## IND400

# Weighing terminal





# **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:

- 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/rêcepteur excempt 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 non point à point, selon le cas.

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

## **Safety Instructions**

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

www.mt.com/ComplianceSearch

Please scan the QR code below and download from > www.mt.com/ind400.





## 

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.



## 

The device is for indoor use only.



## **MARNING**

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.



## 

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.



## \land WARNING

Avoid plastic covers over the equipment. The protection cover used must be officially approved by METTLER TOLEDO.



## \land WARNING

Ensure proper equipotential grounding of the equipment, mounting accessories, and the scale base.



## 🗥 WARNING

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.



## \land WARNING

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 instrinsic safety of the equipment and could result in bodily injury and/or property damage.



## 🗥 WARNING

For continued protection against shock hazard, connect to properly grounded power source only. Do not remove the grounding connection.



## \land WARNING

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.

## \land WARNING

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.



## \land WARNING

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.



## \land WARNING

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.



## \land WARNING

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.



## 🗥 WARNING

Observe precautions for handling electrostatic sensitive devices.



## 🗥 WARNING

Avoid direct exposure to sunlight.



## **WARNING**

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.



## 🗥 WARNING

Before service, disconnect power from this device.



## \land WARNING

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.

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



Please dispose of this product 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 device. Should this device be passed on to other parties, the content of this regulation must also be related.

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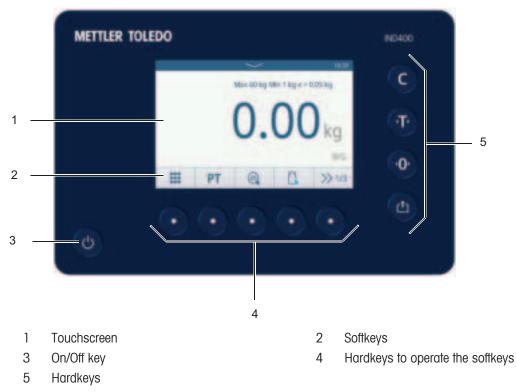
## **1** Introduction

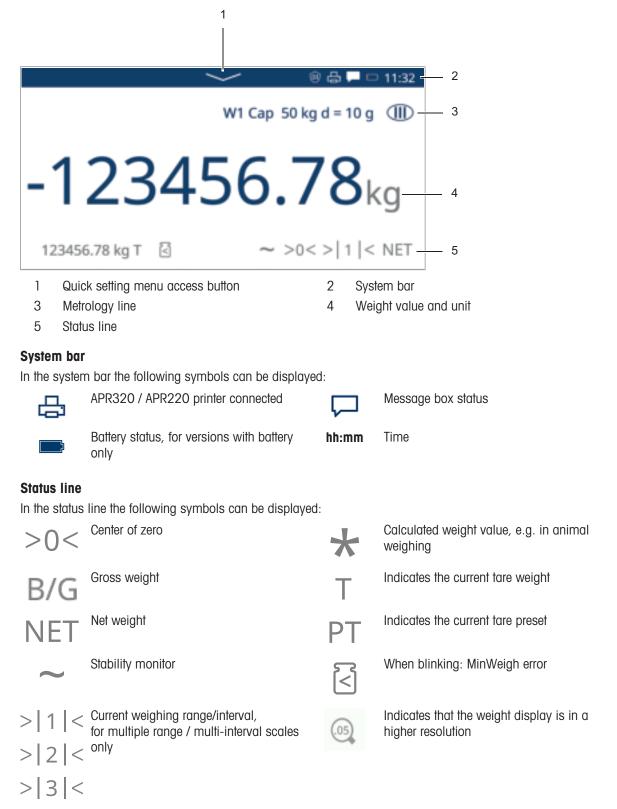
## **1.1 Presentation**

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 up to two optional data interfaces.

## 1.1.1 Device overview

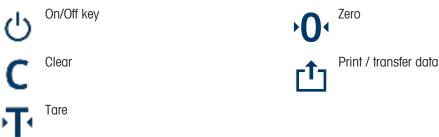




## 1.1.3 Hard and softkeys

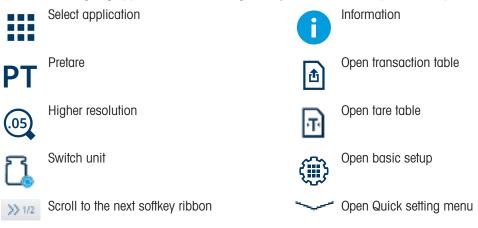
## Hardkeys

The following hardkeys are available:



#### Softkeys

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



#### i Note

The softkeys can also be operated using the hardkey located below the displayed softkey.

#### 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.

Iser	10									E
										×
1	2	3	.4	5	6	7	8	9	0	00
q	w	e	r	t	У	u	1	0	р	<
a	5	d	f	9	h	1	k	1.		>
Ŷ.	z	×	c	v	b	n	m	a		1#
	÷	6	9							1

Preset Taxe			
30			× D
397		9	۲
4	5	6	< >
1	2	3	
+	.0	14	×

#### Input of special characters

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

ä	ã	æ	á	à	â

## 1.1.4 Data integrity

IND400 is available as versions without and with the Data Integrity feature.

Data integrity is the overall accuracy, completeness and consistency of data. Data integrity also refers to the safety of data in regard to regulatory compliance and security. When the integrity of data is secure, the information saved in the database will remain complete, accurate and reliable no matter how long it is saved or how often it is accessed.

Data Integrity should be complied with throughout the whole life-cycle of the data. It comprises the following features:

Input validation Data validation Removal of duplicated data Data backup Control access to data

Audit trail log

Electronics signature

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

Over/under checkweighing

Manual Filling/Dosing

Totalization

Classification

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

#### IND400 data integrity features

Four-eye principle: Only data reviewed from a second person can be exported.

Special role in the user management: QA for reviewing

Electronics signature

For operation with data integrity refer to [Working with Data Integrity > Page 37], for data integrity settings refer to [Application -> Data Integrity > Page 88].

## 1.2 Quick setting menu

Touch in the sy	- /stem bar or	r softkey	~	to oper	n the follo	wing menu:
			-	*		Ū
کر Login	() English		30/Mar/20 15:24:			
	Ъ.	<b></b>	0			
*						
	Show bo	attery sta	itus			
	Show W	'i-Fi statu	JS			
ጺ		Display of the current user Open login/logout				
	Open login/logodi					
	Display of the current language Open language setting					
30/Mar/2022 15:24:55	Date and	Date and time in the format defined in the Terminal setup				
$\square$	Open me	Open message box				
Ø	Open se	Open setup, refer to [Configuration ▶ Page 78]				
凸	Activate/	Activate/deactivate a printer				
0	Open inf	Open information menu, see [Info/log features > Page 17]				
((;•	Activate/	deactiva	ıte Wi-Fi			
0	Set the b	Set the brightness of the display				

#### Selecting language

Touch 
to open the following menu:

Display Messag	e		
English	~		
Onscreen Keybo	oard	Keyboard Layo	ut
English	~	QWERTY	~

Setup item	Description	Possible settings
Display Message	Select the language to display messages on the terminal display.	English, Chinese, Deutsch, Français, Italiano, Español, Português, Japanese, Polski
Onscreen Keyboard	Select the language for the onscreen keyboard to enter text.	English, Chinese
Keyboard Layout	Select the keyboard layout for the onscreen keyboard.	QWERTY, QWERTZ, AZERTY

#### 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:



Maintenance required



Out of specification

Normal condition

No new message since the last recall of the message box

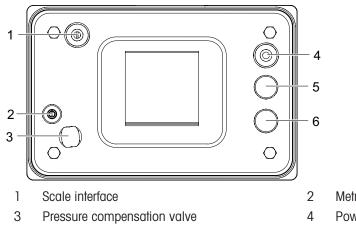
Scale 2 not responding						
Eccentricity is overdue. Please run eccentricity $\sim$						
Warning Text Message						
Information Text Message need to read quickly. $\sim$						
Sensitivity is coming Due.						
Scale 2 not resp	Scale 2 not responding					
- 0	~	$\sim$				
	Eccentricity is Warning Text I Information Te Sensitivity is co	Eccentricity is overdue. Plea Warning Text Message Information Text Message no Sensitivity is coming Due.	Eccentricity is overdue. Please run eccer Warning Text Message Information Text Message need to read q Sensitivity is coming Due.			

#### Leaving the Quick setting menu

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

## **1.3 Connections**

On the back, the following connections are available:



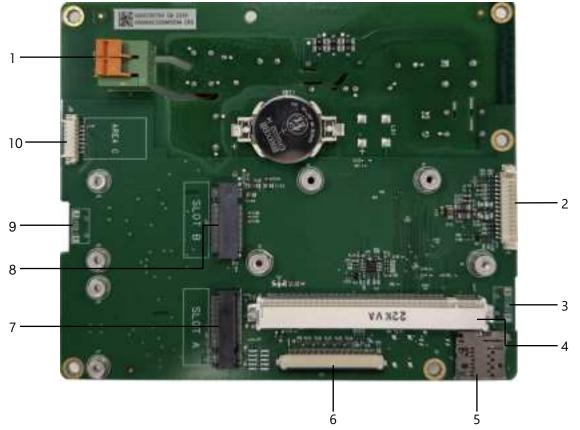
5 Optional data interface

Metrology sticker/screw

4 Power supply

6 Optional data interface

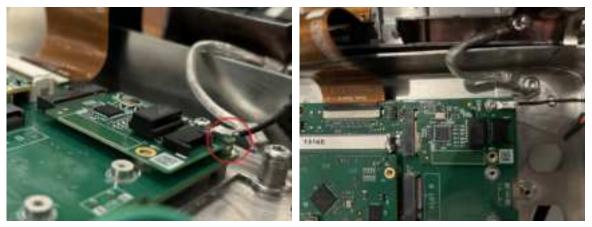
## **1.4 Base Board connections, ports and switches**



1	Power supply	2	Scale board interface
3	USB 2 (not used)	4	Core board interface
5	SD card slot	6	HMI interface
7	Option board interface A	8	Option board interface B
9	USB 1	10	COM1 (RS232)

i Note

One screw of the Base Board is covered by the Ethernet Board. When replacing the Base Board, the Ethernet Board has to be removed first.



## 1.5 Commissioning

## **1.5.1** Selecting the location

## **WARNING**

#### **Risk of heat dissipation**

 When installing the weighing terminal, ensure that the unit is at least 10 cm away from the wall and other devices.

## 

#### Limited cable lengths for approved weighing systems

 For approved weighing systems, a cable length of 30 m between weighing terminal and weighing platform as well as between weighing terminal and external devices (like printer, PC, etc.) must not be exceeded.

The correct location is crucial for the accuracy of the weighing results.

- 1 Select a stable, vibration-free and, if possible, a horizontal location for the weighing platform.
  - The ground must be able to safely bear the weight of the fully loaded weighing platform.
- 2 Observe the following environmental conditions:
  - No direct sunlight
  - No strong drafts
  - No excessive temperature fluctuations

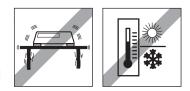
## 1.5.2 Weighing platform connection

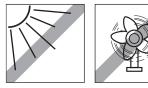
#### Analog weighing platforms

 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.

## 1.5.3 Power supply connection



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## 🗥 WARNING

#### **Risk of electric shock!**

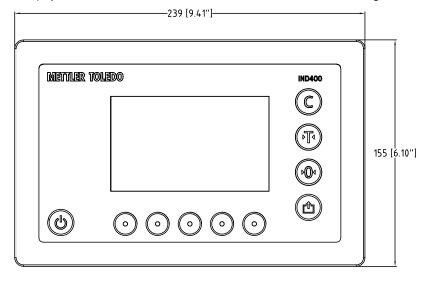
- 1 Before connecting the power supply, check whether the voltage value printed on the label corresponds to your local system voltage.
- 2 Do not, under any circumstances, connect the device if the voltage value on the label deviates from the local system voltage.
- 3 Make sure the weighing platform 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 16].

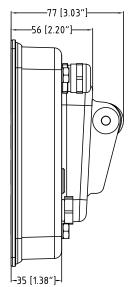
## 1.6 Technical data

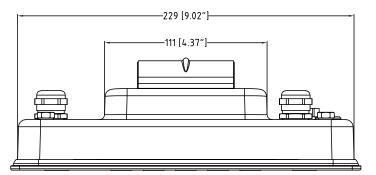
Housing	Stainless steel
Display	High resolution touch graphic display, 5", 800 x 480 px
Keypad	Membrane keyboard
Protection type	IP68 / IP69K
Net weight / Gross weight	2 kg / 2.5 kg
Package size	351 x 221 x 202 mm
Power supply connection	Wide range power supply 100 - 240 V
Mains supply voltage fluctu- ations	-15% - +10%
Ambient conditions	Application: Indoor use only
	Altitude: Up to 2,000 m
	Temperature range Class III: -10 40 °C / 14 104 °F
	Overvoltage category: II
	Pollution degree: 2
	Humidity range: 10 to 95 % relative humidity, non-condensing
W & M approvals	USA: NTEP Class II 100,000d; Class III/IIIL 10,000d
	Canada: Class II 100,000d; Class III 10,000d; Class IIIHD 10,000d
	Europe: OIML Class II, III, IIII
	CPA: IND400 SS Analog, Class III 10,000d, 0.3µV/e
Scale interface	Analog, SICSpro
Data interfaces	Up to 2 data interfaces (RS232, RS485, USB (OTG), Modbus TCP, Modbus RTU, DIO, Wi-Fi, Ethernet)
Cable length for approved weighing systems	For approved weighing systems, a cable length of 30 m between weighing terminal and weighing platform as well as between weighing terminal and external devices (like printer, PC, etc.) must not be exceeded. Installation outside of buildings is not allowed.

#### **Dimensional drawing**

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





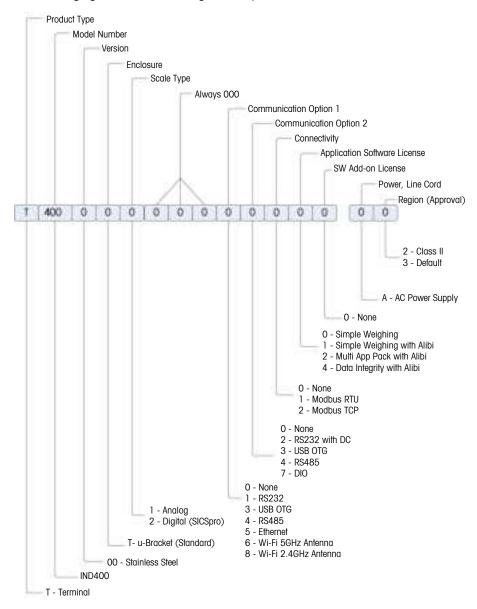


## 1.6.1 Analog scale interface

Impedance	40 Ohm to 3,000 Ohm
Excitation	5 V
Sensitivity	2 mV/V or 3 mV/V
Max. resolution	10,000 e (OIML)
Min. verification interval	0.3 µV/e

## 1.6.2 Type designation code

The following figure shows the configuration options for the terminal.



## 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.

#### i Note

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

#### Switching off

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

#### i 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 3 seconds.

If the power is disconnected by first pressing  $\Box$  and then unplugging the power supply, the terminal can be started by pressing  $\Box$  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 without Data Integrity

When starting the device or after a logout, the default operator is logged in.

Users have to be created in the setup, refer to [Terminal -> User Management > Page 91].

#### Logout

- 1 Open the Quick setting menu, refer to [Quick setting menu > Page 9].
  - $\Rightarrow$  Below the symbol  $\mathbb{A}$  the name of the current user is displayed.
- 2 Touch symbol 🗐.
  - ➡ A safety prompt is displayed.
- 3 Confirm the logout with .
  - → The current user is logged out and the default operator is logged in.

#### Login

To login other than as default operator proceed as follows:

- 1 Open the Quick setting menu, refer to [Quick setting menu ▶ Page 9].
- 2 Touch symbol A.
  - You are asked if you want to log out.
- 3 Touch symbol 🗷.
- 4 Confirm the logout of the default operator with .
  - The window to enter User ID and password is displayed.
- 5 Enter your User ID and password and confirm with  $\checkmark$  .
  - The new user is logged in and the main screen is displayed.

Lagin	
User ID	Password
002	*****
User Name Admin	Forget Password?
×	~

## 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 91].

#### Login

To login proceed as follows:

- Open the Quick setting menu, refer to [Quick setting menu ▶ Page 9].
- 2 Touch symbol A.
  - The window to enter User ID and password is displayed.
- 3 Enter your User ID and password and confirm with ✓.
   ⇒ The new user is logged in and the main screen is
  - displayed.

#### i 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 9].
- Touch symbol A.
- Touch symbol
  - ➡ A safety prompt is displayed.
- 4 Confirm the logout with .
  - ➡ The current user is logged out and the default user "Viewer" is logged in.

## 2.1.4 Info/log features

Touch () in the Quick setting menu to gain access to the following information:

Info	1	Terminal Info	-	Metrology
[	]	Logs		Memory
+				11: 11:

- Touch the desired information category.

User ID	Password
002	******
User Name Admin	Forget Password?
×	$\checkmark$

#### **Terminal Info**



Metrology Info (for approved scales only) Analog Scale

Metrology Info			D
Terminal			
Terminal Firmwa	re Version	1.00.0046	
Scale			
Status			
-			
Metrology Info			F
Status			
Hardware ID			
Log Time	20/Aug/	2023 10:19:19	
Name			
Version			
-			

#### i Note

The Name display in Metrology Info is the same as the Serial Number display in Setup -> Scale -> Identification.

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 III to show a QR code.

For detailed information on the device touch softkey .

 Scroll the window for detailed system information on the slots.

The following information is available:

Terminal Firmware Version

Serial Number of the Terminal

Checksum

Slot S: Information on the scale interface

Slot A / Slot B: Information on the data interfaces

#### SICSpro Scale

letrology Info			1
Terminal			
Terminal Firmwar	e Version	1.00.0045	
Scale			
Status			
-		-	
letrology Info			
Status			
Hardware ID	7704001	5	
Log Time	06/Jan/3	2023 17:20:16	
Name		v(AP:1.0.1 RB:2.13.0 16 SP:2.2.8)	(
Version	1.0.1.20	201229 0.0.0.0.0	
-			

Logs

Logs		_	
	Event Log		Calibration Log
8	Maintenance Log	-	Error Log
6	Change Log		
4	1 r	1	

## Event Log

Test Result	Date & Time	Technic
~	14/Nov/2023 10:27:24	Admin
1	14/Nov/2023 10:23:39	Admin

- Select a log to display the respective log records.

In the Event Log, all planned maintenance actions are reported.

## **Calibration Log**

			-
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
		1	>> 1/2

In the Calibration Log, all calibration actions are reported.

#### 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
4 0	$\nabla$	>> 1/2

In the Maintenance Log, all maintenance actions are reported.

#### **Error Log**

Date & Time	Severity	Error Code
		4.

#### Audit Log (for IND400 with Data Integrity only)

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

## Change Log

Date & Time 01/Aug/2023 09:41:26	User Name MT	Objec xs0105
017A0Q/2025-05/41/20	2,0001	X30105

In the Change Log, all changes on the device are reported.

In the Audit Log, user operations are reported.

## Additional actions in the logs



Show detailed information on the event

 $\mathbf{Y}$ 

Filter the logs by the respective heads of columns, e.g. Date, Technician For more details refer to [Filtering logs and tables > Page 23] Export data to a computer/printer

For more details refer to [Importing/exporting data > Page 26]



()

Reset data

## i Note

All data will be deleted.

#### In the Error Log, all errors are reported.

## 2.1.5 Recalling the transaction table

Each transaction is stored in the application-specific transaction table.

- Touch softkey <a>b</a>.
  - ➡ 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 Basic Weighing application:

ID	Serial number of the transaction
Date & Time	Date and time of the transaction
Unit	Weight unit of the transaction
Gross	Gross weight
Tare	Tare weight
Net	Net weight
Tare Type	"PT" for a tare preset, otherwise blank
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

ID	Date & Time	Unit	Gross
2	17/Apr/2023 15/50/34	10	18.50
ż.	17/Apr/2023 15:30:14	10	13.85
	100 million (1990)		
*	The second second		

In the transaction table the following operations are available:

Show the above information for the selected transaction



Filter transactions, see [Filtering logs and tables ▶ Page 23]



Print transaction, only if an APR320 / APR220 printer is connected



Transfer transaction



Refresh transaction table

#### i 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 37].

## 2.1.6 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:

ID	Date & Time	Unit	Gross
2	14/Wiw2823 18/3855	40	17.00
6	147Nov/2523 09/38/46	kg	19.70
ś	14/Nov/2023 09:38:39	-kg (	22.35
á –	14/Winv/2023 08:38:32	kg	27.65
á	14/Nov/2023 09:38:24	kg.	17.45

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 23]



Print Alibi log file, only if an APR320 / APR220 printer is connected



Transfer Alibi log file

<u>ک</u>

Refresh Alibi log file

#### i Note

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

## 2.1.7 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  $\nabla$ .
  - 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.



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

ter Settings	
<b>*</b> 2	
<b>3</b> #3	
X	V

- 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  $\checkmark$ .
  - ➡ The results are displayed in the respective log.

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

<b>#</b> 2	
<b>3</b> #3	

- 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 parameters From and To, e.g. 10.00 and 15.00.
- 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  $\checkmark$ .
  - ➡ The results are displayed in the respective table.

#### Example 3:

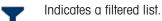
## Searching for all weighings in a time range, e.g. in the Alibi log

	#1	Date & Time	$\sim$	Range 🗸
From	n			
01-	-Oct-202	2 15:42		
То				
01-	Aug-20	23 15:43		

- 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 parameters From and To, for date and time. 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  $\checkmark$ .
  - ➡ The results are displayed in the respective log.

#### Display of the filtered results

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



To edit the filter settings touch this softkey.

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

## 2.1.8 Editing tables

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

$\mathbf{Y}$	Search for a specific entry in the table, refer to [Filtering logs and tables ▶ Page 23]
+	Add a new entry to the table
	Edit the selected table entry
Ŵ	Delete the selected table entry
2	Reset the table. All data will be deleted.
	i Note
	Only available for IND400 without Data Integrity. For IND400 with Data Integrity, a reset is necessary to clear tables.

#### 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  $\checkmark$ .
  - The (first) page where you can enter data is displayed.
- 2 Enter or change the displayed data.
- 3 If applicable, swipe to the next page to enter/change further data.
- 4 When finished with entering all data, confirm the table entry with softkey .
  - The stored table entry can be selected for further use.

4	Flower
<ul> <li>Application</li> </ul>	
Basic Weighing ~	

## 2.1.9 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	Internal File, USB Mass Memory
Туре	Select data type, for importing templates only	ASCII, Label
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	Internal File, USB Mass Memory
Туре	Select data type, for importing templates only	ASCII, Label
Path	Path where the exported data will be stored	Ensure that the indicated folder is existent

## 2.1.10 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.

#### i Note

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

#### Strain gauge weighing platforms

Strain gauge weighing platforms 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 your location.
  - → The Geo code can be displayed in the [Metrology setup > Page 80].
  - → The Geo code value for your location is shown in the [Table of Geo code values > Page 118].
- 2 Call the METTLER TOLEDO service technician if the Geo code values do not match.

#### Screen display when the sealing is broken

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 right.

#### Analog scale

#### SICSpro scale

şak:			Scille		
Scale	>	Metrology	Scale	>	Advanced Setup Mode 🗦
Applications	>	Identification	Applications	>	
Terminal	>	Capacity & Increment	Terminal	>	
Communication	)	Linearization & Calibration	Communication	0	
Maintenance	>	Control Mode	Maintenance	>	
ŵ	1		ធ		

## 2.2 Basic weighing operation

## 2.2.1 Basic weighing settings

Touching softkey (a) opens the Basic Weighing Settings menu. Thus you do need not to enter the setup for settings regarding the application.

•	Settings	Transfer
	ID IDs	E Protocols
	Tare Table	Material Table

#### i Note

For more settings swipe the screen.

$\bigcirc$	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 99].
ID	IDs	Setup of the identifications.
5	Protocols	Setup of protocols.
Ŧ	Tare Table	Setup of the tare table for frequently used known tare values.
0	Material Table	Setup of the material table for frequently used weighing materials.
	Barcode Reader	Setup of a barcode reade, see also [How to set up a barcode reader Page 100].
$\odot$	Advanced Settings	Open setup, refer to [Configuration ▶ Page 78].

#### i Note

For more information on how to edit tables refer to [Editing tables ▶ Page 25] and [Filtering logs and tables ▶ Page 23].

# 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 by using the tansfer key 1.
	Automatically	Saving and transferring a transaction takes place automatically.
Material Change	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).

### i Note

Default settings are shown in **bold**.

# Transfer

A list of the existing transfer settings is displayed.

Rec. #	Connection	COM	Mode
1	Connection2	EPort1	Transfer
28			

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

Setup item	Sub items	Description
Туре	Lot Print	Manual data output to the printer with t1.
	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 $1$ .
Connection	None	No transfer/print out.
	Connection 1 Connection #	Select/edit a connection.
		– COM1, COM2,
		Mode
		– Print
		Print Type
		<ul> <li>ASCII Printer</li> </ul>
		– Smart Printer
		<ul> <li>Label Printer</li> </ul>
		Length
		- 1 100 characters
Template	Basic Weighing Lot Standard	Predefined template for Basic Weighing results.
Copies		Enter the number of copies of the printout.

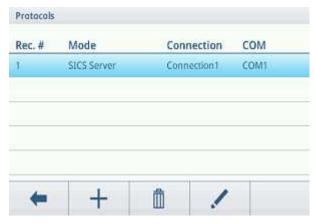
# IDs

Define up to three IDs which you want to assign to your weighing transactions.

Setup item	Sub items	Description
ID1	Enable/ <b>disable</b>	If enabled, the ID softkey is available to enter identification data
ID2		for the transaction.
ID3	Title	Enter the title (name) of the ID

# Protocols

A list of the existing protocol settings is displayed.



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

SICS Server SICS Continuous Input Template Second Display Post DigiTol Demand Mode PM Remote Display PSCP

### i Note

Sub items depend on the selected mode.

# Tare Table

A list of the stored tare values is displayed.

ID	Tare Value	Unit	Descr	iption	
1	2.95	kg	Box	iption	
2	0.2	kg	Bag		
3	7.5	kg	Contai	ner small	
4	11.25	kg	Contai	ner medium	1
5	19.75	kg	Cotain	er large	
4	- +		1	而	>> 1/2

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

Setup item	Description
ID	Numerical ID of the tare weight
Tare Value	Weight value of the tare weight
	Either enter the weight value numerically or weigh the container.
	Weighing the container
	Live Weight (kg)
	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.

# **Material Table**

A list of the existing materials is displayed.

Material Ta	ble			
ID		Name		
01		Flour		
02		Water		
03		Sugar		
04		Salt		
05		Milk		
-	+	1	Ô	>> 1/2

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

Setup item	Description
ID	Numerical ID of the material.
Name	Name of the material.
Application	Select the application for which the material will be used.
	i Note
	If a material is used for several applications you need to save the material for each application.
	Only materials assigned to the current application can be selected in the application's material table.
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 applications only.
Target ID	Enter the corresponding target ID, for Over/Under, Manual Filling/Dosing applications only.

## **Barcode Reader**

An overview of the existing barcode reader settings is displayed.

Rec. #	Connection	COM	Mode
1	Connection2	EPort2	Input Template
X			1

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

Setup item	Sub items	Description
СОМ		COM port where the barcode reader is connected.
Mode	Input Template	Fixed setting for a barcode connection.
Preamble Length	<b>0</b> 20 (characters)	The barcode may contain additional data before the relevant data
Data Length	1 99 (characters)	(preamble) and behind (postamble).
Postamble Length	<b>0</b> 20 (characters)	<ul> <li>Enter the number of characters of preamble, (relevant) data and postamble.</li> </ul>
Assignment	None	Select the item to be entered via barcode scanner.
	Keypad	
	Preset Tare	
	Tare ID	
	ID1 ID 3	
	Target ID	
	Material ID	
Termination character	None, SOH, STX, ETX, EOT, ENQ, ACK, BEL, BS, HT, LF, VT, FF, <b>CR</b> , SO, SI, DLE, DC1, DC2, DC3, DC4, NAK, SYN, ETB, CAN, EM, SUB, ESC, FS, GS, RS, US	Select the termination character which is used by the connected barcode scanner.

# 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.

Т

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

# 2.2.4 Zeroing / Zero point correction

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

# Manual

- 1 Unload scale.
- 2 Press .0.
  - ➡ Zero appears in the display, >0< appears in the status line.</p>

# Automatic

For OIML approved scales, the automatic zero point correction is always activated. The default zero range is 0.5 d.

In case of non-approved scales, automatic zero point correction can be deactivated in the setup or the zero range can be changed.

İ

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

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

# 2.2.5 Weighing with tare

# 2.2.5.1 Taring a container

- $-\,$  Place the empty container on the scale and touch  $\,T\,.\,$ 
  - The zero display appears.
  - In the status line, the tare weight with symbol ⊤ and the symbol NET 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 C.
  - → The symbol NET disappears, the gross weight and the symbol B/G 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 heavier 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

For Analog scales only: When Chain Tare is activated in the Scale setup, it is possible to tare several times if e.g. cardboard is placed between individual layers in a container.

- 1 Place the first container or packaging material on the scale and press  $\mathbf{T}$ .
  - ➡ The weight of the packaging is automatically saved as tare weight, the zero display appears.
  - In the status line the tare weight with ⊤ 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

#### i Note

To setup the tare table refer to [Basic weighing settings > Page 28].

- 1 Touch PT.
- 2 Touch D 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 23].
- 4 Touch  $\checkmark$  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.

1				× D
Tare 1				
to.	Tare Value	Unit	Description	
tD.	2.95	kg.	<u>Bós</u>	
2	0.2	kg	thing	
	75	(lig)	Container Small	
4	11.25	kg	Container medium	
	19.75	kg.	Cotamer 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.

### i Note

To setup the material table refer to [Basic weighing settings ▶ Page 28] 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

Alphanumerical description of the tare weight

- 1 Touch 🖻.
  - The list of stored materials and symbols for editing are displayed.
- 2 Mark the desired material.
  - For filtering the material table refer to [Filtering logs and tables > Page 23].
- 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.

ID		Nam	e	
ai -	Hour			
02		Water		
03		Sugar		
04		Sat		
05		Milk		
1.44	L	1		>>> 1/2

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

# **Clearing a material**

Т

- Touch softkey C.
  - 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 orange and in a resolution that is at least 10x higher.
- 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 equivalent is touched again.

# 2.2.8 Printing/transferring results

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

- Press 🐴.
  - → The defined data is printed out or transferred to the computer.
- The printout content can be defined in the Application setup.

If Alibi Memory Table is enabled in the Application setup, the weighing result is stored in the Alibi memory when pressing 1.

# 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.

Company Name	
Mettler-Toledo	
Shift (D	
Night Shift	

# 2.2.10 Working with Data Integrity

For Data Integrity settings refer to [Application -> Data Integrity > Page 88].

### Data generation without Electronic signature

- Electronic signature is disabled
- 1 Login to the terminal.
- 2 Perform a weighing operation.
- 3 When the weight value is stable, press the transfer key 1.
  - The weight record is stored in both alibi and transaction table and printed out in the selected template, if configured.
- ➡ The terminal is ready for the next transaction.

### Data generation with Electronic signature

- Electronic signature enabled, Review immediately disabled
- 1 Login to the terminal.
- 2 Perform a weighing operation.
- 3 When the weight value is stable, press the transfer key the stable of the transfer key
  - The Electronics Signature opens with the logged in user data.
- 4 Enter your password and confirm with <.
  - The weight record is stored in both alibi and transaction table and printed out in the selected template, if configured.
- ➡ The terminal is ready for the next transaction.



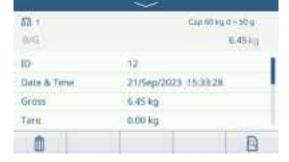
#### Data generation with Electronic signature and immediate review

- Electronic signature enabled, Review immediately enabled
- 1 Login to the terminal.
- 2 Perform a weighing operation.
- 3 When the weight value is stable, press the transfer key <sup>1</sup>.
  - The Electronics Signature opens with the logged in user data.
- 4 Enter your password and confirm with ....
  - The weight record is stored in both alibi and transaction table in unreviewed state.
  - The Electronics Signature opens again to review the transaction.
- 5 Have another person with QA access rights enter another User ID and password and confirm with  $\checkmark$  .
  - The review page opens.



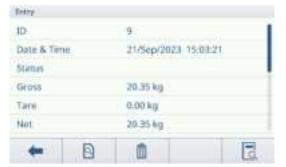


- 6 Check the displayed transaction data.
- 7 Touch softkey A to review the transaction.
  - The weight record in both alibi and transaction table is set to reviewed state and printed out in the selected template, if configured.
- ➡ The terminal is ready for the next transaction.



#### Reviewing a record in the transaction table

- 1 Touch soffkey <a>D</a>.
  - ➡ The last weighing transactions are displayed.
- 2 Touch softkey (1) to see the record's status.
  - Possible status: Reviewed, Blank (not reviewed yet) and Cancelled.
- 3 Touch softkey 🖻 to review the record.
  - The status changes to Reviewed.



### Cancelling a record in the transaction table

### i Note

Only records in blank state can be cancelled.

One record can be cancelled for twice at most. Once the user confirms the final cancellation, the record will be cancelled finally and can't be recovered or reviewed. At this time, the cancel, recover and review softkeys won't display.

- The user has access rights to cancel.
- Softkey 🛱 is available.
- 1 Select a record and touch softkey  $\mathbf{I}$ .
  - 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.
  - The record is marked as cancelled and struck through.

## i Note

Deleting a record is recorded in the Audit log.

# Recovering a cancelled record

- $-\,$  In the Entry page of a cancelled record touch softkey  $\clubsuit$  .
  - ➡ The status of the record is set to blank.

### i Note

Recovering a record is recorded in the Audit log.

+	0	3
Net	30.75-kg	
Tare	0.00 kg	
Gross	30.75 kg	
Status	Gancelled	
Date & Time	26/5ep/2023 15	32:27
10	2	
truy .		

### 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 26].

Report	Data integrity report	Electronics batch report	Transaction report
	This report can be edited. All the fields of		This report is application-
	the application-specific transaction table		specific.
0.41	can be added to the report.		
Softkey			
	101 011	m	<u> </u>
Contents	ID in the transaction list	ID in the transaction	Refer to the application
	Date & Time	list	settings.
	Unit	Date & Time	
	Gross	Material ID	
	Tare	Gross	
	Net	Net	
	Tare Type	Tare	
	Scale #	User Name	
	Material ID	Reviewer	
	Material Description	Unit	
	ID1 ID3		
	User Name		
	Status		
	Reviewer		
	Review Time		
	i Note		
	Items in bold are default items.		

## Audit Log

In the Audit Log all user actions are recorded.

- 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

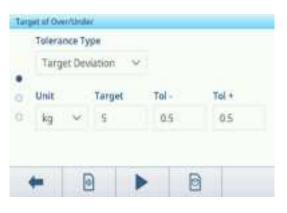
New

Detail

# 2.3 Over/Under checkweighing

# 2.3.1 Activating Over/Under checkweighing

- 1 On the main screen, touch softkey **!!!**.
  - ➡ The available applications are displayed.
- 2 Select 🗐 🚥 .
  - ➡ 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  $\hat{\Box}$ .
  - ➡ A safety prompt is displayed.
- 2 Confirm leaving the Over/Under checkweighing application with  $\checkmark$  .
  - ➡ The Over/Under checkweighing application is closed.
  - ➡ 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 check-weighing settings. Thus you do need not to enter the setup for settings regarding the application.

	Settings	Transfer
•	ID IDs	Protocols
Q	Target Table	Tare Table

### i Note

For more settings swipe the screen.

$\bigcirc$	Settings	Over/Under checkweighing settings, see below.
	Transfer	Settings for transferring the data to a computer or printer, refer to [Basic weighing settings ▶ Page 28] and [How to set up a printer ▶ Page 99].
ID	IDs	Setup of the identifications, refer to [Basic weighing settings ▶ Page 28].
2	Protocols	Setup of protocols, refer to [Basic weighing settings ▶ Page 28].
•	Target Table	Setup of the target table for frequently used target values, see below.

Ŧ	Tare Table	Setup of the tare table for frequently used known tare values, refer to [Basic weighing settings ▶ Page 28].
0	Material Table	Setup of the material table, refer to [Basic weighing settings > Page 28].
		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 28] and [How to set up a barcode reader ▶ Page 100].
$\odot$	Advanced Settings	Open setup, refer to [Configuration ▶ Page 78].

# i Note

For more information on how to edit tables refer to [Editing tables > Page 25] and [Filtering logs and tables > Page 23].

### 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 tansfer key 1.		
	Automati	cally	Saving and transferring a transaction takes place automatically.		
Visualization	Bargraph	l	Checkweighing status indicated by a bargraph.		
	Color We	igh	Checkweighing status indicated by colors.		
Threshold (%)	0 <b>10</b> 90%		Threshold to determine at which weight the status of Tol- is indicated.		
Material Change	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).		
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	White text on black background.		
	Туре	RGB	RGB color space. Enter values for R, G and B.		
		Hex	Hex code color space. Enter a hex value.		
Totalization	alization Enable/disable				
	Sub Total		Enable/ <b>disable</b> sub totals.		
	Totalization unit		Select unit for the totals.		
	Clear on Transfer		Select one of the following methods to clear the total on transfer Off		
			Clear Total & Subtotal		
			Clear Subtotal		
	Undo Tra	nsaction	Only available for IND400 without Data Integrity.		
			Select one of the following methods to undo a transaction: Off		
			Last Transaction		
			Unlimited		
Tare after Transfer in Net Mode	Enable/d	sable	When enabled, the scale is tared after transferring a net weight.		

Setup item	Sub items	Description
Motion Check	Enable/ <b>disable</b>	When enabled, only stable weight values can be transferred.
Statistic	Enable/ <b>disable</b>	
Stealth Mode	Enable/ <b>disable</b>	Only available for IND400 without Data Integrity.
		If enabled, no weight value is displayed but the colors will indicate the weighing state

## i Note

Default settings are shown in **bold**.

Setup item	Sub items	Description	
ID		Enter a numerical ID of the target.	
Tolerance Type	Target Deviation	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	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	The target is a net weight.	
Description		Enter an alphanumerical description of the target.	

# 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
		B/G			5.05
		B/G			5.65
	Bargraph	<		$\checkmark$	>
		<		4	>
		<		$\checkmark$	$\rightarrow$
	i <b>Note</b> The colors can be set i Page 41]	ndividually, refer to [C	)ver/Un	der checkw	veighing settings ►
Tolerance Type	Target Deviation	Tol -: 0.50	0	5.00 kg	Tol +: 0.50
	Percentage	Tol -: 10 %	$\oplus$	5.00 kg	Tol +: 10 %
	Exact Limits	Under Limit: 4.5	0 kg	Over Li	mit: 5.50 kg

# 2.3.3.2 Setting target values

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

#### i Note

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

### Using the target table

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

#### 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.

#### i Note

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

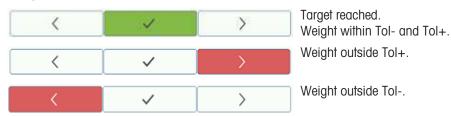
ince Ty			
	ation		
	Target	Tol -	Tol +
×	5	0.5	0.5
	v	Target ✓ S	

# 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



### i 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.

#### i 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.

盘+	~	Cap 60 k	1451 14-50 g
NET STORAGT	_	4.7	70.,
Material ID:	Descrip	tion:	
Tol 1 0.50	⊕ 5.00 kg	Tal +:	0.50
r†1 🕀		PT	>> 1/2

# 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  $\blacksquare$ .
  - ➡ The total is displayed.
- 6 To clear the total, touch  ${\ensuremath{\mathfrak{C}}}$  .
  - To clear the subtotal, touch  $\ {f C}$  .
  - 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 69].

			$\sim$		16/16
<u>55</u> 1				Cap 60 k	g 0e + n g
BAG .				5.1	10.
Material ID:			Descrip	rtion:	
Tel < 0.50		÷	5.00 kg	Tol +:	0.50
+	Σ	0	۲	₿	>> 1/3
Recall Totals					
Totals					
Batch #			20230804	8000	
Total			51.40 kg		
Counter			2		
Sub #			1		
Subtotal			51.40 kg		
+	e				

## 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:

tb.	Date & Time	Result	Batch
5	U/Aug/2013 1636.14	Over	20130
4	01/Aug/2023 16:26:17	Ostr	20/30
3	07/Aug/2023 14:19:58	OK.	20230
ź	07/Aug/2023 11:07:42	ÓK.	20230
t	0//Aug/2023 11:02:29	Over	20230

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	
Tare Type	
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
User Name	Name of the user logged in

#### i Note

For more actions in the transaction table refer to [Recalling the transaction table ▶ Page 21] and [Filtering logs and tables ▶ Page 23].

#### i 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 37].

### 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  $\bowtie$  .
- 2 Select a batch for the statistical evaluation and confirm with  $\checkmark$  .
  - ➡ The statistical parameters are displayed.
- 3 Scroll to display the following parameters:

#### Statistic Parameters

Item	Value	1
Batch #	202308100005	
Total Value	24.80 kg	
Total Counter	3	
Over Limit	5.50 kg	
Under Limit	4.50 kg	
-		

- Batch number (YearMonthDay+4-digit running number)
- Total ValueTotal valueTotal CounterNumber of items in totalOver LimitUpper tolerance value

Batch #

Number (Under)

Under Limit Lower tolerance value Statistic Size Number of items in the statistic Mean value of the batch Mean Value 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 of the high weighings %Ratio (Over) Number (Over) Number of the high weighings %Ratio (Under) Ratio of the low weighings

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 🔳 🚥.
  - ➡ The Counting application screen is displayed.



# Leaving the Counting application

- 1 On the 4th softkey ribbon, touch softkey  $\Box$ .
  - ➡ A safety prompt is displayed.
- 2 Confirm leaving the Counting application with  $\checkmark$ .
  - ➡ The Counting application is closed.
  - ➡ The Basic Weighing application is active.

# 2.4.2 Counting settings

Touching softkey (a) opens the Counting Settings menu. Thus you do need not to enter the setup for settings regarding the application.



# i Note

For more settings swipe the screen.

$\bigcirc$	Settings	Counting application settings, see below.
IHI	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 28] and [How to set up a printer ▶ Page 99].
ID	IDs	Setup of the identifications, refer to [Basic weighing settings > Page 28].
	Protocols	Setup of protocols, refer to [Basic weighing settings ▶ Page 28].

•	Target Table	Setup of the target table for frequently used target values, see below.
Ŧ	Tare Table	Setup of the tare table for frequently used known tare values, refer to [Basic weighing settings ▶ Page 28].
0	Material Table	Setup of the material table, refer to [Basic weighing settings ▶ Page 28]. <b>I</b> 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 28] and [How to set up a barcode reader ▶ Page 100].
Ø	Advanced Settings	Open setup, refer to [Configuration ▶ Page 78].

# i Note

For more information on how to edit tables refer to [Editing tables > Page 25] and [Filtering logs and tables > Page 23].

# Settings

The following general setup items are available:

Setup item	Sub items	Description
Reference pieces	Fix Reference pcs	In the operating mode you can select from 5, <b>10</b> , 20, 50, 100 reference pieces.
	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	No optimization of the average piece weight.
	Manually	Manual optimization of the average piece weight using sofkey $\ensuremath{\textcircled{B}}$ .
	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	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 first must be emptied (below 9 d).
Save & Transfer	Manually	Saving and transferring a transaction has to be confirmed manually using the tansfer key 1.
	Automatically	Saving and transferring a transaction takes place automatically.
Tare After Transfer in Net Mode	Enabled/ <b>disabled</b>	If enabled, the scale is tared after transferring a net weight
Check Process Tolerance	Enabled/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/ <b>disable</b>	
	Sub Total	Enable/disable sub totals.
	Clear on Transfer	Select one of the following methods to clear the total on transfer: Off Clear Total & Subtotal Clear Subtotal
	Undo Transaction	Only available for IND400 without Data Integrity. Select one of the following methods to undo a transaction: Off 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		Checkcounting status indicated by a bargraph.
	Color Wei	ghing	Checkcounting status indicated by colors.
Threshold	0 <b>10</b>	90%	Threshold to determine at which weight the status of Tol- is indicated.
Over Color	Green, Red	d, Orange,	Select the colors for visualization of the checkcounting state.
OK Color	Yellow, Blo		
Under Color	Blue, Cyar	n, Custom	
Below Threshold Color			
Color -> Custom	Text	Black	Black text on white background.
		White	White text on black background.
	Туре	RGB	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.

Counting Target Table

ID	Description	Mode	AP
	+		>> 1/2

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

Setup item	Sub items	Description
ID		Numerical ID of the APW target.
Description		Description of the APW target.
Mode	Standard	When totalizing: Adding up the items.
	Take Away	When totalizing: Totalizing when unloading e.g. from a container.
APW Unit		Unit of the average piece weight.
Determine APW	Live Weight	Using the weight on the scale as reference weight.
		1 Enter the number of reference pieces: 1 10 9999.
		2 Touch softkey <b>a</b> to determine the APW out of the reference weight on the scale and the number of reference pieces.
		The APW is determined and displayed.
	Manual	Enter the APW weight value.
	Reference Pcs.	Enter the number of reference pieces.
APW Opt.%	0 <b>30</b> 100 (%)	Maximum correction factor when optimizing the APW.
APW Tolerance Type	<b>Target Deviation</b>	APW Tol- and APW Tol+ must be entered
	Percentage	APW Tol- and APW Tol+ must be entered in percent
	Exact Limits	APW Limit (Under) and APW Limit (Over) must be entered
Check Counting		Enable/disable Check Counting
Check Tolerance Type	Target Deviation	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.
	Exact Limits	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.

# i 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	Select the port where the reference balance is connected.
	Client	
Mode	Reference Balance	Fixed setting
Port	1701	Fixed setting

### i Note

Only one reference balance connections 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.

#### i 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.

#### i 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.

#### i 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

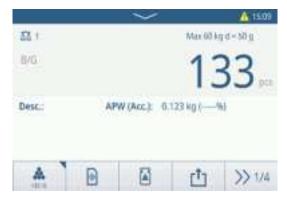
- Softkey 🗟 available.
- 1 Touch soffkey 🗟.
- 2 Enter the known average piece weight. In the example: 0.123 kg.
- 3 Put the pieces to count on the scale.
  - The weight display indicates the current number of pieces.
  - In the line below the average piece weight is indicated. When entering the average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

#### i 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 a.
  - → 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.
- 1 Put the indicated number of reference pieces on the scale.
- 2 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.
- 3 Add more pieces for APW optimization.
- 4 Touch soffkey 🗃.
  - The new APW is displayed, ideally with higher accuracy.

### i 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

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

### i 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.



$\sim$	~	08:57
	Max 9	0 kg α ≈ 50 g
		7
		-/ pet.
APW (Acc.):	0.63125 kg (	99.92%)
2 11 7/5		
§ 💿		>> 1/4

# 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 50].
- A second balance with higher resolution connected at the reference balance connection.
- Softkey 🚓 or another softkey FIX... or VAR... available.
- 1 Put the indicated number of reference pieces on the reference scale.
- 2 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  $\blacksquare$ .
  - The total is displayed.
- 7 To clear the total, touch  $\boldsymbol{\varepsilon}$ .
  - To clear the subtotal, touch C.
  - ➡ A safety prompt is displayed.
- 8 Confirm clearing the (sub)total with .
  - The weighing terminal is ready for the next totalization process.

#### i Note

For more totalization features, refer to [Totalization operation ▶ Page 69].

5A +		Mate 60 N	g d + 50 g
B/G			19
Desc:	APW (Acc.): 0.	273155 kg (9	(#SB.9
fotal/n: 231/5	5ub / n: 2	81/5	
A B		+	>> 1/4
		+	>> 1/4
4115		+	>> 1/4
eurs C	20221011	+	>> 1/4
local Tatals		+	>> 1/4
iecal Totals Totals Burch #	20231011	0002	>> 1/4
tecoli 7otals Totals Barch # Total	20221011 231 pcs	0002	>> 1/4

# 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:

10	Date & Time	Result	Coun
3	10/01/2023 (8:39:29		27
2	10/06/2023 08:39:19		12
1	09/043/2023 12 42:39		- 17
		0	>> 1/2

	Carial number of the transaction
ID D	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	
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 valuein 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

### i Note

For more actions in the transaction table refer to [Recalling the transaction table ▶ Page 21] and [Filtering logs and tables ▶ Page 23].

#### i 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 37].

# 2.4.4 Check Counting operation

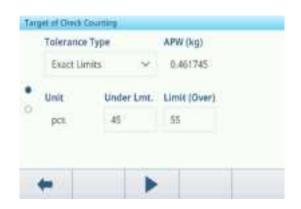
# 2.4.4.1 Display in Check Counting

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

Visualization	Color Weighing	B/G		25.
		B/G		<b>51</b> "
		B/G		56.
	Bargraph	<	~	>
		<	~	
		<	<ul> <li>✓</li> </ul>	>
	i <b>Note</b> The colors can be set i	ndividually, refer to	[Counting settings	s ▶ Page 50].
Folerance Type	Target Deviation	Tol -: 5	🕀 50 pcs	Tol +: 5
	Exact Limits	Under Limit: 4	45 pcs Ov	ver Limit: 55 pcs

# 2.4.4.2 Setting Target values

- APW determined as described before.
- 1 Touch softkey ⊕.
  - 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 ►.
  - ➡ The Check Counting display appears.



### Using the target table

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

## 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.

## i Note

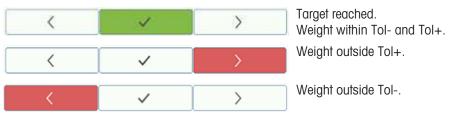
Only materials assigned to the Counting application are available.

# 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.



## Weight status



## i 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 **!!!**.
  - ➡ The available applications are displayed.
- 2 Select 🖪 🚟 .
  - ➡ The window to set the target is displayed.
- 3 Touch softkey ► to start the Manual Filling/Dosing application.

Totel	ance Ty	pe		
Target Deviation				
Unit		Target	Tol	Tal +
kg	~	5	0.5	0.5

## Leaving the Manual Filling/Dosing application

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

# 2.5.2 Manual Filling/Dosing settings

When the application is running, touch softkey (a) 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.

	O Settings	Transfer
•	ID IDs	Protocols
×	Target Table	Tare Table

### i Note

For more settings swipe the screen.

Ø	Settings	Manual Filling/Dosing settings, see below.
TransferSettings for transferring the data to a computer or printer, refer to [Basic w settings > Page 28] and [How to set up a printer > Page 99].		Settings for transferring the data to a computer or printer, refer to [Basic weighing settings ▶ Page 28] and [How to set up a printer ▶ Page 99].
ID	IDs	Setup of the identifications, refer to [Basic weighing settings ▶ Page 28].
2	Protocols	Setup of protocols, refer to [Basic weighing settings ▶ Page 28].
•	Target Table	Setup of the target table for frequently used target values, see below.

Ŧ	Tare Table	Setup of the tare table for frequently used known tare values, refer to [Basic weighing settings ▶ Page 28].
0	Material Table	Setup of the material table, refer to [Basic weighing settings > Page 28]. i Note Only materials assigned to the Manual Filling/Dosing application can be selected in
	Duran da	the material table later.
	Barcode Reader	Setup of a barcode reader, refer to [Basic weighing settings ▶ Page 28] and [How to set up a barcode reader ▶ Page 100].
$\odot$	Advanced Settings	Open setup, refer to [Configuration ▶ Page 78].

### i Note

For more information on how to edit tables refer to [Editing tables > Page 25] and [Filtering logs and tables > Page 23].

## 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 tansfer key 1.
	Automatically	Saving and transferring a transaction takes place automatically.
Threshold (%)	0 <b>10</b> 90%	Threshold to determine at which weight the status of Tol- is indicated.
Statistic	Enable/ <b>disable</b>	
Totalization	Enable/ <b>disable</b>	
	Sub Total	Enable/ <b>disable</b> sub totals.
	Totalization unit	Select unit for the totals.
	Clear on Transfer	Select one of the following methods to clear the total on transfer: Off
		Clear Total & Subtotal
	Undo Transaction	Only available for IND400 without Data Integrity.
		Select one of the following methods to undo a transaction: Off
		Last Transaction Unlimited
Tare after Transfer in Net Mode	Enable/ <b>disable</b>	When enabled, the scale is tared after transferring a net weight.
Stealth Mode	Enable/ <b>disable</b>	Only available for IND400 without Data Integrity.
		If enabled, no weight value is displayed but the colors will indicate the weighing state.

## i Note

Default settings are shown in **bold**.

## Manual Filling/Dosing Target Table

Setup item	Sub items	Description	
ID		Enter a numerical ID of the target.	
Description		Enter an alphanumerical description of the target.	
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.	
Tolerance Type	Target Deviation	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	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	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

٩	•	1	Weight far below the lower tolerance
	•		Weight too low, but almost near the lower tolerance
	•		Weight within the tolerances
1	X		Target reached exactly
1		1	Weight too high

### **Target indication**

Tol -: 0.50	\ominus 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 soffkey ⊕.
  - A window opens to enter target and tolerance values.
- 2 Enter the target weight and the tolerance values.
- 3 Touch softkey ▶.
  - → The Manual Filling/Dosing display appears.

#### i Note

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

### Using the target table

- 1 Touch 🖻.
  - ➡ The list of existing targets is displayed.
- 2 Select a target and confirm with <.
  - ➡ The selected target values are active.
- 3 Touch softkey ▶.
  - ➡ The Manual Filling/Dosing display appears.

#### Using the material table

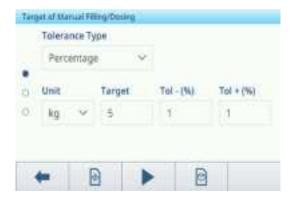
- 1 Touch 🖻.
  - ➡ The list of existing materials is displayed.
- 2 Select a material and confirm with ....
  - ➡ The selected material data are assigned to the following filling/dosing operations.
- 3 Touch softkey ▶.
  - → The Manual Filling/Dosing display appears.

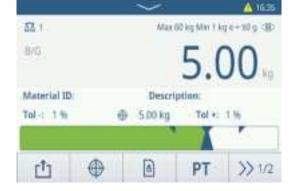
#### i Note

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



#### i 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.

#### 2.5.3.4 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 1 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.



#### i 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.



- ➡ The total is displayed.
- To clear the total, touch €.
   To clear the subtotal, touch €.
  - A agfaty prompt is displayed
  - A safety prompt is displayed.
- 7 Confirm clearing the (sub)total with  $\checkmark$ .
  - The weighing terminal is ready for the next totalization process.

#### i Note

For more totalization features, refer to [Totalization operation ▶ Page 69].

		$\sim$		1643		
<u>63</u> +		Max-60	ky Min 1 k	30-503 (M)		
NET 2.951	haT	5.25				
Material ID:						
Tal = 0.50	-	⊕ 5.00 kg	Tol +:			
		1	1	A		
+	Σ		4	>> 1/3		
Recall Totals						
Totals		202308040	100	_		
Totals Batch #	_	202308040	8000	_		
Totals Batch # Total		51.40 kg	8008	_		
Totals Batch #			0008	-		
Totals Batch # Total		51.40 kg	008			
Totals Batch # Total Counter		51.40 kg 2	008			

## 2.5.3.6 Manual Filling/Dosing transaction table

- Touch softkey <a>b</a>.
  - ➡ 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/Desing Transactions

ID	Date & Time	Result	Batch
5	16/Aug/2023 1659-10	Over	- 20220
4	16/Aug/2013 1658:37	Over	2023
ä.	16/Aug/2023 16:48:17	OK:	2022
2	16/Aug/2023 10:49:59	OK.	2022
i	16/Aug/2023 11:31:32	OK.	202
-	0 7		>> 1/2

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	
Tare Type	
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

#### i Note

For more actions in the transaction table refer to [Recalling the transaction table > Page 21] and [Filtering logs and tables > Page 23].

### i 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 37].

### 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  ${\bf \bigsqcup }$  .
- 2 Select a batch for the statistical evaluation and confirm with  $\checkmark$  .
  - ➡ The statistical parameters are displayed.
- 3 Scroll to display the following parameters:

Item	Value	
Batch #	202308170001	
Total Value	14,75 kg	
Total Counter	з	
Target	5.00 kg	
Over Limit	5.50 kg	

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 **!!!**.
  - ➡ The available applications are displayed.
- 2 Select 🛽 -----.
  - ➡ The Totalization application screen is displayed.



### Leaving the Totalization application

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

# 2.6.2 Totalization settings

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

Tota	lization Settings	
	🚫 Settings	Transfer
•	ID IDs	Protocols
	Tare Table	Material Table
3	+	

### i Note

For more settings swipe the screen.

$\bigcirc$	Settings	Totalization application settings, see below.
[1]	Transfer	Settings for transferring the data to a computer or printer, refer to [Basic weighing settings ▶ Page 28] and [How to set up a printer ▶ Page 99].
ID	IDs	Setup of the identifications, refer to [Basic weighing settings > Page 28].
2	Protocols	Setup of protocols, refer to [Basic weighing settings ▶ Page 28].
Ŧ	Tare Table	Setup of the tare table for frequently used known tare values, refer to [Basic weighing settings ▶ Page 28].

Material Table		Setup of the material table, refer to [Basic weighing settings > Page 28].
		1 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 28] and [How to set up a barcode reader ▶ Page 100].
$\odot$	Advanced Settings	Open setup, refer to [Configuration ▶ Page 78].

# i Note

For more information on how to edit tables refer to [Editing tables > Page 25] and [Filtering logs and tables > Page 23].

# Settings

The following setup items are available:

Setup item	Sub items	Description	
Totalization unit		Weight unit of the total.	
Subtotal	Enable/disable	Enable/disable subtotals.	
Material Change	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).	
Save & Transfer	Manually	Saving and transferring a transaction has to be confirmed manually using the tansfer key 1.	
	Automatically	Saving and transferring a transaction takes place automatically.	
Mode	Standard	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	Net weights will be totalized.	
Tare After Sum	Enable/ <b>disable</b>	When enabled, the scale is automatically tared after each total- ization action.	
Clear on transfer	Off	No clearing of the total.	
	Clear Total & Subtotal	On each transfer, total and subtotal are cleared.	
Undo transaction	Off	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	Enable/disable statistics.	

### i Note

Default settings are shown in **bold**.

# 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.

### i 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

- To undo the last transaction, touch softkey ∴.
   A safety prompt is displayed.
- 2 Confirm undoing the last transaction with  $\checkmark$ 
  - ➡ The last transaction is deleted from the total.

### Unlimited

- 1 To undo one ore more transactions, touch softkey ර.
  - ➡ The list of the last transactions is displayed.
- 2 Select the transactions you want to delete and confirm with  $\checkmark$  .
  - ➡ 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  $\,\Sigma\,.\,$ 
  - ➡ The total is displayed.
- 8 To clear the total, touch  ${\ensuremath{\mathfrak{C}}}$  .
  - ➡ A safety prompt is displayed.
- 9 Confirm clearing the total with •.
  - The weighing terminal is ready for the next totalization process.

#### i Note

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

### 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 ....
  - ➡ 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.





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

Recall Totals			
Totais			
Batch #		202308040008	
Total		51.40 kg	
Counter		2	
Sub #		10	
Subtotal		51.40 kg	
+	C		



- 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 the samples for the subtotal are totalized, touch  $\Sigma$  .
  - The total and subtotal is displayed.
- 6 To clear the subtotal, touch  $\ensuremath{\mathbb{C}}$  .
  - ➡ A safety prompt is displayed.
- 7 Confirm clearing the subtotal with  $\sim$  .
- 8 Repeat steps 1 to 7 for totalizing further subtotals.
- 9 To clear the grand total and all subtotals, touch  ${\ensuremath{\varepsilon}}$  .
- A safety prompt is displayed.
- 10 Confirm clearing the grand total with  $\checkmark$  .
  - The weighing terminal is ready for the next totalization process.

		$\sim$		1556
1111			Cap-60 kg	g = 50 g
B/G		1	3.4	10,
Batch #: 2	0230804001	2 Sub	# 2	
Total/n: 5	2.00 kg / 4	Mat	erial ID:	
Sub/m: 1	3.40 kg / 1	Desc	cription:	
+	Σ	₽	PT	>> 1/3
Recall Totals				
Totais				
Batch #		20230804	80008	
Total		51.40 kg		

2

1

51.40 kg

Counter

Subtotal

C

Sub #

### 2.6.3.5 Totalization transaction table

#### i Note

- Touch softkey <a>[b]</a>.
  - ➡ 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:

ID	Date & Time	Batch #	
29	04/Aug/2023 15:54:18	202308040012	
28	04/Aug/2023 15:53:11	202308040012	
27	04/Aug/2023 15:52:54	202308040012	
35	04/Aug/2013 15:52:06	202308040012	
25	04/Aug/2012 10:51:08	202306340011	
-	6 7	>> 1/2	

ID Date & Time Batch # Sub #	Serial number of the transaction Date and time of the transaction Batch number (YearMonthDay+4-digit running number) Number of subtotals
Unit	Weight unit
Gross	Gross weight value
Tare	Tare weight value
Net	Net weight value
Deliver Weight	
Tare Type	
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

### i Note

For more actions in the transaction table refer to [Recalling the transaction table > Page 21] and [Filtering logs and tables > Page 23].

### i 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 37].

### **Totalization statistics**

The device offers the statistical evaluation of a batch.

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

#### Statistic Parameters

Item	Value
Batch #	202308100001
Total Value	22.59kg
Total Count	2
Statistic Size	2
Std Deviation	1.975kg
-	

- 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

### i Note

Animal Weighing is only available for IND400 without Data Integrity.

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



### Leaving the Animal Weighing application

- On the 3rd softkey ribbon, touch softkey  $\dot{\Box}$  .
  - ➡ The Animal Weighing application is closed.
  - ➡ The Basic Weighing application is active.

# 2.7.2 Animal Weighing settings

Touching softkey (a) on the second softkey ribbon opens the Animal Weighing Settings menu. Thus you do need not to enter the setup for settings regarding the application.

	Settings	Transfer
0	ID IDs	Protocols
	Tare Table	Material Table

### i Note

For more settings swipe the screen.

$\bigcirc$	Settings	Animal weighing application settings, see below.
	Transfer	Settings for transferring the data to a computer or printer, refer to [Basic weighing settings ▶ Page 28] and [How to set up a printer ▶ Page 99].
ID	IDs	Setup of the identifications, refer to [Basic weighing settings > Page 28].
2	Protocols	Setup of protocols, refer to [Basic weighing settings ▶ Page 28].
Ŧ	Tare Table	Setup of the tare table for frequently used known tare values, refer to [Basic weighing settings ▶ Page 28].

୭	Material Table	Setup of the material table, refer to [Basic weighing settings > Page 28].
$\simeq$		i Note
		Only materials assigned to the Animal Weighing application can be selected in the material table later.
	Barcode Reader	Setup of a barcode reader, refer to [Basic weighing settings > Page 28] and [How to set up a barcode reader > Page 100].
Ø	Advanced Settings	Open setup, refer to [Configuration ▶ Page 78].

# i Note

For more information on how to edit tables refer to [Editing tables > Page 25] and [Filtering logs and tables > Page 23].

# Settings

The following setup items are available:

Setup item	Sub items / Settings	Description
Multi-object Support Enable/ <b>disable</b> When weighing several samples of the same kind, the aver weight of the samples is calculated.		When weighing several samples of the same kind, the average weight of the samples is calculated.
Sampling time	1 <b>5</b> 9	Enter the time to average the weight value.
Start Mode	Softkey	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 0 1 kg max. Enter a threshold for start capacity		Enter a threshold for starting animal weighing.
Save & Transfer	Manually	Saving and transferring a transaction has to be confirmed manually by using the transfer key 1.
	Automatically	Saving and transferring a transaction is performed automatically.

# i Note

Default settings are shown in **bold**.

# 2.7.3 Animal Weighing operation

### i 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 **n** 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 1 to transfer or print the weighing result.
  - In the lower left display the ID of the transaction counter increases.
- 5 Touch  $\blacksquare$  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  $\blacksquare$  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

#### i 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:

Total Weight	Number	Average Weight
*25.0	15	+1.00
*44.30	1	*44.30
*18.35	3	*18.35
-2.6	1	*2.75
*30.05	4	*30.05
	V	>> 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 $^{\ast}$
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

#### i Note

For more actions in the transaction table refer to [Recalling the transaction table > Page 21] and [Filtering logs and tables > Page 23].

# **3** Configuration

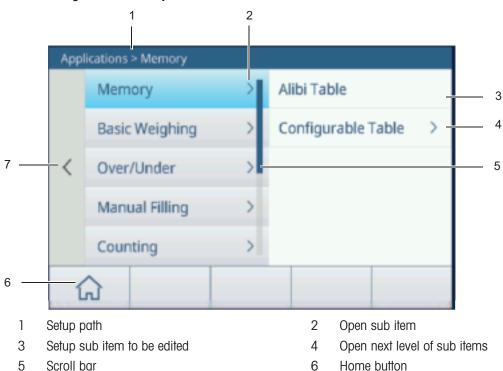
In the setup, settings can be changed and functions can be activated. This enables the adaptation to individual weighing requirements.

# 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.
- Make the required settings and confirm with  $\checkmark$ . 4 To leave the settings page without making changes, touch softkey -. The previous setup items are displayed again.





# How to navigate in the setup

- 7 Go to the next higher setup level
- 6 Home button

### How to operate the setup

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

Pull-down menu	Number of Range	Select an option from the displayed list of settings.
	1 Single Range	
	2 Multi-Interval	
	2 Multiple Range	
	3 Multi-Interval	
	×	
Switch	ID1	Example
	ID2	ID1 enabled
		ID2 disabled
	ID3	ID3 not available
Page display		When there are several pages of settings, this is displayed by the dots on the left side.
	$\bigcirc$	In the example, there are two pages of settings and the first page is diplayed.
		Go to the next page by swiping vertically.
(Alpha-)Numeric entries	On-screen keyboards are display	/ed, see [Hard and softkeys ▶ Page 7].

# Exiting the setup

- Touch soffkey G.
- → The weight display appears and the device will work with the new setup settings.

# 3.2 Scale setup

# 3.2.1 Metrology setup

# i 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 to be used in legal metrology.		
Class (approved scales only)	II, III, III HD (Canada only), III L (USA only), IIII	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.		
Geo Value (strain gauge scales	Enter the Geo value for your region, see [Table of Geo code values ▶ Page 118].			
only)	Using softkey <b>?</b> the Geo value can be calculated depending on your geographical latitude and height above sea level.	Ato Deleteration (		
		Lattude (*) Elevation		
		47.5798 402 m ~ Calculated GEO Cede 18.5		
		X V		
		The Geo value is calculated with one decimal place.		
Lower Limit (°C)	-20°C <b>-10</b> ° <b>C</b> 59 °C	Setting the lower and upper temperature		
High Limit (°C)	19 °C 40 °C 60 °C limits for operating the weighing sy according to the connected scale. Temperature values outside the ap ranges are highlighted in red. The temperature ranges are stored in th cells.			

# 3.2.2 SICSpro/Analog scale setup

### **Overview**

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

Identification Capacity & Increments Linearization & Calibration Control Mode Units Zero Tare Filter Stability MinWeigh Warmup (for approved scales only) FACT (SICSpro scale only) Reset (SICSpro scale only)

### i Note

Default settings are shown in **bold**.

### 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

Capacity & Increments	Setting capacity and increment	
Primary Unit	Select from the following: g, kg, oz, lb, t, ton	
#Range/Intervals	Select from the following: <b>1 Single Range</b> , 2 Multi-Interval, 2 Multiple Range, 3 Multi-Interval, 3 Multiple Range.	
Range 1	Set ranges according to #Range/Intervals.	
	i Note	
Range 3	With Multi-Interval / Multiple Range observe the following, otherwise a message is displayed:	
	Range/Interval 1 < Range/Interval 2 < Range/Interval 3	
Resolution 1	Set resolutions according to #Range/Intervals.	
 Resolution 3	<ul> <li>Note</li> <li>With Multi-Interval / Multiple Range observe the following, otherwise a message is displayed:</li> <li>Resolution 1 &lt; Resolution 2 &lt; Resolution 3</li> </ul>	
	For approved SICSpro scales, when the Class is II and $e = 10 d$ , the increment must be $1 \times 10^{k}$ .	
Blank Over Capacity (d)	Blanking of the display is used to indicate an overload condition	
	Set the number of divisions (d) that the scale is permitted to go over the maximum capacity before blanking.	
	Possible settings: 0 5 99 (d)	

### Linearization & Calibration setup

Calibrating the coale
Calibrating the scale
Using this setup item the scale is set to zero.
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.
Span adjustment
Touching softkey in opens a screen for the span adjustment.
Using this setup item the scale is calilbrated by using the zero point and a test weight.
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.
Using this setup items the scale is calilbrated using the zero point and two or up to 4 test weights.
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.
If activated, the calibration data are automatically printed/transferred.
Date of the last calibration.

### **Calibration protocol**

	Rec. #	1
~	Result	Succeed
	Date & Time	14/Nov/2023 09:18:52
	SNo.Scale	Not Available
	Туре	Set Zero
	Scale FW	Not Available

### Additional functions

Print/transfer the calibration protocol



 $\hfill \square$  Enter a comment on the current calibration

### **Control Mode setup**

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

# Units setup

Units	Setting display units
Second Unit	Select from the following: g, kg, oz, Ib, t, ton
Third Unit	Select from the following: g, kg, oz, lb, t, ton
Powerup Unit	Select which weight unit shall be used at a restart.
	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

Zero	Zero setting options
Startup Zero	Select which zero value shall be used at startup.
	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: -9910 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 <b>•0</b> •.
Push Button Range + (%)	Possible settings: 0 2 99 (d)
Auto Zero Tracking	Activating/deactivating automatic zeroing.
Auto Zero Range (d)	Set the range for automatic zeroing.
	Possible settings: 0.0 <b>0.5</b> 9.9 (d)
Center of Zero	Activating/deactivating the indication of symbol $>0<$ for a gross weight within +/- 0.25 e/d.
Under Zero Blank (d)	Blanking of the display is used to indicate an underload condition
	<ul> <li>Set the number of divisions (d) that the scale is permitted to go under zero before blanking.</li> </ul>
	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

Tare	Tare options
Startup Tare	Selecting which tare value shall be used at startup.
	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.
	Possible settings: 0 9 99 (d)
Reset Threshold (d)	Setting the threshold for clearing the tare.
	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.
Threshold (d)	Setting the threshold for clearing the tare automatically.
	Possible settings: 0 9 99 (d)

Tare	Tare options
Chain Tare	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

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.

# Stability setup

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 0.599.9 (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 0.52.0 (s)

# MinWeigh setup

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

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

# FACT setup

FACT	Fully Automatic Calibration Test (for SICSpro scales with internal calibration weight only)
Temperature	FACT is a temperature controlled adjustment device. When the FACT function is enabled, the temperature in the magnet is measured.
	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. This adjustment will correct all temperature influences.

### **Reset setup**

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

# 3.2.3 Default settings

# SICSpro/Analog Scale

Setup items		Default setting Possible settings	
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), IIII
	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 &	Primary Unit	kg	non-approved: g, kg, oz, lb, t, ton
Increments			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)
Linearization & Calibration	Туре	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: Ib approved: None	non-approved: None, g, kg, oz, lb, t, ton
			approved: None, g, kg, t
	Third Unit	kg	approved: None, g, kg, t
			non-approved: None, g, kg, oz, lb, t, ton
	Power Up Unit	Primary Unit	Primary Unit, Restart

Setup items		Default setting	Possible settings	
Zero	Startup Zero	Capture New	non-approved : Use Last, Capture New, Use Calibrated approved: Capture New	
	Power Up Range - (%)	10 (%)	0 99 (%)	
	Power Up Range + (%)	10 (%)	0 99 (%)	
	Push Button Zero	On	On, Off	
	Push Button Range - (%)	2	0 99 (%)	
	Push Button Range + (%)	2	0 99 (%)	
	Auto Zero Tracking	On	On, Off	
	Auto Zero Range (d)	0.5 (d)	0.0 9.9 (d)	
	Center of Zero	Off	On, Off	
	Under Zero Blank (d)	20 (d)	0 99 (d)	
Tare	Startup Tare	Clear	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)		
	Chain Tare Mode	On	On, Off	
	Push Button Tare	On	On, Off	
	Keyboard Tare	On	On, Off	
	Clear With Zero	Off	On, Off	
	Net Sign Correction	Off	On, Off	
Filter	Low Pass Filter	Middle	Light, Middle, High, Heavy High	
	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	
Warm up Warmup (min) (approved scales only)		0 (min)	0 99 (min)	

# 3.3 Applications setup

# **3.3.1** Application -> Memory

The Memory setup consists of the following setup items:

Alibi Table

refer to [Recalling the Alibi log file ▶ Page 22]

- Configurable Table
- Tare Table refer to [Basic weighing settings > Page 28]
- Over/Under Target Table refer to [Over/Under checkweighing settings > Page 41]
- Manual Filling/Dosing Target Table refer to [Manual Filling/Dosing settings > Page 60]
- Counting Target Table refer to [Counting settings > Page 50]
- Material Table refer to [Basic weighing settings > Page 28]
- Import / Export refer to [Importing/exporting data > Page 26]

### i Note

Default settings are shown in **bold**.

# 3.3.2 Application -> Basic Weighing

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

Setup item	Reference	
Settings	[Basic weighing settings > Page 28]	
Transfer	[Basic weighing settings > Page 28]	
Transaction Table	[Recalling the transaction table > Page 21]	

# 3.3.3 Application -> Over/Under

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

Setup item	Reference	
Settings	[Over/Under checkweighing settings > Page 41]	
Transfer	[Basic weighing settings ▶ Page 28]	
Transaction Table	[Recalling the transaction table > Page 21]	

# 3.3.4 Application -> Counting

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

Setup item	Reference	
Settings	[Counting settings > Page 50]	
Check Counting	[Counting settings ▶ Page 50]	
Transfer	[Basic weighing settings > Page 28]	
Transaction Table	[Recalling the transaction table > Page 21]	

# 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 60]	
Transfer	[Basic weighing settings ▶ Page 28]	
Transaction Table	[Recalling the transaction table > Page 21]	

# 3.3.6 Application -> Totalization

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

Setup item	Reference	
Settings	[Totalization settings > Page 67]	
Transfer	[Basic weighing settings ▶ Page 28]	
Transaction Table	[Recalling the transaction table > Page 21]	

## 3.3.7 Application -> Animal Weighing

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

Setup item	Reference	
Settings	[Animal Weighing settings ▶ Page 74]	
Transfer	[Basic weighing settings ▶ Page 28]	
Transaction Table	[Recalling the transaction table ▶ Page 21]	

## 3.3.8 Application -> IDs

This setup item is another access to the setup of ID1 ... ID3. For details refer to [Basic weighing settings > Page 28].

### 3.3.9 Application -> Data Integrity

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

Setup item	Description	
Electronics Signature	When enabled, the electronic signature is required to sign and review the transaction. Transactions can only be exported, if the transactions are reviewed before.	
Review Immediately	Only available if Electronics Signature is enabled.	
	When transferring a transaction you are asked to review the transaction immediately.	

# 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

## i Note

Default settings are shown in **bold**.

Setup item	Sub items		Possible settings/description
Language	Display Message		<b>English</b> , Chinese, Deutsch, Français, Italiano, Español, Português, Japanese, Polski
	Onscreen Keyb	oard	English
	Keyboard Layo	ut	QWERTY, QWERTZ, AZERTY
	External Keyboo	ard	<b>None</b> , English, Português, Français, Español, Italiano, Deutsch
Date & Time	Preview of Time	e and Date	
	Use 24-Hour C	lock	On/Off
	Display Second	ls	On/ <b>Off</b>
	Show 2-Digit M	lonth	On/ <b>Off</b>
	Show 2-Digit Year		On/ <b>Off</b>
	Time Separator		i, .
	Date Format		Day Month Year, Month Day Year, Year Month Day
	Date Separator		I, None, (Space), Dash, ., /, :
	Time Zone		Only available if Netword Time Synchronization is set to On.
	Daylight Saving Time		On/ <b>Off</b>
		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		
	Minute		

Setup item	Sub items	Possible settings/description		
$\overline{}$	Network Time Synchronization	On/ <b>Off</b>		
(г)	Connect Timeout	1 <b>5</b> 30		
	Time	Current time		
-	Last Synchronization	Time of the last synchronization		
	Sync Cycle (Hours)	1 <b>8</b> 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 automo	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 $\Diamond$ . After the synchronization 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

In order to run advanced functionality or specific applications, a license is required for the desired functionality. If purchased with the terminal, the license or licenses are installed and activated in the factory. But if the terminal is installed already and a software license is purchased later, it has to be installed and activated in the field. To install or activate a software license, call the METTLER TOLEDO service.

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

#		Running number of the license
State	$\checkmark$	Activated
	×	Deactivated
	$\mathbb{X}$	Pending, i.e. not activated yet
Name		Name of the license
License Key		License key in the format XXXXX-XXXXX-XXXXX-XXXXX-XXXXX
Product		Functionality of the license

### 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

### 3.4.1.4 Terminal -> Device -> Backlight

Set the brightness of the display.

Backlight		
Brightness		

## 3.4.1.5 Terminal -> Device -> Identification

Setup item	Description
Terminal ID #1	Enter up to 3 terminal identifications of max. 20 alphanumeric characters
Terminal ID #2	each.
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

VCVICIN	Definition			
#	Name			
V.	Admin			
2	Supervisor			
3	Operator			
		0	0	1.8
				1 1 4 1

#	Name					
U.	Admin	Admin				
2	Supervisor					
3	QA					
4	Operator					

The device offers the following roles:

Admin Supervisor

QA (with Data Integrity active only) Operator

There are different rights for each of the roles.

### **Role details**

Touch () to show details of the marked role.

Role definition	Admin	Supervisor	QA	Operator
Name	Admin	Supervisor	QA	Operator
Level	1	2	2	6
Description				

Touch @ in the next screen to show the role details regarding Permission Groups.

	Admin		Supervise	)r	QA	Operato	r
Permission Group	without DI	with DI	without DI	with DI	with DI only	without DI	with D
W&M	Level 3	1	Level 2		Level 2	Level 1	
Miscellaneous	Terminal Devi	ce	Terminal	Device	Terminal Device	_	
	Communicatio	n	Communi	cation	Communication		
Transaction	View	View	View	View	View	View	View
Memory	Export	Export	Export	Export	Export		Review
	Reset	Cancel & Restore Reprint*		Cancel & Restore Reprint*	Cancel & Restore Reprint* Review		
		Review		Review	Keview		
Application	Application Entry		Applicatio	n Entry	Application Entry	_	
Material	I Operate		Operate		Operate	Operate	
Memory	Configure		Configure		Configure		
Maintenance	View	View	View		View	_	
Memory	Print & Export Enable & Disable & Reset	Print & Export Enable & Disable	Print & Ex	port	Print & Export		
Audit Trail	_	View	_		View	_	
Memoriy		Print & Export			Print & Export		
Shared Data	Read		Read		_	_	
	Write						
	FTP						
User	-	Role	_	Role	Role Definition	_	
Management		Definition Password Policy		Definition Password Policy	Password Policy User Definition		
		User Definition		User Definition	ion the Deprint softke		

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

### Creating a new role (with Data Integrity active only)

01210	Name		1	P
•	Level			0
	6	$\sim$	Active	
	X	0		~

- 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.

### 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 A.

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

When the role details are displayed, touch the link symbol  $\mathscr{O}$  at the right hand side of the role name. The users linked to the role are displayed with their name and ID.

#### **Filtering roles**

### i Note

For more information on how to edit tables refer to [Editing tables ▶ Page 25] and [Filtering logs and tables ▶ Page 23].

### 3.4.2.2 Terminal -> User Management -> User Definition

The list of existing users is displayed.

#	Active	Name	ID
1	~	Admin	002
2	~	Supervisor	003
3	~	Operator	005
4	×	tanner	100
3			1.022
4	- +	- /	>>

#### Creating/editing a user

- To create a new user, touch softkey +.
   To edit an existing user, mark the user and touch softkey ✓.
- 2 Make the following settings:

Setup item	Description	Possible settings / comments
Name	User name	max. 20 alphanumeric characters
Role	IND400 without Data Integrity: Select from	i Note
	Operator or Supervisor IND400 with Data Integrity: Select from	There is only one predefined user with the role of the Admin.
	Operator, QA, Supervisor or a custom role	i 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, Protuguês, Chinese, Japanese

#### **Filtering users**

For filtering users refer to [Filtering logs and tables ▶ Page 23].

### **Password reset**

- 1 Touch softkey 🔂.
  - ➡ A safety prompt is displayed.
- 2 Confirm safety prompt with softkey .
- 3 Touch the password field and enter the new password.
- 4 Confirm the new password.
  - ➡ The password is changed.

## 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/ <b>Off</b>
Lower Case	Lower case letter required.	On/ <b>Off</b>
Numeric	Number required.	On/ <b>Off</b>
Special Character	Special character required.	On/ <b>Off</b>
Minimum Length	Required length of the password.	4 8 characters
Password Age (day)	Time after which the password has to be changed.	1 <b>30</b> 366 (days)
Enforce Password History	Ensure that the last passwords are not identical.	1 <b>10</b>
Invalid Logon Attempts	After the specified number of logon attempts, the login is locked.	<b>3</b> 10
Lockout (s)	Time within the login procedure must be finished.	<b>60</b> 600 (s)
Timeout (min)	The user will be logged out if there is no action within the specified time.	5 <b>30</b> 180 (min)

### 3.4.2.4 Terminal -> User Management -> Import/Export

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

For details refer to [Importing/exporting data ▶ Page 26].

# 3.5 Communication setup

The Communication setup consists of the following main setup blocks:

Template Connections Serial Ethernet VNC Server

# 3.5.1 Communication -> Templates

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

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

### Setting up a new template

#### i Note

Touch softkey in 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

Setup item	Sub items	Description / possible settings
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 26].

### Editing a label exernally

## i Note

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

To insert a terminal variable into the label template, enter the corresponding template keyword at this position. If a string of the template needs to be editable by the terminal, enter <?StringN/> as an editable string keyword.

Keyword	Date	Time	Gross	Net	Tare	String #N
String	Date/	Time/	Gross/	Net/	Tare/	StringN/

# 3.5.2 Communication -> Connections

Rec, #	Connection	COM	Mode	
1.	Connection1	COM1	SICS Server	ŭ.

The list of existing connections is displayed.

Setup item	Sub items	Description / possible settings
COM	EPort1 EPort3	Connection Port
	Client	Operate the device as a client of a server
Mode	SICS Server	Select the connection mode.
	SICS Continuous	For details on the protocols refer to [Description of the
	TOLEDO Continuous-W	available connection protocols > Page 123].
	TOLEDO Continuous-C	
	Input Template	
	Second Display	
	Post	
	DigiTol	
	Demand Mode	
	PM	
	Remote Display	
	Reference Balance	
	Transfer	
	Parameter Server	
	Modbus TCP/RTU	
	PSCP	
Port	1701	For COM = EPort1 EPort3: fixed Port
Port	Remote Server	For COM = Client
	Remote Port	IP address and port of the remote server

### Setting up a connection

# 3.5.3 Communication -> Serial

#### i Note

Default settings are shown in **bold**.

Setup item	Sub items	Possible settings
COM1(RS232)	Baud Rate	300, 600, 1200, 2400, 4800, <b>9600</b> , 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.

### i Note

These are the settings of the standard communication interface.

# 3.5.4 Communication -> Ethernet -> Network setting

Setup item	Description
DHCP	When enabled, no more settings can be made
IP Address	
Subnet Mask	
Gateway	
MAC Address	MAC address of the IND400, cannot be changed

# 3.5.5 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  $\checkmark$ .
- 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.

# 3.5.6 Communication -> WLAN -> WLAN Setting

### i Note

By default only the 5G Wi-Fi radio band is available. For the 2.4G radio band, contact the METTLER TOLEDO service.

### **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: <b>40 bits</b> (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
WPA2	WPAx Authentication = 802.1X	set them manually.
WPA3		

### Wi-Fi module settings

- WLAN is enabled.
- On the WLAN Setting page touch ③.
  - ➡ The following settings are available:

Setting	Description
Configuration page	If set to On, the web page of the Wi-Fi module is enabled.
AP	If set to On, SSID and IP Address of the Wi-Fi module are displayed (read only).
	SSID = MTAP[Serial_Number]
	IP Address = 192.168.0.1

# 3.5.7 How to set up a printer

### i Note

To initiate a printout via the transfer key 📩, a printer has to be connected on the standard 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 printer
  - Print Type = Label Printer for a label printer
- 3 For further connection settings refer to [Communication -> Connections > Page 96].

### 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 97].

### 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 -> Templates ▶ Page 95].

### 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.

- 1 Leave the setup.
- 2 Select a weighing application.
- 3 Touch softkey (a) 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 28].
- 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.

# 3.5.8 How to set up a barcode reader

### i 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 or COM = COM2 For a USB connection: COM = COM4
  - ➡ 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 -> Connections > Page 96].

#### i Note

Altrnatively, the barcode reader can be set up in the application settings, refer to [Basic weighing settings > Page 28].

#### 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 97].

### Result

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

#### See also

## 3.6 Maintenance setup

## 3.6.1 Maintenance -> Diagnosis

### 3.6.1.1 Maintenance -> Diagnosis -> Scale 1

This diagnosis item checks the signal quality of the analog scale connection.

Diagn	osis		
Sca	le 1		
~	Signal Quality	666.7	

When the signal is sufficient, it is marked with  $\checkmark$ .

#### i Note

For SICSpro scales there is no diagnosis information available.

## 3.6.1.2 Maintenance -> Diagnosis -> Battery

This diagnosis item shows the status of the batteries.

Button Battery	
Voltage	~
Internal Battery	
Battery Type	5
soc	
a di kanyen	

### **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<sup>™</sup> message is displayed.

### Internal battery

The internal battery is unavailable in the current product version. When available, the following information is displayed:

Battery Type SOC (state of charge) Available Time Voltage Temperature Current SOH (state of health) Charging Cycle (e.g. 300 / 500)

#### **External battery**

When an external battery is detected, the battery voltage is displayed.

## 3.6.1.3 Maintenance -> Diagnosis -> Device

## **Display Test**

You are guided through a test sequence to check the display quality.

- 1 Confirm the information screen with  $\checkmark$ .
  - ➡ A checkerboard pattern in red is displayed.
- 2 Check if all pixels are displayed correctly.
- 3 Press the transfer key 1 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  $\checkmark$ .

### i Note

You can exit the display test at any time by pressing  $\, {f C} \, .$ 

### **Touch Test**

You are guided through a test sequence to check the touch functionality.

- 1 Confirm the information screen with  $\checkmark$ .
  - ➡ The display is divided into 12 fields.
- 2 Touch all the fields in the order from 1 to 12.
  - ightarrow When the touch functionality is alright, the field is marked with  $\checkmark$ .
  - After touching the last field the message "Passed." is displayed.
- 3 Confirm the message with  $\checkmark$ .

### i Note

You can exit the touch test at any time by pressing  $\, {f C} \, . \,$ 

## **Keyboard Test**

You are guided through a test sequence to check the hard keys.

- 1 Confirm the information screen with  $\checkmark$ .
  - ➡ 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  $\checkmark$ .

#### i Note

You can exit the touch test at any time by pressing  $\, {f C} \, . \,$ 

## Serial Port Test

This test will check the COM1 (RS232) serial port.

- 1 Touch  $\blacktriangleright$  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  $\checkmark$ .

### **Network Test**

- 1 Confirm the information screen with  $\checkmark$ .
  - ➡ The serial port test is performed.
  - ➡ The serial port status is displayed.
- 2 Confirm the serial port status with  $\checkmark$ .
  - ➡ The Network Test is finished.

## **USB** Test

This test will check an external USB device.

- Insert the USB device to be tested.
   → The device name is displayed.
- 2 Touch  $\blacktriangleright$  to start the test.
  - ➡ The USB test is performed.
  - ➡ The test result is displayed.
- 3 Leave the USB Test with softkey -.

## **USB** Device Manager

The USB Device Manager shows all connected USB devices.

10	Device Type	Description
1	USB Device - CDC	COM4 - Mettler Toledo
2	USB Host - CDC	COM5 - Microsoft
a	LISH Host - HID	USB Keyboard - Micros
4	USB Host - MSD	WAL'S USB Disk - Data
5	USB Host - Composite	Generic USB Hub - DE

- Touch 1 to view the settings of the USB device.
- − Touch ✓ to edit the USB device.

## 3.6.2 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.

Internal Flash(Used / Total)	0.0 MB / 0.0 MB
Total Power On Time	0.39 Days
Total Use Time	0.30 Days
Current Power On Time	0.06 Days
Total Screen On Time	0.39 Days
Power Cycles	7

## Key count

This page gives an overview of the keystrokes of each hardkey.

# 3.6.3 Maintenance -> Routine Test Management

Using this setup item you can plan and perform routine test events.

Setup item	Sub items	Description
Event	Calibration	Select the test you want to perform.
	Sensitivity	For a Customized Event a name can be entered. It can be used
	Excentricity	for any reminder purposes.
	Repeatability	
	1-point Test	
	Walk Test	
	Customized Event	
On Overdue	No Action	Select what to be displayed when the test is overdue.
	Orange Weight	
	No Weight	
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.

Setting	up routine	e tests -	general	settings
---------	------------	-----------	---------	----------

#### Setting up sensitivity tests

- Mark a sensitivity test in the list and touch 0 for further settings.
  - ➡ The following settings are available:

Setup item	Sub items	Description
Test Load Unit	g	Select the unit of the test load you want to use for the sensitivity
	kg	test.
	lb	
	t	
	OZ	
	ton	
Operator Test Weight Edit	Enable/ <b>disable</b>	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 waring 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.

### Setting up eccentricity, repeatability and 1-Point tests

- Mark a respective test in the list and touch @ for further settings.

➡ The following settings are available:

Setup item	Sub items	Description
Test Load Unit	g kg Ib 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 waring limit but less than the control limit, a warning is displaed.
Control Limit		When the deviation is bigger than the control limit, the test is failed.
Operator Test Weight Edit	Enable/ <b>disable</b>	When enabled, the operator is allowed to edit the test weight.
Auto Print Log	Enable/disable	When enabled, a test protocol is printed automatically.

#### Setting up a 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:

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 deviationin 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 deviationin eccentricity is bigger than the control limit, the test is failed.
Operator Test Weight Edit	Enable/ <b>disable</b>	When enabled, the operator is allowed to edit the test weight.
Auto Print Log	Enable/disable	When enabled, a test protocol is printed automatically.

### Setting up a customized event

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:

Setup item	Sub items	Description
Prompt		Enter a reminder text.
Auto Print Log	Enable/disable	When enabled, a test protocol is printed automatically.

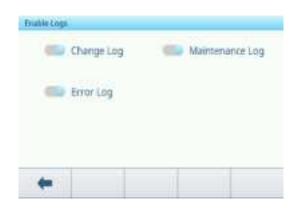
#### Performing a routine test

	Event	Sensitivity
1	Result	Succeed
	User Name	Admin
	Date & Time	17/Oct/2023 09:33:02

- 1 Select the required event in the list of events.
- 2 Touch  $\blacktriangleright$  to start the test.
  - → You are guided through the test.
  - ➡ When the test is finished, the result is displayed.
- 3 Touch  $\checkmark$  to leave the test.

## 3.6.4 Maintenance -> Enable Logs

- Enable/disable the respective logs.



## 3.6.5 Maintenance -> Cell Counts

This maintenance items shows the raw weight.



## 3.6.6 Maintenance -> Calibration Values

## i 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	Х	Х	Х	Х	Х	Х	Х
#01 Test Load	Х	Х	Х	Х	Х	Х	Х
Counts 1	Х	Х	Х	Х	Х	Х	Х
Counts 1 Down					Х	Х	Х
#02 Test Load		Х	Х	Х	Х	Х	Х
Counts 2		Х	Х	Х	Х	Х	Х
Counts 2 Down						Х	Х
#03 Test Load			Х	Х		Х	Х
Counts 3			Х	Х		Х	Х
Counts 3 Down							Х
#04 Test Load				Х			Х
Counts 4				Х			Х
Setting	Descriptio	n				1	1
Counts for Zero	Set the ra	w counts for	zero				
#01 Test Load	Set the #0	01 test load v	veight				
Counts 1	Set the ra	w counts for	#01 test loa	d			
Counts 1 Down	Set the ra	w counts for	#01 test loa	d when unlo	ading		
#02 Test Load	Set the #0	)2 test load v	veight				
Counts 2	Set the ra	w counts for	#02 test loa	d			
Counts 2 Down	Set the ra	w counts for	#02 test loa	d when unlo	ading		
#03 Test Load	Set the #0	03 test load v	veight				
Counts 3	Set the ra	w counts for	#03 test loa	d			
Counts 3 Down	Set the ra	w counts for	#03 test loa	d when unlo	ading		
#04 Test Load	Set the #0	04 test load v	veight				
Counts 4	Set the ra	w counts for	#04 test loa	d			

## 3.6.7 Maintenance -> Backup

This setup item offers a backup of the complete system settings.

## 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.

#### i Note

You can make a manual backup at any time by touching softkey 1.

### 3.6.8 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 .

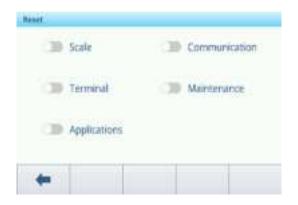
➡ A safety prompt is displayed.

2 Confirm restoring and restarting with <.

➡ Restoring is in progress. A message is displayed.

## 3.6.9 Maintenance -> Reset

- 1 Select which part of the device shall be reset.
  - ➡ A safety prompt is displayed.
- 2 Confirm resetting with .



# 4 Maintenance and service

# 4.1 Error conditions

Error	Cause	Remedy
Display dark	Backlight timeout too short	<ul> <li>Increase backlight timeout.</li> </ul>
	No power supply	<ul> <li>Check power supply.</li> </ul>
	Unit switched off	- Switch on unit.
	Power supply cable not plugged in	- Plug in power supply cable.
	Brief error	- Unplug power supply cable and plug in again.
Weight display	Unstable installation location	<ul> <li>Adjust environment filter.</li> </ul>
unstable	Draft	- Avoid draft.
	Unstable weighing sample	<ul> <li>Ensure that the weighing sample is more stable.</li> </ul>
	Contact between weighing pan and/or weighing sample and surroundings	- Avoid contact.
	Power supply fault	<ul> <li>Check power supply.</li> </ul>
Incorrect weight display	Incorrect zeroing	<ul> <li>Unload scale, set to zero and repeat weighing operation.</li> </ul>
	Incorrect tare value	– Clear tare.
	Contact between weighing pan and/or weighing sample and surroundings	- Avoid contact.
	Weighing platform tilted	<ul> <li>Level weighing platform.</li> </ul>
L	Load plate not on the scale	- Place load plate on the scale.
	Weighing range not reached	- Set to zero.
<b></b>	Weighing range exceeded	- Unload scale.
		- Reduce preload.
	Result not yet stable	- If necessary, adjust environment filter.

# 4.2 Errors and warnings

#### **Error messages**

Error messages must be confirmed.



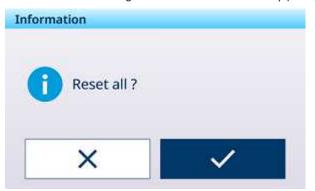
## Warnings

You can either cancel a warning or confirm it.



#### Information

The information message has the function of a safety prompt.



# 4.3 SMART5<sup>™</sup> events and alarms

SMART5<sup>™</sup> 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 114].

## 4.3.1 NAMUR alarm / alert classification

The table that follows is an adaptation of NE107 for weighing devices.

lcon	Rank	Туре	Description	Result
	5	Failure	Wrong weight / equipment failure	Alarm stops operation:
$\bigotimes$				Clearing the alarm will not reset the condition – the device must be repaired to eliminate the alarm.
V	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 specifi- cation	Wrong Operator Actions or device / application is operating out of specification.	Alarm and log the event. Alarms are only generated / trans- mitted at the request of the customer.
0	2	Alarm	Routine test, Calibration or Preven- tative maintenance must be undertaken.	Alarm and log the event. Alarms are only generated / trans- mitted at the request of the customer.
$\checkmark$	1	Normal Condition	Unit is operating correctly.	No action required.

# 4.3.2 Error messages

Message	Message Alarm code			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	PIs 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 sensi- tivity 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 eccen- tricity 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 synchonization 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 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.
[Configurale table name] is size of 100%.	91045	3	No	Pls export the log file.
[Configurale table name] exceeds 90%.	91046	2	Yes	Pls export the log file.
[Configurale table name ] exceeds 75%.	91047	2	Yes	Pls export the log file.

# 4.4 Cleaning



## **Risk of electric shock**

- 1 Do not open the weighing terminal for cleaning.
- 2 Before cleaning, unplug the power plug respectively shut off the power supply in order to disconnect the terminal from the power supply.
- 3 Cover open connectors with protective caps.

## **Cleaning procedure**

 Wipe off the weighing terminal with a dry cloth or with a slightly damp cloth dampened only with clean water.

# 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 $\boldsymbol{\mathsf{A}}$

- 1 Go to www.welmec.org and find the Gravity Information page to obtain the g value (e.g. 9.770390 m/s<sup>2</sup>) 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 $\boldsymbol{B}$

 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

- Go to the Scales -> Approval setup and read the Geo code.

#### **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/s²)	Geo code	g value (m/s²)	Geo code	g value (m/s²)	Geo code	g value (m/s²)
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

		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		
Geographical latitude, North or South	[ft]	- 325	1060	2130	3200	4260	5330	6400	7460	- 2925 8530	9600	10660		
0° 0' - 5° 46'		- 1060	- 2130	- 3200	- 4260	- 5330	- 6400	- 7460	- 8530	- 9600	- 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'		6	5	5	4	4	3	3	2	2	1	1		
(12.87° - 12.73°)														
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		
(22.07 25.07) 23° 54' - 25° 21' (23.9° - 25.35°)		9	9	8	8	7	7	6	6	5	5	4		
(20.0° 20.00') 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		
(36.68° - 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		

## Table B: Definition of METTLER TOLEDO Geo codes with geographic latitude and height

					Heig	ht above	sea level					
Geographical latitude,	[m]	0 - 325	325 - 650	650 - 975	975 - 1300	1300 - 1625	1625 - 1950	1950 - 2275	2275 - 2600	5600 - 2925	2925 - 3250	3250 - 3575
North or South	[ft]	0 - 1060	1060 - 2130	2130 - 3200	3200 - 4260	4260 - 5330	5330 - 6400	6400 - 7460	7460 - 8530	8530 - 9600	9600 - 10660	10660 - 11730
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
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

# 5.2 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
10	Inquire all implemented MT-SICS commands
11	Inquire MT-SICS level and MT-SICS versions
12	Inquire device data
13	Inquire terminal software version and type definition number
14	Inquire serial number
16	Inquiry of scale build parameters
110	Inquire/set device identification
111	Inquire model designation
112	Inguire/set identifications ID1 / ID2 / ID3
113	
114	
151	Power on time
К	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 checkweighiing 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
Т	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** Description of the available connection protocols

## i Note

Default settings are shown in **bold**.

## **SICS Server**

## i Note

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 executabl at presend
S_+	Scale in overload range
S	Scale in underload range.

### i Note

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:

0							0										
	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 : STX	SWAS, SWB, Status words, see below																
MSD		N	lost sig	gnifica	nt digi	t											
LSD		Le	east si	gnifica	nt dig	it											
CR		С	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.				nt										

#### Status word A

		Status bit						
Function	Selection	6	5	4	3	2	1	0
Decimal	X00	0	1			0	0	0
position	ХО					0	0	1
	0.X					0	1	0
	0.0X					0	1	1
	0.00X					1	0	0
	0.000X					1	0	1
	0.0000X					1	1	1
Numerical	X1	0	1					
increment	Х2	1	0					
	Х5	1	1					

### Stauts 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

#### Stauts word C

Function/	Bit			
kg/lb	g	t	OZ	
0	1	0	1	0
0	0	1	1	1
0	0	0	0	2
Print reque	est = 1			3
Expand do	ata X10 =1	, Normal =	= 0	4
Always =		5		
Always =		6		

## TOLEDO Continuous-C

This protocol is for the counting application. Piece count values are transferred in the following format:

	Statu	S	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	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 "O"
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
СНК	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 Deletiing 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	<b>0</b> 20 (characters)
Data Length	1 99 (characters)
Postamble Length	<b>0</b> 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, <b>CR</b> , SO, SI, DLE, DC1, DC2, DC3, DC4, NAK, SYN, ETB, CAN, EM, SUB, ESC, FS, GS, RS, US

### **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	<b>G</b> , 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 / <b>Off</b>

## **Remote Display**

Setup item	Sub items	Possible settings
SICS Client		
Toledo Continuous-W	Terminal Model	General, IND231/6, IND245, IND256X, ICS4XX, ICS4XX, <b>IND400</b> , IND570, IND500X, IND700, IND900 base pack IND900 FA
	Checksum	On / <b>Off</b>
	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. There are no more settings.

## PSCP

Setup item	Possible settings
Format	16 Byts Without ID, 22 Bytes With ID
Auto	On / Off

## 5.4 Disposal

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



Please dispose of this product 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 device. Should this device be passed on to other parties, the content of this regulation must also be related.

#### **Battery disposal**

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

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

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