

MOUNTING AND OPERATING INSTRUCTIONS

SAMSON

EB 9510-2 EN

Translation of original instructions



TROVIS[®]
Electronics from SAMSON

Media 7 Differential Pressure Meter (Type 5007-1) Configuration with TROVIS-VIEW 4

Firmware version 1.03.09

Edition January 2021

Note on these mounting and operating instructions

These mounting and operating instructions assist you in mounting and operating the device safely. The instructions are binding for handling SAMSON devices. The images shown in these instructions are for illustration purposes only. The actual product may vary.

- For the safe and proper use of these instructions, read them carefully and keep them for later reference.
- If you have any questions about these instructions, contact SAMSON's After-sales Service Department (aftersaleservice@samsongroup.com).



Documents relating to the device, such as the mounting and operating instructions, are available on our website at www.samsongroup.com > **Service & Support** > **Downloads** > **Documentation**.

Definition of signal words

DANGER

Hazardous situations which, if not avoided, will result in death or serious injury

WARNING

Hazardous situations which, if not avoided, could result in death or serious injury

NOTICE
























Property damage message or malfunction

Note

Additional information

Tip

Recommended action

1	TROVIS-VIEW 4 Software.....	5
1.1	General	5
1.4	Terms and abbreviations.....	6
1.2	Communication with Media 7	6
1.2.1	Establishing communication	6
1.3	Operation of TROVIS-VIEW 4.....	6
2	Operating mode.....	7
2.1	Folder structure in differential pressure mode.....	8
2.2	Folder structure in filling level mode.....	9
3	Settings in differential pressure mode.....	10
3.1	 Start-up	10
3.2	 Device settings.....	11
3.2.1	 General	11
3.2.2	 Differential pressure mode.....	12
3.2.3	 Option modules.....	13
3.2.4	 Identification	16
3.3	 Process data.....	17
3.4	 Diagnostics	17
3.4.1	 Status messages.....	18
3.4.2	 Error messages.....	19
3.4.3	 Reset functions.....	20
3.4.4	 Diagnostic data	20
3.4.5	 Temperature events	21
3.4.6	 Differential pressure events	21
3.4.7	 Pressure sensor events	22
4	Settings in filling level mode	22
4.1	 Start-up	22
4.2	 Device settings.....	24
4.2.1	 General	24
4.2.2	 Filling level mode.....	25
4.2.3	 Option modules.....	35
4.2.4	 Identification	36
4.3	 Process data.....	36
4.4	 Diagnostics	37

Contents

5	Recommended settings	39
5.1	Device configuration in differential pressure mode	39
5.2	Device configuration in filling level mode	40
6	Firmware update of the differential pressure meter	41

1 TROVIS-VIEW 4 Software

These instructions describe the operation and setting the Media 7 Differential Pressure Meter at the TROVIS-VIEW 4 user interface.

- Refer to Mounting and Operating Instructions ► **EB 9510** for a description of the **Media 7 Differential Pressure Meter**.
- Refer to the Operating Instructions ► **EB 6661** on how to use the TROVIS-VIEW 4 software.

The TROVIS-VIEW 4 software allows users to configure and parameterize smart SAMSON devices over a common user interface. It consists of the user interface, communication server and the device-specific module. The menu language can be changed (also while the software is running). Working in TROVIS-VIEW is similar to working in Windows Explorer.

In addition to configuration and operation, the TROVIS-VIEW 4 software includes other features, such as documentation of the Media 7 device, for example editing plant texts, saving and printing configuration data.

The TROVIS-VIEW 4 software allows operation in offline mode (device not connected to a computer) or in online mode (device connected to a computer). This enables data to be changed in the device immediately, or they can be saved on the computer first and later downloaded to the device on site.

1.1 General

TROVIS-VIEW 4 and the Media 7 device are supplied with default data for differential pressure measurement, in cases where no specifications have been made by the customer.

Newly created data can be saved to a file, which can be opened at anytime. A stored TROVIS-VIEW file (*.tro) contains the configuration data and parameters of one single device and can be transferred to the Media 7 device after it has been connected to the computer.

To download configuration data from the software to the SAMSON memory pen or to upload data from the memory pen, a SAMSON modular adapter must be inserted into the serial interface of the computer to connect the memory pen.

When the Media 7 device is not connected, the default settings are shown in TROVIS-VIEW 4. A TROVIS-VIEW file (*.tro) can be loaded and edited by selecting Open in the File menu.

i Note

Media 6 data are not compatible with Media 7.
Any data already saved in the medium database are automatically adopted.

1.2 Communication with Media 7

Proper start-up is necessary for communication between TROVIS-VIEW 4 and the Media 7 device. Refer to the Mounting and Operating Instructions ► EB 9510.

1.2.1 Establishing communication

1. Connect the SSP interface of the Media 7 device to the USB interface adapter (order no. 1400-9740).
2. Connect the USB interface adapter using a USB cable to the USB port of the computer.
3. Start TROVIS-VIEW 4.

1.3 Operation of TROVIS-VIEW 4

The basic operation, navigation and editing of parameters in TROVIS-VIEW 4 is described in the Operating Instructions ► EB 6661.

1.4 Terms and abbreviations

Filling level	Current tank content in %
$h_{perm.}$	Permissible filling height up to the overflow or gauge pipe
MCN	Max. tank content in %
SCN	Tank content up to overflow/gauge pipe
UCW	Tank content up to the operating filling limit
$V_{perm.}$	Permissible volume
PFL	Liquid density of the medium in kg/m^3
PGN	Standard gas density in kg/m^3
PGB	Gas density in tank in kg/m^3
PGL	Gas density in the low-pressure pipe in kg/m^3
Δp_0	Differential pressure at 0 % filling level in mbar
Δp_{100}	Differential pressure at 100 % filling level in mbar
WE	Default setting

2 Operating mode

The Media 7 device has two operating modes:

- **Differential pressure:** in the most simple case, two absolute pressures p_1 and p_2 are compared. This allows, for example the filters to be monitored by measuring the upstream and downstream pressures at the filter. The reading on the display is linear to the differential pressure.
- **Filling level:** the tank content (function of the hydrostatic pressure, tank geometry and liquid density of the stored gas) is displayed proportional to the content and the operating pressure as a measured value in the selected unit.

i Note

*The availability of parameters and their editing options vary depending on the operating mode selected (see section 2.1 and section 2.2). The operating mode is changed in **Start-up > Operating mode**.*

2.1 Folder structure in differential pressure mode

Media 7 Differential Pressure Meter	
Start-up	See section 3.1.
Device settings	See section 3.2.
General	See section 3.2.1.
Differential pressure mode	See section 3.2.2.
Option modules	See section 3.2.3.
Slot 1	See section 3.2.3.1.
Slot 2	See section 3.2.3.1.
Slot 3	See section 3.2.3.1.
Slot 4	See section 3.2.3.1.
Identification	See section 3.2.4.
Process data	See section 3.3.
Diagnostics	See section 3.4.
Status messages	See section 3.4.1.
Error messages	See section 3.4.2.
E1	See section 3.4.2.1.
E2	See section 3.4.2.2.
E3	See section 3.4.2.3.
Reset functions	See section 3.4.3.
Diagnostic data	See section 3.4.4.
Temperature	See section 3.4.5.
Differential pressure events	See section 3.4.6.
Pressure sensor events	See section 3.4.7.

2.2 Folder structure in filling level mode

Media 7 Differential Pressure Meter	
Start-up	See section 4.1.
Device settings	See section 4.2.
General	See section 4.2.1.
Filling level mode	See section 4.2.2.
Tank	See section 4.2.2.1.
Process medium	See section 4.2.2.2.
Option modules	See section 3.2.3.
Slot 1	See section 3.2.3.1.
Slot 2	See section 3.2.3.1.
Slot 3	See section 3.2.3.1.
Slot 4	See section 3.2.3.1.
Identification	See section 4.2.4.
Process data	See section 4.3.
Diagnostics	See section 3.4.
Status messages	See section 3.4.1.
Error messages	See section 3.4.2.
E1	See section 3.4.2.1.
E2	See section 3.4.2.2.
E3	See section 3.4.2.3.
Reset functions	See section 3.4.3.
Diagnostic data	See section 3.4.4.
Temperature	See section 3.4.5.
Filling level events	See section 3.4.6.
Pressure sensor events	See section 3.4.7.

3 Settings in differential pressure mode

➔ Start-up parameter > Operating mode = 'Differential pressure'

3.1 Start-up

• Start-up

Parameters	Settings	Description
Language	<ul style="list-style-type: none"> ▪ German/English (default)/French/Italian/Spanish 	Selectable menu and display language
Operating mode	<ul style="list-style-type: none"> ▪ Differential pressure (default) ▪ Filling level 	<p>Differential pressure measurement with linear characteristic</p> <p>The device issues an mA signal (4 to 20 mA) which is proportional to the tank content.</p>
➔ If the filling level mode is selected, section 4 on page 23 applies from this point onwards.		
Password protection	<ul style="list-style-type: none"> ▪ Not active ▪ Active 	To protect the device against unauthorized access, the password protection can be activated.
Password	<ul style="list-style-type: none"> ▪ 0 to 9999 (default: 1234) 	After the password protection has been activated, a one to four-digit code (0 to 9999) can be entered
Write protection (data transmission module)	<ul style="list-style-type: none"> ▪ Active (default) ▪ Not active 	To protect the device against unauthorized access during remote data transmission, the password protection can be activated.
Start-up wizard (in differential pressure mode only)	<ul style="list-style-type: none"> ▪ OFF (default) ▪ ON 	<p>Without the support of the start-up wizard; enter all relevant data manually</p> <p>With the support of the start-up wizard; key data are entered automatically (default settings). The start-up wizard starts automatically when the device is restarted.</p>
Power line frequency	<ul style="list-style-type: none"> ▪ 50 Hz (default) ▪ 60 Hz 	The local power line frequency must be entered to be able to properly filter out any disturbances which are transmitted over ground wires or external power supply units.

- Offline configuration

Parameters	Settings	Description
Voltage supply	<ul style="list-style-type: none"> ▪ Two-wire ▪ 24 V DC (default) ▪ 230 V AC 	Voltage supply of the differential pressure meter; see article code ► EB 9510
Measuring range	<ul style="list-style-type: none"> ▪ 160 mbar ▪ 600 mbar ▪ 1600 mbar ▪ 3600 mbar (default) 	Measuring range of the differential pressure meter; see article code ► EB 9510
Identification pressure sensor	<ul style="list-style-type: none"> ▪ No pressure sensor ▪ Pressure sensor 60 bar (default) 	Differential pressure meter fitted with pressure sensor or not; see article code ► EB 9510

3.2 Device settings

3.2.1 General

- General

Parameters	Settings	Description
Identifier	<ul style="list-style-type: none"> ▪ Enter characters as required (default: MEDIA7) 	Enter a freely selectable name for the device (max. 15 characters)

- Reading

Parameters	Settings	Description
Differential pressure	<ul style="list-style-type: none"> ▪ Yes (default) ▪ No 	Read the differential pressure; the unit can be changed (see section 3.2.2, 'Unit' parameter).
Pressure sensor	<ul style="list-style-type: none"> ▪ Yes (default) ▪ No 	Read the tank pressure measured by the pressure sensor
Unit of pressure	<ul style="list-style-type: none"> ▪ bar (default) ▪ kPa ▪ psi 	Selectable unit of the pressure sensor
LCD backlight	<ul style="list-style-type: none"> ▪ ON (default) ▪ OFF 	Activate or deactivate LCD backlight

Settings in differential pressure mode

Parameters	Settings	Description
LCD deactivation time	<ul style="list-style-type: none"> 1 to 10 min (default: 10 min) 	Enter the time after which the LCD of the Media 7 device is to be automatically switched off.
LCD heating control	<ul style="list-style-type: none"> ON (default) OFF 	<p>The 'ON' setting causes the display to be heated when the outdoor temperature is low.</p> <p>Upper switching temperature (deactivate): -12.5 °C</p> <p>Lower switching temperature (activate): -17.5 °C</p>
User level timeout	<ul style="list-style-type: none"> 1 to 60 min (default: 15 min) 	Set the time after which the user level is to be reset if no settings are entered

3.2.2 Differential pressure mode

• Differential pressure specifications

Parameters	Settings	Description
Min. differential pressure [Δp_0]	<ul style="list-style-type: none"> The setting range depends on the measuring range and the entered unit (see 'Unit' parameter). 	Set the minimum differential pressure.
Max. differential pressure [Δp_{100}]	<ul style="list-style-type: none"> The setting range depends on the measuring range and the entered unit (see 'Unit' parameter). 	Set the maximum differential pressure.
Permissible filling limit [SCN]	<ul style="list-style-type: none"> 70.00 to 100.00 % (default: 100.00 %) 	Setting of the permissible tank content up to overflow/gauge pipe in %
Unit	<ul style="list-style-type: none"> mbar (default) bar kPa psi cmH₂O mH₂O inH₂O 	Set the unit for minimum and maximum differential pressure
Measuring span control dialog	Parameter can be executed on the computer	Opens dialog box for measuring span control: comparison of the entered minimum and maximum differential pressure with the measuring range

- General medium data

Parameters	Settings	Description
Medium identifier	<ul style="list-style-type: none"> ▪ Enter characters as required 	Enter a name (max. 11 characters) to identify the medium

- Medium pressure specifications

Parameters	Settings	Description
Operating pressure	<ul style="list-style-type: none"> ▪ 1.0 to 61.0 bar (default: 1.0 bar) 	Enter the operating pressure

3.2.3 Option modules

The available parameters of inserted options modules are listed in the folder of the corresponding slot depending on the optional additional function. TROVIS-VIEW automatically detects the option module and lists its parameters.

3.2.3.1 Slot 1 to slot 4

AI: Analog input and AIA: Analog input active option modules

- Slot X

Parameters	Settings	Description
Option module identification	– Read only –	Detection of optional additional function: AI: Analog input
Option module status	– Read only –	Reading of the current status of the option module <ul style="list-style-type: none"> ▪ No module inserted ▪ Module not permissible in this setup ▪ Module unknown ▪ Module active
Name	<ul style="list-style-type: none"> ▪ Enter characters as required (default: OPTION) 	Enter a name (max. 15 characters) to identify the medium.
Signal source	<ul style="list-style-type: none"> ▪ Unknown (default) ▪ Filling level ▪ Pressure ▪ Temperature 	Enter the signal source on which the 4 to 20 mA signal is based

Settings in differential pressure mode

Parameters	Settings	Description
Medium identifier <i>Only when 'Signal source' = 'Filling level'</i>	<ul style="list-style-type: none"> Enter characters as required (default: MEDIUM) 	Enter a name (max. 11 characters) to identify the medium
Measured value	– Read only –	Reading of the current measured value in the selected unit
Unit	<ul style="list-style-type: none"> %/kg/Nm³/L/ft³/lbs/mbar/bar/kPa/psi/cmH₂O/mH₂O/in-H₂O/°C/°F/K 	Unit in which the measured value is to be indicated.
Lower measuring range value	<ul style="list-style-type: none"> Enter value as required (depending on the selected unit) 	Determine the lower limit of the measuring range at 4 mA
Upper measuring range value	<ul style="list-style-type: none"> Enter value as required (depending on the selected unit) 	Determine the upper limit of the measuring range at 20 mA
Event: Broken cable	<ul style="list-style-type: none"> ON (default) OFF 	Activates or deactivates the event for a detected cable breakage at the input of the AI option module. The event is activated when the signal falls below the switching threshold of 0.2 mA.
Event: Residual current	<ul style="list-style-type: none"> ON (default) OFF 	Activates or deactivates the event for a detected residual current violation at the input of the AI option module. The event is activated when the signal falls below the switching threshold of 3.6 mA or exceeds 21.0 mA.
Limit 1	<ul style="list-style-type: none"> ON (default) OFF 	Activate/deactivate limit 1
Mode	<ul style="list-style-type: none"> Max. contact Min. contact 	An upper limit can be determined with 'Max. contact' and a lower limit with 'Min. contact' for limit 1.
Limit	<ul style="list-style-type: none"> 0 to 100 % 	Setting limit 1
Limit 2	<ul style="list-style-type: none"> ON (default) OFF 	Activate/deactivate limit 2
Mode	<ul style="list-style-type: none"> Max. contact Min. contact 	An upper limit can be determined with 'Max. contact' and a lower limit with 'Min. contact' for limit 2.
Limit	<ul style="list-style-type: none"> 0 to 100 % 	Setting limit 2

Parameters	Settings	Description
Limit 3	<ul style="list-style-type: none"> ▪ ON (default) ▪ OFF 	Activate/deactivate limit 3
Mode	<ul style="list-style-type: none"> ▪ Max. contact ▪ Min. contact 	An upper limit can be determined with 'Max. contact' and a lower limit with 'Min. contact' for limit 3.
Limit	<ul style="list-style-type: none"> ▪ 0 to 100 % 	Setting limit 3
4 to 20 mA measured value	– Read only –	Reading of the current (in mA) at the option module
Relative measured value	– Read only –	Reading of the current (in %) at the option module
Start test	Directly executable function	Two-wire test signal issued.
Test mode	<ul style="list-style-type: none"> ▪ Not active ▪ Active 	Test mode is <i>Active</i> while the test is in progress (test duration: 30 s).
Test signal of analog output	<ul style="list-style-type: none"> ▪ -10.00 to +110.00 % 	Test signal in % based on the 4 to 20 mA signal range.
Zero shift	– Read only –	Reading in %
Span offset	– Read only –	Reading in %

AO: Analog output option module:

- Slot X

Parameters	Settings	Description
Option module identification	– Read only –	Detection of optional additional function: AO: Analog output
Option module status	– Read only –	Read the current status of the option module (No module inserted/Module not permissible in this setup/Module unknown/Module active)
Name	<ul style="list-style-type: none"> ▪ Enter characters as required (default: OPTION) 	Enter a name (max. 15 characters) to identify the medium.
Fault alarm output	<ul style="list-style-type: none"> ▪ High ▪ Low (default) 	Determines the signal for the fault alarm output: 'High' stands for >21 mA, 'Low' for <3.6 mA.

Settings in differential pressure mode

Parameters	Settings	Description
Error message in case of 'Failure' condensed state (E1)	<ul style="list-style-type: none"> ▪ No ▪ Yes 	Determines whether an error message is issued in case of condensed state (E1) (see page 18).
Error message in case of 'Out of specification' condensed state (E2)	<ul style="list-style-type: none"> ▪ No ▪ Yes 	Determines whether an error message is issued in case of condensed state (E2) (see page 18).
Error message in case of 'Maintenance required' condensed state (E3)	<ul style="list-style-type: none"> ▪ No ▪ Yes 	Determines whether an error message is issued in case of condensed state (E3) (see page 19).
Assignment of analog output	<ul style="list-style-type: none"> ▪ Differential pressure/filling level (depending on operating mode) ▪ Tank pressure (pressure sensor), only when pressure sensor exists 	Assignment of a measured value for the analog output
Pressure at 20 mA <i>Only when 'Assignment of analog output' = 'Tank pressure (pressure sensor)'</i>	<ul style="list-style-type: none"> ▪ 0 to 60 bar (based on 20 mA) 	The adaptation to the tank can be made when a pressure sensor is used.
Signal of analog output	– Read only –	Reading of the applied signal in %
Start test	Directly executable function	Two-wire test signal issued.
Test mode	<ul style="list-style-type: none"> ▪ Not active ▪ Active 	Test mode is <i>Active</i> while the test is in progress (test duration: 30 s).
Test signal of analog output	<ul style="list-style-type: none"> ▪ -10.00 to +110.00 % 	Test signal in % based on the 4 to 20 mA signal range.

3.2.4 Identification

• Identification

Parameters	Reading/description
Firmware version	<ul style="list-style-type: none"> ▪ Reading of the current firmware version of the Media 7 device
Serial number of the entire device	<ul style="list-style-type: none"> ▪ Reading of the serial number of the Media 7 device
Serial number of option 1	<ul style="list-style-type: none"> ▪ Reading of the serial number of the option module in slot 1
Serial number of option 2	<ul style="list-style-type: none"> ▪ Reading of the serial number of the option module in slot 2

Serial number of option 3	▪ Reading of the serial number of the option module in slot 3
Serial number of option 4	▪ Reading of the serial number of the option module in slot 4
ProductInstanceUri	▪ Unique device identification according to DIN SPEC 91406 (implementation pending)
HW version/supply voltage	▪ Reading of the hardware version of the voltage supply
Explosion protection certification	▪ No ▪ Yes
Oxygen approval	▪ No ▪ Yes

3.3 Process data

• Process data

Parameters	Reading/description
Differential pressure (relative)	▪ Reading of the current differential pressure in %
Pressure sensor	▪ Reading of the tank pressure measured by the pressure sensor
Differential pressure [Δp]	▪ Read the current differential pressure in the selected unit
Zero shift	▪ Zero shift reading in mbar
Span offset	▪ Span offset reading in mbar
Min. differential pressure [Δp_0]	▪ Display the minimum differential pressure
Max. differential pressure [Δp_{100}]	▪ Display the maximum differential pressure
Temperature inside device	▪ Current temperature reading in °C
Heating	▪ Reading ON/OFF
Battery voltage	▪ Battery voltage reading in V





3.4 Diagnostics





The diagnostics area lists status messages (see section 3.4.1) and error messages (see section 3.4.2) of the Media 7 device. Additionally, various functions, such as restart or setting limits, exist.





3.4.1 Status messages

Status messages provide an overview on the current states of individual functions or components of the Media 7 device. A corresponding status icon is assigned to failures and error messages. The meaning of the icons and their order of priority are listed in Tabelle 1.

Tabelle 1: Status icons and their meanings

Status icon	Priority	Meaning
	1	Failure
	2	Out of specification
	3	Maintenance required
	4	No message

Status messages	Possible status			
				
Condensed state	•	•	•	•
Condensed state (E1)				
101: AMR magnet lost	•			•
102: AMR sensor not recognized	•			•
103: Memory error (calibration)	•			•
104: Memory error (data)	•			•
105: No factory calibration	•			•
106: Pressure sensor error	•			•
107: Internal data processing error	•			•
Condensed state (E2)				
201: AMR signal outside range		•		•
202: Measuring span error		•		•
203: Characteristic error		•		•
204: AMR temperature sensor		•		•
205: Temperature inside device below min. limit		•		•
206: Temperature inside device above max. limit		•		•
207: Large differential pressure drop		•		•





Status messages	Possible status			
				
Condensed state (E3)				
301: Power supply unit not recognized			•	•
302: Option not recognized			•	•
303: Option module combination invalid			•	•

3.4.2 Error messages

Error messages provide an overview on present errors and malfunctions in the Media 7 device. Similar to the status messages, a status icon is assigned to each error message (see Tabelle 1). Additionally, each message is counted and date-stamped for statistical data processing. Reset error messages by selecting 'Delete alarm'.





All device errors (class E1 to E3) are logged in an error history, which can be read in TROVIS-VIEW. The signal of the Media 7 device is switched to ≤ 3.6 mA when class E1 and E2 errors occur.

3.4.2.1 E1





Error messages	Possible status			
				
Condensed state (E1)	•	•	•	•
101: AMR magnet lost	•			•
102: AMR sensor not recognized	•			•
103: Memory error (calibration)	•			•
104: Memory error (data)	•			•
105: No factory calibration	•			•
106: Pressure sensor error	•			•
107: Internal data processing error	•			•

Settings in differential pressure mode

3.4.2.2 E2

Error messages	Possible status			
				
Condensed state (E2)	•	•	•	•
201: AMR signal outside range		•		•
202: Measuring span error		•		•
203: Characteristic error		•		•
204: AMR temperature sensor		•		•
205: Temperature inside device below min. limit		•		•
206: Temperature inside device above max. limit		•		•
207: Large differential pressure drop		•		•

3.4.2.3 E3

Error messages	Possible status			
				
Condensed state (E3)	•	•	•	•
301: Power supply unit not recognized			•	•
302: Option not recognized			•	•
303: Option module combination invalid			•	•

3.4.3 Reset functions

Parameters	Settings	Description
Restart	Directly executable function	The device restarts.
Default settings	Directly executable function	All parameters in the device are reset to their default settings.

3.4.4 Diagnostic data

Parameters	Settings	Description
Operation duration	– Read only –	Reading of the entire operating time of the device (dd:hh:mm:ss)

3.4.5 Temperature events

Parameters	Settings	Description
Max. temperature inside device	<ul style="list-style-type: none"> ▪ OFF (default) ▪ ON 	Activate/deactivate the temperature monitoring with limit for max. temperature inside the device
Limit	<ul style="list-style-type: none"> ▪ 10 to 70 °C (default: 60 °C) 	Set an upper temperature limit within the specified range: if the current device temperature is above the adjusted limit, an error message is generated and displayed. The status changes to 'Out of specification'.
Min. temperature inside device	<ul style="list-style-type: none"> ▪ OFF (default) ▪ ON 	Activate/deactivate the temperature monitoring with limit for min. temperature inside the device
Limit	<ul style="list-style-type: none"> ▪ -40 to +10 °C (default: -15 °C) 	Set a lower temperature limit within the specified range: if the current device temperature is below the adjusted limit, an error message is generated and displayed. The status changes to 'Out of specification'.

3.4.6 Differential pressure events

Parameters	Settings	Description
Filling limit alarm [SCN]	<ul style="list-style-type: none"> ▪ ON ▪ OFF (default) 	Activate/deactivate the permissible filling level
Pre-alarm	<ul style="list-style-type: none"> ▪ ON (default) ▪ OFF 	Activate/deactivate the pre-alarm when the filling level falls below the limit.
Limit	<ul style="list-style-type: none"> ▪ 0.0 to 100.0 % (default: 30 %) 	Set limit in %
Main alarm	<ul style="list-style-type: none"> ▪ ON (default) ▪ OFF 	Activate/deactivate the main alarm when the filling level falls below the limit.
Limit	<ul style="list-style-type: none"> ▪ 0.0 to 100.0 % (default: 15 %) 	Set limit in %

3.4.7 Pressure sensor events

Parameters	Settings	Description
Limit 1	<ul style="list-style-type: none"> ▪ ON (default) ▪ OFF 	Activate/deactivate limit 1
Mode	<ul style="list-style-type: none"> ▪ Max. contact (default) ▪ Min. contact 	An upper pressure limit can be determined with 'Max. contact' and a lower pressure limit with 'Min. contact'.
Limit	<ul style="list-style-type: none"> ▪ 0 to 60 bar (default: 40 bar) 	Set limit 1 in bar
Limit 2	<ul style="list-style-type: none"> ▪ ON (default) ▪ OFF 	Activate/deactivate limit 2
Mode	<ul style="list-style-type: none"> ▪ Max. contact (default) ▪ Min. contact 	An upper pressure limit can be determined with 'Max. contact' and a lower pressure limit with 'Min. contact'.
Limit	<ul style="list-style-type: none"> ▪ 0 to 60 bar (default: 25 bar) 	Set limit 2 in bar
Limit 3	<ul style="list-style-type: none"> ▪ ON (default) ▪ OFF 	Activate/deactivate limit 3
Mode	<ul style="list-style-type: none"> ▪ Max. contact ▪ Min. contact (default) 	An upper pressure limit can be determined with 'Max. contact' and a lower pressure limit with 'Min. contact'.
Limit	<ul style="list-style-type: none"> ▪ 0 to 60 bar (default: 5 bar) 	Set limit 3 in bar

4 Settings in filling level mode

→ Start-up parameter > Operating mode = 'Filling mode'

4.1 Start-up

• Start-up

Parameters	Settings	Description
Language	<ul style="list-style-type: none"> ▪ German/English (default)/French/Italian/Spanish 	Selectable menu and display language
Operating mode	<ul style="list-style-type: none"> ▪ Differential pressure (default) ▪ Filling level 	<p>Differential pressure measurement with linear characteristic</p> <p>The device issues an mA signal (4 to 20 mA) which is proportional to the tank content.</p>
Password protection	<ul style="list-style-type: none"> ▪ Not active ▪ Active 	To protect the device against unauthorized access, the password protection can be activated.
Password	<ul style="list-style-type: none"> ▪ 0 to 9999 (default: 1234) 	After the password protection has been activated, a one to four-digit code (0 to 9999) can be entered
Write protection (data transmission module)	<ul style="list-style-type: none"> ▪ Active (default) ▪ Not active 	To protect the device against unauthorized access during remote data transmission, the password protection can be activated.
Power line frequency	<ul style="list-style-type: none"> ▪ 50 Hz (default) ▪ 60 Hz 	The local power line frequency must be entered to be able to properly filter out any disturbances which are transmitted over ground wires or external power supply units.

Settings in filling level mode

• Offline configuration

Parameters	Settings	Description
Voltage supply	<ul style="list-style-type: none">Two-wire24 V DC (default)230 V AC	Voltage supply of the differential pressure meter; see article code ► EB 9510
Measuring range	<ul style="list-style-type: none">160 mbar600 mbar1600 mbar3600 mbar (default)	Measuring range of the differential pressure meter; see article code ► EB 9510
Identification pressure sensor	<ul style="list-style-type: none">No pressure sensorPressure sensor 60 bar (default)	Differential pressure meter fitted with pressure sensor or not; see article code ► EB 9510

4.2 Device settings

4.2.1 General

• General

Parameters	Settings	Description
Identifier	<ul style="list-style-type: none">Enter characters as required (default: MEDIA7)	Enter a freely selectable name for the device (max. 15 characters)

• Reading

Parameters	Settings	Description
Filling level	<ul style="list-style-type: none">Yes (default)No	Read the filling level; the unit can be changed (see section 4.2.2.2, 'Unit' parameter).
Pressure sensor	<ul style="list-style-type: none">Yes (default)No	Read the tank pressure measured by the pressure sensor
Unit of pressure	<ul style="list-style-type: none">bar (default)kPapsi	Selectable unit for pressure measured by the pressure sensor

Parameters	Settings	Description
Zoomed view of tank filling	<ul style="list-style-type: none"> ▪ No ▪ Yes (default) 	When this function is activated, press the cursor key ↑ to change between the start screen of the differential pressure meter and a zoomed view of the reading. This allows the reading on the display to be read even from a distance (▶ EB 9510).
MCN/SCN	<ul style="list-style-type: none"> ▪ No (default) ▪ Yes 	MCN (maximum tank content in %) or SCN (tank content up to overflow/gauge pipe) reading on the display
Hazard warning for filling limit	<ul style="list-style-type: none"> ▪ Tank content up to overflow/gauge pipe (SCN) ▪ UCW (tank content up to the operating filling limit) 	Select filling limit to be indicated on the display when this limit is reached.
LCD backlight	<ul style="list-style-type: none"> ▪ ON (default) ▪ OFF 	The LCD of the Media 7 device can be switched off after the entered deactivation time (only when the OFF setting is selected).
LCD deactivation time	<ul style="list-style-type: none"> ▪ 1 to 10 min (default: 10 min) 	Enter the time after which the LCD of the Media 7 device is to be automatically switched off.
LCD heating control	<ul style="list-style-type: none"> ▪ ON (default) ▪ OFF 	The 'ON' setting causes the display to be heated when the outdoor temperature is low. Upper switching temperature (deactivate): -12.5 °C Lower switching temperature (activate): -17.5 °C
User level timeout	<ul style="list-style-type: none"> ▪ 1 to 60 min (default: 15 min) 	Set the time after which the user level is to be reset if no settings are entered

4.2.2 Filling level mode

4.2.2.1 Tank

• Tank database

Parameters	Settings	Description
Load data	Directly executable function	Load saved Media 7 data
Save data	Directly executable function	Save current tank data

• General tank data

Parameters	Settings	Description
Memory space	<ul style="list-style-type: none"> ▪ 1 SAMSON (default) ▪ 2 SAMSON ▪ ... ▪ 10 SAMSON 	Select one of ten available memory spaces. Each memory space contains the default tank data.
Tank identifier	<ul style="list-style-type: none"> ▪ Enter characters as required (default: SAMSON) 	Enter a name (max. 15 characters) to identify the tank
Tank type	<ul style="list-style-type: none"> ▪ Cylinder, upright (default) ▪ Cylinder, horizontal ▪ Ball 	Select the tank shape
Shape of tank head	<ul style="list-style-type: none"> ▪ Flat head ▪ Torispherical head ▪ Semi-ellipsoidal head (default) ▪ Enter r and R ▪ Enter R (r = 0) 	Select shape of tank head (ball tank shape cannot be selected)

• Tank truck

Parameters	Settings	Description
Tank truck	<ul style="list-style-type: none"> ▪ No (default) ▪ Yes 	Select 'Yes' if the tank is located on a vehicle.
Permissible total weight <i>Only when 'Tank truck' = 'Yes'</i>	<ul style="list-style-type: none"> ▪ 15000 to 60000 kg (default: 40000 kg) 	Enter the permissible total weight of tank truck

Parameters	Settings	Description
Own weight <i>Only when 'Tank truck' = 'Yes'</i>	▪ 2500 to 40000 kg (default: 15000 kg)	Enter the own weight of tank truck
Max. payload <i>Only when 'Tank truck' = 'Yes'</i>	▪ 0 to 60000 kg (default: 25000 kg)	Enter the payload of tank truck

• Inside tank dimensions

i Note

The parameters marked with an asterisk *) in the following table are either directly entered or calculated based on other entered parameters in the table.

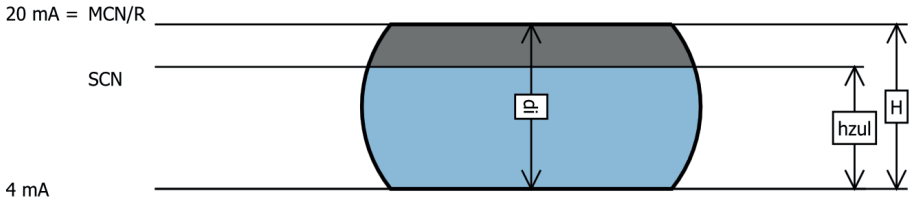
Parameters	Settings	Description
Existing data	▪ Length/height and volume (default) ▪ Diameter and length/height ▪ Diameter and volume	Select known data to determine the tank's inside dimensions.
Diameter *	▪ Enter or display in m	Enter the tank inside diameter in m or the calculated value based on the other entered parameters.
Length/height of tank*	▪ Enter or display in m	Enter the tank length or height in m or the calculated value based on the other entered parameters.
Static column	▪ Reading in m	Calculated value based on the entered tank inside dimensions
Total volume [MCN]*	▪ Enter or display in m ³	Enter the maximum tank content (MCN) in m ³ or the calculated value based on the other entered parameters.
Radius R <i>Only when 'Shape of tank head' = 'Enter r and R'</i>	▪ 1,000 to 50,000 m	Enter the radius R in m
Nose radius r <i>Only when 'Shape of tank head' = 'Enter r and R'</i>	▪ 0 to 2,000 m	Enter the nose radius r in m

Settings in filling level mode



Tip

In the bottom section of the main window of TROVIS-VIEW, a diagram of the tank is shown based of the entered parameters. See the example below:



• Tank measuring line

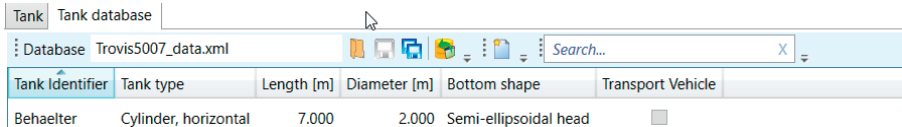
Parameters	Settings	Description
Length/height of measuring line	<ul style="list-style-type: none"> 0 to 5,000 m 	Enter the length or height of the measuring line
Location of low-pressure pipe	<ul style="list-style-type: none"> Internal (default) External 	<ul style="list-style-type: none"> Internal: for vacuum-insulated tanks External: for non-insulated tanks or when the low-pressure pipe is routed externally

• Reference volume (MCN, SCN)






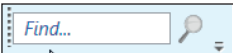
Parameters	Settings	Description
Volume at 20 mA	<ul style="list-style-type: none"> Max. tank content (MCN) Tank content up to overflow/gauge pipe (SCN) 	Select at which volume (MCN or SCN) the 20 mA signal is to be issued.
Permissible filling limit [SCN]	<ul style="list-style-type: none"> Enter or display in % 	Enter the permissible operating filling limit of the tank (SCN) in % or calculated value based on other entered parameters
Permissible height [SCN]	<ul style="list-style-type: none"> Enter or display in m 	Enter the permissible height in the tank up to the operating filling limit (SCN) in m or calculated value based on other entered parameters
Permissible volume [SCN]	<ul style="list-style-type: none"> Enter or display in m³ 	Enter the permissible tank content up to the operating filling limit (SCN) in m ³ or calculated value based on other entered parameters

• Tank database

The tank database allows configured tank data to be saved, exported and transferred to other applications. One tank database (file name: Trovis 5007_data.xml) with an upright cylinder has been configured and saved in the tank database for immediate use.






The following actions are possible in the tank database:




Database level	
	Load user database: loads an existing tank database into TROVIS-VIEW
	Save user database: saves the displayed tank database. Any existing tank database is overwritten.
	Save user database as: saves the displayed tank database. File name and storage location can be selected as required.
	Import user database: imports an existing tank database and pastes into the displayed tank database. Double tank configuration entries will be deleted during the import process.
	Create new entry: creates a new entry into the displayed tank database based on the tank configuration entry in TROVIS-VIEW ¹⁾ . The position of the tank in the tank database and the name of the tank configuration are defined in the 'Memory space' and 'Tank identifier' parameters.
	Find: the entered search term is searched for in the displayed tank database.
Entry level	
To open an entry, click on the corresponding row:	

Settings in filling level mode

Tank Identifier	Tank type	Length [m]	Diameter [m]	Bottom shape	Transport Vehicle
Behaelter	Cylinder, horizontal	7.000	2.000	Semi-ellipsoidal head	<input type="checkbox"/>

Total Volume (MCN): -- m³
Permissible filling limit: 95 %

	Load selected data to TROVIS-VIEW: loads the tank configuration from the tank database to TROVIS-VIEW ¹⁾ .
	Overwrite selected data: overwrites the tank configuration from the tank database with the data from TROVIS-VIEW ¹⁾ .
	Delete from database: deletes the tank configuration from the tank database.

¹⁾  Tank

4.2.2.2 Process medium

Eight different process medium (Medium 1 to Medium 8) are available for the Media 7 device in TROVIS-VIEW. The following process media are set by default:

Process medium	Medium identifier	Element/compound
Medium 1	AR	Argon
Medium 2	O2	Oxygen
Medium 3	N2	Nitrogen
Medium 4	CO2	Carbon dioxide
Medium 5	CH4	Methane
Medium 6	C2H4	Ethylene
Medium 7	LNG	Liquefied natural gas
Medium 8	User	Wildcard for any process medium

- General medium data

Parameters	Settings	Description
Memory space	<ul style="list-style-type: none"> ▪ 1 AR ▪ 2 O2 ▪ 3 N2 ▪ 4 CO2 ▪ 5 CH4 ▪ 6 C2H4 ▪ 7 LNG ▪ 8 User ▪ 9 User ▪ 10 User 	Select the process medium
Medium identifier	<ul style="list-style-type: none"> ▪ Enter characters as required 	Enter a name (max. 11 characters) to identify the medium
Unit	<ul style="list-style-type: none"> ▪ % ▪ kg ▪ Nm³ (default) ▪ L ▪ ft³ ▪ lbs 	Unit for the displayed parameters 'Max. tank content', 'Tank content up to overflow/gauge pipe' and 'Tank content up to 'Operating filling limit' in the 'Calculated values' section
Operating filling limit [UCW]	<ul style="list-style-type: none"> ▪ 0.00 to 95.00 % (default: 90.00 %) 	Enter operating filling limit in %
Shrink factor	<ul style="list-style-type: none"> ▪ 0.95 to 1.00 	Enter tank's shrink factor (depends on the tank material, operating temperature and the process medium).

- Medium pressure specifications

Parameters	Settings	Description
Operating pressure	<ul style="list-style-type: none"> ▪ 0 to 50000 mbar ▪ 0 to 50.000 bar ▪ 0 to 5000.0 kPa ▪ 0 to 725.19 psi ▪ 0 to 509858 mmH₂O ▪ 0 to 50985.8 cmH₂O ▪ 0 to 509.858 mH₂O ▪ 0 to 20073.15 inH₂O 	Set the operating pressure: the setting range depends on the entered unit.

Settings in filling level mode

Parameters	Settings	Description
Unit of 'Operating pressure'	<ul style="list-style-type: none"> ▪ mbar ▪ bar (default) ▪ kPa ▪ psi ▪ cmH₂O ▪ mH₂O ▪ inH₂O 	Selectable units for the operating pressure

• Densities

Parameters	Settings	Description
<i>The readings of the following parameters depend on the settings in the 'Density calculation', 'Gas column correction' and 'Medium for density calculation'.</i>		
Liquid density	▪ Value in kg/m ³	Density value in kg/m ³ in liquid state
Gas density in tank [PGB]	▪ Value in kg/m ³	Needs only be entered when the gas column correction is active (Density calculations).
Gas density in low-pressure pipe [PGL]	▪ Value in kg/m ³	Needs only be entered when the gas column correction is active (Density calculations).
Mixture density	▪ Value in kg/m ³	Mixture density refers to the density when filling the tank. The value is automatically calculated from the entered liquid density (PFL). The operating filling limit (UCW) is derived from this.
Standard gas density [PGN]	▪ Value in kg/m ³	Standard gas density in kg/m ³

• Density calculation (liquid/gas density in the tank)

Parameters	Settings	Description
Density calculation	<ul style="list-style-type: none"> ▪ Manual (default) ▪ Automatic 	Load saved medium data

Parameters	Settings	Description
Gas column correction	<ul style="list-style-type: none"> ▪ OFF ▪ Manual (default) ▪ Automatic 	<ul style="list-style-type: none"> ▪ Manual: values are calculated based on the entered gas density. ▪ Automatic: values are automatically calculated based on the operating pressure. <p>Gas column correction is only possible for media for which data have been saved.</p>
Medium for density correction	<ul style="list-style-type: none"> ▪ AR ▪ O2 ▪ N2 ▪ CO2 ▪ CH4 ▪ C2H4 ▪ LNG ▪ Unknown 	<p>Enter a predefined medium for density correction</p> <p>Medium data for density correction are saved for a selection of media. The medium data must be entered manually when the medium is not included in the selection ('Unknown' setting).</p>
Operating pressure	<ul style="list-style-type: none"> ▪ 1.0 to 73.8 bar abs. (default: 1.0 bar abs) <p><i>Depending on the 'Medium for density correction' parameter</i></p>	Enter the operating pressure
Ambient temperature	<ul style="list-style-type: none"> ▪ -40.0 to +80.0 °C (default: 20.0 °C) 	Enter the ambient temperature
Calculate densities <i>Only when 'Medium for density correction' ≠ 0</i>	Parameter can be executed on the computer	Starts the calculation of the densities (see 'Calculated values' section).
Liquid density	<ul style="list-style-type: none"> ▪ 0.00001 to 50000.0000 kg/m³ (default: 1394.0000 kg/m³) 	Density value in liquid state at the set operating pressure
Gas density in tank [PGB] <i>Only when 'Density calculation' = 'Manual'</i>	<ul style="list-style-type: none"> ▪ 0.0000 to 3000.000 kg/m³ (default: 0.0000 kg/m³) 	Enter the gas density in tank
Gas density in low-pressure pipe [PGL] <i>Only when 'Density calculation' = 'Manual'</i>	<ul style="list-style-type: none"> ▪ 0.0000 to 3000.000 kg/m³ (default: 0.0000 kg/m³) 	Enter the gas density in the low-pressure pipe

Settings in filling level mode

Parameters	Settings	Description
Standard gas density <i>Only when 'Medium for density correction' = 'Unknown'</i>	▪ 0.0001 to 10000.0000 kg/m ³	Gas density at 1 bar abs. and 15 °C
Measuring span control dialog	Parameter can be executed on the computer	Opens dialog box for measuring span control: comparison of the values to calculate the density with the measuring range

• Calculated values

Parameters	Settings	Description
Max. tank content	▪ Reading, e.g. in Nm ³	Calculated value based on the entered parameters
Tank content up to overflow/gauge pipe	▪ Reading, e.g. in Nm ³	Calculated value based on the entered parameters
Load filling level [SCN] <i>Only when 'Tank truck' = 'Yes'</i>	▪ Reading in %	Read the load filling level in %
Tank content up to the operating filling limit	▪ Reading, e.g. in Nm ³	Calculated value based on the entered parameters
Min. differential pressure (Δp_0)	▪ Reading in mbar	Calculated value based on the entered parameters
Max. differential pressure (Δp_{100})	▪ Reading in mbar	Calculated value based on the entered parameters

Parameters	Settings	Description
Filling level table	Directly executable function	<p>A table is shown based on the determined characteristic (see section 4.2.2.1.1). The following values are assigned to the 16 coordinates:</p> <ul style="list-style-type: none"> ▪ Height in m ▪ Volume in m³ ▪ Filling volume in m³ ▪ Δp_{100} in mbar ▪ Output signal in mA

• **Medium database**






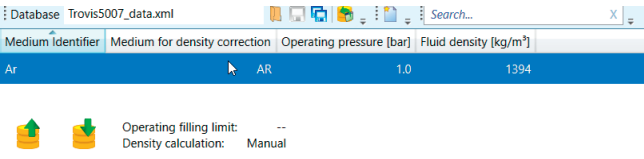



The medium database allows configured media data to be saved, exported and transferred to other applications. Ten different media (file name: Trovis 5007_data.xml) have been configured and saved in the medium database for immediate use.

Medium Identifier	Medium for density correction	Operating pressure [bar]	Fluid density [kg/m ³]
Ar	AR	1.0	1394
<p>Operating filling limit: -- Density calculation: Manual</p>			
C2H4	AR	1.0	567.9
CH4	AR	1.0	422.6
CO2	AR	15.7	1065.697

The following actions are possible in the medium database:

Database level	
	Load user database: loads an existing medium database into TROVIS-VIEW

Settings in filling level mode

	Save user database: saves the displayed medium database. Any existing medium database is overwritten.
	Save user database as: saves the displayed medium database. File name and storage location can be selected as required.
	Import user database: imports an existing medium database and pastes into the displayed medium database. Double medium configuration entries will be deleted during the import process.
	Create new entry: creates a new entry into the displayed medium database based on the medium configuration entry in TROVIS-VIEW ¹⁾ . The position of the medium in the medium database and the name of the medium configuration are defined in the 'Memory space' and 'Medium identifier' parameters.
	Find: the entered search term is searched for in the displayed medium database.
Entry level	
To open an entry, click on the corresponding row:	
	
	Load selected data to TROVIS-VIEW: loads the medium configuration from the medium database to TROVIS-VIEW ¹⁾ .
	Overwrite selected data: overwrites the medium configuration from the medium database with the data from TROVIS-VIEW ¹⁾ .
	Delete from database: deletes the medium configuration from the medium database.

¹⁾  Process medium

4.2.3 Option modules

➔ See section 3.2.3 on page 13.

4.2.4 Identification

• Identification


Parameters	Reading/description
Firmware version	▪ Reading of the current firmware version of the Media 7 device
Serial number of the entire device	▪ Reading of the serial number of the Media 7 device
Serial number of option 1	▪ Reading of the serial number of the option module in slot 1
Serial number of option 2	▪ Reading of the serial number of the option module in slot 2
Serial number of option 3	▪ Reading of the serial number of the option module in slot 3
Serial number of option 4	▪ Reading of the serial number of the option module in slot 4
ProductInstanceUri	▪ Unique device identification according to DIN SPEC 91406 (implementation pending)
HW version/supply voltage	▪ Reading of the hardware version of the voltage supply
Explosion protection certification	▪ No ▪ Yes
Oxygen approval	▪ No ▪ Yes

4.3 Process data

• Process data

Parameters	Reading/description
Filling level (relative)	▪ Reading of the current filling level in %
Filling level	▪ Reading of the current filling level in the selected unit
Pressure sensor	▪ Reading of the tank pressure measured by the pressure sensor
Differential pressure [Δp]	▪ Read the current differential pressure in the selected unit
Zero shift	▪ Zero shift reading in mbar

Settings in filling level mode

Parameters	Reading/description
Span offset	▪ Span offset reading in mbar
MCN (total volume)	▪ Reading of the maximum tank content in the selected unit
SCN (volume up to gauge pipe)	▪ Reading of the tank content up to overflow/gauge pipe in the selected unit
UCW (operating filling limit)	▪ Reading of the tank content up to the operating filling limit in the selected unit
Min. differential pressure [Δp_0]	▪ Reading of the minimum differential pressure (filling level mode)
Max. differential pressure [Δp_{100}]	▪ Reading of the maximum differential pressure (filling level mode)
Temperature inside device	▪ Current temperature reading in °C
Heating	▪ Reading ON/OFF
Battery voltage	▪ Battery voltage reading in V
Tank identifier	▪ Reading of the entered tank identifier (see  Tank)

• Density calculation

Ambient temperature	▪ Ambient temperature reading in °C
Liquid density	▪ Reading of the density in liquid state at the set operating pressure in kg/m ³
Gas density in tank	▪ Reading of the gas density in tank in kg/m ³
Gas density in low-pressure pipe	▪ Reading of the gas density in the low-pressure pipe in kg/m ³

4.4 Diagnostics

→ See section 3.4 on page 17.

5 Recommended settings



Tip

We recommend taking the following procedure into account during the parameterization and configuration of the Media 7 device:



- In differential pressure mode according to section 5.1
 - In filling level mode according to section 5.2
-



Note

Proper start-up is necessary for parameterization and configuration of the Media 7 device in TROVIS-VIEW. Refer to the Mounting and Operating Instructions ► EB 9510. Furthermore, the Media 7 device must be connected to the computer (see section 1.2).

5.1 Device configuration in differential pressure mode

1. Click  (read data) button.
 - ➔ The device version is detected and the parameters and setting options are adapted accordingly in TROVIS-VIEW.
2. Perform the settings in the 'Start-up' folder.
3. Perform the settings in the 'General' folder.
4. Perform the settings of the relevant parameters in the 'Differential pressure mode' folder:
 - Δp_0 : set '0' when a raised zero is not required.
 - Δp_0 : the entered value must not be the same as Δp_{100} (max. 85 % of the permissible span).
 - Δp_{100} : set the value within the permissible span reading (recommended: 20 to 110 %).
5. Perform the settings in the 'Diagnosis' folder.
6. After all settings have been made, click  (write data) button.

5.2 Device configuration in filling level mode

1. Click  (read data) button.

→ The device version is detected and the parameters and setting options are adapted accordingly in TROVIS-VIEW.

2. Perform the settings in the 'Start-up' folder.

3. Perform the settings in the 'General' folder.

4. Perform the settings of the relevant parameters in the 'Filling level mode' folder:

Tank:

– Enter the following parameter: Inside tank dimensions and/or total volume, permissible filling limit [SCN].


Read the tank manufacturer's manual.

– Determine the reference volume [MCN/SCN]

Medium database:

– Enter the liquid density and standard gas density of the process medium (see gas specification sheet).

5. Perform the settings in the 'Diagnosis' folder.

6. After all settings have been made, click  (write data) button.

6 Firmware update of the differential pressure meter

NOTICE

In-process firmware updates disrupt the control process.

→ *Place the plant in a safe state before performing a firmware update on a device integrated into a plant.*

Consult SAMSON's After-sales Service before updating the firmware of the differential pressure measurement. You can reach our after-sales service at aftersalesservice@samsongroup.com. Our after-sales service will also send you the password required to perform the update.

Proceed as follows:

1. Deactivate the online connection to the differential pressure meter (if it has not already been deactivated).
2. Select [Device > User level].
The User level dialog box opens.
3. Select the 'FirmwareUpdate' user level.
You will be prompted to enter the password provided by our after-sales service to access the user level.
4. Enter the password and click [OK] to confirm.
5. Select [Device > Firmware update].
The Firmware update dialog box opens.
6. Select the standard mode and follow the instructions.

Successfully completed update:

The wizard reports when an update has been successfully completed.

You can check the firmware version of the differential pressure meter in the [Device settings > Identification] folder.

Firmware update of the differential pressure meter

Update failed:

The wizard reports a failed update.

The differential pressure meter may not start correctly anymore. Our after-sales service can assist you to rectify this error.

1. Contact our after-sales service by e-mail at aftersaleservice@samsongroup.com.
Our after-sales service will provide you with a special update file.
2. Repeat steps 1 to 5 to execute the firmware update.
3. Select the 'Expert' mode and follow the instructions.

EB 9510-2 EN



SAMSON AKTIENGESELLSCHAFT
Weismüllerstraße 3 · 60314 Frankfurt am Main, Germany
Phone: +49 69 4009-0 · Fax: +49 69 4009-1507
samson@samsongroup.com · www.samsongroup.com