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71565951
2022-04-05

Brief Operating Instructions **Cerabar S PMC71, PMP71, PMP75**

Process pressure measurement

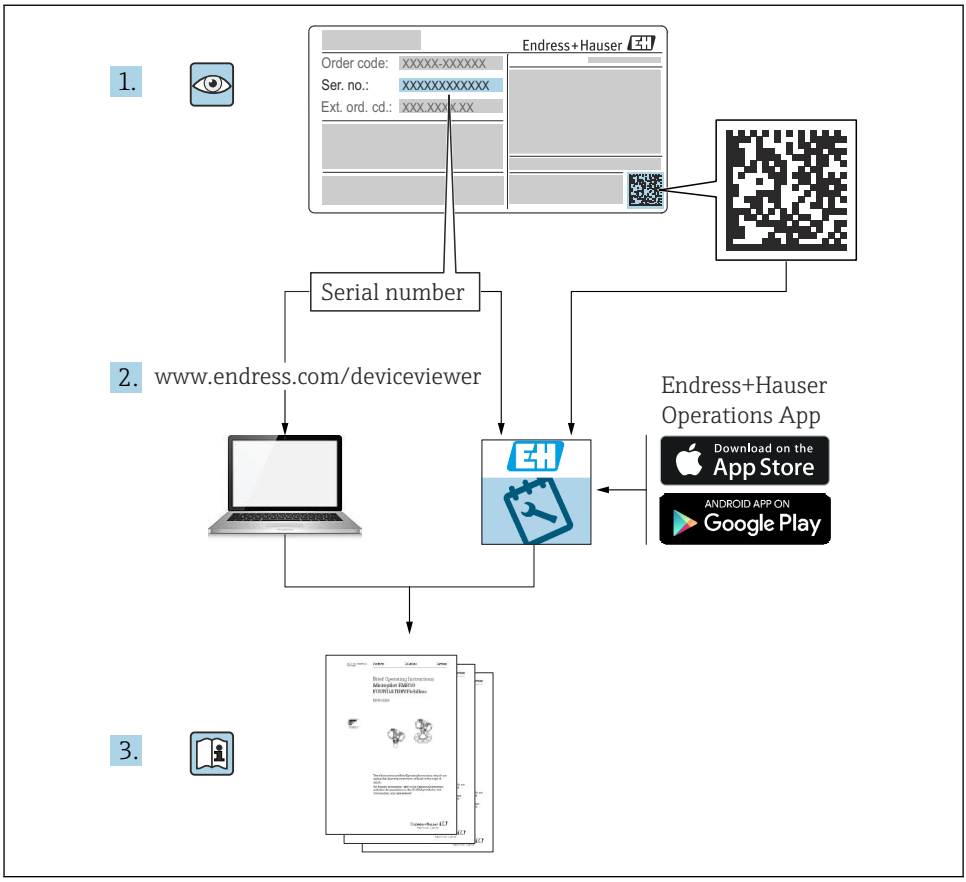
These Brief Operating Instructions are not a substitute for the Operating Instructions pertaining to the device.

Detailed information about the device can be found in the Operating Instructions and the additional documentation.

Available for all device versions via
- Internet: www.endress.com/deviceviewer
- Smartphone/tablet: *Endress+Hauser Operations app*

Endress+Hauser
People for Process Automation

1 Associated documentation



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2 About this document

2.1 Document function

The Brief Operating Instructions contain all the essential information from incoming acceptance to initial commissioning.

2.2 Symbolsused

2.2.1 Safety symbols

⚠ DANGER
This symbol alerts you to a dangerous situation. Failure to avoid this situation will result in serious or fatal injury.

⚠ WARNING
This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in serious or fatal injury.

⚠ CAUTION
This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or medium injury.

NOTICE
This symbol contains information on procedures and other facts which do not result in personal injury.

2.2.2 Electrical symbols

⏚ Protective earth (PE)

Ground terminals that must be connected to ground prior to establishing any other connections.

The ground terminals are located on the interior and exterior of the device:
- Interior ground terminal: protective earth is connected to the mains supply.
- Exterior ground terminal: device is connected to the plant grounding system.

2.2.3 Symbols for certain types of information and graphics

Symbols for certain types of information and graphics

✓ Permitted
Procedures, processes or actions that are permitted

✗ Forbidden
Procedures, processes or actions that are forbidden

Tip
Indicates additional information

Reference to documentation

Reference to page

Visual inspection

▶
Notice or individual step to be observed

1, 2, 3, ...
Item numbers

1., 2., 3.
Series of steps

↳
Result of a step

2.3 Registered trademarks

- **KALREZ®**
  Trademark of E.I. Du Pont de Nemours & Co., Wilmington, USA
- **TRI-CLAMP®**
  Trademark of Ladish & Co., Inc., Kenosha, USA
- **PROFIBUS PA®**
  Trademark of the PROFIBUS User Organization, Karlsruhe, Germany
- **GORE-TEX®**
  Trademark of W.L. Gore & Associates, Inc., USA

3 Basic safety instructions

3.1 Requirements for the personnel

Personnel must meet the following requirements for their tasks:
- ▶ Trained, qualified specialists must be suitably qualified to perform this function and task
- ▶ Are authorized by the plant owner/operator
- ▶ Are familiar with federal/national regulations
- ▶ Before starting work, read and understand the instructions in the manual and supplementary documentation as well as the certificates (depending on the application)
- ▶ Follow instructions and comply with basic conditions

3.2 Intended use

The Cerabar S is a pressure transmitter for measuring level and pressure.

3.2.1 Foreseeable incorrect use

The manufacturer is not liable for damage caused by improper or non-intended use.

Verification for borderline cases:
- ▶ For special fluids and fluids for cleaning, Endress+Hauser is glad to provide assistance in verifying the corrosion resistance of fluid-wetted materials, but does not accept any warranty or liability.

3.3 Workplace safety

When working on and with the device:
- ▶ Wear the required personal protective equipment according to federal/national regulations.
- ▶ Switch off the supply voltage before connecting the device.

3.4 Operational safety

Risk of injury!
- ▶ Operate the device only if it is in proper technical condition, free from errors and faults.
- ▶ The operator is responsible for the interference-free operation of the device.

Modifications to the device

Unauthorized modifications to the device are not permitted and can lead to unforeseeable dangers:
- ▶ If, despite this, modifications are required, consult with Endress+Hauser.

Repair

To ensure continued operational safety and reliability:
- ▶ Carry out repairs on the device only if they are expressly permitted.
- ▶ Observe federal/national regulations pertaining to the repair of an electrical device.
- ▶ Use original spare parts and accessories from Endress+Hauser only.

Hazardous area

To eliminate danger to persons or the installation when the device is used in the hazardous area (e.g. explosion protection, pressure vessel safety):
- ▶ Check the nameplate to verify whether the ordered device can be used for the intended purpose in the hazardous area.
- ▶ Observe the specifications in the separate supplementary documentation, which is an integral part of this manual.

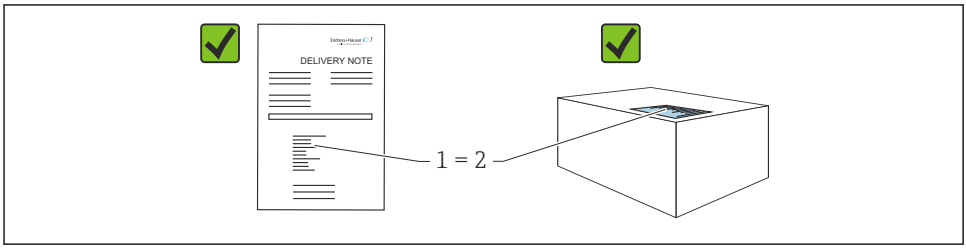
3.5 Product safety

This measuring device is designed in accordance with good engineering practice to meet state-of-the-art safety requirements, has been tested, and left the factory in a condition in which it is safe to operate.

It meets the general safety standards and legal requirements. It also complies with the EC directives listed in the device-specific EC Declaration of Conformity. Endress+Hauser confirms this by affixing the CE mark to the device.

4 Incoming acceptance and product identification

4.1 Incoming acceptance



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- Is the order code on the delivery note (1) identical to the order code on the product sticker (2)?
- Are the goods undamaged?
- Do the data on the nameplate correspond to the order specifications and the delivery note?
- Is the documentation available?
- If required (see nameplate): are the Safety Instructions (XA) provided?

If one of these conditions is not fulfilled, please contact your Endress+Hauser sales office.

4.2 Storage and transport

4.2.1 Storage conditions

Use original packaging.

Store the measuring device in clean and dry conditions and protect from damage caused by shocks (EN 837-2).

4.2.2 Transporting the product to the measuring point

⚠ WARNING

Incorrect transport!

Housing and membrane may become damaged, and there is a risk of injury!

- ▶ Transport the measuring device to the measuring point in its original packaging or by the process connection.
- ▶ Follow the safety instructions and transport conditions for devices weighing more than 18 kg (39.6 lbs).

5 Mounting

5.1 Mounting requirements

5.1.1 General installation instructions

- Devices with a G 1 1/2 thread:
  When screwing the device into the tank, the flat seal has to be positioned on the sealing surface of the process connection. To avoid additional strain on the process membrane, the thread should never be sealed with hemp or similar materials.
- Devices with NPT threads:
  - Wrap Teflon tape around the thread to seal it.
  - Tighten the device at the hexagonal bolt only. Do not turn at the housing.
  - Do not overtighten the thread when screwing. Max. tightening torque:
    20 to 30 Nm (14.75 to 22.13 lbf ft)
- For the following process connections, a tightening torque of max. 40 Nm (29.50 lbf ft) is specified:
  - Thread ISO228 G1/2 (order option "1A" or "1B")
  - Thread DIN13 M20 x 1.5 (order option "1N" or "1P")

5.1.2 Mounting sensor modules with PVDF thread

⚠ WARNING

Risk of damage to process connection!

Risk of injury!

► Sensor modules with PVDF thread must be installed with the mounting bracket provided!

⚠ WARNING

Material fatigue from pressure and temperature!

Risk of injury if parts burst! The thread can become loose if exposed to high pressure and temperature loads.

► The integrity of the thread must be checked regularly and the thread may need to be retightened with the maximum tightening torque of 7 Nm (5.16 lbf ft). Teflon tape is recommended for sealing the ½" NPT thread.

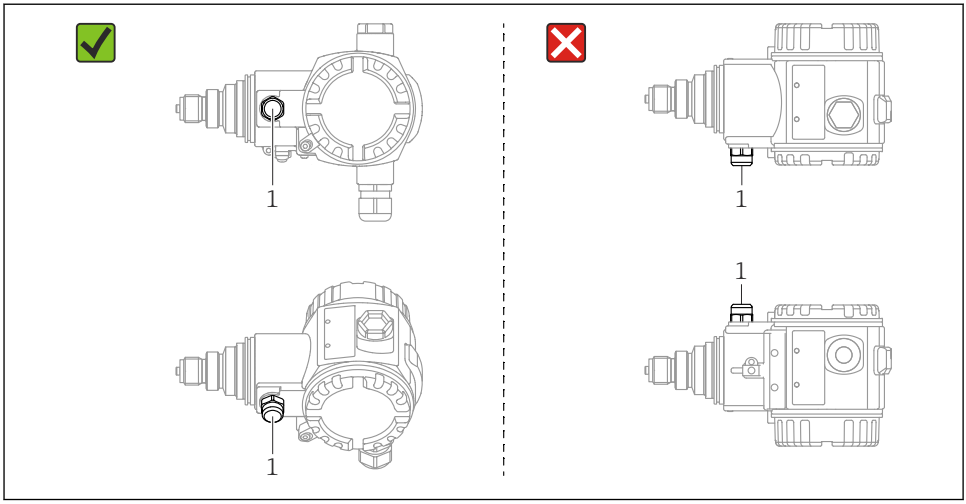
5.2 Installation instructions for devices without diaphragm seals - PMP71, PMC71

NOTICE

Damage to the device!

If a heated Cerabar S is cooled during the cleaning process (e.g. by cold water), a vacuum develops for a short time, and as a result, moisture can enter the sensor through the pressure compensation (1).

► Mount the device as follows.



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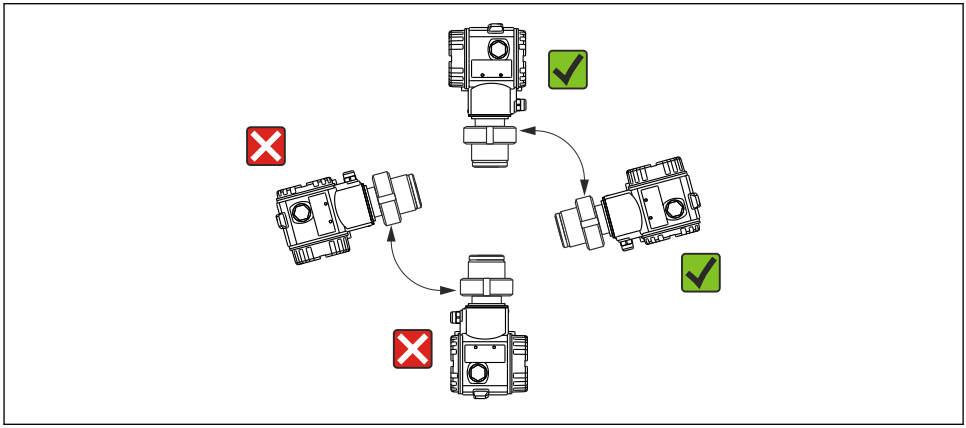
- Keep the pressure compensation and GORE-TEX® filter (1) free from contamination and water.
- Cerabar S devices without diaphragm seals are mounted in accordance with the same guidelines as a manometer (DIN EN 837-2). We recommend the use of shutoff devices and water pocket pipes. The orientation depends on the measuring application.
- Do not clean or touch process membranes with hard or pointed objects.
- The device must be installed as follows in order to comply with the cleanability requirements of the ASME-BPE (Part SD Cleanability):



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5.2.1 Pressure measurement in gases

Mount the Cerabar S with shutoff device above the tapping point so that any condensate can flow into the process.

5.2.2 Pressure measurement in vapors

For pressure measurement in vapors, use water pocket pipes. The water pocket pipe reduces the temperature to almost ambient temperature. Preferably mount the device with the water pocket pipe below the tapping point.

Advantages:
- defined water column only causes minimal/negligible measured errors
- only minor/negligible heat effects on the device.

Mounting above the tapping point is also permitted. Observe the max. permitted ambient temperature of the transmitter.

5.2.3 Pressure measurement in liquids

Mount the Cerabar S with the shutoff device below or at the same level as the tapping point.

5.2.4 Level measurement

- Always install the Cerabar S below the lowest measuring point.
- Do not mount the device in the filling curtain or at a point in the tank which could be affected by pressure pulses from an agitator.
- Do not mount the device in the suction area of a pump.
- The adjustment and functional test can be carried out more easily if you mount the device downstream from a shutoff device.

5.3 Installation instructions for devices with diaphragm seals – PMP75

- Cerabar S devices with diaphragm seals are screwed in, flanged or clamped on, depending on the type of diaphragm seal.
- Please note that the hydrostatic pressure of the liquid columns in the capillaries can cause zero point shift. The zero point shift can be corrected.
- Do not clean or touch the process membrane of the diaphragm seal with hard or pointed objects.
- Do not remove the protection on the process membrane until just before installation.

NOTICE

Incorrect handling!

Damage to the device!

- ▶ A diaphragm seal and the pressure transmitter together form a closed, oil-filled calibrated system. The fill fluid hole is sealed and may not be opened.
- ▶ If a mounting bracket is used, sufficient strain relief must be ensured for the capillaries in order to prevent them from buckling (bending radius >= 100 mm (3.94 in)))
- ▶ Please observe the application limits of the diaphragm seal fill fluid as specified in the Technical Information for Cerabar S TI00383P, "Planning instructions for diaphragm seal systems" section.

NOTICE

In order to obtain more precise measurement results and to avoid a defect in the device, mount the capillaries as follows:

- Mount capillaries vibration-free (in order to avoid additional pressure fluctuations)
- Do not mount in the vicinity of heating or cooling lines
- Insulate the capillaries if the ambient temperature is below or above the reference temperature
- Mount with a bending radius >= 100 mm (3.94 in)
- Do not use the capillaries as a carrying aid for the diaphragm seals!

6 Electrical connection

6.1 Connecting requirements

⚠ WARNING

Risk of electric shock!

If the operating voltage is > 35 VDC: Dangerous contact voltage at terminals.

- In a wet environment, do not open the cover if voltage is present.

⚠ WARNING

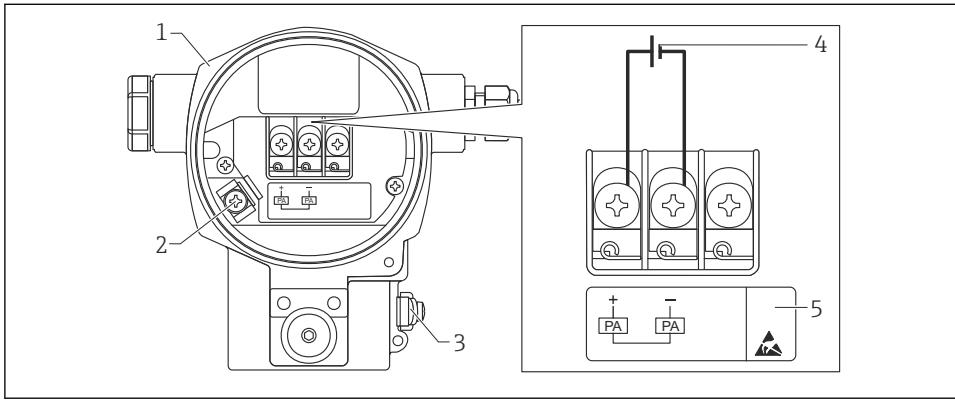
An incorrect connection compromises electrical safety!

- Risk of electric shock and/or explosion! Switch off the supply voltage before connecting the device.
- When using the measuring device in hazardous areas, installation must also comply with the applicable national standards and regulations and the Safety Instructions or Installation or Control Drawings.
- Devices with integrated overvoltage protection must be grounded.
- Protective circuits against reverse polarity, HF influences and overvoltage peaks are integrated.
- The supply voltage must match the power supply on the nameplate, see Operating Instructions → 2.
- Switch off the supply voltage before connecting.
- Remove the housing cover of the terminal compartment.
- Guide the cable through the gland. Preferably use a twisted, shielded two-wire cable.
- Connect the device as indicated in the diagram.
- Screw down the housing cover.
- Switch on the supply voltage.

Grounding and shielding

The Cerabar S must be grounded, for example by means of the external ground terminal.

Different grounding and shielding installation methods are available for PROFIBUS PA networks, such as:
- Isolated installation (see also IEC 61158-2)
- Installation with multiple grounding
- Capacitance installation



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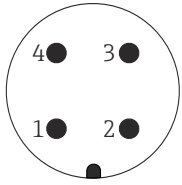
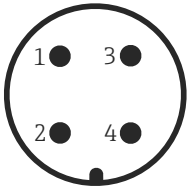
1 Electrical connection, PROFIBUS PA

1 Housing
2 Internal ground terminal
3 External ground terminal
4 Minimum supply voltage, for version in the non-hazardous area = 9 to 32 V DC
5 Devices with integrated overvoltage protection are labeled "OVP" (overvoltage protection) here.

6.1.1 Connection of devices with M12 plug

	PIN	
 A0011175	1	Signal +
	2	Not assigned
	3	Signal -
	4	Ground

6.1.2 Connection of devices with 7/8" plug

	PIN	
 A0011176	1	Signal -
	2	Signal +
	3	Not assigned
	4	Ground

6.2 Connecting the measuring unit

For further information on the network structure and grounding and for further bus system components such as bus cables, see the relevant documentation, e.g. Operating Instructions BA00034S "PROFIBUS DP/PA: Guidelines for planning and commissioning" and the PNO Guideline.

6.2.1 Supply voltage

Version for non-hazardous area: 9 to 32 DC

⚠ WARNING

Supply voltage might be connected!

Risk of electric shock and/or explosion!

- ▶ When using the measuring device in hazardous areas, installation must also comply with the applicable national standards and regulations and the Safety Instructions or Installation or Control Drawings.
- ▶ All explosion protection data are given in separate Ex documentation, which is available upon request. The Ex documentation is supplied as standard with all devices approved for use in explosion hazardous areas.

6.2.2 Current consumption

Up to HW version 1.10: 11 mA ±1 mA, switch-on current corresponds to IEC 61158-2, Clause 21.

Up to HW version 02.00: 13 mA ±1 mA, switch-on current corresponds to IEC 61158-2, Clause 21.

As of hardware version 1.10, you will find a label in the device on the electronic insert.

6.2.3 Terminals

- Supply voltage and internal ground terminal: 0.5 to 2.5 mm^2 (20 to 14 AWG)
- External ground terminal: 0.5 to 4 mm^2 (20 to 12 AWG)

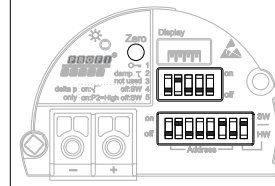
6.2.4 Cable specification

- Endress+Hauser recommends using twisted, shielded two-wire cables (typically cable type A).
- Cable diameter: 5 to 9 mm (0.2 to 0.35 in)

For further information on the cable specifications, see Operating Instructions BA00034S "PROFIBUS DP/PA: Guidelines for planning and commissioning", the PNO Guideline 2.092 "PROFIBUS PA User and Installation Guideline" and IEC 61158-2 (MBP).

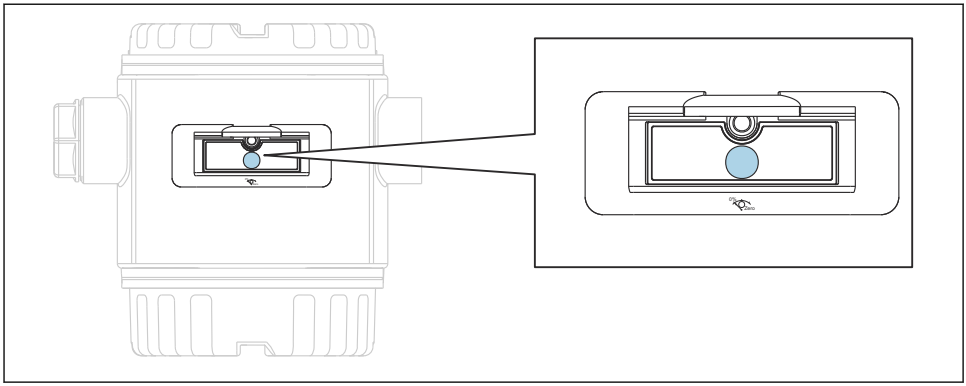
7 Operation options

7.1 Operation without an operating menu

Operation options	Explanation	Graphic
Local operation without device display	The device is operated using the operating keys and DIP switches on the electronic insert.	

7.1.1 Position of operating elements

In the case of the aluminum housing (T14/T15) and stainless steel housing (T14), the operating key is located either under the protective flap on the exterior of the device or inside on the electronic insert. In the case of the hygienic stainless steel housing (T17), the operating key is always inside on the electronic insert. In addition, there are three operating keys on the optional local display.



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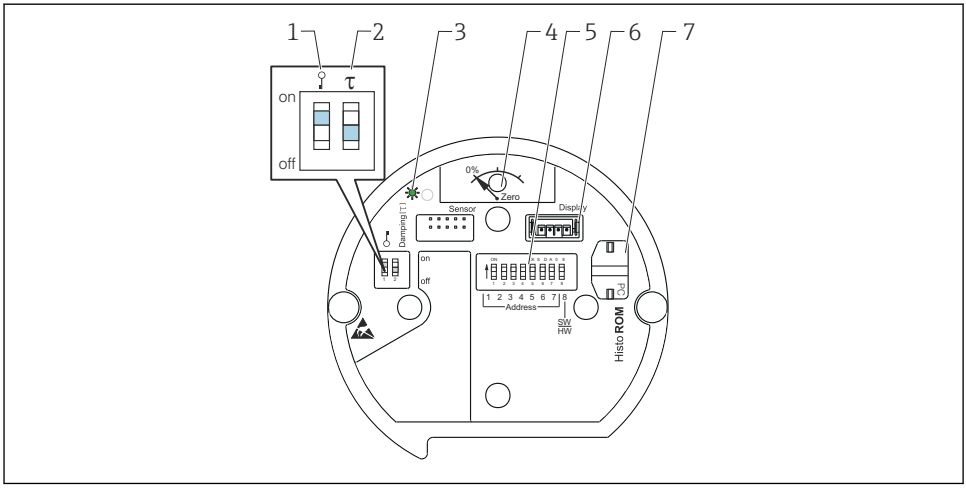
2 Operating keys, outside



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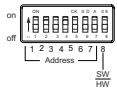
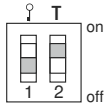
1 *DIP switch for locking/unlocking parameters relevant to the measured value*
2 *DIP switch for switching damping on/off*
3 *Green LED to indicate value is accepted*
4 *Key for position adjustment and device reset*
5 *DIP switch for bus address*
6 *Slot for optional display*
7 *Slot for optional HistoROM®/M-DAT*

Function of the DIP switches

To perform the corresponding function, press the key or key combination for at least 3 s. Press the key combination for at least 6 s for a reset.

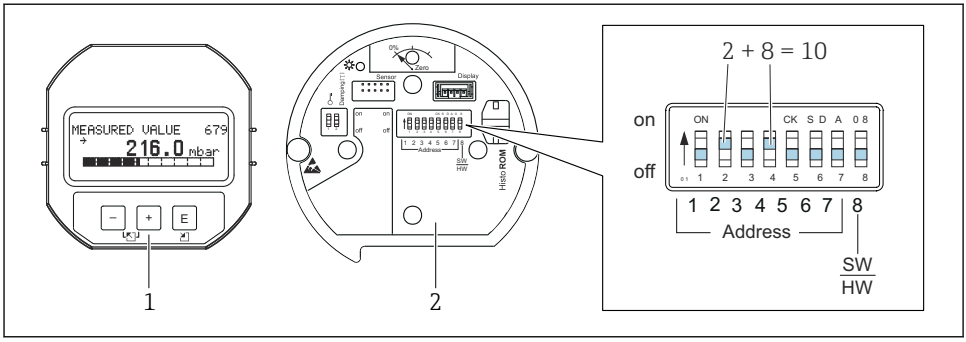
	Meaning
	▪ Position adjustment (zero point correction): press key for at least 3 seconds. The LED on the electronic insert lights up briefly if the pressure applied has been accepted for position adjustment. ▪ Total reset: press key for at least 12 seconds. The LED on the electronic insert lights up briefly if a reset is being carried out.
	Set the address in the bus.
	▪ DIP switch 1: to lock/unlock parameters relevant to the measured value. Factory setting: off (unlocked) ▪ DIP switch 2: damping on/off, factory setting: on (damping on)

7.1.2 PROFIBUS PA communication protocol

Device identification and addressing

Please note the following:
- An address must be assigned to each PROFIBUS PA device. The control system/master can only recognize the device if the address is set correctly.
- Each address can only be assigned once in any PROFIBUS PA network.
- Device addresses in the range from 0 to 125 are valid.
- The address 126 which is set at the factory can be used to check the function of the device and to connect to a PROFIBUS PA network that is in operation. This address must be changed subsequently to add additional devices.
- On leaving the factory, all devices are delivered with the default address 126 and software addressing.
- The FieldCare operating program is delivered with the address 0 (default setting).

There are two ways to assign the device address to a Cerabar S:
- Via DP master class 2 operating program, such as FieldCare or
- Onsite via DIP switches.



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3 Fig. 8: Setting the device address via DIP switches

1 Where necessary, remove the (optional) local display
2 Set the hardware address via the DIP switches

Hardware addressing

A hardware address is set as follows:

1. Set the DIP switch 8 (SW/HW) to "Off".
2. Set the address with DIP switches 1 to 7 (see figure above).
3. The change of address takes effect after 10 seconds. The device is restarted.

DIP switch	1	2	3	4	5	6	7
Value when set to "On"	1	2	4	8	16	32	64
Value when set to "Off"	0	0	0	0	0	0	0

Software addressing

A software address is set as follows:

1. Set DIP switch 8 (SW/HW) to "On" (factory setting).
2. The device is restarted.
3. The device reports its current address. Factory setting: 126.
4. Configure the address via the configuration program.

Setting a new address via FieldCare. DIP switch 8 (SW/HW) is set to "On" (SW):

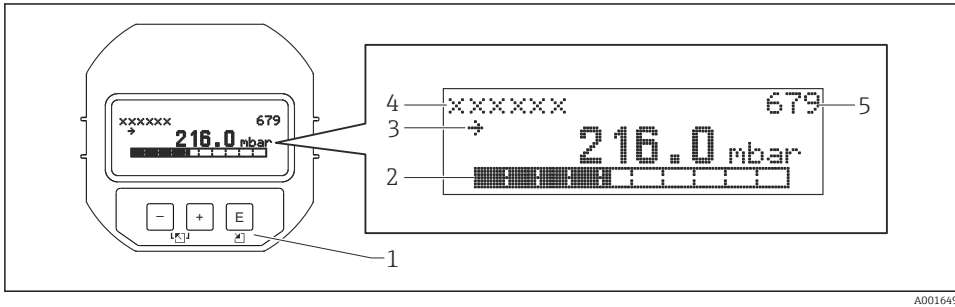
1. Using the "Device operation" menu → select the "Connect" option. The "Connection wizard" screen is displayed.
2. The device reports its current address. Factory setting: 126 [1)]
3. The device must be disconnected from the bus to be able to assign a new address to the device. For this purpose, in the "Device operation" menu → select the "Disconnect" option.

4. Using the "Device operation" menu, select → "Device functions" → "Additional functions" → "Set device station address". The "PROFIdtm DPV1 (Set device station address)" window is displayed.
5. Enter the new address and confirm with the "Set" option.
6. The new address is assigned to the device.

7.2 Operation with device display (optional)

A 4-line liquid crystal display (LCD) is used for display and operation. The local display shows measured values, dialog texts, fault messages and notice messages. The device display can be turned in 90 ° steps. Depending on the installation position of the device, this makes it easy to operate the device and read the measured values.

Functions:
- 8-digit measured value display including sign and decimal point, unit display, bar graph for displaying current
- Simple and complete menu guidance due to breakdown of parameters into several levels and groups
- Each parameter is assigned a 3-digit ID number for easy navigation
- Possibility of configuring the display according to individual wishes and requirements e.g. language, alternating display, display of other measured values, such as sensor temperature, contrast setting
- Comprehensive diagnostic functions (fault and warning message, maximum/minimum indicators, etc.)
- Rapid and safe commissioning using Quick Setup menus



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The following table illustrates the symbols that can appear on the local display. Four symbols may appear at the same time.

Symbol	Meaning
	**Alarm symbol** ▪ Symbol flashing: warning, device continues measuring ▪ Symbol permanently lit: error, device does not continue measuring *Note:* The alarm symbol may overlie the tendency symbol.
	**Lock symbol** The operation of the device is locked. Unlock the device.
	**Communication symbol** Data transfer via communication.
	**Tendency symbol (increasing)** The measured value increases.
	**Tendency symbol (decreasing)** The measured value decreases.
	**Tendency symbol (constant)** The measured value has remained constant throughout the last few minutes.

7.2.1 Operating keys on the display and operating module

Operating key(s)	Meaning
	▪ Navigate up in the picklist ▪ Edit the numerical values or characters within a function
	▪ Navigate down in the picklist ▪ Edit the numerical values or characters within a function
	▪ Confirm entry ▪ Jump to the next item
	Contrast setting of local display: darker
	Contrast setting of local display: brighter
	**ESC functions:** ▪ Exit the editing mode without saving the modified value ▪ You are in the menu within a function group: the first time you press the keys simultaneously, you go back one parameter in the function group. Every subsequent time you press the keys simultaneously, you go up one level in the menu. ▪ You are in the menu at a selection level: each time you press the keys simultaneously, you go up a level in the menu. *Note:*For the terms function group, level, selection level, see the "Menu structure".

7.2.2 Operating example: Parameters with a picklist

Example: selecting "Deutsch" as the language of the menu.

	Language 000	Operation
1	✔ English Deutsch	"English" is set as the menu language (default value). A ✔ in front of the menu text indicates the option that is currently active.
2	Deutsch ✔ English	Select "Deutsch" with ⊞ or ⊟.
3	✔ Deutsch English	▪ Select Ⓔ to confirm. A ✔ in front of the menu text indicates the active option ("Deutsch" is now selected as the menu language). ▪ Use Ⓔ to exit the edit mode for the parameter.

7.2.3 Operating example: User-definable parameters

Example: Setting the "Set URV (014)" parameter from 100 mbar (1.5 psi) to 50 mbar (0.75 psi).

Menu path: Setup → Extended setup → Current output → Set URV

	Set URV 014	Operation
1	1 0 0 . 0 0 0 mbar	The local display shows the parameter to be changed. The "mbar" unit is defined in another parameter and cannot be changed here.
2	**1** 0 0 . 0 0 0 mbar	Press ⊞ or ⊟ to enter the edit mode. The first digit is highlighted in black.
3	**5** 0 0 . 0 0 0 mbar	Use the ⊞ key to change "1" to "5". Press the Ⓔ key to confirm "5". The cursor jumps to the next position (highlighted in black). Confirm "0" with Ⓔ (second position).
4	5 0 **0** . 0 0 0 mbar	The third digit is highlighted in black and can now be edited.
5	5 0 ↵ . 0 0 0 mbar	Use the ⊟ key to change to the "↵" symbol. Use Ⓔ to save the new value and exit the edit mode. See next graphic.
6	5 0 . 0 0 0 mbar	The new value for the upper range value is 50 mbar (0.75 psi). Use Ⓔ to exit the edit mode for the parameter. Use ⊞ or ⊟ to return to the edit mode.

7.2.4 Operating example: Accepting the pressure present

Example: Setting pos. zero adjustment.

Menu path: Main menu → Setup → Pos. zero adjust

	Pos. zero adjust 007	Operation
1	✔ Cancel Confirm	The pressure for pos. zero adjustment is present at the device.
2	Cancel ✔ Confirm	Use ⊞ or ⊟ to switch to the "Confirm" option. The active option is highlighted in black.
3	Adjustment has been accepted!	Use the Ⓔ key to accept the applied pressure for pos. zero adjustment. The device confirms the adjustment and goes back to the "Pos. zero adjust" parameter.
4	✔ Cancel Confirm	Use Ⓔ to exit the edit mode for the parameter.

8 Commissioning

The device is configured for the "Pressure" measuring mode as standard. The measuring range and the unit in which the measured value is transmitted correspond to the data on the nameplate.

⚠ WARNING

The permitted process pressure is exceeded!

Risk of injury if parts burst! Warnings are displayed if the pressure is too high

- If a pressure that is greater than the maximum permitted pressure is present at the device, messages "E115 sensor overpressure" and "E727 sensor pressure error - overrange" are output in succession. Only use the device within the sensor range limits!

NOTICE

The permitted process pressure is undershot!

Messages are displayed if the pressure is too low.

- If a pressure that is lower than the minimum permitted pressure is present at the device, messages "E120 sensor low pressure" and "E727 sensor pressure error - overrange" are output in succession. Only use the device within the sensor range limits!

8.1 Configuring messages

- The messages E727, E115 and E120 are "Error"-type messages and can be configured as a "Warning" or an "Alarm". The factory setting for these messages is "Warning". This setting prevents the current output from adopting the configured alarm current value in applications (e.g. cascade measurement) where the user knowingly accepts that the sensor range may be exceeded.
- We recommend setting messages E727, E115 and E120 to "Alarm" in the following instances:
  - It is not necessary to go outside the sensor range for the measuring application.
  - A position adjustment must be carried out that has to correct a large measured error as a result of the orientation of the device (e.g. devices with diaphragm seal).

8.2 Selecting the language and measuring mode

8.2.1 Local operation

The LANGUAGE and MEASURING MODE parameters are on the 1st selection level.

The following measuring modes are available:
- Pressure
- Level

8.2.2 Digital communication

The following measuring modes are available:
- Pressure
- Level

The LANGUAGE parameter is arranged in the DISPLAY group (OPERATING MENU → DISPLAY).
- Use the LANGUAGE parameter to select the menu language for the local display.
- Select the menu language for FieldCare using the "Language Button" in the configuration window.
  Select the menu language for the FieldCare frame using the "Extra" menu → "Options" → "Display" → "Language".

8.3 Position adjustment

Due to the orientation of the device, there may be a shift in the measured value, i.e. when the vessel is empty, the measured value does not display zero. There are three ways to perform

position adjustment. (Menu path: (GROUP SELECTION →) OPERATING MENU → SETTINGS → POSITION ADJUST).

Parameter name	Description
POS. ZERO ADJUST, Entry	Pos. zero adjustment – the pressure difference between zero (set point) and the measured pressure need not be known **Example:** ▪ MEASURED VALUE = 2.2 mbar (0.032 psi) ▪ You correct the MEASURED VALUE via the "POS. ZERO ADJUST" parameter with the "Confirm" option. This means that you are assigning the value 0.0 to the pressure present. – MEASURED VALUE (after pos. zero adjustment) = 0.0 mbar ▪ The current value is also corrected. The CALIB. OFFSET parameter displays the resulting pressure difference (offset) by which the MEASURED VALUE was corrected. **Factory setting:** 0.0
POS. INPUT VALUE, Entry	Pos. zero adjustment – the pressure difference between zero (set point) and the measured pressure need not be known. To correct the pressure difference, a reference measurement value (e.g. from a reference device) is required. **Example:** ▪ MEASURED VALUE = 0.5 mbar (0.0073 psi) ▪ For the POS. INPUT VALUE parameter, specify the desired set point for the MEASURED VALUE, for example 2.0 mbar (0.029 psi). (The following applies: MEASURED VALUE new = POS. INPUT VALUE) ▪ For the POS. INPUT VALUE parameter, specify the desired set point for the MEASURED VALUE, for example 2.0 mbar (0.029 psi). (The following applies: MEASURED VALUE new = POS. INPUT VALUE) ▪ The CALIB. OFFSET parameter displays the resulting pressure difference (offset) by which the MEASURED VALUE was corrected. The following applies: CALIB. OFFSET = MEASURED $VALUE_{old}$ – POS. INPUT VALUE, here: CALIB. OFFSET = 0.5 bar (0.0073 psi) - 2.0 bar (0.029 psi) = 1.5 bar (0.022 psi) ▪ MEASURED VALUE (after entry for calib. offset) = 0.0 mbar ▪ The current value is also corrected. **Factory setting:** 0.0
CALIB. OFFSET, Entry	Position adjustment – the pressure difference between zero (set point) and the measured pressure is known. **Example:** ▪ MEASURED VALUE = 2.2 mbar (0.032 psi) ▪ Via the CALIB. OFFSET parameter, enter the value by which the MEASURED VALUE should be corrected. To correct the MEASURED VALUE to 0.0 mbar, you must enter the value 2.2 here. (The following applies: MEASURED $VALUE_{new}$ = MEASURED $VALUE_{old}$ – CALIB. OFFSET) ▪ **Factory setting:** 0.0

8.4 Quick Setup menu for the "Pressure" measuring mode

Local operation		FieldCare
Measured value display Switch from the measured value display to the GROUP SELECTION with E.		**Measured value display** Select the QUICK SETUP menu.
GROUP SELECTION Select the MEASURING MODE parameter.		**MEASURING MODE** Select the "Pressure" option.
MEASURING MODE Select the "Pressure" option.		
GROUP SELECTION Select the QUICK SETUP menu.		
POS. ZERO ADJUST Due to orientation of the device, there may be a shift in the measured value. You correct the MEASURED VALUE via the POS. ZERO ADJUST parameter with the "Confirm" option, i.e. you assign the value 0.0 to the pressure present.		**POS. ZERO ADJUST** Due to orientation of the device, there may be a shift in the measured value. You correct the MEASURED VALUE via the POS. ZERO ADJUST parameter with the "Confirm" option, i.e. you assign the value 0.0 to the pressure present.
DAMPING VALUE Enter the damping time (time constant). The damping affects the speed at which all subsequent elements, such as the local display, measured value and current output, react to a change in the pressure.		**DAMPING VALUE** Enter the damping time (time constant). The damping affects the speed at which all subsequent elements, such as the local display, measured value and current output, react to a change in the pressure.

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