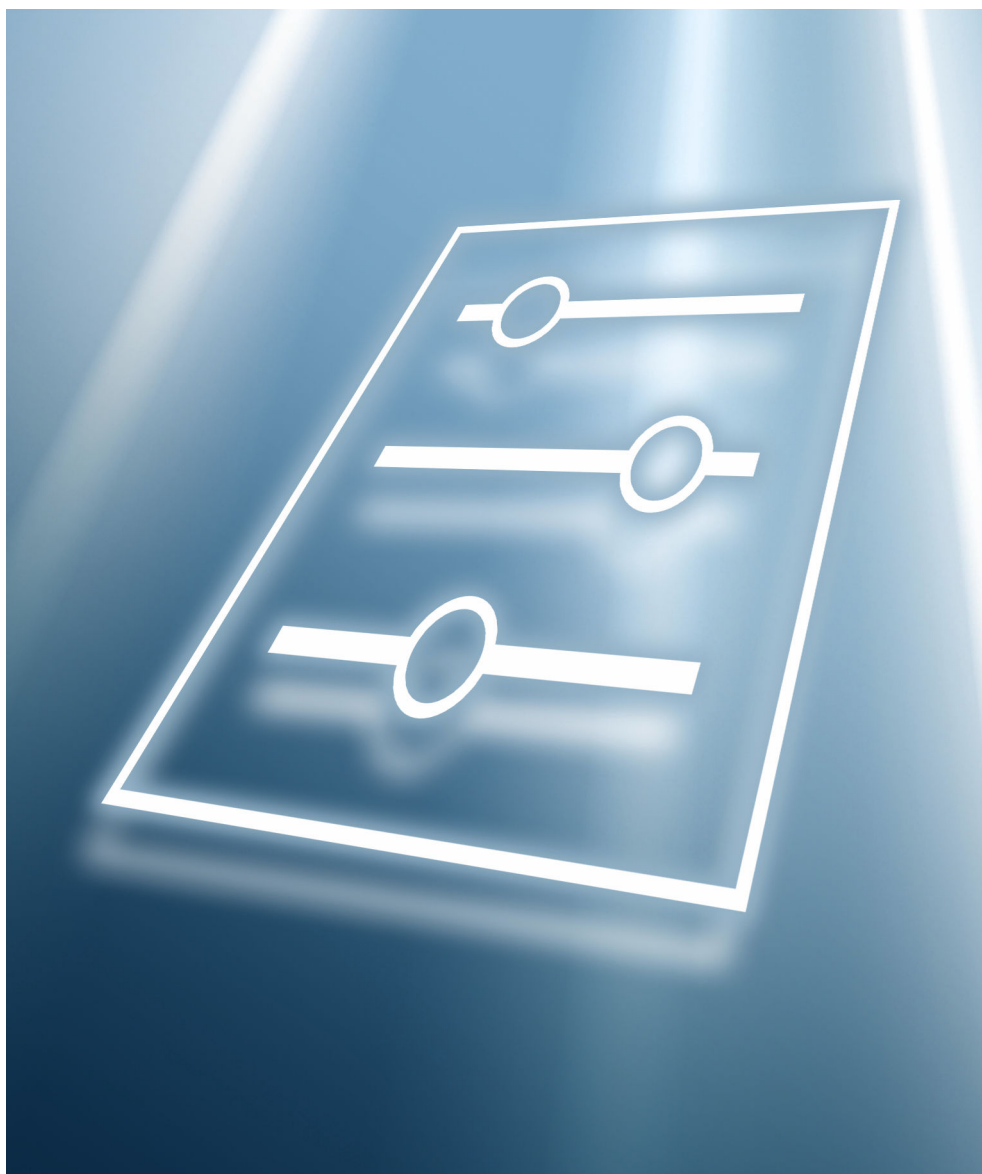


Description of Device Parameters

Deltabar PMD78B

Differential pressure measurement
PROFIBUS PA



1 About this document

1.1 Document function

The document is part of the Operating Instructions and serves as a reference for parameters.

Tasks that require detailed knowledge of the function of the device:

- Starting up measurements under difficult conditions
- Optimal adjustment of measurements to difficult conditions
- Detailed configuration of communication interface
- Fault diagnosis in difficult cases

1.2 Target group

This document is aimed at specialists who work with the device over the entire life cycle and perform specific configurations.

1.3 Document structure

The document consists of a general part and a specific part.

The structure of the document and its components are explained in the general part (section 1).

The specific part starts with an overview of the device operating menu, which is the focus of this manual.

The description of the device parameters follows the overview of the operating menu. The description is divided into 4 main menus and their submenus.

The 4 main menus:

- Guidance
- Diagnostics
- Application
- System

In the "Description of device parameters" section, the menus, submenus and parameters are displayed in the same way as they are laid out in the menu structure for the **operating tool**.

An operating tool is software, such as FieldCare, which can be used to display and edit the data and parameters stored in the device on a PC or laptop. Compared to operation via the local display, an operating tool offers more options. It provides additional information, such as graphics and help texts, which explain the properties of the parameters.

The submenus visible to a user depend on the **User role** (→  59) they are logged in with. This document lists the submenus and their parameters that are available to the User role **Maintenance**.

The operating menu is dynamic and adapts the choice of parameters to the selected options.



For information on operating options, see the Operating Instructions.

1.4 Elements of parameter descriptions

Parameter descriptions are structured and made up of a number of elements. Depending on the parameter, more or fewer elements may be available. Below are 2 examples of different parameters:

1	Simulation	
2	Navigation	  Diagnostics → Simulation → Simulation
3	Prerequisite	Options marked with *: The corresponding device function must be available and configured.
4	Description	Simulates one or more process variables and/or events. Warning: - Output will reflect the simulated value or event.
5	Selection	■ Off ■ Distance ■ Level ■ Level linearized * ■ Current output ■ Diagnostic event simulation ■ Foam index * ■ Build-up index *
6	Factory setting	Off

- 1 Name: Parameter designation (Label)
- 2 Navigation: Navigation path to the parameter. The graphics indicate whether the path applies to the onsite display, the operating tool or both.
- 3 Prerequisite: The marked options can only be selected under the condition specified in each case
- 4 Description: Description of the parameter function
- 5 Selection: List of the individual options for the parameter
- 6 Factory setting: Default setting on leaving the factory
- 7 The lock symbol indicates that the parameter is write-protected

1	Timestamp	
2	Navigation	  Diagnostics → Active diagnos. → Timestamp
3	Description	Displays the timestamp for the currently active diagnostic message.
4	User interface	Days (d), hours (h), minutes (m), seconds (s)
5	Factory setting	
6	Additional information	Access: ■ Read access: Operator ■ Write access: -

- 1 Name: Parameter designation (Label)
- 2 Navigation: Navigation path to the parameter. The graphics indicate whether the path applies to the onsite display, the operating tool or both.
- 3 Description: Description of the parameter function
- 4 User interface: Display value/data of the parameter
- 5 Factory setting: Default setting on leaving the factory
- 6 Additional information:
Read and write access: Information on access rights that users with certain roles have to the parameter

Additional information at the end of the parameter description can refer to all elements of the parameter description and expand them.

1.5 Symbols

1.5.1 Safety symbols



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 potentially dangerous situation. Failure to avoid this situation can result in serious or fatal injury.

⚠ CAUTION

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

NOTICE

This symbol alerts you to a potentially harmful situation. Failure to avoid this situation can result in damage to the product or something in its vicinity.

1.5.2 Symbols for certain types of information

-  Indicates additional information
-  Reference to documentation
-  Operation via local display
-  Operation via operating tool
-  Write-protected parameter

1.6 Documentation



For an overview of the scope of the associated Technical Documentation, refer to the following:

- *Device Viewer* (www.endress.com/deviceviewer): Enter the serial number from the nameplate
- *Endress+Hauser Operations app*: Enter serial number from nameplate or scan matrix code on nameplate.

The documentation is available via the Internet: → www.endress.com Download

2 Overview of the operating menu

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▶ Heartbeat Technology	→  14
▶ Heartbeat Verification	→  14
▶ SSD: Statistical Sensor Diagnostics	→  15
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3 Description of device parameters

3.1 Guidance

In the **Guidance** menu, the user can quickly perform basic tasks, such as commissioning. These primarily consist of guided wizards and cross-thematic special functions.

Navigation  Guidance

3.1.1 Overview

The **Guidance** menu contains the following submenus and wizards:

- Commissioning
- Heartbeat Technology
 - Heartbeat Verification
 - SSD: Statistical Sensor Diagnostics
 - Process window
- Import/Export
- Compare

Commissioning

Run the **Commissioning** wizard to commission the device. Enter the appropriate value in each parameter or select the appropriate option.

WARNING

If the wizard is aborted before all the necessary parameters have been configured, any settings already made are saved.

The device may be in an undefined state!

- Reset the device to factory settings.

Navigation

Guidance → Commissioning

*Parameters for the "Commissioning" wizard***The following parameters are configured or displayed in this wizard:**

- **Device identification**
 - Device tag
 - Device name
 - Serial number
 - Extended order code 1 ... 3
 - Locking status
 - Device ID
 - Device address
- **Measurement adjustments**
 - Damping
 - Assign scaled variable?
 - Pressure unit
 - Temperature unit
 - Scaled variable unit
 - Zero adjustment
 - Pressure
- **Output settings**
 - Scaled variable transfer function
 - Low flow cutoff
 - Lower Range Limit
 - Upper Range Limit
 - Minimum span
 - Linearization
 - Pressure value 1/2
 - Scaled variable value 1/2
 - Channel

Heartbeat Technology

Heartbeat Technology offers the following functions:

- Diagnostics through continuous self-monitoring
- Additional measured variables output to an external condition monitoring system
- In situ verification of measuring instruments in the application

Special Documentation on Heartbeat Technology is available via the Internet:
www.endress.com → Download*Navigation*

Guidance → Heartbeat Techn.

Heartbeat Verification

This wizard is used to start an automatic verification of the device functionality.
The results can be documented as a verification report.

Navigation  Guidance → Heartbeat Techn. → Heartbeat Verif.

SSD: Statistical Sensor Diagnostics

Using statistical analysis of the pressure signal, process anomalies such as plugged impulse lines can be detected. This wizard supports the settings and thresholds that should lead to a diagnostic message.

Navigation  Guidance → Heartbeat Techn. → Stat. Sens. Diag

Process window

This wizard uses user-defined limits for pressure and temperature to detect unwanted installation or application anomalies.

Applications:

- Defective heat tracer or insulation
- Frozen process connections
- Dynamic pressure peaks etc.

Navigation  Guidance → Heartbeat Techn. → Process window

Import/Export

Save / Restore

- The device settings can be saved in a .deh file.
- The device settings saved in a .deh file can be written to the device.

Create configuration report

Under Create configuration report, device documentation can be saved in PDF format. This device documentation contains the following general device information:

- Information on device parameters
- Event list
- Diagnostic list

Navigation  Guidance → Import/Export

Compare

Compare datasets

This function can be used to compare the following datasets:

- Data records in the .deh file format from the function Import/Export
- Datasets with the configuration currently in the device

Navigation  Guidance → Compare

3.2 Diagnostics

Navigation   Diagnostics

3.2.1 Active diagnostics

Navigation   Diagnostics → Active diagnos.

Active diagnostics

Navigation	 Diagnostics → Active diagnos. → Active diagnos.
Description	Displays the currently active diagnostic message. If there is more than one pending diagnostic event, the message for the diagnostic event with the highest priority is displayed.
User interface	■ Operating time of the device until the event occurs ■ Symbol for diagnostic behavior ■ Code for diagnostic behavior ■ Event text ■ Corrective measure

Timestamp

Navigation	 Diagnostics → Active diagnos. → Timestamp
Description	Displays the timestamp for the currently active diagnostic message.
User interface	Days (d), hours (h), minutes (m), seconds (s)

Previous diagnostics

Navigation	 Diagnostics → Active diagnos. → Prev.diagnostics
Description	Displays the diagnostic message for the last diagnostic event that has ended.

User interface	■ Operating time of the device until the event occurs ■ Symbol for diagnostic behavior ■ Code for diagnostic behavior ■ Event text ■ Corrective measure
-----------------------	---

Timestamp

Navigation	 Diagnostics → Active diagnos. → Timestamp
Description	Displays the timestamp of the diagnostic message generated for the last diagnostic event that has ended.
User interface	Days (d), hours (h), minutes (m), seconds (s)

Operating time from restart

Navigation	 Diagnostics → Active diagnos. → Time fr. restart
Description	Indicates how long the device has been in operation since the last time the device was restarted.
User interface	Days (d), hours (h), minutes (m), seconds (s)

Operating time

Navigation	 Diagnostics → Active diagnos. → Operating time
Description	Indicates how long the device has been in operation.
User interface	Days (d), hours (h), minutes (m), seconds (s)

3.2.2 Diagnostic list

Navigation  Diagnostics → Diagnostic list

3.2.3 Event logbook

Navigation  Diagnostics → Event logbook

Clear event list

Navigation	 Diagnostics → Event logbook → Clear event list
Description	Delete all entries of the event list.
Selection	■ Cancel ■ Clear data
Factory setting	Cancel
Additional information	Access: ■ Read access: Expert ■ Write access: Expert

3.2.4 Minimum/maximum values

Navigation  Diagnostics → Min/max val.

Pressure min

Navigation	 Diagnostics → Min/max val. → Pressure min
Description	Minimum value measured by the device
User interface	Signed floating-point number
Factory setting	Positive floating-point number

Pressure max

Navigation	 Diagnostics → Min/max val. → Pressure max
Description	Maximum value measured by the device
User interface	Signed floating-point number
Factory setting	Negative floating-point number

Counter limit underruns sensor Pmin

Navigation	 Diagnostics → Min/max val. → Counter P < Pmin
Description	Counts how many times the value underruns the sensor specific minimum values. Sensor specific minimum values are shown in Application/Sensor menu.
User interface	0 to 65 535
Factory setting	0

Counter limit overruns sensor Pmax

Navigation	 Diagnostics → Min/max val. → Counter P > Pmax
Description	Counts how many times the value overruns the sensor specific maximum values. Sensor specific maximum values are shown in Application/Sensor menu.
User interface	0 to 65 535
Factory setting	0

Counter underruns of user limit Pmin

Navigation	 Diagnostics → Min/max val. → Counter < P user
Description	Counts how many times the value underruns the minimum values defined by the user. User defined minimum values are shown in Diagnostic/Diagnostic settings/Properties menu.
User interface	0 to 65 535
Factory setting	0
Additional information	Only visible if Process window in Heartbeat Monitoring is activated.

Counter overruns of user limit Pmax

Navigation	 Diagnostics → Min/max val. → Counter > P user
Description	Counts how many times the value overruns the maximum values defined by the user. User defined maximum values are shown in Diagnostic/Diagnostic settings/Properties menu.
User interface	0 to 65 535
Factory setting	0
Additional information	Only visible if Process window in Heartbeat Monitoring is activated.

Minimum sensor temperature

Navigation	 Diagnostics → Min/max val. → Min. sensor temp
Description	Minimum value measured by the device Users cannot reset this value.

Maximum sensor temperature

Navigation	 Diagnostics → Min/max val. → Max. sensor temp
Description	Maximum value measured by the device Users cannot reset this value.

Counter limit underruns sensor Tmin

Navigation	 Diagnostics → Min/max val. → Counter T < Tmin
Description	Counts how often the value falls below the sensor-specific minimum values. The sensor-specific minimum values are displayed in the Application (→  35)/Sensor (→  40) menu.
User interface	0 to 65 535
Factory setting	0

Counter limit overruns sensor Tmax

Navigation	 Diagnostics → Min/max val. → Counter T > Tmax
Description	Counts how often the value exceeds the sensor-specific maximum values. The sensor-specific maximum values are displayed in the Application (→  35)/Sensor (→  40) menu.
User interface	0 to 65 535
Factory setting	0

Counter underruns of user limit Tmin

Navigation	 Diagnostics → Min/max val. → Counter < T user
User interface	0 to 65 535
Factory setting	0
Additional information	Only visible if Process window in Heartbeat Monitoring is activated.

Counter overruns of user limit Tmax

Navigation	 Diagnostics → Min/max val. → Counter > T user
User interface	0 to 65 535
Factory setting	0
Additional information	Only visible if Process window in Heartbeat Monitoring is activated.

Minimum terminal voltage

Navigation	 Diagnostics → Min/max val. → Min.term.volt.
Description	Minimum terminal voltage measured (supply).
User interface	0.0 to 50.0 V

Maximum terminal voltage

Navigation	 Diagnostics → Min/max val. → Max.term.voltage
Description	Maximum terminal voltage measured (supply).
User interface	0.0 to 50.0 V

Minimum electronics temperature

Navigation	 Diagnostics → Min/max val. → Min.electr.temp.
Description	Minimum measured temperature of the main electronics.
User interface	Signed floating-point number

Maximum electronics temperature

Navigation	 Diagnostics → Min/max val. → Max.electr.temp.
Description	Maximum measured temperature of the main electronics.
User interface	Signed floating-point number

Reset user defined counters P and T



Navigation	 Diagnostics → Min/max val. → Reset count. P T
Selection	■ Cancel ■ Confirm
Factory setting	Cancel
Additional information	Only visible if Process window in Heartbeat Monitoring is activated.

3.2.5 Simulation

Navigation   Diagnostics → Simulation

Simulation

Navigation	 Diagnostics → Simulation → Simulation
Description	Simulates one or more process variables and/or events. Warning: Output will reflect the simulated value or event.
Selection	■ Off ■ Diagnostic event simulation ■ Pressure
Factory setting	Off

Diagnostic event simulation

Navigation	 Diagnostics → Simulation → Diagnostic event
Description	Select the diagnostic event to be simulated. Note: To terminate the simulation, select "Off".
Selection	■ Off ■ Drop-down list of diagnostic events
Factory setting	Off

Value pressure simulation

Navigation	 Diagnostics → Simulation → Pressure
User entry	Signed floating-point number
Factory setting	0 mbar

3.2.6 Heartbeat Technology

Navigation   Diagnostics → Heartbeat Techn.

Heartbeat Verification

Navigation   Diagnostics → Heartbeat Techn. → Heartbeat Verif.

Date/time Heartbeat Verification

Navigation	 Diagnostics → Heartbeat Techn. → Heartbeat Verif. → Date/time Heartbeat Verification
Description	Date and time of last Heartbeat Verification. This value is updated with every Heartbeat verification. Note: If time information is not available, e.g. Heartbeat verification is started from display, "-----" is shown.
User interface	Character string comprising numbers, letters and special characters
Factory setting	01.01.1970 00:00:00

Operating time (Verification)

Navigation	 Diagnostics → Heartbeat Techn. → Heartbeat Verif. → Operating time
Description	Value of the operating hours counter at the time of verification.
User interface	Days (d), hours (h), minutes (m), seconds (s)

Verification result

Navigation	 Diagnostics → Heartbeat Techn. → Heartbeat Verif. → Verific. result
Description	Result of Heartbeat Verification.
User interface	■ Not done ■ Passed ■ Not done ■ Failed
Factory setting	Not done

Status

Navigation	 Diagnostics → Heartbeat Techn. → Heartbeat Verif. → Status
Description	Shows the actual status.
User interface	■ Done ■ Busy ■ Failed ■ Not done
Factory setting	Not done

Statistical Sensor Diagnostics

Navigation  Diagnostics → Heartbeat Techn. → SSD

SSD: Statistical Sensor Diagnostics



Navigation	 Diagnostics → Heartbeat Techn. → SSD → Stat. Sens. Diag
Description	Enable or disable SSD. After selecting "Disable", no statistical sensor diagnosis takes place. No diagnostic messages are output.
Selection	■ Disable ■ Enable
Factory setting	Disable

System status

Navigation	 Diagnostics → Heartbeat Techn. → SSD → System status
User interface	■ Idle ■ No sufficient signal noise ■ Stable ■ Not stable ■ Verify System Dynamics ■ Process dynamic too high
Factory setting	Idle

Signal status

Navigation	 Diagnostics → Heartbeat Techn. → SSD → Signal status
User interface	■ Idle ■ Building Baseline ■ Verifying Baseline ■ Verifying baseline failed ■ Monitoring ■ Out of range ■ Monitoring inactive
Factory setting	Idle

Signal noise status

Navigation	 Diagnostics → Heartbeat Techn. → SSD → Noise status
User interface	■ Idle ■ Building Baseline ■ Verifying Baseline ■ Verifying baseline failed ■ Monitoring ■ Out of range ■ Monitoring inactive
Factory setting	Idle

Counter Baseline creation SSD

Navigation	 Diagnostics → Heartbeat Techn. → SSD → Counter Baseline
Description	Specifies how often the baseline has been rebuilt.
User interface	Positive integer
Factory setting	0
Additional information	Access: ■ Read access: Expert ■ Write access: -

3.2.7 Diagnostic settings

Navigation  Diagnostics → Diag. settings

Properties

Navigation  Diagnostics → Diag. settings → Properties

SSD Out of range delay time

Navigation  Diagnostics → Diag. settings → Properties → SSD Delay time

User entry 0 to 604 800 s

Factory setting 600 s

SSD Monitoring delay time

Navigation  Diagnostics → Diag. settings → Properties → SSD Verz. Zeit

User entry 0 to 86 400 s

Factory setting 60 s

500 Process alert pressure

Navigation  Diagnostics → Diag. settings → Properties → 500 Pressure

Description Define whether user-defined pressure limits should be set.
If "Off" is selected, no analysis will take place and no event message will be generated.

Selection ☐ Off
☐ On

Factory setting Off

Low alert value

**Navigation**

Diagnostics → Diag. settings → Properties → Low alert value

Description

Set range.
If this limit value is exceeded or undercut, a diagnostic event is generated. There is no hysteresis.

User entry

Signed floating-point number

Factory setting

0 mbar

High alert value

**Navigation**

Diagnostics → Diag. settings → Properties → High alert value

Description

Set range.
If this limit value is exceeded or undercut, a diagnostic event is generated. There is no hysteresis.

User entry

Signed floating-point number

Factory setting

500 mbar

501 Process alert scaled variable

**Navigation**

Diagnostics → Diag. settings → Properties → 501 Scaled var.

Description

Define whether user-defined limits should be set.
If "Off" is selected, no analysis will take place and no event message will be generated.

Selection

- Off
- On

Factory setting

Off

Low alert value

**Navigation**

Diagnostics → Diag. settings → Properties → Low alert value

Description

Set range.
If this limit value is exceeded or undercut, a diagnostic event is generated. There is no hysteresis.

User entry

Signed floating-point number

Factory setting	0 %
------------------------	-----

High alert value



Navigation	Diagnostics → Diag. settings → Properties → High alert value
-------------------	--

Description	Set range. If this limit value is exceeded or undercut, a diagnostic event is generated. There is no hysteresis.
--------------------	---

User entry	Signed floating-point number
-------------------	------------------------------

Factory setting	100 %
------------------------	-------

User temperature process alert



Navigation	Diagnostics → Diag. settings → Properties → UserTemp alert
-------------------	--

Description	Define whether the user-defined sensor temperature limits should be set. If "Off" no analysis and therefore no event message will take place.
--------------------	---

Selection	■ Off ■ On
------------------	--

Factory setting	Off
------------------------	-----

Low alert value



Navigation	Diagnostics → Diag. settings → Properties → Low alert value
-------------------	---

Description	Set range. If this limit value is exceeded or undercut, a diagnostic event is generated. There is no hysteresis.
--------------------	---

User entry	-50 to 150 °C
-------------------	---------------

Factory setting	-35 °C
------------------------	--------

High alert value**Navigation**

 Diagnostics → Diag. settings → Properties → High alert value

Description

Set range.
If this limit value is exceeded or undercut, a diagnostic event is generated. There is no hysteresis.

User entry

–50 to 150 °C

Factory setting

85 °C

Configuration*Navigation*

  Diagnostics → Diag. settings → Configuration

*Configuration**Navigation*

  Diagnostics → Diag. settings → Configuration → Configuration

500 Diagnostic behavior**Navigation**

  Diagnostics → Diag. settings → Configuration → Configuration → 500Diag. behav.

Description

Select event behavior.
"Logbook entry only":
No digital or analog transmission of the message.
"Warning":
Current output unchanged. Message is output digitally (default).
"Alarm":
Current output assumes the set alarm current.
Regardless of the setting, the message appears on the display. If the permissible conditions are reached again, the warning is no longer available in the instrument.

Selection

- Off
- Alarm
- Warning
- Logbook entry only

Factory setting

Off

500 Event category 	
Navigation	  Diagnostics → Diag. settings → Configuration → Configuration → 500Event categ.
Selection	■ Failure (F) ■ Function check (C) ■ Out of specification (S) ■ Maintenance required (M) ■ Not categorized
Factory setting	Out of specification (S)
501 Diagnostic behavior 	
Navigation	  Diagnostics → Diag. settings → Configuration → Configuration → 501Diag. behav.
Description	Select event behavior. "Logbook entry only": No digital or analog transmission of the message. "Warning": Current output unchanged. Message is output digitally (default). "Alarm": Current output assumes the set alarm current. Regardless of the setting, the message appears on the display. If the permissible conditions are reached again, the warning is no longer available in the instrument.
Selection	■ Off ■ Alarm ■ Warning ■ Logbook entry only
Factory setting	Off
501 Event category 	
Navigation	  Diagnostics → Diag. settings → Configuration → Configuration → 501Event categ.
Selection	■ Failure (F) ■ Function check (C) ■ Out of specification (S) ■ Maintenance required (M) ■ Not categorized
Factory setting	Out of specification (S)

502 Diagnostic behavior



Navigation	  Diagnostics → Diag. settings → Configuration → Configuration → 502Diag. behav.
Description	Select event behavior. "Logbook entry only": No digital or analog transmission of the message. "Warning": Current output unchanged. Message is output digitally (default). "Alarm": Current output assumes the set alarm current. Regardless of the setting, the message appears on the display. If the permissible conditions are reached again, the warning is no longer available in the instrument.
Selection	■ Off ■ Alarm ■ Warning ■ Logbook entry only
Factory setting	Off

502 Event category



Navigation	  Diagnostics → Diag. settings → Configuration → Configuration → 502Event categ.
Selection	■ Failure (F) ■ Function check (C) ■ Out of specification (S) ■ Maintenance required (M) ■ Not categorized
Factory setting	Out of specification (S)

Process

Navigation  Diagnostics → Diag. settings → Configuration → Process

822 Diagnostic behavior

Navigation	 Diagnostics → Diag. settings → Configuration → Process → 822Diag. behav.
User interface	■ Alarm ■ Warning ■ Logbook entry only

Factory setting Warning

822 Event category

Navigation  Diagnostics → Diag. settings → Configuration → Process → 822Event categ.

Selection ■ Failure (F)
 ■ Function check (C)
 ■ Out of specification (S)
 ■ Maintenance required (M)
 ■ Not categorized

Factory setting Out of specification (S)

900 Event category

Navigation   Diagnostics → Diag. settings → Configuration → Process → 900Event categ.

Description Select category for diagnostic message.

Selection ■ Failure (F)
 ■ Function check (C)
 ■ Out of specification (S)
 ■ Maintenance required (M)
 ■ Not categorized

Factory setting Maintenance required (M)

900 Diagnostic behavior

Navigation   Diagnostics → Diag. settings → Configuration → Process → 900Diag. behav.

Description Select event behavior
 "Logbook entry only":
 No forwarding of the message via the fieldbus.
 "Warning":
 Warning message is transmitted via the fieldbus (default setting).
 Regardless of the setting, the message appears on the display. If the permissible conditions are reached again, the warning is no longer available in the instrument.

Selection ■ Warning
 ■ Logbook entry only

Factory setting Warning

906 Diagnostic behavior

**Navigation**

 Diagnostics → Diag. settings → Configuration → Process → 906Diag. behav.

Description

Select event behavior

"Logbook entry only":

No forwarding of the message via the fieldbus.

"Warning":

Warning message is transmitted via the fieldbus (default setting).

Regardless of the setting, the message appears on the display. If the permissible conditions are reached again, the warning is no longer available in the instrument.

Selection

- Off
- Warning
- Logbook entry only

Factory setting

Off

906 Event category

**Navigation**

 Diagnostics → Diag. settings → Configuration → Process → 906Event categ.

Description

Select category for diagnostic message.

Selection

- Failure (F)
- Function check (C)
- Out of specification (S)
- Maintenance required (M)
- Not categorized

Factory setting

Not categorized

3.3 Application

Navigation  Application

3.3.1 Measuring units

Navigation  Application → Measuring units

Pressure unit 	
Navigation	 Application → Measuring units → Pressure unit
Selection	■ MPa ■ kPa ■ Pa ■ bar ■ mbar ■ torr ■ atm ■ psi ■ kgf/cm² ■ gf/cm² ■ inH₂O ■ inH₂O (4°C) ■ mmH₂O ■ mmH₂O (4°C) ■ mH₂O ■ mH₂O (4°C) ■ ftH₂O ■ inHg ■ mmHg
Factory setting	Depends on the order option

Decimal places pressure 	
Navigation	 Application → Measuring units → Decimal pressure
Description	This selection does not affect the measurement and calculation accuracy of the device.
Selection	■ Automatic ■ x ■ x.x ■ x.xx ■ x.xxx ■ x.xxxx
Factory setting	Automatic

Temperature unit



Navigation	 Application → Measuring units → Temperature unit
Description	Select the temperature unit.
Selection	<i>SI units</i> ■ °C ■ K <i>US units</i> °F
Factory setting	°C

Scaled variable unit



Navigation	 Application → Measuring units → Scaled Unit
Description	Use "Free text", first selection, if the desired unit is not available in the selection list. It is possible to define a customer specific unit with another parameter.

Selection	SI units	US units	Imperial units
	■ % ■ mm ■ cm ■ m ■ l ■ hl ■ m³ ■ g ■ kg ■ t ■ g/s ■ kg/s ■ kg/min ■ kg/h ■ t/min ■ t/h ■ t/d ■ m³/s ■ m³/min ■ m³/h ■ m³/d ■ l/s ■ l/min ■ l/h ■ Nm³/h ■ Nm³/h ■ Sm³/s ■ Sm³/min ■ Sm³/h ■ Sm³/d ■ Nm³/s ■ g/cm³ ■ kg/m³ ■ Nm³/min ■ Nm³/d	■ ft ■ in ■ ft³ ■ gal (us) ■ bbl (us;oil) ■ oz ■ lb ■ STon ■ lb/s ■ lb/min ■ lb/h ■ STon/min ■ STon/h ■ STon/d ■ ft³/s ■ ft³/min ■ ft³/h ■ ft³/d ■ gal/s (us) ■ gal/min (us) ■ gal/h (us) ■ gal/d (us) ■ bbl/s (us;oil) ■ bbl/min (us;oil) ■ bbl/h (us;oil) ■ bbl/d (us;oil) ■ Sft³/min ■ Sft³/h ■ Sft³/d	■ gal (imp) ■ gal/s (imp) ■ gal/min (imp) ■ gal/h (imp)
	<i>Custom-specific units</i> Free text		
Factory setting	%		

Free text



Navigation  Application → Measuring units → Free text

User entry Character string comprising numbers, letters and special characters (32)

Factory setting Free text

Decimal places scaled variable



Navigation	Application → Measuring units → Decimal scaled
Description	This selection does not affect the measurement and calculation accuracy of the device.
Selection	■ X ■ X.X ■ X.XX ■ X.XXX ■ X.XXXX
Factory setting	X.XX

3.3.2 Measured values

Navigation Application → Measured values

Sensor pressure

Navigation	Application → Measured values → Sensor pressure
User interface	Signed floating-point number
Factory setting	0 mbar
Additional information	Access: ■ Read access: Expert ■ Write access: -

Pressure

Navigation	Application → Measured values → Pressure
Factory setting	0 mbar

Scaled variable

Navigation	Application → Measured values → Scaled variable
User interface	Signed floating-point number

Factory setting	0 %
------------------------	-----

Sensor temperature

Navigation	 Application → Measured values → Sensor temp.
-------------------	--

Description	Displays the current temperature of the sensor.
--------------------	---

User interface	Floating point number with sign
-----------------------	---------------------------------

Terminal voltage 1

Navigation	 Application → Measured values → Terminal volt. 1
-------------------	--

Description	Shows the current terminal voltage that is applied at the output
--------------------	--

User interface	0.0 to 50.0 V
-----------------------	---------------

Electronics temperature

Navigation	 Application → Measured values → Electronics temp
-------------------	--

Description	Displays the current temperature of the main electronics.
--------------------	---

User interface	Signed floating-point number
-----------------------	------------------------------

3.3.3 **Sensor**

Navigation  Application → Sensor

Basic settings

Navigation  Application → Sensor → Basic settings

Damping

Navigation  Application → Sensor → Basic settings → Damping

Description The damping is effective before the measured value is further processed, i.e., before the following processes:
- Scaling
- Limit value monitoring
- Forwarding to display
- Forwarding to Analog Input Block

Note:
The Analog Input Block has its own "Damping" parameter. In the measurement chain, only one of the two attenuation parameters shall have a value other than 0. Otherwise, the signal will be attenuated several times.

User entry 0 to 999.0 s

Factory setting 1 s

HP/LP swap

Navigation  Application → Sensor → Basic settings → HP/LP swap

Description With this parameter the high and low pressure side of the differential pressure transmitter can be interchanged.

Selection ☐ No
 ☐ Yes

Factory setting No

Sensor calibration

Navigation   Application → Sensor → Sensor cal.

Zero adjustment

Navigation	 Application → Sensor → Sensor cal. → Zero adjustment
Description	Due to the mounting position of the measuring instrument, a pressure shift may occur. The pressure shift can be corrected with the zero adjustment.
Selection	■ No ■ Confirm
Factory setting	No

Calibration offset

Navigation	 Application → Sensor → Sensor cal. → Calibr offset
Description	Enter the value by which the measured value should be corrected, e.g., a position adjustment for absolute pressure sensors.
User entry	Signed floating-point number
Factory setting	0 mbar
Additional information	Parameters only available for absolute pressure sensors.

Zero adjustment offset

Navigation	 Application → Sensor → Sensor cal. → Zero offset
User entry	Signed floating-point number
Factory setting	0 mbar

Sensor Trim Reset

Navigation	 Application → Sensor → Sensor cal. → Sen. Trim Reset
Selection	■ No ■ Confirm

Factory setting No

Lower sensor trim measured value

Navigation  Application → Sensor → Sensor cal. → LowerTrimMeasVal

User interface Signed floating-point number

Factory setting 0 mbar

Lower sensor trim



Navigation  Application → Sensor → Sensor cal. → LowerSensor trim

Description Using the Lower sensor trim and Upper sensor trim parameters, a sensor can be recalibrated, e.g. if the sensor is to be precisely calibrated to the measuring range. Maximum measurement accuracy of the sensor is achieved when the value for the Lower sensor trim parameter is as close as possible to the lower measuring range, and the value for the Upper sensor trim parameter is as close as possible to the upper measuring range.

There must be a known reference pressure when setting a new lower or upper sensor characteristic curve value.

The more accurate the reference device used for sensor calibration, the higher the measurement accuracy of the pressure transmitter will be later.

Using the Lower sensor trim and Upper sensor trim parameters, a new value is then assigned to the applied pressure.



The entered value must not exceed **Sensor pressure** +/- 10 % of the permissible maximum pressure (URL).

Input as follows:

- Apply reference pressure for the lower measuring range.
- Enter and confirm the reference pressure in the Lower sensor trim field.
- Apply reference pressure for the upper measuring range.
- Enter and confirm the reference pressure in the Upper sensor trim field.
- The sensor calibration is now complete.

User entry Signed floating-point number

Factory setting 0 mbar

Upper sensor trim measured value

Navigation  Application → Sensor → Sensor cal. → UpperTrimMeasVal

User interface Signed floating-point number

Factory setting 500 mbar

**Upper sensor trim****Navigation**

 Application → Sensor → Sensor cal. → UpperSensor trim

Description

Using the Lower sensor trim and Upper sensor trim parameters, a sensor can be recalibrated, e.g. if the sensor is to be precisely calibrated to the measuring range. Maximum measurement accuracy of the sensor is achieved when the value for the Lower sensor trim parameter is as close as possible to the lower measuring range, and the value for the Upper sensor trim parameter is as close as possible to the upper measuring range.

There must be a known reference pressure when setting a new lower or upper sensor characteristic curve value.

The more accurate the reference device used for sensor calibration, the higher the measurement accuracy of the pressure transmitter will be later.

Using the Lower sensor trim and Upper sensor trim parameters, a new value is then assigned to the applied pressure.



The entered value must not exceed **Sensor pressure** +/- 10 % of the permissible maximum pressure (URL).

Input as follows:

- Apply reference pressure for the lower measuring range.
- Enter and confirm the reference pressure in the Lower sensor trim field.
- Apply reference pressure for the upper measuring range.
- Enter and confirm the reference pressure in the Upper sensor trim field.
- The sensor calibration is now complete.

User entry

Signed floating-point number

Factory setting

500 mbar

Sensor limits

Navigation  Application → Sensor → Sensor limits

Lower Range Limit**Navigation**

 Application → Sensor → Sensor limits → LRL

Description

Indicates the lower measuring limit of the sensor.

User interface

Signed floating-point number

Factory setting

Depends on the order option

Upper Range Limit

Navigation	 Application → Sensor → Sensor limits → URL
Description	Indicates the upper measuring limit of the sensor.
User interface	Signed floating-point number
Factory setting	Depends on the order option

Minimum span

Navigation	 Application → Sensor → Sensor limits → Minimum span
Description	Specifies the smallest possible measuring span of the sensor.
User interface	Signed floating-point number
Factory setting	0.498504 mbar

Sensor temperature lower range limit

Navigation	 Application → Sensor → Sensor limits → Sens.temp.lo.lim
Factory setting	−35 °C

Sensor temperature upper range limit

Navigation	 Application → Sensor → Sensor limits → Sens.temp.up.lim
Factory setting	85 °C

Scaled variable*Navigation*

Application → Sensor → Scaled variable

Scaled variable unit**Navigation**

Application → Sensor → Scaled variable → Scaled Unit

Description

Use "Free text", first selection, if the desired unit is not available in the selection list. It is possible to define a customer specific unit with another parameter.

Selection*SI units*

- %
- mm
- cm
- m
- l
- hl
- m³
- g
- kg
- t
- g/s
- kg/s
- kg/min
- kg/h
- t/min
- t/h
- t/d
- m³/s
- m³/min
- m³/h
- m³/d
- l/s
- l/min
- l/h
- Nm³/h
- Nm³/h
- Sm³/s
- Sm³/min
- Sm³/h
- Sm³/d
- Nm³/s
- g/cm³
- kg/m³
- Nm³/min
- Nm³/d

US units

- ft
- in
- ft³
- gal (us)
- bbl (us;oil)
- oz
- lb
- STon
- lb/s
- lb/min
- lb/h
- STon/min
- STon/h
- STon/d
- ft³/s
- ft³/min
- ft³/h
- ft³/d
- gal/s (us)
- gal/min (us)
- gal/h (us)
- gal/d (us)
- bbl/s (us;oil)
- bbl/min (us;oil)
- bbl/h (us;oil)
- bbl/d (us;oil)
- Sft³/min
- Sft³/h
- Sft³/d

Imperial units

- gal (imp)
- gal/s (imp)
- gal/min (imp)
- gal/h (imp)

Custom-specific units

Free text

Factory setting

%

Free text

Navigation  Application → Sensor → Scaled variable → Free text

User entry Character string comprising numbers, letters and special characters (32)

Factory setting Free text

Pressure

Navigation  Application → Sensor → Scaled variable → Pressure

Factory setting 0 mbar

Scaled variable transfer function

Navigation  Application → Sensor → Scaled variable → Scaled function

Description

"Linear"
The linear pressure signal is used for the output signal. The flow must be calculated in the evaluation unit.

"Square root" (Deltabar)
The root flow signal is used for the output signal. The "Flow (square root)" output signal is indicated on the on-site display with a root symbol.

"Table"
The output is defined according to the scaled variable/pressure table entered.

Selection

- Linear
- Square root *
- Table

Factory setting Linear

Pressure value 1

Navigation  Application → Sensor → Scaled variable → Pressure 1

Description Enter pressure for the first scaling point. "Scaled variable value 1" will be allocated to this pressure.

User entry Signed floating-point number

* Visibility depends on order options or device settings

Factory setting 0 mbar

Scaled variable value 1



Navigation  Application → Sensor → Scaled variable → Scaled 1

Description Enter value for the first scaling point. This value is allocated to "Pressure value 1".

User entry Signed floating-point number

Factory setting 0 %

Pressure value 2



Navigation  Application → Sensor → Scaled variable → Pressure 2

Description Enter pressure for the second scaling point. "Scaled variable value 2" will be allocated to this pressure.

User entry Signed floating-point number

Factory setting 500 mbar

Scaled variable value 2



Navigation  Application → Sensor → Scaled variable → Scaled 2

Description Enter value for the second scaling point. This value is allocated to "Pressure value 2".

User entry Signed floating-point number

Factory setting 100 %

Low flow cutoff



Navigation  Application → Sensor → Scaled variable → Low flow cutoff

Description When activated, this function suppresses small flows which can lead to large fluctuations in the measured value.

User entry 0.0 to 50.0 %

Factory setting 5 %

3.3.4 Profibus

Navigation  Application → Profibus

Configuration

Navigation  Application → Profibus → Configuration

Device tag

Navigation  Application → Profibus → Configuration → Device tag

Description Enter a unique name for the measuring point to identify the device quickly within the plant.

User entry Character string comprising numbers, letters and special characters (32)

Factory setting Deltabar

Ident number selector

Navigation  Application → Profibus → Configuration → Ident num select

Description In order to integrate the field devices into the bus system, the PROFIBUS system needs a description of the device parameters, such as output data, input data, data format, data volume and supported transmission rate. These data are available in the general station description (GSD) which is provided to the PROFIBUS Master when the communication system is commissioned.

- Selection**
 - 0x9700 (1AI)
 - Deltabar 0x1574
 - Automatic mode

Factory setting Automatic mode

PROFIBUS ident number

Navigation	 Application → Profibus → Configuration → Ident number
Description	Shows the Profibus Ident number of the device. Which Ident number is used can be defined in the parameter Ident number selector.
User interface	0 to 65 535
Factory setting	1574

Address mode

Navigation	 Application → Profibus → Configuration → Address mode
Description	Shows the address mode that applies to the device address, e.g. 'Hardware' if set via DIP switch
User interface	■ Hardware ■ Software
Factory setting	Software

Device address

Navigation	 Application → Profibus → Configuration → Device address
Description	The device address must always be configured for a PROFIBUS device. The valid address range is between 1 and 126. In a PROFIBUS network, each address can only be assigned once. If an address is not configured correctly, the device is not recognized by the master. All measuring devices are delivered ex works with device address 126 and software addressing. The address can only be written here if it has not already been set via the DIP switches.
User entry	0 to 126
Factory setting	126

Analog input

Navigation  Application → Profibus → Analog input

Analog input 1 to 6

Navigation  Application → Profibus → Analog input → Analog input 1 to 6

Out value

Navigation  Application → Profibus → Analog input → Analog input 1 to 6 → Out value

Description Shows the process value reported to the controller for further processing

User entry Signed floating-point number

Factory setting 0

Out status

Navigation  Application → Profibus → Analog input → Analog input 1 to 6 → Out status

Description Shows the status of the measured value reported to the controller for further processing (Hex). Writeable in Manual mode.

User entry 0 to 255

Factory setting 128

Out unit text

Navigation  Application → Profibus → Analog input → Analog input 1 to 6 → Out unit text

Description If a specific unit of OUT parameter is not in the code list the user has the possibility to write the specific text into this parameter. The unit code is then equal to "textual unit definition".

User entry Character string comprising numbers, letters and special characters (16)

Factory setting mbar

Channel 	
Navigation	 Application → Profibus → Analog input → Analog input 1 to 6 → Channel
Description	Assigns a measured variable to the AI block.
Selection	■ None ■ Pressure ■ Scaled variable ■ Sensor temperature ■ Sensor pressure ■ Electronics temperature ■ Median of pressure signal * ■ Noise of pressure signal *
Factory setting	Pressure
PV filter time 	
Navigation	 Application → Profibus → Analog input → Analog input 1 to 6 → PV filter time
Description	Enter time constant for input damping (PT1 element). Damping reduces the effect of fluctuations in the measured value on the output signal.
User entry	Positive floating-point number
Factory setting	0
Simulate enabled 	
Navigation	 Application → Profibus → Analog input → Analog input 1 to 6 → Simulate enabled
Description	The simulation is used to bypass the physical I/O channel. In this way the block remains in the normal mode and using the simulated discrete I/O channel during operation.
Selection	■ Disable ■ Enable
Factory setting	Disable

* Visibility depends on order options or device settings

Simulate value

Navigation	 Application → Profibus → Analog input → Analog input 1 to 6 → Simulate value
Description	The simulation value is used to bypass the physical I/O channel. In this way, the block remains in the normal mode and using the simulated value during operation.
User entry	Signed floating-point number
Factory setting	0

Simulate status

Navigation	 Application → Profibus → Analog input → Analog input 1 to 6 → Simulate status
Description	To simulate a process status for this block. Possible input values can be taken from the PA profile used, see there under the chapter "Process variable status and diagnosis". Examples for status values are: 0x80 (decimal 128) for status "GOOD" 0x24 (decimal 36) for status "BAD"
User entry	0 to 255
Factory setting	0

Digital input

Navigation   Application → Profibus → Digital input

Digital input 1 to 2

Navigation   Application → Profibus → Digital input → Digital input 1 to 2

Out value

Navigation	 Application → Profibus → Digital input → Digital input 1 to 2 → Out value
Description	Shows the state of the device function, which is transmitted to the controller for further processing.
User entry	0 to 255

Factory setting 0

Out status

Navigation  Application → Profibus → Digital input → Digital input 1 to 2 → Out status

Description Shows the status of the device function state reported to the controller (Hex). Writeable in Manual mode.

User entry 0 to 255

Factory setting 128

Channel



Navigation  Application → Profibus → Digital input → Digital input 1 to 2 → Channel

Description Select the device function

Selection

- None
- Process alert pressure
- Process alert scaled variable
- Process alert temperature
- Low signal noise detected *
- High signal noise detected *
- Min signal noise detected *
- Out of range signal detected *

Factory setting None

Simulate enabled



Navigation  Application → Profibus → Digital input → Digital input 1 to 2 → Simulate enabled

Selection

- Disable
- Enable

Factory setting Disable

* Visibility depends on order options or device settings

Simulate value

Navigation	 Application → Profibus → Digital input → Digital input 1 to 2 → Simulate value
Description	The simulation value is used to bypass the physical I/O channel. In this way, the block remains in the normal mode and using the simulated value during operation.
User entry	0 to 255
Factory setting	0

Simulate status

Navigation	 Application → Profibus → Digital input → Digital input 1 to 2 → Simulate status
Description	To simulate a process status for this block. Possible input values can be taken from the PA profile used, see there under the chapter "Process variable status and diagnosis". Examples for status values are: 0x80 (decimal 128) for status "GOOD" 0x24 (decimal 36) for status "BAD"
User entry	0 to 255
Factory setting	0

Analog output

Navigation

 Application → Profibus → Analog output

Analog output 1

Navigation

 Application → Profibus → Analog output → Analog output 1

Out value

Navigation	 Application → Profibus → Analog output → Analog output → Out value
Description	Shows an analog output value (AO) that is output from the controller to the device and can be shown on the local display. To show the AO on the local display, it must be assigned to a display output parameter as a value. This assignment is made in the menu under "System-Display".

User entry Signed floating-point number

Factory setting 0

Out status

Navigation  Application → Profibus → Analog output → Analog output → Out status

Description Shows the status of the external compensation value reported to the measuring device for further processing (Hex). Writeable in Manual mode.

User entry 0 to 255

Factory setting 128

Out unit



Navigation  Application → Profibus → Analog output → Analog output → Out unit

User entry 0 to 65 535

Factory setting 1 997

Fail-safe type



Navigation  Application → Profibus → Analog output → Analog output → Fail-safe type

Description Select fail-safe behavior in the event of a failure (value with status 'Bad')

Selection

- Fixed value
- Last valid value
- Off

Factory setting Last valid value

Fail-safe time



Navigation  Application → Profibus → Analog output → Analog output → Fail-safe time

Description Enter a delay until in the event of a failure (value with status 'Bad') the fail-safe behavior specified applies

User entry 0 to 999.0

Factory setting 0

Fail-safe value



Navigation Application → Profibus → Analog output → Analog output → Fail-safe value

Description Enter value to report in the event of a failure (value with status 'Bad')

User entry Signed floating-point number

Factory setting 0

Information

Navigation Application → Profibus → Information

Device ID

Navigation Application → Profibus → Information → Device ID

Description Shows the device ID used by the manufacturer to identify the measuring device type

User interface Character string comprising numbers, letters and special characters

Factory setting Deltabar

Profile version

Navigation Application → Profibus → Information → Profile version

Description Shows the profile version

User interface Character string comprising numbers, letters and special characters

Factory setting 3.02

Statistics

Navigation  Application → Profibus → Statistics

CRC Count OK

Navigation	 Application → Profibus → Statistics → CRC Count OK
Description	Indicates how often the checksum test of the cyclic data telegram was successful.
User interface	Positive integer
Factory setting	0

CRC Count Failed

Navigation	 Application → Profibus → Statistics → CRC Count Failed
Description	Indicates how often the checksum test of the cyclic data telegram detected an error.
User interface	Positive integer
Factory setting	0

3.4 System

Navigation  System

3.4.1 Device management

Navigation  System → Device manag.

Device tag



Navigation	 System → Device manag. → Device tag
Description	Enter a unique name for the measuring point to identify the device quickly within the plant.
User entry	Character string comprising numbers, letters and special characters (32)

Factory setting Deltabar

Locking status

Navigation  System → Device manag. → Locking status

Description Indicates the type of locking.

"Hardware locked" (HW)
The device is locked by the "WP" switch on the main electronics module. To unlock, set the switch into the OFF position.

"WHG locked" (SW)
Unlock the device by entering the appropriate access code in "Enter safety unlocking code".

"Temporarily locked" (SW)
The device is temporarily locked by processes in the device (e.g. data upload/download, reset). The device will automatically be unlocked after completion of these processes.

User interface

- Hardware locked
- WHG locked
- Temporarily locked

Static revision

Navigation  System → Device manag. → Static revision

Description Shows the number of changes made to static parameters (e.g. configuration parameters)

User interface 0 to 65 535

Factory setting 0

Reset device



Navigation  System → Device manag. → Reset device

Description Reset the device configuration - either entirely or in part - to a defined state

Selection

- Cancel
- To factory defaults *
- To delivery settings *
- Restart device

Factory setting Cancel

* Visibility depends on order options or device settings

3.4.2 User management

Navigation  System → User manag.

Navigation  System → User manag. → User manag.

User role

Navigation	 System → User manag. → User manag. → User role
Description	Shows the access authorization to the parameters via the operating tool
User interface	■ Operator ■ Maintenance ■ Expert
Factory setting	Maintenance

Delete password

Navigation	 System → User manag. → User manag. → Delete password
Description	Deletes the 'Maintenance' password. After deleting, the 'Operator' role will be no more available. All users have read/write access rights.
User entry	Character string comprising numbers, letters and special characters (1)

Forgot password?

Navigation	 System → User manag. → Forgot password?  System → User manag. → User manag. → Forgot password?
User entry	Character string comprising numbers, letters and special characters (1)

Enter password	
Navigation	 System → User manag. → Enter password
Password	
Navigation	 System → User manag. → Enter password → Password
Description	Enter the password for the "Maintenance" user role to get access to the functionality of this role.
User entry	Character string comprising numbers, letters and special characters (16)
Enter access code	
Navigation	 System → User manag. → Enter password → Ent. access code
Description	For authorized service personnel only.
User entry	0 to 9 999
Factory setting	0
Status password entry	
Navigation	 System → User manag. → Enter password → Status pw entry
Description	Use this function to display the status of the password verification.
User interface	■ ----- ■ Wrong password ■ Password rule violated ■ Password accepted ■ Permission denied ■ Confirm PW mismatch ■ Reset password accepted ■ Invalid user role ■ Wrong sequence of entry
Factory setting	-----

Define password

Navigation  System → User manag. → Define password

New password**Navigation**

 System → User manag. → Define password → New password

Description

Define the new "Maintenance" password.
A new password is valid after it has been confirmed within the "Confirm new password" parameter.
Any valid password consists of 4 to 16 characters and can contain letters and numbers.

User entry

Character string comprising numbers, letters and special characters (16)

Confirm new password**Navigation**

 System → User manag. → Define password → Confirm password

Description

Enter the new password again to confirm.

User entry

Character string comprising numbers, letters and special characters (16)

Status password entry**Navigation**

 System → User manag. → Define password → Status pw entry

Description

Use this function to display the status of the password verification.

User interface

- -----
- Wrong password
- Password rule violated
- Password accepted
- Permission denied
- Confirm PW mismatch
- Reset password accepted
- Invalid user role
- Wrong sequence of entry

Factory setting

Change password

Navigation  System → User manag. → Change password

Old password

Navigation  System → User manag. → Change password → Old password

Description Enter the current password, to subsequently change the existing password.

User entry Character string comprising numbers, letters and special characters (16)

New password

Navigation  System → User manag. → Change password → New password

Description Define the new "Maintenance" password.
A new password is valid after it has been confirmed within the "Confirm new password" parameter.
Any valid password consists of 4 to 16 characters and can contain letters and numbers.

User entry Character string comprising numbers, letters and special characters (16)

Confirm new password

Navigation  System → User manag. → Change password → Confirm password

Description Enter the new password again to confirm.

User entry Character string comprising numbers, letters and special characters (16)

Status password entry

Navigation  System → User manag. → Change password → Status pw entry

Description Use this function to display the status of the password verification.

User interface

- -----
- Wrong password
- Password rule violated
- Password accepted
- Permission denied
- Confirm PW mismatch

	■ Reset password accepted ■ Invalid user role ■ Wrong sequence of entry
Factory setting	-----
	Recover password Navigation  System → User manag. → Recover password
Reset password	
Navigation	 System → User manag. → Recover password → Reset password
Description	Enter a code to reset the current "Maintenance" password. The code is delivered by your local support.
User entry	Character string comprising numbers, letters and special characters (16)
Status password entry	
Navigation	 System → User manag. → Recover password → Status pw entry
Description	Use this function to display the status of the password verification.
User interface	■ ----- ■ Wrong password ■ Password rule violated ■ Password accepted ■ Permission denied ■ Confirm PW mismatch ■ Reset password accepted ■ Invalid user role ■ Wrong sequence of entry
Factory setting	-----

3.4.3 Bluetooth configuration

Navigation  System → Bluetooth conf.

Bluetooth activation

Navigation	 System → Bluetooth conf. → Bluetooth active
Description	If Bluetooth is deactivated, it can only be reactivated via the display or the operating tool. Reactivating via the SmartBlue app is not possible.
Selection	■ Disable ■ Enable
Factory setting	Depends on the order option

3.4.4 Display

Navigation  System → Display

Language

Navigation	 System → Display → Language
Prerequisite	A local display is provided.
Description	Use this function to select the configured language on the local display.
Selection	■ English ■ Deutsch ■ Français ■ Español ■ Italiano ■ Nederlands ■ Portuguesa ■ Polski ■ русский язык (Russian) ■ Svenska ■ Türkçe ■ 中文 (Chinese) ■ 日本語 (Japanese) ■ 한국어 (Korean) ■ Bahasa Indonesia ■ tiếng Việt (Vietnamese) ■ čeština (Czech)

Factory setting English (alternatively, the ordered language is preset in the device)

Format display

Navigation  System → Display → Format display

Description Select how measured values are shown on the display

Selection

- 1 value, max. size
- 2 values

Factory setting 1 value, max. size

Value 1 display



Navigation  System → Display → Value 1 display

Description Select the measured value that is shown on the local display

Selection

- Pressure
- Scaled variable
- Sensor temperature
- Analog output 1

Factory setting Pressure

Value 2 ... 4 display



Navigation  System → Display → Value 2 ... 4 display

Description Select the measured value that is shown on the local display

Selection

- None
- Pressure
- Scaled variable
- Sensor temperature
- Analog output 1

Factory setting None

Contrast display

Navigation	 System → Display → Contrast display
Description	Adjust local display contrast setting to ambient conditions (e.g. lighting or reading angle)
User entry	20 to 80 %
Factory setting	30 %

3.4.5 Information

Navigation   System → Information

Device name

Navigation	 System → Information → Device name
Description	Use this function to display the device name. It can also be found on the nameplate.
User interface	Character string comprising numbers, letters and special characters
Factory setting	Deltabar

Manufacturer

Navigation	 System → Information → Manufacturer
Description	Displays the manufacturer.
User interface	Character string comprising numbers, letters and special characters
Factory setting	Endress+Hauser

Serial number

**Navigation**

System → Information → Serial number

Description

The serial number is a unique alphanumeric code identifying the device.
It is printed on the nameplate.
In combination with the Operations app it allows to access all device related documentation.

User interface

Character string comprising numbers, letters and special characters

Order code

**Navigation**

System → Information → Order code

Description

Shows the device order code.

User interface

Character string comprising numbers, letters and special characters

Factory setting

- none -

Additional information**Access:**

- Read access: Operator
- Write access: Expert

Firmware version

Navigation

System → Information → Firmware version

Description

Displays the device firmware version installed.

User interface

Character string comprising numbers, letters and special characters

Hardware version

Navigation

System → Information → Hardware version

User interface

Character string comprising numbers, letters and special characters

Extended order code 1 ... 3



Navigation	 System → Information → Ext. order cd. 1
Description	The extended order code is an alphanumeric code containing all information to identify the device and its options.
User interface	Character string comprising numbers, letters and special characters
Additional information	Access: ■ Read access: Operator ■ Write access: Expert

XML build number

Navigation	 System → Information → XML build no.
User interface	Positive integer
Additional information	Access: ■ Read access: Expert ■ Write access: -

Checksum

Navigation	 System → Information → Checksum
Description	Checksum for Firmware version.
User interface	Positive integer

3.4.6 Additional information

Navigation   System → Additional info

Sensor

Navigation   System → Additional info → Sensor

Serial number

Navigation	 System → Additional info → Sensor → Serial number
Description	Shows the serial number of the module
User interface	Character string comprising numbers, letters and special characters
Additional information	Access: ■ Read access: Expert ■ Write access: -

Firmware version

Navigation	 System → Additional info → Sensor → Firmware version
Description	Displays the firmware version of the module.
User interface	Positive integer
Additional information	Access: ■ Read access: Expert ■ Write access: -

Hardware version

Navigation	 System → Additional info → Sensor → Hardware version
Description	Displays the hardware version of the module.
User interface	Character string comprising numbers, letters and special characters
Additional information	Access: ■ Read access: Expert ■ Write access: -

Checksum

Navigation  System → Additional info → Sensor → Checksum

Description Checksum for Firmware version.

User interface Positive integer

Factory setting 0

Additional information **Access:**
 ■ Read access: Expert
 ■ Write access: -

Electronics

Navigation   System → Additional info → Electronics

Serial number

Navigation  System → Additional info → Electronics → Serial number

Description Shows the serial number of the module

User interface Character string comprising numbers, letters and special characters

Additional information **Access:**
 ■ Read access: Expert
 ■ Write access: -

Firmware version

Navigation  System → Additional info → Electronics → Firmware version

Description Displays the firmware version of the module.

User interface Positive integer

Additional information **Access:**
 ■ Read access: Expert
 ■ Write access: -

Build no. software

Navigation	 System → Additional info → Electronics → Build no. softw.
Description	Shows the build number of the module firmware
User interface	0 to 65 535
Additional information	Access: ■ Read access: Expert ■ Write access: -

Hardware version

Navigation	 System → Additional info → Electronics → Hardware version
Description	Displays the hardware version of the module.
User interface	Character string comprising numbers, letters and special characters
Additional information	Access: ■ Read access: Expert ■ Write access: -
 Display/Bluetooth	
<i>Navigation</i>	  System → Additional info → Displ./Bluetooth

Serial number

Navigation	 System → Additional info → Displ./Bluetooth → Serial number
Description	Shows the serial number of the module
User interface	Character string comprising numbers, letters and special characters
Additional information	Access: ■ Read access: Expert ■ Write access: -

Firmware version

Navigation	 System → Additional info → Displ./Bluetooth → Firmware version
Description	Displays the firmware version of the module.
User interface	Positive integer
Additional information	Access: ■ Read access: Expert ■ Write access: -

Build no. software

Navigation	 System → Additional info → Displ./Bluetooth → Build no. softw.
Description	Shows the build number of the module firmware
User interface	0 to 65 535
Additional information	Access: ■ Read access: Expert ■ Write access: -

Hardware version

Navigation	 System → Additional info → Displ./Bluetooth → Hardware version
Description	Displays the hardware version of the module.
User interface	Character string comprising numbers, letters and special characters
Additional information	Access: ■ Read access: Expert ■ Write access: -

3.4.7 Software configuration

Navigation   System → Softw. config.

CRC device configuration

Navigation	 System → Softw. config. → CRC device conf.
Description	CRC device configuration based on current settings of safety relevant parameters. The CRC device configuration is unique and can be used to detect changes in safety relevant parameter settings.
User interface	0 to 65 535

Activate SW option



Navigation	 System → Softw. config. → Activate SW opt.
Description	Enter the application package code or code of another re-ordered functionality to enable it
User entry	Positive integer

Software option overview

Navigation	 System → Softw. config. → SW option overv.
Description	Shows all enabled software options
User interface	■ Heartbeat Verification ■ Heartbeat Monitoring



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