Description of Device Parameters
Cerabar PMP63B

Process pressure measurement
HART

HART
COMMUNICATION PROTOCOL

Endress+Hauser

People for Process Automation
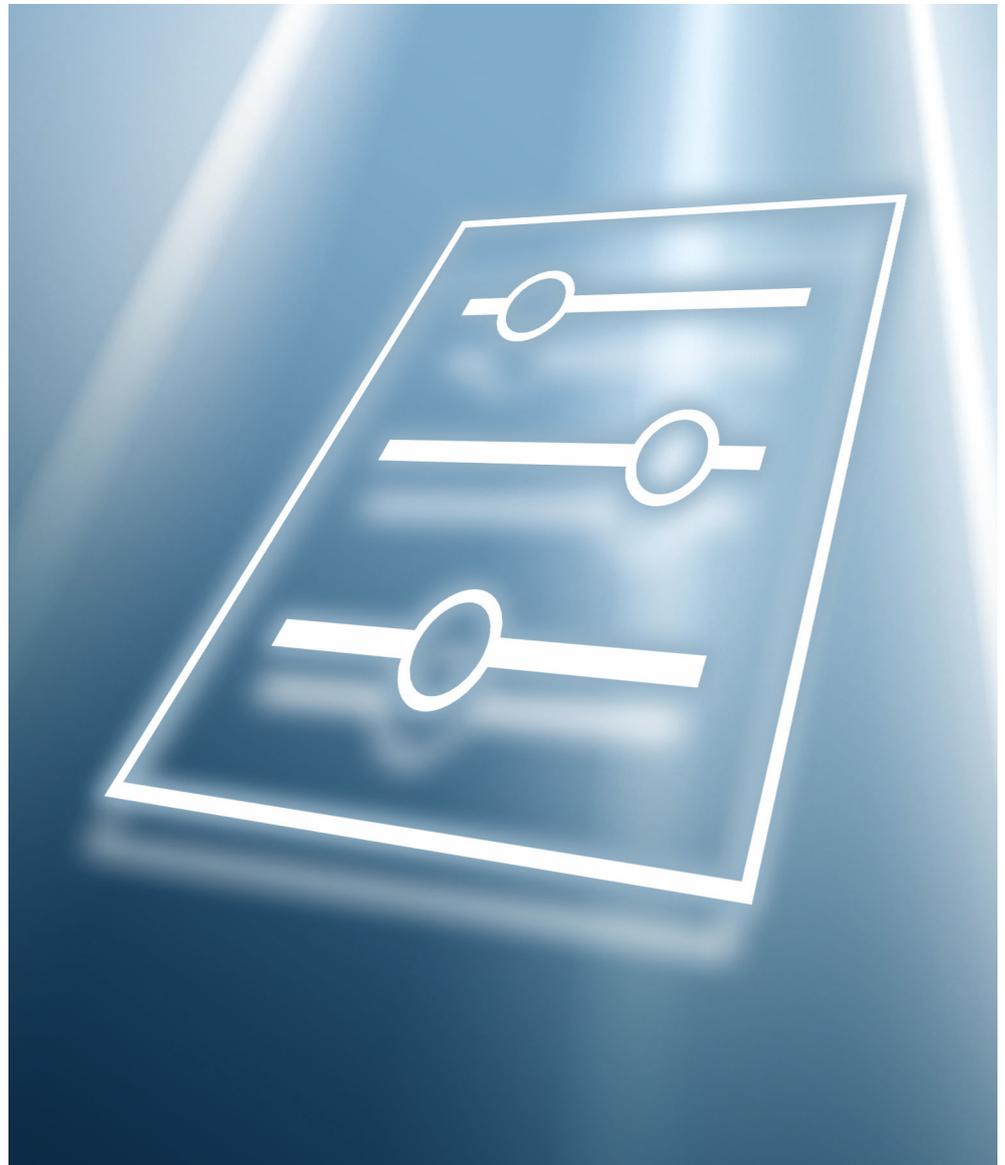
1   About this document

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 (→ 📖 76)** 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:

Simulation .... [symbol]

Navigation	[symbols] Diagnostics → Simulation → Simulation
Prerequisite	Options marked with *: The corresponding device function must be available and configured.
Description	Simulates one or more process variables and/or events. Warning: - Output will reflect the simulated value or event.
Selection	▪ Off ▪ Distance ▪ Level ▪ Level linearized * ▪ Current output ▪ Diagnostic event simulation ▪ Foam index * ▪ Build-up index *
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

Timestamp

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

⚠ DANGER

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

⚠ WARNING

This symbol alerts you to a 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

Navigation   ▣▣   Operating tool

Guidance	→ 🖺	16
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► Heartbeat Technology	→ 🖺	17
► Heartbeat Verification	→ 🖺	18
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► Loop diagnostics	→ 🖺	18
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| | | ‣ User management | → 🖹 76 |

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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
- Safety mode
- Proof test
- 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
  - HART short tag
  - HART date code
  - HART descriptor
  - HART message
  - HART address
- **Measurement adjustments**
  - Assign PV
  - Damping
  - Pressure unit
  - Temperature unit
  - Scaled variable unit
  - Zero adjustment
  - Pressure
- **Output settings**
  - Output current transfer function
  - Scaled variable transfer function
  - Lower Range Limit
  - Upper Range Limit
  - Minimum span
  - Linearization
  - Lower range value output
  - Upper range value output
  - Pressure value 1/2
  - Scaled variable value 1/2
  - Current range output
  - Failure behavior current output
  - Failure current
  - Loop current mode
  - Assign HART variables?
  - Assign PV
  - Assign SV
  - Assign TV
  - Assign QV

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

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

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

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

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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

Filter options

Navigation	🖩 Diagnostics → Event logbook → Filter options
Description	Use this function to select the category whose event messages are displayed in the event list of the operating tool.

Selection	• All • Failure (F) • Function check (C) • Out of specification (S) • Maintenance required (M) • Information (I) • Not categorized

Factory setting	All

Additional information	*Description*

ℹ️ The status signals are categorized in accordance with VDI/VDE 2650 and NAMUR Recommendation NE 107:
- F = Failure
- C = Function Check
- S = Out of Specification
- M = Maintenance Required

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 (→ 🖺 44)/Sensor (→ 🖺 48) 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 (→ 🕮 44)/Sensor (→ 🕮 48) 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
	• Current output
	• 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.

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

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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 ℃

Factory setting   85 ℃

806 Diagnostic behavior	🔒

Navigation	🔳🔲	Diagnostics → Diag. settings → Properties → 806 Diag. 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).

If the permissible conditions are reached again, the warning is no longer available in the instrument.

Selection   • Warning
                         • Logbook entry only

Factory setting   Warning

806 Event category	🔒

Navigation	🔳🔲	Diagnostics → Diag. settings → Properties → 806Event category

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)

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 → 500 Diag. 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 category

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 → 501 Diag. 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 category

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 → 502 Diag. 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 category

Selection
- 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 → 806 Diag. 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).
	If the permissible conditions are reached again, the warning is no longer available in the instrument.

Selection	• Warning
	• Logbook entry only

Factory setting	Warning

806 Event category

Navigation	🔘🔲 Diagnostics → Diag. settings → Configuration → Process → 806Event category

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 category

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	Select event behavior

"Alarm":
Current output adopts the set alarm current.

"Warning":
Current output unchanged. Message is displayed digitally (factory setting).

"Logbook entry only":
No digital or analog forwarding of the message.

"Special":
– Lower sensor limit undercut: Current output < 3.6 mA.
– Upper sensor limit exceeded: Current output 21 to 23 mA, depending on the setting.

Regardless of the setting, the message appears on the display. If the permissible conditions are reached again, the warning message disappears.

Selection	• Alarm • Warning • Logbook entry only • Special

Factory setting	Warning

841 Event category

Navigation	≡ Diagnostics → Diag. settings → Configuration → Process → 841 Event category

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

Factory setting	Out of specification (S)

900 Diagnostic behavior	

Navigation	🔘🔲 Diagnostics → Diag. settings → Configuration → Process → 900 Diag. 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).
	If the permissible conditions are reached again, the warning is no longer available in the instrument.
Selection	• Warning
	• Logbook entry only
Factory setting	Warning

900 Event category	

Navigation	🔘🔲 Diagnostics → Diag. settings → Configuration → Process → 900Event category
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)

906 Diagnostic behavior	

Navigation	🔘🔲 Diagnostics → Diag. settings → Configuration → Process → 906 Diag. 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).
	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 category

Description   Select category for diagnostic message.

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

Factory setting   Out of specification (S)

3.3 Application

Navigation   ▣▤ Application

3.3.1 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

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
Factory setting	0 mA

Electronics temperature

Navigation	🖩🖵 Application → Measured values → Electronics temp
Description	Displays the current temperature of the main electronics.
User interface	Signed floating-point number

3.3.2   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℃)
- mmH2O
- mmH2O (4℃)
- mH2O
- mH2O (4℃)
- 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*
                           - ℃   ℉
                           - K

Factory setting   ℃

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*
	• %	• ft	• gal (imp)
	• mm	• in	• gal/s (imp)
	• cm	• ft³	• gal/min (imp)
	• m	• gal (us)	• gal/h (imp)
	• l	• bbl (us;oil)	
	• hl	• oz	
	• m³	• lb	
	• g	• STon	
	• kg	• lb/s	
	• t	• lb/min	
	• g/s	• lb/h	
	• kg/s	• STon/min	
	• kg/min	• STon/h	
	• kg/h	• STon/d	
	• t/min	• ft³/s	
	• t/h	• ft³/min	
	• t/d	• ft³/h	
	• m³/s	• ft³/d	
	• m³/min	• gal/s (us)	
	• m³/h	• gal/min (us)	
	• m³/d	• gal/h (us)	
	• l/s	• gal/d (us)	
	• l/min	• bbl/s (us;oil)	
	• l/h	• bbl/min (us;oil)	
	• Nm³/h	• bbl/h (us;oil)	
	• Nl/h	• bbl/d (us;oil)	
	• Sm³/s	• Sft³/min	
	• Sm³/min	• Sft³/h	
	• Sm³/h	• Sft³/d	
	• Sm³/d		
	• Nm³/s		
	• g/cm³		
	• kg/m³		
	• Nm³/min		
	• Nm³/d		

Custom-specific units
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

3.3.3 Sensor

Navigation   ☷☐ Application → Sensor

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   🔒

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.

                        ℹ 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	⌂

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.

ℹ 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

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.

User interface	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 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 ℃

Sensor temperature upper range limit

Navigation   🔲   Application → Sensor → Sensor limits → Sens.temp.up.lim

Factory setting   85 ℃

Scaled variable

Navigation   ⊞🔲   Application → Sensor → Scaled variable

Assign PV   🔒

Navigation   ⊞🔲   Application → Sensor → Scaled variable → Assign PV

Description   Use this function to select a measured variable (HART device variable) for the primary
                        dynamic variable (PV).

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

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
- Nl/h
- Sm³/s
- Sm³/min
- Sm³/h
- Sm³/d
- Nm³/s
- g/cm³
- kg/m³
- Nm³/min
- Nm³/d

Custom-specific units
Free text

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)

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 ", define
                         the related lower (4 mA) and upper range values (20 mA).

User entry   Signed floating-point number

Factory setting   0 mbar

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 ", define
                         the related lower (4 mA) and upper range values (20 mA).

User entry   Signed floating-point number

Factory setting   50 000 mbar

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 interface	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 ", define the related lower (4 mA) and upper range values (20 mA).

User entry   Signed floating-point number

Factory setting   0 mbar

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 ", define the related lower (4 mA) and upper range values (20 mA).

User entry   Signed floating-point number

Factory setting   50 000 mbar

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   • Pressure
                         • Scaled variable

Factory setting   Pressure

Measuring mode current output	🔒

Navigation	🔘🔲 Application → Curr.output → Output mode
Description	Select curve of current output.
Selection	• Standard • Inverse • Bi-directional
Factory setting	Standard

Current range output	🔒

Navigation	🔘🔲 Application → Curr.output → Current range
Description	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 ≤ "low saturation", the output current is set to "low saturation". If Measured value ≥ "high saturation", the output current is set to "high saturation". Note: Currents below 3.6 mA or above 21.5 mA can be used to signal an alarm.
Selection	• 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 has priority over software setting.
Selection	• 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	Shows 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: • 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: • 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	Customized

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	• 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	• 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	• 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 ℃

---

* 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 ℃

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   • 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   • 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	• 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	• 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	▪ 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	▪ 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	1000 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	2000 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	123456

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	4 394

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	2

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	5xB/7xB

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	5xB/7xB

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	5xB/7xB

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.

"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	• Hardware locked • Safety locked • Temporarily locked

Configuration counter

Navigation	🎛️🖥️ System → Device manag. → Config. counter
Description	Displays the counter for changes to the device parameters.
	Additional information:
	- 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	• 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.

User management

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 • Production • Development
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. → 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 9999
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 • 1 bargraph + 1 value • 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 • Current output • Sensor temperature • Percent of range
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 • Current output • Sensor temperature • Percent of range
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	5xB/7xB

Manufacturer

Navigation	⌸⌷ System → Information → 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 alphanumerical 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

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:
• 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

Stored CRC device configuration

Navigation	⚆⚇ System → Softw. config. → Stored CRC conf.
Description	Stored CRC after the last safety lock. Factory delivery is 65535 means that the device has not yet been safety locked.
User interface	0 to 65535
Factory setting	65535

Timestamp stored CRC device config.

Navigation	⚆⚇ System → Softw. config. → Time stored CRC
Description	Gives the time stamp when the CRC was last stored following completion of the safety lock wizard.
User interface	Character string comprising numbers, letters and special characters

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	▪ SIL ▪ WHG ▪ Heartbeat Verification ▪ Heartbeat Monitoring
Factory setting	T_SILT_WHGT_HeartbeatVerificationT_HeartbeatMonitoring

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