 1=Enable
a2-40		Application- Totalization Transaction	Totalization Statistic Std.Deviation Enable	Std.Deviation Enable: 0=Disable; 1=Enable

Share data	Item	Sub Item	Title	Description
a2--41		Application- Totalization Transaction	Totalization Statistic Mean Enable	Mean Enable: 0=Disable; 1=Enable
a2--42		Application- Totalization Transaction	Totalization Statistic Max. Enable	Max. Enable: 0=Disable; 1=Enable
a2--43		Application- Totalization Transaction	Totalization Statistic Min. Enable	Min. Enable: 0=Disable; 1=Enable
a2--44		Application- Totalization Transaction	Totalization Statistic Median Enable	Median Enable: 0=Disable; 1=Enable
a2--45		Application-Totalization Setting	Totalization Clever Threshold(primary unit)	Clever Threshold Value: Range:0~Max Capacity, Default value: 0
a3--01	Over/Under	Application-Over/ Under Setting	OU-Visualization	Visualization type: 0=Bargraph; 1=Color Weighing
a3--02		Application-Over/ Under Setting	OU-Threshold (%)	Threshold percentage of under limit is below limit value. Range:0~90, Default value:10
a3--03		Application-Over/ Under Setting	OU-Over Color	Over Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green; 5=Orange; 6=Red(Default); 7=Yellow; 9=Custom color
a3--04		Application-Over/ Under Setting	OU-OK Color	Ok Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green(Default); 5=Orange; 6=Red; 7=Yellow; 9=Custom color
a3--05		Application-Over/ Under Setting	OU-Under Color	Under Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green; 5=Orange; 6=Red(Default); 7=Yellow; 9=Custom color
a3--06		Application-Over/ Under Setting	OU-Below Threshold Color	Below Threshold Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green;

Share data	Item	Sub Item	Title	Description
				5=Orange; 6=Red; 7=Yellow; 8=White(Default); 9=Custom color
a3--07		Application-Over/ Under Setting	OU-Material Change	Material Change Type: 0=Deviation +/- (Default); 1=Return to Zero(<9d); 2=None
a3--08		Application-Over/ Under Setting	OU-Motion Check Enable	Motion Check Enable: 0=Disable(Default); 1=Enable
a3--09		Application-Over/ Under Setting	OU-Stealth Mode Enable	Stealth Mode Enable: 0=Disable(Default); 1=Enable
a3--10		Application-Over/ Under Setting	OU-Totalization Enable	Totalization feature Enable: 0=Disable(Default); 1=Enable
a3--11		Application-Over/ Under Setting	OU-Sub Total Enable	Sub total Enable: 0=Disable(Default); 1=Enable
a3--12		Application-Over/ Under Setting	OU-Undo Trans- action	Undo Transaction Type: 0=Off(Default); 1=Last Transaction; 2=unlimited
a3--13		Application-Over/ Under Setting	OU-Clear On Transfer	Clear On Transfer Enable: 0=Off(Default); 1=Clear Total & Subtotal; 2 =Clear Subtotal
a3--14		Application-Over/ Under Setting	OU-Statistic Enable	Statistic Enable: 0=Disable(Default); 1=Enable
a3--15		Application-Over/ Under Setting	OU-Save & Transfer	Save Transfer Type: 0=Manually(Default); 1=Automatic; 2=Clever
a3--22		OU-DIO Setting	Over Zone Signal Enable	Over Zone Signal Enable: 0=Disable 1=Enable
a3--23		OU-DIO Setting	Over Zone output port	Over Zone output port ID
a3--24		OU-DIO Setting	Tolerance OK Signal Enable	Tolerance OK Signal Enable 0=Disable 1=Enable
a3--25		OU-DIO Setting	Tolerance OK Signal port	Tolerance OK Signal port ID
a3--26		OU-DIO Setting	Under Zone Signal Enable	Under Zone Signal Enable 0=Disable 1=Enable
a3--27		OU-DIO Setting	Under Zone Signal Port	Under Zone Signal Port ID
a3--28		OU-DIO Setting	Below Threshold Signal Enable	Below Threshold Signal Enable 0=Disable 1=Enable
a3--29		OU-DIO Setting	Below Threshold Signal Port	Below Threshold Signal Port ID

Share data	Item	Sub Item	Title	Description
a3--31		Application-Over/ Under Transfer	OU - Transfer Trigger	Each item of array indicate the transfer trigger of application. 11 - lot print 12 - final print 13 - Statistic report
a3--32		Application-Over/ Under Transfer	OU - Transfer Connection ID	Each item of array indicate the index of connection.
a3--33		Application-Over/ Under Transfer	OU - Transfer Template	Each item indicate template ID of one connection 1 - 10 Template 1 - 10 11 - Standard Lot. Print 12 - Standard final print
a3--34		Application-Over/ Under Transfer	OU - Transfer Copies	Each item indicate output copies of one connection
a3--35		Application-Over/ Under Setting	OU-Tare After Transfer In Net Mode	Tare After Transfer In Net Mode Enable: 0=Disable(Default); 1=Enable
a3--36		Application-Over/ Under Transfer	OU - Instant Transfer	Instant Print Enable: 0=Disable; 1=Enable
a3--37		Application-Over/ Under Setting	OU- Custom Text Color	Custom Text Color
a3--38		Application-Over/ Under Setting	OU - Custom Color Type	Custom Color Type: 0=RGB 1=HEX
a3--39		Application-Over/ Under Setting	OU - Custom Color Value	Custom Color Value
a3--41		Application-Over/ Under Setting	OU - Totalization Unit	Totalization Unit Index: 0=None, 1=lb, 2=kg, 3=g, 4=t, 5=ton, 9=oz
a3--42		Application-Over/ Under Transaction	OU - DI Report Customized Headers	DI Report Customized Headers
a3--52		Application-Over/ Under Setting	OU - Deviation(d)	Deviation threshold value: Range: 9~99, Default value : 30
a3--53		Application-Over/ Under Setting	OU - Clever Threshold(primary unit)	Clever Threshold Value: Range:0~Max Capacity, Default value: 0
a3--54		Application-Over/ Under Transaction	OU - Statistic Batch# Enable	Batch# Enable: 0=Disable; 1=Enable
a3--55		Application-Over/ Under Transaction	OU - Statistic Total Value Enable	Total Value Enable: 0=Disable; 1=Enable
a3--56		Application-Over/ Under Transaction	OU - Statistic Total Counter Enable	Total Counter Enable: 0=Disable; 1=Enable
a3--57		Application-Over/ Under Transaction	OU - Statistic Size Enable	Statistic Size Enable: 0=Disable; 1=Enable

Share data	Item	Sub Item	Title	Description
a3--58		Application-Over/Under Transaction	OU - Statistic Std.Deviation Enable	Std.Deviation Enable: 0=Disable; 1=Enable
a3--59		Application-Over/Under Transaction	OU - Statistic Mean Enable	Mean Enable: 0=Disable; 1=Enable
a3--60		Application-Over/Under Transaction	OU - Statistic Max. Enable	Max. Enable: 0=Disable; 1=Enable
a3--61		Application-Over/Under Transaction	OU - Statistic Min. Enable	Min. Enable: 0=Disable; 1=Enable
a3--62		Application-Over/Under Transaction	OU - Statistic Median Enable	Median Enable: 0=Disable; 1=Enable
a4--01	Manual Filling	Application-Manual Filling Setting	MF - Save & Transfer	Save Transfer Type: 0=Manually(Default); 1=Automatic; 2=Clever
a4--02		Application-Manual Filling Setting	MF - Threshold (%)	Threshold percentage of under limit is below limit value. Range:0~90, Default value:10
a4--03		Application-Manual Filling Setting	MF - Statistic Enable	Statistic Enable: 0=Disable(Default); 1=Enable
a4--05		Application-Manual Filling Transaction	MF - DI Report Customized Headers	DI Report Customized Headers
a4--07		Application-Manual Filling Setting	MF - Material Change	Material Change Type: 0=None; 1=1=Return to Zero(<9d) (Default);
a4--08		Application-Manual Filling Setting	MF - Totalization Enable	Totalization feature Enable: 0=Disable(Default); 1=Enable
a4--09		Application-Manual Filling Setting	MF - Sub Total Enable	Sub total Enable: 0=Disable(Default); 1=Enable
a4--10		Application-Manual Filling Setting	MF - Undo Transaction	Undo Transaction Type: 0=Off(Default); 1=Last Transaction; 2=unlimited
a4--11		Application-Manual Filling Setting	MF - Tare After Transfer In Net Mode	Tare After Transfer In Net Mode Enable: 0=Disable(Default); 1=Enable
a4--12		Application-Manual Filling Setting	MF - Statistic Enable	Statistic Enable: 0=Disable(Default); 1=Enable
a4--13		Application-Manual Filling Setting	MF - Clear On Transfer	Clear On Transfer Enable: 0=Off(Default); 1=Clear Total & Subtotal; 2 =Clear Subtotal
a4--14		MF-DIO Setting	Tolerance OK Signal Enable	Tolerance OK Signal Enable 0=Disable 1=Enable

Share data	Item	Sub Item	Title	Description
a4--15		MF-DIO Setting	Over Zone Signal Enable	Over Zone Signal Enable: 0=Disable 1=Enable
a4--16		MF-DIO Setting	Under Zone Signal Enable	Under Zone Signal Enable 0=Disable 1=Enable
a4--17		MF-DIO Setting	Below Threshold Signal Enable	Below Threshold Signal Enable 0=Disable 1=Enable
a4--18		MF-DIO Setting	Tolerance OK Signal port	Tolerance OK Signal port ID
a4--19		MF-DIO Setting	Over Zone output port	Over Zone output port ID
a4--20		MF-DIO Setting	Under Zone Signal Port	Under Zone Signal Port ID
a4--21		MF-DIO Setting	Below Threshold Signal Port	Below Threshold Signal Port ID
a4--23		Application-Manual Filling Transfer	MF - Transfer Trigger	Each item of array indicate the transfer trigger of application. 11 - lot print 12 - final print 13 - Statistic report
a4--24		Application-Manual Filling Transfer	MF - Transfer Connection ID	Each item of array indicate the index of connection.
a4--25		Application-Manual Filling Transfer	MF - Transfer Template	Each item indicate template ID of one connection 1 - 10 Template 1 - 10 11 - Standard Lot. Print 12 - Standard final print
a4--26		Application-Manual Filling Transfer	MF - Transfer Copies	Each item indicate output copies of one connection
a4--27		Application-Manual Filling Transfer	MF - Instant Transfer	Instant Print Enable: 0=Disable; 1=Enable
a4--34		Application-Manual Filling Setting	MF - Totalization Unit	Totalization Unit Index: 0=None, 1=lb, 2=kg, 3=g, 4=t, 5=ton, 9=oz
a4--43		Application-Manual Filling Transaction	MF - Statistic Batch# Enable	Batch# Enable: 0=Disable; 1=Enable
a4--44		Application-Manual Filling Transaction	MF - Statistic Total Value Enable	Total Value Enable: 0=Disable; 1=Enable
a4--45		Application-Manual Filling Transaction	MF - Statistic Total Counter Enable	Total Counter Enable: 0=Disable; 1=Enable
a4--46		Application-Manual Filling Transaction	MF - Statistic Statistic Size Enable	Statistic Size Enable: 0=Disable; 1=Enable

Share data	Item	Sub Item	Title	Description
a4--47		Application-Manual Filling Transaction	MF - Statistic Std.Deviation Enable	Std.Deviation Enable: 0=Disable; 1=Enable
a4--48		Application-Manual Filling Transaction	MF - Statistic Mean Enable	Mean Enable: 0=Disable; 1=Enable
a4--49		Application-Manual Filling Transaction	MF - Statistic Max. Enable	Max. Enable: 0=Disable; 1=Enable
a4--50		Application-Manual Filling Transaction	MF - Statistic Min. Enable	Min. Enable: 0=Disable; 1=Enable
a4--51		Application-Manual Filling Transaction	MF - Statistic Median Enable	Median Enable: 0=Disable; 1=Enable
a4--52		Application-Manual Filling Setting	MF - Clever Threshold(primary unit)	Clever Threshold Value: Range:0~Max Capacity, Default value: 0
a5--01	Data Integrity	Application-Data Integrity	Electronic Signature Enable	Electronic Signature Enable: 0=Disable(Default); 1=Enable
a5--02		Application-Data Integrity	Electronic Signature Type	Electronic Signature Type: 0=Weighing E-Signature Only(Default); 1=Reviewer E-Signature Immediately; 2=Reviewer E-Signature in Transaction Table; 3=Batch E-Signature in Transaction Table
a5--03		Application-Data Integrity	Custom E-Signature Name 1	Custom Name 1
a5--04		Application-Data Integrity	Custom E-Signature 1	Custom E-Signature 1
a5--05		Application-Data Integrity	Custom E-Signature Name 2	Custom Name 2
a5--06		Application-Data Integrity	Custom E-Signature 2	Custom E-Signature 2
a5--07		Application-Data Integrity	Custom E-Signature Name 3	Custom Name 3
a5--08		Application-Data Integrity	Custom E-Signature 3	Custom E-Signature 3
a5--09		Application-Data Integrity	Custom E-Signature Name 4	Custom Name 4
a5--10		Application-Data Integrity	Custom E-Signature 4	Custom E-Signature 4
a5--11		Application-Data Integrity	Custom E-Signature Name 5	Custom Name 5
a5--12		Application-Data Integrity	Custom E-Signature 5	Custom E-Signature 5
a5--13		Application-Data Integrity	Custom E-Signature Name 6	Custom Name 6
a5--14		Application-Data Integrity	Custom E-Signature 6	Custom E-Signature 6
a5--15		Application-Data Integrity	Custom E-Signature Name 7	Custom Name 7

Share data	Item	Sub Item	Title	Description
a5--16		Application-Data Integrity	Custom E-Signature 7	Custom E-Signature 7
a5--17		Application-Data Integrity	Custom E-Signature Name 8	Custom Name 8
a5--18		Application-Data Integrity	Custom E-Signature 8	Custom E-Signature 8
a5--19		Application-Data Integrity	Custom E-Signature Name 9	Custom Name 9
a5--20		Application-Data Integrity	Custom E-Signature 9	Custom E-Signature 9
a5--21		Application-Data Integrity	Custom E-Signature Name 10	Custom Name 10
a5--22		Application-Data Integrity	Custom E-Signature 10	Custom E-Signature 10
a6--01	Counting	CT-DIO Setting	Over Zone Signal Enable	Over Zone Signal Enable: 0=Disable 1=Enable
a6--02		CT-DIO Setting	Over Zone output port	Over Zone output port ID
a6--03		CT-DIO Setting	Tolerance OK Signal Enable	Tolerance OK Signal Enable 0=Disable 1=Enable
a6--04		CT-DIO Setting	Tolerance OK Signal port	Tolerance OK Signal port ID
a6--05		CT-DIO Setting	Under Zone Signal Enable	Under Zone Signal Enable 0=Disable 1=Enable
a6--06		CT-DIO Setting	Under Zone Signal Port	Under Zone Signal Port ID
a6--07		CT-DIO Setting	Below Threshold Signal Enable	Below Threshold Signal Enable 0=Disable 1=Enable
a6--08		CT-DIO Setting	Below Threshold Signal Port	Below Threshold Signal Port ID
a6--10		Application-Counting Transfer	CT - Transfer Trigger	Each item of array indicate the transfer trigger of application. 11 - lot print 12 - final print 13 - Statistic report
a6--11		Application-Counting Transfer	CT - Transfer Connection ID	Each item of array indicate the index of connection.
a6--12		Application-Counting Transfer	CT - Transfer Template	Each item indicate template ID of one connection 1 - 10 Template 1 - 10 11 - Standard Lot. Print 12 - Standard final print
a6--13		Application-Counting Transfer	CT - Transfer Copies	Each item indicate output copies of one connection
a6--14		Application-Counting Transfer	CT - Instant Transfer	Instant Print Enable: 0=Disable; 1=Enable
a6--15		Application-Counting Setting	CT - Reference Pieces	Reference Pieces Type: 0=Fix References Pcs(Default); 1=Var. Reference Pcs

Share data	Item	Sub Item	Title	Description
a6--16		Application-Counting Setting	CT - Lock Ref.Pcs Enable	Lock Ref. Pcs Enable: 0=Disable(Default); 1=Enable
a6--17		Application-Counting Setting	CT - APW Optimization	APW Optimization Type: 0=Off; 1=Manually; 2=Automatic;
a6--18		Application-Counting Setting	CT - Update Target Table Enable	Update Target Table Enable: 0=Disable; 1=Enable
a6--19		Application-Counting Setting	CT - Material Change	Material Change Type: 0=Deviation +/-(<9d); 1=Return to Zero(<9d); 2=None
a6--20		Application-Counting Setting	CT - Tare After Transfer In Net Mode Enable	Tare After Transfer In Net Mode Enable: 0=Disable(Default); 1=Enable
a6--21		Application-Counting Setting	CT - Check Process Tolerance (%) Enable	Check Process Tolerance Enable: 0=Disable; 1=Enable(Default)
a6--22		Application-Counting Setting	CT - Check Process Tolerance Value	Check Process Tolerance Value: Range:0.01~30, Default value:20
a6--23		Application-Counting Setting	CT - Totalization Enable	Totalization feature Enable: 0=Disable(Default); 1=Enable
a6--24		Application-Counting Setting	CT - Sub Total Enable	Sub total Enable: 0=Disable(Default); 1=Enable
a6--25		Application-Counting Setting	CT - Undo Transaction	Undo Transaction Type: 0=Off(Default); 1=Last Transaction; 2=unlimited
a6--26		Application-Counting Setting	CT - Clear On Transfer	Clear On Transfer: 0=Off(Default); 1=Clear Total & Subtotal; 2 =Clear Subtotal
a6--27		Application-Counting Setting	CT - Save & Transfer	Save Transfer Type: 0=Manually(Default); 1=Automatic; 2=Clever
a6--28		Application - Check Counting	CT - Visualization	Visualization type: 0=Bargraph; 1=Color Weighing
a6--29		Application - Check Counting	CT - Threshold (%)	Threshold percentage of under limit is below limit value. Range:0~90, Default value:10
a6--30		Application - Check Counting	CT - Motion Check Enable	Motion Check Enable: 0=Disable(Default); 1=Enable
a6--31		Application - Check Counting	CT - Over Color	Over Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green; 5=Orange;

Share data	Item	Sub Item	Title	Description
				6=Red(Default); 7=Yellow; 9=Custom color
a6--32		Application - Check Counting	CT - OK Color	Ok Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green(Default); 5=Orange; 6=Red; 7=Yellow; 9=Custom color
a6--33		Application - Check Counting	CT - Under Color	Under Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green(Default); 5=Orange; 6=Red; 7=Yellow; 9=Custom color
a6--34		Application - Check Counting	CT - Below Threshold Color	Below Threshold Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green; 5=Orange; 6=Red; 7=Yellow; 8=White(Default); 9=Custom color
a6--35		Application - Check Counting	CT - Custom Text Color	Custom Text Color
a6--36		Application - Check Counting	CT - Custom Color Type	Custom Color Type: 0=RGB 1=HEX
a6--37		Application - Check Counting	CT - Custom Color Value	Custom Color Value
a6--58		Application-Counting Setting	CT - Deviation(d)	Deviation threshold value: Range: 9~99, Default value : 30
a6--59		Application-Counting Setting	CT - Clever Threshold(primary unit)	Clever Threshold Value: Range:0~Max Capacity, Default value: 0
a7--01	Classification	Application-Classification Setting	CL - Material Change	Material Change Type: 0=Deviation +/--(Default); 1=Return to Zero(<9d); 2=None
a7--02		Application-Classification Setting	CL - Save & Transfer	Save Transfer Type: 0=Manually(Default); 1=Automatic; 2=Clever
a7--03		Application-Classification Setting	CL - Custom Color Value	Custom Color Value

Share data	Item	Sub Item	Title	Description
a7--04		Application-Classification Setting	CL - Custom Text Color	Custom Text Color
a7--05		Application-Classification Setting	CL - Custom Color Type	Custom Color Type: 0=RGB 1=HEX
a7--06		Application-Classification Setting	CL -Above Color	Above Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green; 5=Orange; 6=Red; (Default) 7=Yellow; 8=White; 9=Custom color
a7--07		Application-Classification Setting	CL -Below Color	Below Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green; 5=Orange; 6=Red; (Default) 7=Yellow; 8=White; 9=Custom color
a7--08		Application-Classification Setting	CL -Class1 Color	Class1 Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green; 5=Orange; (Default) 6=Red; 7=Yellow; 8=White; 9=Custom color
a7--09		Application-Classification Setting	CL -Class2 Color	Class2 Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green; 5=Orange; 6=Red; 7=Yellow; (Default) 8=White; 9=Custom color
a7--10		Application-Classification Setting	CL -Class3 Color	Class3 Range Color Index: 0=Blue; 1=Cyan; 2=Black, (Default) 3=Dark gray, 4=Green; 5=Orange; 6=Red;

Share data	Item	Sub Item	Title	Description
				7=Yellow; 8=White; 9=Custom color
a7--11		Application-Classification Setting	CL -Class4 Color	Class4 Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, (Default) 4=Green; 5=Orange; 6=Red; 7=Yellow; 8=White; 9=Custom color
a7--12		Application-Classification Setting	CL -Class5 Color	Class5 Range Color Index: 0=Blue; (Default) 1=Cyan; 2=Black, 3=Dark gray, 4=Green; 5=Orange; 6=Red; 7=Yellow; 8=White; 9=Custom color
a7--13		Application-Classification Setting	CL -Class6 Color	Class6 Range Color Index: 0=Blue; 1=Cyan; (Default) 2=Black, 3=Dark gray, 4=Green; 5=Orange; 6=Red; 7=Yellow; 8=White; 9=Custom color
a7--14		Application-Classification Setting	CL -Class7 Color	Class7 Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green; (Default) 5=Orange; 6=Red; 7=Yellow; 8=White; 9=Custom color
a7--15		Application-Classification Setting	CL -Class8 Color	Class8 Range Color Index: 0=Blue; 1=Cyan; 2=Black, 3=Dark gray, 4=Green; 5=Orange; 6=Red; 7=Yellow; 8=White; (Default) 9=Custom color

Share data	Item	Sub Item	Title	Description
a7--16		Application-Classification Setting	CL -Totalization Enable	Totalization feature Enable: 0=Disable(Default); 1=Enable
a7--17		Application-Classification Setting	CL -Sub Total Enable	Sub total Enable: 0=Disable(Default); 1=Enable
a7--18		Application-Classification Setting	CL -Totalization Unit	Totalization Unit Index: 0=None, 1=lb, 2=kg, 3=g, 4=t, 5=ton, 9=oz
a7--19		Application-Classification Setting	CL -Clear On Transfer	Clear On Transfer: 0=Off(Default); 1=Clear Total & Subtotal; 2=Clear Subtotal
a7--20		Application-Classification Setting	CL -Undo Transaction	Undo Transaction Type: 0=Off(Default); 1=Last Transaction; 2=unlimited
a7--21		Application-Classification Setting	CL -Tare After Transfer In Net Mode Enable	Tare After Transfer In Net Mode Enable: 0=Disable(Default); 1=Enable
a7--22		Application-Classification Setting	CL -Motion Check Enable	Motion Check Enable: 0=Disable(Default); 1=Enable
a7--23		Application-Classification Setting	CL -Statistic Enable	Statistic Enable: 0=Disable(Default); 1=Enable
a7--24		Application-Classification Setting	CL - Stealth Mode Enable	Stealth Mode Enable: 0=Disable(Default); 1=Enable
a7--26		Application-Classification Transfer	CL - Transfer Trigger	Each item of array indicate the transfer trigger of application. 11 - lot print 12 - final print 13 - Statistic report
a7--27		Application-Classification Transfer	CL - Transfer Connection ID	Each item of array indicate the index of connection.
a7--28		Application-Classification Transfer	CL - Transfer Template	Each item indicate template ID of one connection 1 - 10 Template 1 - 10 11 - Standard Lot. Print 12 - Standard final print
a7--29		Application-Classification Transfer	CL - Transfer Copies	Each item indicate output copies of one connection
a7--30		Application-Classification Transfer	CL - Instant Transfer	Instant Print Enable: 0=Disable; 1=Enable
a7--31		CL-DIO Setting	Above Zone Signal Enable	Above Zone Signal Enable 0=Disable 1=Enable

Share data	Item	Sub Item	Title	Description
a7--32		CL-DIO Setting	Above Zone Signal Port	Above Zone Signal Port ID
a7--33		CL-DIO Setting	Below Threshold Signal Enable	Below Threshold Signal Enable 0=Disable 1=Enable
a7--34		CL-DIO Setting	Below Threshold Signal Port	Below Threshold Signal Port ID
a7--35		CL-DIO Setting	Class 1 Zone Signal Enable	Class 1 Zone Signal Enable 0=Disable 1=Enable
a7--36		CL-DIO Setting	Class 1 Zone Signal Port	Class 1 Zone Signal Port ID
a7--37		CL-DIO Setting	Class 2 Zone Signal Enable	Class 2 Zone Signal Enable 0=Disable 1=Enable
a7--38		CL-DIO Setting	Class 2 Zone Signal Port	Class 2 Zone Signal Port ID
a7--39		CL-DIO Setting	Class 3 Zone Signal Enable	Class 3 Zone Signal Enable 0=Disable 1=Enable
a7--40		CL-DIO Setting	Class 3 Zone Signal Port	Class 3 Zone Signal Port ID
a7--41		CL-DIO Setting	Class 4 Zone Signal Enable	Class 4 Zone Signal Enable 0=Disable 1=Enable
a7--42		CL-DIO Setting	Class 4 Zone Signal Port	Class 4 Zone Signal Port ID
a7--43		CL-DIO Setting	Class 5 Zone Signal Enable	Class 5 Zone Signal Enable 0=Disable 1=Enable
a7--44		CL-DIO Setting	Class 5 Zone Signal Port	Class 5 Zone Signal Port ID
a7--45		CL-DIO Setting	Class 6 Zone Signal Enable	Class 6 Zone Signal Enable 0=Disable 1=Enable
a7--46		CL-DIO Setting	Class 6 Zone Signal Port	Class 6 Zone Signal Port ID
a7--47		CL-DIO Setting	Class 7 Zone Signal Enable	Class 7 Zone Signal Enable 0=Disable 1=Enable
a7--48		CL-DIO Setting	Class 7 Zone Signal Port	Class 7 Zone Signal Port ID
a7--49		CL-DIO Setting	Class 8 Zone Signal Enable	Class 8 Zone Signal Enable 0=Disable 1=Enable
a7--50		CL-DIO Setting	Class 8 Zone Signal Port	Class 8 Zone Signal Port ID
a7--74		Application - Classification Transaction	CL - DI Report Customized Headers	DI Report Customized Headers
a7--83		Application- Classification Setting	CL -Deviation(d)	Deviation threshold value: Range: 9~99, Default value : 30

Share data	Item	Sub Item	Title	Description
a7--84		Application - Classification Transaction	CL - Statistic Batch# Enable	Batch# Enable: 0=Disable; 1=Enable
a7--85		Application - Classification Transaction	CL - Statistic Total Value Enable	Total Value Enable: 0=Disable; 1=Enable
a7--86		Application - Classification Transaction	CL - Statistic Total Counter Enable	Total Counter Enable: 0=Disable; 1=Enable
a7--87		Application - Classification Transaction	CL - Statistic Statistic Size Enable	Statistic Size Enable: 0=Disable; 1=Enable
a7--88		Application - Classification Transaction	CL - Statistic Std.Deviation Enable	Std.Deviation Enable: 0=Disable; 1=Enable
a7--89		Application - Classification Transaction	CL - Statistic Mean Enable	Mean Enable: 0=Disable; 1=Enable
a7--90		Application - Classification Transaction	CL - Statistic Max. Enable	Max. Enable: 0=Disable; 1=Enable
a7--91		Application - Classification Transaction	CL - Statistic Min. Enable	Min. Enable: 0=Disable; 1=Enable
a7--92		Application - Classification Transaction	CL - Statistic Median Enable	Median Enable: 0=Disable; 1=Enable
a7--93		Application- Classification Setting	CL -Clever Threshold(primary unit)	Clever Threshold Value: Range:0~Max Capacity, Default value: 0
a8--03	Basic SQC	Application - Basic SQC Setting	BSQC - Default Save & Transfer Behavior	Default Save & Transfer Behavior Mode 0=Automatic(Default); 1=Manually;
a8--04		Application - Basic SQC Setting	BSQC - Default Weighing Mode	Default Weighing Mode: 0=Standard(Default); 1=Additive; 2=Subtract
a8--05		Application - Basic SQC Setting	BSQC - Auto generating batch ID	Auto generating batch ID Enable: 1=Disable; 0=Enable
a8--06		Application - Basic SQC Setting	BSQC - Enable Sampling Message	Enable Sampling Message Enable: 0=Disable; 1=Enable
a8--08		Application - Basic SQC Transfer	BSQC - Transfer Trigger	Each item of array indicate the transfer trigger of application.
a8--09		Application - Basic SQC Transfer	BSQC - Transfer Connection ID	Each item of array indicate the index of connection.
a8--10		Application - Basic SQC Transfer	BSQC - Transfer Template	Each item indicate template ID of one connection
a8--11		Application - Basic SQC Transfer	BSQC - Transfer Copies	Each item indicate output copies of one connection
d1--01	DI Report Setting d101-- = basic	Application-DI	General Setting - SD Name	Default value : "Terminal Type"

Share data	Item	Sub Item	Title	Description
	weighing d102--= total- ization d103-- = over/under d104--=			
	manual filling d105-- = classification			
d1--02		Application- DID579:D645	Description 1	Default value : "Terminal Serial Number"
d1--03		Application-DI	Description 2	Default value : "Terminal Firmware Version Number"
d1--04		Application-DI	Description 3	Default value : "Scale Firmware Version Number"
d1--05		Application-DI	Description 4	Default value : "Report Date & Time"
d1--06		Application-DI	Description 5	
d1--07		Application-DI	Description 6	
d1--08		Application-DI	Description 7	
d1--09		Application-DI	Description 8	
d1--10		Application-DI	Description 9	
d1--11		Application-DI	Description 10	
d1--12		Application-DI	Description 11	
d1--13		Application-DI	Description 12	
d1--14		Application-DI	Description 13	
d1--15		Application-DI	Description 14	
d1--16		Application-DI	Description 15	
d1--17		Application-DI	Description 16	
d1--18		Application-DI	Description 17	Default value : "IND400"
d1--19		Application-DI	Value 1	
d1--20		Application-DI	Value 2	
d1--21		Application-DI	Value 3	
d1--22		Application-DI	Value 4	
d1--23		Application-DI	Value 5	
d1--24		Application-DI	Value 6	
d1--25		Application-DI	Value 7	
d1--26		Application-DI	Value 8	
d1--27		Application-DI	Value 9	
d1--28		Application-DI	Value 10	
d1--29		Application-DI	Value 11	
d1--30		Application-DI	Value 12	
d1--31		Application-DI	Value 13	
d1--32		Application-DI	Value 14	
d1--33		Application-DI	Value 15	
d1--34		Application-DI	Value 16	
d1--35		Application-DI	Value 17	
d1--36		Application-DI	Column Data Field	
d1--37		Application-DI	Column Title 1	
d1--38		Application-DI	Column Title 2	
d1--39		Application-DI	Column Title 3	

Share data	Item	Sub Item	Title	Description
d1--40		Application-DI	Column Title 4	
d1--41		Application-DI	Column Title 5	
d1--42		Application-DI	Column Title 6	
d1--43		Application-DI	Column Title 7	
d1--44		Application-DI	Column Title 8	
d1--45		Application-DI	Column Title 9	
d1--46		Application-DI	Column Title 10	
d1--47		Application-DI	Column Title 11	
d1--48		Application-DI	Column Title 12	
d1--49		Application-DI	Column Title 13	
d1--50		Application-DI	Column Title 14	
d1--51		Application-DI	Column Title 15	
d1--52		Application-DI	Column Title 16	
d1--53		Application-DI	Column Title 17	
d1--54		Application-DI	Column Title 18	
d1--55		Application-DI	Column Title 19	
d1--56		Application-DI	Column Title 20	
d1--57		Application-DI	Column Title 21	
d1--58		Application-DI	Column Title 22	
d1--59		Application-DI	Column Title 23	
d1--60		Application-DI	Column Title 24	
d1--61		Application-DI	Column Title 25	
d1--62		Application-DI	Column Title 26	
d1--63		Application-DI	Column Title 27	
d1--64		Application-DI	Column Title 28	
d1--65		Application-DI	Column Title 29	
d1--66		Application-DI	Column Title 30	
d1--67		Application-DI	Column Title 31	
d1--68		Application-DI	Column Title 32	
d1--69		Application-DI	Summary Settings	
oc--01		Communication-OPC UA Setting	OPC UA Enable	OPC UA Enable: 0 = Disable; 1 = Enable
oc--02		Communication-OPC UA Setting	OPC UA Authentication	OPC UA Authentication: Range :0~2, Default value: 2
oc--03		Communication-OPC UA Setting	OPC UA Port	OPC UA Port
oc--04		Communication-OPC UA Setting	OPC UA Security Mode	OPC UA Security Mode
oc--05		Communication-OPC UA Setting	OPC UA Basic256-Enable	OPC UA Basic256-Enable
oc--06		Communication-OPC UA Setting	OPC UA Basic256-Security Mode	OPC UA Basic256-Security Mode
oc--07		Communication-OPC UA Setting	OPC UA Aes128-Enable	OPC UA Aes128-Enable
oc--08		Communication-OPC UA Setting	OPC UA Aes128-Security Mode	OPC UA Aes128-Security Mode
oc--09		Communication-OPC UA Setting	OPC UA Aes256-Enable	OPC UA Aes256-Enable

Share data	Item	Sub Item	Title	Description
oc--10		Communication- OPC UA Setting	OPC UA Aes256- Security Mode	OPC UA Aes256-Security Mode

To protect your product's future:

METTLER TOLEDO Service assures the quality, measuring accuracy and preservation of value of this product for years to come.

Please request full details about our attractive terms of service.

▶ www.mt.com/service

www.mt.com

For more information

Mettler-Toledo GmbH

Im Langacher 44
8606 Greifensee, Switzerland
www.mt.com/contact

Subject to technical changes.
© 01/2026 METTLER TOLEDO. All rights reserved.
30852845D en



30852845