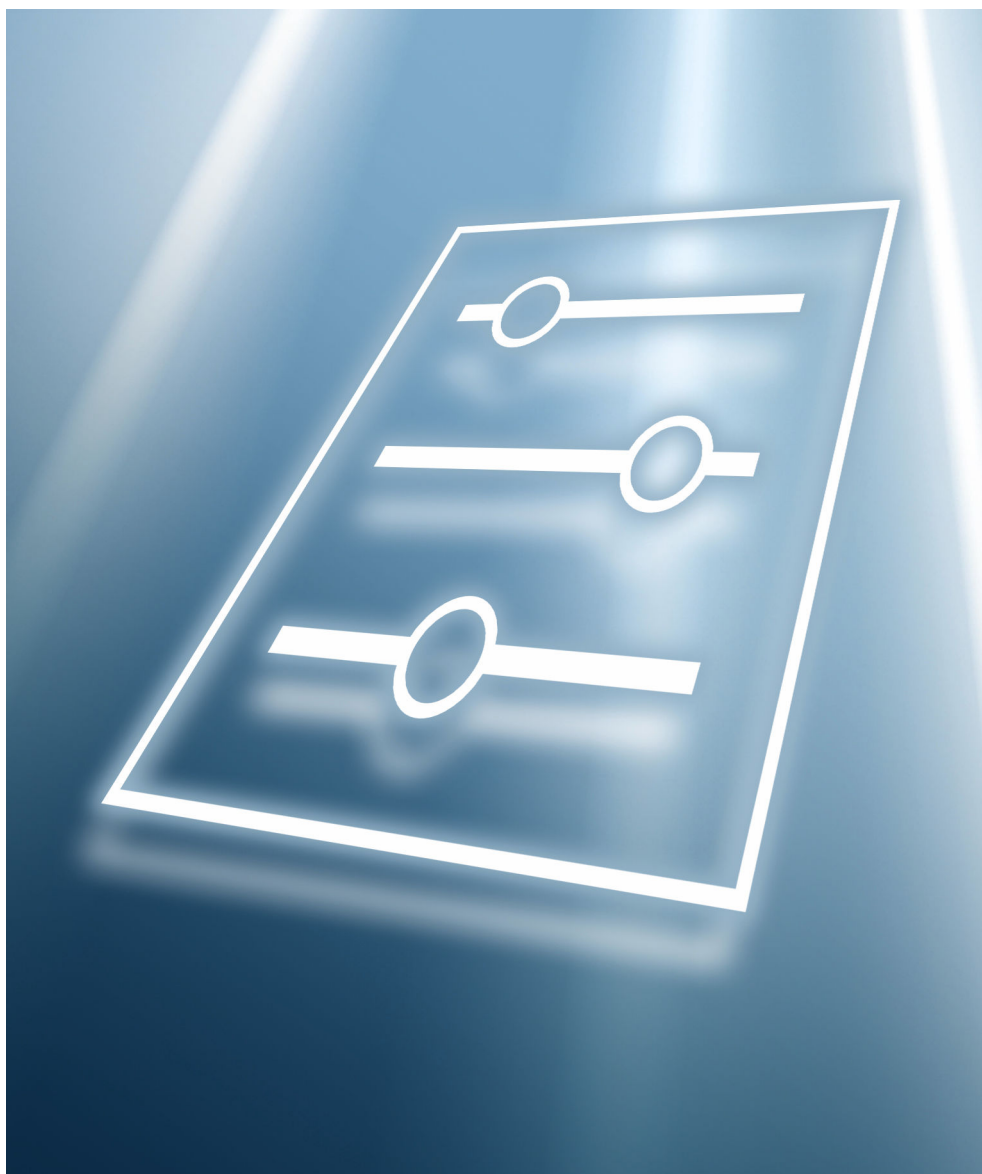


# Description of Device Parameters

## Cerabar PMP51B

Process pressure measurement  
HART





# Table of contents

- 1     About this document ..... 4**
  - 1.1 Document function ..... 4
  - 1.2 Target group ..... 4
  - 1.3 Using this document ..... 4
  - 1.4 Symbols used ..... 5
  - 1.5 Documentation ..... 5
  
- 2     Overview of the operating menu ..... 6**
  
- 3     Description of device parameters ... 21**
  - 3.1 User navigation ..... 21
  - 3.2 "Guidance" menu ..... 23
  - 3.3 "Diagnostics" menu ..... 44
  - 3.4 "Application" menu ..... 65
  - 3.5 "System" menu ..... 96
  
- Index ..... 110**

# 1 About this document

## 1.1 Document function

The document is part of the Operating Instructions and serves as a reference for parameters. The document provides a detailed explanation of each individual parameter.

Performance of tasks that require detailed knowledge of the functioning of the device:

- Commissioning measurements under difficult conditions
- Optimal adaptation of the measurement to difficult conditions
- Detailed configuration of the communication interface
- Error diagnostics in difficult cases

## 1.2 Target group

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

## 1.3 Using this document

### 1.3.1 Information on the document structure

This document lists the submenus and parameters that are available when the **"Maintenance" option** user role is enabled.



For the operating concept of the operating menus, see the Operating Instructions.

### 1.3.2 Structure of a parameter description

The individual parts of a parameter description are described in the following section:

- Navigation: Navigation path to the parameter via the local display
- Prerequisite: The parameter is only available under these specific conditions
- Description: Description of the parameter function
- Selection: List of the individual options for the parameter
- User entry: Input range for the parameter
- User interface: Display value/data of the parameter
- Additional information:
  - On individual options
  - On display values/data
  - On the input range
  - On the factory setting
  - On the parameter function

## 1.4 Symbols used

### 1.4.1 Symbols for certain types of Information

Additional information: 

Reference to documentation: 

Operation via local display: 

Operation via operating tool: 

Write-protected parameter: 

## 1.5 Documentation

### 1.5.1 Standard documentation

#### Operating Instructions

 The Operating Instructions are available via the Internet: [www.endress.com](http://www.endress.com) →  
Download

### 1.5.2 Supplementary device-dependent documentation

#### Special Documentation

 The Special Documentation is available via the Internet: [www.endress.com](http://www.endress.com) →  
Download

## 2 Overview of the operating menu

|                           |      |
|---------------------------|------|
| Guidance                  | → 21 |
| ► Commissioning           | → 23 |
| ► Device identification   | → 23 |
| Device tag                | → 23 |
| Device name               | → 23 |
| Serial number             | → 23 |
| Extended order code 1     | → 24 |
| Extended order code 2     | → 24 |
| Extended order code 3     | → 24 |
| ► Device identification   | → 25 |
| Locking status            | → 25 |
| ► Device identification   | → 26 |
| HART short tag            | → 26 |
| HART date code            | → 26 |
| HART descriptor           | → 26 |
| HART message              | → 26 |
| HART address              | → 27 |
| ► Measurement adjustments | → 27 |
| Assign PV                 | → 27 |
| Damping                   | → 27 |
| ► Measurement adjustments | → 28 |
| Pressure unit             | → 28 |
| Temperature unit          | → 28 |
| ► Measurement adjustments | → 29 |

|                                   |      |
|-----------------------------------|------|
| Pressure unit                     | → 29 |
| Scaled variable unit              | → 29 |
| Free text                         | → 30 |
| Temperature unit                  | → 30 |
| ► Measurement adjustments         | → 31 |
| Zero adjustment                   | → 31 |
| Pressure                          | → 32 |
| ► Output settings                 | → 32 |
| Output current transfer function  | → 32 |
| ► Output settings                 | → 32 |
| Scaled variable transfer function | → 32 |
| ► Output settings                 | → 33 |
| Lower Range Limit                 | → 33 |
| Upper Range Limit                 | → 33 |
| Minimum span                      | → 33 |
| ► Output settings                 | → 34 |
| Pressure                          | → 34 |
| Scaled variable                   | → 34 |
| ► Output settings                 | → 34 |
| Lower range value output          | → 34 |
| Upper range value output          | → 34 |
| Lower Range Limit                 | → 35 |
| Upper Range Limit                 | → 35 |
| Minimum span                      | → 35 |
| ► Output settings                 | → 35 |

|                                   |      |
|-----------------------------------|------|
| Scaled variable transfer function | → 35 |
| Pressure value 1                  | → 36 |
| Scaled variable value 1           | → 36 |
| Pressure value 2                  | → 36 |
| Scaled variable value 2           | → 36 |
| Lower Range Limit                 | → 37 |
| Upper Range Limit                 | → 37 |
| Minimum span                      | → 37 |
| ► Output settings                 | → 37 |
| Lower range value output          | → 37 |
| Upper range value output          | → 38 |
| Current range output              | → 38 |
| Failure behavior current output   | → 38 |
| Failure current                   | → 38 |
| Loop current mode                 | → 39 |
| Assign HART variables?            | → 39 |
| ► Output settings                 | → 39 |
| Process variable output current   | → 39 |
| Current range output              | → 40 |
| Lower range value output          | → 40 |
| Upper range value output          | → 40 |
| Failure behavior current output   | → 40 |
| Failure current                   | → 41 |



|                                      |      |
|--------------------------------------|------|
| Loop current mode                    | → 41 |
| Assign HART variables?               | → 41 |
| ► Output settings                    | → 41 |
| Assign PV                            | → 41 |
| Assign SV                            | → 42 |
| Assign TV                            | → 42 |
| Assign QV                            | → 43 |
| Diagnostics                          | → 44 |
| ► Active diagnostics                 | → 44 |
| Active diagnostics                   | → 44 |
| Timestamp                            | → 44 |
| Previous diagnostics                 | → 45 |
| Timestamp                            | → 45 |
| Operating time from restart          | → 45 |
| Operating time                       | → 46 |
| ► Event logbook                      | → 46 |
| Filter options                       | → 46 |
| ► Minimum/maximum values             | → 47 |
| Pressure min                         | → 47 |
| Counter limit underruns sensor Pmin  | → 47 |
| Counter underruns of user limit Pmin | → 47 |
| Minimum sensor temperature           | → 48 |
| Counter limit underruns sensor Tmin  | → 48 |
| Counter underruns of user limit Tmin | → 48 |
| Minimum terminal voltage             | → 48 |

|                                     |      |
|-------------------------------------|------|
| Minimum electronics temperature     | → 48 |
| Reset user defined counters P and T | → 49 |
| Pressure max                        | → 49 |
| Counter limit overruns sensor Pmax  | → 49 |
| Counter overruns of user limit Pmax | → 49 |
| Maximum sensor temperature          | → 49 |
| Counter limit overruns sensor Tmax  | → 50 |
| Counter overruns of user limit Tmax | → 50 |
| Maximum terminal voltage            | → 50 |
| Maximum electronics temperature     | → 50 |
| <b>► Simulation</b>                 | → 51 |
| Simulation                          | → 51 |
| Value pressure simulation           | → 51 |
| Value current output                | → 51 |
| Diagnostic event simulation         | → 51 |
| <b>► Diagnostic settings</b>        | → 52 |
| <b>► Properties</b>                 | → 52 |
| SSD Out of range delay time         | → 52 |
| SSD Monitoring delay time           | → 52 |
| 500 Process alert pressure          | → 52 |
| Low alert value                     | → 53 |
| High alert value                    | → 53 |
| 501 Process alert scaled variable   | → 53 |
| Low alert value                     | → 53 |
| High alert value                    | → 54 |

|                                |      |
|--------------------------------|------|
| User temperature process alert | → 54 |
| Low alert value                | → 54 |
| High alert value               | → 54 |
| 806 Diagnostic behavior        | → 55 |
| 806 Diagnostic behavior        | → 55 |
| 806 Event category             | → 55 |
| 806 Event category             | → 55 |
| 806 Event delay                | → 55 |
| ► Configuration                | → 56 |
| ► Configuration                | → 56 |
| 500 Diagnostic behavior        | → 56 |
| 500 Diagnostic behavior        | → 56 |
| 500 Diagnostic behavior        | → 56 |
| 500 Diagnostic behavior        | → 56 |
| 500 Event category             | → 56 |
| 500 Event category             | → 56 |
| 500 Event category             | → 56 |
| 500 Event category             | → 56 |
| 501 Diagnostic behavior        | → 56 |
| 501 Diagnostic behavior        | → 56 |
| 501 Diagnostic behavior        | → 56 |
| 501 Diagnostic behavior        | → 56 |
| 501 Event category             | → 57 |
| 501 Event category             | → 57 |
| 501 Event category             | → 57 |

|                                |                                                                                            |
|--------------------------------|--------------------------------------------------------------------------------------------|
| 501 Event category             | →  57   |
| 502 Diagnostic behavior        | →  57   |
| 502 Diagnostic behavior        | →  57   |
| 502 Diagnostic behavior        | →  57   |
| 502 Diagnostic behavior        | →  57   |
| 502 Event category             | →  57   |
| 502 Event category             | →  57   |
| 502 Event category             | →  57   |
| 502 Event category             | →  57   |
| ► Process                      | →  58   |
| 806 Diagnostic behavior        | →  58 |
| 806 Diagnostic behavior        | →  58 |
| 806 Diagnostic behavior        | →  58 |
| 806 Diagnostic behavior        | →  58 |
| 806 Diagnostic behavior        | →  58 |
| 806 Diagnostic behavior        | →  58 |
| 806 Event category             | →  58 |
| 806 Event category             | →  58 |
| 806 Event category             | →  58 |
| 806 Event category             | →  58 |
| 806 Event category             | →  58 |
| 806 Event category             | →  58 |
| 822 Diagnostic behavior        | →  58 |
| 822 Event category             | →  59 |
| Sensor pressure range behavior | →  59 |

|                                |                         |      |
|--------------------------------|-------------------------|------|
|                                | 841 Event category      | → 59 |
|                                | 900 Event category      | → 60 |
|                                | 900 Event category      | → 60 |
|                                | 900 Event category      | → 60 |
|                                | 900 Event category      | → 60 |
|                                | 900 Diagnostic behavior | → 60 |
|                                | 900 Diagnostic behavior | → 60 |
|                                | 900 Diagnostic behavior | → 60 |
|                                | 900 Diagnostic behavior | → 60 |
|                                | 906 Diagnostic behavior | → 60 |
|                                | 906 Diagnostic behavior | → 60 |
|                                | 906 Diagnostic behavior | → 60 |
|                                | 906 Diagnostic behavior | → 60 |
|                                | 906 Event category      | → 60 |
|                                | 906 Event category      | → 60 |
|                                | 906 Event category      | → 60 |
|                                | 906 Event category      | → 60 |
| <b>Application</b>             |                         | → 65 |
| <b>► Measuring units</b>       |                         | → 65 |
| Pressure unit                  |                         | → 65 |
| Decimal places pressure        |                         | → 65 |
| Temperature unit               |                         | → 65 |
| Scaled variable unit           |                         | → 66 |
| Free text                      |                         | → 67 |
| Decimal places scaled variable |                         | → 67 |

|                                  |      |
|----------------------------------|------|
| ► Measured values                | → 68 |
| Pressure                         | → 68 |
| Scaled variable                  | → 68 |
| Sensor temperature               | → 68 |
| Terminal voltage 1               | → 68 |
| Terminal current                 | → 69 |
| Electronics temperature          | → 69 |
| ► Sensor                         | → 69 |
| ► Basic settings                 | → 69 |
| Output current transfer function | → 69 |
| Damping                          | → 70 |
| ► Sensor calibration             | → 70 |
| Zero adjustment                  | → 70 |
| Calibration offset               | → 70 |
| Zero adjustment offset           | → 71 |
| Sensor Trim Reset                | → 71 |
| Lower sensor trim measured value | → 71 |
| Lower sensor trim                | → 72 |
| Upper sensor trim measured value | → 72 |
| Upper sensor trim                | → 73 |
| ► Sensor limits                  | → 73 |
| Lower Range Limit                | → 73 |
| Upper Range Limit                | → 73 |
| Minimum span                     | → 74 |

|                                      |                                                                                            |
|--------------------------------------|--------------------------------------------------------------------------------------------|
| Sensor temperature lower range limit | →  74   |
| Sensor temperature upper range limit | →  74   |
| ► Scaled variable                    | →  74   |
| Assign PV                            | →  74   |
| Scaled variable unit                 | →  75   |
| Free text                            | →  75   |
| Pressure                             | →  76   |
| Scaled variable transfer function    | →  76   |
| Lower range value output             | →  76   |
| Upper range value output             | →  76   |
| Activate table                       | →  77   |
| Pressure value 1                     | →  77 |
| Scaled variable value 1              | →  77 |
| Pressure value 2                     | →  77 |
| Scaled variable value 2              | →  77 |
| Pressure                             | →  78 |
| Scaled variable                      | →  78 |
| ► Wet calibration                    | →  78 |
| Zero                                 | →  78 |
| Pressure value 1                     | →  78 |
| Span                                 | →  78 |
| Pressure value 2                     | →  79 |
| Zero                                 | →  78 |
| Lower range value output             | →  79 |

|                                 |      |
|---------------------------------|------|
| Span                            | → 78 |
| Upper range value output        | → 79 |
| ► Current output                | → 81 |
| Assign PV                       | → 81 |
| Measuring mode current output   | → 81 |
| Current range output            | → 81 |
| Lower range value output        | → 82 |
| Upper range value output        | → 82 |
| Failure behavior current output | → 82 |
| Failure current                 | → 82 |
| Output current                  | → 83 |
| Terminal current                | → 83 |
| ► HART output                   | → 84 |
| ► Configuration                 | → 84 |
| HART address                    | → 84 |
| HART short tag                  | → 84 |
| Device tag                      | → 84 |
| No. of preambles                | → 85 |
| Loop current mode               | → 85 |
| ► HART output                   | → 85 |
| Assign PV                       | → 85 |
| Primary variable (PV)           | → 85 |
| Assign SV                       | → 86 |
| Secondary variable (SV)         | → 86 |
| Assign TV                       | → 86 |



|                                |      |
|--------------------------------|------|
| Tertiary variable (TV)         | → 87 |
| Assign QV                      | → 87 |
| Quaternary variable (QV)       | → 88 |
| <b>► Burst configuration 1</b> | → 88 |
| Burst mode 1                   | → 88 |
| Burst command 1                | → 89 |
| Burst variable 0               | → 89 |
| Burst variable 1               | → 90 |
| Burst variable 2               | → 90 |
| Burst variable 3               | → 90 |
| Burst variable 4               | → 90 |
| Burst variable 5               | → 91 |
| Burst variable 6               | → 91 |
| Burst variable 7               | → 91 |
| Burst trigger mode             | → 91 |
| Burst trigger level            | → 92 |
| Min. update period             | → 92 |
| Max. update period             | → 92 |
| <b>► Information</b>           | → 93 |
| Device ID                      | → 93 |
| Device type                    | → 93 |
| Device revision                | → 93 |
| HART short tag                 | → 94 |
| HART revision                  | → 94 |
| HART descriptor                | → 94 |

|                            |       |
|----------------------------|-------|
| HART message               | → 94  |
| HART date code             | → 95  |
| <b>System</b>              | → 96  |
| <b>► Device management</b> | → 96  |
| Device tag                 | → 96  |
| Locking status             | → 96  |
| Configuration counter      | → 97  |
| Reset device               | → 97  |
| <b>► User management</b>   | → 98  |
| User role                  | → 98  |
| Password                   | → 98  |
| Enter access code          | → 98  |
| Status password entry      | → 99  |
| New password               | → 99  |
| Confirm new password       | → 99  |
| Status password entry      | → 99  |
| Old password               | → 99  |
| New password               | → 99  |
| Confirm new password       | → 99  |
| Status password entry      | → 99  |
| Reset password             | → 100 |
| Status password entry      | → 99  |
| Old password               | → 99  |
| Status password entry      | → 99  |
| <b>► Display</b>           | → 100 |

|                       |                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------|
| Language              | →  100   |
| Format display        | →  101   |
| Value 1 display       | →  101   |
| Value 2 display       | →  102   |
| Value 3 display       | →  102   |
| Value 4 display       | →  103   |
| Contrast display      | →  103   |
| <b>► Geolocation</b>  | →  104   |
| Process Unit Tag      | →  104   |
| Location Description  | →  104   |
| Longitude             | →  104   |
| Latitude              | →  104 |
| Altitude              | →  105 |
| Location method       | →  105 |
| <b>► Information</b>  | →  105 |
| Device name           | →  105 |
| Manufacturer          | →  106 |
| Serial number         | →  106 |
| Order code            | →  106 |
| Firmware version      | →  107 |
| Hardware version      | →  107 |
| Extended order code 1 | →  107 |
| Extended order code 2 | →  107 |

|                          |       |
|--------------------------|-------|
| Extended order code 3    | → 108 |
| Checksum                 | → 108 |
| ► Software configuration | → 108 |
| Activate SW option       | → 108 |
| Software option overview | → 109 |

## 3 Description of device parameters

In the following section, the parameters are listed according to the menu structure of the operating tool.

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

### 3.1 User navigation

The Guidance main menu contains functions which enable users to perform basic tasks swiftly, e.g. commissioning.

These are primarily guided wizards and cross-subject special functions.

Navigation  Guidance

#### 3.1.1 Overview of the operating menu

##### "Guidance" menu

Commissioning (→  23)

##### "Diagnostics" menu

- Active diagnostics (→  44)
- Event logbook (→  46)
- Minimum/maximum values (→  47)
- Simulation (→  51)
- Diagnostic settings (→  52)

##### "Application" menu

- Measuring units (→  65)
- Measured values (→  68)
- Sensor (→  69)
- Current output (→  81)
- HART output (→  84)

##### "System" menu

- Device management (→  96)
- User management (→  98)
- Bluetooth configuration
- Display (→  100)
- Geolocation (→  104)
- Information (→  93)
- Software configuration (→  108)

### 3.1.2 Commissioning

Run this wizard to put the device into operation. Enter the appropriate value in each parameter or select the appropriate option.

 If the wizard is canceled before all the necessary parameters have been configured, any settings already made are saved. For this reason, the device may then be in an undefined state!

In such situations, it is advisable to reset the device to the factory default settings.

**The following parameters are configured in the Commissioning wizard:**

- Device identification (→  23)
  - Device tag (→  23)
  - Device name (→  23)
  - Serial number (→  23)
  - Extended order code 1 (→  24)
  - Extended order code 2 (→  24)
  - Extended order code 3 (→  24)
  - Locking status (→  25)
  - HART short tag (→  26)
  - HART date code (→  26)
  - HART descriptor (→  26)
  - HART message (→  26)
  - HART address (→  27)
- Measurement adjustments (→  27)
  - Assign PV (→  27)
  - Damping (→  27)
  - Pressure unit (→  28)
  - Temperature unit (→  28)
  - Scaled variable unit (→  29)
  - Zero adjustment (→  31)
  - Pressure (→  32)
- Output settings (→  32)
  - Output current transfer function (→  32)
  - Lower Range Limit (→  33)
  - Upper Range Limit (→  33)
  - Minimum span (→  33)
  - Pressure (→  34)
  - Scaled variable (→  34)
  - Lower range value output (→  34)
  - Upper range value output (→  34)
  - Scaled variable transfer function (→  32)
  - Pressure value 1 (→  36)
  - Current range output (→  38)
  - Failure behavior current output (→  38)
  - Failure current (→  38)
  - Loop current mode (→  39)
  - Assign HART variables? (→  39)
  - Process variable output current (→  39)
  - Assign PV (→  27)
  - Assign SV (→  42)
  - Assign TV (→  42)
  - Assign QV (→  43)

## 3.2 "Guidance" menu

Navigation  Guidance

### 3.2.1 "Commissioning" wizard

Navigation  Guidance → Commissioning

#### "Device identification" wizard

Navigation  Guidance → Commissioning → Device ident.

| Device tag       |                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation                                                                                          |  Guidance → Commissioning → Device ident. → 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)                                                                                                                                           |
| Device name                                                                                         |                                                                                                                                                                                                                    |
| Navigation                                                                                          |  Guidance → Commissioning → Device ident. → Device name                                                                         |
| Description                                                                                         | Displays the name of the transmitter. It can also be found on the nameplate of the transmitter.                                                                                                                    |
| User interface                                                                                      | Max. 32 characters such as letters or numbers.                                                                                                                                                                     |
| Serial number  |                                                                                                                                                                                                                    |
| Navigation                                                                                          |  Guidance → Commissioning → Device ident. → Serial number                                                                       |
| Description                                                                                         | Displays the serial number of the measuring device.<br> The number can be found on the nameplate of the sensor and transmitter. |
| User interface                                                                                      | Max. 11-digit character string comprising letters and numbers.                                                                                                                                                     |

**Additional information** *Description***Uses of the serial number**

- To identify the measuring device quickly, e.g. when contacting Endress+Hauser.
- To obtain specific information on the measuring device using the Device Viewer: [www.endress.com/deviceviewer](http://www.endress.com/deviceviewer)

**Extended order code 1****Navigation**

Guidance → Commissioning → Device ident. → 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

**Factory setting**

–

**Additional information** *Description*

The extended order code indicates the version of all the features of the product structure for the measuring device and thus uniquely identifies the measuring device.

**Extended order code 2****Navigation**

Guidance → Commissioning → Device ident. → Ext. order cd. 2

**Description**

The extended order code is an alphanumeric code containing all information to identify the device and its options.



The extended order code can also be found on the nameplate of the sensor and transmitter in the "Ext. ord. cd." field.

**User interface**

Character string

**Factory setting**

–

**Extended order code 3****Navigation**

Guidance → Commissioning → Device ident. → Ext. order cd. 3

**Description**

The extended order code is an alphanumeric code containing all information to identify the device and its options.



The extended order code can also be found on the nameplate of the sensor and transmitter in the "Ext. ord. cd." field.

**User interface**

Character string



**Factory setting**

–

**"Device identification" wizard***Navigation*

Guidance → Commissioning → Device ident.

**Locking status****Navigation**

Guidance → Commissioning → Device ident. → Locking status

**Description**

Displays the active write protection.

**User interface**

- Hardware locked
- Safety locked
- Temporarily locked

**Additional information***User interface*

If two or more types of write protection are active, the write protection with the highest priority is shown on the local display. In the operating tool all active types of write protection are displayed.



Detailed information on access authorization is provided in the "User roles and associated access authorization" and "Operating concept" sections of the Operations Instructions for the device.

*Selection**Function scope of the "Locking status" parameter*

| Options            | Description                                                                                                                                                                                                           |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| None               | The access status displayed in the <b>Access status display</b> parameter applies. Only appears on local display.                                                                                                     |
| Hardware locked    | The DIP switch for hardware locking is activated on the main electronics module. This prevents write access to the parameters (e.g. via the local display or operating tool).                                         |
| Temporarily locked | Write access to the parameters is temporarily locked due to device-internal processing (e.g. data upload/download, reset). Once the internal processing has been completed, the parameters can be changed once again. |

**"Device identification" wizard**

*Navigation*  Guidance → Commissioning → Device ident.

**HART short tag**

|                    |                                                                                                                                                        |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Guidance → Commissioning → Device ident. → HART short tag            |
| <b>Description</b> | <p>Defines the short tag for the measuring point.</p> <p>Maximum length: 8 characters<br/>Allowed characters: A-Z, 0-9, certain special characters</p> |
| <b>User entry</b>  | Max. 8 characters: A to Z, 0 to 9 and certain special characters (e.g. punctuation marks, @, %).                                                       |

**HART date code**

|                               |                                                                                                                                                                                                                                               |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             |  Guidance → Commissioning → Device ident. → HART date code                                                                                                 |
| <b>Description</b>            | Date of the last configuration change                                                                                                                                                                                                         |
| <b>User entry</b>             | Character string comprising numbers, letters and special characters (10)                                                                                                                                                                      |
| <b>Additional information</b> | <p>Date format: YYYY-MM-DD</p> <p> Make sure you adhere to this format when entering the date. Otherwise errors may occur in individual HART commands.</p> |

**HART descriptor**

|                    |                                                                                                                                                |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Guidance → Commissioning → Device ident. → HART descriptor |
| <b>Description</b> | Description for the measuring point.                                                                                                           |
| <b>User entry</b>  | Character string comprising numbers, letters and special characters (16)                                                                       |

**HART message**

|                    |                                                                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Guidance → Commissioning → Device ident. → HART message |
| <b>Description</b> | A HART message which is sent via the HART protocol when requested by the master.                                                            |
| <b>User entry</b>  | Character string comprising numbers, letters and special characters (32)                                                                    |

---

**HART address**


---

**Navigation**

Guidance → Commissioning → Device ident. → HART address

**Description**

Define the HART address of the device.

**User entry**

0 to 63

**Additional information**

- The measured value can only be transmitted via the current value if the address is set to "0". The current is fixed at 4.0 mA for all other addresses (Multidrop mode).
- Only addresses in the range 0 to 15 are permitted for a system according to HART 5.0.
- All addresses in the range 0 to 63 are permitted for a system with HART 6.0 and higher.

**"Measurement adjustments" wizard**
*Navigation* Guidance → Commissioning → Meas. adjust.

---

**Assign PV**


---

**Navigation**

Guidance → Commissioning → Meas. adjust. → Assign PV

**Description**

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

**Selection**

- Pressure
- Scaled variable

---

**Damping**


---

**Navigation**

Guidance → Commissioning → Meas. adjust. → 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

"Measurement adjustments" wizard

Navigation  Guidance → Commissioning → Meas. adjust.

Pressure unit 

Navigation  Guidance → Commissioning → Meas. adjust. → Pressure unit

| Selection | SI units                                                                                                                                                                      | US units                                            | Other units                                                                                                                                                                                           |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | <ul style="list-style-type: none"><li>■ MPa</li><li>■ kPa</li><li>■ Pa</li><li>■ bar</li><li>■ mbar</li><li>■ torr</li><li>■ atm</li><li>■ kgf/cm²</li><li>■ gf/cm²</li></ul> | <ul style="list-style-type: none"><li>psi</li></ul> | <ul style="list-style-type: none"><li>■ inH2O</li><li>■ inH2O (4°C)</li><li>■ mmH2O</li><li>■ mmH2O (4°C)</li><li>■ mH2O</li><li>■ mH2O (4°C)</li><li>■ ftH2O</li><li>■ inHg</li><li>■ mmHg</li></ul> |

Temperature unit 

Navigation  Guidance → Commissioning → Meas. adjust. → Temperature unit

Description Use this function to select the unit for the temperature.

| Selection | SI units                                                         | US units                                           |
|-----------|------------------------------------------------------------------|----------------------------------------------------|
|           | <ul style="list-style-type: none"><li>■ °C</li><li>■ K</li></ul> | <ul style="list-style-type: none"><li>°F</li></ul> |

Factory setting Country-specific:

- °C
- °F

Additional information Selection

"Measurement adjustments" wizard

Navigation  Guidance → Commissioning → Meas. adjust.

Pressure unit 

Navigation  Guidance → Commissioning → Meas. adjust. → Pressure unit

| Selection | SI units                                                                                                                                                                                            | US units                                            | Other units                                                                                                                                                                                           |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | <ul style="list-style-type: none"><li>■ MPa</li><li>■ kPa</li><li>■ Pa</li><li>■ bar</li><li>■ mbar</li><li>■ torr</li><li>■ atm</li><li>■ kgf/cm<sup>2</sup></li><li>■ gf/cm<sup>2</sup></li></ul> | <ul style="list-style-type: none"><li>psi</li></ul> | <ul style="list-style-type: none"><li>■ inH2O</li><li>■ inH2O (4°C)</li><li>■ mmH2O</li><li>■ mmH2O (4°C)</li><li>■ mH2O</li><li>■ mH2O (4°C)</li><li>■ ftH2O</li><li>■ inHg</li><li>■ mmHg</li></ul> |

Scaled variable unit 

Navigation  Guidance → Commissioning → Meas. adjust. → 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                                                                                                                       |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|           | <ul style="list-style-type: none"> <li>■ %</li> <li>■ mm</li> <li>■ cm</li> <li>■ m</li> <li>■ l</li> <li>■ hl</li> <li>■ m<sup>3</sup></li> <li>■ g</li> <li>■ kg</li> <li>■ t</li> <li>■ g/s</li> <li>■ kg/s</li> <li>■ kg/min</li> <li>■ kg/h</li> <li>■ t/min</li> <li>■ t/h</li> <li>■ t/d</li> <li>■ m<sup>3</sup>/s</li> <li>■ m<sup>3</sup>/min</li> <li>■ m<sup>3</sup>/h</li> <li>■ m<sup>3</sup>/d</li> <li>■ l/s</li> <li>■ l/min</li> <li>■ l/h</li> <li>■ Nm<sup>3</sup>/h</li> <li>■ NI/h</li> <li>■ Sm<sup>3</sup>/s</li> <li>■ Sm<sup>3</sup>/min</li> <li>■ Sm<sup>3</sup>/h</li> <li>■ Sm<sup>3</sup>/d</li> <li>■ Nm<sup>3</sup>/s</li> <li>■ g/cm<sup>3</sup></li> <li>■ kg/m<sup>3</sup></li> <li>■ Nm<sup>3</sup>/min</li> <li>■ Nm<sup>3</sup>/d</li> </ul> | <ul style="list-style-type: none"> <li>■ ft</li> <li>■ in</li> <li>■ ft<sup>3</sup></li> <li>■ gal (us)</li> <li>■ bbl (us;oil)</li> <li>■ oz</li> <li>■ lb</li> <li>■ STon</li> <li>■ lb/s</li> <li>■ lb/min</li> <li>■ lb/h</li> <li>■ STon/min</li> <li>■ STon/h</li> <li>■ STon/d</li> <li>■ ft<sup>3</sup>/s</li> <li>■ ft<sup>3</sup>/min</li> <li>■ ft<sup>3</sup>/h</li> <li>■ ft<sup>3</sup>/d</li> <li>■ gal/s (us)</li> <li>■ gal/min (us)</li> <li>■ gal/h (us)</li> <li>■ gal/d (us)</li> <li>■ bbl/s (us;oil)</li> <li>■ bbl/min (us;oil)</li> <li>■ bbl/h (us;oil)</li> <li>■ bbl/d (us;oil)</li> <li>■ Sft<sup>3</sup>/min</li> <li>■ Sft<sup>3</sup>/h</li> <li>■ Sft<sup>3</sup>/d</li> </ul> | <ul style="list-style-type: none"> <li>■ gal (imp)</li> <li>■ gal/s (imp)</li> <li>■ gal/min (imp)</li> <li>■ gal/h (imp)</li> </ul> |
|           | <p><i>Custom-specific units</i></p> <p>Free text</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                      |

## Free text



## Navigation



Guidance → Commissioning → Meas. adjust. → Free text

## User entry

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

## Temperature unit



## Navigation



Guidance → Commissioning → Meas. adjust. → Temperature unit

## Description

Use this function to select the unit for the temperature.

|                        |                   |                 |
|------------------------|-------------------|-----------------|
| Selection              | <i>SI units</i>   | <i>US units</i> |
|                        | ■ °C<br>■ K       | °F              |
| Factory setting        | Country-specific: |                 |
|                        | ■ °C<br>■ °F      |                 |
| Additional information | <i>Selection</i>  |                 |

**"Measurement adjustments" wizard**

*Navigation*            Guidance → Commissioning → Meas. adjust.

---

|                 |                                                                                     |
|-----------------|-------------------------------------------------------------------------------------|
| Zero adjustment |  |
|-----------------|-------------------------------------------------------------------------------------|

---

|             |                                                                                                                                                        |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation  |  Guidance → Commissioning → Meas. adjust. → Zero adjustment           |
| Description | Due to the mounting position of the measuring instrument, a pressure shift may occur.<br>The pressure shift can be corrected with the zero adjustment. |
| Selection   | ■ No<br>■ Confirm                                                                                                                                      |

Pressure

Navigation  Guidance → Commissioning → Meas. adjust. → Pressure

"Output settings" wizard

Navigation  Guidance → Commissioning → Output settings

Output current transfer function

Navigation  Guidance → Commissioning → Output settings → Curr. trans.func

Description

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

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

User interface

- Linear
- Square root \*

"Output settings" wizard

Navigation  Guidance → Commissioning → Output settings

Scaled variable transfer function



Navigation  Guidance → Commissioning → Output settings → Scaled function

Description

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

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

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

\* Visibility depends on order options or device settings



**Selection**

- Linear
- Square root \*
- Table

**"Output settings" wizard**

*Navigation*  Guidance → Commissioning → Output settings

**Lower Range Limit****Navigation**

 Guidance → Commissioning → Output settings → LRL

**Description**

Indicates the lower measuring limit of the sensor.

**User interface**

Signed floating-point number

**Upper Range Limit****Navigation**

 Guidance → Commissioning → Output settings → URL

**Description**

Indicates the upper measuring limit of the sensor.

**User interface**

Signed floating-point number

**Minimum span****Navigation**

 Guidance → Commissioning → Output settings → Minimum span

**Description**

Specifies the smallest possible measuring span of the sensor.

**User interface**

Signed floating-point number

\* Visibility depends on order options or device settings

"Output settings" wizard

Navigation  Guidance → Commissioning → Output settings

Pressure 

Navigation  Guidance → Commissioning → Output settings → Pressure

User entry Signed floating-point number

Scaled variable 

Navigation  Guidance → Commissioning → Output settings → Scaled variable

User entry Signed floating-point number

"Output settings" wizard

Navigation  Guidance → Commissioning → Output settings

Lower range value output 

Navigation  Guidance → Commissioning → Output settings → 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

Upper range value output 

Navigation  Guidance → Commissioning → Output settings → 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

---

**Lower Range Limit**


---

|                       |                                                                                                                                    |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Guidance → Commissioning → Output settings → LRL |
| <b>Description</b>    | Indicates the lower measuring limit of the sensor.                                                                                 |
| <b>User interface</b> | Signed floating-point number                                                                                                       |

---

**Upper Range Limit**


---

|                       |                                                                                                                                    |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Guidance → Commissioning → Output settings → URL |
| <b>Description</b>    | Indicates the upper measuring limit of the sensor.                                                                                 |
| <b>User interface</b> | Signed floating-point number                                                                                                       |

---

**Minimum span**


---

|                       |                                                                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Guidance → Commissioning → Output settings → Minimum span |
| <b>Description</b>    | Specifies the smallest possible measuring span of the sensor.                                                                                 |
| <b>User interface</b> | Signed floating-point number                                                                                                                  |

**"Output settings" wizard**

*Navigation*  Guidance → Commissioning → Output settings

---

**Scaled variable transfer function**


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|                    |                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Guidance → Commissioning → Output settings → Scaled function                                                                                                                                                                                                                                                                             |
| <b>Description</b> | <p>"Linear"<br/>The linear pressure signal is used for the output signal. The flow must be calculated in the evaluation unit.</p> <p>"Square root" (Deltabar)<br/>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.</p> <p>"Table"<br/>The output is defined according to the scaled variable / pressure table entered.</p> |

**Selection**

- Linear
- Square root \*
- Table

---

**Pressure value 1**

---

**Navigation**

 Guidance → Commissioning → Output settings → 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

---

**Scaled variable value 1**

---

**Navigation**

 Guidance → Commissioning → Output settings → Scaled 1

**Description**

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

**User interface**

Signed floating-point number

---

**Pressure value 2**

---

**Navigation**

 Guidance → Commissioning → Output settings → 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

---

**Scaled variable value 2**

---

**Navigation**

 Guidance → Commissioning → Output settings → Scaled 2

**Description**

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

**User entry**

Signed floating-point number

---

\* Visibility depends on order options or device settings

---

**Lower Range Limit**


---

|                       |                                                                                                                                    |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Guidance → Commissioning → Output settings → LRL |
| <b>Description</b>    | Indicates the lower measuring limit of the sensor.                                                                                 |
| <b>User interface</b> | Signed floating-point number                                                                                                       |

---

**Upper Range Limit**


---

|                       |                                                                                                                                    |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Guidance → Commissioning → Output settings → URL |
| <b>Description</b>    | Indicates the upper measuring limit of the sensor.                                                                                 |
| <b>User interface</b> | Signed floating-point number                                                                                                       |

---

**Minimum span**


---

|                       |                                                                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Guidance → Commissioning → Output settings → Minimum span |
| <b>Description</b>    | Specifies the smallest possible measuring span of the sensor.                                                                                 |
| <b>User interface</b> | Signed floating-point number                                                                                                                  |

**"Output settings" wizard**

*Navigation*  Guidance → Commissioning → Output settings

---

**Lower range value output**


---



|                    |                                                                                                                                                      |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Guidance → Commissioning → Output settings → Low.range outp      |
| <b>Description</b> | Depending on which variable has been selected as "Process variable output current ", define the related lower (4 mA) and upper range values (20 mA). |
| <b>User entry</b>  | Signed floating-point number                                                                                                                         |

| Upper range value output           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>                                                                                                     |  Guidance → Commissioning → Output settings → Upp.range outp                                                                                                                                                                                                                                                                                                                         |
| <b>Description</b>                                                                                                    | Depending on which variable has been selected as "Process variable output current", define the related lower (4 mA) and upper range values (20 mA).                                                                                                                                                                                                                                                                                                                   |
| <b>User entry</b>                                                                                                     | Signed floating-point number                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Current range output               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Navigation</b>                                                                                                     |  Guidance → Commissioning → Output settings → Current range                                                                                                                                                                                                                                                                                                                          |
| <b>Description</b>                                                                                                    | <p>Defines the current range used to transmit the measured or calculated value.</p> <p>In brackets are indicated the “low saturation value” and the “high saturation value”.</p> <p>If Measured value ≤ “low saturation”, the output current is set to “low saturation”.</p> <p>If Measured value ≥ “high saturation”, the output current is set to “high saturation”.</p> <p>Note:</p> <p>Currents below 3.6 mA or above 21.5 mA can be used to signal an alarm.</p> |
| <b>Selection</b>                                                                                                      | <ul style="list-style-type: none"> <li>■ 4...20 mA (4...20.5 mA)</li> <li>■ 4...20 mA NE (3.8...20.5 mA)</li> <li>■ 4...20 mA US (3.9...20.8 mA)</li> </ul>                                                                                                                                                                                                                                                                                                           |
| Failure behavior current output  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Navigation</b>                                                                                                     |  Guidance → Commissioning → Output settings → Failure behav.                                                                                                                                                                                                                                                                                                                       |
| <b>Description</b>                                                                                                    | <p>Defines which current the output assumes in the case of an error.</p> <p>Min: &lt; 3.6 mA</p> <p>Max: &gt;21.5 mA</p> <p>Note: The hardware DIP Switch for alarm current has priority over software setting.</p>                                                                                                                                                                                                                                                   |
| <b>Selection</b>                                                                                                      | <ul style="list-style-type: none"> <li>■ Min.</li> <li>■ Max.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                              |
| Failure current                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Navigation</b>                                                                                                     |  Guidance → Commissioning → Output settings → Failure current                                                                                                                                                                                                                                                                                                                      |
| <b>Description</b>                                                                                                    | Enter current output value in alarm condition                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>User entry</b>                                                                                                     | 21.5 to 23 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

---

**Loop current mode**


---

|                       |                                                                                                                                                                                                                                                                  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Guidance → Commissioning → Output settings → Loop curr mode                                                                                                                    |
| <b>Description</b>    | 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.<br>In this mode the output current is fixed. |
| <b>User interface</b> | <ul style="list-style-type: none"> <li>■ Disable</li> <li>■ Enable</li> </ul>                                                                                                                                                                                    |

---

**Assign HART variables?**


---

|                    |                                                                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Guidance → Commissioning → Output settings → Assign HART var? |
| <b>Description</b> | Up to four HART variables can be transmitted via the HART protocol.<br>Select "Yes" to show/assign measuring variables to these HART variables. |
| <b>Selection</b>   | <ul style="list-style-type: none"> <li>■ No</li> <li>■ Yes</li> </ul>                                                                           |

**"Output settings" wizard**

*Navigation*       Guidance → Commissioning → Output settings

---

**Process variable output current**


---

|                       |                                                                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Guidance → Commissioning → Output settings → Proc.var.curr. |
| <b>Description</b>    | Determines which process variable is transmitted via the current output.                                                                        |
| <b>User interface</b> | <ul style="list-style-type: none"> <li>■ Pressure</li> <li>■ Scaled variable</li> </ul>                                                         |

| Current range output               |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>                                                                                                     |  Guidance → Commissioning → Output settings → Current range                                                                                                                                                                                                                                                                                                                  |
| <b>Description</b>                                                                                                    | <p>Defines the current range used to transmit the measured or calculated value.<br/> In brackets are indicated the “low saturation value” and the “high saturation value”.<br/> If Measured value ≤ “low saturation”, the output current is set to “low saturation”.<br/> If Measured value ≥ “high saturation”, the output current is set to “high saturation”.</p> <p>Note:<br/> Currents below 3.6 mA or above 21.5 mA can be used to signal an alarm.</p> |
| <b>Selection</b>                                                                                                      | <ul style="list-style-type: none"> <li>■ 4...20 mA (4...20.5 mA)</li> <li>■ 4...20 mA NE (3.8...20.5 mA)</li> <li>■ 4...20 mA US (3.9...20.8 mA)</li> </ul>                                                                                                                                                                                                                                                                                                   |
| Lower range value output           |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Navigation</b>                                                                                                     |  Guidance → Commissioning → Output settings → Low.range outp                                                                                                                                                                                                                                                                                                                 |
| <b>Description</b>                                                                                                    | Depending on which variable has been selected as "Process variable output current ", define the related lower (4 mA) and upper range values (20 mA).                                                                                                                                                                                                                                                                                                          |
| <b>User entry</b>                                                                                                     | Signed floating-point number                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Upper range value output         |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Navigation</b>                                                                                                     |  Guidance → Commissioning → Output settings → Upp.range outp                                                                                                                                                                                                                                                                                                               |
| <b>Description</b>                                                                                                    | Depending on which variable has been selected as "Process variable output current ", define the related lower (4 mA) and upper range values (20 mA).                                                                                                                                                                                                                                                                                                          |
| <b>User entry</b>                                                                                                     | Signed floating-point number                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Failure behavior current output  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Navigation</b>                                                                                                     |  Guidance → Commissioning → Output settings → Failure behav.                                                                                                                                                                                                                                                                                                               |
| <b>Description</b>                                                                                                    | <p>Defines which current the output assumes in the case of an error.<br/> Min: &lt; 3.6 mA<br/> Max: &gt;21.5 mA</p> <p>Note: The hardware DIP Switch for alarm current has priority over software setting.</p>                                                                                                                                                                                                                                               |
| <b>Selection</b>                                                                                                      | <ul style="list-style-type: none"> <li>■ Min.</li> <li>■ Max.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                      |



---

**Failure current**

---



**Navigation**  Guidance → Commissioning → Output settings → Failure current

**Description** Enter current output value in alarm condition

**User entry** 21.5 to 23 mA

---

**Loop current mode**

---

**Navigation**  Guidance → Commissioning → Output settings → 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.

**User interface**

- Disable
- Enable

---

**Assign HART variables?**

---

**Navigation**  Guidance → Commissioning → Output settings → Assign HART var?

**Description** Up to four HART variables can be transmitted via the HART protocol. Select "Yes" to show/assign measuring variables to these HART variables.

**Selection**

- No
- Yes

**"Output settings" wizard**

*Navigation*  Guidance → Commissioning → Output settings

---

**Assign PV**

---



**Navigation**  Guidance → Commissioning → Output settings → Assign PV

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

- Selection**
- Pressure
  - Scaled variable

---

## Assign SV



**Navigation** Guidance → Commissioning → Output settings → Assign SV

**Description** Use this function to select a measured variable (HART device variable) for the secondary 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

**Additional information** *Selection*

- **Sensor pressure** option  
Sensor Pressure is the raw signal from sensor before damping and position adjustment.
- **Terminal current** option  
The terminal current is the read-back current on terminal block.
- **Signal noise detected** option  
0 % - Signal noise is within the permissible range.  
100 % - Signal noise is outside of the permissible range.
- **Loop current** option  
The loop current is the output current set by the applied pressure.

---

## Assign TV



**Navigation** Guidance → Commissioning → Output settings → Assign TV

**Description** Use this function to select a measured variable (HART device variable) for the tertiary (third) dynamic variable (TV).

- Selection**
- Pressure
  - Scaled variable
  - Sensor temperature
  - Sensor pressure
  - Electronics temperature
  - Terminal current \*

---

\* Visibility depends on order options or device settings

- Terminal voltage \*
- Median of pressure signal \*
- Noise of pressure signal \*
- Signal noise detected \*
- Percent of range
- Loop current
- Not used

**Additional information***Selection*

- **Sensor pressure** option  
Sensor Pressure is the raw signal from sensor before damping and position adjustment.
- **Terminal current** option  
The terminal current is the read-back current on terminal block.
- **Signal noise detected** option  
0 % - Signal noise is within the permissible range.  
100 % - Signal noise is outside of the permissible range.
- **Loop current** option  
The loop current is the output current set by the applied pressure.

**Assign QV****Navigation**

Guidance → Commissioning → Output settings → Assign QV

**Description**

Use this function to select a measured variable (HART device variable) for the quaternary (fourth) 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 \*
- Signal noise detected \*
- Percent of range
- Loop current
- Not used

**Additional information***Selection*

- **Sensor pressure** option  
Sensor Pressure is the raw signal from sensor before damping and position adjustment.
- **Terminal current** option  
The terminal current is the read-back current on terminal block.
- **Signal noise detected** option  
0 % - Signal noise is within the permissible range.  
100 % - Signal noise is outside of the permissible range.
- **Loop current** option  
The loop current is the output current set by the applied pressure.

\* Visibility depends on order options or device settings

### 3.3 "Diagnostics" menu

Navigation  Diagnostics

#### 3.3.1 "Active diagnostics" submenu

Navigation  Diagnostics → Active diagnos.

---

#### Active diagnostics

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|                        |                                                                                                                                                                                                                                                                                            |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation             |   Diagnostics → Active diagnos. → Active diagnos.                                                                        |
| Prerequisite           | A diagnostic event has occurred.                                                                                                                                                                                                                                                           |
| Description            | Displays the current diagnostic message. If two or more messages occur simultaneously, the message with the highest priority is shown on the display.                                                                                                                                      |
| User interface         | Symbol for diagnostic behavior, diagnostic code and short message.                                                                                                                                                                                                                         |
| Additional information | <i>User interface</i><br> Additional pending diagnostic messages can be viewed in the <b>Diagnostic list</b> submenu.<br><br><i>Example</i><br>For the display format:<br>⊗F271 Main electronic failure |

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#### Timestamp

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|                        |                                                                                                                                                                                                                                                                                                                                                            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation             |   Diagnostics → Active diagnos. → Timestamp                                                                                                                                          |
| Description            | Displays the operating time when the current diagnostic message occurred.                                                                                                                                                                                                                                                                                  |
| User interface         | Days (d), hours (h), minutes (m) and seconds (s)                                                                                                                                                                                                                                                                                                           |
| Additional information | <i>User interface</i><br> The diagnostic message can be viewed via the <b>Actual diagnostics</b> parameter (→  44).<br><br><i>Example</i><br>For the display format:<br>24d12h13m00s |

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**Previous diagnostics**


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|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             |   Diagnostics → Active diagnos. → Prev.diagnostics                                                                                                                                                                                                                          |
| <b>Prerequisite</b>           | Two diagnostic events have already occurred.                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Description</b>            | Displays the diagnostic message that occurred before the current message.                                                                                                                                                                                                                                                                                                                                                                     |
| <b>User interface</b>         | Symbol for diagnostic behavior, diagnostic code and short message.                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Additional information</b> | <p><i>User interface</i></p> <p> Via the local display: the time stamp and corrective measures referring to the cause of the diagnostic message can be accessed via the  key.</p> <p><i>Example</i></p> <p>For the display format:</p> <p>⊗F271 Main electronic failure</p> |

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**Timestamp**


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|                               |                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             |   Diagnostics → Active diagnos. → Timestamp                                                                                                                                                               |
| <b>Description</b>            | Displays the operating time when the last diagnostic message before the current message occurred.                                                                                                                                                                                                                                                                               |
| <b>User interface</b>         | Days (d), hours (h), minutes (m) and seconds (s)                                                                                                                                                                                                                                                                                                                                |
| <b>Additional information</b> | <p><i>User interface</i></p> <p> The diagnostic message can be viewed via the <b>Previous diagnostics</b> parameter (→  45).</p> <p><i>Example</i></p> <p>For the display format:</p> <p>24d12h13m00s</p> |

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**Operating time from restart**


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|                       |                                                                                                                                                                                                                          |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   Diagnostics → Active diagnos. → Time fr. restart |
| <b>Description</b>    | Indicates how long the device has been in operation since the last time the device was restarted.                                                                                                                        |
| <b>User interface</b> | 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.                                                                             |
| Additional information | Maximum time: 9 999 d (≈ 27 years)                                                                                               |

3.3.2 "Event logbook" submenu

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              | <ul style="list-style-type: none"><li>■ All</li><li>■ Failure (F)</li><li>■ Function check (C)</li><li>■ Out of specification (S)</li><li>■ Maintenance required (M)</li><li>■ Information (I)</li><li>■ Not categorized</li></ul>                                                                                                                                                            |
| Additional information | <p><i>Description</i></p> <div> The status signals are categorized in accordance with VDI/VDE 2650 and NAMUR Recommendation NE 107:</div> <ul style="list-style-type: none"><li>■ F = Failure</li><li>■ C = Function Check</li><li>■ S = Out of Specification</li><li>■ M = Maintenance Required</li></ul> |

Clear event list



|             |                                                                                                                                    |
|-------------|------------------------------------------------------------------------------------------------------------------------------------|
| Navigation  |  Diagnostics → Event logbook → Clear event list |
| Description | Use this function to process the current values in the event logbook.                                                              |
| Selection   | <ul style="list-style-type: none"><li>■ Cancel</li><li>■ Clear data</li></ul>                                                      |

**Additional information***Description*

Once this function has been executed, the events list is empty and all the events are deleted.



The events list can be exported using an operating tool (e.g. FieldCare).

**3.3.3 "Minimum/maximum values" submenu***Navigation*

Diagnostics → Min/max val.

**Pressure min****Navigation**

Diagnostics → Min/max val. → Pressure min

**Description**

Minimum or maximum value measured by device.

**User interface**

Signed floating-point number

**Counter limit underruns sensor Pmin****Navigation**

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

**Description**

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

**User interface**

0 to 65 535

**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

---

**Minimum sensor temperature**


---

|                       |                                                                                                                                                                                                                   |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   Diagnostics → Min/max val. → Min. sensor temp |
| <b>Description</b>    | Minimum or maximum value measured by device.<br>Users cannot reset this value.                                                                                                                                    |
| <b>User interface</b> | -273.15 to 9 726.85 °C                                                                                                                                                                                            |

---

**Counter limit underruns sensor Tmin**


---

|                       |                                                                                                                                                                                                                   |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   Diagnostics → Min/max val. → Counter T < Tmin |
| <b>Description</b>    | Counts how many times the value underruns/overruns the sensor specific minimum/<br>maximum values.<br>Sensor specific minimum/maximum values are shown in Application/Sensor menu.                                |
| <b>User interface</b> | 0 to 65 535                                                                                                                                                                                                       |

---

**Counter underruns of user limit Tmin**


---

|                       |                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   Diagnostics → Min/max val. → Counter < T user |
| <b>User interface</b> | 0 to 65 535                                                                                                                                                                                                           |

---

**Minimum terminal voltage**


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|                       |                                                                                                                                                                                                                     |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   Diagnostics → Min/max val. → Min.term.volt. |
| <b>Description</b>    | Minimum or maximum measured terminal (supply) voltage.                                                                                                                                                              |
| <b>User interface</b> | 0.0 to 50.0 V                                                                                                                                                                                                       |

---

**Minimum electronics temperature**


---

|                       |                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   Diagnostics → Min/max val. → Min.electr.temp. |
| <b>Description</b>    | Minimum or maximum measured main electronics temperature.                                                                                                                                                             |
| <b>User interface</b> | Signed floating-point number                                                                                                                                                                                          |



---

**Reset user defined counters P and T**


|                   |                                                                               |
|-------------------|-------------------------------------------------------------------------------|
| <b>Navigation</b> | Diagnostics → Min/max val. → Reset count. P T                                 |
| <b>Selection</b>  | <ul style="list-style-type: none"> <li>■ Cancel</li> <li>■ Confirm</li> </ul> |

---

**Pressure max**

|                       |                                              |
|-----------------------|----------------------------------------------|
| <b>Navigation</b>     | Diagnostics → Min/max val. → Pressure max    |
| <b>Description</b>    | Minimum or maximum value measured by device. |
| <b>User interface</b> | Signed floating-point number                 |

---

**Counter limit overruns sensor Pmax**

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

---

**Counter overruns of user limit Pmax**

|                       |                                                                                                                                                                           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     | Diagnostics → Min/max val. → Counter > P user                                                                                                                             |
| <b>Description</b>    | 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. |
| <b>User interface</b> | 0 to 65 535                                                                                                                                                               |

---

**Maximum sensor temperature**

|                       |                                                                             |
|-----------------------|-----------------------------------------------------------------------------|
| <b>Navigation</b>     | Diagnostics → Min/max val. → Max. sensor temp                               |
| <b>Description</b>    | Minimum or maximum value measured by device. Users cannot reset this value. |
| <b>User interface</b> | -273.15 to 9 726.85 °C                                                      |

---

**Counter limit overruns sensor Tmax**

---

|                       |                                                                                                                                                                                                                   |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   Diagnostics → Min/max val. → Counter T > Tmax |
| <b>Description</b>    | Counts how many times the value underruns/overruns the sensor specific minimum/maximum values.<br>Sensor specific minimum/maximum values are shown in Application/Sensor menu.                                    |
| <b>User interface</b> | 0 to 65 535                                                                                                                                                                                                       |

---

**Counter overruns of user limit Tmax**

---

|                       |                                                                                                                                                                                                                   |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   Diagnostics → Min/max val. → Counter > T user |
| <b>User interface</b> | 0 to 65 535                                                                                                                                                                                                       |

---

**Maximum terminal voltage**

---

|                       |                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   Diagnostics → Min/max val. → Max.term.voltage |
| <b>Description</b>    | Minimum or maximum measured terminal (supply) voltage.                                                                                                                                                                |
| <b>User interface</b> | 0.0 to 50.0 V                                                                                                                                                                                                         |

---

**Maximum electronics temperature**

---

|                       |                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   Diagnostics → Min/max val. → Max.electr.temp. |
| <b>Description</b>    | Minimum or maximum measured main electronics temperature.                                                                                                                                                             |
| <b>User interface</b> | Signed floating-point number                                                                                                                                                                                          |

### 3.3.4 "Simulation" submenu

Navigation  Diagnostics → Simulation

| Simulation                     |                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation                                                                                                        |   Diagnostics → Simulation → Simulation           |
| Description                                                                                                       | <p>Simulates one or more process variables and/or events.</p> <p>Warning:<br/>Output will reflect the simulated value or event.</p>                                                                                 |
| Selection                                                                                                         | <ul style="list-style-type: none"> <li>■ Off</li> <li>■ Current output</li> <li>■ Diagnostic event simulation</li> <li>■ Pressure</li> </ul>                                                                        |
| Value pressure simulation      |                                                                                                                                                                                                                     |
| Navigation                                                                                                        |   Diagnostics → Simulation → Pressure         |
| User entry                                                                                                        | Signed floating-point number                                                                                                                                                                                        |
| Value current output         |                                                                                                                                                                                                                     |
| Navigation                                                                                                        |   Diagnostics → Simulation → Current output   |
| Description                                                                                                       | Defines the value of the simulated output current.                                                                                                                                                                  |
| User entry                                                                                                        | 3.59 to 23 mA                                                                                                                                                                                                       |
| Diagnostic event simulation  |                                                                                                                                                                                                                     |
| Navigation                                                                                                        |   Diagnostics → Simulation → Diagnostic event |
| Description                                                                                                       | Use this function to select a diagnostic event for the simulation process that is activated.                                                                                                                        |
| Selection                                                                                                         | <ul style="list-style-type: none"> <li>■ Off</li> <li>■ Diagnostic event picklist (depends on the category selected)</li> </ul>                                                                                     |

|                        |                                                                                                                                                                                                                                                   |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Additional information | <i>Description</i><br> For the simulation, you can choose from the diagnostic events of the category selected in the <b>Diagnostic event category</b> parameter. |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

3.3.5 "Diagnostic settings" submenu

*Navigation*  Diagnostics → Diag. settings

"Properties" submenu

*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

|                           |                                                                                       |
|---------------------------|---------------------------------------------------------------------------------------|
| SSD Monitoring delay time |  |
|---------------------------|---------------------------------------------------------------------------------------|

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

**User entry** 0 to 86 400 s

|                            |                                                                                       |
|----------------------------|---------------------------------------------------------------------------------------|
| 500 Process alert pressure |  |
|----------------------------|---------------------------------------------------------------------------------------|

**Navigation**  Diagnostics → Diag. settings → Properties → 500 Pressure

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

**Selection**  

- Off
- On

---

**Low alert value**

---



|                    |                                                                                                                                               |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Diagnostics → Diag. settings → Properties → Low alert value |
| <b>Description</b> | Set range.<br>If this limit value is exceeded or undercut, a diagnostic event is generated. There is no hysteresis.                           |
| <b>User entry</b>  | Signed floating-point number                                                                                                                  |

---

**High alert value**

---



|                    |                                                                                                                                                |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Diagnostics → Diag. settings → Properties → High alert value |
| <b>Description</b> | Set range.<br>If this limit value is exceeded or undercut, a diagnostic event is generated. There is no hysteresis.                            |
| <b>User entry</b>  | Signed floating-point number                                                                                                                   |

---

**501 Process alert scaled variable**

---



|                    |                                                                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Diagnostics → Diag. settings → Properties → 501 Scaled var. |
| <b>Description</b> | Define whether user-defined limits should be set.<br>If "Off" is selected, no analysis will take place and no event message will be generated.  |
| <b>Selection</b>   | <ul style="list-style-type: none"><li>■ Off</li><li>■ On</li></ul>                                                                              |

---

**Low alert value**

---



|                    |                                                                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Diagnostics → Diag. settings → Properties → Low alert value |
| <b>Description</b> | Set range.<br>If this limit value is exceeded or undercut, a diagnostic event is generated. There is no hysteresis.                             |
| <b>User entry</b>  | Signed floating-point number                                                                                                                    |

---

**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

---

**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

---

**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

---

**High alert value**

---



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

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

**User entry** -50 to 150 °C

---

**806 Diagnostic behavior**

---



|                    |                                                                                                                                                                                                                                                                                           |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |   Diagnostics → Diag. settings → Properties → 806 Diag. behav.                                                          |
| <b>Description</b> | Select event behavior<br>"Logbook entry only": no digital or analog transmission of the message.<br>"Warning": Current output unchanged. Message is output digitally (default).<br>If the permissible conditions are reached again, the warning is no longer available in the instrument. |
| <b>Selection</b>   | <ul style="list-style-type: none"><li>■ Warning</li><li>■ Logbook entry only</li></ul>                                                                                                                                                                                                    |

---

**806 Event category**

---



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

---

**806 Event delay**

---



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

**"Configuration" submenu**

*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

---

**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)

---

**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

---

## 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)

---

## 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

---

## 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)

**"Process" submenu**

*Navigation*  Diagnostics → Diag. settings → Configuration → Process

**806 Diagnostic behavior**



|                    |                                                                                                                                                                                                                                                                                           |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |   Diagnostics → Diag. settings → Configuration → Process → 806 Diag. behav.                                             |
| <b>Description</b> | Select event behavior<br>"Logbook entry only": no digital or analog transmission of the message.<br>"Warning": Current output unchanged. Message is output digitally (default).<br>If the permissible conditions are reached again, the warning is no longer available in the instrument. |
| <b>Selection</b>   | <ul style="list-style-type: none"><li>■ Warning</li><li>■ Logbook entry only</li></ul>                                                                                                                                                                                                    |

**806 Event category**



|                    |                                                                                                                                                                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |   Diagnostics → Diag. settings → Configuration → Process → 806Event category |
| <b>Description</b> | Select category for diagnostic message.                                                                                                                                                                                                            |
| <b>Selection</b>   | <ul style="list-style-type: none"><li>■ Failure (F)</li><li>■ Function check (C)</li><li>■ Out of specification (S)</li><li>■ Maintenance required (M)</li><li>■ No effect (N)</li></ul>                                                           |

**822 Diagnostic behavior**

|                       |                                                                                                                                                               |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Diagnostics → Diag. settings → Configuration → Process → 822 Diag. behav. |
| <b>User interface</b> | <ul style="list-style-type: none"><li>■ Alarm</li><li>■ Warning</li><li>■ Logbook entry only</li></ul>                                                        |

---

**822 Event category**


|                   |                                                                                                                                                                                                |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b> | Diagnostics → Diag. settings → Configuration → Process → 822 Event category                                                                                                                    |
| <b>Selection</b>  | <ul style="list-style-type: none"> <li>■ Failure (F)</li> <li>■ Function check (C)</li> <li>■ Out of specification (S)</li> <li>■ Maintenance required (M)</li> <li>■ No effect (N)</li> </ul> |

---

**Sensor pressure range behavior**


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

---

**841 Event category**


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

| 900 Event category         |                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>                                                                                             |   Diagnostics → Diag. settings → Configuration → Process → 900Event category                                                               |
| <b>Description</b>                                                                                            | Select category for diagnostic message.                                                                                                                                                                                                                                                                      |
| <b>Selection</b>                                                                                              | <ul style="list-style-type: none"> <li>■ Failure (F)</li> <li>■ Function check (C)</li> <li>■ Out of specification (S)</li> <li>■ Maintenance required (M)</li> <li>■ No effect (N)</li> </ul>                                                                                                               |
| 900 Diagnostic behavior    |                                                                                                                                                                                                                                                                                                              |
| <b>Navigation</b>                                                                                             |   Diagnostics → Diag. settings → Configuration → Process → 900 Diag. behav.                                                                |
| <b>Description</b>                                                                                            | <p>Select event behavior</p> <p>"Logbook entry only": no digital or analog transmission of the message.</p> <p>"Warning": Current output unchanged. Message is output digitally (default).</p> <p>If the permissible conditions are reached again, the warning is no longer available in the instrument.</p> |
| <b>Selection</b>                                                                                              | <ul style="list-style-type: none"> <li>■ Warning</li> <li>■ Logbook entry only</li> </ul>                                                                                                                                                                                                                    |
| 906 Diagnostic behavior  |                                                                                                                                                                                                                                                                                                              |
| <b>Navigation</b>                                                                                             |   Diagnostics → Diag. settings → Configuration → Process → 906 Diag. behav.                                                            |
| <b>Description</b>                                                                                            | <p>Select event behavior</p> <p>"Logbook entry only": no digital or analog transmission of the message.</p> <p>"Warning": Current output unchanged. Message is output digitally (default).</p> <p>If the permissible conditions are reached again, the warning is no longer available in the instrument.</p> |
| <b>Selection</b>                                                                                              | <ul style="list-style-type: none"> <li>■ Off</li> <li>■ Warning</li> <li>■ Logbook entry only</li> </ul>                                                                                                                                                                                                     |
| 906 Event category       |                                                                                                                                                                                                                                                                                                              |
| <b>Navigation</b>                                                                                             |   Diagnostics → Diag. settings → Configuration → Process → 906Event category                                                           |
| <b>Description</b>                                                                                            | Select category for diagnostic message.                                                                                                                                                                                                                                                                      |

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

**"Process" submenu**

*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

---

**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)

---

**822 Diagnostic behavior**

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

- User interface**
- Alarm
  - Warning
  - Logbook entry only

---

**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)

---

**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 &lt; 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

---

**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)

**900 Event category**

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

**900 Diagnostic behavior**

|                    |                                                                                                                                                                                                                                                                                                              |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Diagnostics → Diag. settings → Configuration → Process → 900 Diag. behav.                                                                                                                                                  |
| <b>Description</b> | <p>Select event behavior</p> <p>"Logbook entry only": no digital or analog transmission of the message.</p> <p>"Warning": Current output unchanged. Message is output digitally (default).</p> <p>If the permissible conditions are reached again, the warning is no longer available in the instrument.</p> |
| <b>Selection</b>   | <ul style="list-style-type: none"> <li>■ Warning</li> <li>■ Logbook entry only</li> </ul>                                                                                                                                                                                                                    |

**906 Diagnostic behavior**

|                    |                                                                                                                                                                                                                                                                                                              |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Diagnostics → Diag. settings → Configuration → Process → 906 Diag. behav.                                                                                                                                                |
| <b>Description</b> | <p>Select event behavior</p> <p>"Logbook entry only": no digital or analog transmission of the message.</p> <p>"Warning": Current output unchanged. Message is output digitally (default).</p> <p>If the permissible conditions are reached again, the warning is no longer available in the instrument.</p> |
| <b>Selection</b>   | <ul style="list-style-type: none"> <li>■ Off</li> <li>■ Warning</li> <li>■ Logbook entry only</li> </ul>                                                                                                                                                                                                     |

**906 Event category**

|                    |                                                                                                                                                                |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Diagnostics → Diag. settings → Configuration → Process → 906Event category |
| <b>Description</b> | Select category for diagnostic message.                                                                                                                        |

**Selection**

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



3.4 "Application" menu

Navigation  Application

3.4.1 "Measuring units" submenu

Navigation  Application → Measuring units

Pressure unit 

|            |                                                                                                                                                                                                                     |                                                                       |                                                                                                                                                                                                                          |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation |  Application → Measuring units → Pressure unit                                                                                     |                                                                       |                                                                                                                                                                                                                          |
| Selection  | <i>SI units</i> <ul style="list-style-type: none"><li>■ MPa</li><li>■ kPa</li><li>■ Pa</li><li>■ bar</li><li>■ mbar</li><li>■ torr</li><li>■ atm</li><li>■ kgf/cm<sup>2</sup></li><li>■ gf/cm<sup>2</sup></li></ul> | <i>US units</i> <ul style="list-style-type: none"><li>■ psi</li></ul> | <i>Other units</i> <ul style="list-style-type: none"><li>■ inH2O</li><li>■ inH2O (4°C)</li><li>■ mmH2O</li><li>■ mmH2O (4°C)</li><li>■ mH2O</li><li>■ mH2O (4°C)</li><li>■ ftH2O</li><li>■ inHg</li><li>■ mmHg</li></ul> |

Decimal places pressure 

|             |                                                                                                                                                                                                                                                                   |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation  |  Application → Measuring units → Decimal pressure                                                                                                                              |
| Description | This selection does not affect the measurement and calculation accuracy of the device.                                                                                                                                                                            |
| Selection   | <ul style="list-style-type: none"><li>■ Automatic<br/>The decimal place is configured automatically.<br/>Example: Unit mbar: one decimal place. Unit bar: four decimal places</li><li>■ x</li><li>■ x.x</li><li>■ x.xx</li><li>■ x.xxx</li><li>■ x.xxxx</li></ul> |

Temperature unit 

|             |                                                                                                                                      |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Navigation  |  Application → Measuring units → Temperature unit |
| Description | Use this function to select the unit for the temperature.                                                                            |

|                        |                   |                 |
|------------------------|-------------------|-----------------|
| Selection              | <i>SI units</i>   | <i>US units</i> |
|                        | ■ °C              | °F              |
|                        | ■ K               |                 |
| Factory setting        | Country-specific: |                 |
|                        | ■ °C              |                 |
|                        | ■ °F              |                 |
| Additional information | <i>Selection</i>  |                 |

---

|                      |                                                                                     |
|----------------------|-------------------------------------------------------------------------------------|
| 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                                                                                                                       |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|           | <ul style="list-style-type: none"> <li>■ %</li> <li>■ mm</li> <li>■ cm</li> <li>■ m</li> <li>■ l</li> <li>■ hl</li> <li>■ m<sup>3</sup></li> <li>■ g</li> <li>■ kg</li> <li>■ t</li> <li>■ g/s</li> <li>■ kg/s</li> <li>■ kg/min</li> <li>■ kg/h</li> <li>■ t/min</li> <li>■ t/h</li> <li>■ t/d</li> <li>■ m<sup>3</sup>/s</li> <li>■ m<sup>3</sup>/min</li> <li>■ m<sup>3</sup>/h</li> <li>■ m<sup>3</sup>/d</li> <li>■ l/s</li> <li>■ l/min</li> <li>■ l/h</li> <li>■ Nm<sup>3</sup>/h</li> <li>■ Nm<sup>3</sup>/d</li> <li>■ Sm<sup>3</sup>/s</li> <li>■ Sm<sup>3</sup>/min</li> <li>■ Sm<sup>3</sup>/h</li> <li>■ Sm<sup>3</sup>/d</li> <li>■ Nm<sup>3</sup>/s</li> <li>■ g/cm<sup>3</sup></li> <li>■ kg/m<sup>3</sup></li> <li>■ Nm<sup>3</sup>/min</li> <li>■ Nm<sup>3</sup>/d</li> </ul> | <ul style="list-style-type: none"> <li>■ ft</li> <li>■ in</li> <li>■ ft<sup>3</sup></li> <li>■ gal (us)</li> <li>■ bbl (us;oil)</li> <li>■ oz</li> <li>■ lb</li> <li>■ STon</li> <li>■ lb/s</li> <li>■ lb/min</li> <li>■ lb/h</li> <li>■ STon/min</li> <li>■ STon/h</li> <li>■ STon/d</li> <li>■ ft<sup>3</sup>/s</li> <li>■ ft<sup>3</sup>/min</li> <li>■ ft<sup>3</sup>/h</li> <li>■ ft<sup>3</sup>/d</li> <li>■ gal/s (us)</li> <li>■ gal/min (us)</li> <li>■ gal/h (us)</li> <li>■ gal/d (us)</li> <li>■ bbl/s (us;oil)</li> <li>■ bbl/min (us;oil)</li> <li>■ bbl/h (us;oil)</li> <li>■ bbl/d (us;oil)</li> <li>■ Sft<sup>3</sup>/min</li> <li>■ Sft<sup>3</sup>/h</li> <li>■ Sft<sup>3</sup>/d</li> </ul> | <ul style="list-style-type: none"> <li>■ gal (imp)</li> <li>■ gal/s (imp)</li> <li>■ gal/min (imp)</li> <li>■ gal/h (imp)</li> </ul> |
|           | <p><i>Custom-specific units</i></p> <p>Free text</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                      |

## Free text



## Navigation

 Application → Measuring units → Free text

## User entry

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

## 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

3.4.2 "Measured values" submenu

Navigation  Application → Measured values

Sensor pressure

Navigation   Application → Measured values → Sensor pressure

User interface Signed floating-point number

Pressure

Navigation   Application → Measured values → Pressure

Scaled variable

Navigation   Application → Measured values → Scaled variable

User interface Signed floating-point number

Sensor temperature

Navigation   Application → Measured values → Sensor temp.

User interface -273.15 to 9 726.85 °C

Terminal voltage 1

Navigation   Application → Measured values → Terminal volt. 1

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

**User interface** 0.0 to 50.0 V

---

#### Terminal current

---

**Navigation**  Application → Measured values → Terminal curr.

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

**User interface** 0 to 30 mA

---

#### Electronics temperature

---

**Navigation**  Application → Measured values → Electronics temp

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

**User interface** Signed floating-point number

### 3.4.3 "Sensor" submenu

*Navigation*  Application → Sensor

#### "Basic settings" submenu

*Navigation*  Application → Sensor → Basic settings

---

#### Output current transfer function

---

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

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

Square root - differential pressure only

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

**User interface**

- Linear
- Square root \*

**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

**"Sensor calibration" submenu**

*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

**Calibration offset****Navigation**

Application → Sensor → Sensor cal. → Calibr offset

**Prerequisite**

Absolute pressure sensor

\* Visibility depends on order options or device settings

**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

---

### Zero adjustment offset



**Navigation** Application → Sensor → Sensor cal. → Zero offset

**User entry** Signed floating-point number

---

### Sensor Trim Reset



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

**Selection**

- No
- Confirm

---

### Lower sensor trim measured value

**Navigation** Application → Sensor → Sensor cal. → LowerTrimMeasVal

**User interface** Signed floating-point number

**Lower sensor trim****Navigation**

 Application → Sensor → Sensor cal. → LowerSensor trim

**Description**

These two parameters allow a recalibration of the sensor, i.e., if you want to fit the sensor to the measuring range. The highest accuracy is obtained when the value for the "Lower sensor trim" is as close as possible to "LRV" (lower range value) and the value for "Upper sensor trim" as close as possible to "URV" (upper range value).

There must be a known reference pressure when setting a new lower or upper sensor characteristic curve value. The more accurate the reference pressure is during recalibration, the higher the accuracy of the pressure transmitter later. A new value is assigned to the applied pressure using "Lower sensor trim" and "Upper sensor trim" parameters.

Note:

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

Proceed as follows:

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

**User entry**

Signed floating-point number

**Upper sensor trim measured value****Navigation**

 Application → Sensor → Sensor cal. → UpperTrimMeasVal

**User interface**

Signed floating-point number



| Upper sensor trim  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>                                                                                     |  Application → Sensor → Sensor cal. → UpperSensor trim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Description</b>                                                                                    | <p>These two parameters allow a recalibration of the sensor, i.e., if you want to fit the sensor to the measuring range. The highest accuracy is obtained when the value for the "Lower sensor trim" is as close as possible to "LRV" (lower range value) and the value for "Upper sensor trim" as close as possible to "URV" (upper range value).</p> <p>There must be a known reference pressure when setting a new lower or upper sensor characteristic curve value. The more accurate the reference pressure is during recalibration, the higher the accuracy of the pressure transmitter later. A new value is assigned to the applied pressure using "Lower sensor trim" and "Upper sensor trim" parameters.</p> <p>Note:</p> <p>The value entered can be at maximum "Sensor pressure" +/- 10 % of the permitted maximum pressure (URL).</p> <p>Proceed as follows:</p> <ul style="list-style-type: none"> <li>- Apply reference pressure for lower range value ("LRV")</li> <li>- Enter the measured reference pressure at "Lower sensor trim" and confirm</li> <li>- Apply reference pressure for upper range value ("URV")</li> <li>- Enter the measured reference pressure at "Upper sensor trim" and confirm</li> <li>- The sensor is now calibrated</li> </ul> |
| <b>User entry</b>                                                                                     | Signed floating-point number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>"Sensor limits" submenu</b>                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <i>Navigation</i>                                                                                     |  Application → Sensor → Sensor limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Lower Range Limit                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Navigation</b>                                                                                     |  Application → Sensor → Sensor limits → LRL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Description</b>                                                                                    | Indicates the lower measuring limit of the sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>User interface</b>                                                                                 | Signed floating-point number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Upper Range Limit                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Navigation</b>                                                                                     |  Application → Sensor → Sensor limits → URL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Description</b>                                                                                    | Indicates the upper measuring limit of the sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>User interface</b>                                                                                 | Signed floating-point number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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                                                                                                          |

Sensor temperature lower range limit

|                |                                                                                                                                           |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation     |  Application → Sensor → Sensor limits → Sens.temp.lo.lim |
| User interface | -273.15 to 9 726.85 °C                                                                                                                    |

Sensor temperature upper range limit

|                |                                                                                                                                            |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation     |  Application → Sensor → Sensor limits → Sens.temp.up.lim |
| User interface | -273.15 to 9 726.85 °C                                                                                                                     |

"Scaled variable" submenu

|            |                                                                                                                            |
|------------|----------------------------------------------------------------------------------------------------------------------------|
| 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   | <ul style="list-style-type: none"><li>■ Pressure</li><li>■ Scaled variable</li></ul>                                                                                                                                       |

## 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
- m<sup>3</sup>
- g
- kg
- t
- g/s
- kg/s
- kg/min
- kg/h
- t/min
- t/h
- t/d
- m<sup>3</sup>/s
- m<sup>3</sup>/min
- m<sup>3</sup>/h
- m<sup>3</sup>/d
- l/s
- l/min
- l/h
- Nm<sup>3</sup>/h
- Nm<sup>3</sup>/d
- Sm<sup>3</sup>/s
- Sm<sup>3</sup>/min
- Sm<sup>3</sup>/h
- Sm<sup>3</sup>/d
- Nm<sup>3</sup>/s
- g/cm<sup>3</sup>
- kg/m<sup>3</sup>
- Nm<sup>3</sup>/min
- Nm<sup>3</sup>/d

*Custom-specific units*

Free text

*US units*

- ft
- in
- ft<sup>3</sup>
- gal (us)
- bbl (us;oil)
- oz
- lb
- STon
- lb/s
- lb/min
- lb/h
- STon/min
- STon/h
- STon/d
- ft<sup>3</sup>/s
- ft<sup>3</sup>/min
- ft<sup>3</sup>/h
- ft<sup>3</sup>/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<sup>3</sup>/min
- Sft<sup>3</sup>/h
- Sft<sup>3</sup>/d

*Imperial units*

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

## Free text



## Navigation

 Application → Sensor → Scaled variable → Free text

## User entry

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

---

**Pressure**


---

**Navigation**  Application → Sensor → Scaled variable → Pressure

---

**Scaled variable transfer function**


---



**Navigation**  Application → Sensor → Scaled variable → Scaled function

**Description**

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

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

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

**Selection**

- Linear
- Square root \*
- Table

---

**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

---

**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

---

\* Visibility depends on order options or device settings

|                                |                                                                                                            |  |
|--------------------------------|------------------------------------------------------------------------------------------------------------|--|
| <b>Activate table</b>          |                                                                                                            |  |
| <b>Navigation</b>              | Application → Sensor → Scaled variable → Activate table                                                    |  |
| <b>Selection</b>               | <ul style="list-style-type: none"> <li>■ Disable</li> <li>■ Enable</li> </ul>                              |  |
| <b>Pressure value 1</b>        |                                                                                                            |  |
| <b>Navigation</b>              | Application → Sensor → Scaled variable → Pressure 1                                                        |  |
| <b>Description</b>             | Enter pressure for the first scaling point. "Scaled variable value 1" will be allocated to this pressure.  |  |
| <b>User entry</b>              | Signed floating-point number                                                                               |  |
| <b>Scaled variable value 1</b> |                                                                                                            |  |
| <b>Navigation</b>              | Application → Sensor → Scaled variable → Scaled 1                                                          |  |
| <b>Description</b>             | Enter value for the first scaling point. This value is allocated to "Pressure value 1".                    |  |
| <b>User interface</b>          | Signed floating-point number                                                                               |  |
| <b>Pressure value 2</b>        |                                                                                                            |  |
| <b>Navigation</b>              | Application → Sensor → Scaled variable → Pressure 2                                                        |  |
| <b>Description</b>             | Enter pressure for the second scaling point. "Scaled variable value 2" will be allocated to this pressure. |  |
| <b>User entry</b>              | Signed floating-point number                                                                               |  |
| <b>Scaled variable value 2</b> |                                                                                                            |  |
| <b>Navigation</b>              | Application → Sensor → Scaled variable → Scaled 2                                                          |  |
| <b>Description</b>             | Enter value for the second scaling point. This value is allocated to "Pressure value 2".                   |  |
| <b>User entry</b>              | Signed floating-point number                                                                               |  |

Pressure

Navigation

Application → Sensor → Scaled variable → Pressure

User entry

Signed floating-point number

Scaled variable

Navigation

Application → Sensor → Scaled variable → Scaled variable

User entry

Signed floating-point number

"Wet calibration" submenu

Navigation

Application → Sensor → Wet calibration

Zero

Navigation

Application → Sensor → Wet calibration → Zero

Selection

■ No

■ Confirm

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

Span

Navigation

Application → Sensor → Wet calibration → Span

Selection

■ No

■ Confirm

**Pressure value 2**

|                    |                                                                                                                                       |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Application → Sensor → Wet calibration → Pressure 2 |
| <b>Description</b> | Enter pressure for the second scaling point. "Scaled variable value 2" will be allocated to this pressure.                            |
| <b>User entry</b>  | Signed floating-point number                                                                                                          |

**Lower range value output**

|                    |                                                                                                                                                      |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Application → Sensor → Wet calibration → Low.range outp            |
| <b>Description</b> | Depending on which variable has been selected as "Process variable output current ", define the related lower (4 mA) and upper range values (20 mA). |
| <b>User entry</b>  | Signed floating-point number                                                                                                                         |

**Upper range value output**

|                    |                                                                                                                                                      |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Application → Sensor → Wet calibration → Upp.range outp          |
| <b>Description</b> | Depending on which variable has been selected as "Process variable output current ", define the related lower (4 mA) and upper range values (20 mA). |
| <b>User entry</b>  | Signed floating-point number                                                                                                                         |

**"Wet calibration" submenu**

*Navigation*  Application → Sensor → Wet calibration

**Zero**

|                   |                                                                                                                                                                                                                       |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b> |   Application → Sensor → Wet calibration → Zero |
| <b>Selection</b>  | <ul style="list-style-type: none"> <li>■ No</li> <li>■ Confirm</li> </ul>                                                                                                                                             |

| Pressure value 1         |                                                                                                                                                                                                                   |    |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Navigation</b>        |  Application → Sensor → Wet calibration → Pressure 1                                                                             |                                                                                       |
| <b>Description</b>       | Enter pressure for the first scaling point. "Scaled variable value 1" will be allocated to this pressure.                                                                                                         |                                                                                       |
| <b>User entry</b>        | Signed floating-point number                                                                                                                                                                                      |                                                                                       |
| Span                     |                                                                                                                                                                                                                   |    |
| <b>Navigation</b>        |   Application → Sensor → Wet calibration → Span |                                                                                       |
| <b>Selection</b>         | <ul style="list-style-type: none"> <li>■ No</li> <li>■ Confirm</li> </ul>                                                                                                                                         |                                                                                       |
| Pressure value 2         |                                                                                                                                                                                                                   |    |
| <b>Navigation</b>        |  Application → Sensor → Wet calibration → Pressure 2                                                                           |                                                                                       |
| <b>Description</b>       | Enter pressure for the second scaling point. "Scaled variable value 2" will be allocated to this pressure.                                                                                                        |                                                                                       |
| <b>User entry</b>        | Signed floating-point number                                                                                                                                                                                      |                                                                                       |
| Lower range value output |                                                                                                                                                                                                                   |  |
| <b>Navigation</b>        |  Application → Sensor → Wet calibration → Low.range outp                                                                       |                                                                                       |
| <b>Description</b>       | Depending on which variable has been selected as "Process variable output current ", define the related lower (4 mA) and upper range values (20 mA).                                                              |                                                                                       |
| <b>User entry</b>        | Signed floating-point number                                                                                                                                                                                      |                                                                                       |
| Upper range value output |                                                                                                                                                                                                                   |  |
| <b>Navigation</b>        |  Application → Sensor → Wet calibration → Upp.range outp                                                                       |                                                                                       |
| <b>Description</b>       | 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

### 3.4.4 "Current output" submenu

*Navigation*  Application → Curr.output

---

#### Assign PV

---

**Navigation**  Application → Curr.output → Assign PV

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

**Selection**

- Pressure
- Scaled variable

---

#### Measuring mode current output

---

**Navigation**   Application → Curr.output → Output mode

**Description** Select curve of current output.

**Selection**

- Standard
- Inverse
- Bi-directional

---

#### 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)

---

**Lower range value output**

---

**Navigation** Application → Curr.output → 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

---

**Upper range value output**

---

**Navigation** Application → Curr.output → 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

---

**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.

---

**Failure current**

---

**Navigation** Application → Curr.output → Failure current**Description**

Enter current output value in alarm condition

**User entry**

21.5 to 23 mA

---

**Output current**


---

|                       |                                                                                                                            |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Application → Curr.output → Output curr. |
| <b>Description</b>    | Shows the value currently calculated for the current output                                                                |
| <b>User interface</b> | 3.59 to 23 mA                                                                                                              |

---

**Terminal current**


---

|                       |                                                                                                                              |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Application → Curr.output → Terminal curr. |
| <b>Description</b>    | Shows the current value of the current output which is currently measured                                                    |
| <b>User interface</b> | 0 to 30 mA                                                                                                                   |

---

**4 mA trim value**


---



|                    |                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Application → Curr.output → 4 mA trim value |
| <b>Description</b> | Enter the trim value for the 4 mA current output.<br>Note:<br>Simulation must be active.                                        |
| <b>User entry</b>  | 3 to 5 mA                                                                                                                       |

---

**20 mA trim value**


---



|                    |                                                                                                                                  |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  Application → Curr.output → 20 mA trim value |
| <b>Description</b> | Enter the trim value for the 20 mA current output.<br>Note:<br>Simulation must be active.                                        |
| <b>User entry</b>  | 18 to 22 mA                                                                                                                      |

3.4.5 "HART output" submenu

Navigation  Application → HART output

"Configuration" submenu

Navigation  Application → HART output → Configuration

HART address 

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation             |   Application → HART output → Configuration → HART address                                                                                                                                                                                                |
| Description            | Define the HART address of the device.                                                                                                                                                                                                                                                                                                                                                                                      |
| User entry             | 0 to 63                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Additional information | <ul style="list-style-type: none"><li>■ The measured value can only be transmitted via the current value if the address is set to "0". The current is fixed at 4.0 mA for all other addresses (Multidrop mode).</li><li>■ Only addresses in the range 0 to 15 are permitted for a system according to HART 5.0.</li><li>■ All addresses in the range 0 to 63 are permitted for a system with HART 6.0 and higher.</li></ul> |

HART short tag 

|             |                                                                                                                                                                                                                                    |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation  |   Application → HART output → Configuration → HART short tag |
| Description | Defines the short tag for the measuring point.<br><br>Maximum length: 8 characters<br>Allowed characters: A-Z, 0-9, certain special characters                                                                                     |
| User entry  | Max. 8 characters: A to Z, 0 to 9 and certain special characters (e.g. punctuation marks, @, %).                                                                                                                                   |

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)                                                                                                                                                       |

| 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                                                                                                                                                                                                                                                          |                                                                                       |
| 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.<br>In this mode the output current is fixed. |                                                                                       |
| Selection                    | <ul style="list-style-type: none"><li>■ Disable</li><li>■ Enable</li></ul>                                                                                                                                                                                       |                                                                                       |
| <b>"HART output" submenu</b> |                                                                                                                                                                                                                                                                  |                                                                                       |
| Navigation                   |                                                                                                                                                                               | Application → HART output → HART output                                               |
| Assign PV                    |                                                                                                                                                                                                                                                                  |  |
| Navigation                   |   Application → HART output → HART output → Assign PV                                      |                                                                                       |
| Description                  | Use this function to select a measured variable (HART device variable) for the primary dynamic variable (PV).                                                                                                                                                    |                                                                                       |
| Selection                    | <ul style="list-style-type: none"><li>■ Pressure</li><li>■ Scaled variable</li></ul>                                                                                                                                                                             |                                                                                       |
| Primary variable (PV)        |                                                                                                                                                                                                                                                                  |                                                                                       |
| Navigation                   |                                                                                                                                                                               | Application → HART output → HART output → Primary var (PV)                            |
| Description                  | Shows the first HART value (PV).                                                                                                                                                                                                                                 |                                                                                       |
| Additional information       |                                                                                                                                                                                                                                                                  |                                                                                       |

## Assign SV



## Navigation

  Application → HART output → HART output → Assign SV

## Description

Use this function to select a measured variable (HART device variable) for the secondary 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

## Additional information

*Selection*

- **Sensor pressure** option  
Sensor Pressure is the raw signal from sensor before damping and position adjustment.
- **Terminal current** option  
The terminal current is the read-back current on terminal block.
- **Signal noise detected** option  
0 % - Signal noise is within the permissible range.  
100 % - Signal noise is outside of the permissible range.
- **Loop current** option  
The loop current is the output current set by the applied pressure.

## Secondary variable (SV)

## Navigation

 Application → HART output → HART output → Second.var(SV)

## Description

Shows the second HART value (SV).

## Assign TV



## Navigation

  Application → HART output → HART output → Assign TV

## Description

Use this function to select a measured variable (HART device variable) for the tertiary (third) dynamic variable (TV).

\* Visibility depends on order options or device settings

**Selection**

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

**Additional information***Selection*

- **Sensor pressure** option  
Sensor Pressure is the raw signal from sensor before damping and position adjustment.
- **Terminal current** option  
The terminal current is the read-back current on terminal block.
- **Signal noise detected** option  
0 % - Signal noise is within the permissible range.  
100 % - Signal noise is outside of the permissible range.
- **Loop current** option  
The loop current is the output current set by the applied pressure.

**Tertiary variable (TV)****Navigation**

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

**Description**

Shows the third HART value (TV).

**Assign QV****Navigation**

  Application → HART output → HART output → Assign QV

**Description**

Use this function to select a measured variable (HART device variable) for the quaternary (fourth) dynamic variable (QV).

**Selection**

- Pressure
- Scaled variable
- Sensor temperature
- Sensor pressure
- Electronics temperature
- Terminal current<sup>\*</sup>
- Terminal voltage<sup>\*</sup>
- Median of pressure signal<sup>\*</sup>
- Noise of pressure signal<sup>\*</sup>
- Signal noise detected<sup>\*</sup>

<sup>\*</sup> Visibility depends on order options or device settings

- Percent of range
- Loop current
- Not used

**Additional information***Selection*

- **Sensor pressure** option  
Sensor Pressure is the raw signal from sensor before damping and position adjustment.
- **Terminal current** option  
The terminal current is the read-back current on terminal block.
- **Signal noise detected** option  
0 % - Signal noise is within the permissible range.  
100 % - Signal noise is outside of the permissible range.
- **Loop current** option  
The loop current is the output current set by the applied pressure.

---

**Quaternary variable (QV)**

---

**Navigation**

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

**Description**

Shows the fourth value (QV).

**"Burst configuration 1" submenu**

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

---

**Burst mode 1**

---

**Navigation**

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

**Description**

Use this function to select whether to activate the HART burst mode for burst message X.

**Selection**

- Off  
The measuring device transmits data only when requested by the HART master.
- On  
The measuring device transmits data regularly without being requested.

**Additional information***Selection*

- Off  
The measuring device transmits data only when requested by the HART master.
- On  
The measuring device transmits data regularly without being requested.



**Burst command 1**

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             | Application → HART output → Burst config. 1 → Burst command 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Description</b>            | Use this function to select the HART command that is sent to the HART master.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Selection</b>              | <ul style="list-style-type: none"> <li>■ Primary variable (PV)</li> <li>■ Loop Current and Percent of Range</li> <li>■ Dynamic Variables</li> <li>■ Device variables with status</li> <li>■ Device variables</li> <li>■ Additional device status</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Additional information</b> | <p><i>Selection</i></p> <ul style="list-style-type: none"> <li>■ Command 1<br/>Read out the primary variable.</li> <li>■ Command 2<br/>Read out the current and the main measured value as a percentage.</li> <li>■ Command 3<br/>Read out the dynamic HART variables and the current.</li> <li>■ Command 9<br/>Read out the dynamic HART variables including the related status.</li> <li>■ Command 33<br/>Read out the dynamic HART variables including the related unit.</li> <li>■ Command 48<br/>Read out the complete device diagnostics.</li> </ul> <p><i>"Command 33" option</i></p> <p>The HART device variables are defined via Command 107.</p> <p><i>Commands</i></p> <ul style="list-style-type: none"> <li> ■ Information about the defined details of the command: HART specifications</li> <li>■ The measured variables (HART device variables) are assigned to the dynamic variables in the <b>Output</b> submenu.</li> </ul> |

**Burst variable 0**

|                    |                                                                                                                                                                                                                                                                                                                                |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  | Application → HART output → Burst config. 1 → Burst variable 0                                                                                                                                                                                                                                                                 |
| <b>Description</b> | For HART command 9 and 33; select the HART device variable or the process variable.                                                                                                                                                                                                                                            |
| <b>Selection</b>   | <ul style="list-style-type: none"> <li>■ Pressure</li> <li>■ Scaled variable</li> <li>■ Sensor temperature</li> <li>■ Sensor pressure</li> <li>■ Electronics temperature</li> <li>■ Measured current *</li> <li>■ Terminal voltage 1 *</li> <li>■ Median of pressure signal *</li> <li>■ Noise of pressure signal *</li> </ul> |

\* Visibility depends on order options or device settings

- Signal noise detected \*
- Percent of range
- Measured current
- Primary variable (PV)
- Secondary variable (SV)
- Tertiary variable (TV)
- Quaternary variable (QV)
- Not used

**Additional information**      *Selection*  
If a burst message is not configured, the **Not used** option is set.

**Burst variable 1** 

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

**Description**      For HART command 9 and 33: select the HART device variable or the process variable.

**Selection**      Please refer to the **Burst variable 0** parameter (→  89).

**Burst variable 2** 

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

**Description**      For HART command 9 and 33: select the HART device variable or the process variable.

**Selection**      Please refer to the **Burst variable 0** parameter (→  89).

**Burst variable 3** 

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

**Description**      For HART command 9 and 33: select the HART device variable or the process variable.

**Selection**      Please refer to the **Burst variable 0** parameter (→  89).

**Burst variable 4** 

**Navigation**            Application → HART output → Burst config. 1 → Burst variable 4

**Description**      For HART command 9: select the HART device variable or the process variable.

\*      Visibility depends on order options or device settings

**Selection** Please refer to the **Burst variable 0** parameter (→  89).

---

### Burst variable 5




---

**Navigation**  Application → HART output → Burst config. 1 → Burst variable 5

**Description** For HART command 9: select the HART device variable or the process variable.

**Selection** Please refer to the **Burst variable 0** parameter (→  89).

---

### Burst variable 6




---

**Navigation**  Application → HART output → Burst config. 1 → Burst variable 6

**Description** For HART command 9: select the HART device variable or the process variable.

**Selection** Please refer to the **Burst variable 0** parameter (→  89).

---

### Burst variable 7




---

**Navigation**  Application → HART output → Burst config. 1 → Burst variable 7

**Description** For HART command 9: select the HART device variable or the process variable.

**Selection** Please refer to the **Burst variable 0** parameter (→  89).

---

### Burst trigger mode




---

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

**Description** Use this function to select the event that triggers burst message X.

**Selection**

- Continuous
- Window<sup>\*</sup>
- Rising<sup>\*</sup>
- Falling<sup>\*</sup>
- On change

---

\* Visibility depends on order options or device settings

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Additional information | <div>Selection</div> <div><div>■ Continuous</div><div>The message is sent continuously, at least at intervals corresponding to the time frame specified in the <b>Burst min period</b> parameter (→  92).</div><div>■ Window</div><div>The message is sent if the specified measured value has changed by the value in the <b>Burst trigger level</b> parameter (→  92).</div><div>■ Rising</div><div>The message is sent if the specified measured value exceeds the value in the <b>Burst trigger level</b> parameter (→  92).</div><div>■ Falling</div><div>The message is sent if the specified measured value drops below the value in the <b>Burst trigger level</b> parameter (→  92).</div><div>■ On change</div><div>The message is sent if a measured value changes in the burst message.</div></div> |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Burst trigger level

|                        |                                                                                                                                                                                                                                                                             |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation             |  Application → HART output → Burst config. 1 → Trigger level                                                                                                                               |
| Description            | Use this function to enter the burst trigger value.                                                                                                                                                                                                                         |
| User entry             | Signed floating-point number                                                                                                                                                                                                                                                |
| Additional information | <div>Description</div> <div>Together with the option selected in the <b>Burst trigger mode</b> parameter (→  91) the burst trigger value determines the time of burst message X.</div> |

Min. update period

|             |                                                                                                                                                  |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation  |  Application → HART output → Burst config. 1 → Min. upd. per. |
| Description | Use this function to enter the minimum time span between two burst commands of burst message X.                                                  |
| User entry  | Positive integer                                                                                                                                 |

Max. update period

|             |                                                                                                                                                  |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation  |  Application → HART output → Burst config. 1 → Max. upd. per. |
| Description | Use this function to enter the maximum time span between two burst commands of burst message X.                                                  |
| User entry  | Positive integer                                                                                                                                 |

**"Information" submenu**

*Navigation*  Application → HART output → Information

**Device ID**

|                               |                                                                                                                                                                                                                                                                                 |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             |  Application → HART output → Information → Device ID                                                                                                                                           |
| <b>Description</b>            | Use this function to view the device ID for identifying the measuring device in a HART network.                                                                                                                                                                                 |
| <b>User interface</b>         | 6-digit hexadecimal number                                                                                                                                                                                                                                                      |
| <b>Additional information</b> | <p><i>Description</i></p> <p> In addition to the device type and manufacturer ID, the device ID is part of the unique ID. Each HART device is uniquely identified by the unique device ID.</p> |

**Device type**

|                               |                                                                                                                                                                                                                                                           |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             |  Application → HART output → Information → Device type                                                                                                                 |
| <b>Description</b>            | Displays the device type with which the measuring device is registered with the HART Communication Foundation.                                                                                                                                            |
| <b>User interface</b>         | 2-digit hexadecimal number                                                                                                                                                                                                                                |
| <b>Factory setting</b>        | 0x54                                                                                                                                                                                                                                                      |
| <b>Factory setting</b>        | 0x5A                                                                                                                                                                                                                                                      |
| <b>Additional information</b> | <p><i>Description</i></p> <p> The device type is specified by the manufacturer. It is needed to assign the appropriate device description file (DD) to the device.</p> |

**Device revision**

|                       |                                                                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  Application → HART output → Information → Device revision |
| <b>Description</b>    | Displays the device revision with which the device is registered with the HART Communication Foundation.                                      |
| <b>User interface</b> | 2-digit hexadecimal number                                                                                                                    |

**Additional information***Description*

The device revision is needed to assign the appropriate device description file (DD) to the device.

**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**

Max. 8 characters: A to Z, 0 to 9 and certain special characters (e.g. punctuation marks, @, %).

**HART revision****Navigation**

Application → HART output → Information → HART revision

**Description**

Shows the HART revision of the device.

**HART descriptor****Navigation**

Application → HART output → Information → HART descriptor

**Description**

Description for the measuring point.

**User entry**

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

**HART message****Navigation**

Application → HART output → Information → HART message

**Description**

A HART message which is sent via the HART protocol when requested by the master.

**User entry**

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

| HART date code         |                                                                                                                                            |                                  |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Navigation             |  Application → HART output → Information → HART date code |                                                                                                                     |
| Description            | Date of the last configuration change                                                                                                      |                                                                                                                     |
| User entry             | Character string comprising numbers, letters and special characters (10)                                                                   |                                                                                                                     |
| Additional information | Date format: YYYY-MM-DD                                                                                                                    |                                                                                                                     |
|                        |                                                           | Make sure you adhere to this format when entering the date. Otherwise errors may occur in individual HART commands. |

### 3.5 "System" menu

Navigation  System

#### 3.5.1 "Device management" submenu

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)

#### Locking status

Navigation   System → Device manag. → Locking status

Description Displays the active write protection.

User interface

- Hardware locked
- Safety locked
- Temporarily locked

Additional information *User interface*  
If two or more types of write protection are active, the write protection with the highest priority is shown on the local display. In the operating tool all active types of write protection are displayed.  
 Detailed information on access authorization is provided in the "User roles and associated access authorization" and "Operating concept" sections of the Operations Instructions for the device.

#### Selection

##### Function scope of the "Locking status" parameter

| Options            | Description                                                                                                                                                                                                           |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| None               | The access status displayed in the <b>Access status display</b> parameter applies. Only appears on local display.                                                                                                     |
| Hardware locked    | The DIP switch for hardware locking is activated on the main electronics module. This prevents write access to the parameters (e.g. via the local display or operating tool).                                         |
| Temporarily locked | Write access to the parameters is temporarily locked due to device-internal processing (e.g. data upload/download, reset). Once the internal processing has been completed, the parameters can be changed once again. |



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**Configuration counter**


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**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

---

**Reset device**


---



**Navigation**  System → Device manag. → Reset device

**Description** Use this function to choose whether to reset the device configuration - either entirely or in part - to a defined state.

**Selection**

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

**Additional information** *Selection*

| Options              | Description                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cancel               | No action is executed and the user exits the parameter.                                                                                                                                                                                                                                                                                                     |
| To factory defaults  | Every parameter is reset to its factory setting.                                                                                                                                                                                                                                                                                                            |
| To delivery settings | <p>Every parameter for which a customer-specific default setting was ordered is reset to this customer-specific value. All other parameters are reset to the factory setting.</p> <p> This option is not visible if no customer-specific settings have been ordered.</p> |
| Restart device       | The restart resets every parameter whose data are in the volatile memory (RAM) to the factory setting (e.g. measured value data). The device configuration remains unchanged.                                                                                                                                                                               |

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\* Visibility depends on order options or device settings

3.5.2 "User management" submenu

Navigation  System → User manag.

User role

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation             |  System → User manag. → User role                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Description            | Displays the access authorization to the parameters via the operating tool.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| User interface         | <ul style="list-style-type: none"><li>■ Operator</li><li>■ Maintenance</li><li>■ Expert</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Additional information | <p><i>Description</i></p> <p> Access authorization can be modified via the <b>Enter access code</b> parameter.</p> <p> If additional write protection is active, this restricts the current access authorization even further.</p> <p><i>User interface</i></p> <p> Detailed information on access authorization is provided in the "User roles and associated access authorization" and "Operating concept" sections of the Operations Instructions for the device.</p> |

Password

|             |                                                                                                                     |
|-------------|---------------------------------------------------------------------------------------------------------------------|
| Navigation  |  System → User manag. → Password |
| Description | Enter the password for the "Maintenance" user role to get access to the functionality of this role.                 |
| User entry  | Character string comprising numbers, letters and special characters (16)                                            |

Enter access code 

|             |                                                                                                                             |
|-------------|-----------------------------------------------------------------------------------------------------------------------------|
| Navigation  |  System → User manag. → Ent. access code |
| Description | Use this function to enter the user-specific release code to remove parameter write protection in the operating tool.       |
| User entry  | 0 to 9 999                                                                                                                  |

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**Status password entry**


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|                       |                                                                                                                                                                                                                                                                                                                   |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   System → User manag. → Status pw entry                                                                                                        |
| <b>Description</b>    | Use this function to display the status of the password verification.                                                                                                                                                                                                                                             |
| <b>User interface</b> | <ul style="list-style-type: none"> <li>■ -----</li> <li>■ Wrong password</li> <li>■ Password rule violated</li> <li>■ Password accepted</li> <li>■ Permission denied</li> <li>■ Confirm PW mismatch</li> <li>■ Reset password accepted</li> <li>■ Invalid user role</li> <li>■ Wrong sequence of entry</li> </ul> |

---

**New password**


---



|                    |                                                                                                                                                                                                                                                     |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |   System → User manag. → New password                                             |
| <b>Description</b> | <p>Define the new "Maintenance" password.</p> <p>A new password is valid after it has been confirmed within the "Confirm new password" parameter.</p> <p>Any valid password consists of 4 to 16 characters and can contain letters and numbers.</p> |
| <b>User entry</b>  | Character string comprising numbers, letters and special characters (16)                                                                                                                                                                            |

---

**Confirm new password**


---



|                    |                                                                                                                                                                                                                 |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |   System → User manag. → Confirm password |
| <b>Description</b> | Enter the new password again to confirm.                                                                                                                                                                        |
| <b>User entry</b>  | Character string comprising numbers, letters and special characters (16)                                                                                                                                        |

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**Old password**


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

---

**Reset password**


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|                    |                                                                                                                         |
|--------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  |  System → User manag. → Reset password |
| <b>Description</b> | Enter a code to reset the current "Maintenance" password.<br>The code is delivered by your local support.               |
| <b>User entry</b>  | Character string comprising numbers, letters and special characters (16)                                                |

### 3.5.3 "Display" submenu

*Navigation*  System → Display

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**Language**


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|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>      |   System → Display → Language                                                                                                                                                                                                                                                  |
| <b>Prerequisite</b>    | A local display is provided.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Description</b>     | Use this function to select the configured language on the local display.                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Selection</b>       | <ul style="list-style-type: none"> <li>■ English</li> <li>■ Deutsch</li> <li>■ Français</li> <li>■ Español</li> <li>■ Italiano</li> <li>■ Nederlands</li> <li>■ Portuguesa</li> <li>■ Polski</li> <li>■ русский язык (Russian)</li> <li>■ Svenska</li> <li>■ Türkçe</li> <li>■ 中文 (Chinese)</li> <li>■ 日本語 (Japanese)</li> <li>■ 한국어 (Korean)</li> <li>■ Bahasa Indonesia</li> <li>■ tiếng Việt (Vietnamese)</li> <li>■ čeština (Czech)</li> </ul> |
| <b>Factory setting</b> | English (alternatively, the ordered language is preset in the device)                                                                                                                                                                                                                                                                                                                                                                              |

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**Format display**


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|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             |  System → Display → Format display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Prerequisite</b>           | A local display is provided.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Description</b>            | Use this function to select how the measured value is shown on the local display.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Selection</b>              | <ul style="list-style-type: none"> <li>■ 1 value, max. size</li> <li>■ 1 bargraph + 1 value</li> <li>■ 2 values</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Additional information</b> | <p><i>Description</i></p> <p>The display format (size, bar graph etc.) and number of measured values displayed simultaneously (1 to 4) can be configured. This setting only applies to normal operation.</p> <p> ■ The <b>Value 1 display</b> parameter (→  101)...<b>Value 8 display</b> parameter <b>Value 4 display</b> parameter (→  103) are used to specify which measured values are shown on the local display and in what order.</p> <p>■ If more measured values are specified than the display mode selected permits, then the values alternate on the device display. The display time until the next change is configured using the <b>Display interval</b> parameter.</p> |

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**Value 1 display**


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|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             |  System → Display → Value 1 display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Prerequisite</b>           | A local display is provided.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Description</b>            | Use this function to select one of the measured values shown on the local display.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Selection</b>              | <ul style="list-style-type: none"> <li>■ Pressure</li> <li>■ Scaled variable</li> <li>■ Current output</li> <li>■ Sensor temperature</li> <li>■ Percent of range</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Additional information</b> | <p><i>Description</i></p> <p>If several measured values are displayed at once, the measured value selected here will be the first value to be displayed. The value is only displayed during normal operation.</p> <p> The <b>Format display</b> parameter (→  101) is used to specify how many measured values are displayed simultaneously and how.</p> <p><i>Dependency</i></p> <p> The unit of the displayed measured value is taken from the <b>System units</b> submenu.</p> |

| Value 2 display    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>                                                                                     |   System → Display → Value 2 display                                                                                                                                                                                                                                                                                                          |
| <b>Prerequisite</b>                                                                                   | A local display is provided.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Description</b>                                                                                    | Use this function to select one of the measured values shown on the local display.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Selection</b>                                                                                      | <ul style="list-style-type: none"><li>■ None</li><li>■ Pressure</li><li>■ Scaled variable</li><li>■ Current output</li><li>■ Sensor temperature</li><li>■ Percent of range</li></ul>                                                                                                                                                                                                                                                                                                                            |
| <b>Additional information</b>                                                                         | <i>Description</i><br>If several measured values are displayed at once, the measured value selected here will be the second value to be displayed. The value is only displayed during normal operation.<br> The <b>Format display</b> parameter (→  101) is used to specify how many measured values are displayed simultaneously and how.    |
|                                                                                                       | <i>Dependency</i><br> The unit of the displayed measured value is taken from the <b>System units</b> submenu.                                                                                                                                                                                                                                                                                                                 |
|                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Value 3 display  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Navigation</b>                                                                                     |   System → Display → Value 3 display                                                                                                                                                                                                                                                                                                      |
| <b>Prerequisite</b>                                                                                   | A local display is provided.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Description</b>                                                                                    | Use this function to select one of the measured values shown on the local display.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Selection</b>                                                                                      | <ul style="list-style-type: none"><li>■ None</li><li>■ Pressure</li><li>■ Scaled variable</li><li>■ Current output</li><li>■ Sensor temperature</li><li>■ Percent of range</li></ul>                                                                                                                                                                                                                                                                                                                            |
| <b>Additional information</b>                                                                         | <i>Description</i><br>If several measured values are displayed at once, the measured value selected here will be the third value to be displayed. The value is only displayed during normal operation.<br> The <b>Format display</b> parameter (→  101) is used to specify how many measured values are displayed simultaneously and how. |
|                                                                                                       | <i>Selection</i><br> The unit of the displayed measured value is taken from the <b>System units</b> submenu.                                                                                                                                                                                                                                                                                                                 |
|                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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**Value 4 display**


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|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             | System → Display → Value 4 display                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Prerequisite</b>           | A local display is provided.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Description</b>            | Use this function to select one of the measured values shown on the local display.                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Selection</b>              | <ul style="list-style-type: none"> <li>■ None</li> <li>■ Pressure</li> <li>■ Scaled variable</li> <li>■ Current output</li> <li>■ Sensor temperature</li> <li>■ Percent of range</li> </ul>                                                                                                                                                                                                                                                                                       |
| <b>Additional information</b> | <p><i>Description</i></p> <p>If several measured values are displayed at once, the measured value selected here will be the fourth value to be displayed. The value is only displayed during normal operation.</p> <p> The <b>Format display</b> parameter (→  101) is used to specify how many measured values are displayed simultaneously and how.</p> <p><i>Selection</i></p> <p> The unit of the displayed measured value is taken from the <b>System units</b> submenu.</p> |

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**Contrast display**


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|                               |                                                                                                                                                                                                               |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             | System → Display → Contrast display                                                                                                                                                                           |
| <b>Description</b>            | Adjust local display contrast setting to ambient conditions (e.g. lighting or reading angle)                                                                                                                  |
| <b>User entry</b>             | 20 to 80 %                                                                                                                                                                                                    |
| <b>Factory setting</b>        | Depends on the display                                                                                                                                                                                        |
| <b>Additional information</b> | <p> Set the contrast via the push-buttons:</p> <ul style="list-style-type: none"> <li>■ Weaker: Press the  and  buttons simultaneously</li> <li>■ Stronger: Press the  and  buttons simultaneously</li> </ul> |

3.5.4 "Geolocation" submenu

Navigation  System → Geolocation

Process Unit Tag 

|             |                                                                                                                           |
|-------------|---------------------------------------------------------------------------------------------------------------------------|
| Navigation  |  System → Geolocation → Process Unit Tag |
| Description | Enter the process unit in which the device is installed.                                                                  |
| User entry  | Character string comprising numbers, letters and special characters (32)                                                  |

Location Description 

|             |                                                                                                                          |
|-------------|--------------------------------------------------------------------------------------------------------------------------|
| Navigation  |  System → Geolocation → Location Descr. |
| Description | Use this function to enter a description of the location so that the device can be located in the plant.                 |
| User entry  | Character string comprising numbers, letters and special characters (32)                                                 |

Longitude 

|             |                                                                                                                      |
|-------------|----------------------------------------------------------------------------------------------------------------------|
| Navigation  |  System → Geolocation → Longitude |
| Description | Use this function to enter the longitude coordinates that describe the device location.                              |
| User entry  | −180 to 180 °                                                                                                        |

Latitude 

|             |                                                                                                                     |
|-------------|---------------------------------------------------------------------------------------------------------------------|
| Navigation  |  System → Geolocation → Latitude |
| Description | Use this function to enter the latitude coordinates that describe the device location.                              |
| User entry  | −90 to 90 °                                                                                                         |



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**Altitude**

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|                    |                                                                                 |
|--------------------|---------------------------------------------------------------------------------|
| <b>Navigation</b>  | System → Geolocation → Altitude                                                 |
| <b>Description</b> | Use this function to enter the altitude data that describe the device location. |
| <b>User entry</b>  | Signed floating-point number                                                    |

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**Location method**

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|                    |                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>  | System → Geolocation → Location method                                                                                                                                                                                                                                                                                                                                                         |
| <b>Description</b> | Use this function to select the data format for specifying the geographic location. The codes for specifying the location are based on the US National Marine Electronics Association (NMEA) Standard NMEA 0183.                                                                                                                                                                               |
| <b>Selection</b>   | <ul style="list-style-type: none"> <li>■ No fix</li> <li>■ GPS or Standard Positioning Service fix</li> <li>■ Differential GPS fix</li> <li>■ Precise positioning service (PPS) fix</li> <li>■ Real Time Kinetic (RTK) fixed solution</li> <li>■ Real Time Kinetic (RTK) float solution</li> <li>■ Estimated dead reckoning</li> <li>■ Manual input mode</li> <li>■ Simulation Mode</li> </ul> |

### 3.5.5 "Information" submenu

*Navigation*      System → Information

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**Device name**

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|                       |                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     | System → Information → Device name                                                              |
| <b>Description</b>    | Displays the name of the transmitter. It can also be found on the nameplate of the transmitter. |
| <b>User interface</b> | Max. 32 characters such as letters or numbers.                                                  |

|                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Manufacturer</b>                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Navigation</b>                                                                                        |   System → Information → Manufacturer                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>User interface</b>                                                                                    | Character string comprising numbers, letters and special characters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Serial number</b>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Navigation</b>                                                                                        |   System → Information → Serial number                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Description</b>                                                                                       | <p>Displays the serial number of the measuring device.</p> <p> The number can be found on the nameplate of the sensor and transmitter.</p>                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>User interface</b>                                                                                    | Max. 11-digit character string comprising letters and numbers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Additional information</b>                                                                            | <p><i>Description</i></p> <p> <b>Uses of the serial number</b></p> <ul style="list-style-type: none"> <li>■ To identify the measuring device quickly, e.g. when contacting Endress+Hauser.</li> <li>■ To obtain specific information on the measuring device using the Device Viewer: <a href="http://www.endress.com/deviceviewer">www.endress.com/deviceviewer</a></li> </ul>                                                                                                                                                                |
| <b>Order code</b>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Navigation</b>                                                                                        |   System → Information → Order code                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Description</b>                                                                                       | Shows the device order code.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>User interface</b>                                                                                    | Character string composed of letters, numbers and certain punctuation marks (e.g. /).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Factory setting</b>                                                                                   | –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Additional information</b>                                                                            | <p><i>Description</i></p> <p>The order code is generated from the extended order code through a process of reversible transformation. The extended order code indicates the attributes for all the device features in the product structure. The device features are not directly readable from the order code.</p> <p> <b>Uses of the order code</b></p> <ul style="list-style-type: none"> <li>■ To order an identical spare device.</li> <li>■ To identify the device quickly and easily, e.g. when contacting Endress+Hauser.</li> </ul> |

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**Firmware version**


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|                               |                                                                                                                                                                                                                                                                                              |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             |   System → Information → Firmware version                                                                                  |
| <b>Description</b>            | Displays the device firmware version that is installed.                                                                                                                                                                                                                                      |
| <b>User interface</b>         | Character string in the format xx.yy.zz                                                                                                                                                                                                                                                      |
| <b>Additional information</b> | <i>User interface</i><br> The Firmware version is also located: <ul style="list-style-type: none"> <li>■ On the title page of the Operating instructions</li> <li>■ On the transmitter nameplate</li> </ul> |

---

**Hardware version**


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|                       |                                                                                                                                                                                                             |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   System → Information → Hardware version |
| <b>User interface</b> | Character string comprising numbers, letters and special characters                                                                                                                                         |

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**Extended order code 1**


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|                               |                                                                                                                                                                                              |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>             |  System → Information → Ext. order cd. 1                                                                  |
| <b>Description</b>            | The extended order code is an alphanumeric code containing all information to identify the device and its options.                                                                           |
| <b>User interface</b>         | Character string                                                                                                                                                                             |
| <b>Factory setting</b>        | –                                                                                                                                                                                            |
| <b>Additional information</b> | <i>Description</i><br>The extended order code indicates the version of all the features of the product structure for the measuring device and thus uniquely identifies the measuring device. |

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**Extended order code 2**


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|                       |                                                                                                                                                                                                                                                                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |  System → Information → Ext. order cd. 2                                                                                                                                                                                                          |
| <b>Description</b>    | The extended order code is an alphanumeric code containing all information to identify the device and its options.<br><br> The extended order code can also be found on the nameplate of the sensor and transmitter in the "Ext. ord. cd." field. |
| <b>User interface</b> | Character string                                                                                                                                                                                                                                                                                                                     |

Factory setting

–

Extended order code 3

Navigation

System → Information → Ext. order cd. 3

Description

The extended order code is an alphanumeric code containing all information to identify the device and its options.  

The extended order code can also be found on the nameplate of the sensor and transmitter in the "Ext. ord. cd." field.

User interface

Character string

Factory setting

–

XML build number

Navigation

System → Information → XML build no.

User interface

Positive integer

Checksum

Navigation

System → Information → Checksum

Description

Checksum for Firmware version.

User interface

Positive integer

3.5.6 "Software configuration" submenu

Navigation

System → Softw. config.

Activate SW option

Navigation

System → Softw. config. → Activate SW opt.

Description

Use this function to enter an activation code to enable an additional, ordered software option.

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>User entry</b>             | Max. 10-digit string of numbers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Factory setting</b>        | Depends on the software option ordered                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Additional information</b> | <p><i>Description</i></p> <p>If a measuring device was ordered with an additional software option, the activation code is programmed in the device at the factory.</p> <p><i>User entry</i></p> <p> To activate a software option subsequently, please contact your Endress+Hauser sales organization.</p> <p><b>NOTE!</b></p> <p><b>The activation code is linked to the serial number of the measuring device and varies according to the device and software option.</b></p> <p>If an incorrect or invalid code is entered, this results in the loss of software options that have already been activated.</p> <ul style="list-style-type: none"> <li>▶ Before you enter a new activation code, make a note of the current activation code from the parameter protocol.</li> <li>▶ Enter the new activation code provided by Endress+Hauser when the new software option was ordered.</li> <li>▶ If the code entered is incorrect or invalid, enter the old activation code from the parameter protocol.</li> <li>▶ Have the Endress+Hauser sales organization check the new activation code remembering to specify the serial number or ask for the code again.</li> </ul> <p><i>Example for a software option</i></p> <p>Order code for "Application package", option <b>EA</b> "Extended HistoROM"</p> |

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## Software option overview

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|                       |                                                                                                                                                                                                                    |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation</b>     |   System → Softw. config. → SW option overv. |
| <b>Description</b>    | Shows all enabled software options                                                                                                                                                                                 |
| <b>User interface</b> | <ul style="list-style-type: none"> <li>■ SIL</li> <li>■ WHG</li> <li>■ Heartbeat Verification</li> <li>■ Heartbeat Monitoring</li> </ul>                                                                           |

# Index

|                                                            |                    |
|------------------------------------------------------------|--------------------|
| <b>0 ... 9</b>                                             |                    |
| 4 mA trim value (Parameter) . . . . .                      | 83                 |
| 20 mA trim value (Parameter) . . . . .                     | 83                 |
| 500 Diagnostic behavior (Parameter) . . . . .              | 56                 |
| 500 Event category (Parameter) . . . . .                   | 56                 |
| 500 Process alert pressure (Parameter) . . . . .           | 52                 |
| 501 Diagnostic behavior (Parameter) . . . . .              | 56                 |
| 501 Event category (Parameter) . . . . .                   | 57                 |
| 501 Process alert scaled variable (Parameter) . . . . .    | 53                 |
| 502 Diagnostic behavior (Parameter) . . . . .              | 57                 |
| 502 Event category (Parameter) . . . . .                   | 57                 |
| 806 Diagnostic behavior (Parameter) . . . . .              | 55, 58, 61         |
| 806 Event category (Parameter) . . . . .                   | 55, 58, 61         |
| 806 Event delay (Parameter) . . . . .                      | 55                 |
| 822 Diagnostic behavior (Parameter) . . . . .              | 58, 61             |
| 822 Event category (Parameter) . . . . .                   | 59, 62             |
| 841 Event category (Parameter) . . . . .                   | 59, 62             |
| 900 Diagnostic behavior (Parameter) . . . . .              | 60, 63             |
| 900 Event category (Parameter) . . . . .                   | 60, 63             |
| 906 Diagnostic behavior (Parameter) . . . . .              | 60, 63             |
| 906 Event category (Parameter) . . . . .                   | 60, 63             |
| <b>A</b>                                                   |                    |
| Activate SW option (Parameter) . . . . .                   | 108                |
| Activate table (Parameter) . . . . .                       | 77                 |
| Active diagnostics (Parameter) . . . . .                   | 44                 |
| Active diagnostics (Submenu) . . . . .                     | 44                 |
| Altitude (Parameter) . . . . .                             | 105                |
| Application (Menu) . . . . .                               | 65                 |
| Assign HART variables? (Parameter) . . . . .               | 39, 41             |
| Assign PV (Parameter) . . . . .                            | 27, 41, 74, 81, 85 |
| Assign QV (Parameter) . . . . .                            | 43, 87             |
| Assign SV (Parameter) . . . . .                            | 42, 86             |
| Assign TV (Parameter) . . . . .                            | 42, 86             |
| <b>B</b>                                                   |                    |
| Basic settings (Submenu) . . . . .                         | 69                 |
| Burst command 1 (Parameter) . . . . .                      | 89                 |
| Burst configuration 1 (Submenu) . . . . .                  | 88                 |
| Burst mode 1 (Parameter) . . . . .                         | 88                 |
| Burst trigger level (Parameter) . . . . .                  | 92                 |
| Burst trigger mode (Parameter) . . . . .                   | 91                 |
| Burst variable 0 (Parameter) . . . . .                     | 89                 |
| Burst variable 1 (Parameter) . . . . .                     | 90                 |
| Burst variable 2 (Parameter) . . . . .                     | 90                 |
| Burst variable 3 (Parameter) . . . . .                     | 90                 |
| Burst variable 4 (Parameter) . . . . .                     | 90                 |
| Burst variable 5 (Parameter) . . . . .                     | 91                 |
| Burst variable 6 (Parameter) . . . . .                     | 91                 |
| Burst variable 7 (Parameter) . . . . .                     | 91                 |
| <b>C</b>                                                   |                    |
| Calibration offset (Parameter) . . . . .                   | 70                 |
| Checksum (Parameter) . . . . .                             | 108                |
| Clear event list (Parameter) . . . . .                     | 46                 |
| Commissioning (Wizard) . . . . .                           | 23                 |
| Configuration (Submenu) . . . . .                          | 56, 84             |
| Configuration counter (Parameter) . . . . .                | 97                 |
| Confirm new password (Parameter) . . . . .                 | 99                 |
| Contrast display (Parameter) . . . . .                     | 103                |
| Counter limit overruns sensor Pmax (Parameter) . . . . .   | 49                 |
| Counter limit overruns sensor Tmax (Parameter) . . . . .   | 50                 |
| Counter limit underruns sensor Pmin (Parameter) . . . . .  | 47                 |
| Counter limit underruns sensor Tmin (Parameter) . . . . .  | 48                 |
| Counter overruns of user limit Pmax (Parameter) . . . . .  | 49                 |
| Counter overruns of user limit Tmax (Parameter) . . . . .  | 50                 |
| Counter underruns of user limit Pmin (Parameter) . . . . . | 47                 |
| Counter underruns of user limit Tmin (Parameter) . . . . . | 48                 |
| Current output (Submenu) . . . . .                         | 81                 |
| Current range output (Parameter) . . . . .                 | 38, 40, 81         |
| <b>D</b>                                                   |                    |
| Damping (Parameter) . . . . .                              | 27, 70             |
| Decimal places pressure (Parameter) . . . . .              | 65                 |
| Decimal places scaled variable (Parameter) . . . . .       | 67                 |
| Description of device parameters . . . . .                 | 21                 |
| Device ID (Parameter) . . . . .                            | 93                 |
| Device identification (Wizard) . . . . .                   | 23, 25, 26         |
| Device management (Submenu) . . . . .                      | 96                 |
| Device name (Parameter) . . . . .                          | 23, 105            |
| Device revision (Parameter) . . . . .                      | 93                 |
| Device tag (Parameter) . . . . .                           | 23, 84, 96         |
| Device type (Parameter) . . . . .                          | 93                 |
| Diagnostic event simulation (Parameter) . . . . .          | 51                 |
| Diagnostic settings (Submenu) . . . . .                    | 52                 |
| Diagnostics (Menu) . . . . .                               | 44                 |
| Display (Submenu) . . . . .                                | 100                |
| Document                                                   |                    |
| Explanation of the structure of a parameter                |                    |
| description . . . . .                                      | 4                  |
| Function . . . . .                                         | 4                  |
| Structure . . . . .                                        | 4                  |
| Symbols used . . . . .                                     | 5                  |
| Target group . . . . .                                     | 4                  |
| Using the document . . . . .                               | 4                  |
| Document function . . . . .                                | 4                  |
| <b>E</b>                                                   |                    |
| Electronics temperature (Parameter) . . . . .              | 69                 |
| Enter access code (Parameter) . . . . .                    | 98                 |
| Event logbook (Submenu) . . . . .                          | 46                 |
| Extended order code 1 (Parameter) . . . . .                | 24, 107            |
| Extended order code 2 (Parameter) . . . . .                | 24, 107            |
| Extended order code 3 (Parameter) . . . . .                | 24, 108            |
| <b>F</b>                                                   |                    |
| Failure behavior current output (Parameter) . . . . .      | 38, 40, 82         |
| Failure current (Parameter) . . . . .                      | 38, 41, 82         |
| Filter options (Parameter) . . . . .                       | 46                 |
| Firmware version (Parameter) . . . . .                     | 107                |
| Format display (Parameter) . . . . .                       | 101                |
| Free text (Parameter) . . . . .                            | 30, 67, 75         |

Function  
see Parameter

## G

Geolocation (Submenu) ..... 104  
Guidance (Menu) ..... 21, 23

## H

Hardware version (Parameter) ..... 107  
HART address (Parameter) ..... 27, 84  
HART date code (Parameter) ..... 26, 95  
HART descriptor (Parameter) ..... 26, 94  
HART message (Parameter) ..... 26, 94  
HART output (Submenu) ..... 84, 85  
HART revision (Parameter) ..... 94  
HART short tag (Parameter) ..... 26, 84, 94  
High alert value (Parameter) ..... 53, 54

## I

Information (Submenu) ..... 93, 105

## L

Language (Parameter) ..... 100  
Latitude (Parameter) ..... 104  
Location Description (Parameter) ..... 104  
Location method (Parameter) ..... 105  
Locking status (Parameter) ..... 25, 96  
Longitude (Parameter) ..... 104  
Loop current mode (Parameter) ..... 39, 41, 85  
Low alert value (Parameter) ..... 53, 54  
Lower Range Limit (Parameter) ..... 33, 35, 37, 73  
Lower range value output (Parameter)  
..... 34, 37, 40, 76, 79, 80, 82  
Lower sensor trim (Parameter) ..... 72  
Lower sensor trim measured value (Parameter) ..... 71

## M

Manufacturer (Parameter) ..... 106  
Max. update period (Parameter) ..... 92  
Maximum electronics temperature (Parameter) ..... 50  
Maximum sensor temperature (Parameter) ..... 49  
Maximum terminal voltage (Parameter) ..... 50  
Measured values (Submenu) ..... 68  
Measurement adjustments (Wizard) ..... 27, 28, 29, 31  
Measuring mode current output (Parameter) ..... 81  
Measuring units (Submenu) ..... 65  
Menu  
    Application ..... 65  
    Diagnostics ..... 44  
    Guidance ..... 21, 23  
    System ..... 96  
Min. update period (Parameter) ..... 92  
Minimum electronics temperature (Parameter) ..... 48  
Minimum sensor temperature (Parameter) ..... 48  
Minimum span (Parameter) ..... 33, 35, 37, 74  
Minimum terminal voltage (Parameter) ..... 48  
Minimum/maximum values (Submenu) ..... 47

## N

New password (Parameter) ..... 99

No. of preambles (Parameter) ..... 85

## O

Old password (Parameter) ..... 99  
Operating time (Parameter) ..... 46  
Operating time from restart (Parameter) ..... 45  
Order code (Parameter) ..... 106  
Output current (Parameter) ..... 83  
Output current transfer function (Parameter) ..... 32, 69  
Output settings (Wizard) ..... 32, 33, 34, 35, 37, 39, 41

## P

Parameter

    Structure of a parameter description ..... 4

Password (Parameter) ..... 98  
Pressure (Parameter) ..... 32, 34, 68, 76, 78  
Pressure max (Parameter) ..... 49  
Pressure min (Parameter) ..... 47  
Pressure unit (Parameter) ..... 28, 29, 65  
Pressure value 1 (Parameter) ..... 36, 77, 78, 80  
Pressure value 2 (Parameter) ..... 36, 77, 79, 80  
Previous diagnostics (Parameter) ..... 45  
Primary variable (PV) (Parameter) ..... 85  
Process (Submenu) ..... 58, 61  
Process Unit Tag (Parameter) ..... 104  
Process variable output current (Parameter) ..... 39  
Properties (Submenu) ..... 52

## Q

Quaternary variable (QV) (Parameter) ..... 88

## R

Reset device (Parameter) ..... 97  
Reset password (Parameter) ..... 100  
Reset user defined counters P and T (Parameter) ..... 49

## S

Scaled variable (Parameter) ..... 34, 68, 78  
Scaled variable (Submenu) ..... 74  
Scaled variable transfer function (Parameter) ..... 32, 35, 76  
Scaled variable unit (Parameter) ..... 29, 66, 75  
Scaled variable value 1 (Parameter) ..... 36, 77  
Scaled variable value 2 (Parameter) ..... 36, 77  
Secondary variable (SV) (Parameter) ..... 86  
Sensor (Submenu) ..... 69  
Sensor calibration (Submenu) ..... 70  
Sensor limits (Submenu) ..... 73  
Sensor pressure (Parameter) ..... 68  
Sensor pressure range behavior (Parameter) ..... 59, 62  
Sensor temperature (Parameter) ..... 68  
Sensor temperature lower range limit (Parameter) ..... 74  
Sensor temperature upper range limit (Parameter) ..... 74  
Sensor Trim Reset (Parameter) ..... 71  
Serial number (Parameter) ..... 23, 106  
Simulation (Parameter) ..... 51  
Simulation (Submenu) ..... 51  
Software configuration (Submenu) ..... 108  
Software option overview (Parameter) ..... 109  
Span (Parameter) ..... 78, 80  
SSD Monitoring delay time (Parameter) ..... 52

SSD Out of range delay time (Parameter) . . . . . 52  
 Status password entry (Parameter) . . . . . 99  
 Submenu  
   Active diagnostics . . . . . 44  
   Basic settings . . . . . 69  
   Burst configuration 1 . . . . . 88  
   Configuration . . . . . 56, 84  
   Current output . . . . . 81  
   Device management . . . . . 96  
   Diagnostic settings . . . . . 52  
   Display . . . . . 100  
   Event logbook . . . . . 46  
   Geolocation . . . . . 104  
   HART output . . . . . 84, 85  
   Information . . . . . 93, 105  
   Measured values . . . . . 68  
   Measuring units . . . . . 65  
   Minimum/maximum values . . . . . 47  
   Process . . . . . 58, 61  
   Properties . . . . . 52  
   Scaled variable . . . . . 74  
   Sensor . . . . . 69  
   Sensor calibration . . . . . 70  
   Sensor limits . . . . . 73  
   Simulation . . . . . 51  
   Software configuration . . . . . 108  
   User management . . . . . 98  
   Wet calibration . . . . . 78, 79  
 System (Menu) . . . . . 96

## T

Target group . . . . . 4  
 Temperature unit (Parameter) . . . . . 28, 30, 65  
 Terminal current (Parameter) . . . . . 69, 83  
 Terminal voltage 1 (Parameter) . . . . . 68  
 Tertiary variable (TV) (Parameter) . . . . . 87  
 Timestamp (Parameter) . . . . . 44, 45

## U

Upper Range Limit (Parameter) . . . . . 33, 35, 37, 73  
 Upper range value output (Parameter)  
   . . . . . 34, 38, 40, 76, 79, 80, 82  
 Upper sensor trim (Parameter) . . . . . 73  
 Upper sensor trim measured value (Parameter) . . . . . 72  
 User management (Submenu) . . . . . 98  
 User role (Parameter) . . . . . 98  
 User temperature process alert (Parameter) . . . . . 54

## V

Value 1 display (Parameter) . . . . . 101  
 Value 2 display (Parameter) . . . . . 102  
 Value 3 display (Parameter) . . . . . 102  
 Value 4 display (Parameter) . . . . . 103  
 Value current output (Parameter) . . . . . 51  
 Value pressure simulation (Parameter) . . . . . 51

## W

Wet calibration (Submenu) . . . . . 78, 79  
 Wizard  
   Commissioning . . . . . 23

Device identification . . . . . 23, 25, 26  
 Measurement adjustments . . . . . 27, 28, 29, 31  
 Output settings . . . . . 32, 33, 34, 35, 37, 39, 41

## X

XML build number (Parameter) . . . . . 108

## Z

Zero (Parameter) . . . . . 78, 79  
 Zero adjustment (Parameter) . . . . . 31, 70  
 Zero adjustment offset (Parameter) . . . . . 71







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