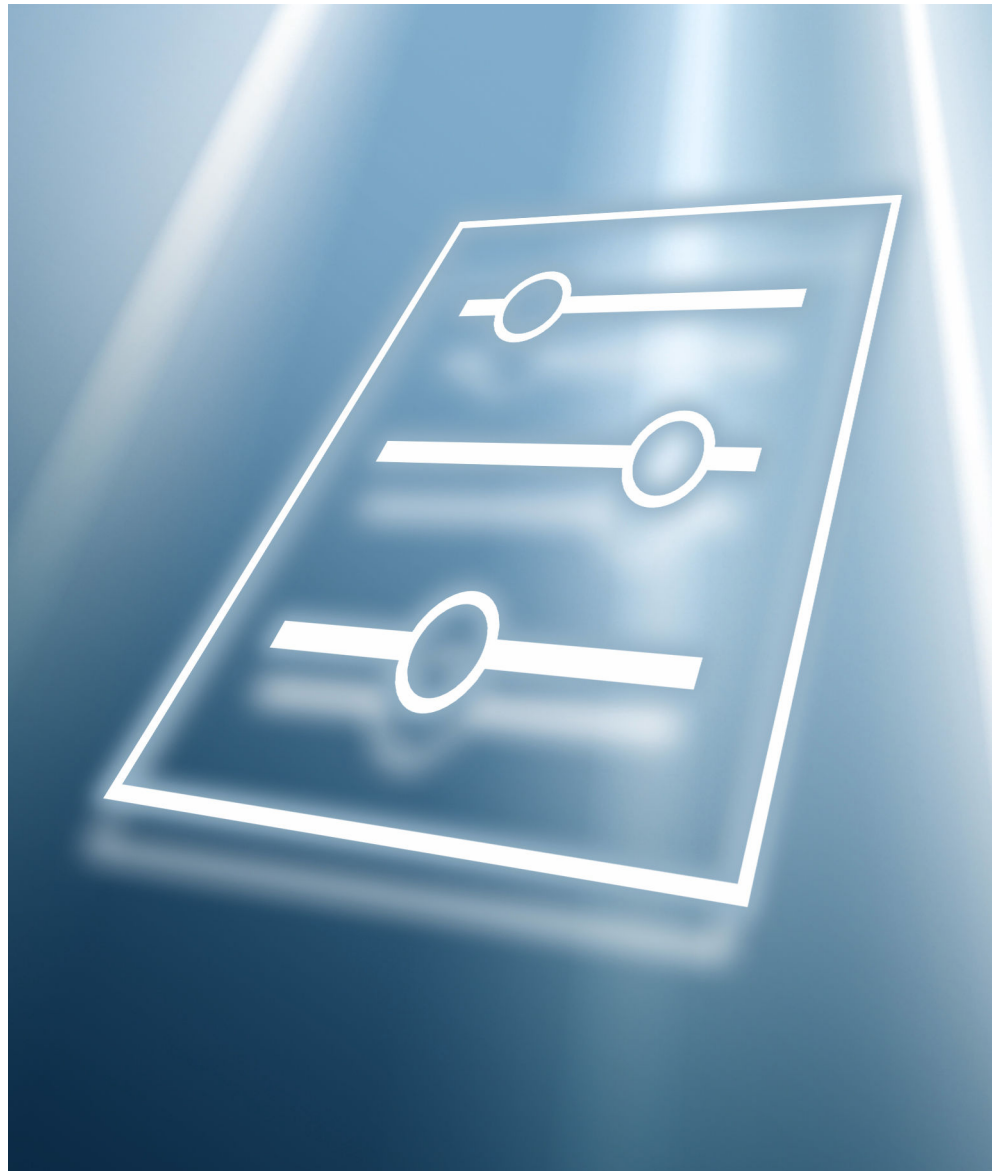


Description of Device Parameters

Cerabar PMP43

Process pressure measurement
HART



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** (→  77) 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		7
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	<ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> ■ 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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3 Description of device parameters

3.1 Guidance

In **Guidance** menu, the user can quickly perform basic tasks, such as commissioning. This menu primarily consists of guided wizards and special functions covering multiple areas.

Navigation  Guidance

3.1.1 Overview

Guidance menu contains the following submenus and wizards:

- Commissioning
- Heartbeat Technology
 - Heartbeat Verification
 - SSD: Statistical Sensor Diagnostics
 - Loop diagnostics
 - Process window
- Safety mode
- Proof test
- Import/Export
- Compare

3.1.2 Commissioning

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

WARNING

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

The device may be in an undefined state!

- ▶ Use these functions to reset the device to factory settings.

Navigation

Guidance → Commissioning


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

- **Device identification**
 - Device tag
 - Device name
 - Serial number
 - Extended order code 1 ... 3
 - Locking status
 - HART short tag
 - HART date code
 - HART descriptor
 - HART message
 - HART address
- **Measurement adjustments**
 - Assign PV
 - Damping
 - Pressure unit
 - Temperature unit
 - Scaled variable unit
 - Free text
 - Temperature unit
 - Zero adjustment
 - Pressure
- **Output settings**
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 - Scaled variable transfer function
 - Lower Range Limit
 - Upper Range Limit
 - Minimum span
 - Linearization
 - Lower range value output
 - Upper range value output
 - Pressure value 1
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 - Failure behavior current output
 - Failure current
 - Loop current mode
 - Assign HART variables?
 - Process variable output current
 - Assign PV
 - Assign SV
 - Assign TV
 - Assign QV

3.1.3 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

Loop diagnostics

Using this wizard, changes in the current-voltage loop characteristics (baseline) can be used to detect unwanted installation anomalies such as creep currents caused by terminal corrosion or a deteriorating power supply that can lead to an incorrect 4-20 mA measured value.


Navigation  Guidance → Heartbeat Techn. → Loop diagn.

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

3.1.4 Safety mode

The write protection guards the device settings against overwriting. In addition, it is recommended for safety applications to confirm the safety relevant device settings. This ensures that the correct values have been entered and downloaded to device.

This input can be used as the confirmation sequence instead of manual checklists. After the safety relevant device settings have been confirmed, the device is marked with the property Safety-locked. This indicates that the safety relevant parameter settings have been checked and evaluated as correct.

To unlock the safety locking the sequence needs to be restarted. The safety locking is deactivated when the safety unlocking code (= safety locking code) is entered.

Navigation  Guidance → Safety mode

3.1.5 Proof test

The proof test will simulate the current output.

The safety function is not guaranteed during proof test. Alternative process control in manual must be taken to ensure process safety.

Note: It is only possible to perform a proof test when the device has no alarm and the hardware write protection switch is off.

Navigation   Guidance → Proof test

3.1.6 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 documentation

Device documentation can be saved in PDF format under **Create documentation**. This device documentation contains the following general device information:

- Information on device parameters
- Information on Linearization
- Event list
- Diagnostic list

Navigation  Guidance → Import/Export

3.1.7 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	<ul style="list-style-type: none"> ■ Cancel ■ Clear data
Factory setting	Cancel
Additional information	Access: <ul style="list-style-type: none"> ■ 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


Pressure max

Navigation	 Diagnostics → Min/max val. → Pressure max
Description	Maximum value measured by the device.
User interface	Signed 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 or maximum value measured by device. Users cannot reset this value.

Maximum sensor temperature

Navigation  Diagnostics → Min/max val. → Max. sensor temp

Description Minimum or maximum value measured by device.
Users cannot reset this value.

Counter limit underruns sensor Tmin


Navigation  Diagnostics → Min/max val. → Counter T < Tmin

Description Counts how many times the value underruns/overruns the sensor specific minimum/
maximum values.
Sensor specific minimum/maximum values are shown in Application/Sensor 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 many times the value underruns/overruns the sensor specific minimum/
maximum values.
Sensor specific minimum/maximum values are shown in Application/Sensor 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 or maximum measured terminal (supply) voltage.
User interface	0.0 to 50.0 V


Maximum terminal voltage

Navigation	 Diagnostics → Min/max val. → Max.term.voltage
Description	Minimum or maximum measured terminal (supply) voltage.
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	<ul style="list-style-type: none"> ■ 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	<p>Simulates one or more process variables and/or events.</p> <p>Warning: Output will reflect the simulated value or event.</p>
Selection	<ul style="list-style-type: none"> ■ Off ■ Current output ■ Diagnostic event simulation ■ Pressure
Factory setting	Off

Value pressure simulation



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

Value current output



Navigation	Diagnostics → Simulation → Current output
Description	Defines the value of the simulated output current.
User entry	3.59 to 23 mA
Factory setting	3.59 mA

Diagnostic event simulation



Navigation	Diagnostics → Simulation → Diagnostic event
Description	Select the diagnostic event to be simulated. Note: To terminate the simulation, select "Off".
Selection	<ul style="list-style-type: none"> ■ Off ■ Drop-down list of diagnostic events
Factory setting	Off

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

Loop diagnostics

Navigation  Diagnostics → Heartbeat Techn. → Loop diagn.

Rebuild baseline 

Navigation  Diagnostics → Heartbeat Techn. → Loop diagn. → Reb. baseline


Description Notice
 The current output is simulated.
 Bridge the PLC or take other appropriate measures to prevent an erroneous triggering of alarm messages or changes in the control loop behavior.
 The baseline should be rebuilt if planned changes have been made in the loop.

Selection

- No
- Yes

Factory setting No


Tolerated deviation +/- 

Navigation  Diagnostics → Heartbeat Techn. → Loop diagn. → Toler. deviation

Description A value should be chosen to ensure that normal voltage deviations do not lead to unwanted messages.
 Default
 1.5 V DC

User entry 0.5 to 3.0 V

Baseline status

Navigation  Diagnostics → Heartbeat Techn. → Loop diagn. → Baseline status

Description "Failed"
 Means, baseline is not available or creation not possible.
 "Success"
 Baseline is available.


User interface

- Failed
- Success

Factory setting Failed

Loop diagnostics



Navigation  Diagnostics → Heartbeat Techn. → Loop diagn. → Loop diagn.

Description Enable/disable loop diagnostics.
Note:
If the function is disabled, there is no analysis and no event message.


Selection

- Disable
- Enable

Factory setting Disable

Additional information The parameter is visible if the baseline has been created.


Terminal voltage 1

Navigation  Diagnostics → Heartbeat Techn. → Loop diagn. → Terminal volt. 1

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


User interface 0.0 to 50.0 V

Clamping voltage lower threshold

Navigation  Diagnostics → Heartbeat Techn. → Loop diagn. → Lower threshold

User interface 0.0 to 50.0 V


Clamping voltage upper threshold

Navigation  Diagnostics → Heartbeat Techn. → Loop diagn. → Upper threshold

User interface 0.0 to 50.0 V

806 Event delay




Navigation  Diagnostics → Heartbeat Techn. → Loop diagn. → 806 Event delay

Description Displays how long the triggering status must be present until an event message is issued.
Used to filter out short-term signal interference.


User entry 0 to 60 s

Factory setting 1 s

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 -40 °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	100 °C

806 Diagnostic behavior



Navigation	Diagnostics → Diag. settings → Properties → 806Diag. behav.
Description	Select event behavior "Logbook entry only": No digital or analog transmission of the report. "Warning": Current output unchanged. Message is output digitally (factory setting). The warning is no longer available in the device once the permissible conditions are met again.
Selection	<ul style="list-style-type: none"> ▪ Warning ▪ Logbook entry only
Factory setting	Warning

806 Event category



Navigation	Diagnostics → Diag. settings → Properties → 806Event categ.
Description	Select category for diagnostic message.
Selection	<ul style="list-style-type: none"> ▪ Failure (F) ▪ Function check (C) ▪ Out of specification (S) ▪ Maintenance required (M) ▪ No effect (N)
Factory setting	Maintenance required (M)

806 Event delay



Navigation	Diagnostics → Diag. settings → Properties → 806 Event delay
Description	Displays how long the triggering status must be present until an event message is issued. Used to filter out short-term signal interference.
User entry	0 to 60 s
Factory setting	1 s

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	<p>Select event behavior</p> <p>"Logbook entry only": no digital or analog transmission of the message</p> <p>"Warning": Current output unchanged. Message is output digitally (default).</p> <p>"Alarm": Current output assumes the set alarm current.</p> <p>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.</p>
Selection	<ul style="list-style-type: none"> ■ 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)
- No effect (N)

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)
- No effect (N)

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	<ul style="list-style-type: none"> ■ Off ■ Alarm ■ Warning ■ Logbook entry only
Factory setting	Off

502 Event category





Navigation	  Diagnostics → Diag. settings → Configuration → Configuration → 502Event categ.
Selection	<ul style="list-style-type: none"> ■ Failure (F) ■ Function check (C) ■ Out of specification (S) ■ Maintenance required (M) ■ No effect (N)
Factory setting	Out of specification (S)

Process

Navigation   Diagnostics → Diag. settings → Configuration → Process

806 Diagnostic behavior



Navigation	  Diagnostics → Diag. settings → Configuration → Process → 806Diag. behav.
Description	Select event behavior "Logbook entry only": No digital or analog transmission of the report. "Warning": Current output unchanged. Message is output digitally (factory setting).



The warning is no longer available in the device once the permissible conditions are met again.

Selection

- Warning
- Logbook entry only

Factory setting Warning

806 Event category

Navigation   Diagnostics → Diag. settings → Configuration → Process → 806Event categ.


Description Select category for diagnostic message.

Selection

- Failure (F)
- Function check (C)
- Out of specification (S)
- Maintenance required (M)
- No effect (N)

Factory setting Maintenance required (M)

822 Diagnostic behavior


Navigation  Diagnostics → Diag. settings → Configuration → Process → 822 Diag. behav.

User interface

- Alarm
- Warning
- Logbook entry only

Factory setting Warning

822 Event category

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

Selection

- Failure (F)
- Function check (C)
- Out of specification (S)
- Maintenance required (M)
- No effect (N)

Factory setting Out of specification (S)

Sensor pressure range behavior


Navigation	Diagnostics → Diag. settings → Configuration → Process → P-range behavior
Description	<p>Select event behavior</p> <p>"Alarm": Current output adopts the set alarm current.</p> <p>"Warning": Current output unchanged. Message is displayed digitally (factory setting).</p> <p>"Logbook entry only": No digital or analog forwarding of the message.</p> <p>"Special":</p> <ul style="list-style-type: none"> – Lower sensor limit undercut: Current output < 3.6 mA. – Upper sensor limit exceeded: Current output 21 to 23 mA, depending on the setting. <p>Regardless of the setting, the message appears on the display. If the permissible conditions are reached again, the warning message disappears.</p>
Selection	<ul style="list-style-type: none"> ■ Alarm ■ Warning ■ Logbook entry only ■ Special
Factory setting	Warning

841 Event category




Navigation	Diagnostics → Diag. settings → Configuration → Process → 841 Event categ.
Selection	<ul style="list-style-type: none"> ■ Failure (F) ■ Function check (C) ■ Out of specification (S) ■ Maintenance required (M) ■ No effect (N)
Factory setting	Out of specification (S)

900 Event category


Navigation	Diagnostics → Diag. settings → Configuration → Process → 900Event categ.
Description	Select category for diagnostic message.
Selection	<ul style="list-style-type: none"> ■ Failure (F) ■ Function check (C) ■ Out of specification (S) ■ Maintenance required (M) ■ No effect (N)

Factory setting Maintenance required (M)

900 Diagnostic behavior

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



Description Select event behavior
 "Logbook entry only": No digital or analog transmission of the report.
 "Warning": Current output unchanged. Message is output digitally (factory setting).
 The warning is no longer available in the device once the permissible conditions are met again.

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 digital or analog transmission of the report.
 "Warning": Current output unchanged. Message is output digitally (factory setting).
 The warning is no longer available in the device once the permissible conditions are met again.

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)
- No effect (N)

Factory setting

No effect (N)

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*SI units**US units*

■ °C

°F

■ K

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	<i>SI units</i>	<i>US units</i>	<i>Imperial units</i>
	<ul style="list-style-type: none"> ■ % ■ 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 ■ NI/h ■ Sm³/s ■ Sm³/min ■ Sm³/h ■ Sm³/d ■ Nm³/s ■ g/cm³ ■ kg/m³ ■ Nm³/min ■ Nm³/d 	<ul style="list-style-type: none"> ■ 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 	<ul style="list-style-type: none"> ■ gal (imp) ■ gal/s (imp) ■ gal/min (imp) ■ gal/h (imp)
	<p><i>Custom-specific units</i></p> <p>Free text</p>		
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	<ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> ■ 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


Terminal current

Navigation  Application → Measured values → Terminal curr.

Description Shows the current value of the current output which is currently measured

User interface 0 to 30 mA

Electronics temperature

Navigation  Application → Measured values → Electronics temp

Description Displays the current temperature of the main electronics.

User interface Signed floating-point number

Output current

Navigation  Application → Measured values → Output curr.

Description Displays the value currently calculated for the current output

User interface 3.59 to 23 mA


3.3.3 Sensor

Navigation  Application → Sensor

Basic settings

Navigation  Application → Sensor → Basic settings

Output current transfer function

Navigation  Application → Sensor → Basic settings → Curr. trans.func

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

Selection Linear

Factory setting Linear

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

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

These two parameters allow a recalibration of the sensor, i.e., if you want to fit the sensor to the measuring range.
 The highest accuracy is obtained when the value for the "Lower sensor trim" is as close as possible to "LRV" (lower range value).
 And the value for "Upper sensor trim" as close as possible to "URV" (upper range value).
 There must be a known reference pressure when setting a new lower or upper sensor characteristic curve value.
 The more accurate the reference pressure is during recalibration, the higher the accuracy of the pressure transmitter later.
 A new value is assigned to the applied pressure using "Lower sensor trim" and "Upper sensor trim" parameters.

Note:

The value entered can be at maximum "Sensor pressure" +/- 10 % of the permitted maximum pressure (URL).


Proceed as follows:

- Apply reference pressure for lower range value ("LRV")
- Enter the measured reference pressure at "Lower sensor trim" and confirm
- Apply reference pressure for upper range value ("URV")
- Enter the measured reference pressure at "Upper sensor trim" and confirm
- The sensor is now calibrated

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

These two parameters allow a recalibration of the sensor, i.e., if you want to fit the sensor to the measuring range.

The highest accuracy is obtained when the value for the "Lower sensor trim" is as close as possible to "LRV" (lower range value).

And the value for "Upper sensor trim" as close as possible to "URV" (upper range value).

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

The more accurate the reference pressure is during recalibration, the higher the accuracy of the pressure transmitter later.

A new value is assigned to the applied pressure using "Lower sensor trim" and "Upper sensor trim" parameters.

Note:

The value entered can be at maximum "Sensor pressure" +/- 10 % of the permitted maximum pressure (URL).

Proceed as follows:

- Apply reference pressure for lower range value ("LRV")
- Enter the measured reference pressure at "Lower sensor trim" and confirm
- Apply reference pressure for upper range value ("URV")
- Enter the measured reference pressure at "Upper sensor trim" and confirm
- The sensor is now calibrated

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
User interface	-273.15 to 9726.85 °C
Factory setting	-35 °C


Sensor temperature upper range limit

Navigation	 Application → Sensor → Sensor limits → Sens.temp.up.lim
User interface	-273.15 to 9726.85 °C
Factory setting	85 °C

Scaled variable

Navigation  Application → Sensor → Scaled variable

Assign PV**Navigation**

 Application → Sensor → Scaled variable → Assign PV

Description

Assign measured variable to the first dynamic variable (PV). This value can only be output via the HART interface.

Scaled variable:

In flow or level applications, a scaled variable can be assigned to a pressure value.


Selection

- Pressure
- Scaled variable

Factory setting

Pressure

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	<p><i>SI units</i></p> <ul style="list-style-type: none"> ▪ % ▪ 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 ▪ NI/h ▪ Sm³/s ▪ Sm³/min ▪ Sm³/h ▪ Sm³/d ▪ Nm³/s ▪ g/cm³ ▪ kg/m³ ▪ Nm³/min ▪ Nm³/d <p><i>Custom-specific units</i></p> <p>Free text</p>	<p><i>US units</i></p> <ul style="list-style-type: none"> ▪ 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 	<p><i>Imperial units</i></p> <ul style="list-style-type: none"> ▪ gal (imp) ▪ gal/s (imp) ▪ gal/min (imp) ▪ gal/h (imp)
------------------	---	--	---

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. The flow must be calculated in the evaluation unit.


"Table": The output is defined by the entered table, scaled variable/pressure.

Selection

- Linear
- Table

Factory setting Linear

Lower range value output




Navigation  Application → Sensor → Scaled variable → Low.range outp

Description Depending on which variable has been selected as Process variable output current, specify the relevant start of the measuring range (4 mA).

User entry Signed floating-point number

Factory setting Depends on the device setting

Upper range value output








Navigation  Application → Sensor → Scaled variable → Upp.range outp




Description Depending on which variable has been selected as Process variable output current, specify the relevant end of the measuring range (20 mA).




User entry Signed floating-point number

Factory setting Depends on the device setting

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	
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 %	

Wet calibration

Navigation  Application → Sensor → Wet calibration

Zero 


Navigation  Application → Sensor → Wet calibration → Zero

Selection

- No
- Confirm

Factory setting No

Pressure value 1 

Navigation  Application → Sensor → Wet calibration → 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

Factory setting 0 mbar

Span 


Navigation  Application → Sensor → Wet calibration → Span

Selection

- No
- Confirm

Factory setting No

Pressure value 2 

Navigation  Application → Sensor → Wet calibration → 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

Lower range value output



Navigation	Application → Sensor → Wet calibration → Low.range outp
Description	Depending on which variable has been selected as Process variable output current, specify the relevant start of the measuring range (4 mA).
User entry	Signed floating-point number
Factory setting	Depends on the device setting

Upper range value output



Navigation	Application → Sensor → Wet calibration → Upp.range outp
Description	Depending on which variable has been selected as Process variable output current, specify the relevant end of the measuring range (20 mA).
User entry	Signed floating-point number
Factory setting	Depends on the device setting

3.3.4 Current output

Navigation Application → Curr.output

Assign PV



Navigation	Application → Curr.output → Assign PV
Description	Assign measured variable to the first dynamic variable (PV). This value can only be output via the HART interface. Scaled variable: In flow or level applications, a scaled variable can be assigned to a pressure value.
Selection	<ul style="list-style-type: none"> ■ Pressure ■ Scaled variable
Factory setting	Pressure

Measuring mode current output



Navigation	Application → Curr.output → Output mode
Description	Select curve of current output.
Selection	<ul style="list-style-type: none"> ■ Standard ■ Inverse ■ Bi-directional
Factory setting	Standard

Current range output



Navigation	Application → Curr.output → Current range
Description	<p>Defines the current range used to transmit the measured or calculated value. In brackets are indicated the “low saturation value” and the “high saturation value”. If Measured value \leq “low saturation”, the output current is set to “low saturation”. If Measured value \geq “high saturation”, the output current is set to “high saturation”.</p> <p>Note: Currents below 3.6 mA or above 21.5 mA can be used to signal an alarm.</p>
Selection	<ul style="list-style-type: none"> ■ 4...20 mA (4...20.5 mA) ■ 4...20 mA NE (3.8...20.5 mA) ■ 4...20 mA US (3.9...20.8 mA)
Factory setting	4...20 mA NE (3.8...20.5 mA)

Lower range value output



Navigation	Application → Curr.output → Low.range outp
Description	Depending on which variable has been selected as Process variable output current, specify the relevant start of the measuring range (4 mA).
User entry	Signed floating-point number
Factory setting	Depends on the device setting

Upper range value output


Navigation	Application → Curr.output → Upp.range outp
Description	Depending on which variable has been selected as Process variable output current, specify the relevant end of the measuring range (20 mA).
User entry	Signed floating-point number
Factory setting	Depends on the device setting

Failure behavior current output


Navigation	Application → Curr.output → Failure behav.
Description	Defines which current the output assumes in the case of an error. Min: < 3.6 mA Max: >21.5 mA Note: The hardware DIP Switch for alarm current (if available) has priority over software setting.
Selection	<ul style="list-style-type: none"> ■ Min. ■ Max.
Factory setting	Min.


Failure current


Navigation	Application → Curr.output → Failure current
Description	Enter current output value in alarm condition. Applies to failure mode current output = max.
User entry	21.5 to 23 mA
Factory setting	22.5 mA

Output current


Navigation	Application → Curr.output → Output curr.
Description	Displays the value currently calculated for the current output
User interface	3.59 to 23 mA

Terminal current


Navigation	 Application → Curr.output → Terminal curr.
Description	Shows the current value of the current output which is currently measured
User interface	3.6 to 23 mA
Factory setting	0 mA


4 mA trim value



Navigation	 Application → Curr.output → 4 mA trim value
Description	Enter the trim value for the 4 mA current output. Note: Simulation must be active.
User entry	3 to 5 mA
Factory setting	4 mA
Additional information	Access: <ul style="list-style-type: none"> ■ Read access: Expert ■ Write access: Expert

20 mA trim value



Navigation	 Application → Curr.output → 20 mA trim value
Description	Enter the trim value for the 20 mA current output. Note: Simulation must be active.
User entry	18 to 22 mA
Factory setting	20 mA
Additional information	Access: <ul style="list-style-type: none"> ■ Read access: Expert ■ Write access: Expert


3.3.5 HART output

Navigation  Application → HART output

Configuration

Navigation  Application → HART output → Configuration

HART address


Navigation  Application → HART output → Configuration → HART address

Description Enter the address to exchange data via the HART protocol.

User entry 0 to 63

Factory setting 0

HART short tag

Navigation  Application → HART output → Configuration → HART short tag

Description Defines the short tag for the measuring point.

Maximum length: 8 characters
 Allowed characters: A-Z, 0-9, certain special characters

User entry Character string comprising numbers, letters and special characters (8)

Factory setting SHORTTAG

Device tag



Navigation  Application → HART output → 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 PMP43

No. of preambles 

Navigation	  Application → HART output → Configuration → No. of preambles
Description	Defines the number of preambles in the HART telegram
User entry	5 to 20
Factory setting	5



Loop current mode 

Navigation	  Application → HART output → Configuration → Loop curr mode
Description	If Loop current mode is disabled, Multi-drop communication mode is activated. Multi-drop is a HART digital communication mode where multiple devices may share the same pair of wires for power and communications. In this mode the output current is fixed.
Selection	<ul style="list-style-type: none"> ■ Disable ■ Enable
Factory setting	Enable


HART output

Navigation   Application → HART output → HART output

Assign PV 


Navigation	  Application → HART output → HART output → Assign PV
Description	Assign measured variable to the first dynamic variable (PV). This value can only be output via the HART interface. Scaled variable: In flow or level applications, a scaled variable can be assigned to a pressure value.
Selection	<ul style="list-style-type: none"> ■ Pressure ■ Scaled variable
Factory setting	Pressure

Primary variable (PV)


Navigation	 Application → HART output → HART output → Primary var (PV)
Description	Shows the current measured value of the primary dynamic variable (PV)
User interface	Signed floating-point number
Factory setting	0 mbar

Assign SV



Navigation	 Application → HART output → HART output → Assign SV
Description	Assign a measured variable to the second dynamic variable (SV).
Selection	<ul style="list-style-type: none"> ■ Pressure ■ Scaled variable ■ Sensor temperature ■ Sensor pressure ■ Electronics temperature ■ Terminal current * ■ Terminal voltage * ■ Median of pressure signal * ■ Noise of pressure signal * ■ Signal noise detected * ■ Percent of range ■ Loop current ■ Not used
Factory setting	Sensor temperature

Secondary variable (SV)

Navigation	 Application → HART output → HART output → Second.var(SV)
Description	Shows the current measured value of the secondary dynamic variable (SV)
User interface	Signed floating-point number
Factory setting	0 °C

* Visibility depends on order options or device settings

Assign TV



Navigation Application → HART output → HART output → Assign TV

Description Assign a measured variable to the tertiary dynamic variable (TV).

Selection

- Pressure
- Scaled variable
- Sensor temperature
- Sensor pressure
- Electronics temperature
- Terminal current *
- Terminal voltage *
- Median of pressure signal *
- Noise of pressure signal *
- Signal noise detected *
- Percent of range
- Loop current
- Not used

Factory setting Electronics temperature

Tertiary variable (TV)

Navigation Application → HART output → HART output → Tertiary var(TV)

Description Shows the current measured value of the tertiary (third) dynamic variable (TV)

User interface Signed floating-point number

Factory setting 0 °C

Assign QV



Navigation Application → HART output → HART output → Assign QV

Description Assign a measured variable to the quaternary dynamic variable (QV).

Selection


- Pressure
- Scaled variable
- Sensor temperature
- Sensor pressure
- Electronics temperature
- Terminal current *
- Terminal voltage *
- Median of pressure signal *
- Noise of pressure signal *

* Visibility depends on order options or device settings

- Signal noise detected *
- Percent of range
- Loop current
- Not used

Factory setting Sensor pressure

Quaternary variable (QV)

Navigation  Application → HART output → HART output → Quaterna.var(QV)

Description Shows the current measured value of the quaternary (fourth) dynamic variable (QV)

User interface Signed floating-point number


Factory setting 0 mbar

Burst configuration 1

Navigation  Application → HART output → Burst config. 1

Burst mode



Navigation  Application → HART output → Burst config. 1 → Burst mode 1


Description Switch HART burst mode for burst message on

- Selection** ■ Off
- On

Factory setting Off

Burst command



Navigation  Application → HART output → Burst config. 1 → Burst command 1

Description Select the HART command that is sent to the HART master

* Visibility depends on order options or device settings

- Selection**
- Primary variable (PV)
 - Loop Current and Percent of Range
 - Dynamic Variables
 - Device variables with status
 - Device variables
 - Additional device status

Factory setting Loop Current and Percent of Range

Burst variable 0



Navigation Application → HART output → Burst config. 1 → Burst variable 0

Description For HART command 9 and 33, assign a HART device variable or process variable to burst variable

- Selection**
- Pressure
 - Scaled variable
 - Sensor temperature
 - Sensor pressure
 - Electronics temperature
 - Measured current *
 - Terminal voltage 1 *
 - Median of pressure signal *
 - Noise of pressure signal *
 - Signal noise detected *
 - Percent of range
 - Measured current
 - Primary variable (PV)
 - Secondary variable (SV)
 - Tertiary variable (TV)
 - Quaternary variable (QV)
 - Not used

Factory setting Pressure

Burst variable 1



Navigation Application → HART output → Burst config. 1 → Burst variable 1


Description For HART command 9 and 33, assign a HART device variable or process variable to burst variable


- Selection**
- Pressure
 - Scaled variable
 - Sensor temperature
 - Sensor pressure
 - Electronics temperature

* Visibility depends on order options or device settings

- Measured current *
- Terminal voltage 1 *
- Median of pressure signal *
- Noise of pressure signal *
- Signal noise detected *
- Percent of range
- Measured current
- Primary variable (PV)
- Secondary variable (SV)
- Tertiary variable (TV)
- Quaternary variable (QV)
- Not used

Factory setting Scaled variable


Burst variable 2 


Navigation  Application → HART output → Burst config. 1 → Burst variable 2

Description For HART command 9 and 33, assign a HART device variable or process variable to burst variable

- Selection**
- Pressure
 - Scaled variable
 - Sensor temperature
 - Sensor pressure
 - Electronics temperature
 - Measured current *
 - Terminal voltage 1 *
 - Median of pressure signal *
 - Noise of pressure signal *
 - Signal noise detected *
 - Percent of range
 - Measured current
 - Primary variable (PV)
 - Secondary variable (SV)
 - Tertiary variable (TV)
 - Quaternary variable (QV)
 - Not used

Factory setting Sensor temperature

Burst variable 3 

Navigation  Application → HART output → Burst config. 1 → Burst variable 3

Description For HART command 9 and 33, assign a HART device variable or process variable to burst variable

* Visibility depends on order options or device settings

Selection	<ul style="list-style-type: none"> ■ Pressure ■ Scaled variable ■ Sensor temperature ■ Sensor pressure ■ Electronics temperature ■ Measured current * ■ Terminal voltage 1 * ■ Median of pressure signal * ■ Noise of pressure signal * ■ Signal noise detected * ■ Percent of range ■ Measured current ■ Primary variable (PV) ■ Secondary variable (SV) ■ Tertiary variable (TV) ■ Quaternary variable (QV) ■ Not used
Factory setting	Sensor pressure

Burst variable 4


Navigation	Application → HART output → Burst config. 1 → Burst variable 4
Description	For HART command 33, assign a HART device variable or process variable to burst variable
Selection	<ul style="list-style-type: none"> ■ Pressure ■ Scaled variable ■ Sensor temperature ■ Sensor pressure ■ Electronics temperature ■ Measured current * ■ Terminal voltage 1 * ■ Median of pressure signal * ■ Noise of pressure signal * ■ Signal noise detected * ■ Percent of range ■ Measured current ■ Primary variable (PV) ■ Secondary variable (SV) ■ Tertiary variable (TV) ■ Quaternary variable (QV) ■ Not used
Factory setting	Percent of range

* Visibility depends on order options or device settings

Burst variable 5

Navigation	Application → HART output → Burst config. 1 → Burst variable 5
Description	For HART command 33, assign a HART device variable or process variable to burst variable
Selection	<ul style="list-style-type: none"> ■ Pressure ■ Scaled variable ■ Sensor temperature ■ Sensor pressure ■ Electronics temperature ■ Measured current * ■ Terminal voltage 1 * ■ Median of pressure signal * ■ Noise of pressure signal * ■ Signal noise detected * ■ Percent of range ■ Measured current ■ Primary variable (PV) ■ Secondary variable (SV) ■ Tertiary variable (TV) ■ Quaternary variable (QV) ■ Not used
Factory setting	Measured current

Burst variable 6

Navigation	Application → HART output → Burst config. 1 → Burst variable 6
Description	For HART command 33, assign a HART device variable or process variable to burst variable
Selection	<ul style="list-style-type: none"> ■ Pressure ■ Scaled variable ■ Sensor temperature ■ Sensor pressure ■ Electronics temperature ■ Measured current * ■ Terminal voltage 1 * ■ Median of pressure signal * ■ Noise of pressure signal * ■ Signal noise detected * ■ Percent of range ■ Measured current ■ Primary variable (PV) ■ Secondary variable (SV) ■ Tertiary variable (TV) ■ Quaternary variable (QV) ■ Not used
Factory setting	Not used

* Visibility depends on order options or device settings

Burst variable 7

Navigation	Application → HART output → Burst config. 1 → Burst variable 7
Description	For HART command 33, assign a HART device variable or process variable to burst variable
Selection	<ul style="list-style-type: none"> ■ Pressure ■ Scaled variable ■ Sensor temperature ■ Sensor pressure ■ Electronics temperature ■ Measured current * ■ Terminal voltage 1 * ■ Median of pressure signal * ■ Noise of pressure signal * ■ Signal noise detected * ■ Percent of range ■ Measured current ■ Primary variable (PV) ■ Secondary variable (SV) ■ Tertiary variable (TV) ■ Quaternary variable (QV) ■ Not used
Factory setting	Not used

Burst trigger mode

Navigation	Application → HART output → Burst config. 1 → Trigger mode
Description	Select the event that triggers the burst message
Selection	<ul style="list-style-type: none"> ■ Continuous ■ Window * ■ Rising * ■ Falling * ■ On change
Factory setting	Continuous

Burst trigger level

Navigation	Application → HART output → Burst config. 1 → Trigger level
Description	Enter the burst trigger value that determines together with the option selected in "Burst trigger mode" parameter the time of burst message

* Visibility depends on order options or device settings

User entry Signed floating-point number

Factory setting 2.0E-38

Min. update period



Navigation Application → HART output → Burst config. 1 → Min. upd. per.

Description Enter the minimum time span between two burst responses of one burst message

User entry Positive integer

Factory setting 1 000 ms

Max. update period



Navigation Application → HART output → Burst config. 1 → Max. upd. per.

Description Enter the maximum time span between two burst responses of one burst message

User entry Positive integer

Factory setting 2 000 ms

Information

Navigation Application → HART output → Information

Device ID


Navigation Application → HART output → Information → Device ID

Description Shows the device ID for identifying the device in a HART network


User interface Positive integer

Factory setting 123 456


Device type


Navigation	 Application → HART output → Information → Device type
Description	Displays the device type with which the device is registered with the HART FieldComm Group.
User interface	0 to 65 535
Factory setting	4 549

Device revision


Navigation	 Application → HART output → Information → Device revision
Description	Displays the device revision with which the device is registered with the HART FieldComm Group.
User interface	0 to 255
Factory setting	1

HART short tag



Navigation	 Application → HART output → Information → HART short tag
Description	Defines the short tag for the measuring point. Maximum length: 8 characters Allowed characters: A-Z, 0-9, certain special characters
User entry	Character string comprising numbers, letters and special characters (8)
Factory setting	SHORTTAG

HART revision

Navigation	 Application → HART output → Information → HART revision
Description	Displays the revision of the HART protocol for the device.
User interface	5 to 7
Factory setting	7

HART descriptor



Navigation	Application → HART output → Information → HART descriptor
Description	Use this function to define a description for the measuring point. Maximum length: 16 characters Allowed characters: A-Z, 0-9, certain special characters
User entry	Character string comprising numbers, letters and special characters (16)
Factory setting	43

HART message



Navigation	Application → HART output → Information → HART message
Description	Use this function to define a HART message which is sent via the HART protocol when requested by the master. Maximum length: 32 characters Allowed characters: A-Z, 0-9, certain special characters
User entry	Character string comprising numbers, letters and special characters (32)
Factory setting	43

HART date code



Navigation	Application → HART output → Information → HART date code
Description	Enter date of the last configuration change. Use this format yyyy-mm-dd
User entry	Character string comprising numbers, letters and special characters (10)
Factory setting	2009-07-20

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 43

Locking status


Navigation  System → Device manag. → Locking status

Description Indicates the type of locking.
 "Safety 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


- Safety locked
- Temporarily locked

Configuration counter

Navigation	 System → Device manag. → Config. counter
Description	<p>Displays the counter for changes to the device parameters.</p> <p>Additional information:</p> <ul style="list-style-type: none"> - If the value for a static parameter is changed when optimizing or configuring the parameter, the counter is incremented by 1. This is to enable tracking different parameter versions. - When multiple parameters are changed simultaneously, e.g. when loading parameters into the device from an external source such as FieldCare, the counter may display a higher value. The counter cannot be reset, nor is it reset to a default value on performing a device reset. - Once the counter has reached the value 65535, it restarts at 0.
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	<ul style="list-style-type: none"> ■ Cancel ■ To factory defaults * ■ To delivery settings * ■ Restart device
Factory setting	Cancel

3.4.2 User management

Navigation  System → User manag.

User role

Navigation	 System → User manag. → User role
Description	Shows the access authorization to the parameters via the operating tool

* Visibility depends on order options or device settings

User interface	<ul style="list-style-type: none"> ■ Operator ■ Maintenance ■ Expert ■ Production ■ Development
-----------------------	--

Factory setting	Maintenance
------------------------	-------------

Change user role

Navigation	 System → User manag. → Change user role
-------------------	---

Description	<p>It is possible to change the user role.</p> <p>If the actual role is 'Maintenance', the 'Enter access code' will be prompted.</p> <p>If the actual role is 'Operator', a 'Maintenance' password will be required.</p>
--------------------	--

User entry	Character string comprising numbers, letters and special characters (1)
-------------------	---

Password

Navigation	 System → User manag. → 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. → 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. → 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

User entry Character string comprising numbers, letters and special characters (1)

New password 

Navigation   System → User manag. → 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. → Confirm password

Description Enter the new password again to confirm.


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



Change password 


Navigation  System → User manag. → Change password

Description Changes the 'Maintenance' password.

User entry Character string comprising numbers, letters and special characters (1)

Old password		
Navigation	  System → User manag. → Old password	
Description	Enter the current password, to subsequently change the existing password.	
User entry	Character string comprising numbers, letters and special characters (16)	

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

Reset password		
Navigation	 System → User manag. → 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)	

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	<ul style="list-style-type: none"> ■ Disable ■ Enable
Factory setting	Enable

3.4.4 Display



Navigation   System → Display

Language

Navigation	  System → Display → Language
Description	Set display language
Selection	<ul style="list-style-type: none"> ■ English ■ Deutsch * ■ Français * ■ Español * ■ Italiano * ■ Nederlands * ■ Portuguesa * ■ Polski * ■ русский язык (Russian) * ■ Svenska * ■ Türkçe * ■ 中文 (Chinese) * ■ 日本語 (Japanese) * ■ 한국어 (Korean) * ■ čeština (Czech) *
Factory setting	English



* Visibility depends on order options or device settings

Format display

Navigation	  System → Display → Format display
Description	Select how measured values are shown on the display
Selection	<ul style="list-style-type: none"> ■ 1 value, max. size ■ Bargraph ■ 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	<ul style="list-style-type: none"> ■ Pressure ■ Scaled variable ■ Current output ■ Sensor temperature ■ Percent of range
Factory setting	Pressure



Value 2 display



Navigation	  System → Display → Value 2 display
Description	Select the measured value that is shown on the local display
Selection	<ul style="list-style-type: none"> ■ None ■ Pressure ■ Scaled variable ■ Current output ■ Sensor temperature ■ Percent of range
Factory setting	None

Rotation display



Navigation	  System → Display → Rotation display
Description	Select rotation angle of the display text to optimize local display readability.

Selection	<ul style="list-style-type: none"> ▪ Auto ▪ 0 degree ▪ 90 degree ▪ 180 degree ▪ 270 degree
------------------	---

Factory setting Auto

Color scheme

Navigation   System → Display → Color scheme

Description Select the preferred color scheme.

Selection

- Light
- Dark

Factory setting Dark

3.4.5 Geolocation

Navigation  System → Geolocation

Process Unit Tag

Navigation  System → Geolocation → Process Unit Tag

Description Enter the process unit in which the device is installed.

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

Factory setting Process Unit Tag

Location Description

Navigation  System → Geolocation → Location Descr.


Description Use this function to enter a description of the location so that the device can be located in the plant.

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

Factory setting somewhere

Longitude



Navigation  System → Geolocation → Longitude

Description Use this function to enter the longitude coordinates that describe the device location.

User entry -180 to 180 °

Factory setting 0 °

Latitude



Navigation  System → Geolocation → Latitude

Description Use this function to enter the latitude coordinates that describe the device location.

User entry -90 to 90 °

Factory setting 0 °

Altitude



Navigation  System → Geolocation → Altitude

Description Use this function to enter the altitude data that describe the device location.

User entry Signed floating-point number

Factory setting 0 m

Location method



Navigation  System → Geolocation → Location method

Description Use this function to select the data format for specifying the geographic location. The codes for specifying the location are based on the US National Marine Electronics Association (NMEA) Standard NMEA 0183.

Selection

- No fix
- GPS or Standard Positioning Service fix
- Differential GPS fix
- Precise positioning service (PPS) fix
- Real Time Kinetic (RTK) fixed solution
- Real Time Kinetic (RTK) float solution


- Estimated dead reckoning
- Manual input mode
- Simulation Mode

Factory setting No fix

3.4.6 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 43

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

Factory setting AAFFFFAAFFF


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: <ul style="list-style-type: none"> ■ 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
Factory setting	01.00



Hardware version	
Navigation	  System → Information → Hardware version
User interface	Character string comprising numbers, letters and special characters
Factory setting	01.00.00

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: <ul style="list-style-type: none"> ■ Read access: Operator ■ Write access: Expert


XML build number

Navigation	 System → Information → XML build no.
User interface	Positive integer
Factory setting	212
Additional information	Access: <ul style="list-style-type: none"> ■ Read access: Expert ■ Write access: -

Checksum

Navigation	  System → Information → Checksum
Description	Checksum for Firmware version.
User interface	Positive integer
Factory setting	0


3.4.7 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: <ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> ■ 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

Navigation  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: <ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> ■ Read access: Expert ■ Write access: -

3.4.8 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
Factory setting	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

- WHG
- Heartbeat Verification
- Heartbeat Monitoring
- Bluetooth



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