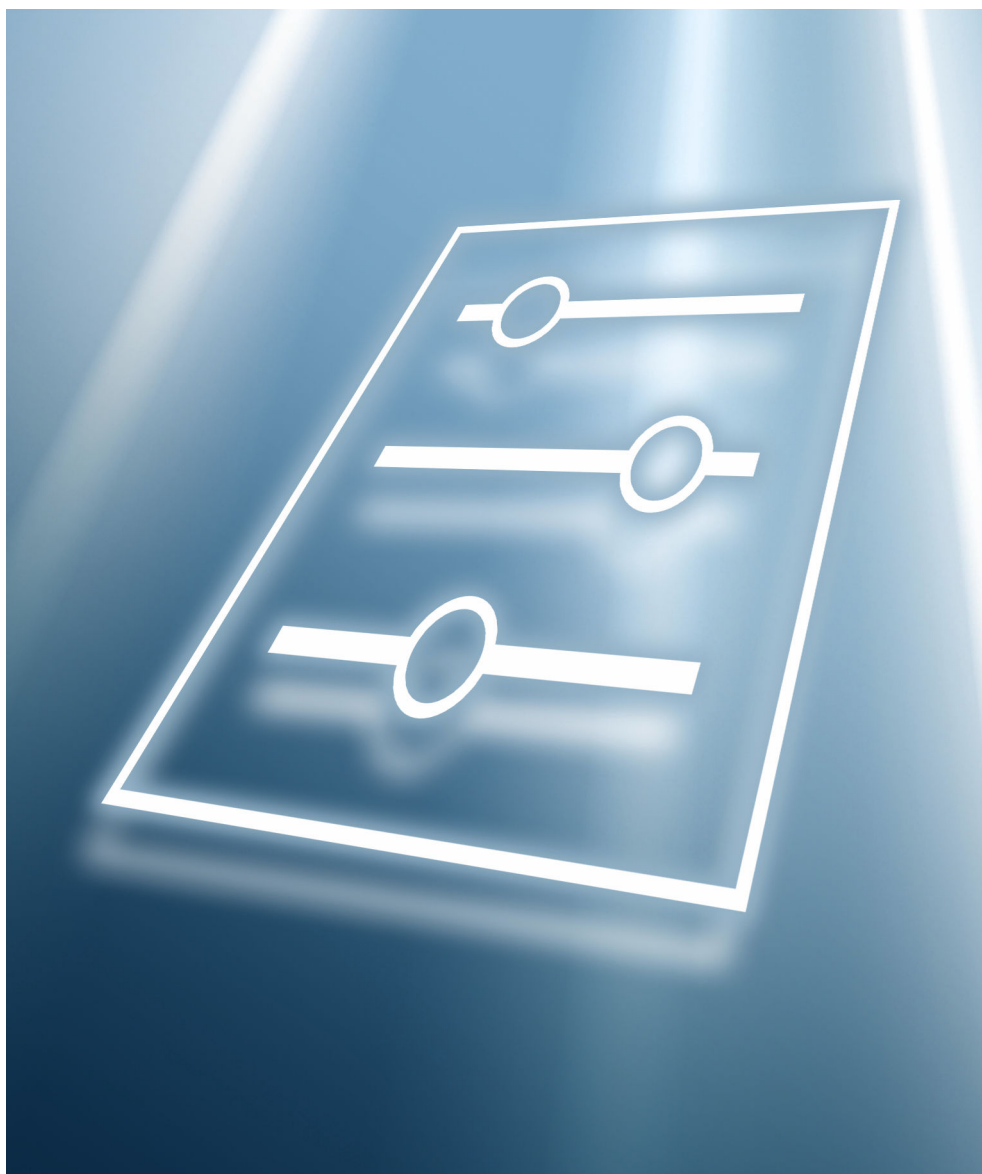


Description of Device Parameters

Liquiphant FTL51B

Vibronic
PROFINET over Ethernet-APL



1 About this document

1.1 Document function

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

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

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

1.2 Target group

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

1.3 Document structure

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

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

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

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

The 4 main menus:

- Guidance
- Diagnostics
- Application
- System

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

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

The submenus visible to a user depend on the **User role** (→  50) they are logged in with. This document lists the submenus and their parameters that are available to the User role **Maintenance**.

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



For information on operating options, see the Operating Instructions.

1.4 Elements of parameter descriptions

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

1	Simulation		7
2	Navigation	  Diagnostics → Simulation → Simulation	
3	Prerequisite	Options marked with *: The corresponding device function must be available and configured.	
4	Description	Simulates one or more process variables and/or events. Warning: - Output will reflect the simulated value or event.	
5	Selection	■ Off ■ Distance ■ Level ■ Level linearized * ■ Current output ■ Diagnostic event simulation ■ Foam index * ■ Build-up index *	
6	Factory setting	Off	

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

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

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

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

1.5 Symbols

1.5.1 Safety symbols



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

⚠ WARNING

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

⚠ CAUTION

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

NOTICE

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

1.5.2 Symbols for certain types of information



Indicates additional information



Reference to documentation



Operation via local display



Operation via operating tool



Write-protected parameter

1.6 Documentation



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

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

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

2 Overview of the operating menu

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3 Description of device parameters

3.1 Guidance

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

Navigation  Guidance

3.1.1 Overview

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

- Commissioning
- Heartbeat Technology
 - Heartbeat Verification
 - Process window
- WHG mode
- Import / Export
- Compare

3.1.2 "Commissioning" wizard

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

WARNING

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

The device may be in an undefined state!

- Reset the device to factory settings.

Navigation

Guidance → Commissioning

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

- **Device identification**
 - Device tag
 - Device name
 - Serial number
 - Extended order code 1 ... 3
 - Locking status
 - Time zone
 - Date/time
 - PROFINET device name
 - IP address
 - Descriptor
 - MAC address
 - Device ID
 - Manufacturer ID
- **Measurement adjustments**
 - Temperature unit
 - Density setting
 - Switching delay covered to uncovered
 - Customer delay to uncovered
 - Switching delay uncovered to covered
 - Customer delay to covered
 - 49 Corrosion warning
 - State of vibrating fork
 - Frequency of vibrating fork
 - Stored covered frequency
 - Frequency at delivery status
 - Stored uncovered frequency
- **Output settings**
 - Assign process variable

3.1.3 Heartbeat Technology

Heartbeat Technology offers the following functions:

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

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

Guidance → Heartbeat Techn.

Heartbeat Verification

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

Navigation  Guidance → Heartbeat Techn. → Heartbeat Verif.

Process window

This wizard can be used to monitor the sensor frequency for frequencies that are too low or too high. This can be used for early detection of buildup or corrosion.

Navigation  Guidance → Heartbeat Techn. → Process window

3.1.4 WHG mode

For WHG applications, the device can be protected against manipulation using the WHG wizard. After using this confirmation, the device is marked as WHG locked to indicate the device mode.

To unlock the WHG locking the sequence needs to be restarted. After entering the safety unlocking code (= Safety locking code) the device is unlocked.

Navigation  Guidance → WHG mode

3.1.5 Import / Export

Save / Restore

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

Create documentation

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

- Information on device parameters
- Diagnostic list

Navigation  Guidance → Import / Export

3.1.6 Compare

Compare datasets

This function can be used to compare the following datasets:

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

Navigation  Guidance → Compare

3.2 Diagnostics

Navigation  Diagnostics

3.2.1 Active diagnostics

Navigation  Diagnostics → Active diagnos.

Active diagnostics

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

Timestamp

Navigation	 Diagnostics → Active diagnos. → Timestamp
Description	Displays the timestamp for the currently active diagnostic message.
User interface	Date, time

Previous diagnostics

Navigation	 Diagnostics → Active diagnos. → Prev.diagnostics
Description	Displays the diagnostic message for the last diagnostic event that has ended.
User interface	■ Operating time of the device until the event occurs ■ Symbol for diagnostic behavior ■ Code for diagnostic behavior ■ Event text ■ Corrective measure

Timestamp

Navigation	  Diagnostics → Active diagnos. → Timestamp
Description	Displays the timestamp of the diagnostic message generated for the last diagnostic event that has ended.
User interface	Date, time

Operating time from restart

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

Operating time

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

3.2.2 Diagnostic list

Navigation   Diagnostics → Diagnostic list

3.2.3 Event logbook

Navigation   Diagnostics → Event logbook

Clear event list

Navigation	 Diagnostics → Event logbook → Clear event list
Description	Delete all entries of the event list.

Selection	■ Cancel ■ Clear data
Factory setting	Cancel
Additional information	Access: ■ Read access: Expert ■ Write access: Expert

3.2.4 Minimum/maximum values

Navigation   Diagnostics → Min/max val.

Minimum fork frequency

Navigation	  Diagnostics → Min/max val. → Min. frequency
Description	Minimum measured frequency of the vibrating fork.
User interface	Signed floating-point number

Maximum fork frequency

Navigation	  Diagnostics → Min/max val. → Max. frequency
Description	Maximum measured frequency of the vibrating fork.
User interface	Signed floating-point number

Minimum temp. of sensor electronics

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

Maximum temp. of sensor electronics

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

Minimum electronics temperature

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

Maximum electronics temperature

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

3.2.5 Simulation

Navigation   Diagnostics → Simulation

Simulation

Navigation	  Diagnostics → Simulation → Simulation
Description	Simulates one or more process variables and/or events. Warning: Output will reflect the simulated value or event.
Selection	■ Off ■ State of vibrating fork ■ Sensor frequency ■ Diagnostic event simulation

Factory setting Off

Frequency simulation value

Navigation   Diagnostics → Simulation → Freq. simulation

Description Enter the frequency value to be simulated.
 Note:
 Prerequisite for the simulation to have an effect on the output:
 Select "Sensor frequency" in the "Mode of operation" parameter in the Application > Sensor > Basic settings menu.
 The simulated frequency value has no affect on the displayed state of the vibrating fork ("Fork uncovered", "Fork covered").

User entry 0 to 10 000 Hz

Factory setting 0 Hz

Fork state simulation value

Navigation   Diagnostics → Simulation → Fork. simul.val.

Description Select the state of the vibrating fork to be simulated.
 Note:
 Prerequisite for the simulation to have an effect on the output:
 Select "Level limit detection" in the "Mode of operation" parameter in the Application > Sensor > Basic settings menu.
 The simulated state of the vibrating fork has no affect on the displayed sensor frequency.

Selection

- Fork covered
- Fork uncovered

Factory setting Fork uncovered

Diagnostic event simulation

Navigation   Diagnostics → Simulation → Diagnostic event

Description Select the diagnostic event to be simulated.
 Note:
 To terminate the simulation, select "Off".

Selection

- Off
- Drop-down list of diagnostic events

Factory setting Off

3.2.6 Heartbeat Technology

Navigation   Diagnostics → Heartbeat Techn.

Heartbeat Verification

Navigation   Diagnostics → Heartbeat Techn. → Heartbeat Verif.

Date/time Heartbeat Verification

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

Description Date and time of last Heartbeat Verification.
This value is updated with every Heartbeat verification.
Note:
If time information is not available, e.g. Heartbeat verification is started from display, "-----" is shown.

User interface Character string comprising numbers, letters and special characters

Factory setting 01.01.1970 00:00:00

Operating time (Verification)

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

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

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

Verification result

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

Description Result of Heartbeat Verification.

User interface

■ Not done

■ Passed

■ Not done

■ Failed

Factory setting

Not done

Status

Navigation

Diagnostics → Heartbeat Techn. → Heartbeat Verif. → Status

Description

Shows the actual status.

User interface

■ Done

■ Busy

■ Failed

■ Not done

Factory setting

Not done

Frequency history

List of the last 16 sensor frequencies saved in the previous Heartbeat Verification.

Navigation

 Diagnostics → Heartbeat Techn. → Freq. history

Date 1 ... 16

Navigation

Diagnostics → Heartbeat Techn. → Freq. history → Date 1 ... 16

User interface

Character string comprising numbers, letters and special characters

Factory setting

1970-01-01 00:00:00

Sensor frequency 1 ... 16

Navigation

Diagnostics → Heartbeat Techn. → Freq. history → Frequency 1 ... 16

User interface

Floating-point number

Factory setting

0 Hz

Process window

Navigation  Diagnostics → Heartbeat Techn. → Process window

Frequency of vibrating fork

Navigation   Diagnostics → Heartbeat Techn. → Process window → Fork frequency

Description Displays the actual frequency of the vibrating fork.

User interface 0 to 10 000 Hz

901 Process alert frequency too high

Navigation   Diagnostics → Heartbeat Techn. → Process window → 901Freq. high

Description Note:
If the device is used for minimum detection no event for "901 Process alert frequency too high" is triggered if the fork is not covered.

Selection

- Disable
- Enable

Factory setting Disable

High alert value

Navigation   Diagnostics → Heartbeat Techn. → Process window → High alert value

Prerequisite Only visible if 901 Process alert frequency too high is enabled.

Description Enter the upper limit value.
If this limit value is exceeded, an event is generated. There is no hysteresis.

User entry 0 to 2 000 Hz

Factory setting 2 000 Hz

901 Alarm delay

Navigation   Diagnostics → Heartbeat Techn. → Process window → 901Alarm delay

Prerequisite Only visible if 901 Process alert frequency too high is enabled.

Description Enter the duration (integer) that the triggering status must be active before the alarm is generated.
A warning is generated.

User entry 0 to 300 s

Factory setting 60 s

900 Process alert frequency too low



Navigation  Diagnostics → Heartbeat Techn. → Process window → 900Freq. too low

Description Note:
If the device is used for maximum detection no event for "900 Process alert frequency too low" is triggered if the fork is covered.

Selection

- Disable
- Enable

Factory setting Disable

Low alert value



Navigation  Diagnostics → Heartbeat Techn. → Process window → Low alert value

Prerequisite Only visible if 900 Process alert frequency too low is enabled.

Description Enter the lower limit value.
If this limit value is undercut, an event is generated. There is no hysteresis.

User entry 0 to 2 000 Hz

Factory setting 0 Hz

900 Alarm delay



Navigation  Diagnostics → Heartbeat Techn. → Process window → 900Alarm delay

Prerequisite Only visible if 900 Process alert frequency too low is enabled.

Description Enter the duration (integer) that the triggering status must be active before the alarm is generated.
A warning is generated.

User entry 0 to 300 s

Factory setting 60 s

3.2.7 Diagnostic settings

Navigation  Diagnostics → Diag. settings

Properties

Navigation  Diagnostics → Diag. settings → Properties

49 Corrosion warning

Navigation   Diagnostics → Diag. settings → Properties → 49Corr. warning

Description Enable or disable the corrosion warning.
The corrosion warning is set if the sensor frequency exceeds frequency at delivery status by 5 %.
If turned on, the event category can be set in menu -> Diagnostics -> Diagnostic settings -> Configuration
The diagnostic behaviour can be changed to "Logbook entry only" in the same menu.

Selection

- Off
- On

Factory setting On

Upper warning frequency

Navigation   Diagnostics → Diag. settings → Properties → U. warning freq.

Description If the actual sensor frequency is higher than the upper warning frequency, then a warning is generated.
The process value for the actual status of the vibrating fork remains unchanged.
--> Remove the sensor and check it for corrosion.

User interface 0 to 10 000 Hz

Factory setting 0 Hz

825 Electronics temperature

Navigation	  Diagnostics → Diag. settings → Properties → 825Electr. temp
Description	Activates the monitoring of the temperature of the main electronics. The limit values are fixed.
Selection	■ Off ■ On
Factory setting	On

826 Temperature of sensor electronics

Navigation	  Diagnostics → Diag. settings → Properties → 826TSensElectr.
Description	Activates the monitoring of the temperature of the sensor electronics. The limit values are fixed.
Selection	■ Off ■ On
Factory setting	On

Configuration

Navigation	  Diagnostics → Diag. settings → Configuration
Sensor	
Navigation	  Diagnostics → Diag. settings → Configuration → Sensor

49 Diagnostic behavior

Navigation	  Diagnostics → Diag. settings → Configuration → Sensor → 49Diag. behav.
Description	Select diagnostic behavior. Logbook entry only: Message not communicated via the fieldbus. Warning: Warning message is output via the fieldbus (factory setting). The warning is no longer available in the device once the permissible conditions are met again.

Selection	■ Warning ■ Logbook entry only
Factory setting	Warning

49 Event category

Navigation	 Diagnostics → Diag. settings → Configuration → Sensor → 49Event categ.
User interface	■ Failure (F) ■ Function check (C) ■ Out of specification (S) ■ Maintenance required (M) ■ Not categorized
Factory setting	Maintenance required (M)

Configuration

Navigation   Diagnostics → Diag. settings → Configuration → Configuration

436 Diagnostic behavior



Navigation	  Diagnostics → Diag. settings → Configuration → Configuration → 436Diag. behav.
Description	Select diagnostic behavior. Logbook entry only: Message not communicated via the fieldbus. Warning: Warning message is output via the fieldbus (factory setting). The warning is no longer available in the device once the permissible conditions are met again.
Selection	■ Warning ■ Logbook entry only
Factory setting	Warning

436 Event category

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

User interface

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

Factory setting Maintenance required (M)

Process

Navigation   Diagnostics → Diag. settings → Configuration → Process

825 Diagnostic behavior



Navigation   Diagnostics → Diag. settings → Configuration → Process → 825Diag. behav.

Description

Select diagnostic behavior.

Logbook entry only: Message not communicated via the fieldbus.

Warning: Warning message is output via the fieldbus (factory setting).

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

Selection

- Warning
- Logbook entry only

Factory setting Warning

825 Event category

Navigation  Diagnostics → Diag. settings → Configuration → Process → 825Event categ.

User interface

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

Factory setting Out of specification (S)

826 Diagnostic behavior 	
Navigation	  Diagnostics → Diag. settings → Configuration → Process → 826Diag. behav.
Description	Select diagnostic behavior. Logbook entry only: Message not communicated via the fieldbus. Warning: Warning message is output via the fieldbus (factory setting). The warning is no longer available in the device once the permissible conditions are met again.
Selection	■ Warning ■ Logbook entry only
Factory setting	Warning
826 Event category 	
Navigation	 Diagnostics → Diag. settings → Configuration → Process → 826Event categ.
User interface	■ Failure (F) ■ Function check (C) ■ Out of specification (S) ■ Maintenance required (M) ■ Not categorized
Factory setting	Out of specification (S)
900 Diagnostic behavior 	
Navigation	  Diagnostics → Diag. settings → Configuration → Process → 900Diag. behav.
Description	Select diagnostic behavior. Logbook entry only: Message not communicated via the fieldbus. Warning: Warning message is output via the fieldbus (factory setting). The warning is no longer available in the device once the permissible conditions are met again.
Selection	■ Warning ■ Logbook entry only
Factory setting	Warning

900 Event category	
Navigation	  Diagnostics → Diag. settings → Configuration → Process → 900Event categ.
User interface	■ Failure (F) ■ Function check (C) ■ Out of specification (S) ■ Maintenance required (M) ■ Not categorized
Factory setting	Out of specification (S)
901 Diagnostic behavior	
Navigation	  Diagnostics → Diag. settings → Configuration → Process → 901Diag. behav.
Description	Select diagnostic behavior. Logbook entry only: Message not communicated via the fieldbus. Warning: Warning message is output via the fieldbus (factory setting). The warning is no longer available in the device once the permissible conditions are met again.
Selection	■ Warning ■ Logbook entry only
Factory setting	Warning
901 Event category	
Navigation	  Diagnostics → Diag. settings → Configuration → Process → 901Event categ.
User interface	■ Failure (F) ■ Function check (C) ■ Out of specification (S) ■ Maintenance required (M) ■ Not categorized
Factory setting	Out of specification (S)

3.3 Application

Navigation  Application

3.3.1 Measuring units

Navigation  Application → Measuring units

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

3.3.2 Measured values

Navigation  Application → Measured values

Frequency of vibrating fork	
Navigation	 Application → Measured values → Fork frequency
Description	Displays the actual frequency of the vibrating fork.
User interface	0 to 10 000 Hz

State of vibrating fork	
Navigation	 Application → Measured values → Fork state
Description	Displays the actual status of the vibrating fork.
User interface	☐ Fork covered ☐ Fork uncovered

Temperature of sensor electronics

Navigation	 Application → Measured values → T sens.electr.
Description	Displays the actual temperature of the sensor electronics.
User interface	Signed floating-point number
Factory setting	0 °C

Electronics temperature

Navigation	 Application → Measured values → Electronics temp
Description	Displays the current temperature of the main electronics.
User interface	Signed floating-point number
Factory setting	0 °C

3.3.3 Sensor

Navigation

 Application → Sensor

Basic settings

Navigation

 Application → Sensor → Basic settings

Density setting



Navigation	 Application → Sensor → Basic settings → Density setting
Description	Select the density of the medium.
Selection	■ > 0.4 g/cm³ (> 25.0 lb/ft³)[*] ■ > 0.4 g/cm³ (> 25.0 lb/ft³)[*] ■ > 0.5 g/cm³ (> 31.2 lb/ft³) ■ > 0.7 g/cm³ (> 43.7 lb/ft³)
Factory setting	> 0.7 g/cm ³ (> 43.7 lb/ft ³)

*

Visibility depends on order options or device settings

Switching delay uncovered to covered		
Navigation	  Application → Sensor → Basic settings → Delay to covered	
Description	Select the delay time for switching from "Fork uncovered" to "Fork covered". The value determines the delay time until the switching output switches after a change of state is detected. Choose between predefined values or select "Customer specific" to enter an integer between 1 s and 60 s.	
Selection	■ 0.25 s ■ 0.50 s ■ 1.00 s ■ 1.50 s ■ 5.00 s ■ Customer specific	
Factory setting	0.50 s	
Customer delay to covered		
Navigation	  Application → Sensor → Basic settings → Cust. delay cov.	
Description	Enter the delay time for switching from "Fork uncovered" to "Fork covered". The value determines the delay time until the switching output switches after a change of state is detected. Enter an integer between 1 s and 60 s.	
User entry	1 to 60 s	
Factory setting	1 s	
Switching delay covered to uncovered		
Navigation	  Application → Sensor → Basic settings → Delay to uncov.	
Description	Select the delay time for switching from "Fork covered" to "Fork uncovered". The value determines the delay time until the switching output switches after a change of state is detected. Choose between predefined values or select "Customer specific" to enter an integer between 1 s and 60 s.	
Selection	■ 0.25 s ■ 0.50 s ■ 1.00 s ■ 1.50 s ■ 5.00 s ■ Customer specific	

Factory setting 1.00 s

Customer delay to uncovered



Navigation Application → Sensor → Basic settings → Cust. delay unc.

Description Enter the delay time for switching from "Fork covered" to "Fork uncovered".
The value determines the delay time until the switching output switches after a change of state is detected.
Enter an integer between 1 s and 60 s.

User entry 1 to 60 s

Factory setting 1 s

Sensor calibration

Navigation Application → Sensor → Sensor cal.

Lower switching point at density

Navigation Application → Sensor → Sensor cal. → Lower sw. point

Description Displays the sensor frequency at which the status of the vibrating fork changes to "Fork covered" (depending on the density selected).

User interface 0 to 2 000 Hz

Factory setting Depends on density setting

Upper switching point at density

Navigation Application → Sensor → Sensor cal. → Upper sw. point

Description Displays the sensor frequency at which the status of the vibrating fork changes to "Fork uncovered" (depending on the density selected).

User interface 0 to 2 000 Hz

Factory setting Depends on density setting

Frequency at delivery status

Navigation	 Application → Sensor → Sensor cal. → Freq. delivery
Description	Sensor frequency at delivery status. The individually determined oscillation frequency in air is in the range of 900 to 1 200 Hz.
User interface	0 to 10 000 Hz
Factory setting	Device-specific

Upper warning frequency

Navigation	 Application → Sensor → Sensor cal. → U. warning freq.
Description	If the actual sensor frequency is higher than the upper warning frequency, then a warning is generated. The process value for the actual status of the vibrating fork remains unchanged. --> Remove the sensor and check it for corrosion.
User interface	0 to 10 000 Hz
Factory setting	0 Hz

Upper alarm frequency

Navigation	 Application → Sensor → Sensor cal. → Upper alarm f.
Description	If the actual sensor frequency is higher than the upper alarm frequency, the process value status switches to "bad". The process value status displays "good" as long as the fork oscillates freely.
User interface	0 to 10 000 Hz
Factory setting	Device-specific

Stored frequency

Navigation  Application → Sensor → Stored frequency

State of vibrating fork

Navigation  Application → Sensor → Stored frequency → Fork state

Description Displays the actual status of the vibrating fork.

User interface

- Fork covered
- Fork uncovered

Stored uncovered frequency

Navigation  Application → Sensor → Stored frequency → Stored uncov. f.

Description The actual sensor frequency can be saved in this parameter.
This is only possible when the fork is uncovered.
The value is displayed in the Heartbeat Technology verification report.

Note:

Save the frequency in a reproducible state in order to use it as a reference for further/future analyses.

User interface 0 to 10 000 Hz

Stored covered frequency

Navigation  Application → Sensor → Stored frequency → Stored cov. f.

Description The actual sensor frequency can be saved in this parameter.
This is only possible when the fork is covered.
The value is displayed in the Heartbeat Technology verification report.

Note:

Save the frequency in a reproducible state in order to use it as a reference for further/future analyses.

User interface 0 to 10 000 Hz

3.3.4 PROFINET

Navigation   Application → PROFINET

Configuration

Navigation   Application → PROFINET → Configuration

PROFINET device name

Navigation   Application → PROFINET → Configuration → PROFINET DevName

Description Up to 240 characters are allowed.
The following syntax must be used:

- 1 or more identifiers, separated with [.]
- Identifier length is 1 to 63 characters
- Identifier consists of [a-z 0-9] only lowercase letters and numbers allowed.

Parameter change acknowledge mode



Navigation   Application → PROFINET → Configuration → ParaChngAcknMode

Description Select how to acknowledge the displayed flag when changing the device configuration:

- "Acknowledge automatically": the flag disappears automatically after 20 seconds.
- "Acknowledge manually": the flag must be acknowledged manually.

Selection

- Acknowledge automatically
- Acknowledge manually

Factory setting Acknowledge automatically

Acknowledge parameter change

Navigation   Application → PROFINET → Configuration → AcknParaChange

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

Selection

- No acknowledge
- Reset update event flag

Factory setting No acknowledge

Descriptor 	
Navigation	  Application → PROFINET → Configuration → Descriptor
Description	Enter a description for the measuring point
User entry	Character string comprising numbers, letters and special characters (54)
Discrete input	
<i>Navigation</i>	  Application → PROFINET → Discrete inp. → Discrete inp.
Process value 	
Navigation	  Application → PROFINET → Discrete inp. → Discrete inp. → Process value
Description	Shows the process value reported to the controller for further processing
User interface	0 to 255
Factory setting	0
Additional information	Vibrating fork state: ■ 0: Vibrating fork not covered ■ 1: Vibrating fork covered
Simulation value 	
Navigation	  Application → PROFINET → Discrete inp. → Discrete inp. → Simulation value
Description	Use this function to enter a simulation value of the process variable.
User entry	0 to 255
Factory setting	0
Additional information	Access: ■ Read access: Expert ■ Write access: Maintenance

Simulated status



Navigation	 Application → PROFINET → Discrete inp. → Discrete inp. → Simulated status
Description	Specify the status of the simulated process value (Hex)
User entry	0 to 255
Factory setting	60
Additional information	Access: ■ Read access: Expert ■ Write access: Maintenance

Simulation



Navigation	 Application → PROFINET → Discrete inp. → Discrete inp. → Simulation
Description	Switch discrete input simulation on or off (Off = 0, On <> 0).
User entry	0 to 255
Factory setting	0
Additional information	Access: ■ Read access: Expert ■ Write access: Maintenance

Analog input

Navigation  Application → PROFINET → Analog input

Analog input 1 to 3

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

Process value

Navigation	 Application → PROFINET → Analog input → Analog input 1 to 3 → Process value
Description	Shows the process value reported to the controller for further processing
User interface	Signed floating-point number

Factory setting 0 Hertz

Assign process variable

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

Description

User interface

- Fork frequency
- Sensor temperature
- Electronics temperature

Factory setting Fork frequency

Damping



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

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

User entry 0 to 999 s

Factory setting 1.0 s

Simulation value



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

Description Enter the simulation value for the selected process variable. Processing of measured values downstream as well as the signal output follow this value. In this way, it is possible to verify whether the measuring device has been configured correctly.

Additional information:

The applicable unit of measure is specified in the "System units" submenu.

User entry Signed floating-point number

Factory setting 0 Hertz

Additional information

Access:

- Read access: Expert
- Write access: Maintenance

Simulated status		
Navigation	  Application → PROFINET → Analog input → Analog input 1 to 3 → Simulated status	
Description	To simulate a process status for this block. Possible input values can be taken from the PA profile used, see there under the chapter "Process variable status and diagnosis". Examples for status values are: 0x80 (decimal 128) for status "GOOD" 0x24 (decimal 36) for status "BAD"	
User entry	0 to 255	
Factory setting	60	
Additional information	Access: ■ Read access: Expert ■ Write access: Maintenance	
Simulation		
Navigation	  Application → PROFINET → Analog input → Analog input 1 to 3 → Simulation	
Description	Switch simulation of the analog input on or off (Off = 0, On <> 0)	
User entry	0 to 255	
Factory setting	0	
Additional information	Access: ■ Read access: Expert ■ Write access: Maintenance	

Binary input

Navigation  Application → PROFINET → Binary input

Binary input 1 to 2

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

Controller input value

Navigation	 Application → PROFINET → Binary input → Binary input 1 to 2 → ControllInputVal
Description	Shows for each device function the state reported to the controller for further processing
User interface	0 to 255
Factory setting	0

Simulation value



Navigation	 Application → PROFINET → Binary input → Binary input 1 to 2 → Simulation value
Description	Enter the simulated state for each device function
User entry	0 to 255
Factory setting	0
Additional information	Access: ■ Read access: Expert ■ Write access: Maintenance

Simulated status



Navigation	 Application → PROFINET → Binary input → Binary input 1 to 2 → Simulated status
Description	Specify the status of the simulated state for each device function (Hex)
User entry	0 to 255
Factory setting	60
Additional information	Access: ■ Read access: Expert ■ Write access: Maintenance

Simulation		
Navigation	 Application → PROFINET → Binary input → Binary input 1 to 2 → Simulation	
Description	Switch simulation of the binary input on or off (Off = 0; On <> 0)	
User entry	0 to 255	
Factory setting	0	
Additional information	Access: ■ Read access: Expert ■ Write access: Maintenance Binary output <i>Navigation</i>  Application → PROFINET → Binary output	
Set point value		
Navigation	 Application → PROFINET → Binary output → Set point value	
User entry	0 to 255	
Factory setting	0	
BO block output value		
Navigation	 Application → PROFINET → Binary output → BOBlockOutValue	
Description	Shows for each device function the state reported to the measuring device for further processing	
User entry	0 to 255	
Factory setting	0	
Failure behavior		
Navigation	 Application → PROFINET → Binary output → Failure behavior	
Description	Select failure behavior in the event of a failure (value with status 'Bad')	

Selection

- Fixed value
- Last valid value
- Actual value

Factory setting Fixed value

Failure behavior delay



Navigation Application → PROFINET → Binary output → FailBehavDelay

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

User entry Positive floating-point number

Factory setting 0 s

Fixed value



Navigation Application → PROFINET → Binary output → Fixed value

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

User entry 0 to 255

Factory setting 0

Information

Navigation Application → PROFINET → Information

Device ID

Navigation Application → PROFINET → Information → Device ID

User interface 0 to 65 535

Factory setting 41 412

PA profile version

Navigation	 Application → PROFINET → Information → PA profile vers.
User interface	0 to 65 535
Factory setting	0x402

Application relation

Navigation  Application → PROFINET → Applicat. relat.

AR state

Navigation	 Application → PROFINET → Applicat. relat. → AR state
Description	Shows whether an AR connection and a system redundancy have been established
User interface	■ Active ■ Not active ■ Redundancy 1AR active ■ Redundancy 2AR active
Factory setting	Not active

MAC address IO controller

Navigation	 Application → PROFINET → Applicat. relat. → MAC IO contr.
Description	Shows the MAC address of the only or of the primary IO controller
User interface	Character string comprising numbers, letters and special characters
Factory setting	0x00

MAC address backup IO controller

Navigation	 Application → PROFINET → Applicat. relat. → MAC backup IO c.
Description	Shows the MAC adress of the backup IO controller
User interface	Character string comprising numbers, letters and special characters

Factory setting	0x00
------------------------	------

IP address IO controller

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

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

User interface	Character string comprising numbers, letters and special characters
-----------------------	---

Factory setting	0x00
------------------------	------

IP address backup IO controller

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

Description	Shows the IP adress of the backup IO controller
--------------------	---

User interface	Character string comprising numbers, letters and special characters
-----------------------	---

Factory setting	0x00
------------------------	------

3.4 System

Navigation  System

3.4.1 Device management

Navigation  System → Device manag.

Device tag		
Navigation	 System → Device manag. → Device tag	
Description	Enter a name for the measuring point to identify the measuring device in the plant	
User entry	Character string comprising numbers, letters and special characters (32)	
Locking status		
Navigation	 System → Device manag. → Locking status	
Description	Indicates the type of locking. "Hardware locked" (HW) The device is locked by the "WP" switch on the main electronics module. To unlock, set the switch into the OFF position. "WHG locked" (SW) Unlock the device by entering the appropriate access code in "Enter safety unlocking code". "Temporarily locked" (SW) The device is temporarily locked by processes in the device (e.g. data upload/download, reset). The device will automatically be unlocked after completion of these processes.	
User interface	■ Hardware locked ■ WHG locked ■ Temporarily locked	
Configuration counter		
Navigation	 System → Device manag. → Config. counter	
Description	Shows the number of changes made to static parameters (e.g. configuration parameters)	
User interface	0 to 65 535	
Factory setting	0	

Reset device

Navigation	 System → Device manag. → Reset device
Description	Reset the device configuration - either entirely or in part - to a defined state
Selection	■ Cancel ■ To factory defaults * ■ To delivery settings * ■ Restart device
Factory setting	Cancel

3.4.2 User management

Navigation  System → User manag.

User management

Navigation  System → User manag. → User manag.

User role

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

Delete password

Navigation	 System → User manag. → User manag. → Delete password
Description	Deletes the 'Maintenance' password. After deleting, the 'Operator' role will be no more available. All users have read/write access rights.

* Visibility depends on order options or device settings

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

Forgot password?

Navigation  System → User manag. → User manag. → Forgot password?

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

Enter password

Navigation  System → User manag. → Enter password

Password

Navigation  System → User manag. → Enter password → Password

Description Enter the password for the "Maintenance" user role to get access to the functionality of this role.

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

Enter access code



Navigation  System → User manag. → Enter password → Ent. access code

Description For authorized service personnel only.

User entry 0 to 9 999

Factory setting 0

Status password entry

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

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

User interface

- -----
- Wrong password
- Password rule violated

	■ Password accepted ■ Permission denied ■ Confirm PW mismatch ■ Reset password accepted ■ Invalid user role ■ Wrong sequence of entry
Factory setting	-----
Define password	
Navigation	 System → User manag. → Define password
New password	
Navigation	 System → User manag. → Define password → New password
Description	Define the new "Maintenance" password. A new password is valid after it has been confirmed within the "Confirm new password" parameter. Any valid password consists of 4 to 16 characters and can contain letters and numbers.
User entry	Character string comprising numbers, letters and special characters (16)
Confirm new password	
Navigation	 System → User manag. → Define password → Confirm password
Description	Enter the new password again to confirm.
User entry	Character string comprising numbers, letters and special characters (16)
Status password entry	
Navigation	 System → User manag. → Define password → Status pw entry
Description	Use this function to display the status of the password verification.
User interface	■ ----- ■ Wrong password ■ Password rule violated ■ Password accepted ■ Permission denied

- Confirm PW mismatch
- Reset password accepted
- Invalid user role
- Wrong sequence of entry

Factory setting

Change password

Navigation  System → User manag. → Change password

Old password**Navigation**

 System → User manag. → Change password → Old password

Description

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

User entry

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

New password**Navigation**

 System → User manag. → Change password → New password

Description

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

User entry

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

Confirm new password**Navigation**

 System → User manag. → Change password → Confirm password

Description

Enter the new password again to confirm.

User entry

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

Status password entry

Navigation	 System → User manag. → Change password → Status pw entry
Description	Use this function to display the status of the password verification.
User interface	■ ----- ■ Wrong password ■ Password rule violated ■ Password accepted ■ Permission denied ■ Confirm PW mismatch ■ Reset password accepted ■ Invalid user role ■ Wrong sequence of entry
Factory setting	-----

Recover password

Navigation

 System → User manag. → Recover password

Reset password

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

Status password entry

Navigation	 System → User manag. → Recover password → Status pw entry
Description	Use this function to display the status of the password verification.
User interface	■ ----- ■ Wrong password ■ Password rule violated ■ Password accepted ■ Permission denied ■ Confirm PW mismatch ■ Reset password accepted ■ Invalid user role ■ Wrong sequence of entry

Factory setting

3.4.3 Connectivity*Navigation*   System → Connectivity**Interfaces***Navigation*   System → Connectivity → Interfaces**Display operation****Navigation**   System → Connectivity → Interfaces → DisplayOperation**Selection**
■ Disable
■ Enable**Factory setting** Enable**Web server functionality****Navigation**   System → Connectivity → Interfaces → Webserver funct.**Description** Switch the Web server on and off.**Selection**
■ Disable
■ Enable**Factory setting** Enable**Bluetooth activation****Navigation**   System → Connectivity → Interfaces → Bluetooth active**Description** If Bluetooth is deactivated, it can only be reactivated via the display or the operating tool. Reactivating via the SmartBlue app is not possible.**Selection**
■ Disable
■ Enable**Factory setting** Enable

Service (UART-CDI)

Navigation	 System → Connectivity → Interfaces → Service (CDI)
Selection	■ Disable ■ Enable
Factory setting	Enable

Ethernet

Navigation  System → Connectivity → Ethernet

Properties

Navigation  System → Connectivity → Ethernet → Properties

MAC address

Navigation	 System → Connectivity → Ethernet → Properties → MAC Address
Description	Shows the MAC address of the measuring device
User interface	Character string comprising numbers, letters and special characters

IP address

Navigation	 System → Connectivity → Ethernet → Properties → IP address
Description	Enter the IP address of the device. Then accept the change with "Apply".
User entry	Character string comprising numbers, letters and special characters (15)
Factory setting	192.168.1.212

Subnet mask

Navigation	 System → Connectivity → Ethernet → Properties → Subnet mask
Description	Enter subnet mask of the device. Then accept the change with "Apply".

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

Factory setting 255.255.255.0

Default gateway



Navigation System → Connectivity → Ethernet → Properties → Default gateway

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

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

Factory setting 0.0.0.0

Service IP active

Navigation System → Connectivity → Ethernet → Properties → Service IP act.

User interface ☐ No
☐ Yes

Factory setting No

Port information

Navigation System → Connectivity → Ethernet → Port info

Interface connection status

Navigation System → Connectivity → Ethernet → Port info → Interface status

User interface ☐ Connected
☐ Not connected

Factory setting Not connected

Interface speed

Navigation	 System → Connectivity → Ethernet → Port info → Interface speed
User interface	Positive integer
Factory setting	0 MBit/s

Duplex status

Navigation	 System → Connectivity → Ethernet → Port info → Duplex status
User interface	▪ Full duplex ▪ Half duplex ▪ Unknown
Factory setting	Unknown

Auto negotiation status

Navigation	 System → Connectivity → Ethernet → Port info → Auto negot.stat.
User interface	▪ Idle ▪ In progress ▪ Completed ▪ Failed ▪ Speed detection failed
Factory setting	Idle

Number of received packets

Navigation	 System → Connectivity → Ethernet → Port info → RX packet no.
User interface	Positive integer
Factory setting	0

Number of sent packets

Navigation	 System → Connectivity → Ethernet → Port info → TX packet number
User interface	Positive integer
Factory setting	0

Number of failed received packets

Navigation	 System → Connectivity → Ethernet → Port info → FailRcvdPackets
User interface	Positive integer
Factory setting	0

Number of failed sent packets

Navigation	 System → Connectivity → Ethernet → Port info → No.FailTXPackets
User interface	Positive integer
Factory setting	0

Reset Ethernet diagnostics



Navigation	 System → Connectivity → Ethernet → Port info → ResetEthernDiag.
Selection	■ Cancel ■ Reset
Factory setting	Cancel

APL information

Navigation  System → Connectivity → Ethernet → APL information

Signal to noise ratio

Navigation	 System → Connectivity → Ethernet → APL information → SNR
Description	Shows the signal to noise ratio of the Ethernet-APL connection. A value >21dB is good and >23dB is excellent.
User interface	Signed floating-point number
Factory setting	0 dB

Number of failed received packets

Navigation	 System → Connectivity → Ethernet → APL information → FailRXPacketsNo.
Description	Shows the number of failed received packets (PHY).
User interface	0 to 65 535
Factory setting	0

Reset Ethernet diagnostics



Navigation	 System → Connectivity → Ethernet → APL information → ResetEthernDiag.
Selection	■ Cancel ■ Reset
Factory setting	Cancel

TCP information

Navigation  System → Connectivity → Ethernet → TCP information

Active TCP connections

Navigation	 System → Connectivity → Ethernet → TCP information → Act. TCP connec.
User interface	0 to 65 535
Factory setting	0

Supported TCP connections

Navigation	 System → Connectivity → Ethernet → TCP information → Supported TCP
User interface	0 to 65 535
Factory setting	0

TCP connection requests

Navigation	 System → Connectivity → Ethernet → TCP information → TCPConnecRequest
User interface	0 to 65 535
Factory setting	0

TCP connection timeouts

Navigation	 System → Connectivity → Ethernet → TCP information → TCPConnecTimeout
User interface	0 to 255
Factory setting	0

Number of TCP connections closed

Navigation	 System → Connectivity → Ethernet → TCP information → TCPConnect.close
User interface	0 to 255
Factory setting	0

Number of received TCP packets

Navigation	 System → Connectivity → Ethernet → TCP information → No.RX TCP Packet
User interface	Positive integer
Factory setting	0

Number of sent TCP packets

Navigation	 System → Connectivity → Ethernet → TCP information → No.TX TCP packet
User interface	Positive integer
Factory setting	0

Number of TCP failed received packets

Navigation	 System → Connectivity → Ethernet → TCP information → TCPFailRXPackages
User interface	Positive integer
Factory setting	0

Reset Ethernet diagnostics



Navigation	 System → Connectivity → Ethernet → TCP information → ResetEthernDiag.
Selection	■ Cancel ■ Reset
Factory setting	Cancel

UDP information

Navigation  System → Connectivity → Ethernet → UDP information

Available UDP ports

Navigation	 System → Connectivity → Ethernet → UDP information → Avail. UDP ports
User interface	Positive integer
Factory setting	0

Number of received UDP packets

Navigation	 System → Connectivity → Ethernet → UDP information → No.RX UDP Packet
User interface	Positive integer
Factory setting	0

Number of sent UDP packets

Navigation	 System → Connectivity → Ethernet → UDP information → No.TX UDP packet
User interface	Positive integer
Factory setting	0

Number of UDP failed received packets

Navigation	 System → Connectivity → Ethernet → UDP information → UDPFailRXPackages
User interface	Positive integer
Factory setting	0

Reset Ethernet diagnostics


Navigation	System → Connectivity → Ethernet → UDP information → ResetEthernDiag.
Selection	■ Cancel ■ Reset
Factory setting	Cancel

3.4.4 Display

Navigation System → Display

Language

Navigation	System → Display → Language
Description	Set display language
Selection	■ English ■ Deutsch * ■ Français * ■ Español * ■ Italiano * ■ Nederlands * ■ Portuguesa * ■ Polski * ■ русский язык (Russian) * ■ Svenska * ■ Türkçe * ■ 中文 (Chinese) * ■ 日本語 (Japanese) * ■ 한국어 (Korean) * ■ čeština (Czech) *
Factory setting	English

Format display

Navigation	System → Display → Format display
Description	Select how measured values are shown on the display

* Visibility depends on order options or device settings

Selection ■ 1 value, max. size
 ■ 2 values

Factory setting 1 value, max. size

Value 1 display



Navigation System → Display → Value 1 display

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

Selection ■ Sensor frequency
 ■ State of vibrating fork
 ■ Sensor temperature

Factory setting State of vibrating fork

Value 2 display



Navigation System → Display → Value 2 display

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

Selection ■ None
 ■ Sensor frequency
 ■ State of vibrating fork
 ■ Sensor temperature

Factory setting None

Value 3 display



Navigation System → Display → Value 3 display

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

Selection ■ None
 ■ Sensor frequency
 ■ State of vibrating fork
 ■ Sensor temperature

Factory setting None

Value 4 display		
Navigation	  System → Display → Value 4 display	
Description	Select the measured value that is shown on the local display	
Selection	■ None ■ Sensor frequency ■ State of vibrating fork ■ Sensor temperature	
Factory setting	None	
Decimal places 1 ... 4		
Navigation	  System → Display → Decimal places 1	
Description	This selection does not affect the measurement and calculation accuracy of the device.	
Selection	■ x ■ x.x ■ x.xx ■ x.xxx ■ x.xxxx	
Factory setting	x.x	
Contrast display		
Navigation	  System → Display → Contrast display	
Description	Adjust local display contrast setting to ambient conditions (e.g. lighting or reading angle)	
User entry	20 to 80 %	
Factory setting	30 %	

3.4.5 **Date/time**

Navigation  System → Date/time

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

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

Selection

Other units

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

Factory setting

UTC 00:00

Enable NTP



Navigation

 System → Date/time → Enable NTP

Selection

- No
- Yes

Factory setting

No

NTP server address



Navigation	 System → Date/time → NTP server add.
Description	IP address of the NTP server.
User entry	Character string comprising numbers, letters and special characters (64)
Factory setting	192.168.1.1

Clock synchronized

Navigation	  System → Date/time → Clock synch.
Description	Timestamp of last synchronization with an NTP server.
User interface	Character string comprising numbers, letters and special characters
Factory setting	-----

3.4.6 Geolocation

Navigation  System → Geolocation

Location description



Navigation	  System → Geolocation → Location descr.
Description	Enter a description for the location
User entry	Character string comprising numbers, letters and special characters (32)
Factory setting	somewhere

Longitude



Navigation	  System → Geolocation → Longitude
Description	Enter the longitude.
User entry	-180 to 180 °

Factory setting

0 °

Latitude

Navigation

  System → Geolocation → Latitude

Description

Enter latitude

User entry

–90 to 90 °

Factory setting

0 °

Altitude

Navigation

  System → Geolocation → Altitude

Description

Enter altitude

User entry

Signed floating-point number

Factory setting

0 m

3.4.7 Information

Navigation

  System → Information

Device name

Navigation

  System → Information → Device name

Description

Use this function to display the device name. It can also be found on the nameplate.

User interface

Character string comprising numbers, letters and special characters

Factory setting

Liquiphant

Manufacturer

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

Serial number

Navigation	 System → Information → Serial number
Description	The serial number is a unique alphanumeric code identifying the device. It is printed on the nameplate. In combination with the Operations app it allows to access all device related documentation.
User interface	Character string comprising numbers, letters and special characters

Order code

Navigation	 System → Information → Order code
Description	Shows the device order code.
User interface	Character string comprising numbers, letters and special characters
Factory setting	- none -
Additional information	Access: ■ Read access: Operator ■ Write access: Expert

Firmware version

Navigation	 System → Information → Firmware version
Description	Displays the device firmware version installed.
User interface	Character string comprising numbers, letters and special characters

Hardware version

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

Extended order code 1 ... 3



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

XML build number

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

Checksum

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

3.4.8 Additional information

Navigation  System → Additional info

Sensor

Navigation  System → Additional info → Sensor

Serial number

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

Firmware version

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

Build no. software

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

Hardware version

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

Checksum

Navigation	 System → Additional info → Sensor → Checksum
Description	Checksum for Firmware version.
User interface	Positive integer
Factory setting	0
Additional information	Access: ■ Read access: Expert ■ Write access: -

Electronics

Navigation  System → Additional info → Electronics

Serial number

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

Firmware version

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

Build no. software

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

Hardware version

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

Display/Bluetooth*Navigation*

System → Additional info → Displ./Bluetooth

Serial number**Navigation**

System → Additional info → Displ./Bluetooth → Serial number

Description

Shows the serial number of the module

User interface

Character string comprising numbers, letters and special characters

Additional information**Access:**

- Read access: Expert
- Write access: -

Firmware version**Navigation**

System → Additional info → Displ./Bluetooth → Firmware version

Description

Displays the firmware version of the module.

User interface

Positive integer

Additional information**Access:**

- Read access: Expert
- Write access: -

Build no. software**Navigation**

System → Additional info → Displ./Bluetooth → Build no. softw.

Description

Shows the build number of the module firmware

User interface

0 to 65 535

Additional information**Access:**

- Read access: Expert
- Write access: -

Hardware version

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

3.4.9 Software configuration

Navigation  System → Softw. config.

CRC device configuration

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

Activate SW option



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

Software option overview

Navigation	 System → Softw. config. → SW option overv.
Description	Shows all enabled software options

User interface

- WHG
- Heartbeat Verification
- Heartbeat Monitoring



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