
Operating instructions

Electric drum scales

for chlorine drums

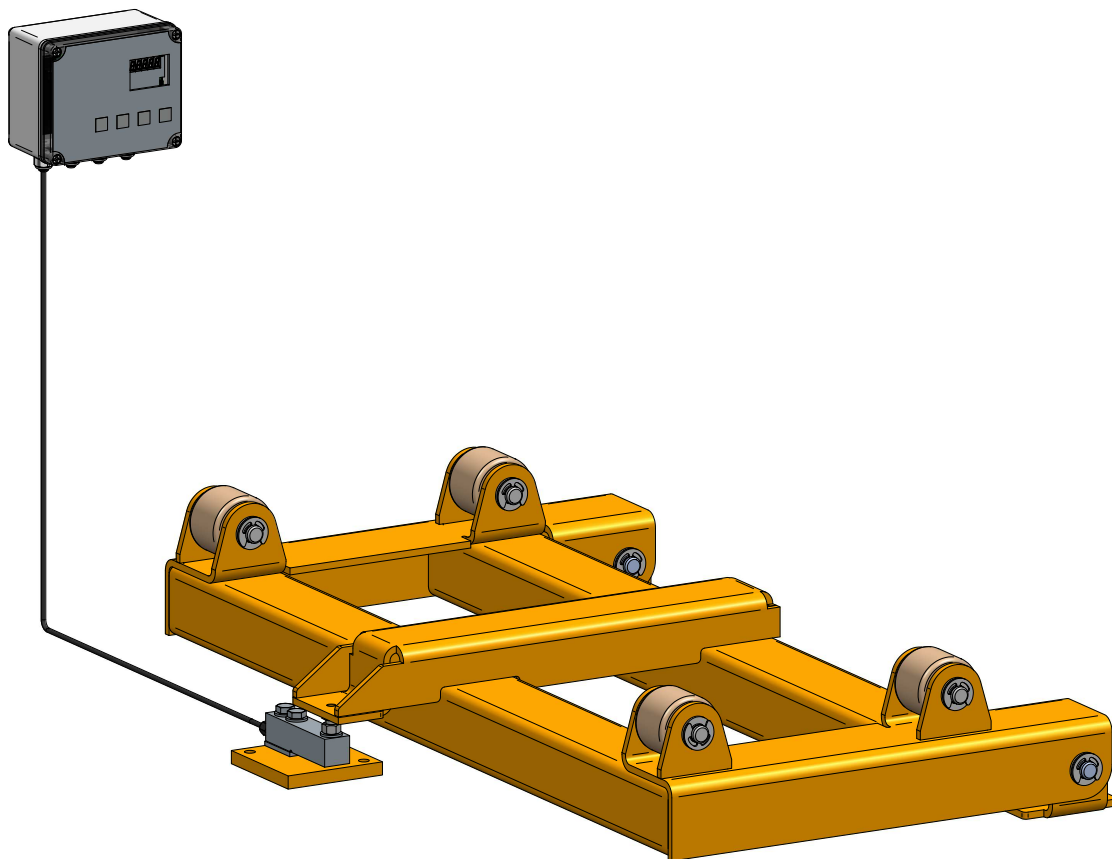


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1 About these operating instructions

This document:

- Is part of the product.
- Describes the safe and correct use of the product in all operating phases.
- Must be read completely before the product is commissioned.
- Must be read and applied by every person tasked with working on the product.
- Must be kept for the duration of the service life of the product.
- Must be passed on to any subsequent owner of the product.

1.1 Target groups

Target group	Task
Operator	1. Keep these operating instructions available at the place of use of the product, including for later use. 2. Instruct employees to read and comply with these instructions, especially the safety instructions and warnings. 3. Comply with additional system-related specifications and regulations.
Qualified personnel Qualified electrician Trained person	► Read, observe and follow these operating instructions, in particular the safety instructions and warnings.

Table 1: Target groups and their tasks

1.2 General non-discrimination

For better readability, these operating instructions always use the masculine form when referring to persons. However, all genders are addressed equally.

1.3 Warnings

Warnings are intended to help you recognise risks and avoid negative consequences. They are structured as follows in these operating instructions:

Warning sign

SIGNAL WORD

Type and source of danger

Consequences of non-compliance

► A safety precaution to be taken to eliminate the hazard.

Fig. 1: Design of warnings

Signal words

These operating instructions use the following signal words to emphasise the severity of possible injuries if the danger is ignored:

DANGER

Imminent danger

Non-compliance can result in death or serious injury.

WARNING

Possible danger

Non-compliance can lead to death or severe injuries.

CAUTION

Potentially hazardous situation

Non-compliance can result in minor injuries.

NOTE

Potentially hazardous situation

Non-compliance can result in damage to property or malfunctions.

INFORMATION

Information or recommendation

Simplifies handling or extends the service life of the product or system.

Warning signs used

These operating instructions use the following warning signs to indicate the type and source of danger:

General hazard

Danger of electric shock

Danger of crushing

Risk of machine damage or malfunction

1.4 Action steps

Action steps are structured as follows:

- ✓ This prerequisite must be met before you can start with the action steps.

- ▶ Single step

Multiple steps in sequence are structured as follows:

1. First step
 2. Second step
 - ↳ Intermediate result of a step
- 📌 Overall result

1.5 Cross-references

Cross-references are marked with an arrow.

Example: (→ Fig. 5)

1.6 Latest version

Please find the latest version of these operating instructions at www.lutz-jesco.com.

1.7 Copyright

The content of these operating instructions and the images contained in them are subject to the copyright protection of Lutz-Jesco GmbH.

2 Safety

2.1 General warnings

The following warnings are intended to help you eliminate the dangers that can arise while handling the product. Risk prevention measures always apply regardless of any specific action.

Safety instructions that warn against risks arising from specific activities or situations can be found in the respective sub-sections.



DANGER

Mortal danger from electric shock!

Wrongly connected or located cables or damaged ones can injure you.

- ▶ Connect the device only to a SCHUKO socket outlet protected by a ground fault circuit interrupter (GFCI).
- ▶ Replace damaged cables without delay.
- ▶ Do not use extension cables.
- ▶ Do not bury cables.
- ▶ Secure cables to avoid damage caused by other equipment.



CAUTION

Danger of crushing!

The device is extremely heavy. Failure to take adequate safety precautions and to act with caution during transportation, installation and when positioning drums can lead to limbs being crushed.

- ▶ Transport the device and the drums using a floor conveyor that is suitable for the load, such as a pallet truck, forklift truck or crane.
- ▶ Wear safety shoes while transporting the device.



CAUTION

Increased risk of accidents due to insufficient qualification of personnel!

The device and the accessories may only be installed, operated and maintained by personnel with sufficient qualifications. Insufficient qualification will increase the risk of accidents.

- ▶ Ensure that all action is taken only by personnel with sufficient and corresponding qualifications.
- ▶ Prevent unauthorised persons from accessing the device.

2.2 Hazards due to non-compliance with the safety instructions

Failure to follow the safety instructions may endanger not only persons, but also the environment and the equipment.

The specific consequences can be:

- Failure of important functions of the product and the associated system
- Failure of required maintenance and repair methods
- Danger to persons
- Danger to the environment caused by leaking substances

2.3 Working in a safety-conscious manner

In addition to the safety instructions specified in these operating instructions, you must comply with additional safety regulations:

- Accident prevention regulations
- Safety and operating provisions
- Safety provisions for handling dangerous substances (particularly the safety data sheets of the dosing media)
- Environmental protection provisions
- Applicable standards and legislation

2.4 Personal protective equipment

Based on the degree of risk and the type of work you are carrying out, you must use corresponding personal protective equipment. Read the Accident Prevention Regulations and the Safety Data Sheets for the dosing media to find out what protective equipment you need.

The following protective equipment is recommended as a minimum:



Respirator mask



Protective clothing



Protective gloves



Safety shoes

Table 2: Protective equipment required

Wear the protective equipment when performing the following tasks:

- Commissioning
- All work on gas-bearing system parts
- Replacing the supply tanks
- Shut-down
- Maintenance work
- Disposal

2.5 Personnel qualification

Any personnel who work on the product must have special knowledge and skills.

Anybody who works with the product must meet the conditions below:

- Attendance at all the training courses offered by the owner
- Personal suitability for the respective activity
- Sufficient qualification for the respective activity
- Training into the handling of the device
- Knowledge of safety equipment and the way this equipment functions
- Knowledge of these operating instructions, particularly the safety instructions and sections relevant for the activity
- Knowledge of fundamental regulations regarding health and safety and accident prevention

All persons must have one of the following minimum qualifications:

- Trained as a specialist to work independently with the product
- Sufficient training to work on the product under the supervision and guidance of a qualified specialist

These operating instructions differentiate between the following user groups:

Qualified personnel

Thanks to their professional training, knowledge, experience and knowledge of the relevant specifications, qualified personnel are able to perform the job allocated to them and recognise and/or eliminate any possible dangers by themselves.

Trained electricians

Due to their professional training, knowledge and experience as well as knowledge of specific standards and provisions, trained electricians are able to do the electrical work assigned to them and to recognise and avoid any potential dangers by themselves.

They are specially trained for their specific working environment and are familiar with relevant standards and provisions.

They must comply with the legally binding regulations on accident prevention.

Trained persons

Trained persons have received training from the operator about the tasks they are to perform and about the dangers stemming from improper behaviour.

Trained persons have attended all trainings offered by the operator.

Qualification	Activities
Qualified personnel	• Installation • Commissioning • Operation • Shut-down • Troubleshooting • Maintenance • Repairs • Disposal
Trained electricians	• Electrical installation • Elimination of electrical faults • Electrical repairs
Trained persons	• Storage • Transportation • Operation • Troubleshooting

Table 3: Personnel tasks

2.5.1 Personnel tasks

Incorrect handling of the product can cause severe personal injury and damage to property. Therefore, ensure that all work is carried out by qualified personnel only.

The following table shows which qualifications are required for the corresponding activities.

3 Intended use

3.1 Notes on product warranty

Any non-designated use of the product can compromise its function or intended protection. This leads to invalidation of any warranty claims!

Please note that liability is on the side of the user in the following cases:

- The product is operated in a manner that is not consistent with these operating instructions, particularly the safety information, action steps and the intended use.
- Information on usage and environment is not adhered to.
- People operate the product who are not adequately qualified to carry out their respective activities.
- No original spare parts or accessories of Lutz-Jesco GmbH are used.
- Unauthorised changes are made to the product by the user.
- Maintenance and inspection intervals are not adhered to as required or not adhered to at all.

3.2 Intended purpose

The drum scales are intended exclusively for determining the weight of horizontally positioned drums, e.g. chlorine drums.

3.3 Foreseeable misuse

The following information describes the non-intended use of the device or associated equipment. This section is intended to allow you to detect possible misuse in advance and to avoid it.

Foreseeable misuse is assigned to the individual phases of the product's life cycle:

Incorrect assembly

- Attaching the weighing frame or digital display to an unsuitable foundation
- Faulty alignment/levelling of the weighing frame
- Inadequately secured signal and current lines
- Inadequate attachment of the device components

Incorrect electrical installation

- Connecting the mains voltage without a protective earth
- Unsecured mains or one that does not conform to standards
- Not possible to immediately or easily disconnect the power supply
- Wrong connecting cables for mains voltage
- Protective earth removed

Incorrect commissioning

- Start-up with damaged system
- Personnel was not informed before the start-up

- Recommissioning after maintenance work without restoring all of the protective equipment and fixtures etc.
- Inadequate protective clothing or none at all
- Inadequate calibration or none at all
- Improper positioning of the drum on the weighing frame

Incorrect operation

- Protective equipment not functioning correctly or dismantled
- Unauthorised modification of the device
- Ignoring operational disturbances
- Elimination of operational disturbances by personnel without adequate qualifications
- Deposits on moving parts due to insufficient cleaning
- Bridging the external fuse
- Operation made more difficult due to inadequate lighting and/or poor access
- Operation not possible due to dirty or illegible display on the device
- Exceeding the maximum load capacity of the load cell
- Inadequate protective clothing or none at all

Incorrect maintenance

- Carrying out maintenance during ongoing operation
- Carrying out work that is not described in the operating instructions
- No adequate or regular inspection of correct functioning
- No replacement of damaged parts or cables with inadequate insulation
- Inadequate cleaning of the system
- Detergents left in system parts
- Using the wrong spare parts
- Installing spare parts without following the instructions in the operating instructions
- Pulling off system parts or cables
- Paint damage or corrosion not repaired or rectified
- Non-compliance with the safety data sheets
- Inadequate protective clothing or none at all

Incorrect decommissioning

- Device not disconnected from the power supply
- Using the wrong dismantling tools
- Inadequate protective clothing or none at all

Incorrect disposal

- No proper disposal of device components and of replacement parts

4 Product description

4.1 Scope of delivery

Please compare the delivery note with the scope of delivery. The scope of delivery includes:

- Weighing frame consisting of frame and assembly feet
- Digital display with 10 m signal cable for connection to the weighing unit
- Weighing unit on mounting plate with 3 m cable
- Installation material for the frame and the digital display
- Operating instructions (drum scales, digital display)

4.2 Structure of the device

Drum scales for 1 drum

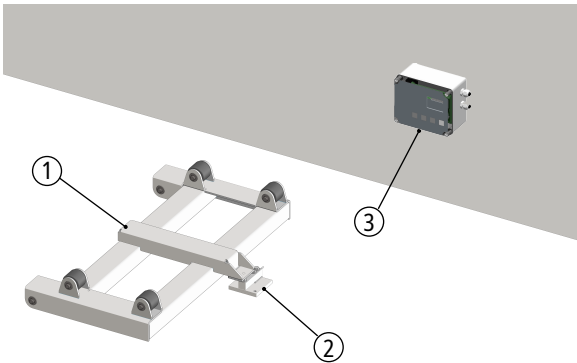


Fig. 2: Drum scales for 1 drum

1 Weighing frame for 1 drum	2 Weighing unit
3 Digital display	

Drum scales for 2 drums

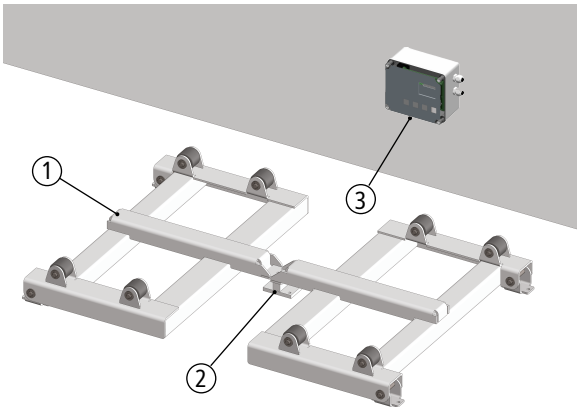


Fig. 3: Drum scales for 2 drums

1 Weighing frame for 2 x 1 drum	2 Weighing unit
3 Digital display	

4.3 Function description

The drum scales are a device for determining the weight of horizontally positioned cylindrical drums. It consists of the weighing frame, weighing unit and digital display components. The weight is determined by a weighing unit and converted into an electric signal. The measured value is shown numerically on the digital display.

The digital display can issue an alarm signal if a minimum value is not met. A 4–20 mA analogue output also allows remote monitoring of the weight data.

4.4 Rating plate

The rating plate clearly identifies the product and provides important information such as the manufacturer, product designation, year of manufacture and technical and safety-relevant data. The rating plate must be kept legible for the duration of the service life of the product.

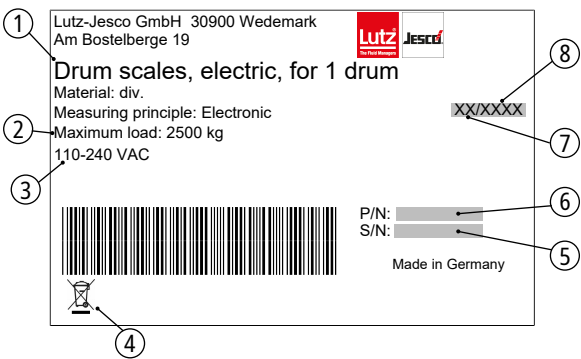


Fig. 4: Drum scales rating plate

1 Product name	2 Maximum load
3 Power supply	4 WEEE label
5 Serial number	6 Part number
7 Month of manufacture	8 Year of manufacture

5 Technical data

Description	Value
Maximum gross load (drum)	Max. 2500 kg
Drum dimensions	Ø750–860 mm, L = min. 1200 mm
Weighing range	0 – 2500 kg
Accuracy	< 0.01% full scale
Unit of measurement	Configurable (e.g. kg)
Operating voltage	85–264 V AC 50/60 Hz, 15.2 W
Load cell	Installed on a mounting plate
Signal line	2-part, 13 m total length
Limit switch	2 pieces max. 115 V AC / 60 mA
Input	2 x digital inputs 5–24 V DC PNP
Output	0–20 mA / 4–20 mA at max. 300 Ω or 0–10 V DC / 0–5 V DC at min. 10 kΩ
Protection class	IP67
Ambient temperature	0–50 °C
Dimensions	→ Dimensions [► 12]
Weight	Load cell on base plate: 2.9 kg
	Digital display: approx. 1.5 kg
	Base frame (1 drum/2 drums): 60 kg/120 kg

Table 4: Technical data

6 Dimensions

All dimensions in millimetres (mm).

Digital display

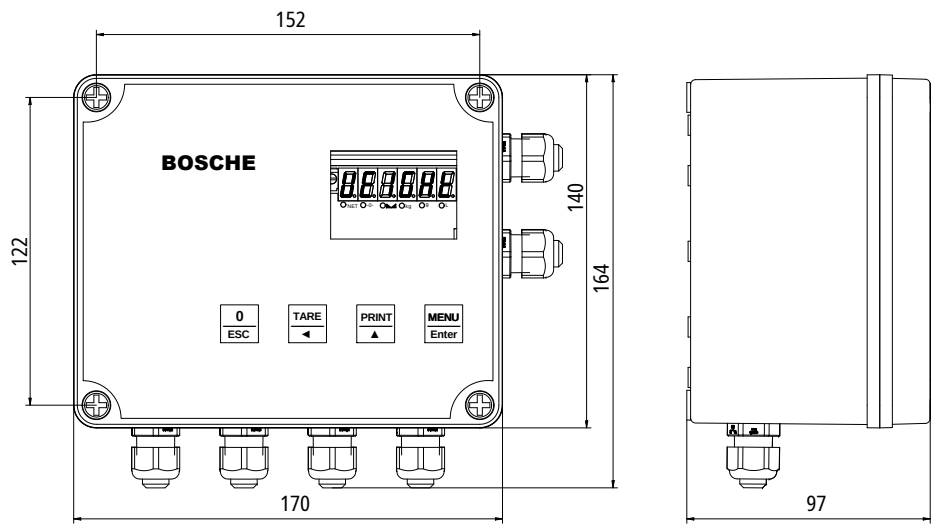


Fig. 5: Dimensions of the digital display

Drum scales

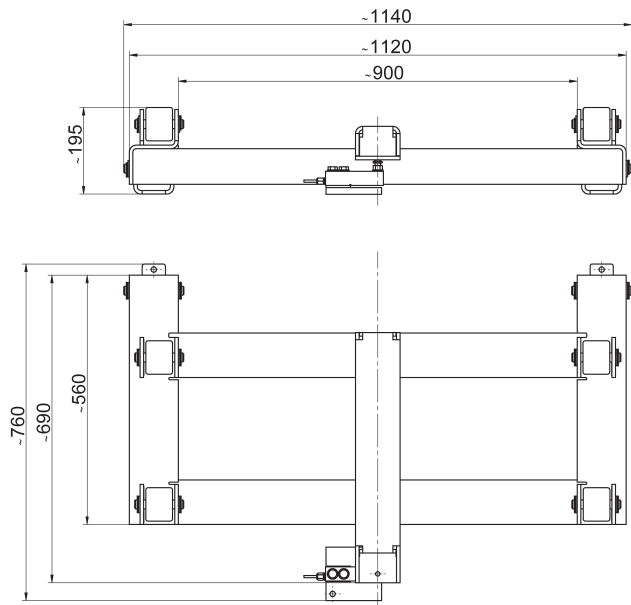


Fig. 6: Dimensions of the drum scales

Drum scales for 2 drums

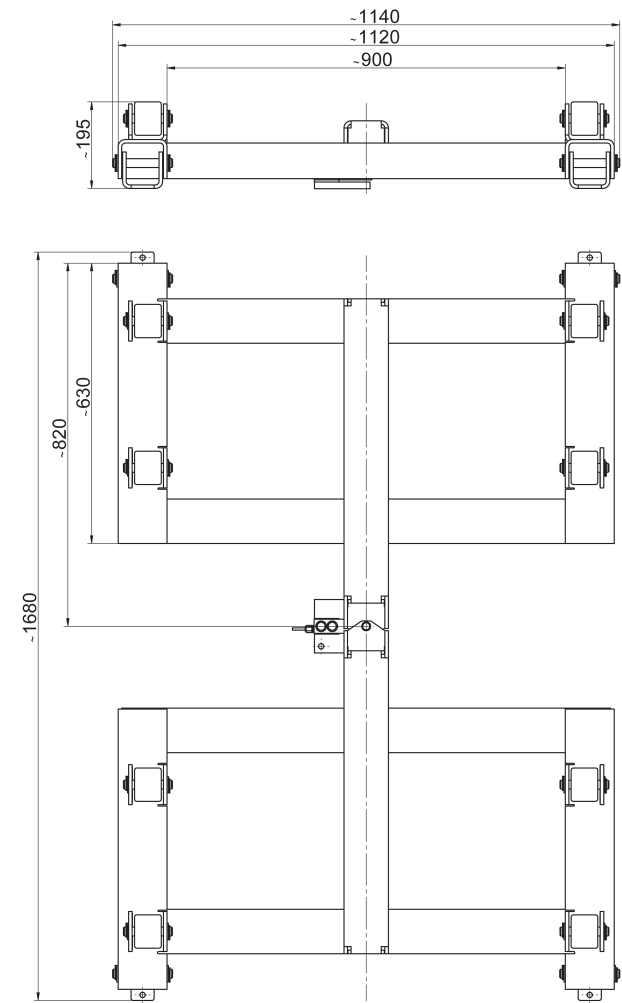


Fig. 7: Dimensions of the drum scales for 2 drums

7 Installation



WARNING

Increased risk of accidents due to insufficient qualification of personnel!

Only sufficiently qualified personnel may install, operate and maintain the product and its accessories. Insufficient qualification will increase the risk of accidents.

- ▶ Ensure that all action is taken only by personnel with sufficient and corresponding qualifications.
- ▶ Prevent access to the system for unauthorised persons.



WARNING

Danger of personal injury and material damage!

The device is extremely heavy. Failure to take adequate safety precautions during transportation and to act with caution can lead to accidents involving personal injuries and damage to property. Limbs can be crushed when the device is set up.

- ▶ Transport the device using a floor conveyor that is suitable for the load, such as a pallet truck, forklift truck or crane.
- ▶ Wear safety shoes while transporting the device.



CAUTION

Danger of personal injury and material damage

A device that is difficult to access represents a danger due to incorrect operation and faulty maintenance.

- ▶ Install the frame and the digital display so that they are accessible at all times.



NOTE

Damage to the system due to incorrect installation

Failure to observe installation instructions (e.g. use of unsuitable tools, incorrect torque) can damage the system parts.

- ▶ Use suitable tools.
- ▶ Note the specified torque.

7.1 Installation location

When installing, follow the basic principles below:

- Anchor the device to the floor on a concrete foundation of adequate load bearing capacity.
- The surface of the foundation must be level.
- The foundation should be located beneath a crane rail or should be freely accessible for a suitable fork-lift truck. Sufficient manoeuvring space must be provided to allow the drums to be positioned centrally on the weighing frame.

- The foundation must not be exposed to vibrations. The pump must be vibration-free and stable.
- The area around the system must provide sufficient space for lines and valves as well as for the signal line for the digital display.
- Ensure that the digital display is wall-mounted at eye level in a clearly visible location close to the device.
- Signal and energy supply lines must be protected against damage and, if necessary, routed in cable ducts.
- The ambient temperature must be observed (→ Technical data [► 11]). If necessary, radiant heat from surrounding equipment must be screened.
- Avoid exposure to direct sunlight.

7.2 Assembly

The weighing frame is delivered pre-assembled. It must be installed complete with the weighing unit on the foundation and levelled using a spirit level.

The weighing frame and the mounting plate for the weighing unit must be attached to the drill holes provided using the supplied floor anchors. The tightening torque for the floor anchors is 1000–1500 Nm.

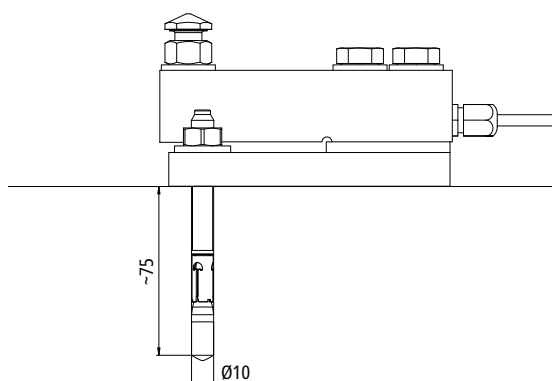


Fig. 8: Installing the weighing frame on the foundation

7.2.1 Mounting and aligning the weighing frame with the weighing unit

For 1 drum

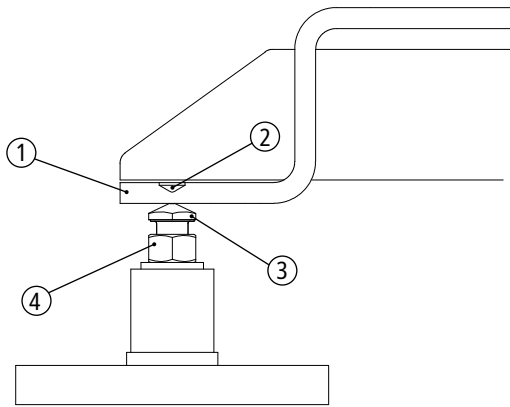


Fig. 9: Frame for 1 drum

1 Arm on base frame	2 Bore
3 Adjusting screw	4 Counternut

The arm (1) on the base frame has been drilled with a hole (2) that is aligned concentrically relative to the positioning and adjusting screw (3) on the weighing unit.

Ensure that the weighing unit is aligned parallel to the base frame so that the signal cable can be routed free of stress in the direction of the digital display.

1. Level the base frame using the adjusting screw (3) and a spirit level.
2. Secure the adjusting screw with the counter nut (4).
3. Secure the base frame and the weighing unit to the foundation using the supplied floor anchors.

☞ Weighing frame of the drum scales for 1 drum mounted and aligned.

For 2 drums

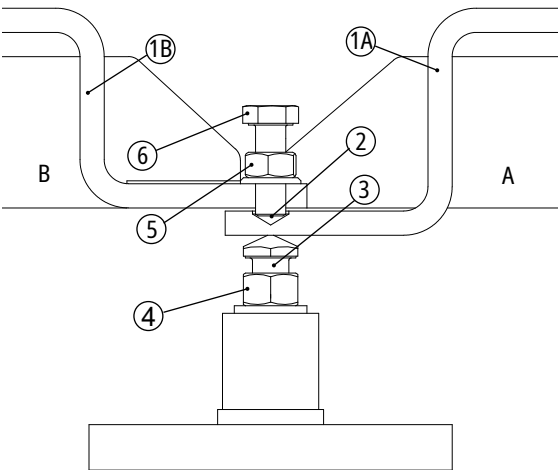


Fig. 10: Frame for 2 drums

1A Arm on base frame A	1B Arm on base frame B
2 Bore	3 Adjusting screw on the weighing unit
4 Counternut	5 Counternut
6 Adjusting screw on arm B	

The lower arm (1A) of the base frame A has been drilled with a hole (2) that is aligned concentrically relative to the positioning and adjusting screw (3) on the weighing unit.

Ensure that the weighing unit is aligned parallel to the base frame so that the signal cable can be routed free of stress in the direction of the digital display.

1. Level the base frame A and the weighing unit using a spirit level and the adjusting screw (3).
2. Secure the base frame A with the counter nut (4).
3. Centre the upper arm (1B) of the base frame B using the adjusting screw (6) in the drill hole (2) of the lower arm (1A) of the base frame A.
 - ↳ Ensure that the arms are in alignment and that the brackets on the base frame are parallel to one another.
4. Level the base frame B using a spirit level and the adjusting screw (6) on the upper arm (1B).
5. Secure the base frame B using the counter nut (5).
6. Secure the base frame and the weighing unit to the foundation using the supplied floor anchors.

☞ Weighing frame of the drum scales for 2 drums mounted and aligned.

7.2.2 Installing the digital display

1. Drill the four holes for wall mounting. The exact dimensions can be found in these operating instructions (→ Dimensions [► 12]) and on the back of the housing of the digital display.
2. Loosen the 4 screws on the housing cover.
NOTE! The housing cover is connected to the weighing indicator in the housing by a short display cable.
3. Carefully open the housing cover to the right.
4. Disconnect the display cable from the weighing indicator of the digital display and put the housing cover aside.
5. Insert the fixing screws into the holes in the back of the housing and fix the appliance to the wall.
6. Connect the housing cover to the weighing indicator.
7. Attach the housing cover to the back of the housing.

🔧 Device mounted on the wall.

7.3 Electrical installation



DANGER

Mortal danger from electric shock!

Live parts can inflict fatal injuries.

- Before carrying out any work on the electrical equipment, disconnect the device from the power supply.
- Secure the device to prevent it from being switched on again.



NOTE

Damage due to incorrect mains voltage

The digital display can be damaged if you connect it to the wrong mains voltage.

- Observe the information on the mains supply that is given on the rating plate.
- Do not connect any other consumers (e.g. relays) to the power supply. Voltage peaks can damage the electronics.
- Connect the digital display to a power supply fitted with overload protection.



NOTE

Measurement inaccuracy due to shortened signal cable

Shortening or lengthening the signal line will lead to inaccurate measurement results.

- Perform calibration again if you have changed the length of the signal cable.
- Only use genuine signal cables supplied by the manufacturer.

7.3.1 Principles

- The digital display may only be connected to the power supply on completion of the assembly of all device components of the drum scales.
- The digital display is supplied without a power cord and must therefore be connected to an external control cabinet or a power supply fitted with a main switch. The digital display has a 85–264 V AC 50/60 Hz long-range power supply unit.
- The signal cable for the digital display must not be routed parallel to high-voltage current lines or mains cables.
- Power supply and signal lines must be routed in separate channels.

7.3.2 Connecting the digital display

- ✓ Device mounted on the wall.

1. Loosen the 4 screws on the housing cover.
NOTE! The housing cover is connected to the weighing indicator in the housing by a short display cable.
2. Carefully open the housing cover slightly to the right.
3. Disconnect the display cable from the weighing indicator of the digital display and put the housing cover aside.
4. Connect the digital display to a power supply.
5. Connect the other components according to the table (→ Table 5: Terminal assignment of the digital display [► 16]).
6. Tighten the screw connections.
7. Close the housing cover again and screw it on with the 4 screws. Make sure that no cables are caught.

🔧 Digital display connected.

7.3.3 Digital display connections

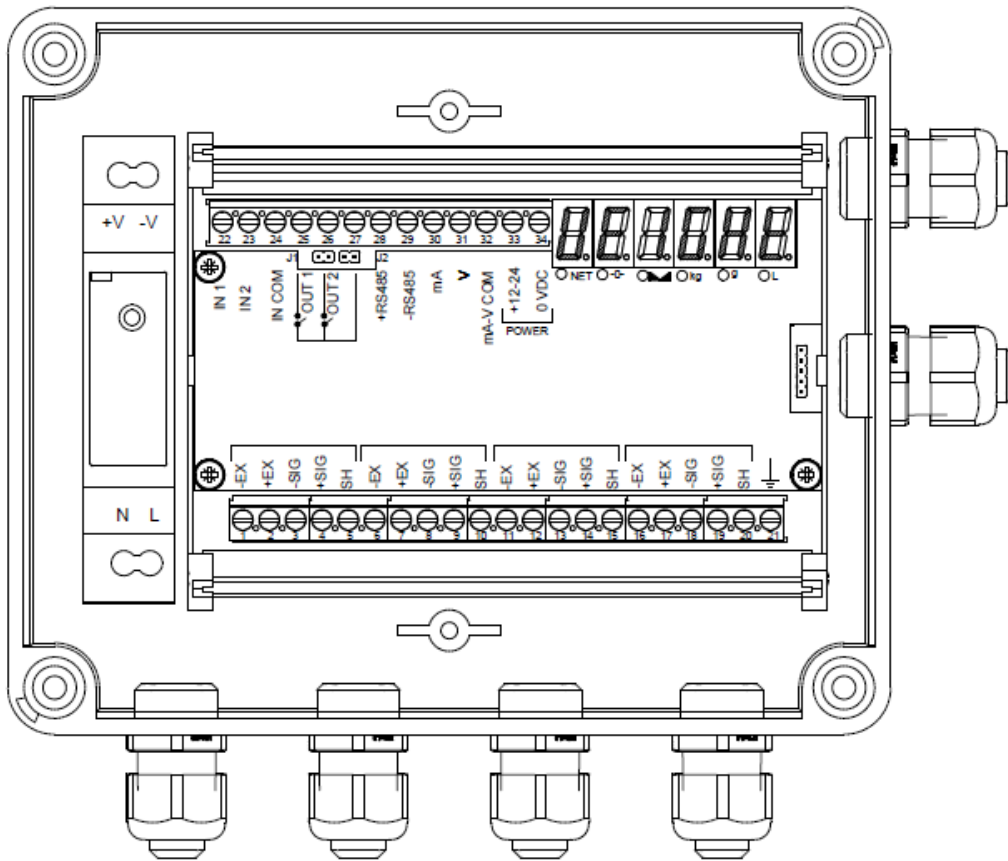


Fig. 11: Digital display connections

Terminal		Function
Power supply unit		
1	V+	Power supply 85–264 V AC 50/60 Hz
2	V-	
3	N	neutral conductor
4	L	phase
Weighing indicator		
1	-Ex	Load cell
2	+Ex	
3	-Sig	
4	+Sig	
5	SH	
6	-Ex	Load cell
7	+Ex	
8	-Sig	
9	+Sig	
10	SH	
11	-Ex	Load cell
12	+Ex	
13	-Sig	
14	+Sig	
15	SH	

Terminal		Function
16	-Ex	Load cell
17	+Ex	
18	-Sig	
19	+Sig	
20	SH	
21		Earthing
Load cell transmitter		
22	IN 1	Digital inputs (5–24 V DC)
23	IN 2	
24	IN COM	
25	Out 1	Limit value/alarm relay (24 V DC, 60 mA)
26	Out 2	
27		Serial connection
28	+ RS485	
29	-RS485	
30	mA	Analogue output
31	V	
32	mA-V Com	Weighing indicator power supply
33	+12 – 24 V	
34	0 V	

Table 5: Terminal assignment of the digital display

The digital indicator has a 10-metre extension cable for each load cell. This cable is already fitted to the digital display. The cable has an M12 socket on the input side for connection to the M12 plug of the load cell cable.

If you shorten the extension cable or only use the 3 m load cell cable, observe the following cable colour assignment when connecting the load cell to the weighing indicator.

Terminal	Cable colour	
	Load cell cable	Extension cable
-Ex	Black	Black
+Ex	Red	White
-Sig	White	Brown
+Sig	Green	Blue
SH	-	Black

Table 6: Colour assignment

8 Operation

8.1 Operating controls of the digital display

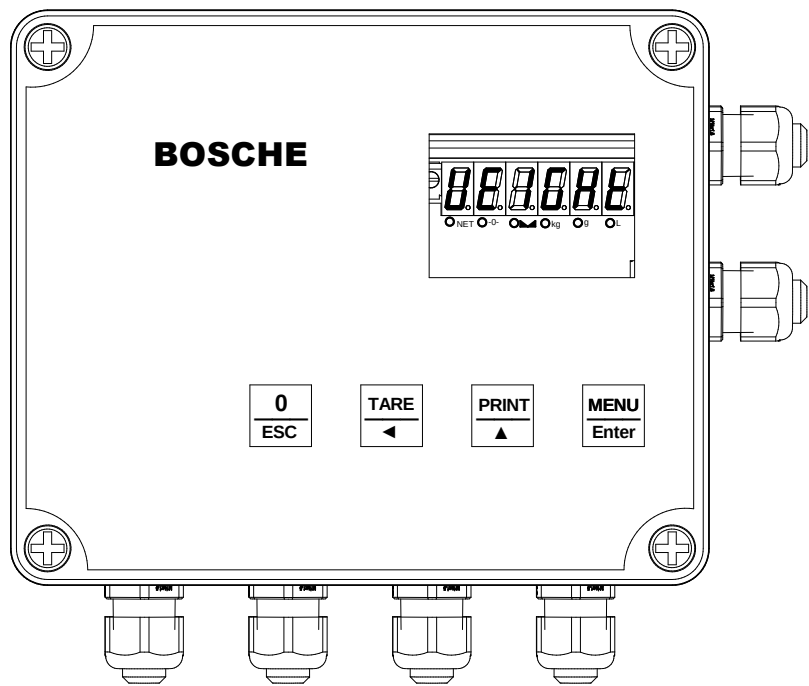


Fig. 12: Operating controls of the digital display

Button	Short press	Long press	Menu function
0 ESC		Sets the tare to zero	Cancels or returns to the previous menu.
TARE ◀	Gross → Net	Net → Gross	Selects the digit to be changed or switches to the previous menu option.
PRINT ▲		Gross weight: mV load cell test Net weight: displays the gross weight temporarily	Changes the selected digit or switches to the next menu option.
MENU Enter	Programming of the setpoint and hysteresis		Confirms or accesses the submenu.

Table 7: Button functions

9 Commissioning



DANGER

Mortal danger from electric shock!

If there is an electrical accident, you must disconnect the digital display from the mains as quickly as possible.

- Install an emergency stop switch or integrate the digital display into the system safety concept.



CAUTION

Increased risk of accidents due to insufficient qualification of personnel!

The drum scales and its accessories may only be installed, operated and maintained by personnel with sufficient qualifications. Insufficient qualification will increase the risk of accidents.

- Ensure that all action is taken only by personnel with sufficient and corresponding qualifications.
- Prevent access to the system for unauthorised persons.



CAUTION

Danger of personal injury and material damage!

The process of positioning and replacing drums can pose a danger to persons and machinery.

- We recommend using load lifting gear (crane or forklift truck) to position the drum.
- Adhere to the maximum lowering speed of 0.4 m/min.

9.1 Turning on the device

- Switch on the drum scales at the external main switch.
 - ↳ The display shows the following information in sequence:
 - Device model
 - Software code
 - Program type
 - Software revision
 - Hardware code
 - Serial number
- Place an additional weight onto the weighing frame to check whether the display reacts.
 - ☞ The device is ready for operation.

9.2 Display

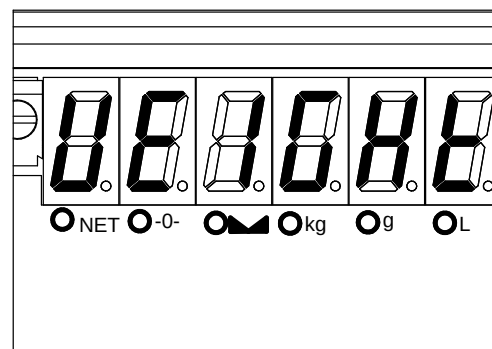


Fig. 13: Display

LED	Function
NET	Display on net weight
→0←	Zero LED
▴ ▾	Stability LED
kg	Unit of measurement kg
g	Unit of measurement g
L	Weight value

Table 8: LED functions

9.3 Programming the system parameters

Before you put the drum scales into operation, you need to enter the system parameters for the digital display.

To access the parameter settings, press the **MENU** and **ESC** buttons simultaneously from the weight display.

The buttons for the digital display are assigned as follows:



Displays the menu or confirms the programmed value.



Changes the digit or the menu option displayed.



Selects a new digit or changes the displayed menu option.



Cancels or returns to the previous menu.

The digital display must be programmed in the order of the following sub-sections. For a detailed explanation of the procedure, refer to the manufacturer's documentation for the digital display.

9.4 Calibrating the device

Before commissioning the drum scales, you need to perform a theoretical calibration (without weight) and a real calibration (with weight) of the digital display.

1. Perform theoretical calibration

You use this function to enter the identification plate data of the load cell into the digital display.

Set the following parameters in sequence:

- Full scale value of the load cell
- Sensitivity of the load cell
The sensitivity value can be found on the identification plate of the load cell (e.g. 2.9998 mV/V).
- If necessary, change the resolution (=counter step).

2. Set tare to zero

After the theoretical calibration, delete the weight of the weighing frame on the load cell by setting the tare to zero.

3. Perform real calibration

After performing the theoretical calibration and setting the tare to zero, calibrate with weight, e.g. a chlorine drum. If necessary, correct the gross weight of the drum according to the drum label.

Position the chlorine drum in the centre of the weighing frame and save the weight value.

4. Set tare

This allows you to enter the empty weight of the chlorine drum manually. You will find this information on the drum. After you have entered the tare value and returned to the weight display, the display shows the net weight of the chlorine drum (e.g. 1000 kg chlorine) and the NET LED lights up to indicate that a tare is present.

9.5 Configuration

The device has an analogue output and two logical relay outputs for transmitting signals to an external controller.

For the exact configuration of the outputs, please refer to the manufacturer's documentation for the weighing indicator. All previous action steps must have already been completed and the manufacturer's documentation for the weighing indicator must be at hand.

9.5.1 Configuring the analogue output

You can transmit the current weight values to an external control unit using the analogue output.

NOTE! Do not connect an external power supply to the analogue output terminals. The connection is supplied with power internally.

1. Select the type of analogue output (0–20 mA, 4–20 mA, 0–10 V, 5–10 V).
2. Select whether the value of the gross or net weight is to be transmitted.

3. Set the weight value for which the smallest value (= zero value) should be present at the analogue output.

4. Set the weight value for which the highest possible value (= full scale value) should be present at the analogue output.

🔧 Analogue output configured.

9.5.2 Configuring the relay outputs

You can use the two relay outputs to set signals such as an alarm signal when the weight falls below a minimum value (= setpoint).

- ✓ You have configured the setpoints (→ section "Setpoints programming" on page 32 of the weighing indicator manufacturer's documentation).

1. Select the relay to be configured: Relay 1 or relay 2.
2. Select the operating mode of the relay when the setpoint is undershot:

- **Open (NO):** The relay contact is open if the weight is below the setpoint configured. It closes if the weight is higher than or equal to the setpoint configured.

- **Close (NC):** The relay contact is closed if the weight is below the setpoint configured. It opens if the weight is higher than or equal to the setpoint configured.

NOTE! The load cell indicator has two digital inputs, which can be used to control the device remotely. In step 5, you specify that the setpoint programmed on the device is to be used.

3. Select that a relay changes its state depending on the existing setpoint.
4. Select whether the contact changes its state depending on the gross or net weight value.
5. Select that the relay is switched only when the weight value is positive.
6. Select that the relay is not switched when the weight is at "0".

🔧 Relay output configured (e.g. OPEn/SEt/nEt/POS/Off).

9.6 Changing a drum

You may have to repeat the real calibration and tare specification every time you change the drum. The filled and empty weights are indicated on the drums.



CAUTION

Danger due to escaping gases!

Toxic gases may escape when the drums are changed.

- ▶ Wear a respirator mask.
- ▶ Check all connections for leaks.

1. Make sure that both valves on the drum are closed and the flexible connection line has been removed.
 2. Lift the empty chlorine drum from the drum scales using a suitable means of transport, e.g. a crane beam, and remove the drum.
 3. Set down the new drum slowly and centred onto the support rollers on the scales.
 - ↳ Max. lowering speed 0.4 m/min.
 4. Check the filled weight.
 - ↳ Depending on the calibration of the digital display, either the net or gross weight is displayed.
 5. If necessary, carry out a real calibration and redefine the tare.
- 📄 Drum changed.

10 Maintenance

The drum scales and the digital display are maintenance-free.

If they become heavily soiled, you can clean them using a damp cloth.



DANGER

Mortal danger from electric shock!

Live parts can inflict fatal injuries.

- ▶ Before carrying out any cleaning work, always disconnect the digital display from the power supply.
- ▶ Secure the digital display to prevent it from being turned on accidentally.



NOTE

Damage to the digital display and components

The bearing, load cell and electrical parts can be damaged.

- ▶ Do not use a pressure jet cleaner (high-pressure cleaner) to clean the drum scales and the digital display!

11 Shutdown and disposal

11.1 Dismantling the device

1. Disconnect the digital display from the power supply.
2. Remove the digital display and the weighing unit.
3. Remove the components on the weighing frame.
4. Loosen the floor anchors.

 Drum scales dismantled.

11.2 Disposal of old equipment

Comply with the following instructions when disposing of an old device:

- Before you dispose of the device, you must dismantle it (→ Dismantling the device [► 23]).
- You must dispose of the device in accordance with local laws and regulations. It should not be disposed of as domestic waste!

As the disposal regulations may differ from country to country, please consult your supplier if necessary.

In Germany, the manufacturer must provide free-of-charge disposal. However, this requires the device to have been safely returned along with a decontamination declaration.

12 Note on EU conformity

Drum scales

EC Directive 2009/23/EC on non-automatic weighing instruments only applies to scales that require calibration. The drum scales are not covered by this standard.

This device must not carry a CE marking and an EC declaration of conformity must not be issued. The drum scales are a device that uses the force of gravity acting on a body to determine the mass of the body. This parameter is used to display the content of the body numerically on a digital display. The weighing frame does not contain any moving parts that pose a danger to persons or machinery as defined by the Machinery Directive.

Digital display

The digital display is subject to Directive 2014/30/EC (Electromagnetic Compatibility) and the Low Voltage Directive 2014/35/EC. For confirmation of these directives, refer to the declarations of conformity from the manufacturer's documentation.

13 Decontamination declaration

Due to legal regulations for the protection of our employees and operating facilities, we need the completed and signed declaration of decontamination in order to process your return.

- 1. Copy this page and complete it **for each device separately!**
- 2. Attach the declaration to the outside of the packaging.
- 3. Return the device.

Decontamination declaration

We forward the following device for repairs:

Device designation:

Part no.:

Order no.:

Date of delivery:

Reason for repair:

.....

.....

Medium dosed

Description:

Irritant: ☐ Yes ☐ No

Properties:

Corrosive: ☐ Yes ☐ No

We hereby certify that the device has been thoroughly cleaned inside and out before being returned, contains no hazardous chemical, biological and radioactive agents and has been drained of oil.

If the manufacturer has to perform additional cleaning, we shall be invoiced the costs incurred.

We certify that the aforementioned information is correct and complete and that the device will be returned in accordance with legal requirements.

Company / Address:

Phone:

.....

Fax:

.....

E-mail:

Customer no.:

Contact person:

Date, Signature:

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1. Copy this page and fill in all fields.
2. Pack the device together with the completed warranty claim.
3. Return the device.

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Notes



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