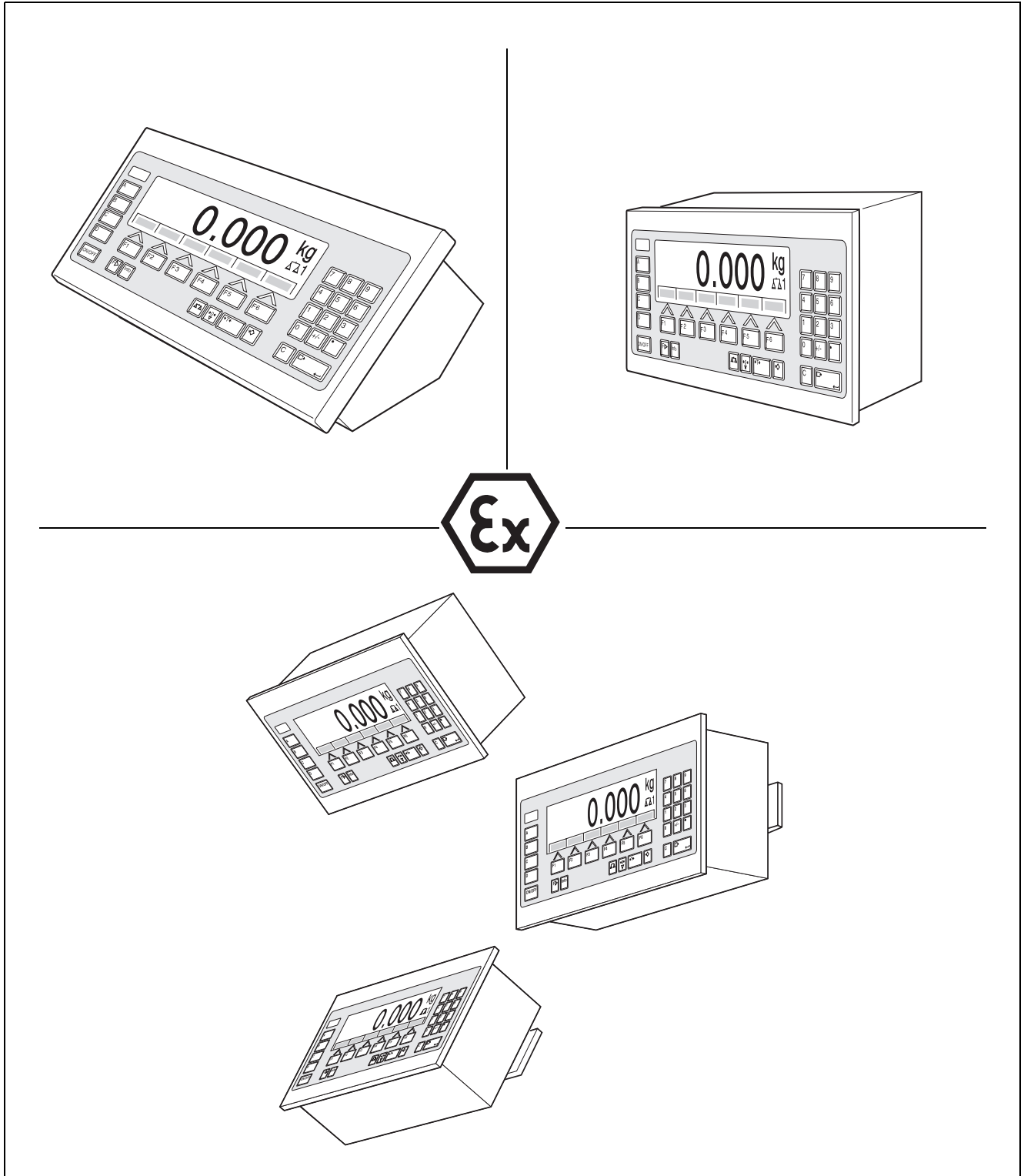


Operating instructions and installation information

METTLER TOLEDO MultiRange
ID7xx-Sys²⁰⁰⁰ weighing terminal

METTLER TOLEDO



These operating instructions and installation information describe the following ID7xx-Sys weighing terminal:

Serial number:

Scale connections

	1	2	3
IDNet-ID7	x		
ID7 Analog Scale			

Interfaces

	COM1	COM2	COM3	COM4	COM5	COM6
CL20mA-ID7						
RS232-ID7	x					
RS422-ID7						
RS485-ID7						
RS485-ID7 with relay box 8-ID7						
4 I/O-ID7						
Analog Output ID7						
Alibi Memory ID7						
Ethernet ID7						
Profibus-DP-ID7						

These operating instructions and installation information contain all of the information on the ID7xx-Sys weighing terminal, including information on all available interfaces.

If your ID7xx-Sys weighing terminal is equipped with special application software for your particular application, you should also have received additional operating instructions with all relevant information.

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1 Introduction and commissioning

1.1 Safety instructions



The explosion-protected ID7xx-Sys weighing terminal is approved for operation in Zone 2 (gases) and Zone 22 (dusts) hazardous areas.

There is an increased risk of injury and damage when the ID7xx-Sys weighing terminal is used in a potentially explosive atmosphere.

Special care must be taken when working in such hazardous areas. The code of practice is oriented to the "Safe Distribution" concept drawn up by METTLER TOLEDO.

Responsibilities

▲ The ID7xx-Sys weighing terminal, accompanying weighing platforms and accessories may only be installed, maintained and repaired by authorized METTLER TOLEDO service personnel.

▲ The mains connection may only be connected or disconnected by the owner's electrician.

"Ex" approval

▲ No modifications may be made to the terminal and no repair work may be performed on the modules. Any weighing platform or system modules that are used must comply with the specifications contained in the installation instructions. Non-compliant equipment jeopardizes the safety of the system, cancels the "Ex" approval and renders any warranty or product liability claims null and void.

▲ Cable glands must be tightened so that a strain relief ≥ 100 N is ensured.

▲ When connecting external devices, always observe the maximum total connected loads, see Section 7.1.

▲ Peripheral devices without an "Ex" approval may only be operating in non-hazardous areas. It must be ensured that no voltages higher than 60 V AC or 75 V DC are fed into the ID7xx-Sys.

▲ The safety of a weighing system including the ID7xx-Sys weighing terminal is only guaranteed when the weighing system is operated, installed and maintained in accordance with the respective instructions.

▲ Also comply with the following:

- the instructions for the system modules,
- the relevant national regulations and standards,
- the applicable statutory requirements for electrical equipment installed in hazardous atmospheres in the respective country,
- all instructions related to safety issued by the operator.

▲ Before initial start-up and following service work, check the explosion-protected weighing system for the proper condition of all safety-related parts.

Operation

▲ Prevent the build-up of static electricity. Therefore:

- Always wear suitable working clothes when operating or performing service work on the system in hazardous areas.
- Do not rub or wipe off the keyboard surface with a dry cloth or glove.

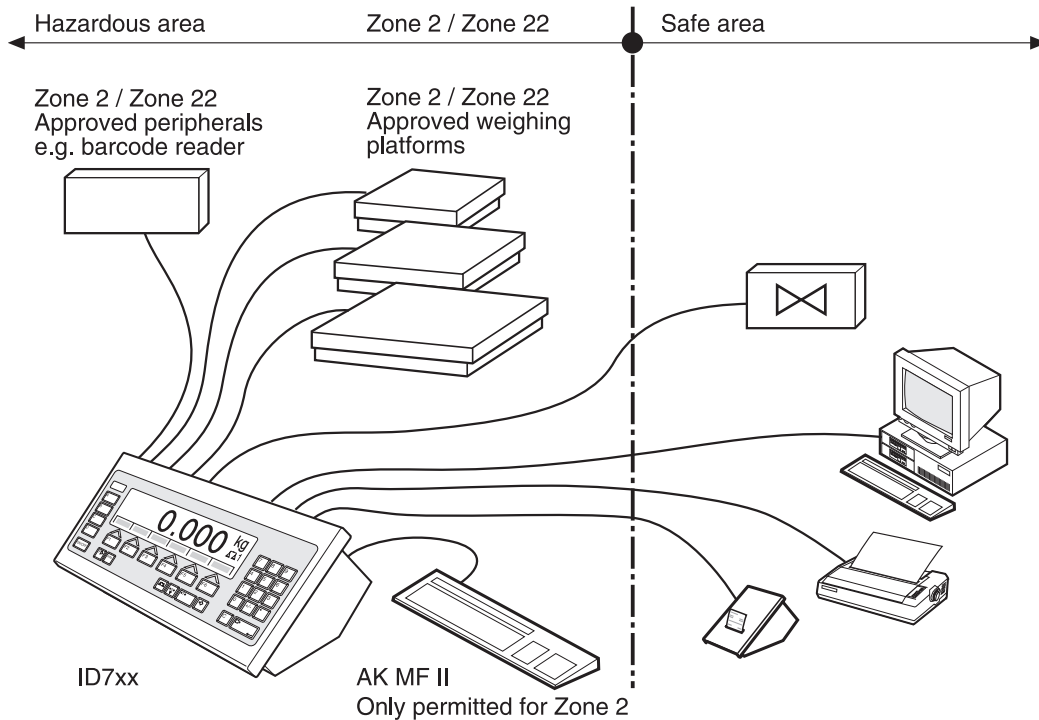
- ▲ Do not use protective hoods.
- ▲ Prevent damage to the weighing terminal. Hairline cracks in the keyboard membrane are also considered as a damage.
- ▲ If the ID7xx-Sys weighing terminal, accompanying weighing platforms or accessories are damaged:
 - Switch off the weighing terminal
 - Separate the weighing terminal from the mains in accordance with the applicable regulations.
 - Secure the weighing terminal against accidental start-up.

Installation

- ▲ Only install or perform maintenance work on the weighing terminal, accompanying weighing platforms and accessories in the hazardous area if the following conditions are fulfilled:
 - the operator has issued a permit ("spark permit" or "fire permit"),
 - the area has been rendered safe and the operator's safety coordinator has confirmed that there is no danger,
 - the necessary tools are in position and the operator is wearing any protective clothing that may be required (to prevent the build-up of static electricity).
- ▲ The certification papers (certificates, manufacturer's declarations) must be present.
- ▲ Connection values of externally connectable devices and cables of other manufacturers must be known, e.g. capacitances, inductances and current consumption.
- ▲ Lay cables so that they are protected from damage.
- ▲ Only route cables into the housing of the system modules via the earthing cable gland or METTLER TOLEDO plug and ensure proper seating of the seals. Ensure that the cable shields are connected correctly and that they have a secure connection to the housing.
- ▲ If the weighing terminal is used in conjunction with an automatic or manual filling plant, all of the system modules must be equipped with a permanently wired emergency stop circuit, independent of the system circuit, in order to prevent personal injury or damage to other items of equipment.
- ▲ For ID7xx-Panel with the installation of the ID7xx-Sys, the installer is responsible for compliance with the freedom from leaks rating. For "Ex" devices at least IP54 is required.
- ▲ Produce equipotential bonding.
- ▲ If restricted breathing weighing cells are used, test restricted breathing.
- ▲ If the weighing platforms are installed in a pit, test whether primary explosion protection is required.

1.2 Applications

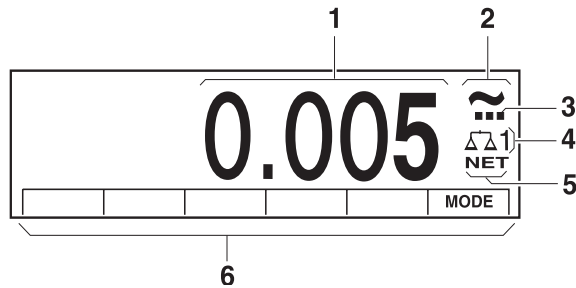
With the ID7xx-Sys weighing terminal the following applications are possible:



- Multi-scale operation with up to 3 weighing platforms, including weighing platforms with an analog signal output.
- Up to 6 data interfaces
 - for printing,
 - for data exchange with a computer,
 - for connecting a barcode reader,
 - for control, e.g. of valves or flaps.
- Comfortable alphanumeric entry via an external keypad.

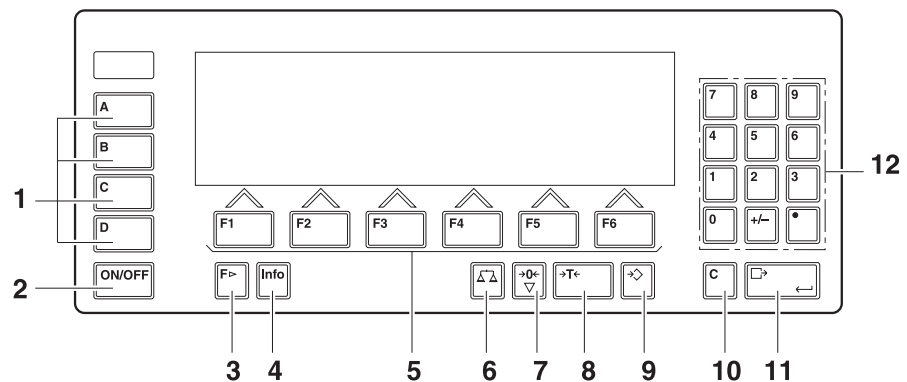
1.3 ID7xx-Sys weighing terminal

1.3.1 Display



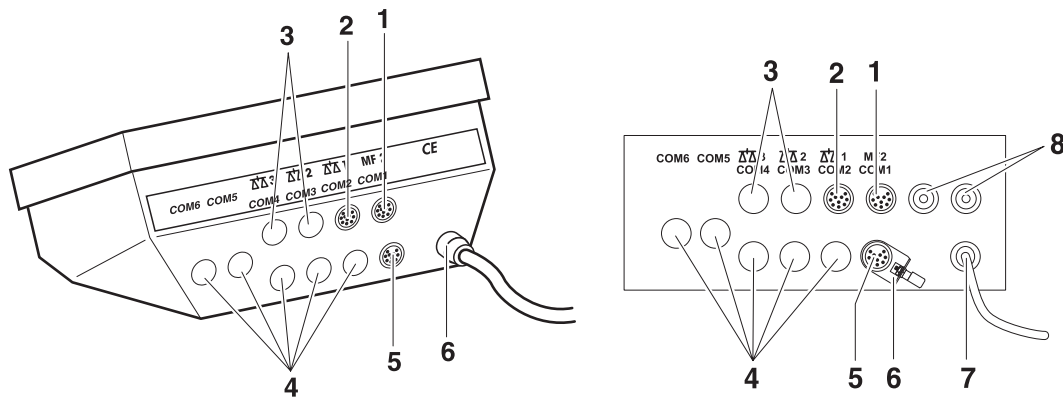
- 1 Weight display BIG WEIGHT® with sign and decimal point
- 2 Stability monitor: lights up until the weighing platform has levelled out, then the weight unit appears here
- 3 Range display for multi-range weighing platforms
- 4 Number of the weighing platform: shows the weighing platform just selected
- 5 NET symbol for marking net weight values
- 6 Assignment of the function keys

1.3.2 Keypad



- 1** CODE A ... CODE D keys – enter identification data
- 2** ON/OFF – On/Off key
- 3** FUNCTION CHANGE key – display additional functions when entering weight values: switch over unit
- 4** INFO key – recall memory contents and system information
- 5** Function keys F1 ... F6 – the current assignment is shown in the display above the key
- 6** SCALE key – select scale
- 7** ZERO-SET key – set scale to zero, test scale
- 8** TARA key – tare scale
- 9** TARE SPECIFICATION key – enter known tare values numerically
- 10** CLEAR key – clear entries and values
- 11** ENTER key – accept and transfer data
- 12** Numeric keypad with decimal point and signs

1.3.3 Connections



- 1 Connection for the external MFII keypad
- 2 Connection for weighing platform 1
- 3 Optional connections for weighing platform 2 and 3
- 4 5 optional interface connections
- 5 Standard RS232 interface
- 6 Equipotential bonding clamp
- 7 Power supply
- 8 Optional connections for the Profibus

Possible assignments for serial interfaces (with software)

Interface	COM1	COM2	COM3	COM4	COM5	COM6
CL20mA-ID7	–	X	X	X	X	X
RS232-ID7	X	X	X	X	X	X
RS422-ID7	–	–	–	–	X	X
RS485-ID7	–	–	–	–	X	X
RS485-ID7 with relay box 8-ID7	–	–	–	–	X	X
4 I/O-ID7	–	–	–	–	X	X
Analog Output-ID7	–	–	–	–	X	X
Alibi Memory-ID7	–	X	X	X	X	X
Ethernet-ID7	–	X	X	X	X	X
Profibus-DP-ID7	–	X	X	X	X	X

Notes

- COM1 is permanently equipped with the serial interface RS232-ID7 as standard.
- Only one Alibi Memory-ID7 can be installed. It has no additional external connection, and internally it occupies the space of a data port COM2 ... COM6. Alibi Memory ID7 is installed as COM4 at the factory.
- Max. 3 cards Analog Scale-ID7, Ethernet-ID7, Profibus-DP-ID7 or Alibi Memory-ID7 can be installed in the ID7xx-Sys. The following combinations are possible:

Analog Scale-ID7	Ethernet-ID7	Profibus-DP-ID7	Alibi Memory-ID7
2	1	–	–
2	–	1	–
1	1	–	1
1	–	1	1

**EXPLOSION HAZARD**

- Do not connect or disconnect plugs until the ID7xx has been deenergised.
- Cover unused connection sockets with protective caps to protect the socket contacts from moisture and dirt.
- Observe the maximum total loads for external devices, see section 7.1.
- Tighten cable glands so that a strain relief ≥ 100 N is ensured.

1.4 Commissioning**1.4.1 Connecting ID7xx-Sys to network****EXPLOSION HAZARD**

- The mains connection may only be connected by the owner's electrician.

CAUTION

The ID7xx-Sys weighing terminal only functions properly with mains voltages of 100 V to 240 V.

- Make sure that the mains voltage at the installation location lies within this range.

**1.4.2 Equipotential bonding**

- Connect equipotential bonding of all devices in accordance with the country-specific regulations and standards. In the process, make sure that all device housings are connected to the same potential via the PA terminals.

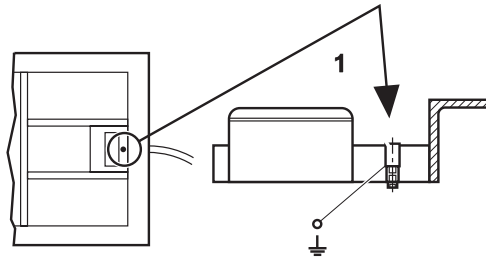
Equipotential bonding clamp ID7xx-Sys

The equipotential bonding clamp of the ID7xx-Sys is found on the COM1 socket.

Equipotential bonding clamp weighing platforms

The equipotential bonding clamp and mounting materials are enclosed with the ID7xx-Sys weighing terminal.

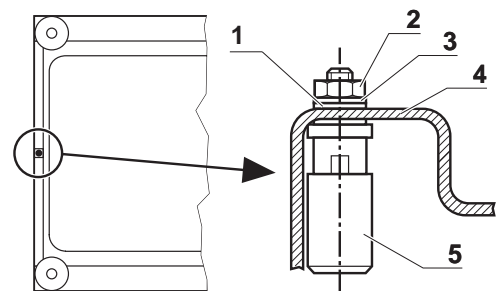
- D weighing platforms** → With DN weighing platforms, mount the equipotential bonding clamp (1) according to the diagram.



- With other D weighing platforms, mount the equipotential bonding clamp to a suitable area of the base frame.

- KA..., MA...** → Mount the equipotential bonding clamp to the base frame with the following mounting materials according to the diagram.

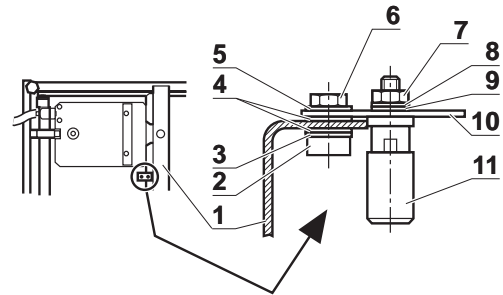
- 1 Serrated lock washer
A 4.3 DIN 6798
- 2 Hex nut M4 DIN 934
- 3 Washer 4.3 DIN 125
- 4 Base frame
- 5 Equipotential bonding clamp



**KB..., KCC...,
MB..., MCC...**

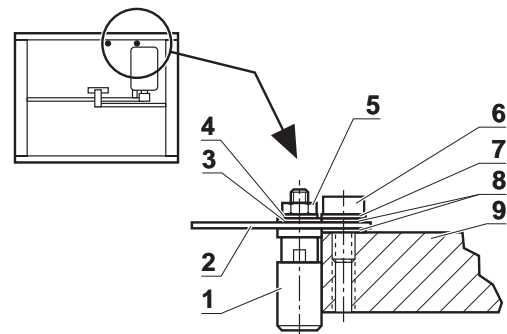
→ Mount the equipotential bonding clamp to the base frame with the following mounting materials according to the diagram.

- 1 Frame body
- 2 Fillister head screw
M5x12 DIN 912
- 3 Washer 5.3 DIN 125
- 4 Serrated lock washer
5.3 DIN 6798
- 5 Washer 5.3 DIN 125
- 6 Hex nut M5 DIN 934
- 7 Hex nut M4 DIN 934
- 8 Washer 4.3 DIN 125
- 9 Serrated lock washer A 4.3 DIN 6798
- 10 Potential plate weighing platform
- 11 Equipotential bonding clamp

**KC..., KCS...,
MC..., MCS...**

→ Mount the equipotential bonding clamp to the base frame with the following mounting materials according to the diagram.

- 1 Equipotential bonding clamp
- 2 Potential plate weighing platform
- 3 Serrated lock washer
4.3 DIN 6798
- 4 Washer 4.3 DIN 125
- 5 Hex nut M4 DIN 934
- 6 Fillister head screw
M5x12 DIN 912
- 7 Washer 5.3 DIN 125
- 8 Serrated lock washer 5.3 DIN 6798
- 9 Frame bracket, thread M5 is present

**KD..., KE..., KES...,
MD..., ME..., MES...**

→ Secure equipotential bonding clamp to a suitable area of the base frame.

1.4.3 Testing restricted breathing with K...xx weighing platforms

A restricted breathing test according to the relevant country-specific standards is required

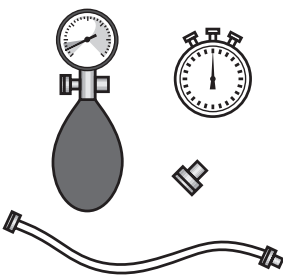
- before first-time startup,
- after service work,
- at regular intervals thereafter,
- after accidental cleaning of the diaphragm with steam jets.

A test protocol must be created for every checking (see Appendix).

After the first startup, the owner is entirely responsible for safety of the system.

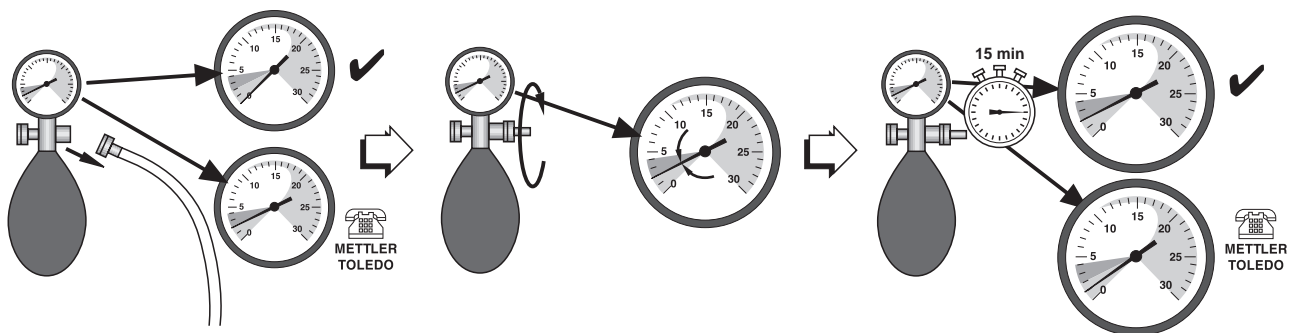
Aids needed for the test

- Test manometer (available as optional equipment), consisting of
 - Connection tube
 - Test nipple (without hole)
- Stopwatch



Testing the test manometer

Before testing the restricted breathing, test the condition of the test manometer at a constant ambient temperature.



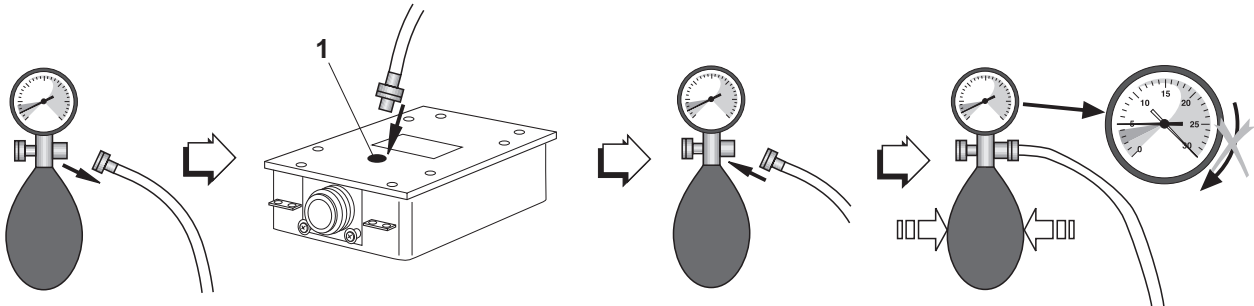
1. Remove the connection tube from the manometer.
2. Check whether the pointer of the manometer points to zero (0).
If it does not, the manometer is defective. Inform METTLER TOLEDO customer service.
3. Screw the test nipple into the manometer connection until the manometer shows a pressure of 2 mbar.
4. Place the manometer to one side, wait 15 minutes.
If the manometer continues to indicate a pressure of 2 mbar after 15 minutes, it is working properly. Unscrew test nipple.
If the manometer indicates a pressure less than 2 mbar, it is defective. Inform METTLER TOLEDO customer service.

The testing procedure



EXPLOSION HAZARD

→ The restricted breathing test is only to be carried out if it is ensured that the atmosphere is **non-explosive**.



1. Unscrew pressure tube from manometer.
2. Unscrew test screw (1) from measuring cell to be tested.
3. Screw pressure tube with ring seal into the measuring cell to be tested. Do not tighten screw too firmly.
4. Screw manometer to other end of tube.
5. Carefully pump up until the manometer shows a pressure of 5 mbar.
Caution: Pressures above 30 mbar will damage the manometer!
6. Carefully open the control valve of the manometer and set a pressure value of 3 mbar. Start the stopwatch.
7. After 80 seconds: Read the manometer's pressure value.

Pressure values ≥ 1.5 mbar

Pressure values ≥ 1.5 mbar indicate that the tested measuring cell has restricted breathing.

1. Enter the read pressure value in the weighing platform "Date/Signature" field and record it in the Appendix.
2. With first setup: Fill out transfer protocol.

Pressure values < 1.5 mbar

Pressure values < 1.5 mbar indicate that the tested measuring cell does not have restricted breathing. Carry out the following safety measures:

1. Immediately turn off the power supply to the weighing terminal.
2. Separate the weighing terminal from the current supply in accordance with the applicable regulations, and ensure that the system is not re-commissioned.
3. Inform authorized METTLER TOLEDO customer service.

1.4.4 Limited mobility



EXPLOSION HAZARD

The ID7xx-Sys weighing terminal, accompanying weighing platforms and accessories may only be operated in Zone 2 and 22 hazardous areas.

Cabling

→ Protect data and signal cable extensions against inadvertent disconnection by sealing.

1.4.5 Labelling for operation in hazardous area

The following signs must be mounted on the ID7xx-Sys weighing terminal, accompanying weighing platforms and accessories so that they are clearly visible:

- Model plate with the device's model data, manufacturer and serial number
- Safety instructions
- Zone marking
- Temperature range
- for measuring cells with restricted breathing: Provide test plate with the date, underline it, and stick it to measuring cell

1.4.6 Marking and sealing of certified weighing platforms

ID code With the ID code it can be checked whether certified weighing platforms have been tampered with since the last certification. The ID code can be displayed on the terminal at any time, see section 3.1.

During certification the currently displayed ID code is recorded and sealed.

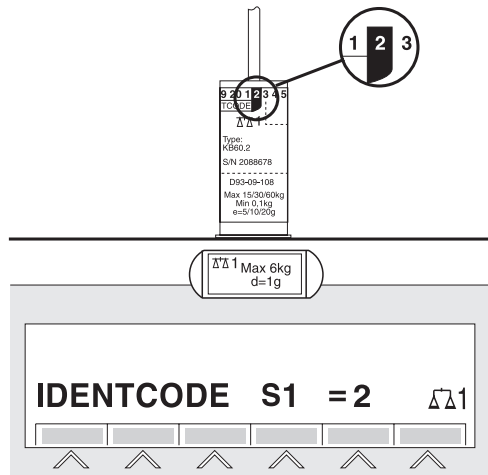
During each change to the configuration the displayed ID code increases. It then no longer matches the sealed ID code; the certification is not longer valid.

Certification To mark and certify your weighing system, please contact METTLER TOLEDO Service or your local board of weights and measures.

Check certification

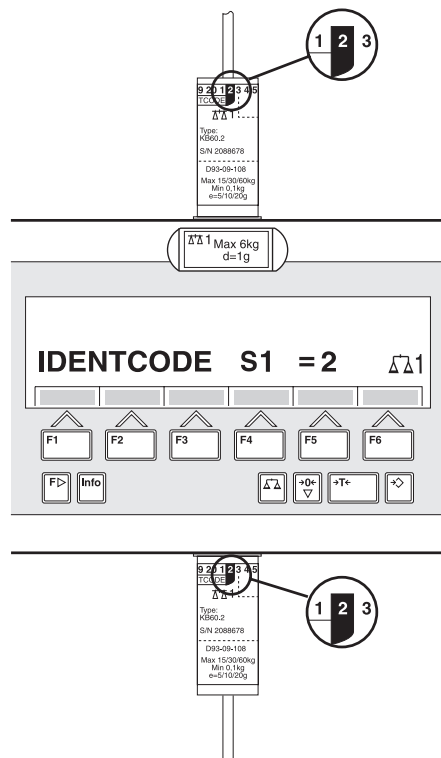
1. Display ID code, see section 3.1; press ZERO-SET key until IDENTCODE = ... is displayed.
No value is shown for noncertified weighing platforms, but instead:
IDENTCODE ==.
2. Compare ID code displayed with sealed ID code on ID card.
The certification of the weighing system is only valid when both values are identical.

ID7xx-Desk

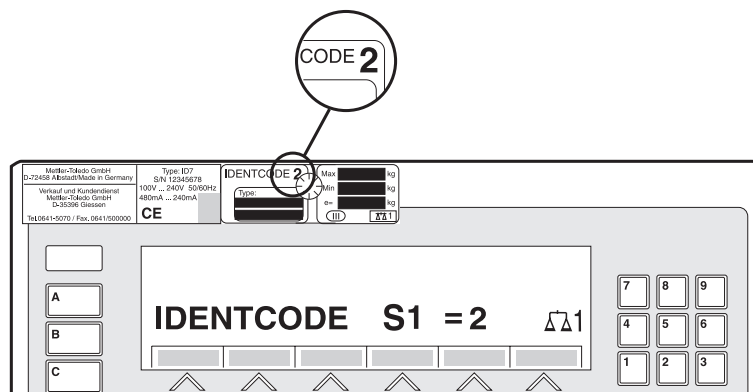


ID7xx-Wall

Depending on the type of cable connection, the ID card is mounted either above or below.



ID7xx-Panel



3. Press ZERO-SET key again.
The connected weighing platform is checked. The display shows CHECK SCALE and after the test is completed SCALE IS OK.
Then the ID7xx-Sys automatically returns to normal operation.

1.5 Cleaning



DANGER OF SHOCK

- Do not open ID7xx-Sys weighing terminal to clean.

CAUTION

- Make sure that unused connection sockets are covered with protective caps to protect the socket contacts from moisture and dirt.
- Do not use high-pressure cleaners.
- Do not use concentrated acids, lyes, solvents or pure alcohol.



EXPLOSION HAZARD

Danger of electrostatic charging

- Do not rub or wipe off the keyboard surface with a dry cloth or glove.

Cleaning

- Wipe down the ID7xx-Sys weighing terminal and accompanying weighing platforms with a household glass or plastic cleaner.

Weighing platforms with restricted breathing

- Do not use cleaning solutions which could damage plastic seals and diaphragm.
- Never direct steam jet at diaphragm when cleaning.
- After cleaning with a steam jet, check to ensure that the measuring cells have retained their restricted breathing property.

2 Basic functions

2.1 Switching on and off

Switch on from the standby mode

→ Press ON/OFF key.

The display shows a weight value based on the last tare value and zero point.

Switch on with restart

1. Relieve weighing platform.
2. Press ON/OFF key and hold down until METTLER TOLEDO ID7xx-Sys appears in display.
Then weight value appears.

The weighing platform is restarted.

Switch off

→ Press ON/OFF key.

The display goes out and the ID7xx-Sys weighing terminal is in the standby mode. The zero point and tare value remain saved.

2.2 Setting to zero

Setting to zero corrects the influence of minor dirt on the load plate.

In the case of excessive dirt which cannot be compensated by setting to zero, the display shows OUT OF RANGE.

Manual zero set

1. Relieve weighing platform.
2. Press ZERO-SET key.
The display shows 0.000 kg.

Automatic zero set

On certified weighing platforms the zero point of the weighing platform is automatically corrected when the weighing platform is relieved.

The automatic zero set can be switched off in the master mode on noncertified weighing platforms.

2.3 Taring

2.3.1 Manual taring

1. Place empty container on scale.
2. Press TARE key.
The tare weight is saved and the weight display set to zero.
The display shows the NET symbol.

Notes

- When the weighing platform is relieved, the saved tare weight is displayed with a negative sign.
- The weighing platform only saves **one** tare value.

2.3.2 Specify tare weight

Note

This function is only available when ordered expressly.

Enter numerically

1. Press TARE SPECIFICATION key.
2. Enter tare weight (container weight) and confirm with ENTER.
When weighing platform is relieved, the entered tare weight is displayed with a negative sign.

Correct entry → Clear the entry character by character with the CLEAR key and repeat correctly.

2.3.3 Recall currently saved tare weight

The saved tare weight can be recalled at any time.

- Enter INFO, TARE SPECIFICATION key sequence.
The saved tare weight is displayed.

2.3.4 Clear tare weight

→ Relieve weighing platform and tare.

– or –

→ Press CLEAR key.

2.4 Weighing

Weighing without taring

- Lay weighing sample on weighing platform.
Gross weight (total weight) is displayed.

Weighing with taring

1. Place the empty container on the weighing platform and tare.
2. Pour in weighing sample.
The display shows the net weight and the NET symbol.

Weighing with tare specification

1. Place filled container on weighing platform.
The display shows the gross weight (total weight).
2. Specify tare weight.
The display shows the net weight (container content) and the NET symbol.

Note

If a **multi-range weighing platform** is chosen, a display for the currently active range appears above the scale symbol.

2.5 Switching over weighing platform

Up to 3 weighing platforms can be connected to the ID7xx-Sys.
The weighing platform currently selected is shown on the terminal.

- Press SCALE key.
The next weighing platform is selected.

2.6 Displaying versions

When connected to a power supply (see Section 1.6) and when restarted (see Section 2.1), the versions of the ID7xx-Sys and the installed components are displayed.

Version code for the ID7xx-Sys with customer-specific application program

```

METTLER-TOLEDO ID7-Sys
IP71-0-0 105
CC-AA-XXXXXXXX-VVV-DD.MM.YYYY

```

CC	Country code, e.g. DE = Germany
AA	Software type, e.g. 00 = Base
XXXXXXXXXX	Order No.
VVV	Software version
DD.MM.YYYY	Date of manufacture, day.month.year

Note

Only the third line with version code information is displayed in the TermEx200 operating and display device.

3 Additional functions

The assignment of the 6 function keys of the ID7xx-Sys weighing terminal differs depending on the weighing task. The current assignment is shown above the function keys.

With the FUNCTION CHANGE key it is possible to switch over to other function key assignments.

Independent of the application software, the ID7xx-Sys has the following additional functions:

					MODE
					Activate master mode, see Chapter 4

3.1 Displaying ID code and testing weighing platform

Each time the weighing platform configuration is changed the ID code counter is increased by 1. On certified weighing platforms the displayed ID code must match the ID code on the ID code sticker, otherwise the calibration is no longer valid.

Display ID code

→ Press ZERO-SET key and hold until IDENTCODE = ... appears in the display and press again.

Test weighing platform

→ Press ZERO-SET key again.

The connected weighing platform is checked. The display shows CHECK SCALE and then SCALE IS OK after completing the test.

Note

If weighing platform is defective, display shows SCALE ERROR.

3.2 Recalling information

On the ID7xx-Sys weighing terminal memory contents and system information can be recalled.

1. Press INFO key.

Then the following function key assignment appears:

DATE	TARE		ALIBI	END	VERS
Display date and time	Display tare weight		Recall content of alibi memory, see section 3.4. This selection only appears when Alibi Memory-ID7 is installed.	End	Display version numbers of installed software modules, see section 2.6

2. Select desired information.

The information is displayed for approx. 5 seconds, then the ID7xx-Sys changes to the weighing mode again.

Note

When several values are displayed, the ID7xx-Sys automatically changes to the next value after approx. 5 seconds.

3.3 Working with external keypad

In addition to the alpha and numerical keys, the following additional scale functions can also be operated with the external AK-MFII keypad.

Function for ID7xx-Sys	External keypad	Function for ID7xx-Sys	External keypad
Function key F1	F1	CODE A key	Shift F1
Function key F2	F2	CODE B key	Shift F2
Function key F3	F3	CODE C key	Shift F3
Function key F4	F4	CODE D key	Shift F4
Function key F5	F5		
Function key F6	F6		
FUNCTION CHANGE key	F7		
INFO key	F8		
SCALE key	F9	SCALE key	Shift F9
ZERO-SET key	F10	ZERO-SET key	Shift F10
TARE key	F11	TARE key	Shift F11
TARE SPECIFICATION key	F12	TARE SPECIFICATION key	Shift F12

Note

The language of your external keyboard can be set in the master mode block LAYOUT EXT. KEYBOARD, see page 28.

3.4 Recalling data from Alibi memory

With the Alibi Memory-ID7 memory module you can fulfill your recording obligations in certified operation without having to archive paper.

Alibi Memory ID7 automatically assigns each weighing with consecutive data record number which also appears on the print-out, saves the net and tare value, the date and time.

The Alibi Memory-ID7 operates according to the principle of a ring memory: When the capacity limit of 580,159 data records is reached, the oldest data record is deleted and overwritten with data from the latest weighing.

By entering suitable search criteria you can quickly access the data of a very specific weighing.

3.4.1 Initiate

→ Press INFO, ALIBI key sequence.

The function keys change to the following assignment:

FIND	>>...	<	>	-> Num	END
Enter search criteria	Search for next matching data record starting with oldest	Display data record of weighing carried out directly beforehand	Display directly following weighing	Search for data record with known data record number	Exit Info Alibi and return to normal mode

3.4.2 Fast search with entry of data record number

1. Press ->Num key.
2. Enter number of data record to be searched for and confirm with ENTER.
Alibi Memory ID7 now searches for the desired data record.

Notes

- The search may take up to 10 seconds.
- If no data record with the entered number is found, the message NO MATCHING DATA RECORD appears.

3.4.3 Search with other search criteria

→ Press FIND key.

The function keys are given the following assignment:

DATE	TIME	NET	TARE	START	END
Enter date as search criterion	Enter time as search criterion	Enter net value as search criterion	Enter tare value as search criterion	Start search with entered search criteria	End search

All offered search criteria can be combined with each other.
The entered search criteria are shown in the display in clear text.
This enables you to search for a find a specific weighing.

Enter date

→ Press DATE key and enter complete date in DD.MM.YY form.

Enter time

→ Press TIME key and enter desired time in one of following formats.

Format HH all weighings between HH.00.00 and HH.59.59 are found

Format HH.MM all weighings between HH.MM.00 and HH.MM.59 are found

Format HH.MM.SS only the weighing at the time HH.MM.SS is found

Enter net/tare value

1. Press NET or TARE key.
2. Enter weight value and confirm with ENTER.
The function key assignment changes back again for selection of the search criteria.

Note

With the FUNCTION CHANGE key you can select the weight unit for entering the weight values.

Start search

→ Press START key.

Alibi Memory-ID7 searches for the oldest data record which meets the entered search criteria.

Notes

- The search may take up to 10 seconds.
- If no data record with the entered values is found, the message NO MATCHING DATE RECORD appears.
- If no search criterion has been entered, the oldest data record is displayed.

3.4.4 Display data records

The data records found are shown in the display:

Example DATE: 02.04.98 TIME: 09.25.51
 NUM: 000987
 NET: 25.000 KG
 TARE: 100.346 KG PT

Scroll With the keys >>..., < and > you can scroll within the data records found.

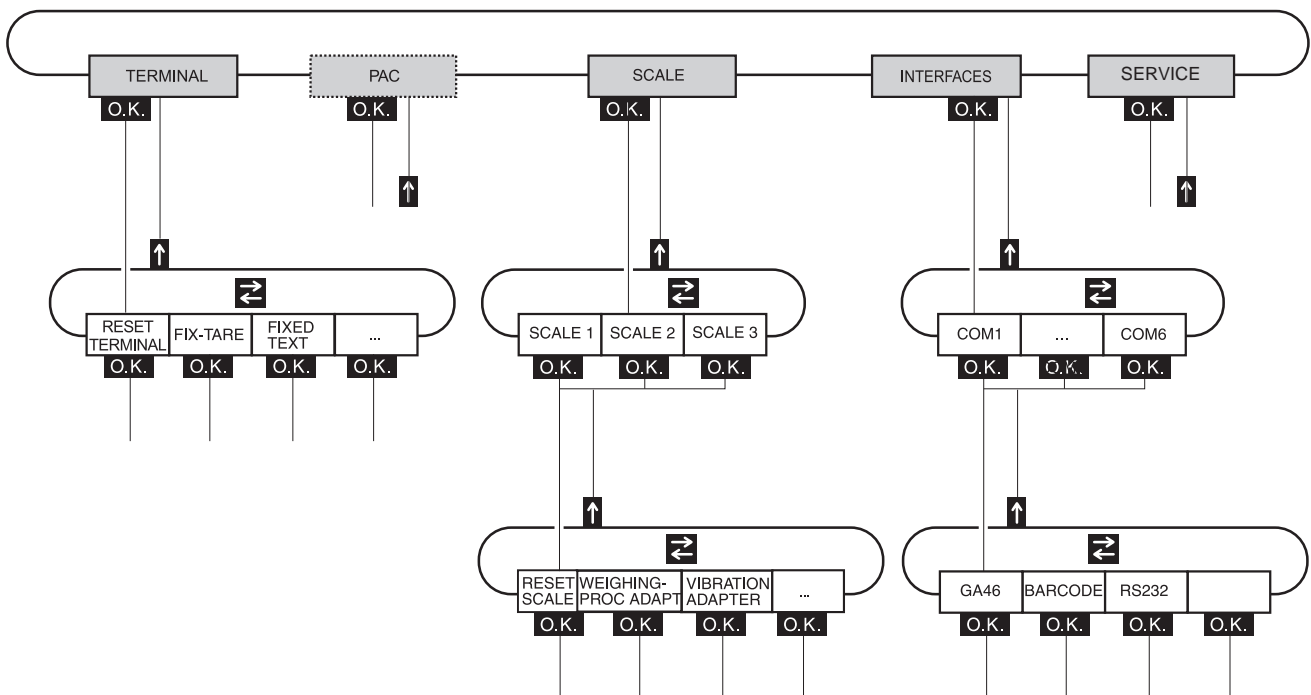
Notes

- If during scrolling with the >>... key all entries of the Alibi Memory-ID7 have been searched, the message END OF FILE appears.
- If during scrolling with the keys < and > the file end is reached, the display begins again at the first or last data record.

4 Settings in the master mode

4.1 Overview of the master mode

In the master mode you adapt the ID7xx-Sys weighing terminal to meet your needs. Depending on the configuration, the master mode is divided into 4 or 5 master mode blocks, which are in turn divided into further blocks.



TERMINAL For system settings, such as entering the date and time or loading permanent texts, see section 4.3.2.

PAC To set application-specific parameters, see section.

SCALE To select one of the connected weighing platforms. For each selected weighing platform the parameters are then set which concern the weight value, e. g. stability detector, unit, etc., see section 4.4.

INTERFACES To select an interface. The communication parameters are then set for each interface, see section 4.5.

SERVICE For configuring the weighing platform(s). On IDNet weighing platforms only for METTLER TOLEDO service technicians. On weighing platforms with an analog signal output, see section 4.6.

4.2 Operating the master mode

4.2.1 Enter the master mode

1. Press MODE key.
If the current function key assignment does not contain MODE, change to the assignment with MODE by repeatedly pressing the FUNCTION CHANGE key.
2. Enter personal code if configured.
The display shows the first master mode block TERMINAL.

4.2.2 Assignment of function keys in the master mode

In the master mode the function keys are assigned as follows:

←	→	OK	↑	END	OK
Change to previous block within a level	Change to next block within a level	Recall lower-level block or confirm selection	Exit level and return to higher-level block	Exit the master mode and return to normal mode	Recall lower-level block or confirm selection

→ Select the function by pressing the function key.

Example → Press the END key to exit the master mode and return to the normal mode.

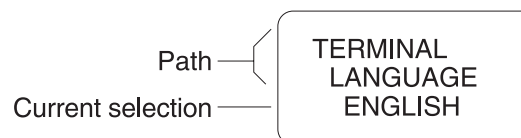
When the function keys are otherwise allocated

→ Press the key FUNCTION CHANGE until the function keys allocation displayed above appears.

4.2.3 Orientation in the master mode

For improved orientation the display shows the last steps in the path of the current master mode block.

Example The upper 3 lines of the display show the following path for selecting the LANGUAGE:



4.2.4 Entries in the master mode

The following basic rules apply to entries made in the master mode:

- Confirm (alpha)numeric entries with ENTER.
- Alphanumeric entries with the ID7xx-Sys: see next section.
- To accept the displayed value: Press ENTER key.

4.2.5 Alphanumeric entry

If an alphanumeric entry is possible, the function keys are given the following assignment:

A-E	F-J	K-O	P-T	U-Y	Z-
Selection of a letter A to E	Selection of a letter F to J	Selection of a letter K to O	Selection of a letter P to T	Selection of a letter U to Y	Selection of the letter Z and special characters

1. Select desired letter group, e. g. press K-O key.
2. Select desired letter.
The display changes back to the above selection.
3. Repeat steps 1 and 2 for additional characters of the entry.

Note

Letters and numbers can be combined as desired.

4.2.6 Emergency entrance into the master mode

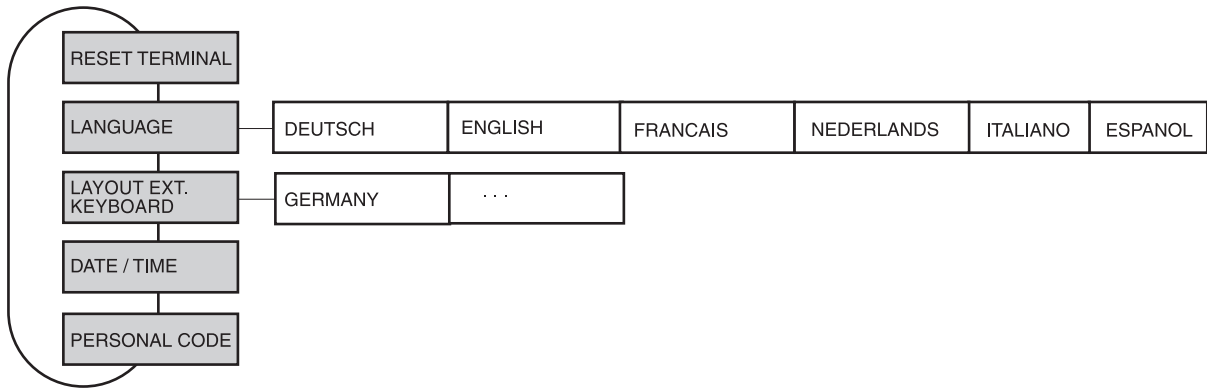
If a personal code has been assigned for entering the master mode and you have forgotten your code, you can still enter the master mode:

→ Enter the character sequence C, L, E, A, R as your personal code.

4.3 TERMINAL master mode block

4.3.1 Overview of the TERMINAL master mode block

In the TERMINAL master mode block you enter the following system settings:



- Legend**
- Blocks highlighted in **grey** are described in detail in the following.
 - Factory settings are printed in **bold print**.

4.3.2 Settings in the TERMINAL master mode block

RESET TERMINAL	Reset all terminal functions to the factory setting
	<ul style="list-style-type: none"> • Resets the password MINIMUM to the factory setting: 2234 • LANGUAGE german • LAYOUT EXT. KEYBOARD Germany

LANGUAGE	Select dialog language
	Possible settings: German, English

LAYOUT EXT. KEYBOARD	Select keyboard layout of connected external keyboard
	Possible setting: Germany, England, France, Holland, Italy, Spain, Finland, US international ...

DATE / TIME	Enter date and time
	<ul style="list-style-type: none"> • Enter DATE in European notation: Day.Month.Year. • Enter TIME in European notation: (24) Hours.Minutes.Seconds.
Comments	<ul style="list-style-type: none"> • Enter single-place numbers with a preceding zero. • The clock continues to run after the terminal is switched off.

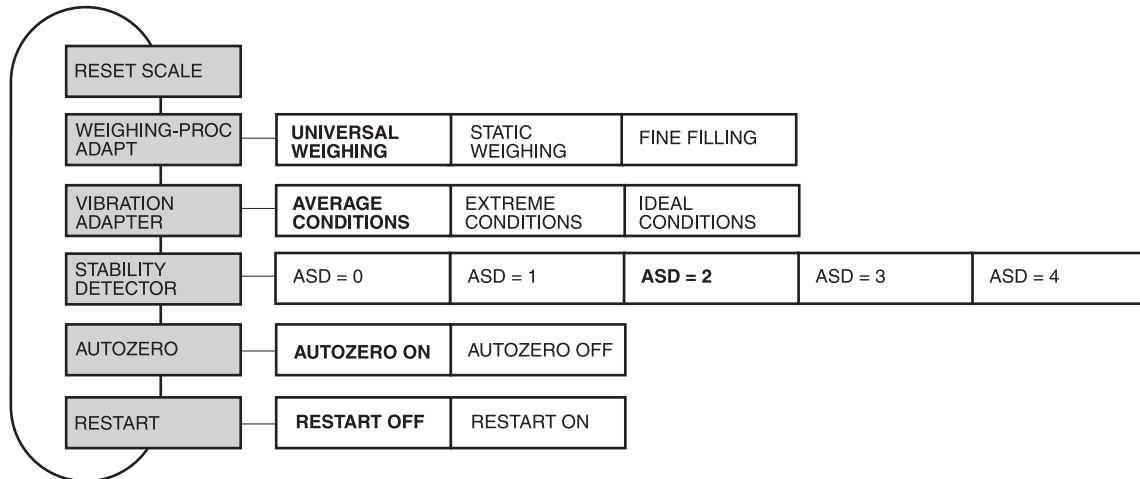
PERSONAL CODE	Codes for entering various master mode menus
	Enter codes with a maximum of 8 alphanumeric characters.
MINIMUM	Access to master mode
GENERAL	Access to all personal codes
PAC	Access to the PAC / RESET PAC and PAC / ERROR-INFO menus
PAC-DATAB.	Access to the PAC / DATABASE menu
PAC-APPL.	Access to the PAC / APPLICATION menu
INTERFACE	Access to all parameters in the INTERFACE menus; the test functions are freely accessible
OPTION 1 OPTION 2 OPTION 3	Program dependent
Note	If only zeros are entered, the password is not used

4.4 SCALE master mode block

In the first block the weighing platform is selected: SCALE 1 ... SCALE 3.
The other setting possibilities are the same for all connected weighing platforms.

4.4.1 Overview of the SCALE master mode block

In the SCALE master mode block the following settings for the weight can be carried out:



- Legend**
- Blocks highlighted in **grey** are described in detail in the following.
 - Factory settings are printed in **bold print**.

4.4.2 Settings in the SCALE master mode block

RESET SCALE	Reset weighing platform to factory setting	
	WEIGHING-PROC ADAPT	universal weighing
	VIBRATION ADAPTER	average conditions
	STABILITY DETECTOR	ASD = 2
	AUTOZERO	on
	RESTART	off

WEIGHING-PROC ADAPT	Adapt weighing platform to weighing sample
UNIVERSAL WEIGHING	For solid bodies, coarse filling or checkweighing (factory setting).
STATIC WEIGHING	For solid bodies and weighing under extreme conditions, e. g. strong vibrations or weighing animals.
FINE FILLING	For liquid or powdered weighing samples.

VIBRATION ADAPTER	Adapt weighing platform to the vibration influences of the environment
AVERAGE CONDITIONS	Factory setting.
EXTREME CONDITIONS	The weighing platform operates more slowly, however is less sensitive, e. g. suitable with building vibrations and vibrations at the weighing location.
IDEAL CONDITIONS	The weighing platform operates very quickly, however is very sensitive, e. g. suitable with very calm and stabile weighing location.

STABILITY DETECTOR	Adapt automatic stability detector
	<p>Possible settings:</p> <p>ASD = 0 Stability detector switched off (only possible with non-certified weighing platforms)</p> <p>ASD = 1 fast display good reproducibility</p> <p>ASD = 2 ▲ ▼ (factory setting)</p> <p>ASD = 3 ▲ ▼</p> <p>ASD = 4 slow display very good reproducibility</p>

AUTOZERO	Switch automatic zero-point correction on or off
	<p>The automatic zero-point correction corrects the weight of minor dirt with the weighing platform unloaded.</p> <p>Factory setting: AUTOZERO ON</p>

RESTART	Switch restart function on or off
	<p>When RESTART ON is set, the zero point and tare value remain stored after the power supply is interrupted. When the weighing platform is switched on again, the terminal shows the current weight.</p> <p>Factory setting: RESTART OFF</p>

4.5 INTERFACE master mode block

Select the interface connection

→ Select the interface connection in the first block:
COM1, COM2, COM3, COM4, COM5 or COM6.

Possible interface types

- GA46 For connection of the GA46/GA46-W printer. Data is exchanged via the RS232-ID7 interface. The other setting possibilities are described in the operating and installation instructions GA46. This selection no longer appears when a GA46 printer is already configured.
- BARCODE For connection of a barcode reader. Data is exchanged via the RS232-ID7 interface. For other settings see page 33.
- SERIAL An RS232-ID7, CL 20mA-ID7, RS422-ID7 or RS485-ID7 interface must be connected to the selected connection. For additional settings, see Page 33.
- 4 I/O Only for COM5/COM6. A 4 I/O-ID7 interface with relay box 4-ID7 must be installed on the interface connection for this purpose. For other settings see 33.
- RELAY BOX 8 Only for COM5/COM6. An RS485-ID7 interface with relay box 8-ID7 must be installed on the interface connection for this purpose. For other settings see page 34.
- FX880 For the connection of an EPSON FX870/880 printer. Data transfer is carried out via the RS232-ID7 or CL 20mA-ID7 interface. For additional settings, see Page 34.
- TCP/IP-CLIENT Only for COM2 through COM6. An Ethernet-ID7 interface must be connected to the selected interface connection. For additional settings, see Page 35.
- FTP-CLIENT Only for COM2 through COM6. An Ethernet-ID7 interface must be connected to the selected interface connection. For additional settings, see Page 38.
- PROFIBUS-DP Only for COM2 ... COM6 with installed Profibus-DP-ID7 interface. For additional settings, see page 40.
- ALIBI MEMORY Only for COM2 ... COM6. An Alibi Memory-ID7 must be installed on the selected interface connection for this purpose. No further settings are required in the master mode. This selection no longer appears when an Alibi Memory-ID7 is already configured.
- ANALOG OUTPUT Only for COM5/COM6 with installed Analog Output-ID7 interface.
- TERM(EX)200 For connection of the TERM(EX)200 (Ex-) operating and display device. Data transfer is carried out via the RS232-ID7 or CL 20mA-ID7 interface. No additional settings are possible in the master mode.

BARCODE	Setting the parameters of the barcode driver for the RS232 scanner. Some parameters are not editable (dependent on the program)
SWITCH ON/OFF	Switches the function of this driver on or off.
MODE	Changes interface parameters.
BAUDRATE	Possible settings: 150, 300, 600, 1200, 2400, 4800, 9600, 19200 Baud
PARITY	Possible settings: Parity even, Parity odd, No parity, Parity mark, Parity space
DATABITS	Possible settings: 7 databits, 8 databits
STOPBITS	Possible settings: 1 stopbit, 2 stopbits
END CHARACTERS	The end characters of the scanner are automatically sent with each barcode. Possible settings: any two characters, generally 13 (CR) and 10 (LF). If only one end character is required, the second end character must be 0.
TEST	Test function for testing the scanner. All characters received from the scanner are shown in the display, including the end characters.

SERIAL	Parameters of the standard COM interface driver for serial interfaces. Some parameters are not editable (dependent on the program)
SWITCH ON/OFF	Switches the function of this driver on or off.
MODE	Changes interface parameters.
BAUDRATE	Possible settings: 150, 300, 600, 1200, 2400, 4800, 9600, 19200 Baud
PARITY	Possible settings: Parity even, Parity odd, No parity, Parity mark, Parity space
DATABITS	Possible settings: 7 databits, 8 databits
STOPBITS	Possible settings: 1 stopbit, 2 stopbits
TEST	Test function for communication testing. All characters received over the interface are shown in the display. Simple character strings can be sent, if desired.

4 I/O	Parameters of the I/O module. Some parameters are not editable (dependent on the program)
SWITCH ON/OFF	Switches the function of this driver on or off.
TEST	Test function for testing the 4 I/O module The display shows the signal over inputs 1-4. Outputs 1-4 can be switched on or off using keys 1-4.
Important	Please ensure that no system functions are activated inadvertently!

RELAY BOX 8	
SWITCH ON/OFF	Switches the function of this driver on or off.
I/O TEST	<p>Tests function and state of inputs/outputs of 1 or 2 connected relay boxes 8-ID7</p> <p>When an input or output is set (high), its number is shown in the display. When an input or output is not set (low), – is shown in the display.</p> <p>Setting outputs Switch outputs using keys 1 to 8 of the numeric keypad.</p> <p>Setting inputs Inputs can be set by connecting a voltage supply (+24 V), for example.</p> <p>Multiple relay box 8-ID7s Switch over to further relay box 8-ID7s using the ENTER key.</p>
Notes	The relay box 8-ID7 corresponds with the BIU Binary Interface Unit. For additional information, see the operating and installation instructions for the 505918A Binary Interface Unit.

FX880	Parameters of the EPSON FX870/880 printer. Some parameters are not editable (dependent on the program)
SWITCH ON/OFF	Switches the print function of this driver on or off.
MODE	Changes interface parameters.
BAUDRATE	Possible settings: 150, 300, 600, 1200, 2400, 4800, 9600, 19200 Baud
PARITY	Possible settings: Parity even, Parity odd, No parity, Parity mark, Parity space
DATABITS	Possible settings: 7 databits, 8 databits
STOPBITS	Possible settings: 1 stopbit, 2 stopbits
PROTOCOL	Switches between the TTY communication and the secured RP (R emote P rinter) operating mode
TTY PROTOKOLL	TTY communication, factory setting
RP PROTOCOLL	RP operating mode, only possible when a special EPROM is present in the serial interface of the Epson printer
TEST	Test function for printing a simple test message

TCP/IP CLIENT (RESPONSE)	Parameters of the TCP/IP client driver which parameterises the Ethernet-ID7 interface as a TCP/IP client. Some parameters are not editable (dependent on the program).
SWITCH ON/OFF	Switches the function of this driver on or off.
IP ADDRESS	<p>Network IP address of the ID7xx-Sys: This address must be assigned by IT personnel under the administrator. It must be unique within the network.</p> <p>Entry format: 000.000.000.000</p> <p>Example: 176.120.98.3</p>
HOST IP ADDRESSES	<p>IP addresses of the (max. 16) network hosts (TCP/IP server): These addresses must be assigned by IT personnel under the administrator. The address of at least one host (host 0) must be entered here. This IP address must be unique within the network.</p> <p>The ID7xx-Sys establishes a TCP/IP connection with a host (generally host 0) if necessary.</p> <p>Entry format: 000.000.000.000</p> <p>Example of a host IP address: 176.120.98.4</p>
TEST	<p>Test function which establishes a simple TCP/IP connection from the ID7xx-Sys to a computer.</p> <p>Characters sent to the ID7xx-Sys are displayed continuously.</p> <p>F1 enter a simple character string.</p> <p>F5 Select host x (0-15) and enter any relevant end character.</p> <p>ENTER Open a connection with the host.</p> <p>The TCP/IP connection is closed directly after transmission.</p> <p>No indication is made as to whether or not the connection was successful. Generally, the called host must reply to the request accordingly.</p> <p>If no characters are received, it usually means that the connection did not work.</p>

Additional TCP/IP CLIENT settings

The Ethernet-ID7 interface controls a large number of parameters, only the most important of which are to be set in the mastermode of the ID7xx-Sys. Most other parameters can only be set when a Telnet connection is established to a computer on the network to the ID7xx-Sys. For this purpose, the Telnet program must be started on a computer within the same network segment. The number 1111 must be entered as the port.

Full access to the Ethernet-ID7 interface menus (features) is available when a Telnet connection exists between the computer and the ID7xx-Sys.

The computer displays the topmost menu level as follows:

```
*****
*           100BaseT Com-Server           *
*****
1. INFO System
2. SETUP System
3. SETUP Port 0 (Serial)
4. SAVE Setup
```

Press <No.+ ENTER> (q=quit):

It is imperative that the following parameters be set:

Parameter	Value	Description
SETUP Port 0 (serial) TCP/IP Mode TCP Client Server Port	0	The port number is entered by the ID7xx-Sys automatically
SETUP Port 0 (serial) TCP/IP Mode TCP Client Server IP	000.000.000.000	The IP addresses of the (16 max.) TCP/IP servers must be entered in the mastermode of the TCP/IP client driver
SETUP Port 0 (serial) TCP/IP Mode TCP Client Special Options Dispatch Str. 1	0400	First end character definition
SETUP Port 0 (serial) TCP/IP Mode TCP Client Special Options Dispatch Str. 2	0000	Second end character definition
SETUP Port 0 (serial) TCP/IP Mode TCP Client Special Options Inactivity timeout	30 w/o response 0 w/ response	In seconds
SETUP Port 0 (serial) TCP/IP Mode TCP Client Special Options Connection timeout	300 w/o response 0 w/ response	In seconds

Parameter	Value	Description
SETUP Port 0 (serial) TCP/IP Mode TCP Client Special Options Disconnect char	3	Ends the transfer/communication
SETUP Port 0 (serial) TCP/IP Mode TCP Client Special Options Client: "C"+Addr	1	Function for enabling connection to the host by the ID7xx-Sys
SETUP Port 0 (serial) TCP/IP Mode TCP Client Special Options Response Mode	0 w/o response 1 w/ response	
SETUP Port 0 (serial) UART Setup	9600, N, 8, 1, H	Serial parameters of the internal interface

FTP CLIENT	Parameters of the FTP client driver which parameterises the Ethernet-ID7 interface as an FTP client. Some parameters are not editable (dependent on the program).
SWITCH ON/OFF	Switches the function of this driver on or off.
IP ADDRESS	Network IP address of the ID7xx-Sys: This address must be assigned by IT personnel under the administrator. It must be unique within the network. Entry format: 000.000.000.000 Example: 176.120.98.3
FTP SECURITY	Enter the FTP username and the accompanying FTP password for the ID7xx-Sys. Both must be assigned by IT personnel of the administrator, who will also enter these data into his FTP server program. The ID7xx-Sys identifies itself to the FTP server under the FTP username.
FTP FILE	Enter the drive, directory and name of the file which is to be transferred from the ID7xx-Sys to the FTP server. Valid directory identification conventions (examples): C:\OS\TEST\ or /C/OS/TEST/ A "\" or "/" must always be entered as the last character.
RECEIVE TIMEOUT	This timeout can be extended after a connection until the ID7xx-Sys aborts and displays a fault message. The FTP server program should identify itself during this timeout. This timeout is strongly dependent upon the administrator's network load. Factory setting: 3000 ms.
TEST	Test function which establishes an FTP connection from the ID7xx-Sys to a computer. A simple character string which is to end up in a file in the target computer must be entered. The parameters of the FTP SECURITY and FTP FILE menus are used for the connection. The ID7xx-Sys reports whether or not the characters could be transferred successfully. At the latest, this is done after the receive timeout has been extended. In addition, the reply from the FTP server program is displayed in 2 receive strings.

Note

The IP address of the target computer can **not** be entered in the mastermode. For this purpose, a Telnet connection must be established by an external computer.

Additional FTP CLIENT settings

The Ethernet-ID7 interface controls a large number of parameters, only the most important of which are to be set in the mastermode of the ID7xx-Sys. Most other parameters can only be set when a Telnet connection is to be established from a computer on the network to the ID7xx-Sys. For this purpose, the Telnet program must be started on a computer within the same network segment. The number 1111 must be entered as the port.

Full access to the Ethernet-ID7 interface menus (features) is available when a Telnet connection exists between the computer and the ID7xx-Sys.

The computer displays the topmost menu level as follows:

```
*****
*           100BaseT Com-Server           *
*****
```

1. INFO System
2. SETUP System
3. SETUP Port 0 (Serial)
4. SAVE Setup

Press <No.+ ENTER> (q=quit):

It is imperative that the following parameters be set:

Parameter	Value	Description
SETUP Port 0 (serial) TCP/IP Mode FTP Client Server Port	21	Port number of the FTP protocol
SETUP Port 0 (serial) TCP/IP Mode FTP Client Server IP	This entry must be assigned by IT personnel under the administrator	IP addresses of the computer on which the FTP server program is running
SETUP Port 0 (serial) TCP/IP Mode FTP Client Special Options AUTO FTP	0	
SETUP Port 0 (serial) TCP/IP Mode FTP Client Special Options Protocol char	3	Definition of the end character
SETUP Port 0 (serial) TCP/IP Mode FTP Client Special Options Inactivity timeout	30	In seconds

Parameter	Value	Description
SETUP Port 0 (serial) TCP/IP Mode FTP Client Special Options Connection timeout	300	In seconds
SETUP Port 0 (serial) UART Setup	9600, N, 8, 1, H	Serial parameters of the internal interface

PROFIBUS-DP	Configuring Profibus-DP-ID7
SWITCH ON/OFF	Switches the function of this driver on or off.
NODE ADDRESS	Selects the desired node address from a range of 0 to 126.
OPERATING MODE	Possible settings: 4 words 8 words
TEST	Test function for testing the Profibus I/O values

ANALOG OUTPUT	Configuring the analog output
SWITCH ON/OFF	Switches the function of this driver on or off.
TEST	Test function for testing the analog output. Entered values can range from 0 to 4095.

4.6 SERVICE MODE master mode block

The service mode is used for

- entry of the parameters specific to the weighing platform,
- calibration of the scale,
- setting the linearity,
- resetting the measuring cell parameters to the factory setting.

CAUTION

The parameters which can be changed in the service mode are protected by certification. If the scale is set to certified (APPROVE in the program block SCALE), the identcode (identification code) counter will be incremented by one when the altered parameters are stored. In the case of a certified scale, this corresponds to destruction of the certification seal. Recertification of the scale is then necessary.

4.6.1 Overview of the SERVICE MODE master mode block

RETURN	Quit service mode without changing the set parameters and the identcode counter.
RESET	Reset weighing platform parameters to factory setting.
NATION	Selection of the country. This automatically takes the certification regulations of the particular country into account.
SCALE PARAMETERS	Entry of the parameters specific to the weighing platform: certifiability, type, maximum capacity and resolution.
LINEARITY	Enter or calibrate linearity.
CALIBRATION	Calibration of the weighing platform.
ADAPTION	Enter application-specific parameters.
SAVE PARAMETERS	Storage of the selected configuration.

4.6.2 Entering service mode

1. Activate master mode and select SERVICE MODE.
2. Enter code 2 4 8 16 32.

CAUTION

When the code is entered, the scale loses its calibration certification!

3. Select SCALE SERVICE MODE.
4. Select scale with analog signal output (Scale 2 or Scale 3).
The first service mode block RETURN appears.

4.6.3 Operating the service mode

Only the two keys for YES and NO are active in the service mode, the numeric keypad is not available.

Example 1: Entry of the maximum capacity 60 kg

The maximum capacity shown in the display does not correspond to the desired value. Reply with NO.

CA 150 kg

NO

0

NO

1

NO

⋮

6

YES

60

YES

600

NO

60.

SI

CA 60 kg

The digit 0 appears. Use NO to increment the first digit to the desired value.

6 is the desired 1st digit, confirm with YES.

The digit 0 appears at the 2nd place. 60 is the desired value, confirm with YES.

A further place appears, but is not needed. Reply with NO.

60. is the desired value, confirm with YES.

For a check, the value of the maximum capacity just set now reappears. Confirm with YES and proceed to the next program block.

Example 2: Entry of the resolution 0.005 kg

The resolution shown in the display does not correspond to the desired value. Reply with NO.

d 0.001 kg

NO

0

YES

00

NO

0.

YES

0.0

YES

⋮

0.000

NO

0.001

NO

⋮

0.005

YES

d 0.005 kg

The digit 0 appears, confirm with YES.

Another 0 appears before the point, but is not needed. Reply with NO.

The decimal point appears, confirm with YES.

Press YES for additional places until the number of desired decimal places is reached.

Select the desired resolution with NO.

0.005 is the desired value, confirm with YES.

For a check, the value of the resolution just set now reappears.. Confirm with YES and proceed to the next program block.

4.6.4 Settings in the service mode

RESET	Resetting to the factory setting
NO RESET	Quit the service mode block without resetting the parameters.
RESET ALL	Reset parameters specific to weighing platform to the factory setting.

SCALE PARAMETERS	Selecting the parameters specific to the weighing platform
NO W+M APPROVAL W+M APPROVE	1. Select certification capability <ul style="list-style-type: none"> • Noncertified scale • Certified scale
MULTI-RANGE MULTI-INTERVAL	2. Selecting multi-range or multi-increment scale <ul style="list-style-type: none"> • Multi-range (fixed ranges) • Multi-increment (ranges can be shifted with tare function)
1 RANGE / 1 INTERVAL 2 RANGES / 2 INTERVALS 3 RANGES / 3 INTERVALS	3. Select number of weighing ranges <ul style="list-style-type: none"> • Same resolution over entire weighing range • Two ranges with different resolution • Three ranges with different resolution
UNIT = kg UNIT = lb UNIT = g	4. Select unit <ul style="list-style-type: none"> • Display in kg • Display in lb, if allowed by metrological regulations • Display in g
CA XXX kg 0	5. Select maximum capacity <ul style="list-style-type: none"> • Maximum capacity currently set • Enter desired maximum capacity and confirm
CAP1 CA XXX kg 0	6. Define weighing ranges (with multirange or multi-increment scales only) <ul style="list-style-type: none"> • Display for information: Weighing range 1 • Value currently set for the first weighing range • Enter desired value for the first weighing range <p>With the setting 3 RANGES / 3 INTERVALS, the maximum load in the second weighing range is calculated as follows: Number of resolution points of the first area x number step of the 2nd range.</p>

SCALE PARAMETERS	Selecting the parameters specific to the weighing platform
D X.XXXX kg 0	7. Select resolution <ul style="list-style-type: none"> Resolution currently set for the first weighing range. With multi-range or multi-increment scales, the resolution of additional weighing ranges is determined automatically by the weighing terminal. Enter desired resolution for the first weighing range.
Comment	If one of the settings or their combination was inadmissible, the message ERR_Rx appears where x represents the weighing range. In this case, the program jumps back to step 1.

LINEARITY	Entering linearity
	This service mode block can be used to compensate linearity errors. The linearity is usually checked with half the maximum capacity. When half the maximum capacity is loaded on the scale in normal operation, the scale should show exactly this value. If this is not the case, note the displayed value (linearity) so that it can be entered at the appropriate place in the service mode.
ENTER LINCAP XX.XXX kg 0	1. Select linearization weight <ul style="list-style-type: none"> Display for information: Linearization weight. Linearization weight currently set, e.g. half load. Enter desired linearization weight.
RESET LINEARITY	2. Reset linearity compensation
ENTER DISPL CAP XX.XXX kg 0 CAL LINEARITY SET PRELOAD SET LINCAP UNLOAD	3. Linearization by entry of the linearity <ul style="list-style-type: none"> Display for information: Enter linearization weight. Accept displayed weight value if it matches the weight value displayed when the linearization weight was loaded. Enter weight value displayed when the linearization weight was loaded. by loading the linearization weight <ul style="list-style-type: none"> Unload scale and load preload, if used, confirm with YES. Load linearization weight selected in step 1, confirm with YES. Unload scale, confirm with YES.

CALIBRATION	Calibrating weighing platform – using geo value
	<p>If weighing platform and weighing terminal have already been matched to each other (calibrated) in the factory, the calibration can be corrected by the geo value up to a resolution of 3000 digit.</p> <p>If a higher resolution is required or if the weighing platform and weighing terminal have not been matched to each other, the calibration must be performed with external weights.</p>
GEO 00 ... GEO 31	Select appropriate geo value. You will find the value appropriate to your country in the following table.

Country		Geo value	Country		Geo value
A	Austria	19	MA	Morocco	13
AUS	Australia	12	MAL	Malaysia	5
B	Belgium	21	MEX	Mexiko	5
BR	Brazil	8	N	Norway	24
CDN	Canada	18	NL	Netherlands	21
CH	Switzerland	18	NZ	New Zealand	16
CO	Columbia	2	P	Portugal	15
D	Germany	20	PE	Peru	6
DK	Denmark	23	PRC	China	10
E	Spain	15	RA	Argentina	13
EC	Ecuador	1	RCH	Chile	12
ET	Egypt	11	RI	Indonesia	6
F	France	19	ROC	Taiwan	10
GB	Great Britain	21	ROK	South Korea	15
GR	Greece	15	S	Sweden	24
HK	Hong Kong	9	SA	Saudi Arabia	8
I	Italy	17	SF	Finland	24
IL	Israel	12	SGP	Singapore	5
IND	India	8	T	Thailand	6
IR	Iran	12	TA	Turkey	16
IRL	Ireland	22	USA	United States	16
IS	Iceland	26	YUG	Yugoslavia	18
J	Japan	14	YV	Venezuela	5
JOR	Jordan	11	ZA	South Afrika	12
KWT	Kuwait	11			

CALIBRATION	Calibrating weighing platform – with an external weight
CAL EXTERNAL	If you wish to calibrate with an external weight, confirm with YES.
SET PRELOAD --CALIBRATION--	<ul style="list-style-type: none"> • Load preload and confirm with YES. If you do not wish to calibrate the zero point, reply with NO (e.g. for the stepwise calibration of hopper scales). • The scale calibrates with preload if PRELOAD was confirmed with YES.
SET FULLCAP CA XXX KG – or – 0 --CALIBRATION--	<ul style="list-style-type: none"> • Display for information: Maximum capacity. • Prompt to load and confirm the displayed maximum capacity. – or – • Enter desired maximum capacity. • The scale calibrates with maximum capacity.
UNLOAD --CALIBRATION--	<ul style="list-style-type: none"> • Unload weighing platform and confirm with YES. This prompt appears only if PRELOAD was answered with YES. • The calibration can be aborted at this point with NO, the program then jumps to the service mode block SAVE PARAMETERS. • The scale calibrates with preload.

ADAPTION	Entry of application-specific parameters
PU DELAY XX sec	<p>1. Delay time</p> <p>Depending on the environmental conditions and loading of the scale, the system requires additional time for an exact zero-point determination.</p> <ul style="list-style-type: none"> • Enter additional delay time when switching on, max. 600 sec. factory setting: 0 sec.
PU ZERO RANGE OFF ON – XX % + XX %	<p>2. Zero-set range</p> <ul style="list-style-type: none"> • Switch off zero-set range, only for noncertified scales. With this the zero-set range can be shifted over the entire weighing range. • Activate zero-set range (factory setting) and enter limits. <ul style="list-style-type: none"> – certified: max. 20 % of weighing range factory setting: –2 % ... +18 % – noncertified over entire weighing range factory setting: –50 % ... +50 %

ADAPTION	Entry of application-specific parameters
AUTO ZERO OFF ON GROSS ONLY GROSS+NET AZM x.x d	3. Automatic zero-point correction <ul style="list-style-type: none"> • Switch off automatic zero-point correction, only with noncertified scales. • Switch on automatic zero-point correction (factory setting) <ul style="list-style-type: none"> – Automatic zero-point correction for gross value (factory setting) – Automatic zero-point correction for gross and net value – Enter range for automatic zero-point correction: 0.5 d for certified scales 0.5 d (factory setting), 1.0 d, 3.0 d for noncertified scales
ZERO ADJUST ENTER ZERO CAP XX.XXX kg CALIBRATE ZERO UNLOAD --CAL--	4. Zero-point shift via entry of weight value <ul style="list-style-type: none"> • Zero-point shift with manual entry. • Enter weight value for zero-point shift. via measuring in of pre-load <ul style="list-style-type: none"> • Zero-point shift with calibration. • Apply pre-load to scale and confirm with YES. • Scale specifies new zero point. Note Following a zero-point shift the weighing range must be checked again!
SPAN ADJ ENTER SPAN CAP XX.XXX kg ENTER SPAN DISP XX.XXX kg	5. Range adjustment <ul style="list-style-type: none"> • Prompt to enter test weight. • Enter test weight. • Prompt to enter read-off weight value. • Enter read-off weight value for test weight.

SAVE PARAMETERS	Storing the selected configuration
	The identcode counter is incremented by one. With certified scales, this corresponds to destruction of a certification seal. Recertification is then necessary.

4.6.5 Identcode counter at maximum

The identcode counter runs to 99. After this, additional certifiable configurations are not possible, the scale can be operated only in the noncertified configuration.

In this case, the following messages appear:

ERROR Acknowledge error message.

IDENT The error message then appears in clear text.

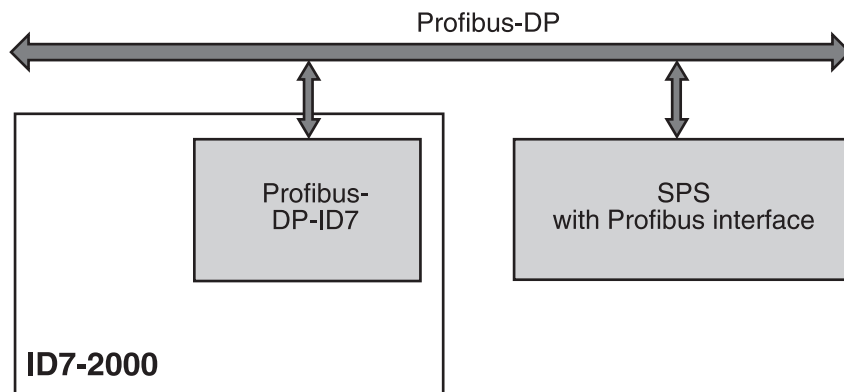
5 Interface description

5.1 Profibus-DP communication with a PLC

5.1.1 Overview

The Profibus-DP-ID7 is designed for operation as a slave on the Profibus-DP. This provides the following possibilities with a master PLC also connected to the Profibus-DP:

- Access to the weight values of the weighing platform connected to the weighing terminal
- Operation of the weighing platforms connected to the weighing terminal (zero-set, taring, setting specified tare values, etc.)
- Triggering key presses, transmitting data strings or display of texts



5.1.2 Data formats

All user data are transmitted in a compressed, up to 4/8-word long format.

The contents of the usage data is dependent upon the customer-specific ID7xx-Sys application, refer to the description of the application.

6 What to do if....?

Error / Message	Possible causes	Rectification
Display dark	<ul style="list-style-type: none"> • No line voltage • Terminal switched off • Power cable not plugged in • Momentary interference 	<ul style="list-style-type: none"> → Check power supply → Switch on terminal → Insert power plug → Switch terminal off and then on again
Weight display unstable	<ul style="list-style-type: none"> • Restless installation location • Draft • Interference between load plate and/or materials being weighed and environment • Power supply interference 	<ul style="list-style-type: none"> → Adjust vibration adapter → Block draft → Rectify interference → Check power supply
Incorrect weight display	<ul style="list-style-type: none"> • Incorrect zeroing of weighing platform • Incorrect tare value • Interference between load plate and/or materials being weighed and environment • Weighing platform tilted • Incorrect weighing platform selected 	<ul style="list-style-type: none"> → Unload weighing platform, repeat zeroing and weighing → Delete tare or enter correct tarevalue → Rectify interference → Level out weighing platform → Select correct weighing platform
IDENTCODE =	<ul style="list-style-type: none"> • Test cycle started 	<ul style="list-style-type: none"> → Complete test by pressing the ZERO-SET key
-----	<ul style="list-style-type: none"> • Load plate not in place • Pre-load not in place • Weighing range dropped below • Weighing range exceeded • Weighing platform locked 	<ul style="list-style-type: none"> → Put load plate in place → Load pre-load → Set to zero → Unload weighing platform → Release lock
SCALE ERROR	<ul style="list-style-type: none"> • Error in weighing platform 	<ul style="list-style-type: none"> → Test weighing platforms → If message appears again: Inform METTLER TOLEDO Customer Service
SCALE OVERLOAD	<ul style="list-style-type: none"> • Weighing range exceeded 	<ul style="list-style-type: none"> → Unload weighing platform
TOTAL IS NEGATIVE	<ul style="list-style-type: none"> • Total weight is negative 	<ul style="list-style-type: none"> → Unload weighing platform and set to zero
TARING ERROR	<ul style="list-style-type: none"> • Taring not possible, as total weight is negative 	<ul style="list-style-type: none"> → Unload weighing platform and set to zero, repeat taring

Error / Message	Possible causes	Rectification
SET TO ZERO ERROR	<ul style="list-style-type: none"> Zero-set range exceeded 	→ Unload weighing platform and set to zero
SCALE IN MOTION	<ul style="list-style-type: none"> Weight value does not remain constant Restless environment 	→ Wait until weighing platform shows weight value which remains constant → Ensure low-vibration environment → Check setting of vibration adapter → If message appears again: Inform METTLER TOLEDO Customer Service
SCALE NOT ZERO	<ul style="list-style-type: none"> Zero point has shifted 	→ Set to zero
PRINTER OFFLINE	<ul style="list-style-type: none"> Printer switched off 	→ Switch on printer
NO PAPER	<ul style="list-style-type: none"> No paper in printer 	→ Insert paper
PRINTER ERROR	<ul style="list-style-type: none"> General printer error 	→ Inform METTLER TOLEDO Customer Service
MEMORY CLEARED	<ul style="list-style-type: none"> New software in ID7xx-Sys, all data reset to factory setting 	–
NO ALIBI MEMORY	<ul style="list-style-type: none"> No alibi memory found 	→ Inform METTLER TOLEDO Customer Service
ALIBI VERSION < 1.5	<ul style="list-style-type: none"> Old version of ID7 alibi memory 	→ Update ID7 alibi memory
END OF FILE	<ul style="list-style-type: none"> End of file 	→ Inform METTLER TOLEDO Customer Service
ALIBI ERROR	<ul style="list-style-type: none"> Error in alibi memory 	→ Inform METTLER TOLEDO Customer Service
ETHERNET ERROR	<ul style="list-style-type: none"> Ethernet card error 	→ Inform METTLER TOLEDO Customer Service
NO SCALE FOUND	<ul style="list-style-type: none"> Round plug not plugged in correctly Load-cell cable not connected properly Not all scales connected 	→ Insert plug correctly → Inform METTLER TOLEDO Customer Service → Connect weighing platforms and/or connect mating connectors to available weighing platform connections.

Error / Message	Possible causes	Rectification
SCALE NO. ERROR	<ul style="list-style-type: none"> • Error in weighing cell • Two or more connected weighing platforms have identical scale number 	<ul style="list-style-type: none"> → Repeat test → If message appears again: Inform METTLER TOLEDO Customer Service → Inform METTLER TOLEDO Customer Service
NO CONTACT TO FTP SERVER	<ul style="list-style-type: none"> • Network connection faulty • FTP server program not installed on external computer 	<ul style="list-style-type: none"> → Rectify network connection problem → Install FTP server program
WRONG CODE	<ul style="list-style-type: none"> • Incorrect personal code • Incorrect information in FTP SECURITY or FTP FILE 	<ul style="list-style-type: none"> → Enter correct personal code → Enter permissible values for username, password, drive, directory and file name
DATABASE INIT ERROR	<ul style="list-style-type: none"> • Database could not be initialised 	<ul style="list-style-type: none"> → Inform METTLER TOLEDO Customer Service

7 Technical data and accessories

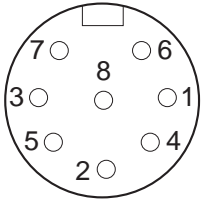
7.1 Technical data

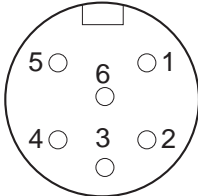
Terminal	
Display	<ul style="list-style-type: none"> • Active, brightly lit green VFD dot matrix display, with graphics capabilities, 40 x 170 pixels, display field 135 x 46 mm • BIG WEIGHT DISPLAY with 35 mm high characters • Cover of scratch-resistant, hardened, antireflection glass
Keypad	<ul style="list-style-type: none"> • Tactile-touch membrane keypad with acoustic acknowledgement • Scratch-resistant marking, 3-color • 4 keys A to D for identification data, 6 function keys with function change and info key, 4 scale function keys, numerical keypad • Alphanumeric input possible with function keys
Housing	<ul style="list-style-type: none"> • All nickel chromium steel DIN X5 CrNi 1810 • Weight: net 3.5 kg; gross 5 kg
Protection type (IEC 529, DIN 40050)	<ul style="list-style-type: none"> • Dust and water-tight as per IP68 • Resistant to high-pressure and steam jet cleaning as per IPX9K
Power supply	<ul style="list-style-type: none"> • 100 V – 240 V, +10/–15 %; 50/60 Hz • Power cable with open lead ends, length approx. 2.5 m • Power consumption approx. 70 VA
Ambient conditions as per EN 60950, EN 50021, EN 50281 and IEC 79-15	<ul style="list-style-type: none"> • Hazardous area Zone 2: Device Category II 3 G EEx nAL [L] IIC T4 • Hazardous area Zone 22: Device Category II 3 D T+70°C • Pollution degree 2 • Overvoltage category II • Maximum operating elevation in m above sea level: 2000 m
Ambient temperature	<ul style="list-style-type: none"> • Operation: –10 – +40 °C for weighing platforms of certification class III 0 – +40 °C for weighing platforms of certification class II • Storage: –25 – +60 °C
Relative humidity	20 – 80 %, non-condensing
Weighing platform connection	<p>Only weighing platforms approved for Ex Zone 2 and 22 may be connected.</p> <ul style="list-style-type: none"> • 1 IDNet connection standard for METTLER TOLEDO weighing platforms of the series K and analog scales with AWU 3/6 • 2 additional connections possible (IDNet-ID7 or Analog Scale-ID7)

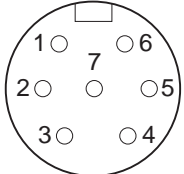
Terminal							
Interface connection	<p>1 RS232 connection standard, maximum of 5 additional interface connections possible Only peripheral devices for which it is ensured that no voltages higher than 60 V AC and 75 V AC are fed into the ID7xx-Sys may be connected to the interface connections.</p> <p>Observe maximum permissible total capacitance and total inductance of all devices connected to 5 V, see last line of this table.</p>						
Keyboard connection	<p>Standard connection for external MFII keyboard</p> <p>Observe maximum permissible total capacitance and total inductance of all devices connected to 5 V, see last line of this table.</p>						
External loading of all output voltages on ID7xx-Sys	<table> <tr> <td>Output voltage 5 V</td> <td>max. 300 mA, energy-limited</td> </tr> <tr> <td>Output voltage 12 V</td> <td>max. 200 mA</td> </tr> <tr> <td>Output voltage 24 V</td> <td>max. 100 mA</td> </tr> </table>	Output voltage 5 V	max. 300 mA, energy-limited	Output voltage 12 V	max. 200 mA	Output voltage 24 V	max. 100 mA
Output voltage 5 V	max. 300 mA, energy-limited						
Output voltage 12 V	max. 200 mA						
Output voltage 24 V	max. 100 mA						
Maximum total connected loads	<p>Maximum connected values of all external devices including cables that will be connected to 5 V</p> <ul style="list-style-type: none"> Total capacitance parallel on 5 V max. 200 μF Total inductance in series on 5 V max. 60 μH Total voltage input on 5 V max. 300 mA 						

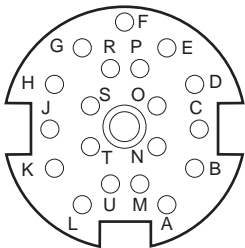
Weighing functions	
Tare compensation	At the press of a button or automatically, up to maximum load (subtractive)
Tare target value (option)	<ul style="list-style-type: none"> For single-range scales over entire weighing range (subtractive) For multi-range scales depending on national calibration regulations
Tare indicator	NET lights up with saved tare weight
Setting to zero	Automatic or manual
Stabilization detector	4-step, with motion indicator
Weighing process adapter	3-step adjustment to weighing sample
Vibration adapter	3-step adjustment to ambient conditions
Test	Test function for checking weighing platform
Info function	Display of system functions
Date and time	<ul style="list-style-type: none"> For printout or output via the data interface Quartz-controlled, 24-hour display, automatic calendar function, Europe format, protected against power failures

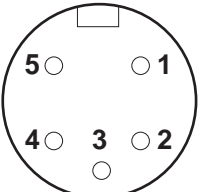
Analog Scale-ID7 analog weighing platform connection																	
Connectable weighing platforms	Strain gauge weighing platforms with Analog Scale interface approved for use in Zone 2 and Zone 22																
A/D converter	<table border="0"> <tr> <td>Resolution certified</td> <td>max. 7500 e</td> </tr> <tr> <td>Resolution non-certified</td> <td>max. 450000 d</td> </tr> <tr> <td>Strain gauge supply voltage</td> <td>8.75 V</td> </tr> <tr> <td>Minimum numerical increment (certified)</td> <td>0.58 $\mu\text{V/e}$</td> </tr> <tr> <td>Minimum numerical increment (noncertified)</td> <td>0.058 $\mu\text{V/e}$</td> </tr> <tr> <td>Max. cable length</td> <td>100 m</td> </tr> <tr> <td>Response time, typ.</td> <td>0.6 s</td> </tr> <tr> <td>Measured value change selectable</td> <td>in steps, max. 20/s</td> </tr> </table>	Resolution certified	max. 7500 e	Resolution non-certified	max. 450000 d	Strain gauge supply voltage	8.75 V	Minimum numerical increment (certified)	0.58 $\mu\text{V/e}$	Minimum numerical increment (noncertified)	0.058 $\mu\text{V/e}$	Max. cable length	100 m	Response time, typ.	0.6 s	Measured value change selectable	in steps, max. 20/s
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Response time, typ.	0.6 s																
Measured value change selectable	in steps, max. 20/s																
Other scales	<table border="0"> <tr> <td>1 – 4 350-Ω-weighing cells; 1 – 8 1000-Ω-weighing cells</td> <td></td> </tr> <tr> <td>Platform sensitivity</td> <td>0.4 – 3 mV/V</td> </tr> <tr> <td>Platform resistance</td> <td>80 – 1200 Ω</td> </tr> </table>	1 – 4 350- Ω -weighing cells; 1 – 8 1000- Ω -weighing cells		Platform sensitivity	0.4 – 3 mV/V	Platform resistance	80 – 1200 Ω										
1 – 4 350- Ω -weighing cells; 1 – 8 1000- Ω -weighing cells																	
Platform sensitivity	0.4 – 3 mV/V																
Platform resistance	80 – 1200 Ω																

Interface RS232-ID7	
Interface type	Voltage interface as per EIA RS232C/DIN 66020 (CCITT V.24/V.28)
Control signals DTR, DSR	<ul style="list-style-type: none"> • Signal level 0 (for $R_L > 3 \text{ k}\Omega$): $-3 \text{ V} - -25 \text{ V}$ (low level) • Signal level 1 (for $R_L > 3 \text{ k}\Omega$): $+3 \text{ V} - +25 \text{ V}$ (high level)
Data lines TXD, RXD	<ul style="list-style-type: none"> • Signal level 0 (for $R_L > 3 \text{ k}\Omega$): $+3 \text{ V} - +25 \text{ V}$ (high level) • Signal level 1 (for $R_L > 3 \text{ k}\Omega$): $-3 \text{ V} - -25 \text{ V}$ (low level)
Interface parameters	Operating mode full duplex Transmission type bit serial, asynchronous Transmission code ASCII Data bits 7/8 Stop bits 1/2 Parity parity even, parity odd, parity space, parity mark, no parity Baud rate 150, 300, 600, 1200, 2400, 4800, 9600, 19200 baud
Socket  External view	8-pin circular connector, socket Pin 1 Ground Pin 2 TXD, transmission line of scale Pin 3 RXD, receiving line of scale Pin 4 DTR, Data Terminal Ready Pin 5 for COM1 – COM6: +5 V, max. 250 mA (factory setting) – or – for COM2 – COM6: +12 V, max. 100 mA; for configuring of Pin 5, please contact METTLER TOLEDO Service Pin 6 Signal Ground Pin 8 DSR, Data Set Ready
Cable	<ul style="list-style-type: none"> • Shielded, stranded in pairs, max. 15 m • Cable resistance $\leq 125 \text{ }\Omega/\text{km}$ • Cable cross section $\geq 0.14 \text{ mm}^2$ • Cable capacity $\leq 130 \text{ nF}/\text{km}$
Maximum total connected loads	Maximum connected values of all external devices including cables that will be connected to 5 V <ul style="list-style-type: none"> • Total capacitance parallel on 5 V max. 200 μF • Total inductance in series on 5 V max. 60 μH • Total voltage input on 5 V max. 300 mA

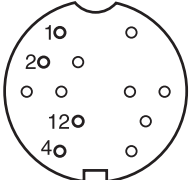
Interface RS422-ID7 / Interface RS485-ID7																													
Interface type	<ul style="list-style-type: none"> • Bidirectional differential voltage interface • Galvanic separation with optocoupler • For changing configuration Interface RS422-ID7 / Interface RS485-ID7, please contact METTLER TOLEDO Service 																												
Interface parameters	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Operating mode</td> <td>full duplex, point-to-point connection, bus</td> </tr> <tr> <td>Transmission type</td> <td>bit serial, asynchronous</td> </tr> <tr> <td>Transmission code</td> <td>ASCII</td> </tr> <tr> <td>Data bits</td> <td>7/8</td> </tr> <tr> <td>Parity</td> <td>even, odd, zero, one, none</td> </tr> <tr> <td>Baud rate</td> <td>150, 300, 600, 1200, 2400, 4800, 9600, 19200</td> </tr> </table>	Operating mode	full duplex, point-to-point connection, bus	Transmission type	bit serial, asynchronous	Transmission code	ASCII	Data bits	7/8	Parity	even, odd, zero, one, none	Baud rate	150, 300, 600, 1200, 2400, 4800, 9600, 19200																
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Socket  <p style="text-align: center;">External view</p>	6-pin circular connector, socket <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 40%; text-align: left;">RS422</th> <th style="width: 40%; text-align: left;">RS485</th> <th style="width: 10%; text-align: left;">Cable 00 204 933</th> </tr> </thead> <tbody> <tr> <td>Pin 1</td> <td>GND galvanically separated</td> <td>GND galvanically separated</td> <td>white</td> </tr> <tr> <td>Pin 2</td> <td>+5 V, max. 100 mA galvanically separated</td> <td>+5 V, max. 100 mA galvanically separated</td> <td>brown</td> </tr> <tr> <td>Pin 3</td> <td>TXD+</td> <td>TXD+ / RXD+</td> <td>green</td> </tr> <tr> <td>Pin 4</td> <td>TXD-</td> <td>TXD- / RXD-</td> <td>yellow</td> </tr> <tr> <td>Pin 5</td> <td>RXD-</td> <td>not assigned</td> <td>pink</td> </tr> <tr> <td>Pin 6</td> <td>RXD+</td> <td>not assigned</td> <td>gray</td> </tr> </tbody> </table>		RS422	RS485	Cable 00 204 933	Pin 1	GND galvanically separated	GND galvanically separated	white	Pin 2	+5 V, max. 100 mA galvanically separated	+5 V, max. 100 mA galvanically separated	brown	Pin 3	TXD+	TXD+ / RXD+	green	Pin 4	TXD-	TXD- / RXD-	yellow	Pin 5	RXD-	not assigned	pink	Pin 6	RXD+	not assigned	gray
	RS422	RS485	Cable 00 204 933																										
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Pin 4	TXD-	TXD- / RXD-	yellow																										
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Pin 6	RXD+	not assigned	gray																										
Cable	<ul style="list-style-type: none"> • Shielded, stranded in pairs, max. 1200 m • Cable resistance $\leq 125 \Omega/\text{km}$ • Cable cross section $\geq 0.14 \text{ mm}^2$ • Cable capacity $\leq 130 \text{ nF/km}$ 																												

Interface CL20mA-ID7													
Type of interface	<ul style="list-style-type: none"> • 20 mA current loop, 2 transmission loops • active or passive operation • Signal level 0: 20 mA; Signal level 1: 0 mA • electrical isolation only in passive configuration and up to $U = 30 \text{ VAC}$, $\hat{U} = 42 \text{ V}$, $U = 60 \text{ VDC}$ 												
Interface parameters	<table> <tr> <td>Operating mode</td> <td>Full duplex</td> </tr> <tr> <td>Transmission type</td> <td>bit serial, asynchronous</td> </tr> <tr> <td>Transmission code</td> <td>ASCII</td> </tr> <tr> <td>Data bits</td> <td>7/8</td> </tr> <tr> <td>Parity</td> <td>even, odd, zero, one, none</td> </tr> <tr> <td>Baud rate</td> <td>150, 300, 600, 1200, 2400, 4800, 9600, 19200</td> </tr> </table>	Operating mode	Full duplex	Transmission type	bit serial, asynchronous	Transmission code	ASCII	Data bits	7/8	Parity	even, odd, zero, one, none	Baud rate	150, 300, 600, 1200, 2400, 4800, 9600, 19200
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Data bits	7/8												
Parity	even, odd, zero, one, none												
Baud rate	150, 300, 600, 1200, 2400, 4800, 9600, 19200												
Transmission and/or reception loop passive	<p>One external power source supplies the transmission and/or reception loop</p> <table> <tr> <td>I_{\max}</td> <td>30 mA</td> </tr> <tr> <td>U_{\max}</td> <td>27 V</td> </tr> <tr> <td>Voltage range</td> <td>15 V (+10 % / -0 %)</td> </tr> <tr> <td>Current level</td> <td>18 mA – 24 mA (high level)</td> </tr> <tr> <td>Edge steepness</td> <td>2 – 20 mA/μs</td> </tr> </table> <p>For setting operating mode, please contact METTLER TOLEDO Service</p>	I_{\max}	30 mA	U_{\max}	27 V	Voltage range	15 V (+10 % / -0 %)	Current level	18 mA – 24 mA (high level)	Edge steepness	2 – 20 mA/ μs		
I_{\max}	30 mA												
U_{\max}	27 V												
Voltage range	15 V (+10 % / -0 %)												
Current level	18 mA – 24 mA (high level)												
Edge steepness	2 – 20 mA/ μs												
Transmission and/or reception loop active	<p>One internal power source supplies the transmission and/or reception loop</p> <table> <tr> <td>Voltage</td> <td>12 VDC</td> </tr> <tr> <td>Current</td> <td>adjusted to $\pm 2 \text{ mA}$, for transmission and/or reception loop</td> </tr> </table> <p>For setting operating mode, please contact METTLER TOLEDO Service</p>	Voltage	12 VDC	Current	adjusted to $\pm 2 \text{ mA}$, for transmission and/or reception loop								
Voltage	12 VDC												
Current	adjusted to $\pm 2 \text{ mA}$, for transmission and/or reception loop												
Socket  External view	<p>7-pin circular connector, socket</p> <table> <tr> <td>Pin 1</td> <td>RXD+, receiver</td> </tr> <tr> <td>Pin 2</td> <td>RXD-, receiver</td> </tr> <tr> <td>Pin 4</td> <td>TXD+, transmitter</td> </tr> <tr> <td>Pin 5</td> <td>TXD-, transmitter</td> </tr> <tr> <td>Pin 7</td> <td>Protective earth</td> </tr> </table>	Pin 1	RXD+, receiver	Pin 2	RXD-, receiver	Pin 4	TXD+, transmitter	Pin 5	TXD-, transmitter	Pin 7	Protective earth		
Pin 1	RXD+, receiver												
Pin 2	RXD-, receiver												
Pin 4	TXD+, transmitter												
Pin 5	TXD-, transmitter												
Pin 7	Protective earth												
Cable	<ul style="list-style-type: none"> • Shielded, stranded pairs • Cable resistance $\leq 125 \Omega/\text{km}$ • Cable cross section $\geq 0.14 \text{ mm}^2$ • Cable capacity $\leq 130 \text{ nF}/\text{km}$ • Max. 1000 m for baud rates up to 4800 baud • Max. 600 m for 9600 baud • Max. 300 m for 19200 baud 												

Interface 4 I/O-ID7																																					
Digital inputs/outputs	<ul style="list-style-type: none"> • 4 digital inputs, electrically isolated, $I = 5 \text{ mA}$ (internal current limiting) • 4 digital outputs, electrically isolated, open collector • $I_{\text{max}} = 20 \text{ mA}$ per output • $I_{\text{max total}} = 80 \text{ mA}$ for interface 4 I/O-ID7 																																				
Supply voltage	Internal 12 V ($I_{\text{max}} = 80 \text{ mA}$), external 5 V – 36 V																																				
Signal level	<ul style="list-style-type: none"> • Logical 0 = not supplied with current • Logical 1 = supplied with current 																																				
Socket  External view	19-pin circular connector, socket 4 I/O-ID7 Pin A, L +24 V, max. 80 mA Pin B output 1, max. 20 mA Pin C output 2, max. 20 mA Pin D output 3, max. 20 mA Pin E output 4, max. 20 mA Pin M, U 0 V Pin N input 1 Pin O input 2 Pin P input 3 Pin R input 4																																				
	<table border="0"> <thead> <tr> <th style="text-align: left;">Cable</th> <th style="text-align: left;">4-ID7 relay box</th> <th style="text-align: left;">terminal 1</th> </tr> </thead> <tbody> <tr> <td>00 504 458</td> <td></td> <td></td> </tr> <tr> <td>black</td> <td>24 V</td> <td>Pin 7, 8</td> </tr> <tr> <td>white</td> <td>OUT 0</td> <td>Pin 4</td> </tr> <tr> <td>brown</td> <td>OUT 1</td> <td>Pin 3</td> </tr> <tr> <td>green</td> <td>OUT 2</td> <td>Pin 2</td> </tr> <tr> <td>yellow</td> <td>OUT 3</td> <td>Pin 1</td> </tr> <tr> <td>violet</td> <td>0 V</td> <td>Pin 5, 6</td> </tr> <tr> <td>gray/pink</td> <td>IN 0</td> <td>Pin 12</td> </tr> <tr> <td>red/blue</td> <td>IN 1</td> <td>Pin 11</td> </tr> <tr> <td>white/green</td> <td>IN 2</td> <td>Pin 10</td> </tr> <tr> <td>brown/green</td> <td>IN 3</td> <td>Pin 9</td> </tr> </tbody> </table>	Cable	4-ID7 relay box	terminal 1	00 504 458			black	24 V	Pin 7, 8	white	OUT 0	Pin 4	brown	OUT 1	Pin 3	green	OUT 2	Pin 2	yellow	OUT 3	Pin 1	violet	0 V	Pin 5, 6	gray/pink	IN 0	Pin 12	red/blue	IN 1	Pin 11	white/green	IN 2	Pin 10	brown/green	IN 3	Pin 9
Cable	4-ID7 relay box	terminal 1																																			
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white/green	IN 2	Pin 10																																			
brown/green	IN 3	Pin 9																																			
Total load of all outputs voltages	Max. 80 mA																																				
Cable	<ul style="list-style-type: none"> • 16 wires • Cross section 0.25 mm^2 • Max. cable length 10 m 																																				

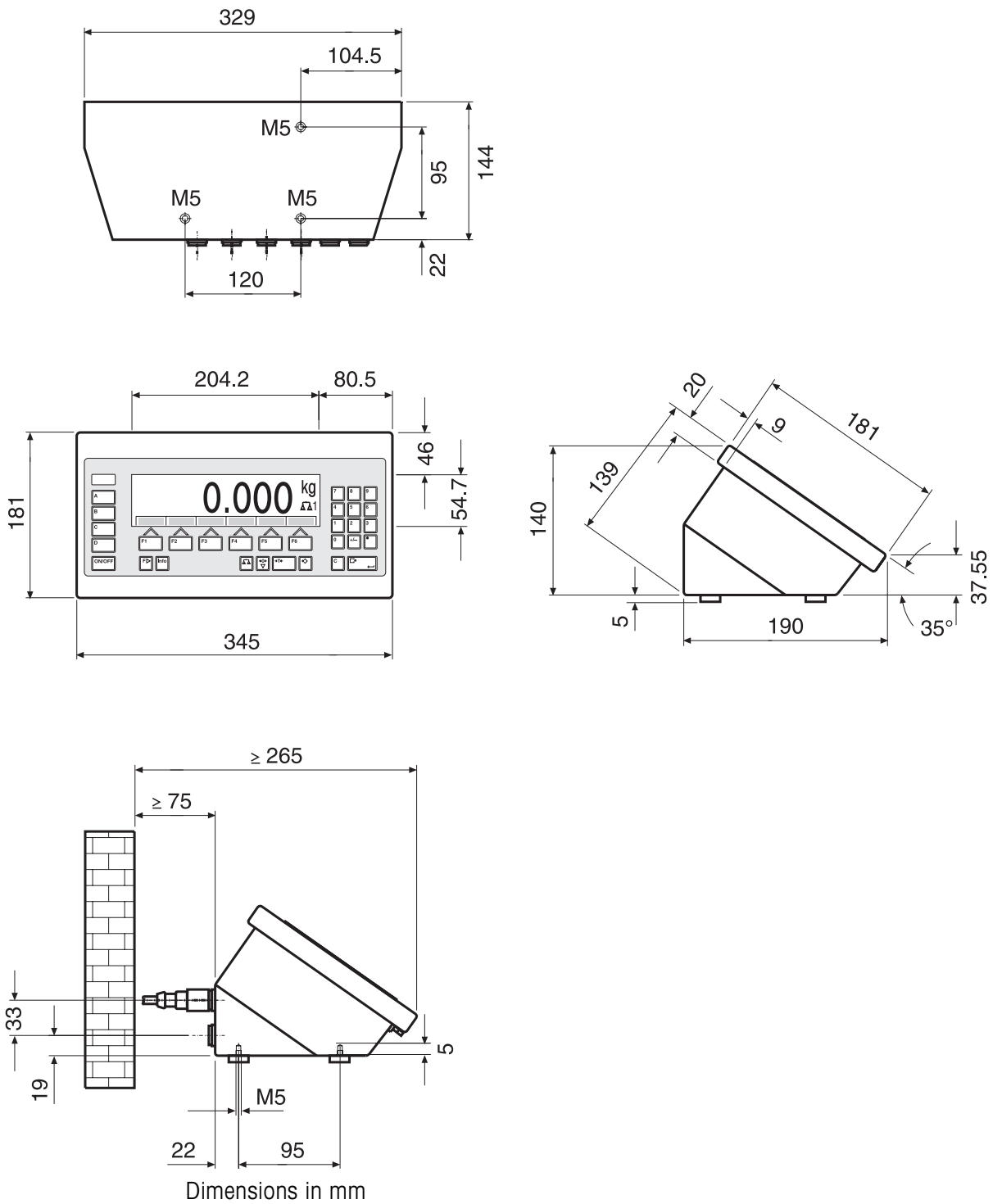
Interface Analog Output-ID7																					
Digital-Analog converter	For outputting analog direct voltage or DC current signals																				
Analog voltage output	V_{out} 0 – 10 V (4095 Parts) Start and stop value of output voltage and output weight value freely selectable R_{Vout} >10 k Ω Cable max. 10 m																				
Analog current output	I_{out} 0 – 20 mA (4095 Parts) 4 – 20 mA (3275 Parts) Start and stop value of output current and output weight value freely selectable R_{Iout} <250 Ω Cable max. 50 m																				
Characteristics	Resolution 12-bit Accuracy +/- 1 % (current/voltage) Update rate 5 per second																				
Application	All data present in a valid weight unit can be used as a data basis for the analog output.																				
Socket	5-pin circular connector, socket <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  <p>External view</p> </div> <div> <p>Analog Output-ID7</p> <table border="0"> <tr> <td>Pin 1</td> <td>V out</td> <td>analog output voltage</td> <td>Wire colors green</td> </tr> <tr> <td>Pin 2</td> <td>0 V (V out)</td> <td>reference potential</td> <td>yellow</td> </tr> <tr> <td>Pin 3</td> <td>I out +</td> <td>analog current output, positive</td> <td>brown</td> </tr> <tr> <td>Pin 4</td> <td>I out -</td> <td>analog current output, negative</td> <td>pink</td> </tr> <tr> <td>Pin 5</td> <td>0 V(V out)</td> <td>reference potential</td> <td>white</td> </tr> </table> </div> <div style="text-align: right;"> <p>Cable 00 204 930</p> </div> </div>	Pin 1	V out	analog output voltage	Wire colors green	Pin 2	0 V (V out)	reference potential	yellow	Pin 3	I out +	analog current output, positive	brown	Pin 4	I out -	analog current output, negative	pink	Pin 5	0 V(V out)	reference potential	white
Pin 1	V out	analog output voltage	Wire colors green																		
Pin 2	0 V (V out)	reference potential	yellow																		
Pin 3	I out +	analog current output, positive	brown																		
Pin 4	I out -	analog current output, negative	pink																		
Pin 5	0 V(V out)	reference potential	white																		

Alibi Memory-ID7	
Storage of certification-relevant weighing data	<ul style="list-style-type: none"> • Paperless archiving of certification-relevant weighing data • Capacity: 580,159 data records with net weight, tare weight, date and time • Convenient search function • Ring data buffer which overwrites the oldest data record when the memory capacity is exceeded

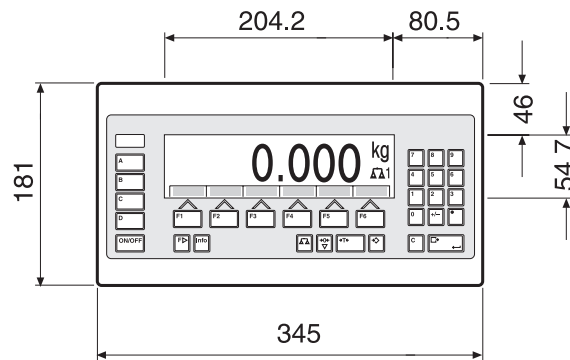
Ethernet-ID7	
I/O Com server	See enclosed documentation of manufacturer
Socket  External view	16-pin circular connector, socket Pin 1 TX+ Pin 2 TX- Pin 4 RX- Pin 12 RX+

Profibus-DP-ID7 field bus module	
Connection to field bus	<ul style="list-style-type: none"> • RS485-DP connection via removable Mini-Combicon terminal bar • 2 EMC cable entry fittings for incoming or outgoing field bus cable with a diameter of 7 – 10 mm, strain relief 100 N.
Baud rate	Up to 12 Mbit/s
Matching resistor	Connectable via 3 DIP switches
Node address	Adjustable to between 0 and 126 in mastermode Factory setting: 126
Date width	<ul style="list-style-type: none"> • 2 IN and 2 OUT words, consistent for 2 words • 4 IN and 4 OUT words, consistent for 2 words • 8 IN and 8 OUT words, consistent for 1 word
Status displays	4 status LEDs provide information on operating state

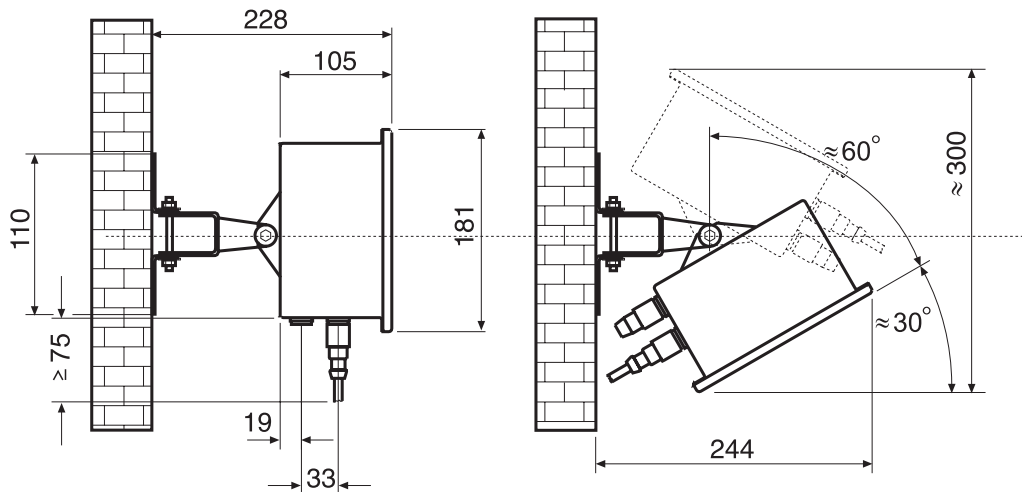
Dimensions ID7xx-Desk



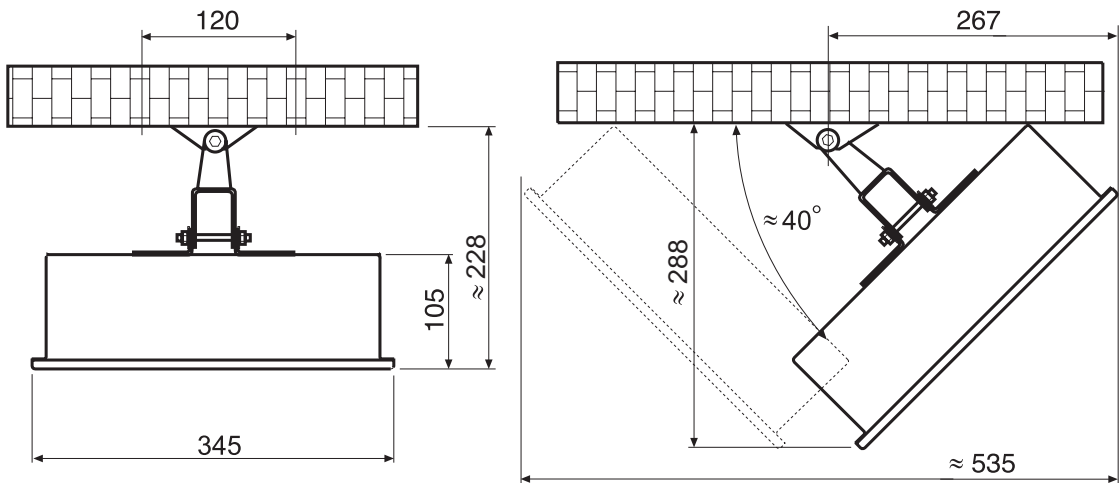
Dimensions ID7xx-Wall



Side view

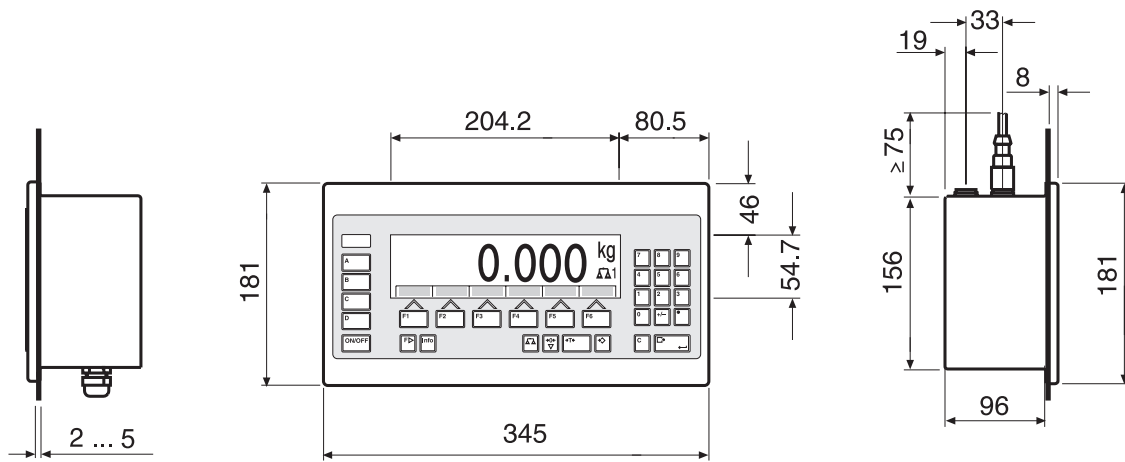


View from above

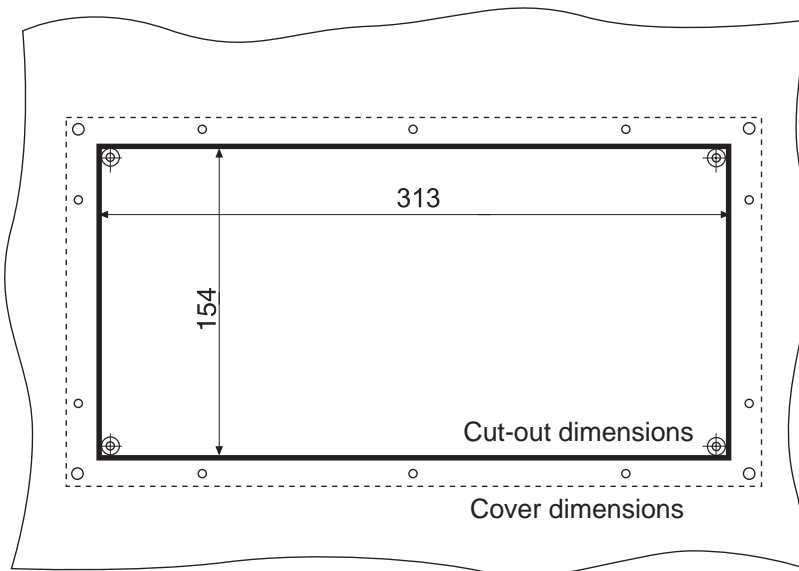


Dimensions in mm

Dimensions ID7xx-Panel



Cut-out on switch cabinet



Dimensions in mm

7.2 Accessories

Weighing platform connections		Order No.
IDNet ID7	<ul style="list-style-type: none"> • Connection for an IDNet weighing platform • Max. of 2 additional connections possible 	22 001 082
Analog Scale ID7	<ul style="list-style-type: none"> • Connection for a weighing platform with an analog signal output • Max. of 2 additional connections possible 	22 001 083

Serial data interfaces		Order No.
CL20mA-ID7	CL 20 mA interface	22 001 084
Accessories for CL20mA-ID7	CL cable, 3 m	00 503 749
	Mating connector, 7-pin	00 503 745
	Second-display cable CL20mA-ID7 – ID1 Plus/ID3s/ID7, 10 m	00 504 511
	Extension cable for second display, 10-pin, 10 m	00 504 134
RS232-ID7	RS232 interface	22 001 085
Accessories for RS232-ID7	RS232 cable/DTE, 3 m	00 503 754
	RS232 cable/DCE, 3 m	00 503 755
	RS232 cable/PC, 3 m	00 504 374
	RS232 cable/9-pin, 3 m	00 504 376
	Mating connector, 8-pin	00 503 756
RS422-ID7	RS422 interface, electrically isolated	22 003 031
RS485-ID7	RS485 interface, electrically isolated	22 001 086
Accessories for RS422-ID7/RS485-ID7	RS422/485 cable, 6-pin, open end, 3 m	00 204 933
	Mating connector, 6-pin	00 204 866
	Extension cable, 10 m	00 204 847
8-ID7 relay box	8 digital inputs, 8 digital outputs, for connection to RS485-ID7 Only operate in non-hazardous area!	22 001 089
Accessories for 8-ID7 relay box	RS422/485 cable, 6-pin, open end, 3 m	00 204 933
	Power supply unit for 8-ID7 relay box, 24 V DC	00 505 544
	Extension cable, 10 m	00 204 847

Digital inputs/outputs		Order No.
4 I/O-ID7	4 digital inputs, 4 digital outputs	22 001 087
4-ID7 relay box	Relay box for 4 I/O-ID7; 4 digital inputs, 4 digital outputs, for connection to 4 I/O-ID7 Only operate in non-hazardous area!	22 001 088
Accessories for 4-ID7 relay box	Cable for 4 I/O-ID7, 19-pin, open end, 10 m Mating connector, 19-pin	00 504 458 00 504 461

Digital/analog interface		Order No.
Analog Output-ID7	Digital/analog output 0 – 10 V, 0 – 20 mA or 4 – 20 mA	22 001 090
Accessories for Analog Output-ID7	Cable for Analog Output-ID7, 5-pin, 3 m Mating connector, 5-pin	00 204 930 00 205 538

Alibi memory		Order No.
Alibi Memory-ID7	Paperless archiving of certification-relevant weighing data	22 001 663

Network connections		Order No.
Ethernet ID7	Network card	22 003 694
Connection cable for ID7 to Ethernet network	Twisted-pair cable, 16-pin, RJ45 5 m	00 205 247
	Twisted-pair cable, 16-pin, RJ45 20 m	00 208 152
Profibus-DP-ID7	Field bus card	22 004 940

Printer		Order No.
GA46	Printer in separate tabletop housing of nickel chromium steel, protection type IP21 Printing of weighing data and barcodes on 62 mm wide thermal paper Interface RS232, cable approx. 2.5 m For technical details see data sheet GA46 Only operate in non-hazardous area!	00 505 471
GA46/0.4 m	As for GA46, however with 0.4 m cable Only operate in non-hazardous area!	00 507 229
GA46-W	As for GA46, however with integrated paper winding device and transparent PVC cover Protection type IP65 Only operate in non-hazardous area!	00 505 799
GA46-W/0.4 m	As for GA46-W, however with 0.4 m cable Only operate in non-hazardous area!	00 507 230
Accessories for GA46	Protective cover for GA46	00 507 224

External keypad		Order No.
AK-MFII	Compact, alphanumeric membrane keypad for connection to the standard-equipment 5-pin MFII circular connector Housing of all nickel chromium steel, protection type IP65 Dimensions (W x D x H): 380 mm x 158 mm x 30 mm Cable approx. 1 m Only approved for Zone 2!	00 505 490

8 Appendix

8.1 ASCII table

hex	deci	ASCII US	hex	deci	ASCII US	hex	deci	ASCII US	hex	deci	ASCII US	hex	deci	ASCII US
00	0	NUL	34	52	4	68	104	h	9C	156	ᄀ	D0	208	⌚
01	1	SOH	35	53	5	69	105	i	9D	157	₩	D1	209	⌛
02	2	STX	36	54	6	6A	106	j	9E	158	ℳ	D2	210	⌜
03	3	ETX	37	55	7	6B	107	k	9F	159	f	D3	211	⌝
04	4	EOT	38	56	8	6C	108	l	A0	160	á	D4	212	⌞
05	5	ENQ	39	57	9	6D	109	m	A1	161	í	D5	213	⌟
06	6	ACK	3A	58	:	6E	110	n	A2	162	ó	D6	214	⌠
07	7	BEL	3B	59	;	6F	111	o	A3	163	ú	D7	215	⌡
08	8	BS	3C	60	<	70	112	p	A4	164	ñ	D8	216	⌢
09	9	HT	3D	61	=	71	113	q	A5	165	Ñ	D9	217	⌣
0A	10	LF	3E	62	>	72	114	r	A6	166	ª	DA	218	⌤
0B	11	VT	3F	63	?	73	115	s	A7	167	º	DB	219	■
0C	12	FF	40	64	@	74	116	t	A8	168	¿	DC	220	■
0D	13	CR	41	65	A	75	117	u	A9	169	ƒ	DD	221	■
0E	14	SO	42	66	B	76	118	v	AA	170	¬	DE	222	■
0F	15	SI	43	67	C	77	119	w	AB	171	½	DF	223	■
10	16	DLE	44	68	D	78	120	x	AC	172	¼	E0	224	α
11	17	DC1	45	69	E	79	121	y	AD	173	ı	E1	225	β
12	18	DC2	46	70	F	7A	122	z	AE	174	«	E2	226	Γ
13	19	DC3	47	71	G	7B	123	{	AF	175	»	E3	227	Π
14	20	DC4	48	72	H	7C	124	|	B0	176	⋯	E4	228	Σ
15	21	NAK	49	73	I	7D	125	}	B1	177	⋯	E5	229	σ
16	22	SYN	4A	74	J	7E	126	~	B2	178	⋯	E6	230	μ
17	23	ETB	4B	75	K	7F	127	⏏	B3	179	|	E7	231	τ
18	24	CAN	4C	76	L	80	128	reserved	B4	180	|	E8	232	φ
19	25	EM	4D	77	M	81	129	ü	B5	181	|	E9	233	θ
1A	26	SUB	4E	78	N	82	130	é	B6	182	|	EA	234	Ω
1B	27	ESC	4F	79	O	83	131	â	B7	183	|	EB	235	ø
1C	28	FS	50	80	P	84	132	ä	B8	184	|	EC	236	∞
1D	29	GS	51	81	Q	85	133	à	B9	185	|	ED	237	∅
1E	30	RS	52	82	R	86	134	ã	BA	186	|	EE	238	ε
1F	31	US	53	83	S	87	135	ç	BB	187	|	EF	239	∩
20	32	SP	54	84	T	88	136	ê	BC	188	|	FO	240	≡
21	33	!	55	85	U	89	137	ë	BD	189	|	F1	241	±
22	34	"	56	86	V	8A	138	è	BE	190	|	F2	242	≥
23	35	#	57	87	W	8B	139	ï	BF	191	|	F3	243	≤
24	36	\$	58	88	X	8C	140	î	C0	192	|	F4	244	[
25	37	%	59	89	Y	8D	141	ì	C1	193	|	F5	245]
26	38	&	5A	90	Z	8E	142	Ä	C2	194	|	F6	246	÷
27	39	^	5B	91	[	8F	143	Å	C3	195	|	F7	247	≈
28	40	(	5C	92	\	90	144	É	C4	196	|	F8	248	°
29	41	)	5D	93	]	91	145	æ	C5	197	|	F9	249	•
2A	42	*	5E	94	^	92	146	Æ	C6	198	|	FA	250	•
2B	43	+	5F	95	~	93	147	ô	C7	199	|	FB	251	√
2C	44	,	60	96	,	94	148	ö	C8	200	|	FC	252	n
2D	45	-	61	97	a	95	149	ò	C9	201	|	FD	253	²
2E	46	.	62	98	b	96	150	û	CA	202	|	FE	254	.
2F	47	/	63	99	c	97	151	ù	CB	203	|	FF	255	.
30	48	0	64	100	d	98	152	ÿ	CC	204	|			
31	49	1	65	101	e	99	153	Ö	CD	205	|			
32	50	2	66	102	f	9A	154	Ü	CE	206	|			
33	51	3	67	103	g	9B	155	ç	CF	207	|			

8.2 Test protocols

	Device	Date	Pressure value after 80 s (in mbar)	Signature (Name)
First startup				
Control tests				

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