WM-3 Industrial Weighing Terminal
WM-3 Logistics Weighing Terminal
WM-B

Operating instructions

As from software version 5.17.0

38081556024 en-US



BIZERBA

Bizerba Service

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1 About these instructions

Read these instructions before switching on the device. These instructions include basic information on how to operate the device and how to avoid dangers.

These instructions do not distinguish between standard equipment and options. Please contact your Bizerba specialist for information on available variants.

Bizerba products undergo continuous further development and are subject to different country-specific regulations. Examples of pictures and graphics included in these instructions may vary from the version you have received.

1.1 Safe-keeping

This technical document is an essential component of the device. It must be stored close to the device to be easily accessibly to others. When reselling this device, the technical documentation of the device must be attached in its entirety.

1.2 Target group

The device may only be operated by trained personnel. The operator must be familiar with the contents of these instructions. Providing no alternative agreement has been made, installation, maintenance and repair works must be performed by Bizerba authorized specialists only.

For operation, basic knowledge of the Microsoft® Windows® user interface is beneficial.

1.3 Training

We offer training in relation to our products. Please contact your Bizerba technical consultant or Bizerba Service.

1.4 Further applicable documents

The device is delivered with the following documentation:

For download in the Bizerba Customer Portal

- Operating instructions weighing module WM-3, WM-B
- Operating instructions Bizerba Industry Weighing Systems - Configuration Tool
- Interface documentation

Documentation in the Bizerba Customer Portal

You can find all user documentation in the Bizerba Customer Portal:

https://portal.bizerba.com

Simply register with your email address.

1.5 Symbols used

The following symbols can be found in the manual:

✓ Requirements are displayed with a gray background.

→	Text with arrow prompts you to carry out an action.
①	Item number in figure.
<OK>	Text within <...> refers to a key or softkey.
"Display"	Text within "..." indicates the display text.
`I?GV05|LX02`	Interface commands, program code.

1.5.1 Explanation of instructions and information

Instructions and information are illustrated as follows:

	These instructions must be strictly observed.
	This information is intended for better understanding.

1.5.2 Explanation of warnings

The signal word indicates the relative level of severity.

	**⚠ DANGER** **Indicates an imminent hazardous situation. It will cause death or serious injury.**
	**⚠ WARNING** **Indicates a potential hazardous situation. It may cause death or serious injury.**
	**⚠ CAUTION** **Indicates a potential hazardous situation. It may cause minor or moderate injury.**
	NOTICE **Indicates unsafe practices not related to physical injury. Damage to property can result.**

1.5.3 Viewing of menu call-up

In order to present the menu navigation clearly and concisely, this manual makes use of the following abbreviations (example):

➜ "View" / "Tool bars" / "Standard"

The complete path from the main menu to the target is specified. In this example, you have to press the following soft keys:

➜ "View"

➜ "Tool bars"

➜ "Standard"

2 WM-3

Device variants of weighing module WM-3:

– WM-3 Industrial Weighing Terminal
– WM-3 Logistics Weighing Terminal

The relevant device version can be found on the additional plate on the device. [▶ 13]

2.1 Intended use

The weighing module is a compact unit for recording weight values. The measured values are output to weighing terminals, PC, PLC, PLS, or ERP systems via serial interface or network interface.

All analog load cells with the required impedance can be connected to the weighing module, see Technical data. All brands can be used for any nominal weighing range.

The metrologically approved version of the weighing module has a weight display and keyboard. For the not metrologically approved version the weight display and keyboard are optional.

The weighing module is intended to be mounted on top-hat rails in control cabinets and mounting plates.

Improper use

Any other use is prohibited. Examples of misuse:

– The device may not be used in hazardous areas.

2.2 Ambient conditions for automatic weighing instruments

The device must only be installed and put into operation if the following operating conditions are met:

Electromagnetic environments as per guideline 2014/32/EU; Official Journal of the European Union, March 29, 2014 L96, page 149-250, class E2.

2.3 Identification plates

2.3.1 Identification plates on weighing module

① UL approval for Canada and USA

② CE marking

③ IP rating

④ Power supply bus connection

⑤ Power supply terminal

⑥ Electrical connection values

⑦ Type designation

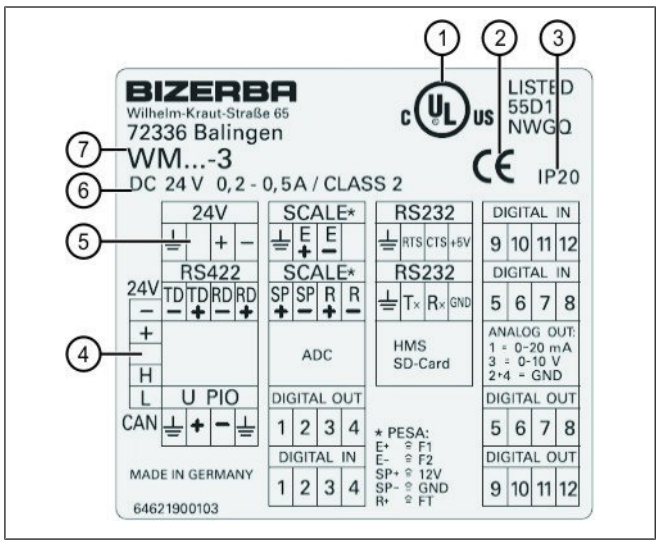


Fig. 1: Identification plate (example)

2.3.2 Identification plates at seal protected cover

In the verifiable version of the weighing module (metrological function: "analog data processing device"), the connections are protected by a seal protected cover. The screw of the cover is secured by a protective mark.

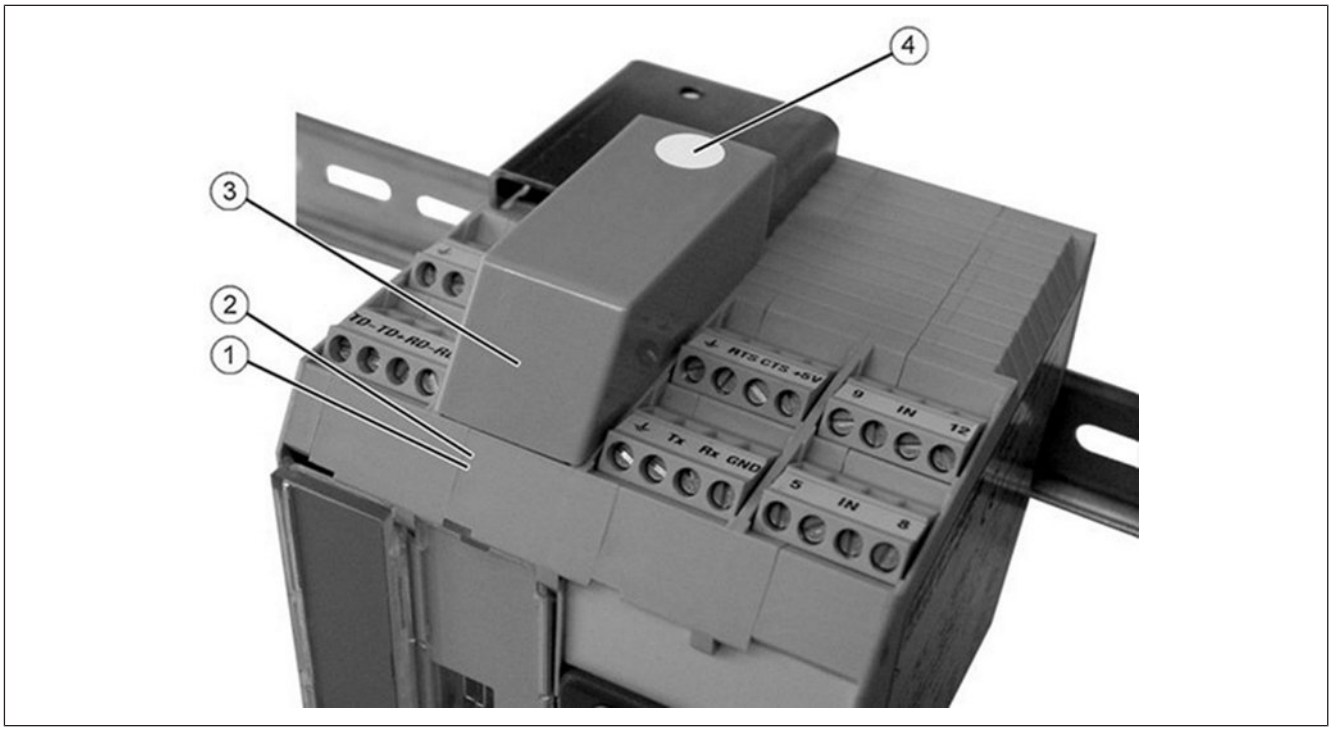
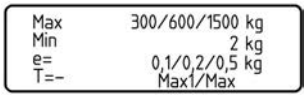
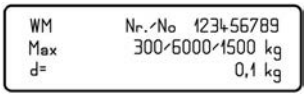


Fig. 2: Seal protected cover

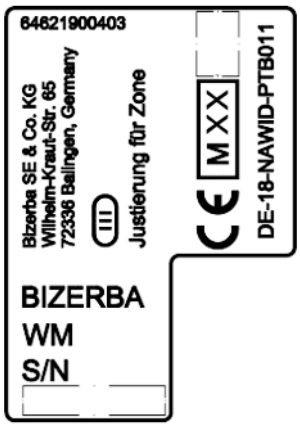
① "Verifiable" plate (example)



② "Non-verifiable" plate (example)



③ Identification plate "NAWI" (example)



④ Marking and stamping location for protective mark

2.3.3 Additional plates

Additional plate "WM-3 Industrial Weighing Terminal"



Fig. 3: WM-3 Industrial Weighing Terminal

Additional plate "WM-3 Logistics Weighing Terminal"



Fig. 4: WM-3 Logistics Weighing Terminal

2.3.4 Operating unit

The identification plate with "Max", "Min" and "e" is located at the front side of the operating unit.

Accuracy class "y(b)", "XIII(2)"

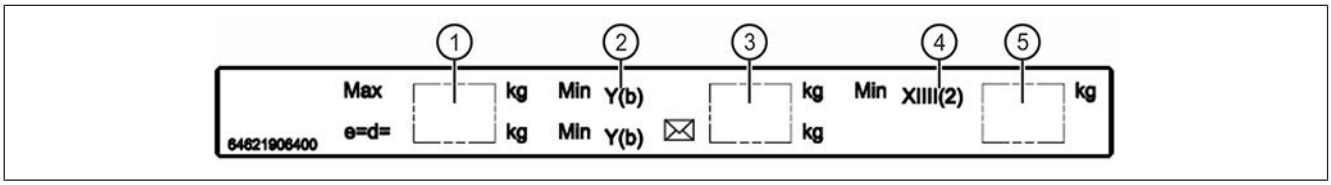


Fig. 5: Identification plate (example)

① Weighing range "Max", "e"

② Accuracy class "Y(b)"

③ Weighing range "Min" (accuracy class "Y(b)")

④ Accuracy class "XIII(2)"

⑤ Weighing range "Min" (accuracy class "XIII(2)")

Accuracy class "y(a)", "XIII(1)"

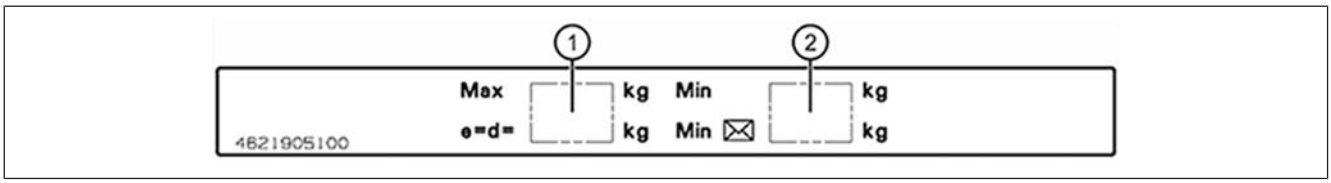


Fig. 6: Identification plate (example)

① Weighing range "Max", "e"

② Weighing range "Min"

2.4 Protective mark locations

2.4.1 Markings and labels

The identification plate includes all descriptive markings which are required in accordance with applicable EU guidelines. The symbol for conformity assessment is affixed to the measuring device.

2.4.2 Control marks

The scale adjustment data are protected by a jumper clip under the protective cover. The connector for the load receptor is also located under the protective cover. The protective cover is secured against removal by a yellow seal mark.

For load receptors with analog load cells, the junction box is also provided with a control mark.

The load cell is protected against removal by this seal mark.

2.5 Verification information

Verification information for EU countries

The identification plate of the scale has a CE mark followed by the metrology mark (M + two-digital year; framed) and the number of the notified body. Such a scale can be started up and operated on-site provided that it is not connected to a peripheral device which is subject to legal control.

Scales which are connected on site to a peripheral device which is subject to legal control must undergo a conformity assessment or verification. Only then, legal for trade use is permissible.

Scales without metrology mark or control marks may not be used in legal for trade applications.

Scales calibrated for a certain gravity zone (specified on the scale) must not be used in other zones.

As per legal requirements, the scale user must ensure that the scale is used for its intended purpose. This includes the observance of legal requirements, especially in case of changes, amendments and extensions.

Notes on verification

The verification of a scale is executed according to the respective statutory country regulations. The verification validity starts as soon as the device is put on the market.



When conformity assessment is carried out by Bizerba the scale is sealed by means of control marks with marking "Gesichert BIZERBA" on the control marking locations. Verifications must be carried out by the operator of the scale according to the legal requirements.

Note related to scales subject to legal control for use in Germany:

If new or refurbished devices [...] are used, they need to be registered at the notified authority according to state law, at latest six weeks after setting into operation.

The verification validity period for non-automatic weighing instruments (up to 3 tons) is currently 2 years in Germany.

2.6 Standards and directives

See declaration of conformity in annex.

2.6.1 Test certificates and approvals

WM…	EU type examination certificate DE-18-NAWID-PTB011
Metrologically approved data storage	Test certificate D09-09.15
Software ESView	Test certificate D09-09.21

2.6.2 Configurations

Only qualified trade personnel or Bizerba service technicians may open the device components.

Every weighing module has a unique ID worldwide. The jumpers on the pin strip ① indicate the software used and in which devices the weighing module runs.

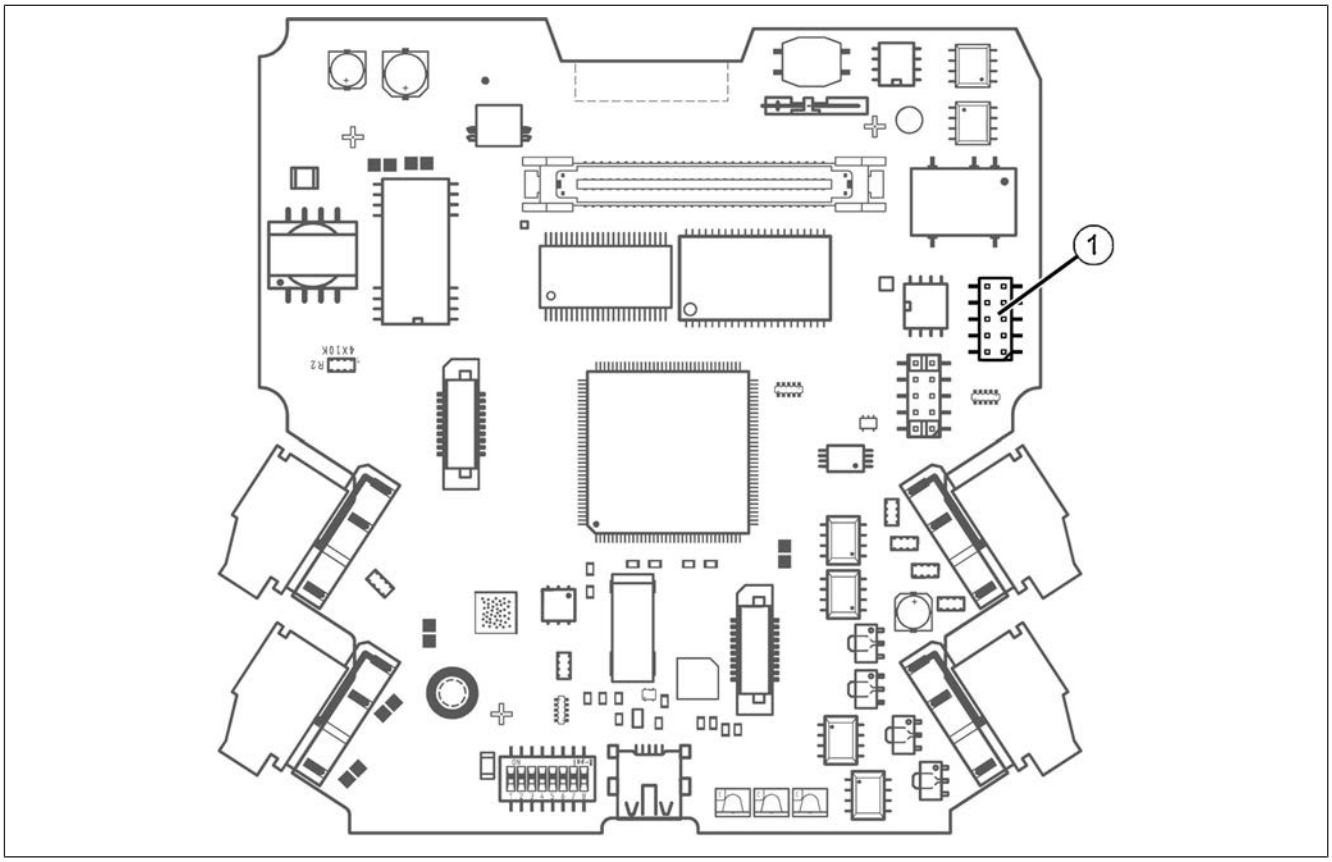


Fig. 7: CPU circuit board

Device	Software version	Jumper at pins 1 to 6
WM-3	lower than 4.00	no jumper
CWL Eco	lower than 4.00	1 – 2
iS50[1)]		3 – 4
WM-3	as from 4.00	5 – 6
CWL-I CWL-L with WM-3 Logistics Weighing Terminal	as from 4.00	1 – 2 5 – 6

[1)] WM-3 used as external weighing module

2.7 Power supply

The device must be supplied with a power limitation of up to 100 VA from a 24 V DC voltage source (SELV or PELV).

Only valid for USA and Canada

As per the National Electrical Code NEC the power supply must comply with NFPA 70 Class 2. Relevant protection of the supply service to be provided by customer.

2.7.1 Power supply via bus connection

The bus socket is on the left-hand side of the weighing module, see figure.

① Power supply, minus

② Power supply, plus

③ Without function

④ CAN bus, high

⑤ CAN bus, low

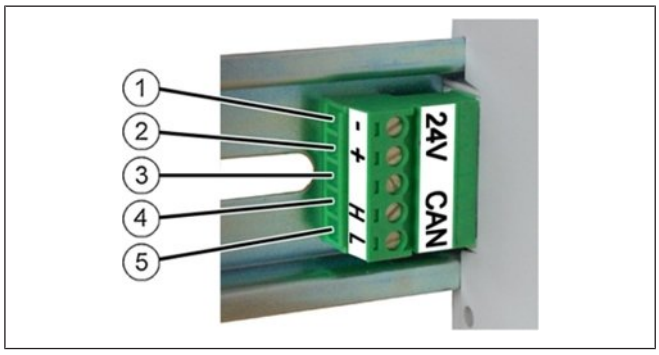


Fig. 8: Bus connection

The CAN bus connections have no reverse polarity protection. Carefully check for correct polarity.

2.7.2 Power supply via terminal

The power supply terminal of the weighing module is located on the device top side.

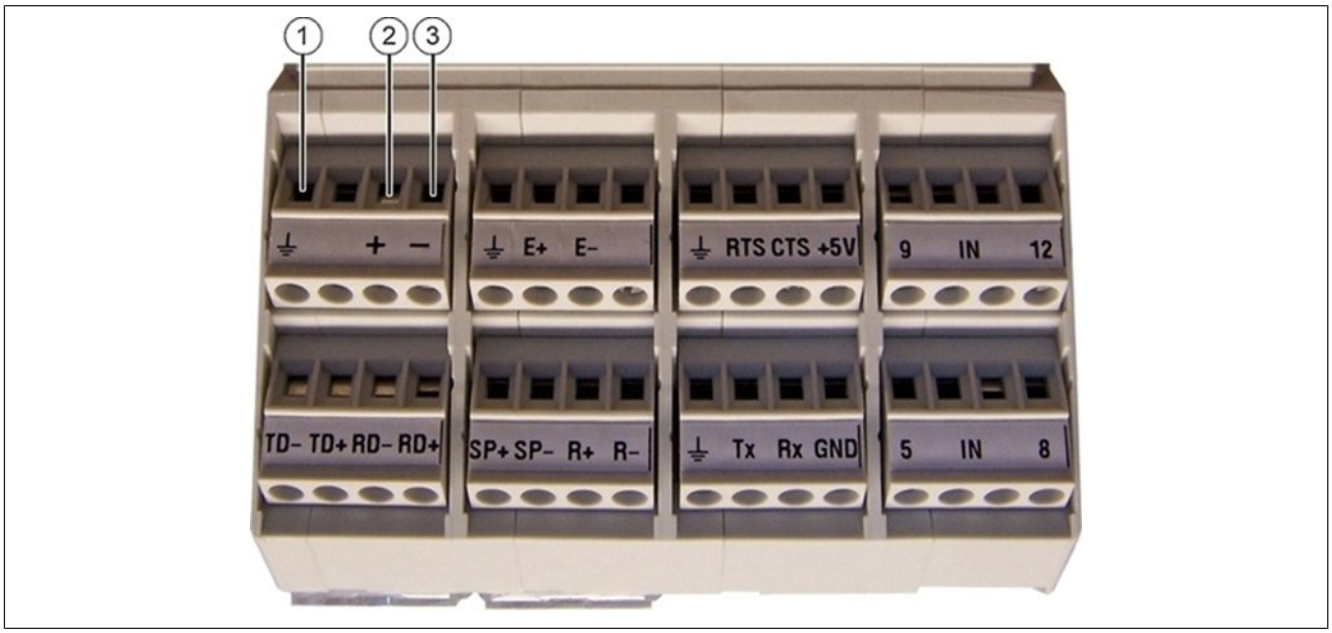


Fig. 9: Terminal, power supply 24V

① PE: Line shielding

② Power supply, plus

③ Power supply, minus

2.8 Connections

2.8.1 Connections on the top side of the device

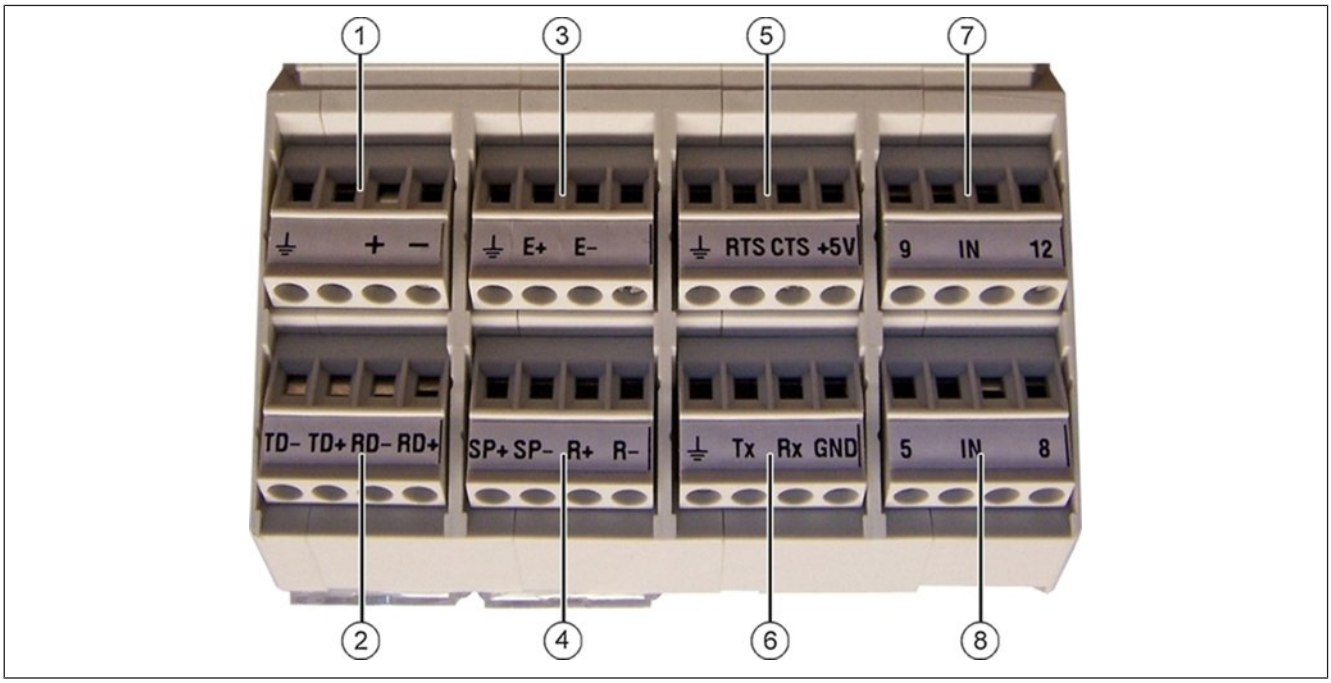


Fig. 10: Top side of device

① Power supply 24 V
② RS422
③ Connection for load receptor
④ Connection for load receptor
⑤ RS232
⑥ RS232
⑦ Inputs 9-12
⑧ Inputs 5-8

2.8.2 Connections on the bottom side of the device

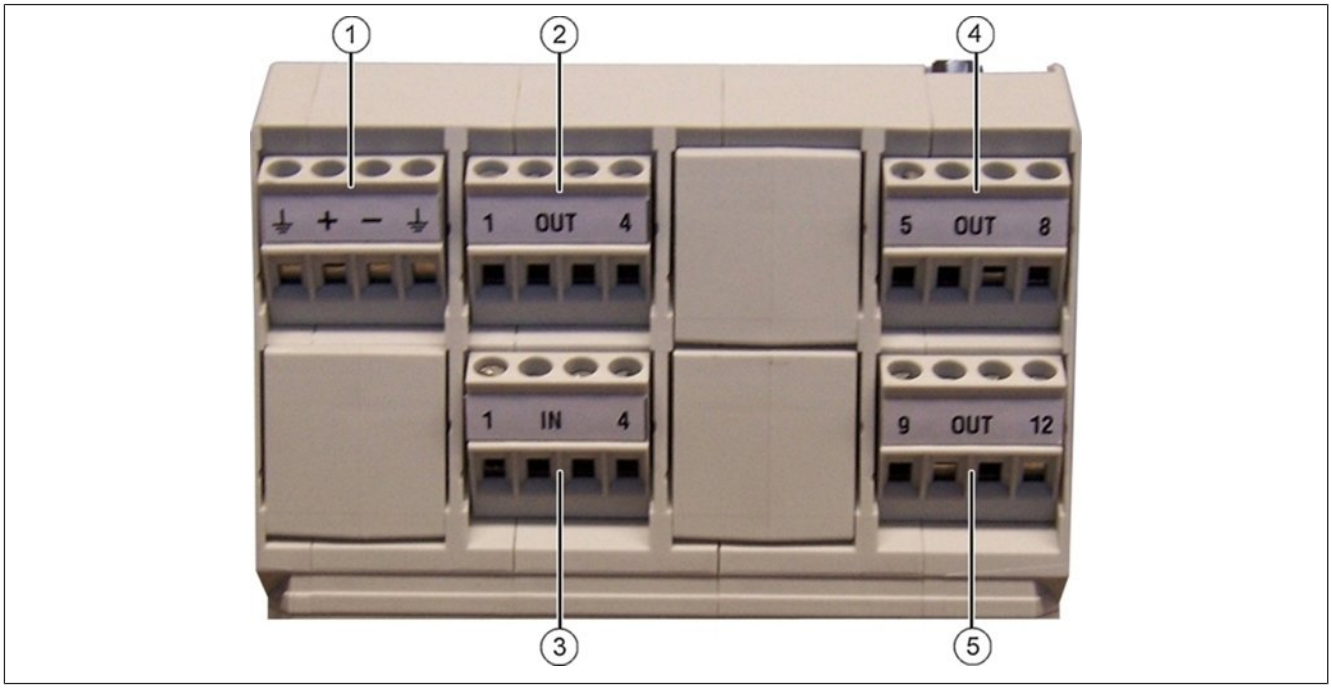


Fig. 11: Bottom side of device

① Power supply PIO

② Outputs 1-4

③ Inputs 1-4

④ Outputs 5-8

⑤ Outputs 9-2

Power supply for inputs and outputs

from external source: 5-30 V

Inputs and outputs

The connections are on the bottom and top of the weighing module. The inputs and outputs are electrically isolated. They require external power supply.

Input signals: 5-30 V, 1.3-11.3 mA

Output signals: 5-30 V, 50 mA

2.8.3 RS232 interface

The RS232 interface is located on top of the device.

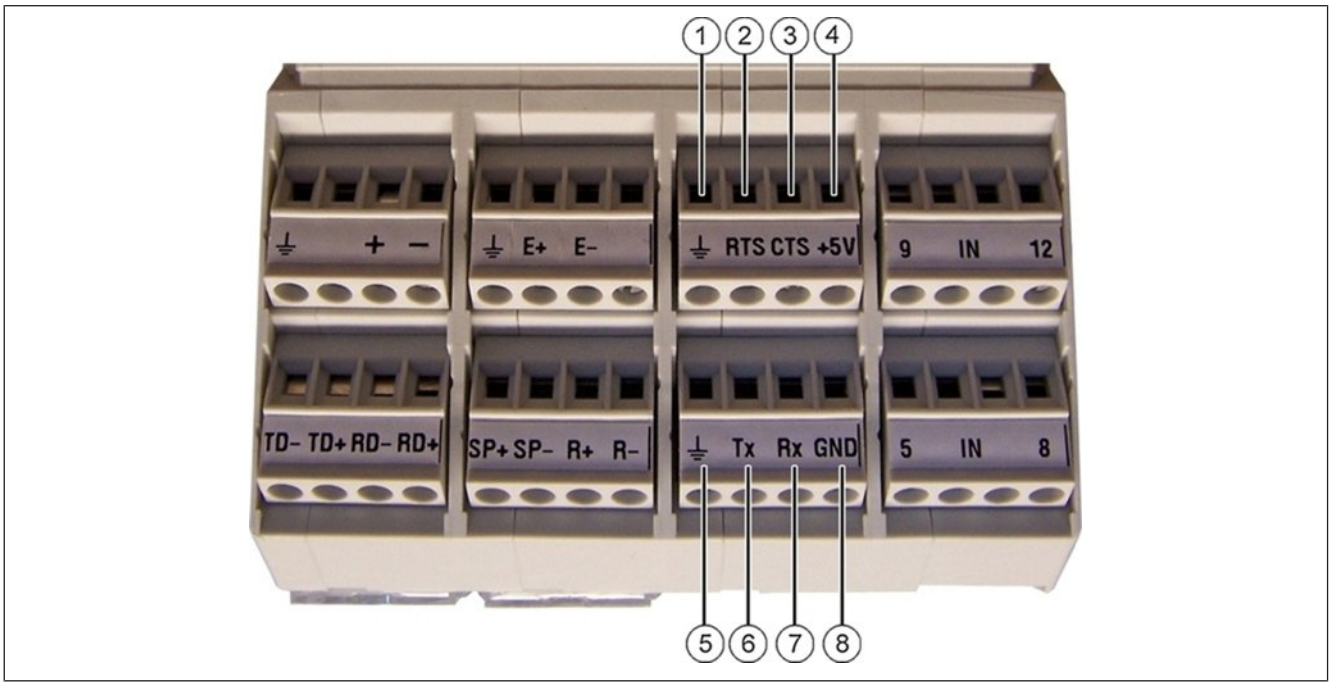


Fig. 12: RS232 interface

① PE: Line shielding

② RTS: Control cable

③ CTS: Control cable

④ $+5V_{RS}$, approx. 200 mA

⑤ PE: Line shielding

⑥ TX: Transmitter

⑦ RX: Receiver

⑧ GND_{RS}

2.8.4 Connections of load receptor

The connections are located on the top side of the device.

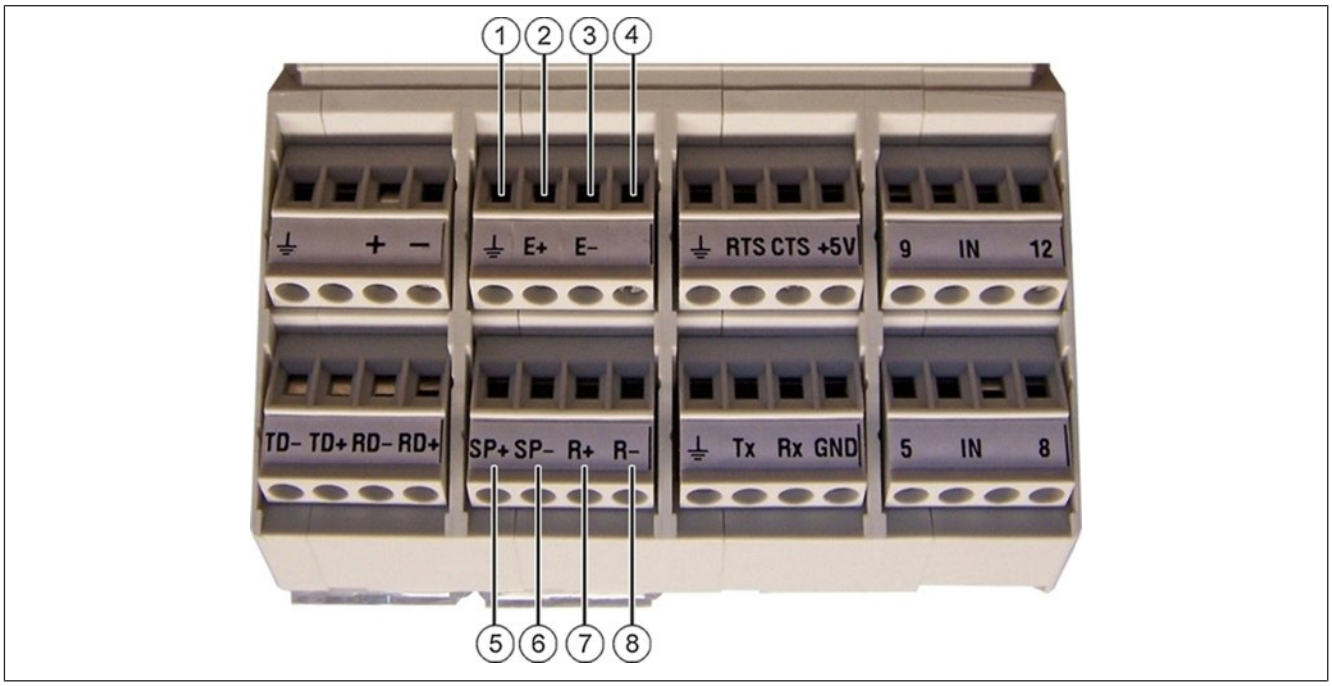


Fig. 13: Connections of load receptor

Terminal assignment of analog load receptor

①	PE: Line shielding	⑤	SP+: Feed +
②	E+: Measuring signal +	⑥	SP-: Feed -
③	E-: Measuring signal -	⑦	R+: Feedback +
④	Connection for fuse switch	⑧	R-: Feedback -

Terminal assignment of Pesa load receptor

①	PE: Line shielding	⑤	SP+VDC
②	E+F1	⑥	SP-GND
③	E-F2	⑦	R+FT
④	Connection for fuse switch	⑧	R-Free

The load receptors can be connected in 4 and 6 conductor technology. For connections in 4-wire technology, SP+ with R+ and SP- with R- have to be bridged.

Maximum length of measuring cable: 300 m

2.8.5 RS422 interface

The RS422 interface is located on top of the device.

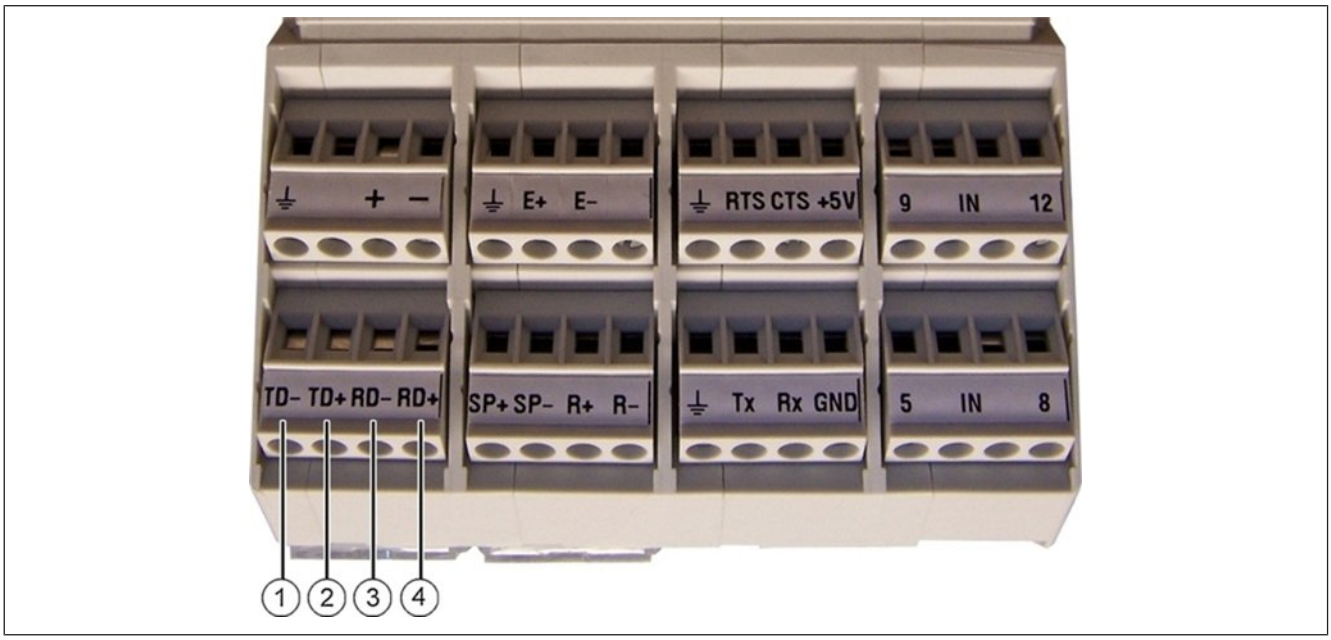


Fig. 14: RS422 interface

① TD-: Transmit -

② TD+: Transmit +

③ RD-: Receive -

④ RD+: Receive +

2.8.6 PIO

The connections are located on the bottom and top side of the device.

PIO on the top side of the device

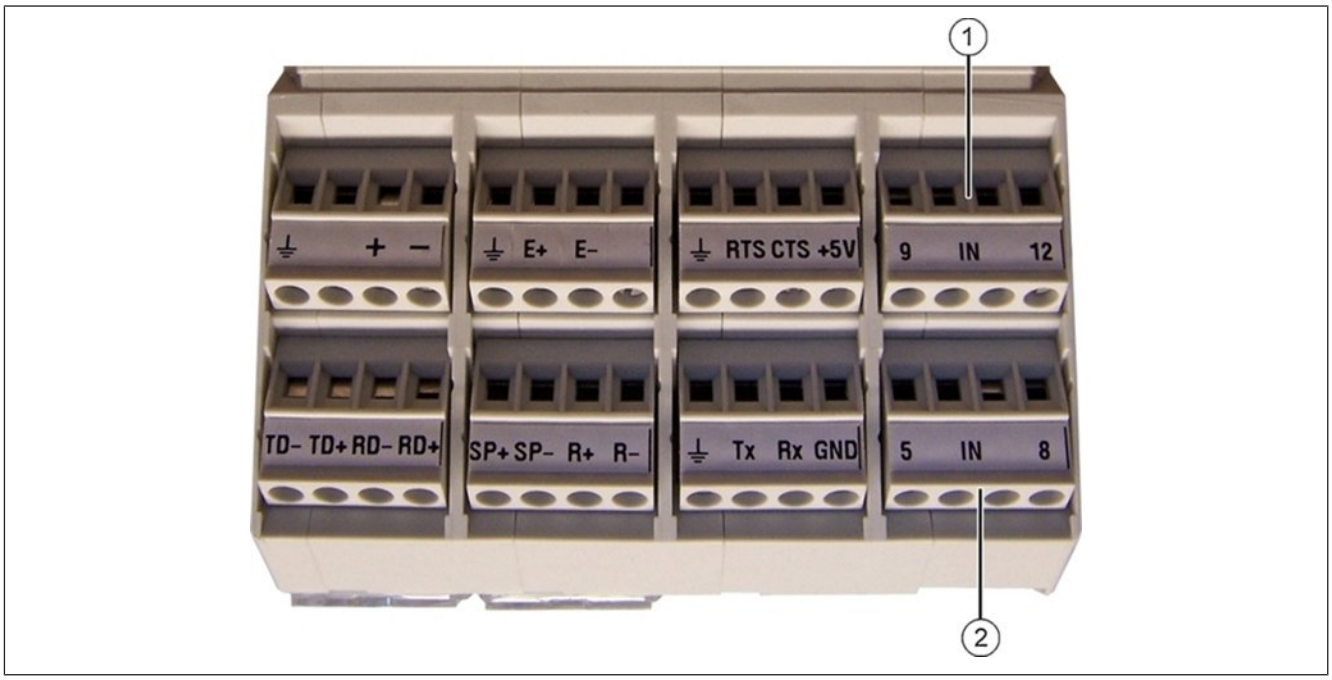


Fig. 15: PIO on the top side of the device

① Inputs 9-12

② Inputs 5-8

PIO on the bottom side of the device

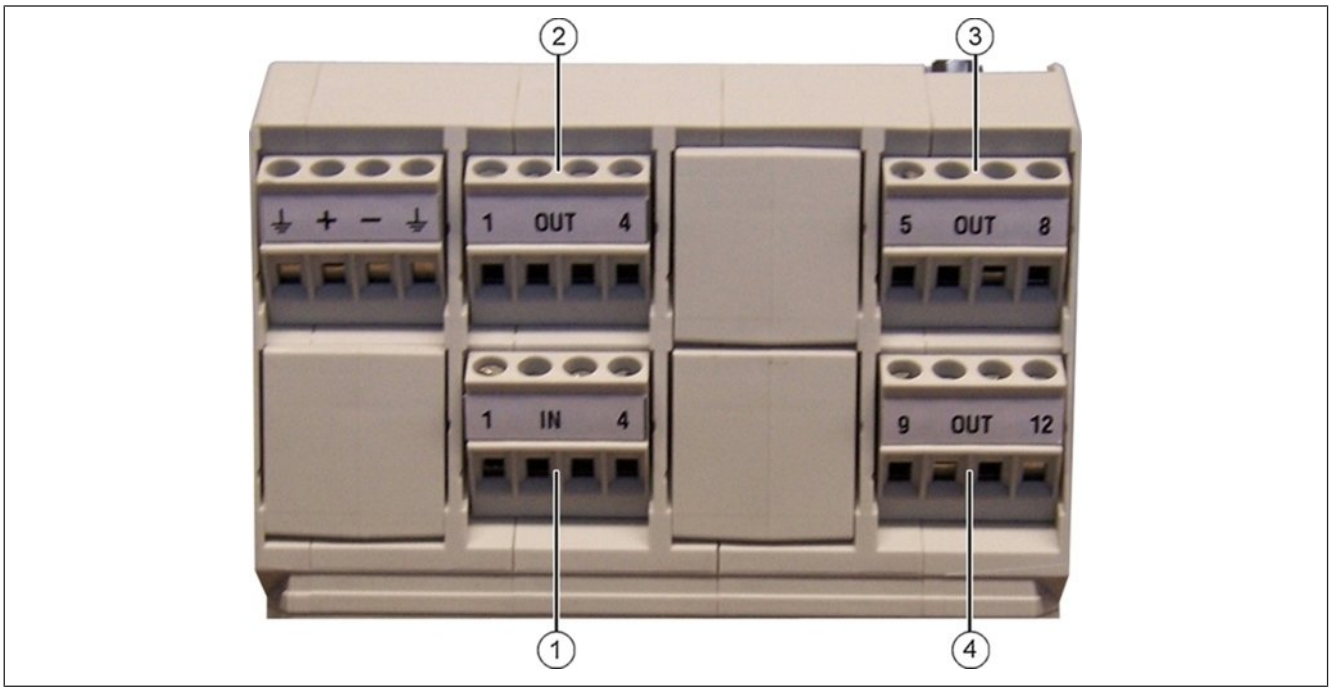


Fig. 16: PIO on the bottom side of the device

① Inputs 1- 4

② Outputs 1- 4

③ Outputs 5-8

④ Outputs 9-12

PIO 4x4/PIO 8x8

The logic setting needs to be checked at the PIO output.

Default setting:

– Positive logic

If an error occurs and time monitoring triggers a signal, the output ports assume a high impedance state (tri-state).

2.8.7 Analog output

Only qualified trade personnel or Bizerba service technicians may open the device components.

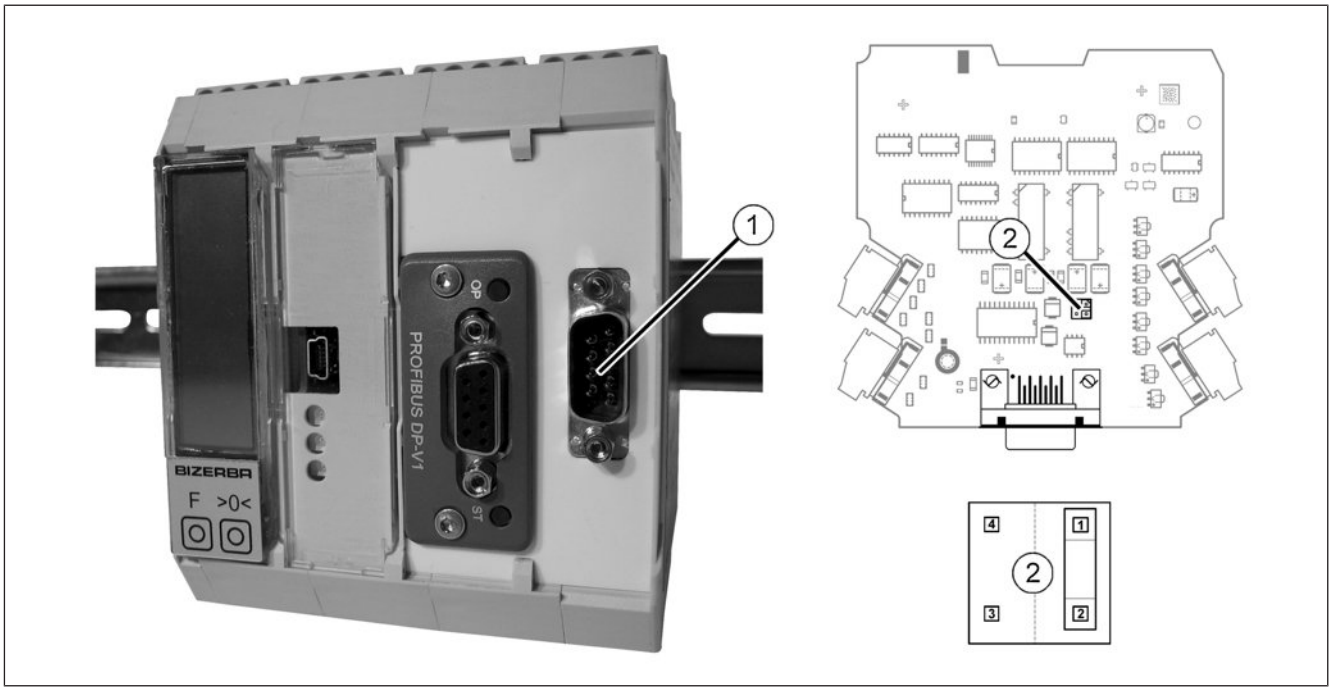


Fig. 17: Analog output

① Analog output (D-sub 9-pin)

② Selection jumper voltage/current

D-Sub 9-pin

Pin configuration:

Pin	Assignment
1	I Out (current)
2	GND
3	V Out (voltage)
4	GND
5	Free
6	Free
7	Free
8	Free
9	Free

Selection jumper

Voltage / current:

	Jumper 1 – 2	Jumper 3 – 4
Voltage output	assembled	assembled
4 mA – 20 mA	open	assembled
0 mA – 20 mA	assembled	open
0 mA – 24 mA	open	open

The maximum cable length is 600 m.

2.8.8 Service interface

A service interface is located on the front of the weighing module. A PC can be connected to it in order to display parameters and to change settings.



Fig. 18: Service interface

① Service interface

2.8.9 Analog digital converter

Only qualified trade personnel or Bizerba service technicians may open the device components.

The analog digital converter converts the analog signal coming from the load cell into a digital signal.

2.8.10 Anybus interfaces

Only qualified trade personnel or Bizerba service technicians may open the device components.

The following Anybus interfaces can be optionally connected:

- Ethernet 10/100 Mbit
- Profibus DP V 1 to 12 Mbit
- Profinet I/O

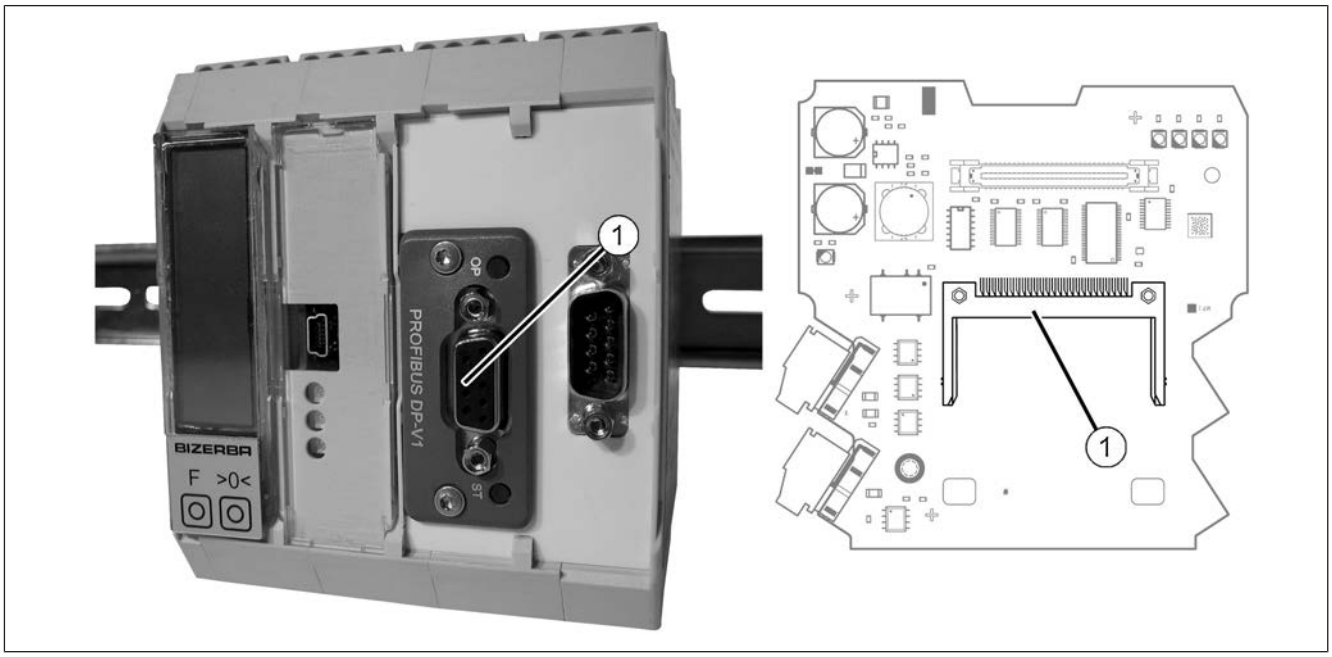


Fig. 19: Slot (example with Profibus DP)

① Slot for Anybus interface

2.9 LED indicators

There are 3 LEDs on the CPU circuit board. LED ② and ③ display error numbers for certain faults. The error number is shown in encrypted flashing signals. [▶ 95]



Fig. 20: LED indicators

① Yellow: continuous light, weighing module is safe, which means, scale and calibration data are protected from changing.

② Error number display, red: LED shows error number in case of certain malfunction. In scales with a display, the error number is also shown in the display.

③ Counting signal, green: Flashing time 100 ms, when scale is active. Flashing time 200 ms during scale adjustment.

2.9.1 Scale parameter safe

When the yellow LED has continuous light, scale and calibration data are safe. They can only be read but not overwritten.

2.10 Sending signal for height protection

The weighing module may be used as an additional component of a safety system for height protection. When working in heights a worker is secured by means of a safety rope, the safety rope may be connected to a load cell which is connected to a measuring cable on the weighing module. If the weight of the safety rope is within the specified zero zone, the weighing module sends a static signal to the customer-provided control. The signal will be interrupted as soon as the weight value is outside the zero zone (if, for example, a worker falls in the safety rope in case of an accident) or if there is no connection between load cell and weighing module.

3 WM-B

Weighing module WM-B is designed for use in hazardous areas classified as zones 1 and 21. In compliance with its intended use the device provides sufficient protection as per directive 2014/34/EU (ATEX) and the approved standards. Functionality and operation of the WM-B are analog to weighing module WM-3 and therefore will not be mentioned explicitly in this chapter. Detailed information on the scope of function and on the operation can be found in the respective chapters of the WM-3.

3.1 Intended use

The weighing module is a compact unit for recording weight values. The measured values are output to weighing terminals, PC, PLC, PLS, or ERP systems via serial interface or network interface.

Weighing module WM-B is intended to be connected to explosion-proof Ex i load receptors. Intrinsically safe Ex i load receptors with strain gauge load cells which can be operated in hazardous areas classified as zones 1 and 21 can be connected. The weighing module is mounted stationary and outside the hazardous area.

The metrologically approved version of the weighing module has a weight display and keyboard. For the not metrologically approved version the weight display and keyboard are optional.

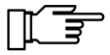
The weighing module has a metalized plastic housing and was designed for mounting on the top-hat rails TS 35 in metal control cabinets.

3.2 Operating conditions

The operator is responsible for the proper use of the device. He needs to make sure that the devices used are approved and suitable for application in the intended hazardous area.

The following conditions need to be checked before using the devices:

- Zone of hazardous area
- Explosion group
- Surface temperature
- Ambient temperature



- ➜ Before setting into operation the potentionally explosive system the operator must check the complete installation according to the valid regulations.
- ➜ If any modifications are made on the weighing module or any other components of the system, warranty expires.
- ➜ The operator needs to check or maintain the system at regular intervals and on his own responsibility
- ➜ Repairs on the device may only be performed by the manufacturer or authorized specialist workshops.

3.3 Ambient conditions for automatic weighing instruments

The device must only be installed and put into operation if the following operating conditions are met:

Electromagnetic environments as per guideline 2014/32/EU; Official Journal of the European Union, March 29, 2014 L96, page 149-250, class E2.

3.4 Identification plates

3.4.1 Identification plates on weighing module

① Type designation

② CE marking [1)]

③ No. of EC type-examination certificate

④ Ex marking zone 1

⑤ Ex marking zone 21

⑥ Year of manufacture

⑦ IP rating

⑧ Power supply bus connection

⑨ Power supply terminal

⑩ Electrical connection values

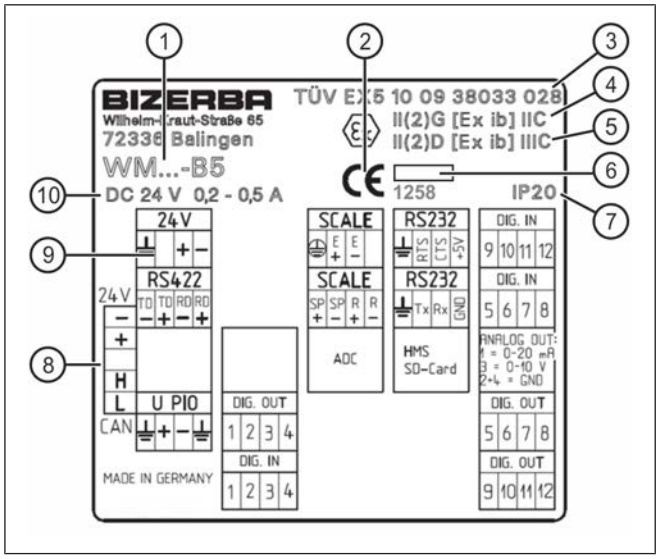


Fig. 21: Identification plate (example)

[1)] with ID number 1258 of production monitoring body (Eurofins Electrosuisse).

3.4.2 Identification plates on verification attachment

In the verifiable version of the weighing module (metrological function: "analog data processing device"), the connections are protected by a seal protected cover. The screw of the cover is secured by a protective mark.

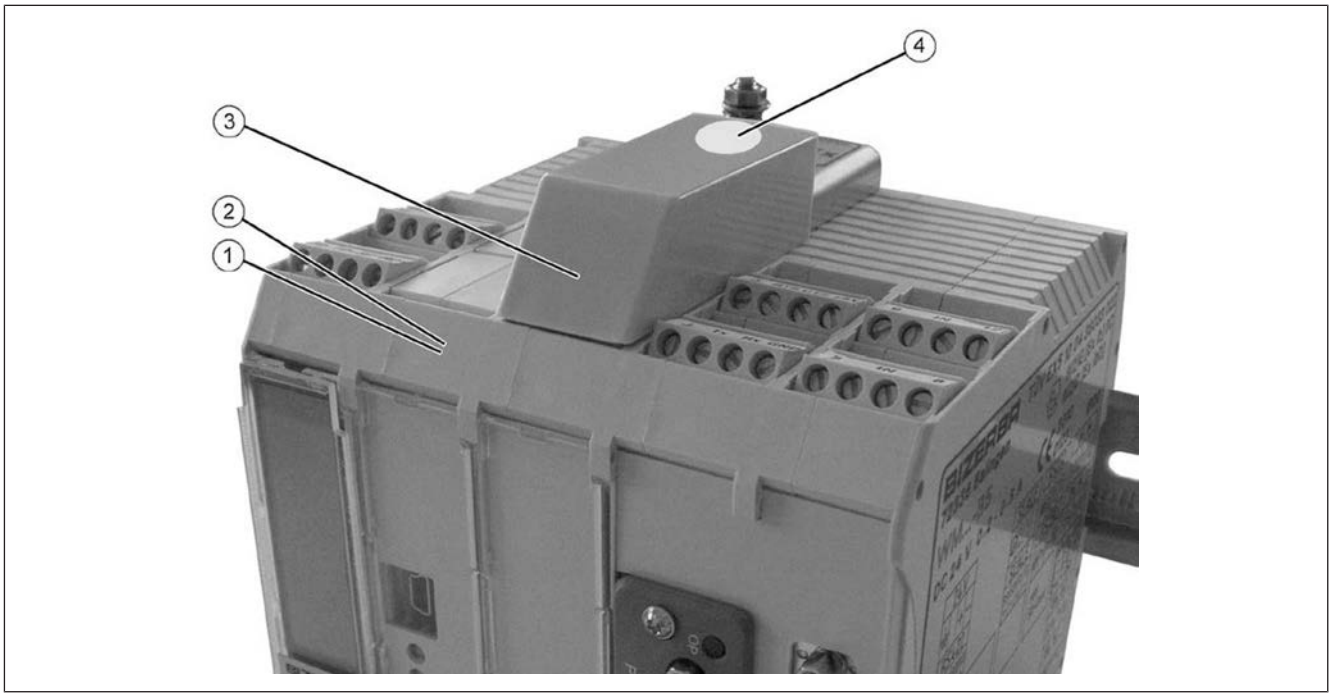
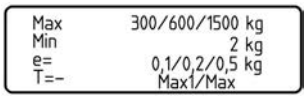
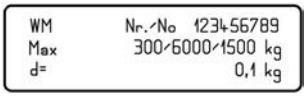


Fig. 22: Calibration mark

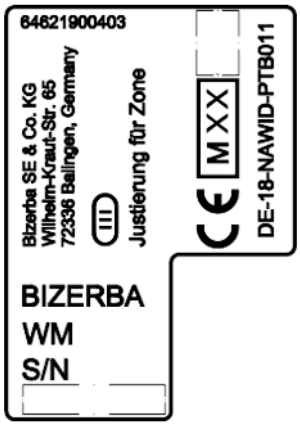
① "Verifiable" plate (example)



② "Non-verifiable" plate (example)



③ Identification plate "NAWI" (example)



④ Marking and stamping location for protective mark

3.4.3 Operating unit

The identification plate with "Max", "Min" and "e" is located at the front side of the operating unit.

Accuracy class "y(b)", "XIII(2)"

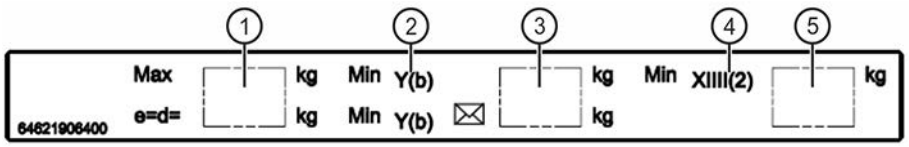


Fig. 23: Identification plate (example)

① Weighing range "Max", "e"

② Accuracy class "Y(b)"

③ Weighing range "Min" (accuracy class "Y(b)")

④ Accuracy class "XIII(2)"

⑤ Weighing range "Min" (accuracy class "XIII(2)")

Accuracy class "y(a)", "XIII(1)"



Fig. 24: Identification plate (example)

① Weighing range "Max", "e"

② Weighing range "Min"

3.5 Safety instructions



⚠ DANGER

Devices without approval for hazardous areas!

Danger to life due to explosion.

➜ All devices must be approved for the hazardous area.

➜ The entire installation must be checked for applicable guidelines (e.g. IEC EN 60079-14).

➜ Observe accident prevention regulations (UVVs).



⚠ DANGER

Soldering work in hazardous areas!

Danger to life due to explosion.

➜ Comply with fire protection regulations.

➜ Soldering must **not** be performed in potentially explosive atmosphere!

➜ Observe accident prevention regulations (UVVs).



⚠ DANGER

Generation of hazardous ignitions!

Danger to life due to explosion.

➜ Handle entire system with care.

➜ Check for damages.

➜ Prevent depositing of dust and dirt.

➜ Take defective devices out of operation.

➜ Comply with fire protection regulations.



⚠ DANGER

Generation of ignitable sparks due to interruptions and short circuits!

Danger to life due to explosion.

➜ For connection, use certified explosion-proof junction boxes only.

➜ For connection, use certified explosion-proof plug-in connections only.

➜ Observe accident prevention regulations (UVVs).

3.6 Mounting

The weighing module is installed outside the potentionally explosive area on a carrying rail TS35 in a metallic switch cabinet.

3.7 Power supply

The power supply is analog to WM-3. [▶ 17]

To prevent interference, the primary part of the power pack must be grounded (PE), either using the clip that is in contact with the grounded carrying rail or via the connection terminal. The device must be supplied with a power limitation of up to 100 VA from a 24 V DC voltage source (SELV or PELV).

Only valid for USA and Canada

As per the National Electrical Code NEC the power supply must comply with NFPA 70 Class 2. Relevant protection of the supply service to be provided by customer.

3.7.1 Power supply via terminal

The power supply terminal of the weighing module is located on the device top side, see figure.

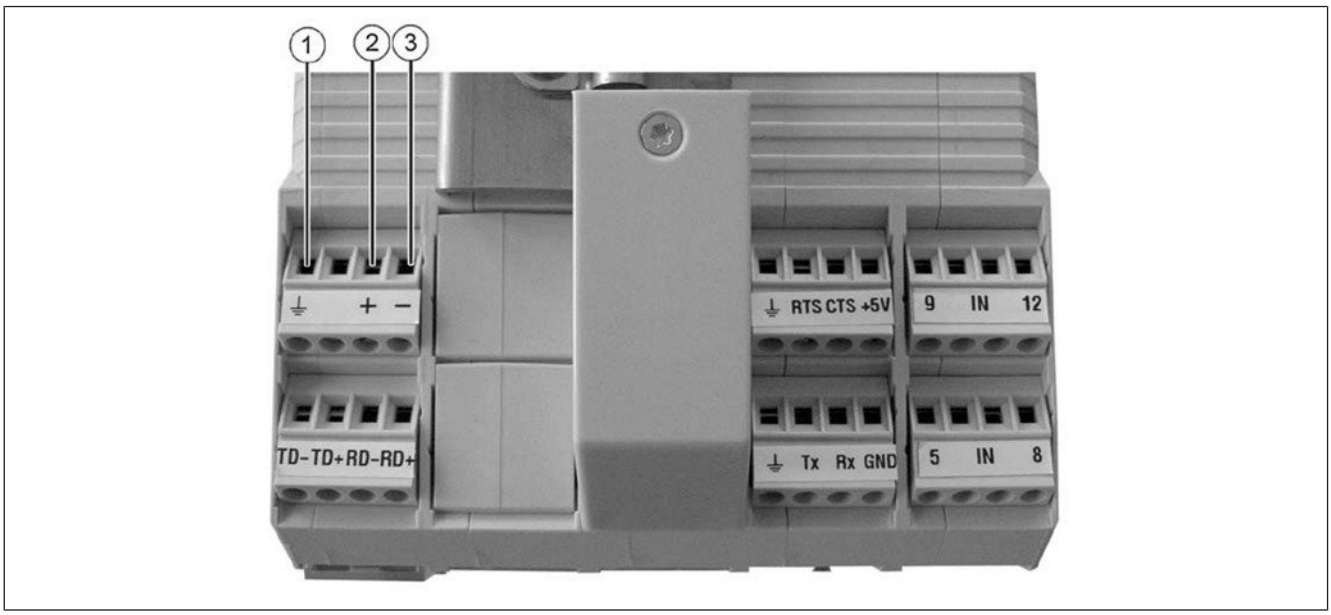


Fig. 25: Terminal, power supply 24V

① PE: Line shielding

② Power supply, plus

③ Power supply, minus

3.8 Connections

The connection of the signal line is analog to weighing module WM-3. [▶ 19]



➜ Cable shieldings have to be connected to earth (PE) before the module, e.g. where the cables enter the housing. In addition, cable shieldings must be connected to the interface earth terminal.

➜ Signal lines must have a power limitation of 100 VA.

➜ Only valid for USA and Canada: As per the National Electrical Code NEC the power supply must comply with NFPA 70 Class 2.

3.8.1 Connections on the top side of the device

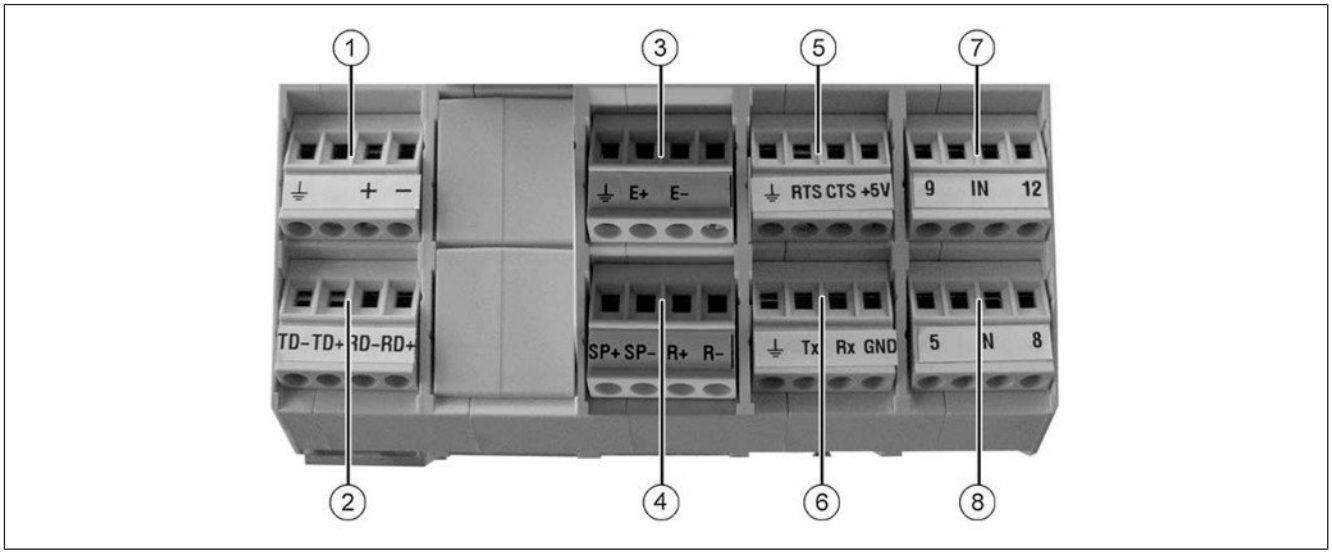


Fig. 26: Top side of device

① Power supply 24 V
② RS422
③ Connections of load receptor
④ Connections of load receptor
⑤ RS232
⑥ RS232
⑦ Inputs 9-12
⑧ Inputs 5-8

3.8.2 Connections on the bottom side of the device

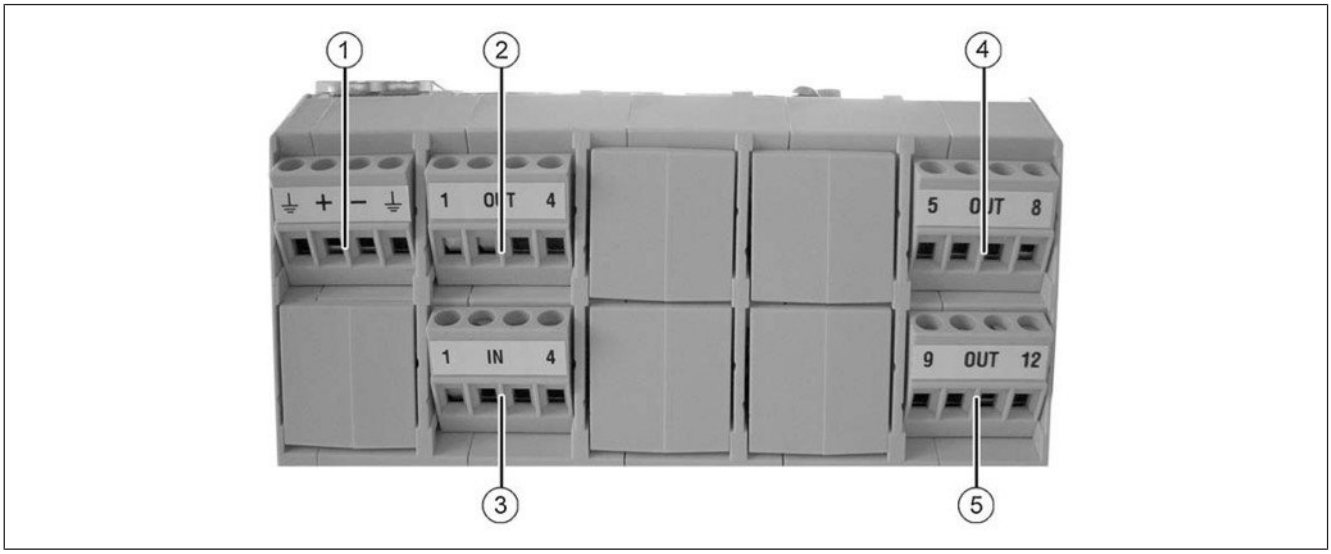


Fig. 27: Bottom side of device

① Power supply PIO

② Outputs 1-4

③ Inputs 1-4

④ Outputs 5-8

⑤ Outputs 9-2

3.8.3 RS232 interface

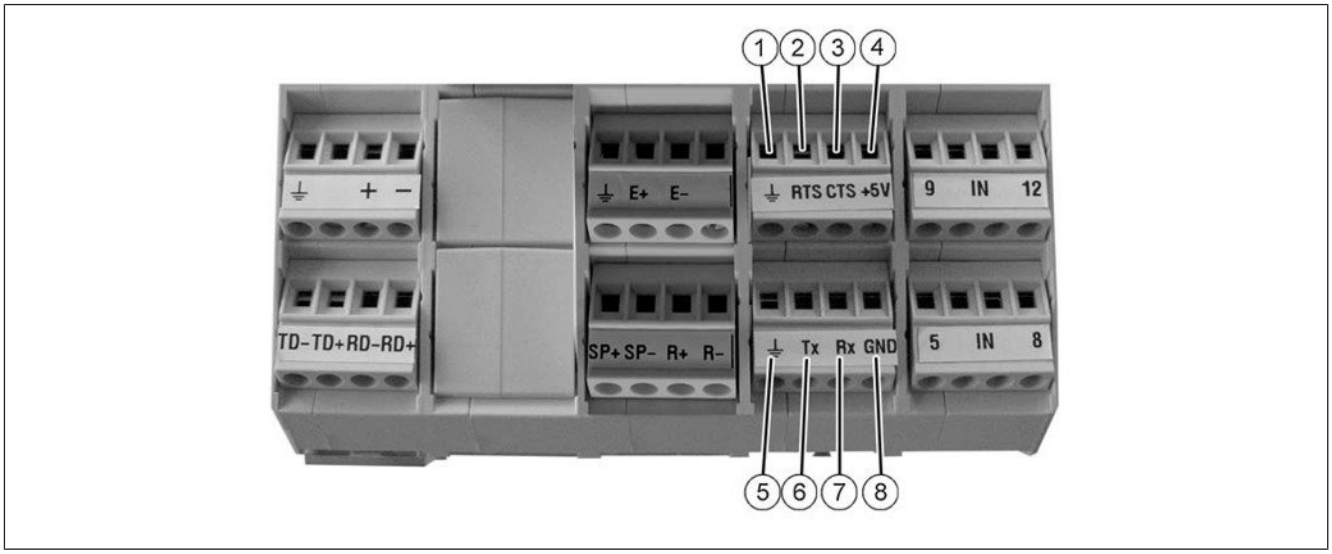


Fig. 28: RS232 interface

① PE: Line shielding

② RTS: Control cable

③ CTS: Control cable

④ $+5V_{RS}$, approx. 200 mA

⑤ PE: Line shielding

⑥ TX: Transmitter

⑦ RX: Receiver

⑧ GND_{RS}

3.8.4 RS422 interface

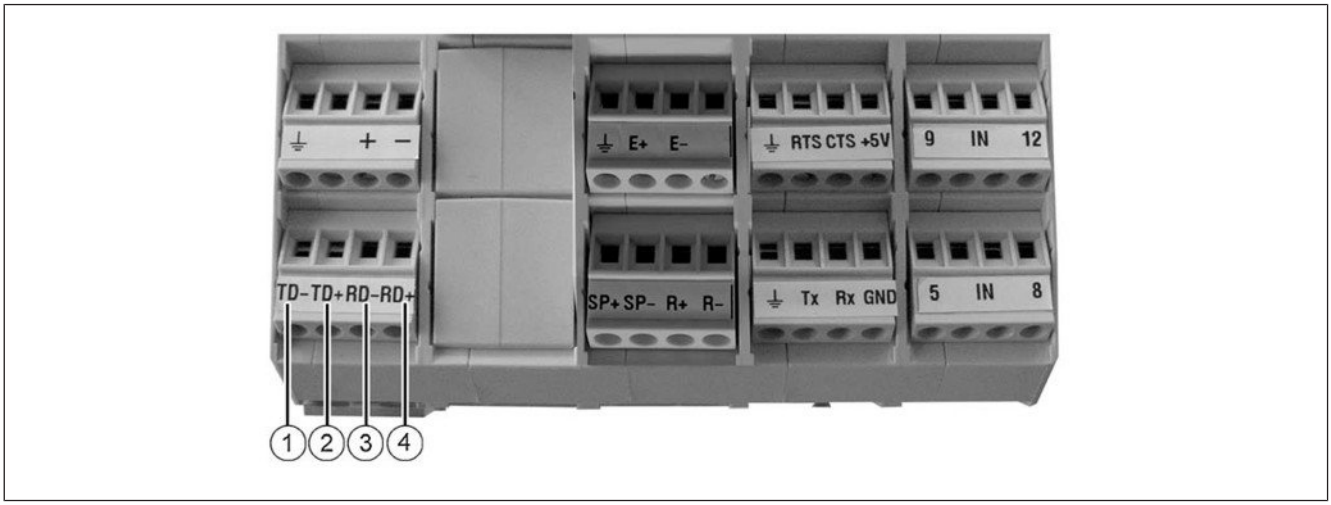


Fig. 29: RS422 interface

① TD-: Transmit -

② TD+: Transmit +

③ RD-: Receive -

④ RD+: Receive +

3.8.5 PIO

The connections are located on the bottom and top side of the device.

PIO top side of device

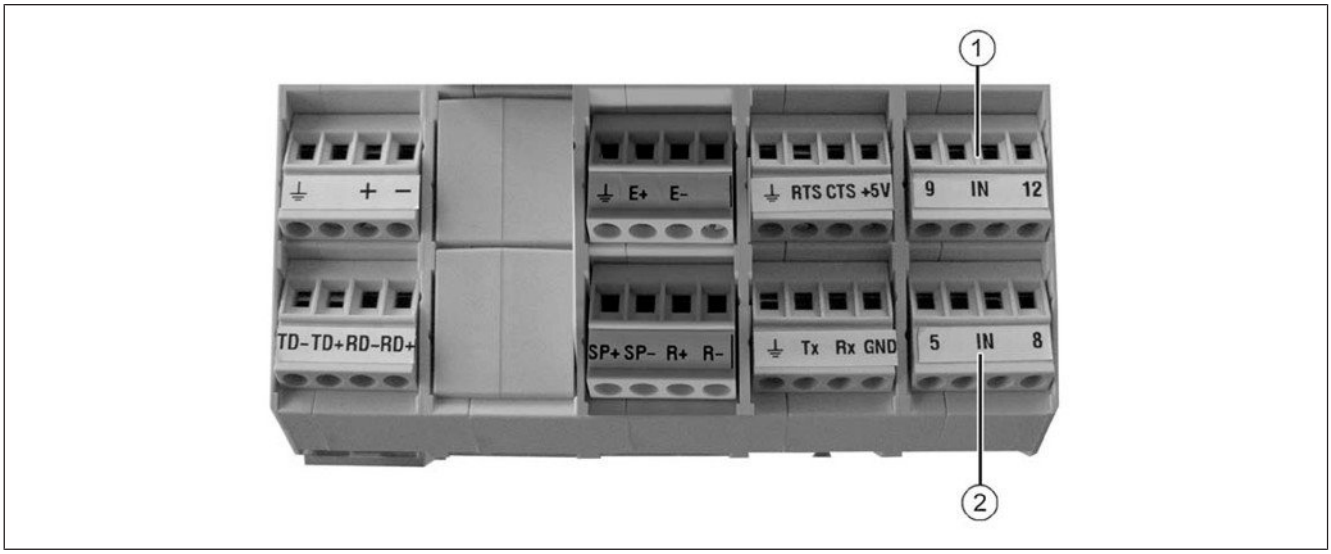


Fig. 30: PIO top side of device

① Inputs 9-12

② Inputs 5-8

PIO bottom side of device

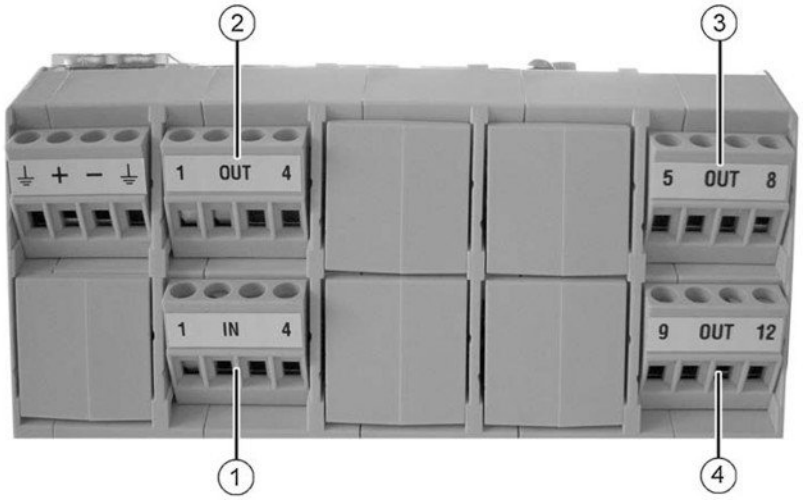


Fig. 31: PIO bottom side of device

① Inputs 1-4

② Outputs 1-4

③ Outputs 5-8

④ Outputs 9-12

PIO 4x4/PIO 8x8

The logic setting needs to be checked at the PIO output.

Default setting:

– Positive logic

If an error occurs and time monitoring triggers a signal, the output ports assume a high impedance state (tri-state).

3.9 Connections of load receptor and potential equalization

3.9.1 Connections of load receptor

The shielding of the measuring line must be placed on the shielding plate by means of a cable clip. Therefore, it has the potential (PA = GnD IS) of the hazardous area. For explosion protection the connector of the measuring line needs to be protected by engaging and fastening the sealing cover.

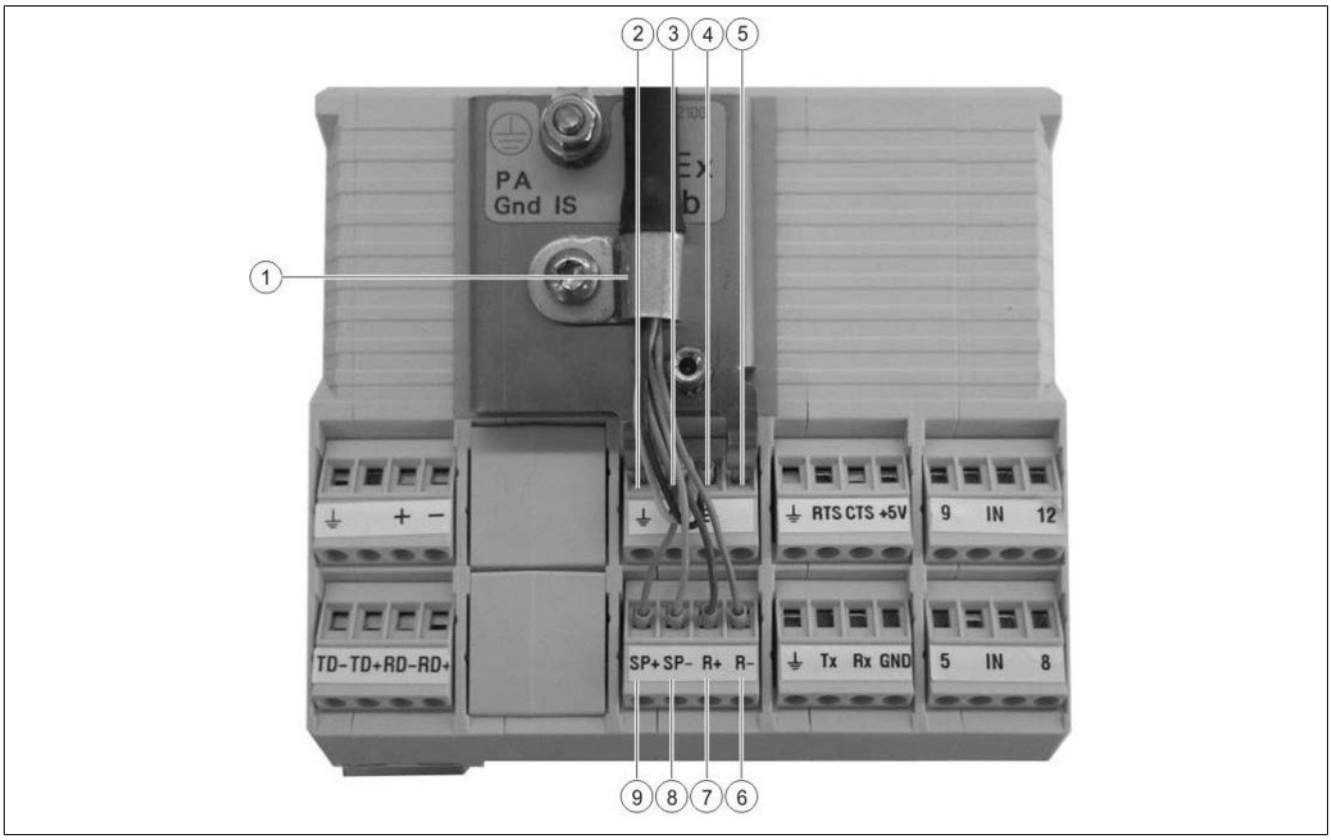


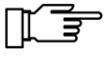
Fig. 32: Connections of load receptor

Terminal assignment of analog load receptor

①	Cable shielding	⑥	R-: Response - (pink[1)])
②	PA: Potential equalization	⑦	R+: Response + (grey[1)])
③	E+: Measuring signal + (brown[1)])	⑧	SP-: Supply - (yellow[1)])
④	E-: Measuring signal - (white[1)])	⑨	SP+: Supply + (green[1)])
⑤	Fuse switch (PA: secured)		

[1)] color of cable for load receptor connection.

The load receptors can be connected in 4 and 6 conductor technology. For connections in 4-wire technology, SP+ with R+ and SP- with R- have to be bridged. The PA connectors② and the safety switch ⑤ are connected by means of the two teeth of the shielding plate.



➜ With the verifiable version of the weighing module the connector of the safety switch needs to be open to adjust the scale.

➜ If the PA connector ② is also open, the area around the load receptor must not be potentially explosive.

3.9.2 Connections for potential equalization (PA)

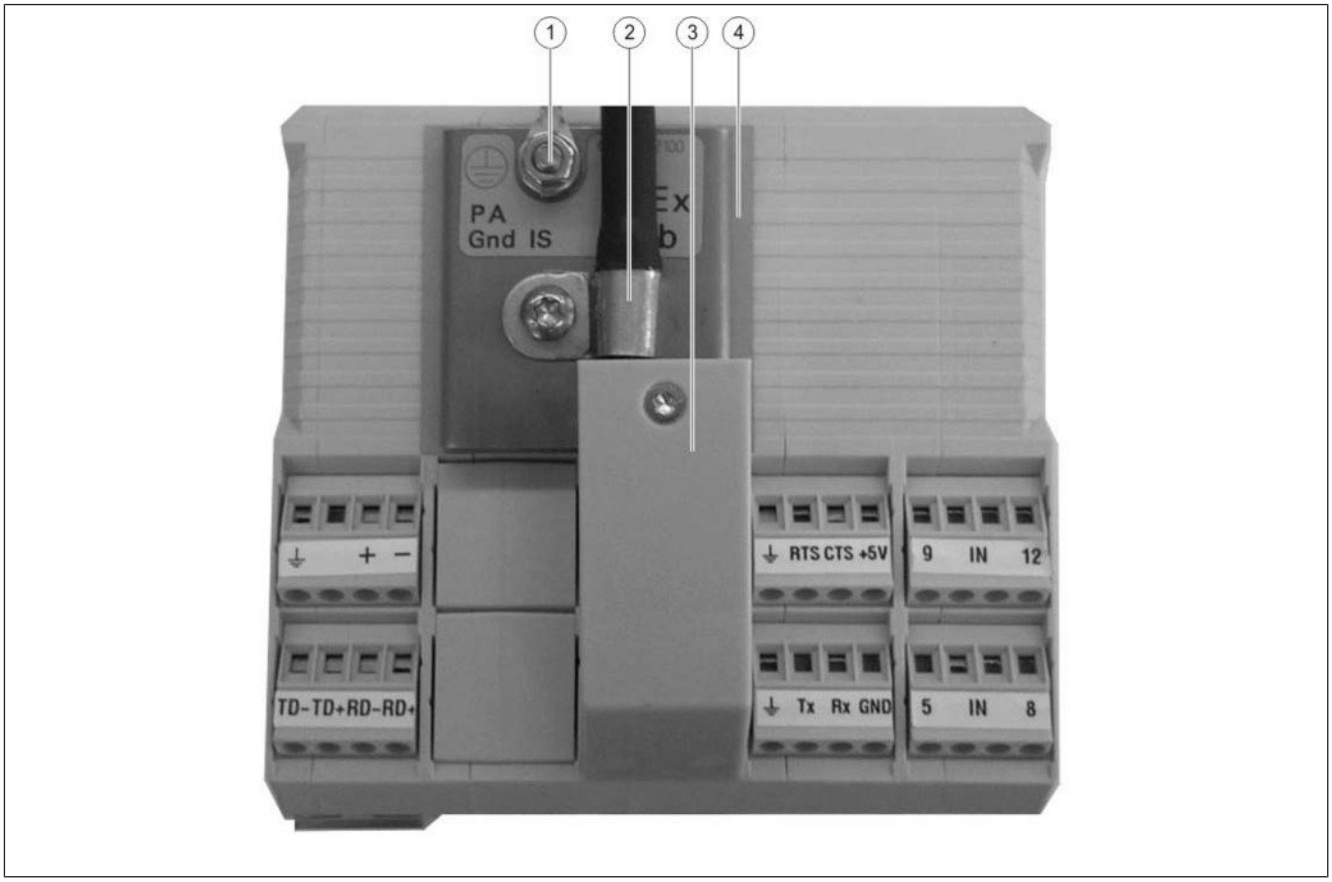


Fig. 33: Connections for potential equalization (PA)

① Potential equalization (PA)

② Cable shielding

③ Sealing cover (protection for connections)

④ Insulation foil

The potential equalization (PA = Gnd IS) has to be connected to the potential equalization rail of the potentially explosive area where the load receptor is positioned, thereby ensuring low voltage drop.

– Protected routing min. 1.5 mm² copper
– Normal routing min. 4 mm² copper

The potential equalization (PA = Gnd IS) must be connected for reasons of explosion protection. If not, the load receptor connection is not intrinsically safe [Ex ib].

Establish the connection ① via the threaded bolt (M4) on the shielding plate above the nut using a toothed washer, ring terminal, washer and a second nut.

The metal-coated plastic housing is connected to the hat-shaped carrying rail which is connected to the protective conductor PE. The insulation foil separates A = Gnd IS from PE.

3.9.3 Measuring line lengths

The following measuring line lengths to the load receptors are permitted:

Type	Supply wires [mm²]	Input resistance [Ω]	Line length [m]	Gas group for zone 1	Zone 21
WM-B5	0.34	from 85	to 100	IIC	IIIC
		from 250	to 300	IIC	IIIC
	1	from 85	to 300	IIC	IIIC
WM-B10	0.34	from 250	to 150	IIC	IIIC
	1	from 170	to 300	IIB	IIIC

3.10 Load receptors

Free-standing, unfixed and mobile scales are equipped with a spirit level. This must be checked every time the location is changed. If necessary the scales must be realigned. The following applies to all load receptors: the specified maximum loads must be observed.

The load cells need to be free of dust and other stains before operation. Dust can cause the heat dissipation to deteriorate and overheat the load cell.

Dust and any other stains need to be removed from the load cell at regular intervals. During this operation check whether the load cells are leaking. Leaking load cells can cause "creeping" or "unstable weight indications" and provide an invalid weighing result. Check if there are any corroded spots on the load cell body.

 Leaking load cells must no longer be used.

The load platters for applying the product to be weighed are connected to the measuring cable shielding with up to 10 MΩ. This grounding can not be sufficient for filling or emptying processes causing strong charges. The product to be weighed needs then to be grounded directly.

3.10.1 Permissible load receptors for zone 1 and 21

The following load receptors do not have a potential mechanical ignition source.

The load receptor must be grounded in order to discharge electrostatic charges. The measuring cable shielding is connected to the load receptor and to the potential equalization conductor of the weighing terminal.

In processes that generate weak charges, in addition to the cable shielding grounding of the load receptor using a protective earthing conductor with a cross section of 4 mm² is sufficient.

In processes that generate strong charges, in addition to the cable shielding the load receptor has to be connected to the potential equalization using a protective earthing conductor with a cross section of at least 6 mm².

Any equalizing currents occurring between the connecting points of the potential equalization must be evaluated. Item to be weighed must always be sufficiently grounded. If there is no low-resistance and no safe conductive connection to the load platter and the ground connection, additional grounding clamps must be used to ground the product to be weighed.

Permissible load receptors WM-B5

Type	Model
VE-S3 Z1/21	iL Economy 300F/SP Type2
2000 VE-L Z1/21	iL Economy 2000F/MP
4000 VE-L Z1/21	iL Economy 4000F/MP
iL Professional 50SPM/SP	iL Professional 50SPM/SP
iL Professional 150SPM/SP	iL Professional 150SPM/SP
150 Z1/21	iL Professional 150F/HY
350 Z1/21	iL Professional 350F/HY
800 VE Z1/21	iL Professional 800F/MP
iL F3000	iL F3000
7500 VE-3 Z1/21	iL Professional 7500F/MP
750 VE-FK Z1/21	iL Special 750M/MP
750 VE-ED Z1/21	iL Special 750E/MP
2000 VE-D Z1/21	iL Special 4000D/MP
4000 VE-D Z1/21	iL Special 4000D/MP
2000 VE-D Z1/21	iL Special 2000FF/MP
600 VE-P Z1/21	iL Special 3000U/MP
3000 VE-P Z1/21	iL Special 3000U/MP
LE-B Z1/21	iL Special 40000L/MP
LE-R Z1/21	iL Special 40000L/MP

Permissible load receptors WM-B10

Type	**Model**
VE-S3 Z1/21	iL Economy 300F/SP Type2
2000 VE-L Z1/21	iL Economy 2000F/MP
4000 VE-L Z1/21	iL Economy 4000F/MP
iL Professional 50SPM/SP	iL Professional 50SPM/SP
iL Professional 150SPM/SP	iL Professional 150SPM/SP
800 VE Z1/21	iL Professional 800F/MP
iL F3000	iL F3000
7500 VE-3 Z1/21	iL Professional 7500F/MP

Type	Model
750 VE-FK Z1/21	iL Special 750M/MP
750 VE-ED Z1/21	iL Special 750E/MP
2000 VE-D Z1/21	iL Special 4000D/MP
4000 VE-D Z1/21	iL Special 4000D/MP
2000 VE-D Z1/21	iL Special 2000FF/MP
600 VE-P Z1/21	iL Special 3000U/MP
3000 VE-P Z1/21	iL Special 3000U/MP
LE-B Z1/21	iL Special 40000L/MP
LE-R Z1/21	iL Special 40000L/MP

3.10.2 Released intrinsically safe load cells for zone 1 and 21



→ The overall resistance of the load cells switched in parallel must be larger than 87 Ω (4x350 Ω).
→ The load cell must be provided with the listed approval number.

Load cell	Manufacturer	ATEX EU type examination certificate	Resistance [Ω]	Zone 1		Zone 21	
				Group	Class	Group	Temperature
BB15…Ex, BR…Ex	Bizerba	TÜV EX5 03 05 38033 019	1000	IIC	T6	IIIC	T80°C
BL…Ex	Bizerba	PTB 97 ATEX 2147	350	IIC	T6	Not permitted	
BK2, PC6, SB4, SB6	Flintec	BVS 09 ATEX E 086 X	1100	IIC	T6	IIIC	T80°C
HLC…, PW…, Z6…, SP4…	HBK (Hottinger)	BVS 13 ATEX E 108 X	350	IIC	T6/T4	IIIC	T125°C



When complying with the connection values for intrinsic safety, additional load cells may be connected at your own responsibility.

3.10.3 Load cell junction boxes

The load cell junction boxes connect the load cells to the measuring cable leading to the weighing terminal. Resistors are connected to the supply line in order to compensate the load cells.



In the hazardous area soldering is only permitted if the presence of the explosive atmosphere is safely prevented.

Permissible load cell junction boxes

The following load cell junction boxes can be used in zone 1 (Ex ib IIC T6), zone 2 (Ex ec IIC T6), zone 21 (Ex ib IIIC T80°C) and zone 22 (Ex tc IIIC T80°C).

Marking	Housing	Connection
568.33.010	Cast aluminum	Soldered connection
568.33.020	Cast aluminum	Terminals
568.33.030	Stainless steel	Terminals
568.33.060	Cast aluminum	Soldered connection
568.37.xxx	Chromium-plated plastic	Soldered connection

3.11 Proof of intrinsic safety

Resources	in/out	Ex marking (group)	U [V]	I [mA]	P	L	C
WM-B5	out	IIC	9.15	163	973 mW	500 µH	250 nF
WM-B10	out	IIC	14.0	163	1.49 W	150 µH	180 nF
	out	IIB	14.0	163	1.49 W	2 mH	1 µF
Measuring cable 100 m	in		–	–	–	100 µH	20 nF
Measuring cable 300 m	in		–	–	–	300 µH[1)]	60 nF
Junction box for load cells	in	IIC T6	–	250	–	0	0
BB15...Ex	in	IIC T6	17	210	–	0	0
BR...Ex	in	IIC T6	23.0	–	1.6 W	0	0
BK2, PC6, PCB, SB4, SB6	in	IIC T6	30	–	4 W	0	0
HLC…, PW…, Z6…	in	IIC T6	30	500	4 W	0	0

[1)] This value is too high for WM-B10 for group IIC.

"–" = No limit to be observed.

4 Operation

4.1 External operating unit for WM-3 Industrial Weighing Terminal and WM-B

4.1.1 Display

The display contains the following symbol groups:

– 7-segment display for numeric data
– Status symbols
– Bar display

The display shows the verified weight values. The 7-segment display is used to display numeric values (display of the determined weight in mass units or the number of pieces). The bar graph is used for the analog display of measured values. Changes to the measured values can be visually assessed very quickly with this display. The symbols are used to indicate different operating states. It is possible to display the PIO I/O in the bar display.

4.1.2 Display areas

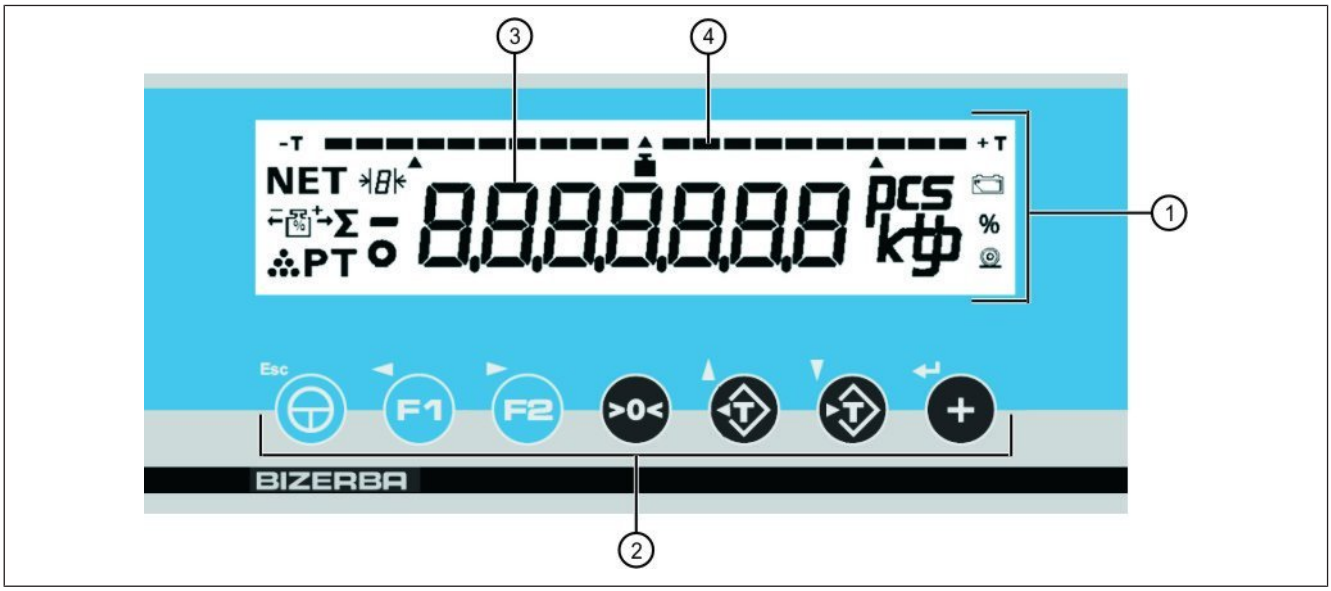


Fig. 34: Operating unit

① Total display area
② Membrane keyboard
③ 7-segment display
④ Bargraph indicator display

4.1.3 Symbols in the display

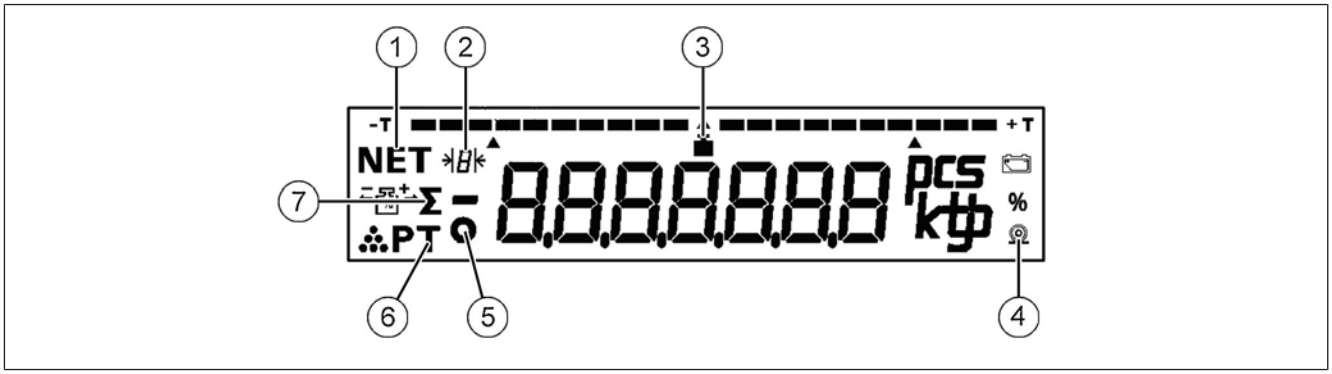


Fig. 35: Symbols in the display

① **NET** Net display
The scale is tared.

② – On multi range scales: Display of the current weighing range.
– Character for special functions.

③ Display of verification status:
– Continuous display of the weight symbol: metrologically verified.
– Weight symbol not displayed: not verified or saved.
– Flashing display of weight symbol: not verified but saved.

④ Recording symbol/print symbol, activated during recording.

⑤ Exact zero symbol
Weight value within ±½ display e

⑥ **T** Display of tare value.

⑦ **Σ** Display of total.

4.1.4 Keys of the operating unit

These keys have different functions, depending on the operating mode of the device. The function of the keys is shown in the display by symbols or characters. Direct functions or further menus are called with the fixed function keys.

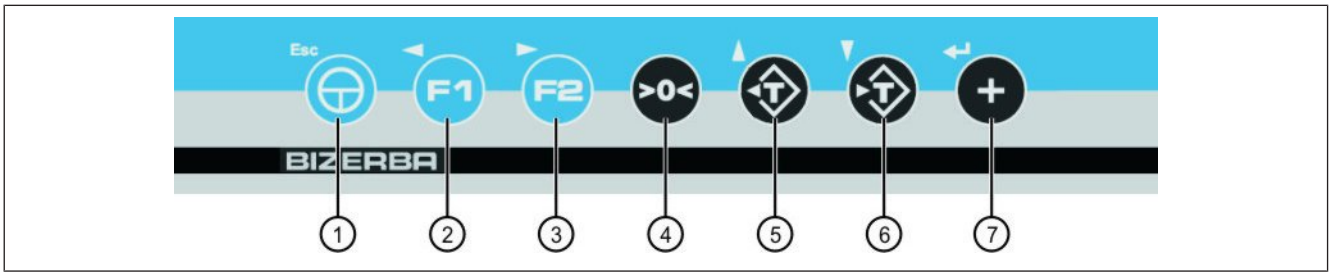


Fig. 36: Keys of the operating unit

Main menu functions

① <Reset>
Reset

② <F1>
Call up menu

③ <F2>
Start functions

④ <>0<>
Set Zero

⑤ <◀TL>
Delete tare

⑥ <▶TA>
Tare balancing

⑦ <+>
Recording

Function in the submenu

① <ESC>
Back to main menu

② <◀>
Call submenu

③ <▶>
Back one menu level

④ Without function

⑤ <▲>
Cursor key up

⑥ <▼>
Cursor key down

⑦ <Enter>
Open menu. Confirm input.

Operation

➜ Press the key slightly.

You will hear an acoustic signal. Certain keys remain activated after pressing. These keys are deactivated if pressed again.

4.1.5 Operating procedures

										Main Display
						B		A		Weighing operation
						PAR	◀	NO.	◀	1,000kg
						↵ Enter		↵ Enter		◀ F1 - Function menu
PIO	◀	SCALE	◀	LIMIT	◀	b-LIT		GROSS		▶ F2 - High resolution display STOP counting
↵ ▼		↵ Enter		↵ Enter		↵ Enter		↵ Enter		▲ TL - Delete tare
OUT/IN		RUN		LIMIT 1-6		ON		GROSS x10		▼ TA - Balance tare
▼▲ ↵		▼▲ ↵		▼▲		▼▲ ↵		▼▲ ↵		↵ + - Recording
IN		HOLD		Zero zone +		OFF		TARE		Esc I/O - Cold start - STOP counting
▼▲ ↵		▼▲ ↵		▼▲		▼▲ ↵		▼▲ ↵		>0< Zerosetting
OUT				Zero zone -				TARE x10		>0< 2s BootLog pressed
▼▲ ↵				▼▲				▼▲ ↵		
↵ Bar On/Off								NET		
								▼▲ ↵		
								NET x10		
								▼▲ ↵		
								↵ Adoption of main display		
								▶ F2 – main display		

Fig. 37: Operating procedures

4.1.6 Switching device on

➜ <Reset>

The automatic function test starts. After about one second, all display segments are displayed for test.

After the function test the following information is successively displayed:

– The first part of the ID. Example: "6.462.55"
– The last part of the ID. Example: "5.12.0"
– Release date. Example: "01.05.23"

– ADC type. Example: "AdC.dC"



The program number must be split for display reasons.

If a verifiable memory is present and ready for operation in the device, the following display appears after approx. another second:

– "ES on": The verifiable memory is ready for operation.
– "0,000 kg": The scale is in weighing mode (main menu).

4.1.7 Menu call-up

The individual menus can be directly called from the main menu.

✓ The device is switched on.

✓ The main menu is displayed. Example: "2,456 kg"

Call up menu

➜ Press <F1> several times until the desired device parameter (menu) appears.

➜ <Enter>

The parameter list is opened.

➜ <▼>

The next parameter in the open parameter list is called up.

➜ <▲>

The previous parameter in the open parameter list is called up.

➜ <Enter>

The selected function is carried out.

➜ <▶>

Back one menu level.

Change to main menu

➜ <ESC>

or

➜ <▶>

4.1.8 Weight value

If "0,000" is displayed **without** weight unit, the scale is in motion condition. If "0,010 kg" is displayed **with** weight unit, the scale is not in motion.



Set the weight unit during scale adjustment in the Configuration Tool, see operating instructions Configuration Tool.

✓ The weighing conveyor is empty.

✓ The main menu is displayed.

Setting weight value to zero

➜ <>0<>

If "0,000 kg" appears, the scale is stable and the display is set to "zero".

4.1.9 Display underload and overload

The weight value is displayed between -2% of the default setting and max. + +9e. Outside these limits, lower case "u" is displayed for underload and "n" for overload in the weight display in all decades, and printout is prevented simultaneously.

Underload display:



Fig. 38: Underload

Overload display:



Fig. 39: Overload

4.1.10 Taring/deleting tare

A tare function is ended with the function key or by opening a new tare function (subsequent taring). Only the last called or weighed tare value is active.

Special national verification regulations apply for the described tare functions in some countries.

✓ The main menu is displayed.

Defining weight as tare

➜ <Reset>

Device restart

➜ Place weight on the scale.

The gross weight appears. Example: "2,456 kg"

➜ <▶TA>

The weight on the scale is defined as tare.

"NET 0,000 kg" appears.

The scale is tared and the net weight is 0.000 kg.

Deleting tare

➜ <◀TL>

The gross weight appears. Example: "2,456 kg"

4.1.11 Zero setting of scale

If weight display is not equal to "0" (example: "- 0.002 kg"), when no package is on the scale, it can be set to zero manually.

✓ The scale has to be stable and within the zero setting range. Manual zero setting is only possible within a range of ±2% of the max. weight.
✓ The main menu is displayed.

➜ <>0<>

The weight display is set to 0.

If the <>0<> key is pressed for more than 2 seconds, the "bootLoG" menu appears. [▷ 76]

4.1.12 Recording

The recording process with acquisition of the weight value, PC/EDP dialog and printout, is marked in the display by the  recording icon.

✓ The main menu is displayed.

Recording

➜ <+>

The recording icon appears briefly during the recording process with acquisition of the weight value. If registration is completed quickly, the registration symbol is not displayed at all.

4.1.13 Switching the fine resolution display on and off

The fine resolution display shows the weight value in tenfold resolution.

✓ The main menu is displayed.

Switching the fine resolution display on

➜ <F1>
"Anz" appears.
➜ <Enter>
"FinE On" appears.
➜ <Enter>

Switching the fine resolution display off

➜ <F1>
"Anz" appears.
➜ <Enter>
"FinE On" appears.
➜ <▼>
"FinE OFF" appears.
➜ <Enter>

4.1.14 LCD lighting, limit values, scale value, PIO

Use menu "PAr" to set or display the following functions:

– LCD lighting
– Limit values
– Weight display
– PIO display



From menus "b-Lit", "Limit", "SCALE" and "PIO" you can switch to the next menu with <◀>.

✓ The main menu is displayed.

Switching the LCD display lighting on and off

➞ Press <F1> several times until "PAr" appears.
➞ <Enter>
The "b-Lit" menu appears.
➞ <Enter>
LCD lighting "On" appears.
➞ <▼>
Repeated pressing switches the LCD lighting on and off alternately.
➞ <Enter>
The setting is applied.
➞ Exit submenu: <▶>

or

➞ Call up main menu: <ESC>

Limit values and zero zone

➞ Press <F1> several times until "PAr" appears.
➞ <Enter>
The "b-Lit" menu appears.
➞ <◀>
"Limit" appears.
➞ <Enter>
The limit value 1 appears. Example: "1 0.500 kg" or "100 pcs"
➞ Press <▼> several times.
The limit values 2-6 appear.
➞ <▼>
"0-Zone+" appears. Example: "0.075 kg" or "10 pcs"
➞ <▼>
"0-Zone-" appears. Example: "0.050 kg" or "15 pcs"

➜ <▶>

"Limit" appears.

➜ <ESC>

The main menu appears.

Scale value display



"HoLd" is only displayed if the "dynamic" operating mode is active. If so, "H" appears in the main menu. If not, it is automatically switched to "run".

➜ Press <F1> several times until "PAr" appears.

➜ <Enter>

"b-Lit" appears.

➜ Press <◀> several times until the scale value display "SCALE" appears.

➜ <Enter>

The last setting "HoLd" or "run" is displayed.

➜ <▼>

Repeated pressing switches between "run" (continuous weight display) and "HoLd" (static weight display of last recorded value).

➜ <Enter>

The selection is activated.

➜ Exit submenu: <▶>

or

➜ Call up main menu: <ESC>

Parallel input / output display

The parallel input / output display can show up to 12 inputs and 12 outputs.



If the tolerance control display is active, the parallel input / output display "PIO" is not active.

➜ Press <F1> several times until "PAr" appears.

➜ <Enter>

"b-Lit" appears.

➜ Press <◀> several times until "PIO" appears.

➜ <Enter>

The "in/out" data selection appears.

The outputs P01 and P04, and the input P02 are active.

➜ <▼>

Repeated pressing switches between "in" and "out".

➜ <Enter>

The selected port display is activated.

– Input display "in": P02 is active and the bargraph is displayed.

– Output display "out": P01, P02, P04, P08, P09, P11, P12 are active and the bargraph is displayed.

➞ <Enter>

Repeatedly pressing switches the bargraph on and off alternately.

➞ Exit submenu: <▶>

or

➞ Call up main menu: <ESC>

4.2 External operating unit for WM-3 Logistics Weighing Terminal

4.2.1 Display

The display contains the following symbol groups:

– 7-segment display for numeric data

– Status symbols

– Bar display

The display shows the verified weight values. The 7-segment display is used to display numeric values (display of the determined weight in mass units or the number of pieces). The bargraph is used for the analog display of measured values. Changes to the measured values can be visually assessed very quickly with this display. The bargraph is activated in operating modes weighing and counting if the tolerance control is started. The symbols are used to indicate different operating states. It is possible to display the PIO I/O in the bar display. When the tolerance control is active, this setting is hidden.

4.2.2 Display areas

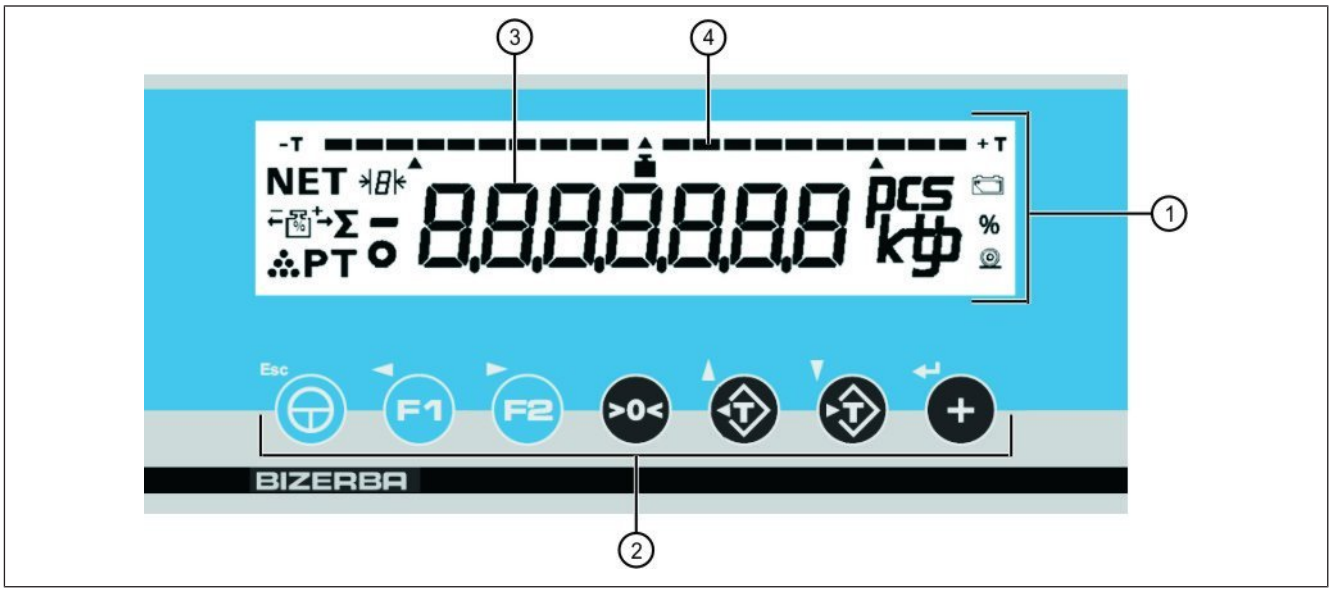


Fig. 40: Operating unit

① Total display area

② Membrane keyboard

③ 7-segment display

④ Bargraph indicator display

4.2.3 Symbols in the display

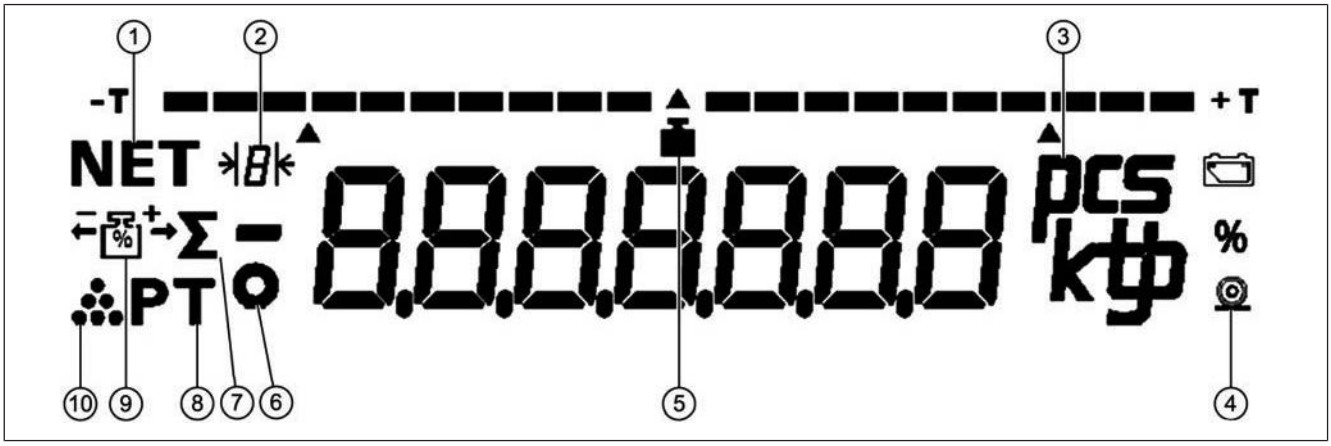


Fig. 41: Symbols in the display

① NET Net display
The scale is tared.

② – On multi range scales: Display of the current weighing range.
– Exact zero [1)]
– Character for special functions.

③ Measuring unit
Unit is hidden when scale is unstable.

④ Recording symbol/print symbol, activated during recording.

⑤ Display of verification status:
– Continuous display of the weight symbol: metrologically verified.
– Weight symbol not displayed: not verified or saved.
– Flashing display of weight symbol: not verified but saved.

⑥ Exact zero icon[1)]
Weight value within ±½ display e

⑦ Σ Display of total.

⑧ T Display tare value T

⑨ Tolerance check function is active.
If activated with % input, the % symbol is activated.

⑩ ✓ Devices with option "VCM" (Vibration Compensation Module).
Display of symbol: Vibration compensation is switched on.
No display of symbol: Vibration compensation is switched off.

[1] By default, exact zero is displayed with symbol ⊙. However, this representation is not authorized in some countries. In this case, exact zero is displayed with symbol →0←. The display is configurable in the Configuration Tool, see operating instructions Configuration Tool (applications for CWL).

NOTICE! The configuration is only possible for not metrologically approved scales. If the representation with symbol →0← is selected, an application of multi-range and multi-interval scales is not possible. As soon as a multi-range and multi-interval scale is recalibrated, the display automatically switches to symbol ⊙.

4.2.4 Keys of the operating unit

These keys have different functions, depending on the operating mode of the device. The function of the keys is shown in the display by symbols or characters. Direct functions or further menus are called with the fixed function keys.

The assignment of function keys with functions and command sequences can be modified and adjusted to operational procedures.

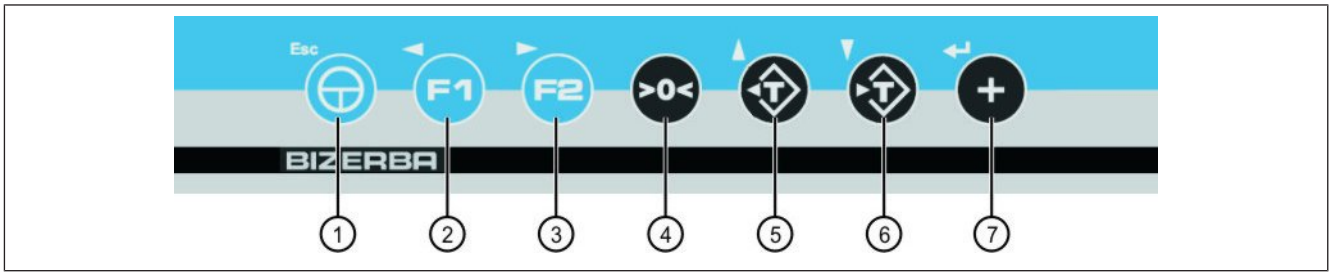


Fig. 42: Keys of the operating unit

Main menu functions

① <Reset>
Reset

② <F1>
Call up menu

③ <F2>
Start functions

④ <>0<>
Set Zero

⑤ <◀TL>
Delete tare

⑥ <▶TA>
Tare balancing

⑦ <+>
Recording

Function in the submenu

① <ESC>
Back to main menu

② <◀>
Call submenu

③ <▶>
Back one menu level

④ Without function

⑤ <▲>
Cursor key up

⑥ <▼>
Cursor key down

⑦ <Enter>
Open menu. Confirm input.

Operation

➜ Press the key slightly.

You will hear an acoustic signal. Certain keys remain activated after pressing. These keys are deactivated if pressed again.

4.2.5 Operating procedures

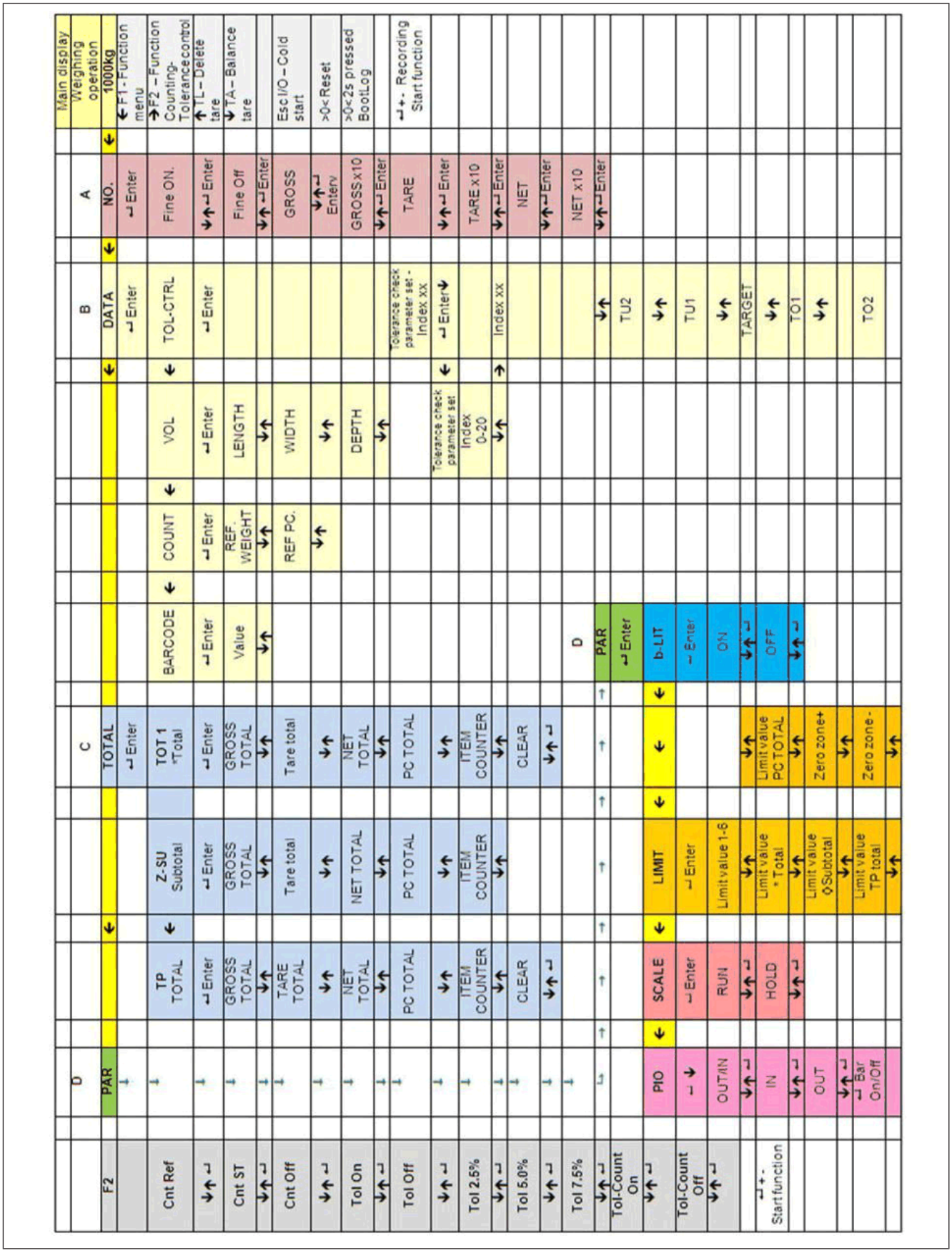


Fig. 43: Operating procedures

4.2.6 Switching device on

➜ <Reset>

The automatic function test starts. After about one second, all display segments are displayed for test.

After the function test the following information is successively displayed:

– The first part of the ID. Example: "6.462.55"
– The last part of the ID. Example: "5.12.0"
– Release date. Example: "01.05.23"
– ADC type. Example: "AdC.dC"



The program number must be split for display reasons.

If a verifiable memory is present and ready for operation in the device, the following display appears after approx. another second:

– "ES on": The verifiable memory is ready for operation.
– "0,000 kg": The scale is in weighing mode (main menu).

4.2.7 Menu call-up

The individual menus can be directly called from the main menu.

✓ The device is switched on.
✓ The main menu is displayed. Example: "2,456 kg"

Call up menu

➜ Press <F1> several times until the desired device parameter (menu) appears.
➜ <Enter>
The parameter list is opened.
➜ <▼>
The next parameter in the open parameter list is called up.
➜ <▲>
The previous parameter in the open parameter list is called up.
➜ <Enter>
The selected function is carried out.
➜ <▶>
Back one menu level.

Change to main menu

➜ <ESC>

or

➜ <▶>

4.2.8 Weight value

If "0,000" is displayed **without** weight unit, the scale is in motion condition. If "0,010 kg" is displayed **with** weight unit, the scale is not in motion.

Set the weight unit during scale adjustment in the Configuration Tool, see operating instructions Configuration Tool.

✓ The weighing conveyor is empty.

✓ The main menu is displayed.

Setting weight value to zero

➜ <>0<>

If "0,000 kg" appears, the scale is stable and the display is set to "zero".

4.2.9 Display underload and overload

The weight value is displayed between -2% of the default setting and max. + +9e. Outside these limits, lower case "u" is displayed for underload and "n" for overload in the weight display in all decades, and printout is prevented simultaneously.

Underload display:



Fig. 44: Underload

Overload display:



Fig. 45: Overload

4.2.10 Taring/deleting tare

A tare function is ended with the function key or by opening a new tare function (subsequent taring). Only the last called or weighed tare value is active.

Special national verification regulations apply for the described tare functions in some countries.

✓ The main menu is displayed.

Defining weight as tare

➜ <Reset>

Device restart

➜ Place weight on the scale.

The gross weight appears. Example: "2,456 kg"

➞ <▶TA>

The weight on the scale is defined as tare.

"NET 0,000 kg" appears.

The scale is tared and the net weight is 0.000 kg.

Deleting tare

➞ <◀TL>

The gross weight appears. Example: "2,456 kg"

4.2.11 Zero setting of scale

If weight display is not equal to "0" (example: "- 0.002 kg"), when no package is on the scale, it can be set to zero manually.

✓ The scale has to be stable and within the zero setting range. Manual zero setting is only possible within a range of ±2% of the max. weight.

✓ The main menu is displayed.

➞ <>0<>

The weight display is set to 0.

If the <>0<> key is pressed for more than 2 seconds, the "bootLoG" menu appears. [▷ 76]

4.2.12 Recording

For the formation of totals, weighed items are recorded in a memory with number of pieces, net weight, tare weight and gross weight. Weight values without tare functions are simultaneously totaled to form gross and net weight.

The recording process with acquisition of the weight value, PC/EDP dialog and printout, is marked in the display by the  recording icon.

With the "in-motion" function, recording occurs automatically depending on the configuration (item+ or item #).

✓ The main menu is displayed.

Recording

➞ <+>

The recording icon appears briefly during the recording process with acquisition of the weight value. If registration is completed quickly, the registration symbol is not displayed at all.

4.2.13 Switching the fine resolution display on and off

The fine resolution display shows the weight value in tenfold resolution.

On a verified scale (display of verification status, display icon ON), the fine resolution display is ended again automatically after 5 seconds.

✓ The main menu is displayed.

Switching the fine resolution display on

➜ <F1>
"Anz" appears.
➜ <Enter>
"FinE On" appears.
➜ <Enter>

Switching the fine resolution display off

➜ <F1>
"Anz" appears.
➜ <Enter>
"FinE On" appears.
➜ <▼>
"FinE OFF" appears.
➜ <Enter>

4.2.14 Gross, tare, net weight display

Use menu "Anz" to activate the following displays:

– Gross display
– Gross display x10
– Tare display
– Tare display x10
– Net display
– Net display x 10

The verification status symbol is displayed for verified scales only. [▷ 57]

✓ The main menu is displayed.

Gross display (example: "G 5.238 kg")

➜ <F1>
"Anz" appears.
➜ <Enter>
Change to parameter list
➜ Press <▼> several times until the gross display appears.
➜ <Enter>

Gross display and the display icon for the verification status appear.

Gross display x 10 (example: "G 5.2383 kg")

The "gross display x10" shows the weight value with tenfold resolution. The procedure is analog to the previous function.

Tare display (example: "T 2.238 kg")

The saved tare is displayed. The procedure is analog to the previous function.

Tare display x 10 (example: "T 2.2383 kg")

The saved tare is displayed in tenfold resolution. The procedure is analog to the previous function.

Net display (example: "NET 3.000 kg")

The net weight is displayed. The procedure is analog to the previous function.

Net display x 10 (example: "NET 3.0001 kg")

The net weight is displayed in tenfold resolution. The procedure is analog to the previous function.

4.2.15 Display values of tolerance check weighing, volume data, barcode value display and counting mode display

Use menu "dAtA" to display the following functions:

- Display values of tolerance check weighing
- Volume data
- Barcode value display
- Counting operation display

From menus "toL ctL", "Vol", "Count" and "bArcodE" you can switch to the next menu with <◀>.

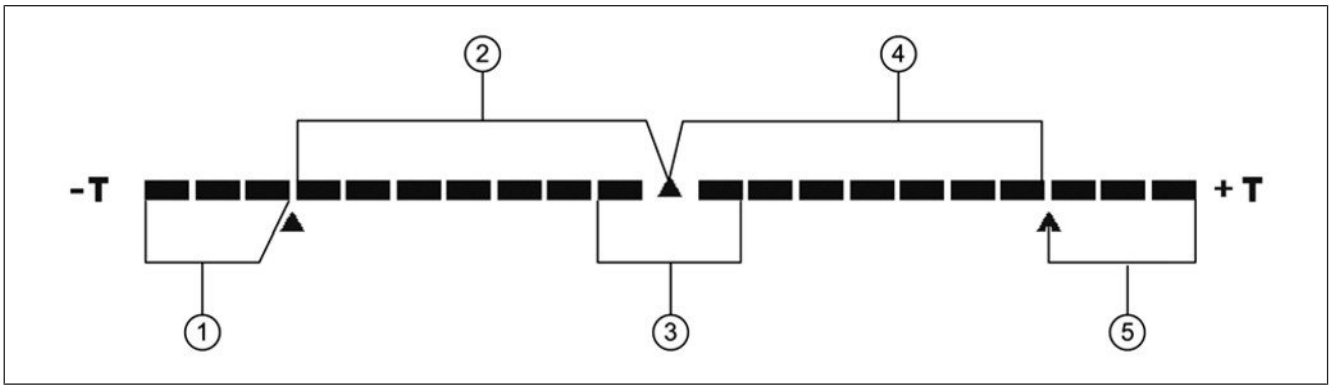


Fig. 46: Bargraph of the tolerance check "toL ctL"

① Interval LT2 to LT1

② Interval LT1 to set point

③ Set point with tolerance range

④ Interval set point to UT1

⑤ Interval UT1 to UT2

Calling the display values of tolerance check weighing

✓ The main menu is displayed.

➜ Press <F1> several times until "dAtA" appears.

➜ <Enter>

The bargraph of the tolerance check "toL ctL" appears.

➜ <Enter>

The last called index appears. Example: "Ind 01"

➜ <▼>

Tolerance value LT2 appears.

When pressed several times, the following values are consecutively displayed:

– Tolerance value LT1
– Set point with tolerance range
– Tolerance value UT1
– Tolerance value UT2
– Index (example: "Ind 01")

➜ Exit submenu: <►>

or

➜ Call up main menu: <ESC>

Selecting tolerance check parameter records

➜ Press <F1> several times until "dAtA" appears.

➜ <Enter>

The bargraph of the tolerance check "toL ctL" appears.

➜ <Enter>

The last called index appears. Example: "Ind 01"

➜ <Enter>

The index number is highlighted. Example: "Ind -01-"

➜ <▲>

or

➜ Press <▼> several times until the desired index number appears.

Up to 20 index numbers can be called.

➜ <Enter>

The selected index is active. Example: "Ind 05"

➜ <▼>

Tolerance value LT2 appears.

When pressed several times, the following values are consecutively displayed:

– Tolerance value LT1
– Set point with tolerance range
– Tolerance value UT1
– Tolerance value UT2

– Index (example: "Ind 05")

➜ Exit submenu: <▶>

or

➜ Call up main menu: <ESC>

Volume display "Vol"

➜ Press <F1> several times until "dAtA" appears.

➜ <Enter>

The bargraph of the tolerance check "toL ctL" appears.

➜ <◀>

The volume display "VoL" appears.

➜ <Enter>

The length appears. Example: "uI 286"

➜ <▼>

The width appears. Example: "u 150"

➜ <▼>

The height appears. Example: "u 75"

➜ Exit submenu: <▶>

or

➜ Call up main menu: <ESC>

Counting operation

Reference weight and saved reference quantity can be configured in the Configuration Tool, see operating instructions Configuration Tool.

➜ Press <F1> several times until "dAtA" appears.

➜ <Enter>

The bargraph of the tolerance check "toL ctL" appears.

➜ Press <◀> several times until the counting mode "Count" appears.

➜ <Enter>

Counting mode is active.

The reference weight appears. Example: "r 1.0000 g"

➜ <▼>

The reference quantity appears. Example: "rEFM 24 pcs"

➜ Exit submenu: <▶>

or

➜ Call up main menu: <ESC>

Barcode display

➜ Press <F1> several times until "dAtA" appears.

➞ <Enter>
The bargraph of the tolerance check "toL ctL" appears.
➞ Press <◀> until the barcode display "bArcodE" appears.
➞ <Enter>
The barcode value display appears. Example: "12A578C"
➞ Exit submenu: <▶>

or

➞ Call up main menu: <ESC>

4.2.16 Total memory, subtotal and batch total

Use menu "Cnt rEF" to display or delete the following totals:

– Total memory
– Subtotal
– Batch total



From menus "tot 1", "Z-Su" and "tP" you can switch to the next menu with <◀>.

✓ The main menu is displayed.

Total memory

➞ Press <F1> several times until "totAL" appears.
➞ <Enter>
The "tot 1" total memory appears.
➞ <Enter>
The gross total and total display icon appear.
Example gross total: "G 3,125 kg"
➞ <▼>
The tare total and total display icon appear.
Example tare total: "T 1,500 kg"
➞ <▼>
The net total and total display icon appear.
Example net total: "NET 1,650 kg"
➞ <▼>
The quantity total and total display icon appear.
Example quantity total: "1.500 pcs"
➞ <▼>
The item counter and total display icon appear.
Example item counter: "54"
➞ <▼>
Delete totals "tot cLr" and the total display icon appear.

➜ Delete totals: <Enter>

➜ Exit submenu: <▶>

or

➜ Call up main menu: <ESC>

Subtotal

➜ Press <F1> several times until "totAL" appears.

➜ <Enter>

The "tot 1" total memory appears.

➜ <◀>

The subtotal "Z-Su" appears.

➜ <Enter>

The gross subtotal and total display icon appear.

Example gross subtotal: "G 3,125 kg"

➜ <▼>

The tare subtotal and total display icon appear.

Example tare subtotal: "T 1,650 kg"

➜ <▼>

The net subtotal and total display icon appear.

Example net subtotal: "NET 1,500 kg"

➜ <▼>

The quantity subtotal and the totals + count display icons appear.

Example quantity subtotal: "1.500 pcs"

➜ <▼>

The item counter and total display icon appear.

Example item counter: "54"

➜ Exit submenu: <▶>

or

➜ Call up main menu: <ESC>

Partial batch total

➜ Press <F1> several times until "totAL" appears.

➜ <Enter>

The "tot 1" total memory appears.

➜ Press <◀> several times until the partial batch total "tP" appears.

➜ <Enter>

The gross total and total display icon appear.

Example gross total: "G 3,125 kg"

➜ <▼>

The tare total and total display icon appear.

Example tare total: "T 1,500 kg"

→ <▼>
The net total and total display icon appear.
Example net total: "NET 1,650 kg"
→ <▼>
The quantity total and total display icon appear.
Example quantity total: "1.500 pcs"
→ <▼>
The item counter and total display icon appear.
Example item counter: "54"
→ <▼>
Delete totals "tP cLr" and the total display icon appear.
→ Delete totals: <Enter>
→ Exit submenu: <▶>

or

→ Call up main menu: <ESC>

4.2.17 LCD lighting, limit values, scale value, PIO

Use menu "PAr" to set or display the following functions:

– LCD lighting
– Limit values
– Weight display
– PIO display



From menus "b-Lit", "Limit", "SCALE" and "PIO" you can switch to the next menu with <◀>.

✓ The main menu is displayed.

Switching the LCD display lighting on and off

→ Press <F1> several times until "PAr" appears.
→ <Enter>
The "b-Lit" menu appears.
→ <Enter>
LCD lighting "On" appears.
→ <▼>
Repeated pressing switches the LCD lighting on and off alternately.
→ <Enter>
The setting is applied.
→ Exit submenu: <▶>

or

→ Call up main menu: <ESC>

Limit values, total limit values and zero zone

Limit values, total limit values and zero zone can be customized in the Configuration Tool, see operating instructions Configuration Tool.

→ Press <F1> several times until "PAr" appears.
→ <Enter>
The "b-Lit" menu appears.
→ <◀>
"Limit" appears.
→ <Enter>
The limit value 1 appears. Example: "1 0.500 kg" or "100 pcs"
→ Press <▼> several times.
The limit values 2-6 appear.
→ <▼>
The total limit value appears. Example: "A 32.124 kg" or "1000 pcs"
→ <▼>
The subtotal limit value appears. Example: "b 32.124 kg" or "500 pcs"
→ <▼>
The TP total limit value appears. Example: "c 12.926 kg" or "2000 pcs"
→ <▼>
"0-Zone+" appears. Example: "0.075 kg" or "10 pcs"
→ <▼>
"0-Zone-" appears. Example: "0.050 kg" or "15 pcs"
→ Exit submenu: <▶>

or

→ Call up main menu: <ESC>

Scale value display

"HoLd" is only displayed if the "dynamic" operating mode is active. If so, "H" appears in the main menu. If not, it is automatically switched to "run".

→ Press <F1> several times until "PAr" appears.
→ <Enter>
"b-Lit" appears.
→ Press <◀> several times until the scale value display "SCALE" appears.
→ <Enter>
The last setting "HoLd" or "run" is displayed.
→ <▼>
Repeated pressing switches between "run" (continuous weight display) and "HoLd" (static weight display of last recorded value).

➜ <Enter>

The selection is activated.

➜ Exit submenu: <▶>

or

➜ Call up main menu: <ESC>

Parallel input / output display

The parallel input / output display can show up to 12 inputs and 12 outputs.

If the tolerance control display is active, the parallel input / output display "PIO" is not active.

➜ Press <F1> several times until "PAr" appears.

➜ <Enter>

"b-Lit" appears.

➜ Press <◀> several times until "PIO" appears.

➜ <Enter>

The "in/out" data selection appears.

The outputs P01 and P04, and the input P02 are active.

➜ <▼>

Repeated pressing switches between "in" and "out".

➜ <Enter>

The selected port display is activated.

– Input display "in": P02 is active and the bargraph is displayed.

– Output display "out": P01, P02, P04, P08, P09, P11, P12 are active and the bargraph is displayed.

➜ <Enter>

Repeatedly pressing switches the bargraph on and off alternately.

➜ Exit submenu: <▶>

or

➜ Call up main menu: <ESC>

4.2.18 Activating/deactivating counting and tolerance control

Here you set the counting and tolerance control functions.

From menu "Cnt rEF" you can switch to the next menus with <▼> or <▲>.

✓ The main menu is displayed.

Activating counting with reference weight

➜ <F2>

"Cnt rEF" appears.

➜ <Enter>

Activating counting with reference quantity

➜ <F2>

"Cnt rEF" appears.

➜ <▼>

"Cnt St" appears.

➜ <Enter>

Deactivate counting

➜ <F2>

"Cnt rEF" appears.

➜ Press <▼> several times until "Cnt OFF" and the counting symbol appear.

➜ <Enter>

Activating or deactivating tolerance control

The deactivation procedure is analog to "tol OFF".

➜ <F2>

"Cnt rEF" appears.

➜ Press <▼> several times until "tol On" and the tolerance control symbol appear.

A control is carried out to ensure that the tolerance data dimension [kg] or [pcs] match the current function situation. If this is not the case, the tolerance control will not be activated.

➜ <Enter>

The tolerance control is activated.

Tolerance control with LT1/UT1 ±2.5 % of setpoint

The procedure is analog for ±5.0 % and ±7.5 %.

➜ <F2>

"Cnt rEF" appears.

➜ Press <▼> several times until " tol 2.5" appears.

The tolerance control is displayed with upper and lower tolerance value ±2.5% of setpoint and the tolerance control symbol appears.

➜ <Enter>

"tol 2.5" is activated.

Activating or deactivating tolerance control and counting

The deactivation procedure is analog to "t-C OFF".

➜ <F2>

"Cnt rEF" appears.

➜ Press <▼> several times until "t-C On", the tolerance control symbol and the counting symbol appear.

➞ <Enter>

Function tolerance control with counting is activated. A control is carried out to ensure that the tolerance data unit [kg] or [pcs] matches the current function situation. If this is not the case, the tolerance control will not be activated.

4.3 Mini display

The mini display is located on the front side of the weighing module. The mini display shows the weight values. In verifiable operation, displaying of weight values is mandatory.

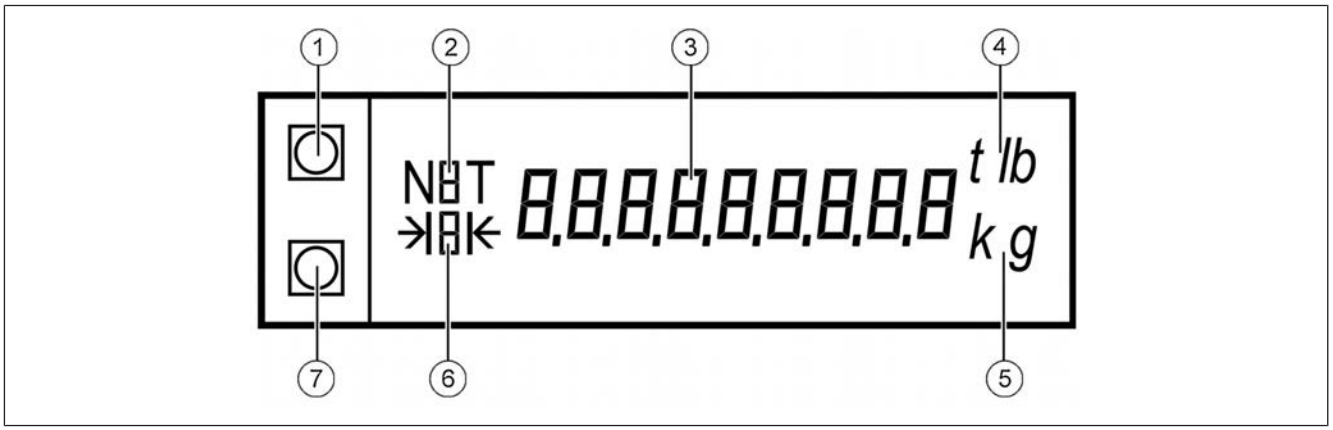


Fig. 47: Mini display

① <Reset>

② Symbol "NET": The scale is tared.

③ Weight display[1)]

④ Weight units:
- Tons (t)
- pound (lb)

⑤ Weight units:
- Kilograms (kg)
- Gram (g)

⑥ Symbol:
- Partial range display in multi-range scales
- Additive tare
- Exact zero [1)]

⑦ <>0<> Zero setting

[1)] WM-3 Logistics Weighing Terminal

By default, exact zero is displayed at the first position of the weight display with symbol 0. However, this representation is not authorized in some countries. In this case, exact zero is displayed with symbol →0←. The display is configurable in the Configuration Tool, see operating instructions Configuration Tool (applications for CWL).

NOTICE! The configuration is only possible for not metrologically approved scales. If the representation with symbol →0← is selected, an application of multi-range and multi-interval scales is not possible. As soon as a multi-range and multi-interval scale is recalibrated, the display automatically switches to symbol 0.

4.3.1 Switching device on

➜ <Reset>

The automatic function test starts. After about one second, all display segments are displayed for test.

After the function test the following information is successively displayed:

– The first part of the ID. Example: "6.462.55"
– The last part of the ID. Example: "5.12.0"
– Release date. Example: "01.05.23"
– ADC type. Example: "AdC.dC"



The program number must be split for display reasons.

4.3.2 Restart

➜ <Reset>

The weighing module is restarted.

4.3.3 Display of weight value

After switching on the mini display, the current weight value is displayed automatically. The weight unit (g, kg, t, lb) is not displayed until the scale is in equilibrium. The weight unit can be adjusted during scale adjustment, see operating instructions Configuration Tool.

0,000	Scale in motion condition - the weight unit is not displayed.
- 0,010 kg	Scale is in equilibrium, the weight unit is displayed.

4.3.4 Zerosetting scale

✓ The scale has to be stable and within the zero setting range (4% of max.). Manual zerosetting is only possible within a range of ±2% of the max. weight.

➜ Press <>0<> key.

"0,000 kg" is displayed.

4.3.5 Underload

In the event of an underload the scale displays the following:



Fig. 48: Underload

4.3.6 Overload

In the event of an overload the scale displays the following:



Fig. 49: Overload

4.3.7 Service mode

If data is transferred from the Configuration Tool to the weighing module the weighing module is in service mode. The following display comes up during the data transfer:

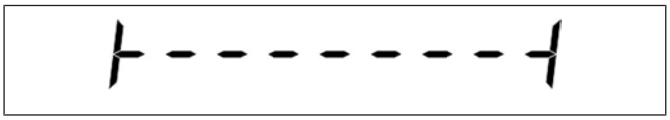


Fig. 50: Display in service mode

4.3.8 Hardware error

In the event of a hardware error, the following is displayed:

① Error number

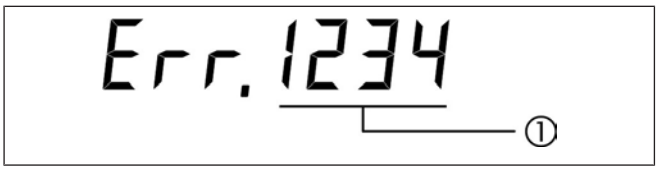


Fig. 51: Hardware error (example)

After a hardware error, the weighing module has to be restarted.

➜ <Reset>

4.4 BOOTLOG

Measuring software can be loaded via an interface without destroying the protective mark. The verification-relevant parameters of the scales are not affected.

The loaded software versions are saved in the logbook of the bootloader (BOOTLOG). The bootloader logbook cannot be deleted.

Software version and software ID are displayed using alphanumeric characters that may include uppercase and lowercase letters.

BOOTLOG display

① Store (memory)

② Consecutive number of logbook entry

③ Number of logbook entries

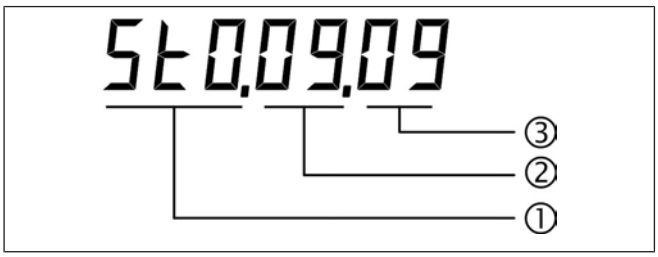


Fig. 52: BOOTLOG display (example)

4.4.1 BOOTLOG dialog

Display for NAWI accuracy class III (example)

① Download barrier ON/OFF
dlOn: Download not possible
dlOFF: Download possible

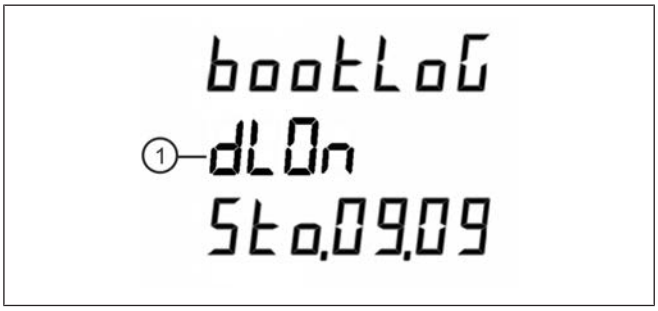


Fig. 53: BOOTLOG dialog (example)

Calling up BOOTLOG dialog

➜ Press <Reset> for approx. 2 seconds.
The BOOTLOG dialog is displayed, see figure.

Software ID and further information are automatically successively displayed for about 2 seconds.

Calling up logbook entry

➜ <Reset>

The previous logbook entry appears.

Ending the BOOTLOG dialog

➜ Press <Reset> for approx. 2 seconds.

4.4.2 Software ID

✓ The BOOTLOG dialog will be shown.

Software ID and further information are automatically successively displayed for about 2 seconds.

While the mini display is showing information, measured values cannot be registered. The weighing module does not supply any measured values during this period.

Software version number (example)

① Version not requiring registration

② Version requiring registration

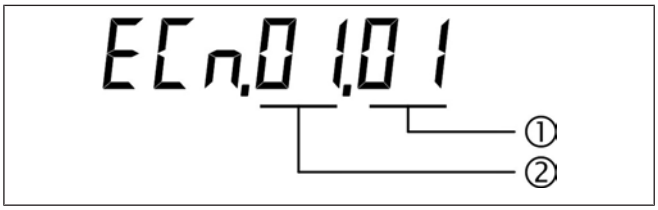


Fig. 54: Software version number (example)

After another 2 seconds, the following information is automatically displayed:

Software ID of program which is subject to legal control:

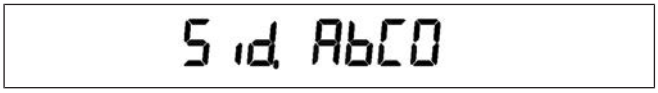


Fig. 55: Software ID (example)

Check sum of reading card ID:

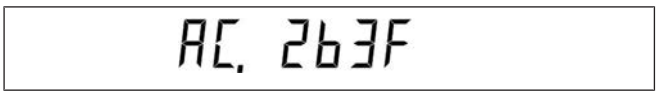


Fig. 56: Checksum (example)

Date:



Fig. 57: Date (example)

Time:



Fig. 58: Time (example)

Firmware no. high:

"F" in display: Firmware no. high

"b" in display: Boot loader no. high

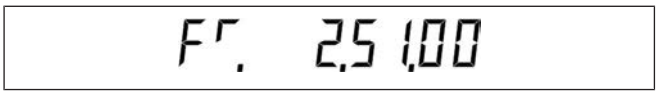


Fig. 59: Firmware no. high (example)

Firmware no. low:

"F" in display: Firmware no. low

"b" in display: Boot loader no. low



Fig. 60: Firmware no. low (example)

4.5 Verifiable memory

4.5.1 Displaying verifiable memory (SD-ES)

If the scale is metrologically approved and in verifiable operating mode you can check if a metrologically approved data storage (SD-ES) is installed and active.

✓ The scale is verified. The calibration switch is closed and the scale secured.

✓ The set operating mode is verifiable.

➜ Switch on or restart device.

If a metrologically approved data storage is installed and active "ES on" appears in the display for about 2 seconds after switching the device on.

Display "ES on":

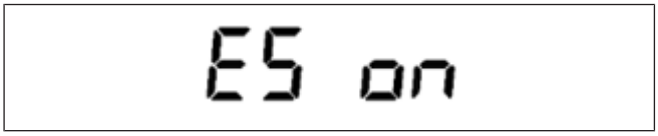


Fig. 61: Display "ES on"

4.5.2 Displaying saved data records

The saved data records with the verifiable data are read from the verifiable memory and shown in the external display.

Opening the data storage

✓ The main menu is displayed.

➜ <F1>

The submenu appears.

➜ Press key <F1> several times until "ALib_ES" is displayed.

➜ <Enter>

The verifiable data storage is opened. The verification memory number of the data record saved last comes up.

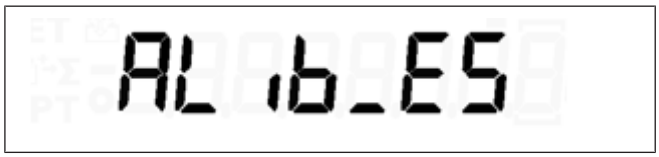


Fig. 62: Display "ALib_ES"



Fig. 63: Verification memory number (example)

Selecting a data record

✓ A verification memory number will be displayed.

➜ Confirm verification memory number with key <Enter>.

The data record is being loaded. Once the data record is loaded, display "L" appears in front of the verification memory number.

➜ To open the data record press arrow key <◀>.

➜ To display the individual entries of the data record press arrow key <◀> several times.



Fig. 64: Verification memory number (example)



Fig. 65: Display when the data record is loaded (example)

The entries of the selected data record will be shown one after another. At the end the verification memory number of the next data record will be suggested.

Search for data record

The cursor keys are used to select the editable section and to enter the number. The bargraph serves to display the editable section.

✓ A verification memory number will be displayed.

✓ All segments of the bargraph will be shown.

➜ Select the editable section with cursor keys <◀> and <▶>.

The editable section is shown with a space.

➜ Select desired number with cursor keys <▲> and <▼>.

➜ Confirm input using <Enter>.

After successful search the data record will be loaded. Once the data record is loaded, display "L" appears in front of the verification memory number. If no data is available, "noEntrY" appears.

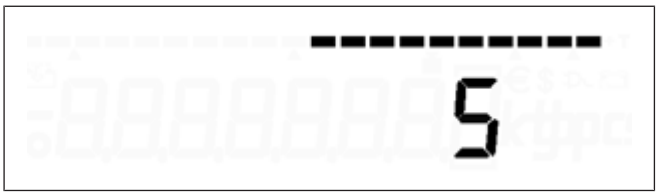


Fig. 66: Verification memory number and bargraph with all segments (example)



Fig. 67: Display of editable section in bargraph and newly entered number (example)

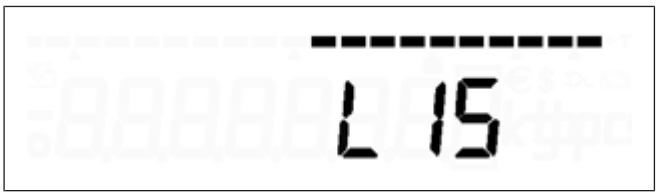


Fig. 68: Display when the data record is loaded (example)

Display "noEntrY"

Display "noEntrY" comes up if no data is available.

➜ To close the display "noEntrY" press the <Enter> key.

The verification memory number of the data record saved last comes up.



Fig. 69: Display "noEntrY"

Load data record

✓ The desired verification memory number will be displayed.

➜ Confirm verification memory number with key <Enter>.

The data record is being loaded. Once the data record is loaded, display "L" appears in front of the verification memory number.



Fig. 70: Verification memory number (example)

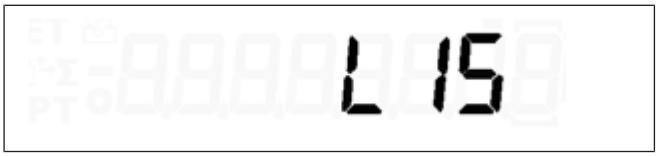


Fig. 71: Display when the data record is loaded (example)

Displaying entries

✓ The data record is loaded.

➜ To display the entries of the data record press arrow key <◀>.
The first entry appears.

➜ To select the next entry press arrow key <◀>.

➜ To select the previous entry press arrow key <▶>.

When the last entry is reached the verification memory number of the next data record will be suggested next.

Closing the data record

➜ <ESC>

The verification memory number of the data record saved last comes up.

Closing the data storage

➜ <ESC>

The main menu appears.

4.5.3 Data record

Verification memory number



Fig. 72: Display when the data record is loaded (example)

Scale number



Fig. 73: Scale number (example)

Gross weight



Fig. 74: Gross weight (example)

Tare weight



Fig. 75: Tare weight (example)

Error number



Fig. 76: Error number

5 Configuration Tool

The Configuration Tool is a software for simple configuration and parameterization of Bizerba industrial scales.

The PC can be connected to the service interface. [▷ 27]

5.1 Scale calibration

	NOTICE
	Incorrect data can lead to measurement errors and overload of the load cell. **The load receptor may be damaged or destroyed.** ➜ Enter data carefully. ➜ Use data of load receptor manufacturer.

5.1.1 Calibrating scale with weights

The calibration starts with the zero point correction with the scale being unloaded. Additional calibration points are possible. For most applications a two-point calibration is sufficient (zero point plus another calibration point).

The following cases require a multi-point calibration:

– The scale must weigh within narrow weight intervals.
– The scale must weigh with a high degree of accuracy.
– Using load platters with unfavorable characteristics.

☞	The calibration weight should be at least 2/3 of maximum weighing range. It must not exceed the max. weighing range.

☞	When making the settings, make sure to select the correct supply voltage.

Start calibration

➜ CAL

or

➜ "Module" / "Adjustment" / "Adjustment"

A password prompt appears.

➜ Enter service password and confirm with <Ok>.

The "Scale version" dialog window appears.

Scale version

✓ Dialog window "Scale version" is opened.

➜ Select operating mode.

➜ <Next >>

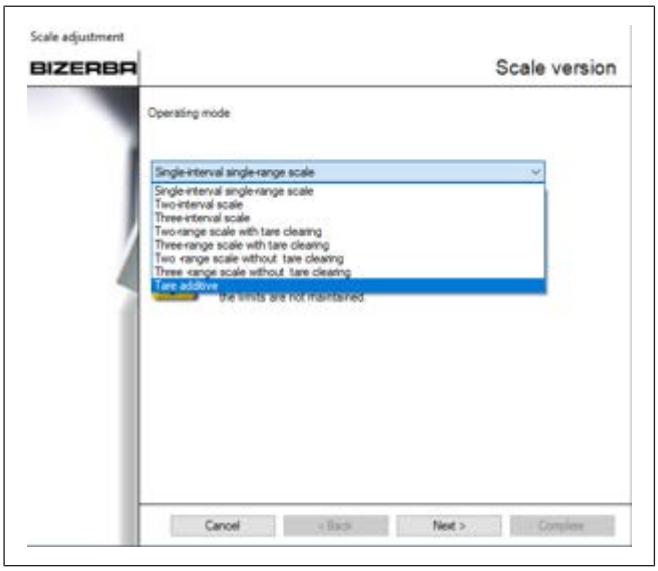


Fig. 77: Scale version (example)

Specifying the scale data

✓ Dialog window "Specification of scales data" is opened.

➜ Check scale data.

➜ Enter data according scale specifications.

➜ <Next >>

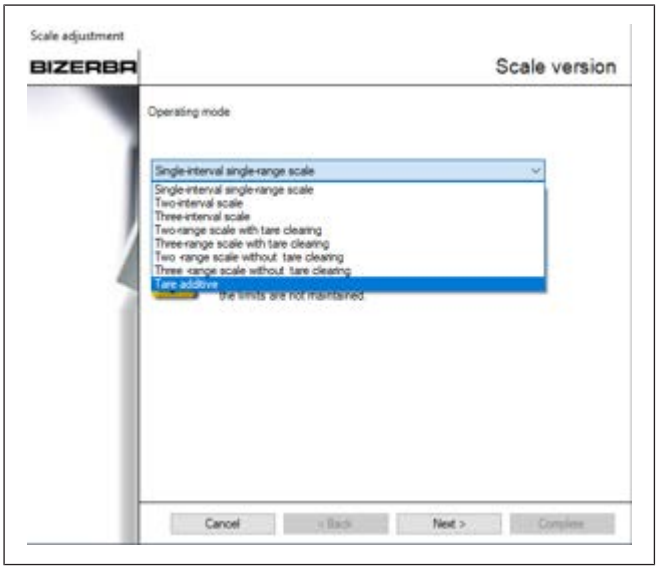


Fig. 78: Specifying the scale data (example)

Zero point calibration

✓ Dialog window "Zero point adjustment (offset)" is open.

➜ Remove all objects from the scale.
➜ Make sure no object touches the scale.
➜ <Next >>
The calibration takes several minutes.

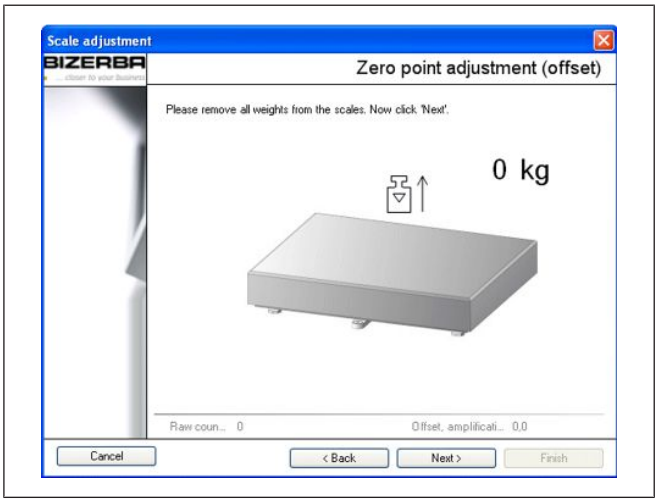


Fig. 79: Zero point calibration (Offset)

Calibration with load

✓ Dialog window "Amplification adjustment" is open.

➜ Place calibration weight on scale.
➜ Enter value of calibration weight.
➜ Make sure no other weight is on the scale.
➜ Make sure no object touches the scale.
➜ <Next >>
The calibration takes several minutes.

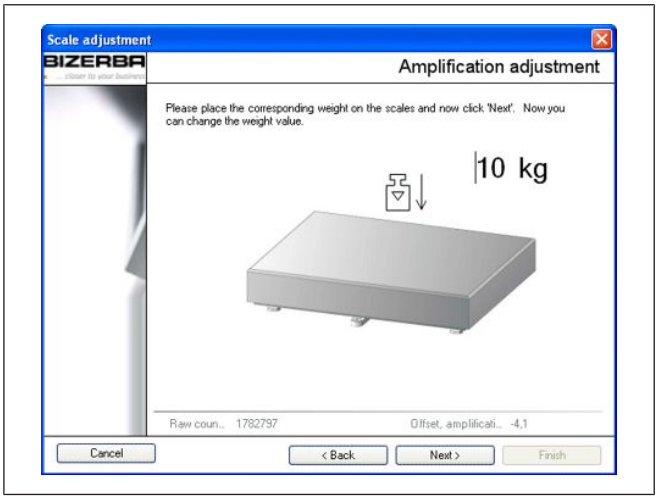


Fig. 80: Calibration with load

Closing adjustment

➜ To stop calibration, click on <Complete>.

or

➜ To cancel calibration, click on <Cancel>.

or

➜ To repeat calibration, click on << Back>.

or

➜ To run multi-point calibration, click on <Next >>.
A calibration can be carried out for a maximum of five other weight values.

Multi-point calibration

➜ Place new calibration weight on the scale as proceed as described above.

➜ <Next >>

The calibration takes several minutes.

➜ Repeat procedure until last calibration point.

➜ <Complete>

Comparison is now over.



Fig. 81: Calibration points 1-5

6 ESview

Visualization software type "ESview" is a stand-alone software which enables the read-out and display of verifiable data from the verifiable memory. The visualization software is run on a PC connected to the weighing module and is included in the scope of supply of the device. The software has a modular structure and comprises the following parts:

"ESview.exe" Executable file for the display of data in the verifiable memory.

"commDLL.dll" Dynamic library for communication with connected devices.

System requirements

– 32/64 bit operating system
– Windows XP/Windows Vista/Windows 7/Windows 8/Windows 8.1/Windows 10/...

Marking

When the software is installed, the provided identification plate "ESview" must be attached to the PC.

The identification plate "ESview" is included in the scope of delivery of the device.

➜ Attach identification plate to the PC.

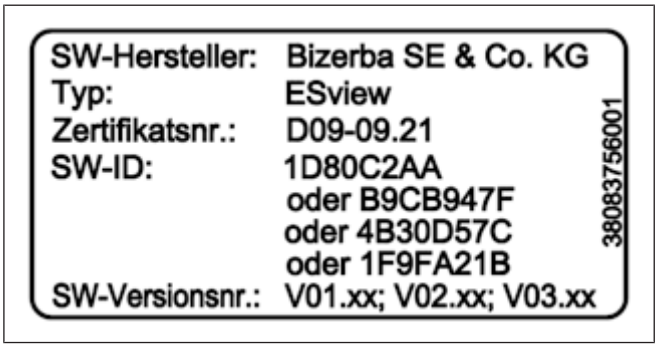


Fig. 82: Identification plate "ESview" (example)

6.1 Starting the program

After installation the program is stored under *C:\Programme\Bizerba\Industry Weighing Systems\Tools\IWSTools*.

➜ "ESview.exe"

The start window appears.

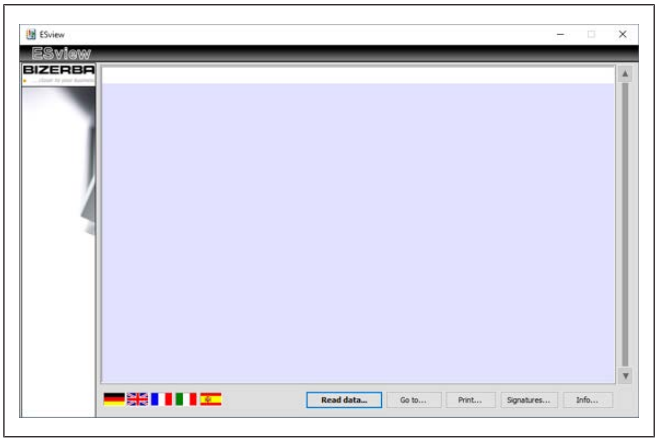


Fig. 83: Start window

6.2 Data transfer

✓ The start window is open.

➜ "Read out data"

Dialog window "Establish connection" appears.

Selecting connection parameters

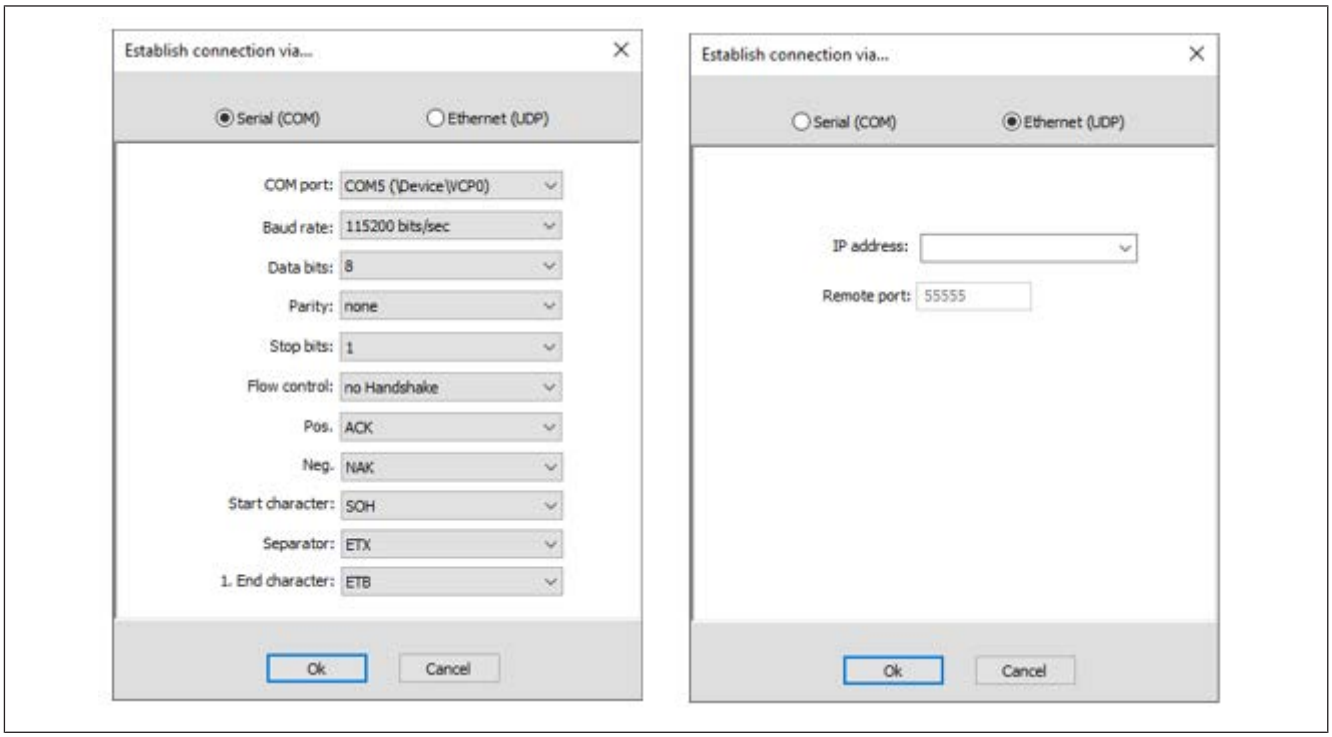


Fig. 84: Dialog window "Establish connection" (example)

➜ To select a serial connection click "Seriell (COM)".

➜ To select an Ethernet connection click "Ethernet (UDP)".

➜ Select connection parameter and confirm with "Ok".

Data transfer starts.

If more than one load receptor is connected, dialog window "Select WM" appears after selecting the connection parameters. In this dialog window you select the load receptor from which the data should be read.

As from software version 3.00: If recording data and statistical data are configured in the verifiable memory (SD card) dialog window "Select data" comes up in order to select recording data or statistical data.

Selecting a load receptor

If only one load receptor is connected there is no selection option. Dialog window "Select WM" is not shown.

✓ The connection parameters are selected.

✓ At least two load receptors are connected.

✓ Dialog window "Select WM" is open.

➜ Select scale number.

➜ "Ok"

Data transfer starts.

Selecting recording and statistical data

Statistical data is selectable as from software version 3.00.

If only recording data or statistical data is configured there is no selection option. Only configured data will be displayed.

✓ Recording data and statistical data are configured in the verifiable memory (SD card).

✓ The connection parameters are selected.

✓ Dialog window "Select data" is open.

➜ "Recording data"

or

➜ "Statistics data"

➜ "Ok"

Data transfer starts.

6.3 Displaying saved data

After successful data transfer the last data records of the verifiable memory will be displayed. All data configured and stored in the verifiable memory will be displayed. If "ES saved data records manipulated" appears the data record will be marked with a red bar and message "ERRCRC". Afterwards, a dialog window with error message "SD-ES verification memory manipulation, CRC error" appears.

Recording data

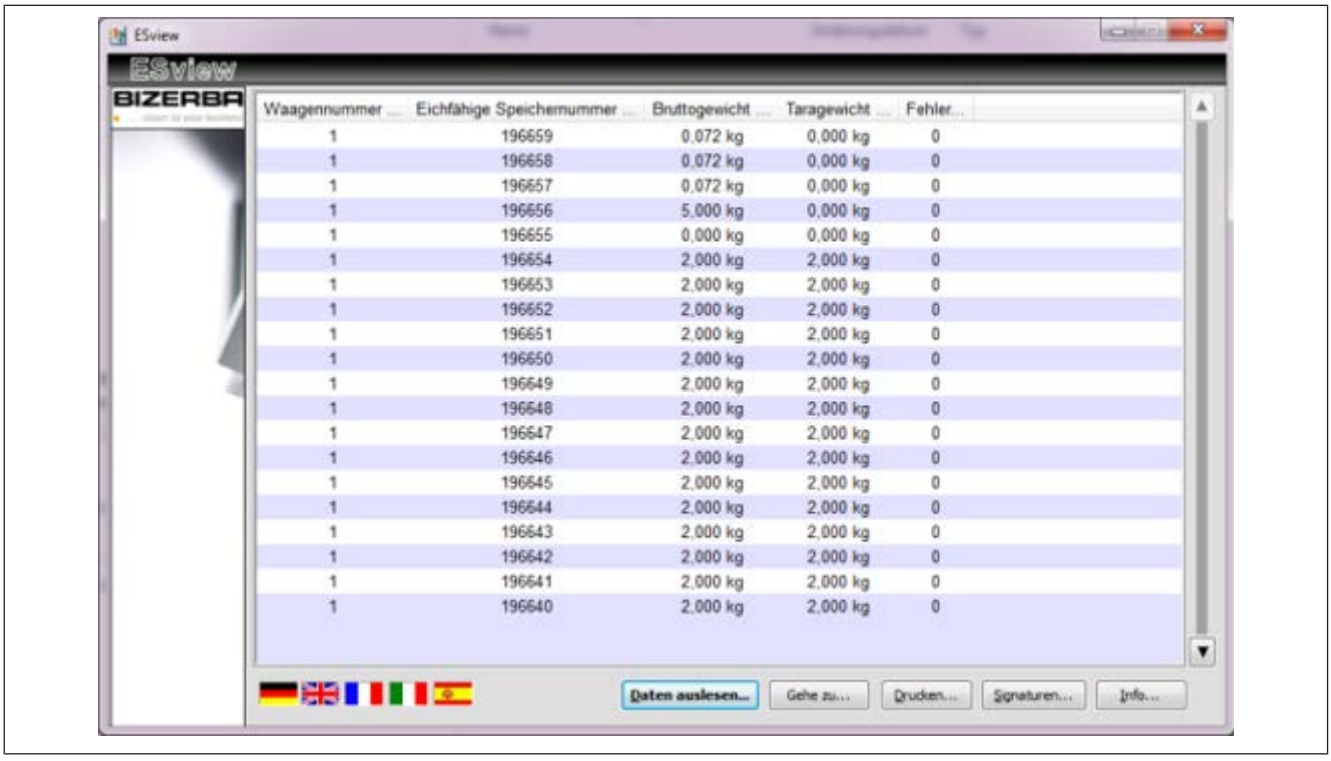


Fig. 85: Display of recording data (example)

Statistical data (as from software version 3.00)

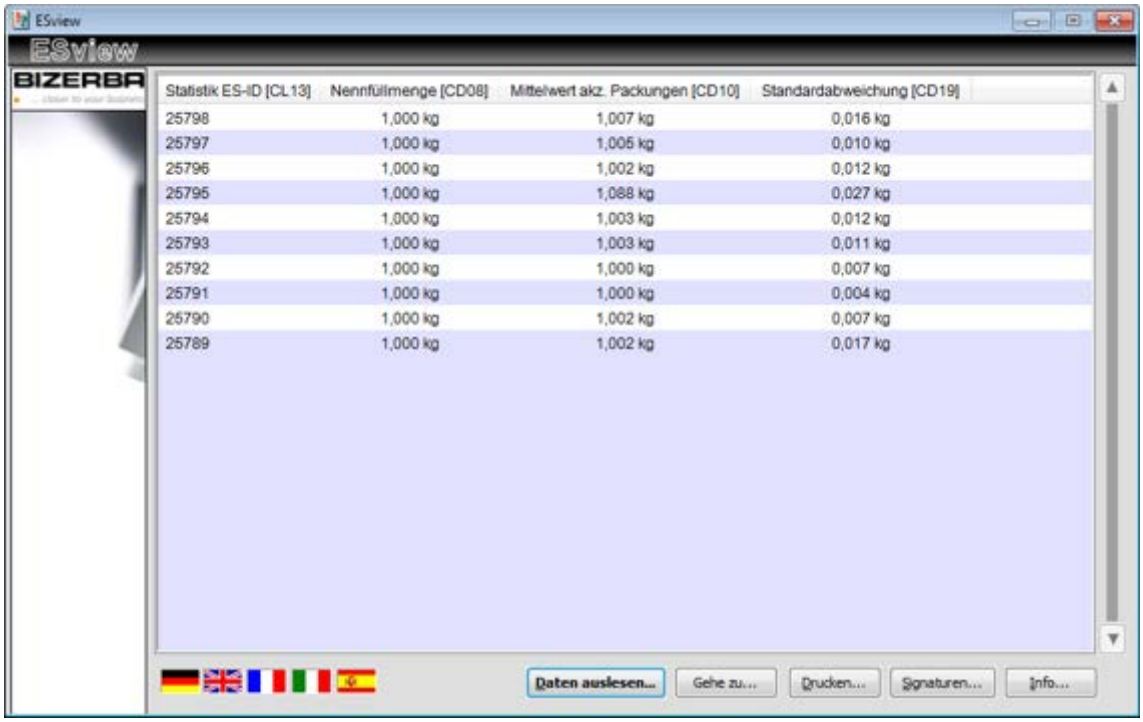


Fig. 86: Display of statistics data (example)

6.4 Selecting a data record

✓ Data transfer is completed.

✓ The saved data is displayed.

→ To call up a specific data record click "Go to...".

Dialog window "Go to..." appears.

→ Enter number of verification counter (ES number) in the text input field.

→ "Ok"

The selected data record is displayed.

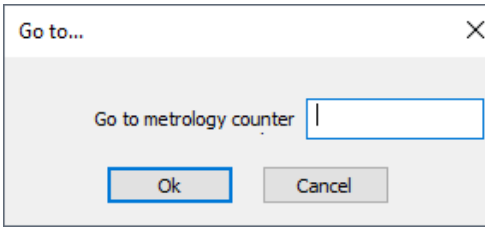


Fig. 87: Dialog window "Go to..."

6.5 Print data

➜ "Print"

Dialog window "Establish connection" is open.

➜ Select connection parameter and confirm with "Ok".

The saved data is displayed. Dialog window "Selection of print data" appears.

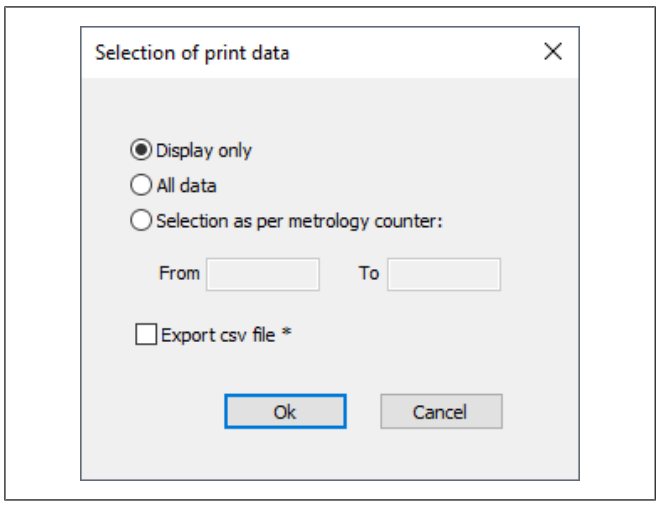


Fig. 88: Dialog window "Selection of print data"

Printing data

✓ Dialog window "Select print data" is open.

➜ To print only the displayed data select "only display".

➜ To print all data stored in the verifiable memory select "all data".

➜ To print a specific data range (verifiable memory number) choose "Selection according to verification counter" and in the text input fields "from" and "to" enter desired data range (verifiable memory number).

➜ "Ok"

The selected data will be printed.

Exporting data as a CSV file

✓ Dialog window "Select print data" is open.

➜ Tick checkbox "Export as csv file".

➜ "Ok"

Data is exported.

6.6 Displaying the software ID

➜ "Signatures"

➜ "Ok"

Dialog window "Signatures" appears. The software ID is displayed.

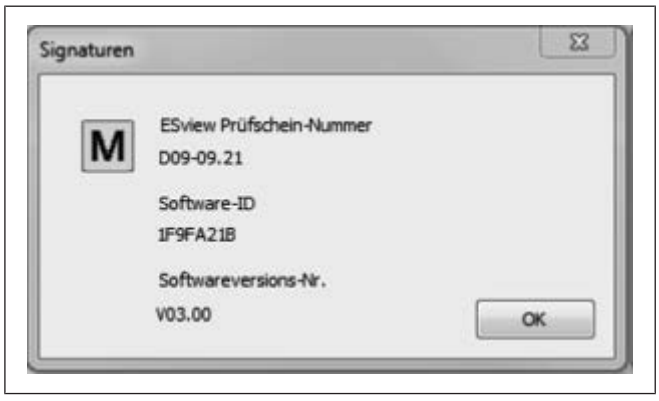


Fig. 89: Dialog window "Signatures"

6.6.1 Display as from software version 1.00

– ESview test certificate number: D09-09.21
– ESview check number: 1D80C2AA or B9CB947F
– Software version: V01.xx

Displaying software ID B9CB947F

✓ No data transfer.

➜ Right after program start click "Signatures".

The software ID is generated and displayed.

Displaying software ID 1D80C2AA

✓ Data transfer is started. [▸ 88]

➜ "Signatures"

The software ID is generated and displayed.

6.6.2 Display as from software version 2.00

– ESview test certificate number: D09-09.21
– ESview check number: 4B30D57C
– Software version: V02.xx

6.6.3 Display as from software version 3.00

– ESview test certificate number: D09-09.21
– Software ID: 1F9FA21B
– Software version: V03.xx

6.7 Displaying PC system information

➜ "Info..."

Dialog window with system information is open. The information is found on different pages, which can be selected clicking the corresponding tabs.

Independent from the selected tab, the following buttons are always available.

OK	Close the information window.
	Save complete information in a zipped file.
	Opens the user dialog for TeamViewer.

6.7.1 Tab "Application"

The "Application" tab contains program information.

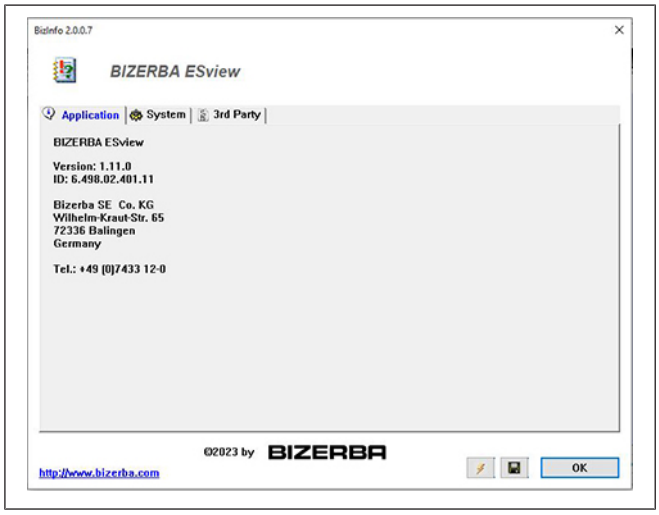


Fig. 90: Tab "Application"

6.7.2 Tab "System"

The "System" tab contains the following information:

- Operating system
- Information on network
- Processor (CPU)
- Information on system memory
- Information on the hard disks

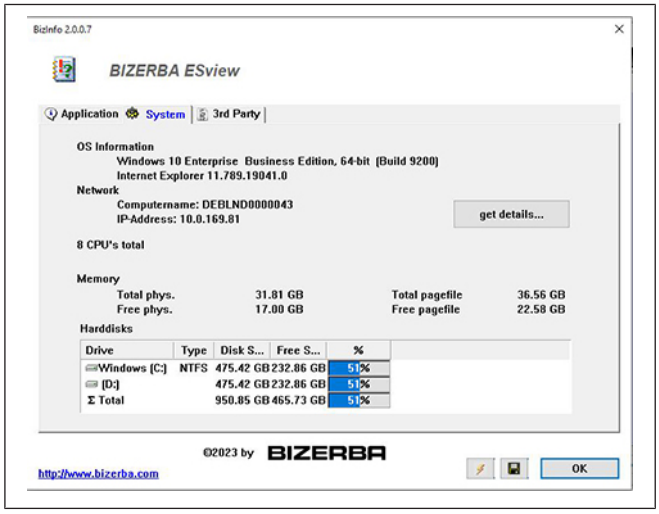


Fig. 91: Tab "System"

6.7.3 Tab "3rd party"

The tab"3rd party" shows all applications of third-party providers.

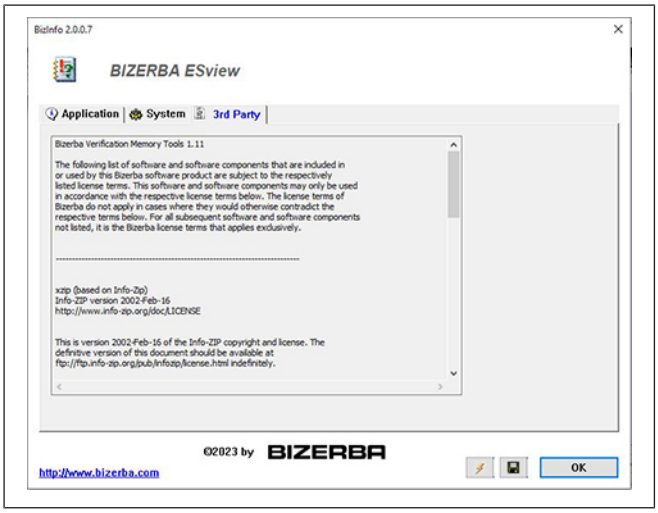


Fig. 92: Tab "3rd party"

7 Troubleshooting

If you cannot correct an error by yourself, you should contact the Bizerba service. When contacting the Bizerba service, please, provide the following information:

- Device type (see identification plate)
- Device number (see identification plate)
- Software version
- Fault description

This will make service so much easier.

7.1 Detect error number from flashing signal

LED ① and ② display error numbers for certain faults.



Fig. 93: LED error display

① Red: Error number display

② Green: Counting signal

5-digit error numbers are encrypted in the flashing signals. The sequence of the flashing signals are repeated continuously. The sequence begins when LED ① flashes four times and the LED ② is switched off at the same time. LED ② is the counting signal. While LED ② is lit, count how often LED ① flashes.

Determining sequence start

➜ Wait until the LED ② is switched off and the LED ① flashes.

Determining the first digit of the error number

➜ While LED ② is lit, count how often LED ① flashes.

If LED ① does not flash, this means digit 0. If LED ① flashes once, this means digit 1 etc. This is the first digit of the error number.

Determining more digits

Repeat procedure for the following 4 digits of the error number.

➜ While LED ② is lit, count how often LED ① flashes.

Signal for sequence end: LED ② is switched off and at the same time LED ① flashes twice. Then, both LEDs are switched off for several seconds. After that, the sequence starts again.

The mini display shows the error number. [▷ 74]
Overview of error messages, see interface documentation.

7.2 Operating unit

7.2.1 Messages

Automatic checks and tests are performed on a regular basis. The result of these tests are status and error messages. The "Hard/Error 24968 - UART Frame Error" error message may be displayed, see figure.



Fig. 94: Error message (example)

Overview of error messages, see interface documentation.

7.2.2 Troubleshooting

Restart

➜ <Reset>

Device restart

8 Maintenance

8.1 Cleaning



Clean operating unit weekly and cover during a building cleaning.

NOTICE

Wrong cleaning agent!

Damage to device surfaces.

➜ Do not use abrasive cleaning agents.

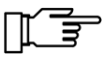
Operating unit

➜ Clean with a soft, lint-free, damp cloth. Do not use abrasive agents.

9 Disposal of the device

This device is an electronic device as per definition of the WEEE Directive.

To ensure that the device is recycled environmentally friendly, return device to the manufacturer or the dealer after intended use has expired. Of course, Bizerba and its distributors will take back devices which are no longer in operation free of charge. Please contact your specialist in this case.



The application of these disposal regulations are based upon legal regulations of the respective country.

10 Information on chemical substances (SVHC) as per REACH Regulation

Bizerba products may contain components which include SVHC substances (SVHC = Substances of very high concern) in concentrations greater than 0.1%. **When used as intended, there is no danger to health or the environment!**

More detailed information on included SVHC substances:

➜ Bizerba homepage: www.bizerba.com

➜ E-mail inquiry: management.schadstoff@bizerba.com

11 Technical data

11.1 WM-3

Required input voltage	24 VDC +10/-15%
The device must be supplied with a power limitation of up to 100 VA from a 24 V DC voltage source (SELV or PELV). Only valid for USA and Canada: As per the National Electrical Code NEC the power supply must comply with NFPA 70 Class 2. Relevant protection of the supply service to be provided by customer.	
Load current	0.2 – 0.5 A
A/D impedance	350 Ω to 1000 Ω Load cell group: at least 87 Ω
Resolution	24 bit sigma delta A/D converter
Wiring	4- and 6-wire technology
PIO	4 inputs, 4 outputs
Input signal range	5 V – 30 V
Input sensitivity	1.3 - 11.3 mA
Output signal	50 mA
LCD display module	9 x 7 segments, special characters
Temperature range, storage	-20°C to +60°C
Temperature range, operation	-10°C to +40°C
Humidity	Max. 85%, non-condensing
Housing	Plastic
IP rating	IP20
Weight	approx. 400 g
Mounting	on top-hat rail TS 35
Adjusting	– 2 – 5 freely settable calibration points – 1 – 5 points linear adjustment – Voltage adjustment entering mV/V per load cell – Preload compensation – Span adjustment
g-value correction	Correction via input of g-value
Zero point setting	Settable without new calibration
Reset range	99% in non-verified scale

Tare range	Max. 100% of weighing range
Maximum number weighing ranges	3
Repeat recording lock	Adjustable depending on weight change and unloading
Scale number	1 – 99

11.1.1 Interfaces

Basic module	– USB (service interface) – RS422 – I/O (4x4)
Extra modules	– RS232 C – Ethernet – Profibus-DP – Profinet I/O – Analog output – I/O (8x8)

11.1.2 SD card (option)

Manufacturer	Any
Storage capacity	– 512 MB (standard) – 1,024 MB – 2,048 MB
Max. no. of data records	– 0.9 million data records at 512 MB – 1.8 million data records at 1,024 MB – 3.6 million data records at 2,048 MB
Storage period	≥ 3 months (for 6000 measured values per day)
Supply voltage	3.3 V (via indicating terminal)
Power consumption	Approx. 20 mA (during deleting: approx. 35 mA)
Temperature range	-10℃ / +40℃

11.1.3 Scale

Type of weighing	Static
Accuracy class	Y(a)
Temperature range	0℃ / +40℃
Load cells	DMS, ED 60

11.1.4 Analog output

Integrated component	AD420	
Resolution	16 bit	
Channels	Commutable (current or voltage)	
Current output	0 – 20 mA	0,00030518 mA/Bit
Voltage output	0 – 10 V	0.000153 V/Bit
Current	Max. 500 Ω	
Voltage	Min. 2 kΩ	
Integral Nonlinearity	0.0120%	
Offset	0.05%	
Total Output Error	0.15%	
Reference pg.	0.10%	
Total error	0.25%	

11.1.5 Dimensions

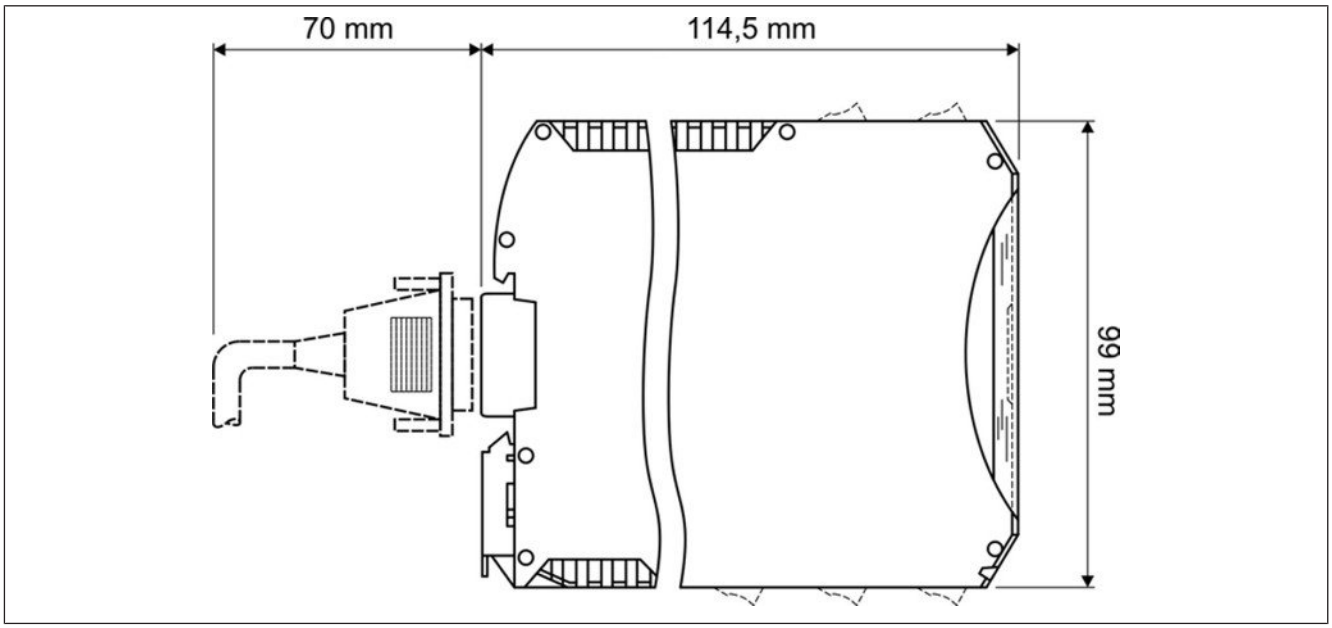


Fig. 95: Dimensions WM-3

Height: 99 mm

Width basic module: 45 mm

Option 1: 67.5 mm

Option 2: 90 mm

Installation depth: 114.5 mm

11.2 WM-B

The technical data are identical to those of WM-3 except for the following values.

Marking		II(2)G [Ex ib] IIC
		II(2)D [Ex ib] IIIC
Temperature range, with regard to safety	-20°C to +50°C	
Temperature range, with regard to metrology	-10°C to +50°C	
Supply voltage load receptor WM-B5	5 V	
Supply voltage load receptor WM-B10	10 V	
Input resistance of load receptor WM-B5	> 85 Ω	
Input resistance of load receptor WM-B10	> 170 Ω	
Permitted voltage drop in supply line towards load receptor	0.35 V	
Intrinsic safety [Ex ib] WM-B5	U_o = 9.15 V I_o = 163 mA P_o = 973 mW	
	C_o = 250 nF with L_o = 500 µH Ignition group IIC	
Intrinsic safety [Ex ib] WM-B10	U_o = 14.0 V I_o = 163 mA P_o = 1.49 W	
	C_o = 180 nF with L_o = 150 µH Ignition group IIC	
	C_o = 1 µF with L_o = 2 mH Ignition group IIB	

11.2.1 Dimensions

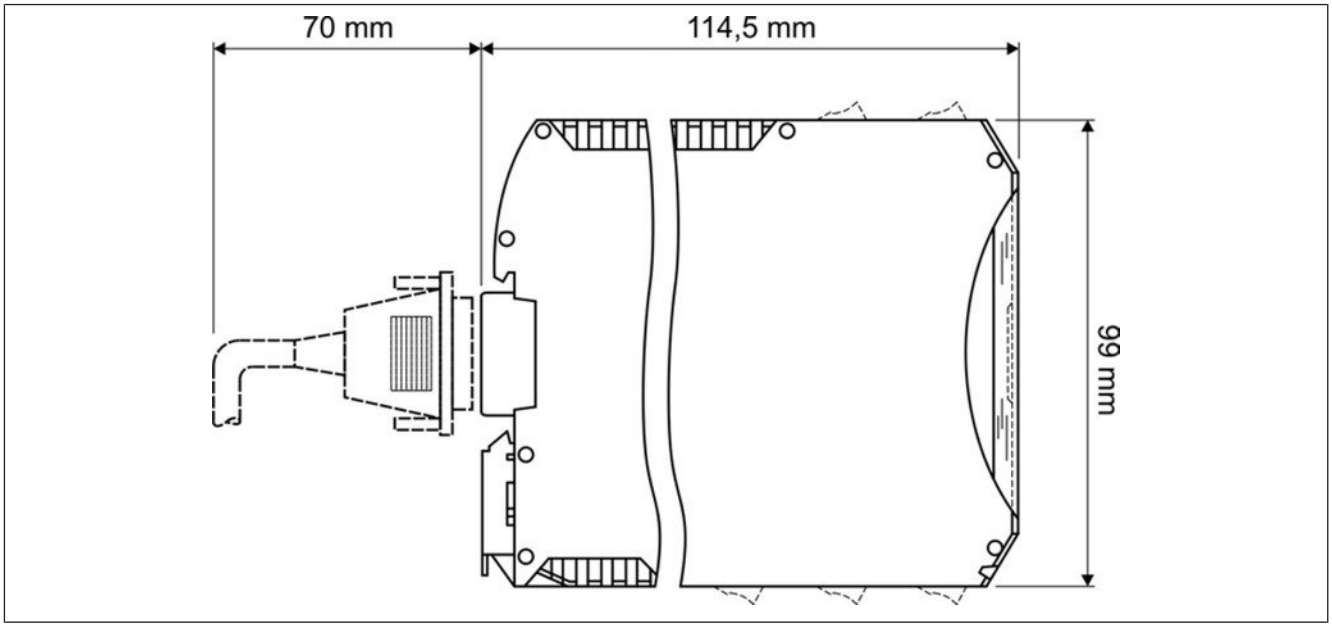


Fig. 96: Dimensions WM-B

Height:	99 mm
Width basic module:	67.5 mm
Option 1:	90 mm
Option 2:	110.5 mm
Installation depth:	114.5 mm

12 IT security

12.1 Data integrity

Operation is only permitted within a secure network. An unprotected connection to the internet can be subject to unauthorized access. The consequences can be: Data spying, data manipulation, damage to the device, cancellation of production.

The software has a password protection. Change the known standard passwords during commissioning. Only secret passwords offer protection. Only disclose passwords to authorized persons and always treat them confidentially.

12.2 Anti-virus software, malware and spyware

Bizerba makes continuous efforts to keep its products free of any malware upon delivery. Our customers are of course free to operate appropriate security software with our products provided that systems are suitable.

If the planned location of use of Bizerba products is in the operator's network, appropriate mitigation measures against attacks such as (D)Dos attacks on the operator's side must be taken.

12.2.1 Malware protection for connected devices

Products that are directly connected to our computers may serve as gateways for malicious programs (malware). Therefore, we highly recommend: Run up-to-date anti-virus software.

12.3 Security advisories for validated security vulnerabilities

Bizerba publishes security advisories for validated security vulnerabilities on its homepage. The security vulnerabilities affect Bizerba products and require software updates or other actions. Bizerba publishes these security advisories in order to support you in defending against security risks.

https://www.bizerba.com/en/services-and-support/quality-assurance-and-conformity/bizerba-security-information/security-information.html

13 Attachment

Bizerba SE & Co. KG
Wilhelm-Kraut-Straße 65
72336 Balingen, Germany

BIZERBA

EU declaration of conformity

Device type:	Non-automatic electromechanical weighing instrument with or without lever system
Model:	WM…-3
Manufacturer:	Bizerba SE & Co. KG, Wilhelm-Kraut-Str. 65, 72336 Balingen, Germany.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration:	Type: WM…
	Accuracy classes: (II), (III), (IIII). See identification plate.

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

Non-automatic weighing instruments:	2014/31/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 107-148
EMC:	2014/30/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 79-106
Low voltage:	2014/35/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 357-374
RoHS:	2011/65/EU; Official Journal of the EU issued on 7/1/2011 L174 pp. 88-110

Applied relevant harmonized standards and technical specifications to which conformity is declared:

Metrology:	EN 45501:2015
EMC:	EN 61326-1:2013 Class A
RoHS:	EN IEC 63000:2018
Electrical safety:	EN 62368-1:2014 + AC:2015

The notified body Physikalisch-Technische Bundesanstalt (PTB), number 0102, performed the EU type examination and issued the certificate: DE-18-NAWID-PTB011[1)].

The notified body Eich- und Beschusswesen Baden-Wuerttemberg, number 0103, audited the QM system from Bizerba according to the procedure described in attachment II No. 2, module D (conformity with the type based on a quality assurance in the production process) and authorizes company Bizerba with certificate No. 4051.BIZ / 248 to attach metrology marking on the non-automatic weighing equipment manufactured by Bizerba and to perform the conformity assessment.[1)]

[1)] This is applicable if the metrology marking is attached and if the conformity assessment has been carried out by Bizerba (module D) or in connection with a conformity certificate issued by a notified body (module F).

The basis for the declaration of conformity are the contract documents (Bizerba purchase order documents). Any modifications made to the above equipment without the prior permission of Bizerba will render this declaration invalid.

City: 72336 Balingen, Germany

Date: 1/17/2024

Signature of manufacturer:



Title of signatory: Thomas Schoen
CTO/COO
Member of Executive Board
Bizerba SE & Co. KG

Bizerba SE & Co. KG
Wilhelm-Kraut-Straße 65
72336 Balingen, Germany

BIZERBA

EU declaration of conformity

Device type:	Non-automatic electromechanical weighing instrument with or without lever system
Model:	WM…-B5, WM…-B10
Manufacturer:	Bizerba SE & Co. KG, Wilhelm-Kraut-Str. 65, 72336 Balingen, Germany.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration:	Type: WM…-B…
	Accuracy classes: (II), (III), (IIII). See identification plate.

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

Non-automatic weighing instruments:	2014/31/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 107-148
EMC:	2014/30/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 79-106
ATEX:	2014/34/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 309-356
RoHS:	2011/65/EU; Official Journal of the EU issued on 7/1/2011 L174 pp. 88-110

Applied relevant harmonized standards and technical specifications to which conformity is declared:

Metrology:	EN 45501:2015
EMC:	EN 61326-1:2013 Class A
ATEX:	EN ISO 80079-36:2016; EN IEC 60079-0:2018; EN 60079-11:2012
RoHS:	EN IEC 63000:2018

The notified body Physikalisch-Technische Bundesanstalt (PTB), number 0102, performed the EU type examination and issued the certificate: DE-18-NAWID-PTB011[1)].

The notified body Eich- und Beschusswesen Baden-Wuerttemberg, number 0103, audited the QM system from Bizerba according to the procedure described in attachment II No. 2, module D (conformity with the type based on a quality assurance in the production process) and authorizes company Bizerba with certificate No. 4051.BIZ / 248 to attach metrology marking on the non-automatic weighing equipment manufactured by Bizerba and to perform the conformity assessment.[1)]

The notified body TÜV SÜD Product Service GmbH, number 0123, performed the EU type examination and issued the certificate: EX5 10 09 38033 028.

Eurofins Electrosuisse Product Testing AG, notified body number 1258, confirms with certificate SEV 18 ATEX 4126 that Bizerba's product / production quality assurance system complies with annexes IV/VII of Directive 2014/34/EU.

[1)] This is applicable if the metrology marking is attached and if the conformity assessment has been carried out by Bizerba (module D) or in connection with a conformity certificate issued by a notified body (module F).

The basis for the declaration of conformity are the contract documents (Bizerba purchase order documents). Any modifications made to the above equipment without the prior permission of Bizerba will render this declaration invalid.

Bizerba SE & Co. KG
Wilhelm-Kraut-Straße 65
72336 Balingen, Germany

City:	72336 Balingen, Germany
Date:	1/17/2024
Signature of manufacturer:	
Title of signatory:	Thomas Schoen CTO/COO Member of Executive Board Bizerba SE & Co. KG

Bizerba SE & Co. KG
Wilhelm-Kraut-Straße 65
72336 Balingen, Germany

BIZERBA

EU declaration of conformity

Device type:	Automatic gravimetric filling instrument
Model:	WM…-3, iS30, iS50
Manufacturer:	Bizerba SE & Co. KG, Wilhelm-Kraut-Str. 65, 72336 Balingen, Germany.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration:	Type: WM-fill…
	Reference accuracy classes: X(0.2), X(0.5), X(1), X(2). See identification plate.

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

Automatic scales:	2014/32/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 149-250
EMC:	2014/30/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 79-106
Low voltage:	2014/35/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 357-374
RoHS:	2011/65/EU; Official Journal of the EU issued on 7/1/2011 L174 pp. 88-110

Applied relevant harmonized standards and technical specifications to which conformity is declared:

Metrology:	OIML recommendation R61-1, edition 2004 OIML recommendation R51-1, edition 2006[2)]
EMC:	EN 61326-1:2013 Class A
RoHS:	EN IEC 63000:2018
Electrical safety:	EN 62368-1:2014 + AC:2015

The notified body Physikalisch-Technische Bundesanstalt (PTB), number 0102, performed the EU type examination and issued the certificate: DE-17-MI006-PTB021[1)].

[1)] This is applicable if the metrology marking is attached and if the conformity assessment has been carried out by Bizerba (module D) or in connection with a conformity certificate issued by a notified body (module F).

[2)] Only with reference to the electromagnetic compatibility (EMC).

The basis for the declaration of conformity are the contract documents (Bizerba purchase order documents). Any modifications made to the above equipment without the prior permission of Bizerba will render this declaration invalid.

City: 72336 Balingen, Germany

Date: 1/17/2024

Signature of manufacturer:



Title of signatory: Thomas Schoen
CTO/COO
Member of Executive Board
Bizerba SE & Co. KG

Bizerba SE & Co. KG
Wilhelm-Kraut-Straße 65
72336 Balingen, Germany

BIZERBA

EU declaration of conformity

Device type:	Automatic gravimetric filling instrument
Model:	WM…-B5, WM…-B10
Manufacturer:	Bizerba SE & Co. KG, Wilhelm-Kraut-Str. 65, 72336 Balingen, Germany.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration:	Type: WM-fill…
	Reference accuracy classes: X(0.2), X(0.5), X(1), X(2). See identification plate.

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

Automatic scales:	2014/32/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 149-250
EMC:	2014/30/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 79-106
ATEX:	2014/34/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 309-356
RoHS:	2011/65/EU; Official Journal of the EU issued on 7/1/2011 L174 pp. 88-110

Applied relevant harmonized standards and technical specifications to which conformity is declared:

Metrology:	OIML recommendation R61-1, edition 2004 OIML recommendation R51-1, edition 2006[2)]
EMC:	EN 61326-1:2013 Class A
ATEX:	EN ISO 80079-36:2016; EN IEC 60079-0:2018; EN 60079-11:2012
RoHS:	EN IEC 63000:2018

The notified body Physikalisch-Technische Bundesanstalt (PTB), number 0102, performed the EU type examination and issued the certificate: DE-17-MI006-PTB021[1)].

The notified body TÜV SÜD Product Service GmbH, number 0123, performed the EU type examination and issued the certificate: EX5 10 09 38033 028.

Eurofins Electrosuisse Product Testing AG, notified body number 1258, confirms with certificate SEV 18 ATEX 4126 that Bizerba's product / production quality assurance system complies with annexes IV/VII of Directive 2014/34/EU.

[1)] This is applicable if the metrology marking is attached and if the conformity assessment has been carried out by Bizerba (module D) or in connection with a conformity certificate issued by a notified body (module F).

[2)] Only with reference to the electromagnetic compatibility (EMC).

The basis for the declaration of conformity are the contract documents (Bizerba purchase order documents). Any modifications made to the above equipment without the prior permission of Bizerba will render this declaration invalid.

Bizerba SE & Co. KG
Wilhelm-Kraut-Straße 65
72336 Balingen, Germany

BIZERBA

City: 72336 Balingen, Germany

Date: 1/17/2024

Signature of manufacturer:



Title of signatory: Thomas Schoen
CTO/COO
Member of Executive Board
Bizerba SE & Co. KG

Bizerba SE & Co. KG
Wilhelm-Kraut-Straße 65
72336 Balingen, Germany

BIZERBA

EU declaration of conformity

Device type:	Automatic catchweigher and automatic checkweigher for start/stop mode
Model:	WM…-3, iS30, iS50
Manufacturer:	Bizerba SE & Co. KG, Wilhelm-Kraut-Str. 65, 72336 Balingen, Germany.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration:	Type: WM-CWL …
	Accuracy classes: XIII(1); XIIII (x ≥ 2); Y(a); Y(b). See identification plate.

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

Automatic scales:	2014/32/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 149-250
EMC:	2014/30/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 79-106
Low voltage:	2014/35/EU; Official Journal of the EU issued on 3/29/2014 L96 pp. 357-374
RoHS:	2011/65/EU; Official Journal of the EU issued on 7/1/2011 L174 pp. 88-110

Applied relevant harmonized standards and technical specifications to which conformity is declared:

Metrology:	OIML recommendation R51-1, edition 2006
EMC:	EN 61326-1:2013 Class A
RoHS:	EN IEC 63000:2018
Electrical safety:	EN 62368-1:2014 + AC:2015

The notified body Physikalisch-Technische Bundesanstalt (PTB), number 0102, performed the EU type examination and issued the certificate: DE-19-MI006-PTB005[1)].

The notified body Physikalisch-Technische Bundesanstalt (PTB), number 0102, audited the QM system from Bizerba according to the procedure described in attachment II No. 2, module D (conformity with the type based on a quality assurance in the production process) and authorizes company Bizerba with certificate no. DE-M-AQ-PTB007 to apply metrology marking on the automatic weighing equipment manufactured by Bizerba and to perform the conformity assessment.[1)]

[1)] This is applicable if the metrology marking is attached and if the conformity assessment has been carried out by Bizerba (module D) or in connection with a conformity certificate issued by a notified body (module F).

The basis for the declaration of conformity are the contract documents (Bizerba purchase order documents). Any modifications made to the above equipment without the prior permission of Bizerba will render this declaration invalid.

City: 72336 Balingen, Germany

Date: 1/17/2024

Signature of manufacturer:



Title of signatory: Thomas Schoen
CTO/COO
Member of Executive Board
Bizerba SE & Co. KG