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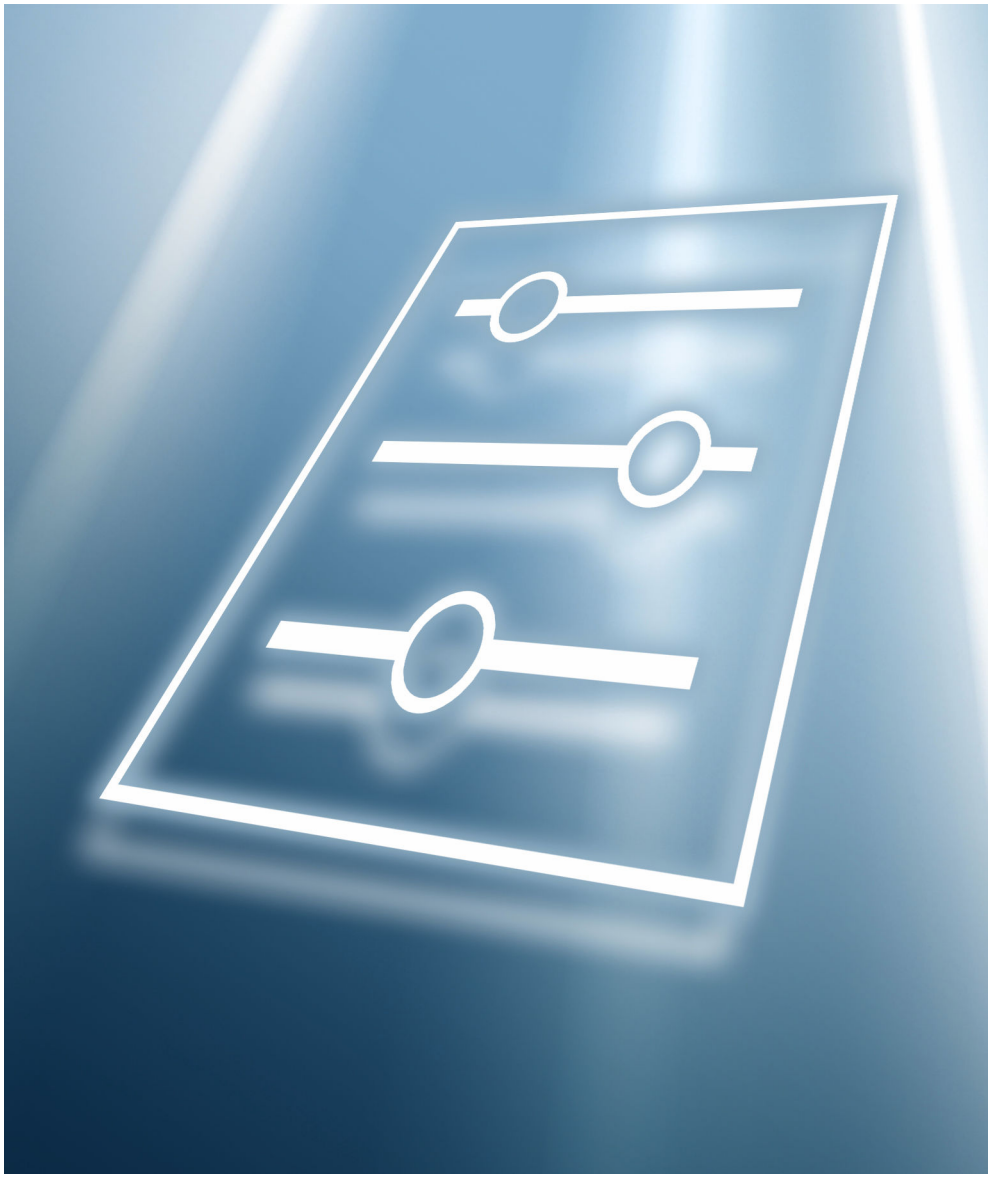
71728235
2025-09-30

Description of Device Parameters
Deltabar PMD63B

Differential pressure measurement
PROFINET over Ethernet-APL

ethernet-apl™
advanced physical layer



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.

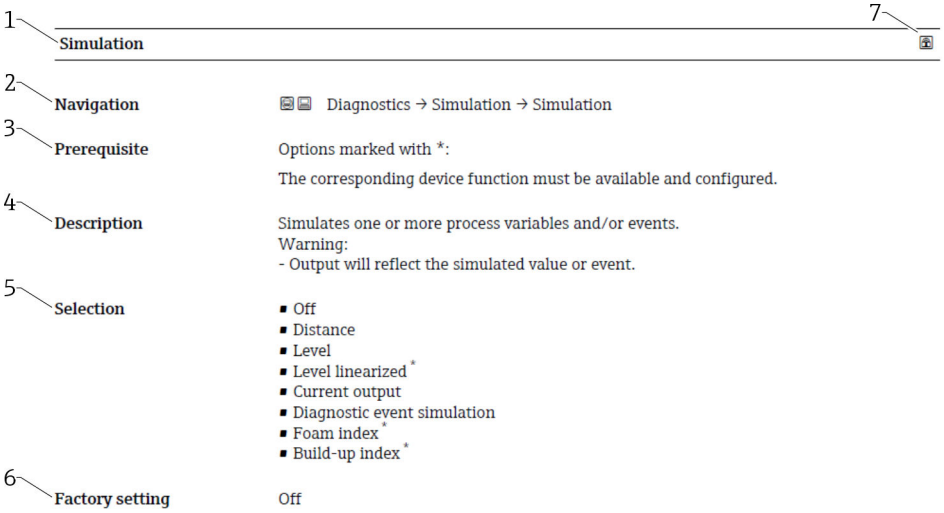
The submenus visible to a user depend on the **User role (→ 61)** they are logged in with. This document lists the submenus and their parameters that are available to the User role **Maintenance**.

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

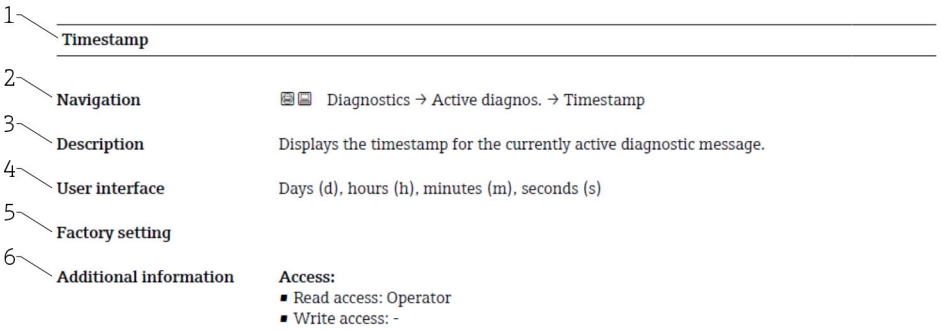
For information on operating options, see the Operating Instructions.

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 *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 *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

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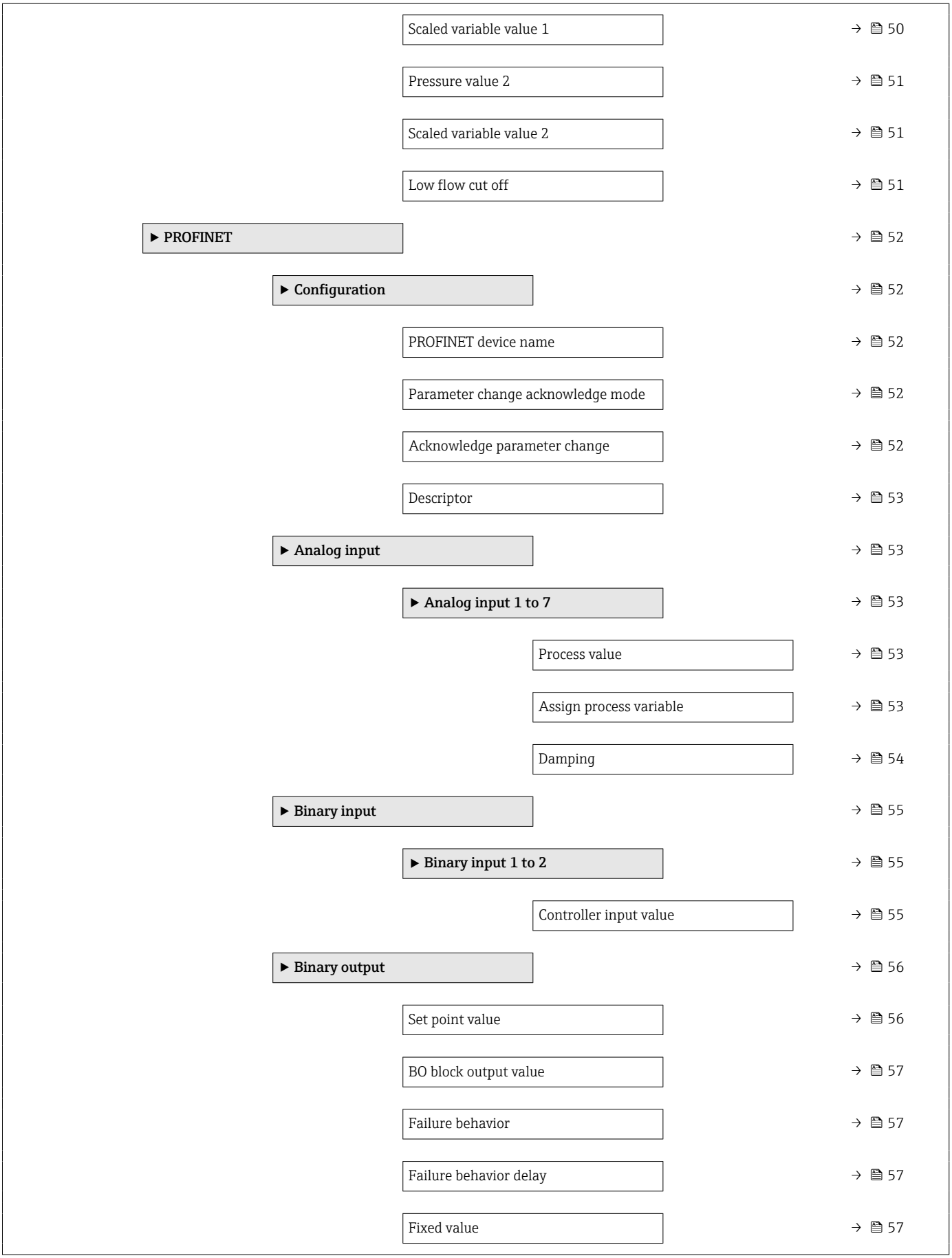
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3 Description of device parameters

3.1 Guidance

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

Navigation Guidance

3.1.1 Overview

The **Guidance** menu contains the following submenus and wizards:
- Commissioning
- Heartbeat Technology
  - Heartbeat Verification
  - SSD: Statistical Sensor Diagnostics
  - Process window
- Import / Export
- Compare

Commissioning

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

WARNING

If the wizard is aborted before all the necessary parameters have been configured, any settings already made are saved.
The device may be in an undefined state!
▶ Reset the device to factory settings.

Navigation Guidance → Commissioning

Parameters for the "Commissioning" wizard

The following parameters are configured or displayed in this wizard:
- **Device identification**
  - Device tag
  - Device name
  - Serial number
  - Extended order code 1 ... 3
  - Locking status
  - Time zone
  - Date/time
  - PROFINET device name
  - IP address
  - Descriptor
  - MAC address
  - Device ID
  - Manufacturer ID
- **Measurement adjustments**
  - Damping
  - Assign scaled variable?
  - Pressure unit
  - Temperature unit
  - Scaled variable unit
  - Zero adjustment
  - Pressure
- **Output settings**
  - Scaled variable transfer function
  - Low flow cut off
  - Lower Range Limit
  - Upper Range Limit
  - Minimum span
  - Linearization
  - Pressure value 1/2
  - Scaled variable value 1/2
  - Assign process variable

Heartbeat Technology

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

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

Navigation Guidance → Heartbeat Techn.

Heartbeat Verification

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

Navigation Guidance → Heartbeat Techn. → Heartbeat Verif.

SSD: Statistical Sensor Diagnostics

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

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

Process window

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

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

Navigation Guidance → Heartbeat Techn. → Process window

Import / Export

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

Create configuration report
Under Create configuration report, device documentation can be saved in PDF format. This device documentation contains the following general device information:
- Information on device parameters
- Event list
- Diagnostic list

Navigation Guidance → Import / Export

Compare

Compare datasets
This function can be used to compare the following datasets:
- Data records in the .deh file format from the function Import / Export
- Datasets with the configuration currently in the device

Navigation Guidance → Compare

3.2 Diagnostics

Navigation Diagnostics

3.2.1 Active diagnostics

Navigation Diagnostics → Active diagnos.

Active diagnostics

Navigation Diagnostics → Active diagnos. → Active diagnos.

Description Displays the currently active diagnostic message.

If there is more than one pending diagnostic event, the message for the diagnostic event with the highest priority is displayed.

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

Timestamp

Navigation Diagnostics → Active diagnos. → Timestamp

Description Displays the timestamp for the currently active diagnostic message.

User interface Days (d), hours (h), minutes (m), seconds (s)

Previous diagnostics

Navigation Diagnostics → Active diagnos. → Prev.diagnostics

Description Displays the diagnostic message for the last diagnostic event that has ended.

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

Timestamp

Navigation Diagnostics → Active diagnos. → Timestamp

Description Displays the timestamp of the diagnostic message generated for the last diagnostic event that has ended.

User interface Days (d), hours (h), minutes (m), seconds (s)

Operating time from restart

Navigation Diagnostics → Active diagnos. → Time fr. restart

Description Indicates how long the device has been in operation since the last time the device was restarted.

User interface Days (d), hours (h), minutes (m), seconds (s)

Operating time

Navigation Diagnostics → Active diagnos. → Operating time

Description Indicates how long the device has been in operation.

User interface Days (d), hours (h), minutes (m), seconds (s)

3.2.2 Diagnostic list

Navigation Diagnostics → Diagnostic list

3.2.3 Event logbook

Navigation Diagnostics → Event logbook

Clear event list

Navigation Diagnostics → Event logbook → Clear event list

Description Delete all entries of the event list.

Selection
- Cancel
- Clear data

Factory setting Cancel

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

3.2.4 Minimum/maximum values

Navigation Diagnostics → Min/max val.

Pressure min

Navigation Diagnostics → Min/max val. → Pressure min

Description Minimum value measured by the device

User interface Signed floating-point number

Factory setting Positive floating-point number

Pressure max

Navigation Diagnostics → Min/max val. → Pressure max

Description Maximum value measured by the device

User interface Signed floating-point number

Factory setting Negative floating-point number

Counter limit underruns sensor Pmin

Navigation Diagnostics → Min/max val. → Counter P < Pmin

Description Counts how many times the value underruns the sensor specific minimum values. Sensor specific minimum values are shown in Application/Sensor menu.

User interface 0 to 65 535

Factory setting 0

Counter limit overruns sensor Pmax

Navigation Diagnostics → Min/max val. → Counter P > Pmax

Description Counts how many times the value overruns the sensor specific maximum values. Sensor specific maximum values are shown in Application/Sensor menu.

User interface 0 to 65 535

Factory setting 0

Counter underruns of user limit Pmin

Navigation Diagnostics → Min/max val. → Counter < P user

Description Counts how many times the value underruns the minimum values defined by the user. User defined minimum values are shown in Diagnostic/Diagnostic settings/Properties menu.

User interface 0 to 65 535

Factory setting 0

Additional information Only visible if Process window in Heartbeat Monitoring is activated.

Counter overruns of user limit Pmax

Navigation Diagnostics → Min/max val. → Counter > P user

Description Counts how many times the value overruns the maximum values defined by the user. User defined maximum values are shown in Diagnostic/Diagnostic settings/Properties menu.

User interface 0 to 65 535

Factory setting 0

Additional information Only visible if Process window in Heartbeat Monitoring is activated.

Minimum sensor temperature

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

Description Minimum value measured by the device

Users cannot reset this value.

Maximum sensor temperature

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

Description Maximum value measured by the device

Users cannot reset this value.

Counter limit underruns sensor Tmin

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

Description Counts how often the value falls below the sensor-specific minimum values.The sensor-specific minimum values are displayed in the Application (→ 38)/Sensor (→ 43) 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 (→ 38)/Sensor (→ 43) 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
- Pressure
- Diagnostic event simulation

Factory setting Off

Diagnostic event simulation

Navigation Diagnostics → Simulation → Diag. event sim.

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 → Value pressure

User entry Signed floating-point number

Factory setting 0 mbar

3.2.6 Heartbeat Technology

Navigation Diagnostics → Heartbeat Techn.

Heartbeat Verification

Navigation Diagnostics → Heartbeat Techn. → Heartbeat Verif.

Date/time Heartbeat Verification

Navigation Diagnostics → Heartbeat Techn. → Heartbeat Verif. → Date/time Heartbeat Verification

Description Date and time of last Hearbeat Verification.

This value is updated with every Heartbeat verification.

Note:
If time information is not available, e.g. Heartbeat verification is started from display, '--------' is shown.

User interface Character string comprising numbers, letters and special characters

Factory setting 01.01.1970 00:00:00

Operating time (Verification)

Navigation Diagnostics → Heartbeat Techn. → Heartbeat Verif. → Operating time

Description Value of the operating hours counter at the time of verification.

User interface Days (d), hours (h), minutes (m), seconds (s)

Verification result

Navigation Diagnostics → Heartbeat Techn. → Heartbeat Verif. → Verific. result

Description Result of Heartbeat Verification.

User interface
- Not done
- Passed
- Not done
- Failed

Factory setting Not done

Status

Navigation Diagnostics → Heartbeat Techn. → Heartbeat Verif. → Status

Description Shows the actual status.

User interface
- Done
- Busy
- Failed
- Not done

Factory setting Not done

Statistical Sensor Diagnostics

Navigation Diagnostics → Heartbeat Techn. → SSD

SSD: Statistical Sensor Diagnostics

Navigation Diagnostics → Heartbeat Techn. → SSD → Stat. Sens. Diag

Description Enable or disable SSD.

After selecting 'Disable', no statistical sensor diagnosis takes place. No diagnostic messages are output.

Selection
- Disable
- Enable

Factory setting Disable

System status

Navigation Diagnostics → Heartbeat Techn. → SSD → System status

User interface
- Idle
- No sufficient signal noise
- Stable
- Not stable
- Verify System Dynamics

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 'No' 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 area.
If this limit value is exceeded or undercut, an 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 area.
If this limit value is exceeded or undercut, an 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 'No' 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 area.
If this limit value is exceeded or undercut, an 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 area.
If this limit value is exceeded or undercut, an 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 'No' 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 area.
If this limit value is exceeded or undercut, an 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 area.
If this limit value is exceeded or undercut, an event is generated. There is no hysteresis.

User entry −50 to 150 °C

Factory setting 85 °C

Configuration

Navigation Diagnostics → Diag. settings → Configuration

Configuration

Navigation Diagnostics → Diag. settings → Configuration → Configuration

436 Diagnostic behavior

Navigation Diagnostics → Diag. settings → Configuration → Configuration → 436 Diag. behav.

Selection
- Warning
- Logbook entry only

Factory setting Warning

436 Event category

Navigation Diagnostics → Diag. settings → Configuration → Configuration → 436 Event category

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

Factory setting Maintenance required (M)

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

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

Factory setting Out of specification (S)

501 Diagnostic behavior

Navigation Diagnostics → Diag. settings → Configuration → Configuration → 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

User interface

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

Factory setting Out of specification (S)

502 Diagnostic behavior

Navigation Diagnostics → Diag. settings → Configuration → Configuration → 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

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

Factory setting Out of specification (S)

Process

Navigation Diagnostics → Diag. settings → Configuration → Process

Sensor pressure range behavior

Navigation Diagnostics → Diag. settings → Configuration → Process → P-range behavior

Description Alarm and warning messages appear on the display. If the permissible conditions are reached again, the warning message disappears.

Select event behavior:

'Alarm':
The signal outputs assume the specified alarm condition. A diagnostic message is generated.

'Warning':
The signal outputs assume the specified warning condition. A diagnostic message is generated.

'Logbook entry only':
No digital or analog forwarding of the message. A diagnostic message is written in the logbook.

Selection
- Alarm
- Warning
- Logbook entry only

Factory setting Warning

841 Event category

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

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

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 forwarding of the message via the fieldbus.

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

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

Selection
- Warning
- Logbook entry only

Factory setting Warning

900 Event category

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

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

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 forwarding of the message via the fieldbus.

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

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

Selection
- Off
- Warning
- Logbook entry only

Factory setting Off

906 Event category

Navigation Diagnostics → Diag. settings → Configuration → Process → 906Event category

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

Factory setting Out of specification (S)

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 Used to display the electronics temperature.

Selection

SI units	*US units*
▪ ℃ ▪ K	℉

Factory setting ℃

Scaled variable unit

Navigation Application → Measuring units → SV 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
- m^3
- g
- kg
- t
- g/s
- kg/s
- kg/min
- kg/h
- t/min
- t/h
- t/d
- m^3/s
- m^3/min
- m^3/h
- m^3/d
- l/s
- l/min
- l/h
- Nm^3/h
- Nl/h
- Sm^3/s
- Sm^3/min
- Sm^3/h
- Sm^3/d
- Nm^3/s
- g/cm^3
- kg/m^3
- Nm^3/min
- Nm^3/d

US units
- ft
- in
- ft^3
- gal (us)
- bbl (us;oil)
- oz
- lb
- STon
- lb/s
- lb/min
- lb/h
- STon/min
- STon/h
- STon/d
- ft^3/s
- ft^3/min
- ft^3/h
- ft^3/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)
- Sft^3/min
- Sft^3/h
- Sft^3/d

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

Custom-specific units
Free text

Factory setting

%

Free text

Navigation

Application → Measuring units → Free text

User entry

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

Factory setting

Free text

Decimal places scaled variable

Navigation Application → Measuring units → Decimal scaled

Description This selection does not affect the measurement and calculation accuracy of the device.

Selection
- x
- x.x
- x.xx
- x.xxx
- x.xxxx

Factory setting x.xx

3.3.2 Measured values

Navigation Application → Measured values

Sensor pressure

Navigation Application → Measured values → Sensor pressure

User interface Signed floating-point number

Factory setting 0 mbar

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

Pressure

Navigation Application → Measured values → Pressure

Factory setting 0 mbar

Scaled variable

Navigation Application → Measured values → Scaled variable

User interface Signed floating-point number

Factory setting 0 %

Sensor temperature

Navigation Application → Measured values → Sensor temp.

Description Displays the current temperature of the sensor.

User interface Floating point number with sign

Terminal voltage 1

Navigation Application → Measured values → Terminal volt. 1

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

User interface 0.0 to 50.0 V

Electronics temperature

Navigation Application → Measured values → Electronics temp

Description Displays the current temperature of the main electronics.

User interface Signed floating-point number

3.3.3 Sensor

Navigation Application → Sensor

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

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 adj. offset

User entry Signed floating-point number

Factory setting 0 mbar

Sensor Trim Reset

Navigation Application → Sensor → Sensor cal. → Sen. Trim Reset

Selection
- No
- Confirm

Factory setting No

Lower sensor trim measured value

Navigation Application → Sensor → Sensor cal. → LowerTrimMeasVal

User interface Signed floating-point number

Factory setting 0 mbar

Lower sensor trim

Navigation Application → Sensor → Sensor cal. → LowerSensor trim

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

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

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

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

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

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

User entry Signed floating-point number

Factory setting 0 mbar

Upper sensor trim measured value

Navigation Application → Sensor → Sensor cal. → UpperTrimMeasVal

User interface Signed floating-point number

Factory setting 500 mbar

Upper sensor trim

Navigation Application → Sensor → Sensor cal. → UpperSensor trim

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

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

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

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

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

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

User entry Signed floating-point number

Factory setting 500 mbar

Lower range value

Navigation Application → Sensor → Sensor cal. → Lower range val.

Description The calibrated span corresponds to the span between the LRV and URV.

Factory setting: 0 to URL.
Other calibrated spans can be ordered as customized span.

User entry Signed floating-point number

Factory setting 0 mbar

Upper range value

Navigation Application → Sensor → Sensor cal. → Upper range val.

Description The calibrated span corresponds to the span between the LRV and URV.

Factory setting: 0 to URL.
Other calibrated spans can be ordered as customized span.

User entry Signed floating-point number

Factory setting 500 mbar

Basic settings

Navigation Application → Sensor → Basic settings

Damping

Navigation Application → Sensor → Sensor conf. → 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 0 s

HP/LP swap

Navigation Application → Sensor → Sensor conf. → HP/LP swap

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

Selection
- No
- Yes

Factory setting No

Sensor limits

Navigation Application → Sensor → Sensor limits

Lower Range Limit

Navigation Application → Sensor → Sensor limits → LRL

Description Indicates the lower measuring limit of the sensor.

User interface Signed floating-point number

Factory setting Depends on the order option

Upper Range Limit

Navigation Application → Sensor → Sensor limits → URL

Description Indicates the upper measuring limit of the sensor.

User interface Signed floating-point number

Factory setting Depends on the order option

Minimum span

Navigation Application → Sensor → Sensor limits → Minimum span

Description Specifies the smallest possible measuring span of the sensor.

User interface Signed floating-point number

Factory setting 0.498504 mbar

Sensor temperature lower range limit

Navigation Application → Sensor → Sensor limits → Sens.temp.lo.lim

Factory setting −35 °C

Sensor temperature upper range limit

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

Factory setting 85 °C

Scaled variable

Navigation Application → Sensor → Scaled variable

Scaled variable unit

Navigation Application → Sensor → Scaled variable → SV 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
- m^3
- g
- kg
- t
- g/s
- kg/s
- kg/min
- kg/h
- t/min
- t/h
- t/d
- m^3/s
- m^3/min
- m^3/h
- m^3/d
- l/s
- l/min
- l/h
- Nm^3/h
- Nl/h
- Sm^3/s
- Sm^3/min
- Sm^3/h
- Sm^3/d
- Nm^3/s
- g/cm^3
- kg/m^3
- Nm^3/min
- Nm^3/d

US units
- ft
- in
- ft^3
- gal (us)
- bbl (us;oil)
- oz
- lb
- STon
- lb/s
- lb/min
- lb/h
- STon/min
- STon/h
- STon/d
- ft^3/s
- ft^3/min
- ft^3/h
- ft^3/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)
- Sft^3/min
- Sft^3/h
- Sft^3/d

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

Custom-specific units
Free text

Factory setting

%

Free text

Navigation

Application → Sensor → Scaled variable → Free text

User entry

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

Factory setting

Free text

Pressure

Navigation Application → Sensor → Scaled variable → Pressure

Factory setting 0 mbar

Scaled variable transfer function

Navigation Application → Sensor → Scaled variable → Scal. v. trans.

Description
'Linear'
The linear pressure signal is used for the output signal. The flow must be calculated in the evaluation unit. Deviating from the bar graph (output signal), the digital value on the display shows continues to be the eradicated value.

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

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

Selection
- Linear
- Square root *
- Table

Factory setting Linear

Pressure value 1

Navigation Application → Sensor → Scaled variable → P. value 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 → Sc. var.value 1

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

* Visibility depends on order options or device settings

User interface Signed floating-point number

Factory setting 0 %

Pressure value 2

Navigation Application → Sensor → Scaled variable → P. value 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 → Sc. var.value 2

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

User entry Signed floating-point number

Factory setting 100 %

Low flow cut off

Navigation Application → Sensor → Scaled variable → Low flow cut off

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

User entry 0.0 to 50.0 %

Factory setting 5 %

3.3.4 PROFINET

Navigation Application → PROFINET

Configuration

Navigation Application → PROFINET → Configuration

PROFINET device name

Navigation Application → PROFINET → Configuration → PROFINET DevName

Description Up to 240 characters are allowed.
The following syntax must be used:
- 1 or more identifiers, separated with [.]
- Identifier length is 1 to 63 characters
- Identifier consists of [a-z 0-9] only lowercase letters and numbers allowed.

Parameter change acknowledge mode

Navigation Application → PROFINET → Configuration → ParaChngAcknMode

Description Select how to acknowledge the displayed flag when changing the device configuration:
- "Auto acknowledge": the flag disappears automatically after 20 seconds.
- "Manual acknowledge": the flag must be acknowledged manually.

Selection
- Auto acknowledge
- Manual acknowledge

Factory setting Auto acknowledge

Acknowledge parameter change

Navigation Application → PROFINET → Configuration → AcknParaChange

Description If the Option "Manual acknowledge" is selected as the acknowledgement type, then a parameter change must be acknowledged with the "Reset update event flag" option.

Selection
- No acknowledge
- Reset update event flag

Factory setting No acknowledge

Descriptor

Navigation Application → PROFINET → Configuration → Descriptor

Description Enter a description for the measuring point

User entry Character string comprising numbers, letters and special characters (54)

Analog input

Navigation Application → PROFINET → Analog input

Analog input 1 to 3

Navigation Application → PROFINET → Analog input → Analog input 1 to 3

Process value

Navigation Application → PROFINET → Analog input → Analog input 1 to 7 → Process value

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

User interface Signed floating-point number

Factory setting 0 mbar

Assign process variable

Navigation Application → PROFINET → Analog input → Analog input 1 to 7 → Assign variable

Description

User interface
- Pressure *
- Scaled variable *
- Sensor temperature
- Sensor pressure *
- Electronics temperature
- Median of pressure signal *
- Noise of pressure signal *

Factory setting Pressure

* Visibility depends on order options or device settings

Damping

Navigation Application → PROFINET → Analog input → Analog input 1 to 7 → Damping

Description Enter time constant for input damping (PT1 element). Damping reduces the effect of fluctuations in the measured value on the output signal.

User entry Positive floating-point number

Factory setting 1.0 s

Simulation value

Navigation Application → PROFINET → Analog input → Analog input 1 to 7 → Simulation value

Description Enter the simulation value for the selected process variable

User entry Signed floating-point number

Factory setting 0 mbar

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

Simulated status

Navigation Application → PROFINET → Analog input → Analog input 1 to 7 → Simulated status

Description To simulate a process status for this block. Possible input values can be taken from the PA profile used, see there under the chapter "Process variable status and diagnosis".

Examples for status values are:

0x80 (decimal 128) for status "GOOD".

0x24 (decimal 36) for status "BAD

User entry 0 to 255

Factory setting 60

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

Simulation

Navigation Application → PROFINET → Analog input → Analog input 1 to 7 → Simulation

Description Switch simulation of the analog input on or off (Off = 0, On <> 0)

User entry 0 to 255

Factory setting 0

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

Binary input

Navigation Application → PROFINET → Binary input

Binary input 1 to 2

Navigation Application → PROFINET → Binary input → Binary input 1 to 2

Controller input value

Navigation Application → PROFINET → Binary input → Binary input 1 to 2 → ControllInputVal

Description Shows for each device function the state reported to the controller for further processing

User interface 0 to 255

Factory setting 0

Simulation value

Navigation Application → PROFINET → Binary input → Binary input 1 to 2 → Simulation value

Description Enter the simulated state for each device function

User entry 0 to 255

Factory setting 0

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

Simulated status

Navigation Application → PROFINET → Binary input → Binary input 1 to 2 → Simulated status

Description Specify the status of the simulated state for each device function (Hex)

User entry 0 to 255

Factory setting 60

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

Simulation

Navigation Application → PROFINET → Binary input → Binary input 1 to 2 → Simulation

Description Switch simulation of the binary input on or off (Off = 0; On <> 0)

User entry 0 to 255

Factory setting 0

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

Binary output

Navigation Application → PROFINET → Binary output

Set point value

Navigation Application → PROFINET → Binary output → Set point value

User entry 0 to 255

Factory setting 0

BO block output value

Navigation Application → PROFINET → Binary output → BOBlockOutValue

Description Shows for each device function the state reported to the measuring device for further processing

User entry 0 to 255

Factory setting 0

Failure behavior

Navigation Application → PROFINET → Binary output → Failure behavior

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

Selection
- Fixed value
- Last valid value
- Actual value

Factory setting Fixed value

Failure behavior delay

Navigation Application → PROFINET → Binary output → FailBehavDelay

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

User entry Positive floating-point number

Factory setting 0 s

Fixed value

Navigation Application → PROFINET → Binary output → Fixed value

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

User entry 0 to 255

Factory setting 0

Information

Navigation Application → PROFINET → Information

Device ID

Navigation Application → PROFINET → Information → Device ID

User interface 0 to 65 535

Factory setting 41 514

PA profile version

Navigation Application → PROFINET → Information → PA profile vers.

User interface 0 to 65 535

Factory setting 0x402

Application relation

Navigation Application → PROFINET → Applicat. relat.

AR state

Navigation Application → PROFINET → Applicat. relat. → AR state

Description Shows whether an AR connection and a system redundancy have been established

User interface
- Active
- Not active
- Redundancy 1AR active
- Redundancy 2AR active

Factory setting Not active

MAC address IO controller

Navigation Application → PROFINET → Applicat. relat. → MAC IO contr.

Description Shows the MAC address of the only or of the primary IO controller

User interface Character string comprising numbers, letters and special characters

Factory setting 0x00

MAC address backup IO controller

Navigation Application → PROFINET → Applicat. relat. → MAC backup IO c.

Description Shows the MAC adress of the backup IO controller

User interface Character string comprising numbers, letters and special characters

Factory setting 0x00

IP address IO controller

Navigation Application → PROFINET → Applicat. relat. → IP IO controller

Description Shows the IP address of the only or of the primary IO controller

User interface Character string comprising numbers, letters and special characters

Factory setting 0x00

IP address backup IO controller

Navigation Application → PROFINET → Applicat. relat. → IP backup IO c.

Description Shows the IP adress of the backup IO controller

User interface Character string comprising numbers, letters and special characters

Factory setting 0x00

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 name for the measuring point to identify the measuring device in the plant

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

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.

'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
- Temporarily locked

Configuration counter

Navigation System → Device manag. → Config. counter

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

User interface 0 to 65 535

Factory setting 0

Reset device

Navigation System → Device manag. → Reset device

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

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

Factory setting Cancel

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

* Visibility depends on order options or device settings

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 9 999

Factory setting 0

Status password entry

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

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

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

Factory setting --------

Define password

Navigation System → User manag. → Define password

New password

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

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

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

Confirm new password

Navigation System → User manag. → Define password → Conf. new passw.

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 → Conf. new passw.

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 deliverd 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 Connectivity

Navigation System → Connectivity

Interfaces

Navigation System → Connectivity → Interfaces

Display operation

Navigation System → Connectivity → Interfaces → DisplayOperation

Selection
- Disable
- Enable

Factory setting Enable

Web server functionality

Navigation System → Connectivity → Interfaces → Webserver funct.

Description Switch the Web server on and off.

Selection
- Disable
- Enable

Factory setting Enable

Bluetooth activation

Navigation System → Connectivity → Interfaces → 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 Enable

Service (UART-CDI)

Navigation System → Connectivity → Interfaces → Service (CDI)

Selection
- Disable
- Enable

Factory setting Enable

Ethernet

Navigation System → Connectivity → Ethernet

MAC address

Navigation System → Connectivity → Ethernet → MAC Address

Description Shows the MAC address of the measuring device

User interface Character string comprising numbers, letters and special characters

IP address

Navigation System → Connectivity → Ethernet → IP address

Description Enter the IP address of the device. Then accept the change with "Apply ".

User entry Character string comprising numbers, letters and special characters (15)

Factory setting 192.168.1.212

Subnet mask

Navigation System → Connectivity → Ethernet → Subnet mask

Description Enter subnet mask of the measuring device. Then accept the change with "Apply ".

User entry Character string comprising numbers, letters and special characters (15)

Factory setting 255.255.255.0

Default gateway

Navigation System → Connectivity → Ethernet → Default gateway

Description Enter IP address for the default gateway of the measuring device. Then accept the change with "Apply ".

User entry Character string comprising numbers, letters and special characters (15)

Factory setting 0.0.0.0

Service IP active

Navigation System → Connectivity → Ethernet → Service IP act.

User interface
- No
- Yes

Factory setting No

Interface connection status

Navigation System → Connectivity → Ethernet → Interface status

User interface
- Connected
- Not connected

Factory setting Not connected

Interface speed

Navigation System → Connectivity → Ethernet → Interface speed

User interface Positive integer

Factory setting 0 MBaud

Duplex status

Navigation System → Connectivity → Ethernet → Duplex status

User interface
- Full duplex
- Half duplex
- Unknown

Factory setting Unknown

Auto negotiation status

Navigation System → Connectivity → Ethernet → Auto negot.stat.

User interface
- Idle
- In progress
- Completed
- Failed
- Speed detection failed

Factory setting Idle

Received packet number

Navigation System → Connectivity → Ethernet → RX packet no.

User interface Positive integer

Factory setting 0

Sent packet number

Navigation System → Connectivity → Ethernet → TX packet number

User interface Positive integer

Factory setting 0

Number of failed received packets

Navigation System → Connectivity → Ethernet → FailRcvdPackets

User interface Positive integer

Factory setting 0

Number of failed sent packets

Navigation System → Connectivity → Ethernet → FailTXPacketsNo.

User interface Positive integer

Factory setting 0

Reset Ethernet diagnostics

Navigation System → Connectivity → Ethernet → ResetEthernDiag.

Selection
- Cancel
- Reset

Factory setting Cancel

Signal to noise ratio

Navigation System → Connectivity → Ethernet → SNR

Description Shows the signal to noise ratio of the Ethernet-APL connection. A value >21dB is good and >23dB is excellent.

User interface Signed floating-point number

Factory setting 0 dB

Number of failed received packets

Navigation System → Connectivity → Ethernet → FailRXPacketsNo.

Description Shows the number of failed received packets.

User interface 0 to 65 535

Factory setting 0

Reset Ethernet diagnostics

Navigation System → Connectivity → Ethernet → ResetEthernDiag.

Selection
- Cancel
- Reset

Factory setting Cancel

Active TCP connections

Navigation System → Connectivity → Ethernet → Act. TCP connec.

User interface 0 to 65 535

Factory setting 0

Supported TCP connections

Navigation System → Connectivity → Ethernet → Supported TCP

User interface 0 to 65 535

Factory setting 0

TCP connection requests

Navigation System → Connectivity → Ethernet → TCPConnecRequest

User interface 0 to 65 535

Factory setting 0

TCP connection timeouts

Navigation System → Connectivity → Ethernet → TCPConnecTimeout

User interface 0 to 255

Factory setting 0

Number of TCP connections closed

Navigation System → Connectivity → Ethernet → TCPConnect.close

User interface 0 to 255

Factory setting 0

Number of received TCP packets

Navigation System → Connectivity → Ethernet → No.RX TCP Packet

User interface Positive integer

Factory setting 0

TCP sent packet number

Navigation System → Connectivity → Ethernet → TCP TX PacketNo.

User interface Positive integer

Factory setting 0

Number of TCP failed received packets

Navigation System → Connectivity → Ethernet → TCPFailRXPackets

User interface Positive integer

Factory setting 0

Reset Ethernet diagnostics

Navigation System → Connectivity → Ethernet → ResetEthernDiag.

Selection
- Cancel
- Reset

Factory setting Cancel

Available UDP ports

Navigation System → Connectivity → Ethernet → Avail. UDP ports

User interface Positive integer

Factory setting 0

UDP received packet number

Navigation System → Connectivity → Ethernet → UDP RX PacketNo.

User interface Positive integer

Factory setting 0

UDP sent packet number

Navigation System → Connectivity → Ethernet → UDP TX PacketNo.

User interface Positive integer

Factory setting 0

Number of UDP failed received packets

Navigation System → Connectivity → Ethernet → UDPFailRXPackets

User interface Positive integer

Factory setting 0

Reset Ethernet diagnostics

Navigation System → Connectivity → Ethernet → ResetEthernDiag.

Selection
- Cancel
- Reset

Factory setting Cancel

3.4.4 Display

Navigation System → Display

Language

Navigation System → Display → Language

Prerequisite A local display is provided.

Description Use this function to select the configured language on the local display.

Selection
- English
- Deutsch
- Français
- Español
- Italiano
- Nederlands
- Portuguesa
- Polski
- русский язык (Russian)
- Svenska
- Türkçe
- 中文 (Chinese)
- 日本語 (Japanese)
- 한국어 (Korean)

- Bahasa Indonesia
- tiếng Việt (Vietnamese)
- čeština (Czech)

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

Format display

Navigation System → Display → Format display

Description Select how measured values are shown on the display

Selection
- 1 value, max. size
- 2 values

Factory setting 1 value, max. size

Value 1 display

Navigation System → Display → Value 1 display

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

Selection
- Pressure
- Scaled variable
- Sensor temperature

Factory setting Pressure

Value 2 ... 4 display

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

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

Selection
- None
- Pressure
- Scaled variable
- Sensor temperature

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 Date/time

Navigation System → Date/time

Date/time

Navigation	System → Date/time → Date/time
Description	Displays the date and time entered.
User interface	Character string comprising numbers, letters and special characters
Factory setting	2025-01-01 00:00:00

Time zone

Navigation	System → Date/time → Time zone
Description	Select the time zone. Every time the time zone is changed, a logbook entry is created.

Selection

Other units
- UTC-12:00
- UTC-11:00
- UTC-10:00
- UTC-09:30
- UTC-09:00
- UTC-08:00
- UTC-07:00
- UTC-06:00
- UTC-05:00
- UTC-04:00
- UTC-03:30
- UTC-03:00
- UTC-02:30
- UTC-02:00
- UTC-01:00
- UTC 00:00
- UTC+01:00
- UTC+02:00
- UTC+03:00
- UTC+03:30
- UTC+04:00
- UTC+04:30
- UTC+05:00
- UTC+05:30
- UTC+05:45
- UTC+06:00
- UTC+06:30
- UTC+07:00
- UTC+08:00
- UTC+08:45
- UTC+09:00
- UTC+09:30
- UTC+10:00
- UTC+10:30
- UTC+11:00
- UTC+12:00
- UTC+12:45
- UTC+13:00
- UTC+13:45
- UTC+14:00

Factory setting UTC 00:00

Enable NTP

Navigation System → Date/time → Enable NTP

Selection
- No
- Yes

Factory setting No

NTP server address

Navigation System → Date/time → NTP server add.

Description IP address of the NTP server.

User entry Character string comprising numbers, letters and special characters (64)

Factory setting 192.168.1.1

Clock synchronized

Navigation System → Date/time → Clock synch.

Description Timestamp of last synchronization with an NTP server.

User interface Character string comprising numbers, letters and special characters

Factory setting ----------

3.4.6 Geolocation

Navigation System → Geolocation

Location description

Navigation System → Geolocation → Location descr.

Description Enter a description for the location

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

Factory setting somewhere

Longitude

Navigation System → Geolocation → Longitude

Description Enter the longitude.

User entry −180 to 180 °

Factory setting 0 °

Latitude

Navigation System → Geolocation → Latitude

Description Enter latitude

User entry –90 to 90 °

Factory setting 0 °

Altitude

Navigation System → Geolocation → Altitude

Description Enter altitude

User entry Signed floating-point number

Factory setting 0 m

3.4.7 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

3.4.8 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: -

3.4.9 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
- Heartbeat Verification
- Heartbeat Monitoring

Factory setting T_HeartbeatVerificationT_HeartbeatMonitoring

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