


S-MELS-FT Level sensor with float HART

Level Sensor with Float HART

S-MELS-FT

● Characteristics

420 - MODULAR - ECONOMIC -

	- Input:	level 100...2000 mm
	- Output:	4...20 mA current loop HART (2-wire)
	- Voltage supply:	out of current loop (12...40 VDC)
	- Accuracy:	see technical details
	- Process connection:	several options
	- Electrical connection:	several plugs
	- Electrical connection:	lateral, Option: upwards
	- Ambient temperature:	-40...+80 °C
	- Adjustment:	via software
	- Medium:	non aggressive fluids
	- Protection:	at least IP65 / IP68

● Technical Data

Input

Level: 100...1000 mm
Medium: non aggressive fluids

Output

Current signal: 4...20 mA with superimposed communication signal (HART), 2-wire current loop
Current range: 3,8...20,5 mA
Signal on error: 3,6 mA (sensor short circuit, underflow)
21 mA (sensor break, sensor open circuit, overflow)

Performance

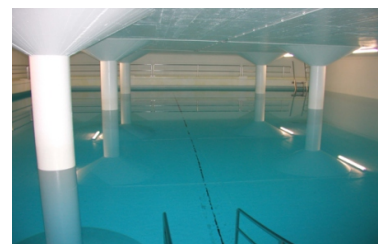
Sensor: Resolution: 4,5 mm,
Hysteresis: ca. 3mm
Measuring amplifier: Resolution: 16 Bit
Accuracy: 0,3% of range
Filter setting: 0...99 s
Transmission behaviour: linear with level
Measuring rate: 10 measurements / s
Configuration: via software (HART-communication)
Turn-on delay time: <5 s
Response time: 20 ms

Programmable Features

Measuring amplifier: measuring range start / measuring range end / filter

● Applications

For use in industrial plants, terotechnology and public utility (eg tanks for hydraulic oil). With it's HART interface for configuration and the numerous electrical connections, the level sensor is also suitable for applications with higher requirements.



Level Sensor with Float

S-MELS-FT Füllstandssensor mit Schwimmer HART

● Technical Data (Continued)

Supply

Voltage:	HART current loop: 12...40 VDC VDC
Load:	$R = (U_B - 12 \text{ V}) / 22 \text{ mA}$
Reverse battery protection:	available (no function, no damage)

Environmental Conditions

Temperature:	Operating range:	0...+80 °C
	Storing:	-20...+85 °C
	Medium:	0...+100 °C
Condensation:	uncritical	

Mechanics

Dimensions:	see page 3	
Process connection:	3/4" / 1" / 1,5" / 1"NPT (adaptor)	
System pressure:	25 bar	
Electrical connection:	lateral	
	Option:	upwards
	Plugs and cables:	see page 3
Material:	Protecting tube:	stainless steel 1.4571
	Float:	PE Ø24 (density medium: 1 or more)
		PE Ø29
		Option: stainless steel Ø29 (1.4571)
	Adaptor:	stainless steel 1.4571
	Process connection:	stainless steel 1.4571
Body:	PBT GF30	
Cover:	PBT GF30	
Weight:	approx. 200 g (300 mm, 1", M12)	
Fitting position:	vertical	
System pressure:	PN 25	
Protection of device:	Ingress protection:	at least IP 65 (electronics)
		IP68 (sensor)
	PCB:	potted

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● Electrical Connection

M12x1	Super Seal	Deutsch	Deutsch	Bayonet	Valve	MIL	Cable
4-, 5-, 8-pole	3-pole	3-pole	4-pole	4-pole	4-pole	6-pole	4-pole

● Connection-Example M12-Plug

Plug assignment M12x1, 8-pole				
current loop 4...20 mA HART				
+				
1				
-				
3				

● HART Communication and Configuration

The HART-Tool is a graphical user interface with menu-driven program for configuration. It can be used for putting into operation, configuration, analysis of signals, data backup and documentation of the device.

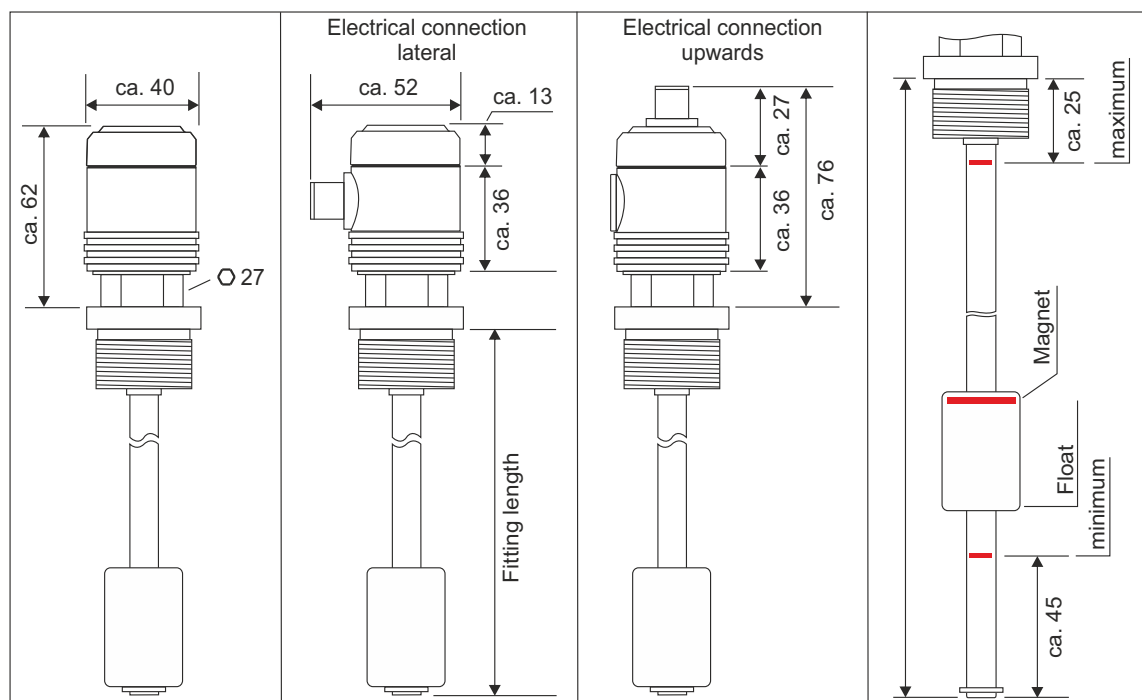
Operating systems: Windows XP, W7, W8.1, W10

Connection via HART interface (modem) with USB interface of a PC or hand-held HART communicator

- Settings:
- Adjustment of output current
 - Simulation of output current
 - Filter function
 - Limits of measuring range
 - Linear output signal
 - HART address
 - 2-point calibration
 - Up to 10-point calibration (linearization)

Please note: When using communication via a HART modem, a communication resistance of 250 Ω has to be taken into account.

● Dimensions (in mm)



S-MELS-FT Füllstandssensor mit Schwimmer HART

● Order Code		O	V	X	X	X	X	-	X	-	X	X	X	X
Input:	Level	0												
Resolution:	4,5 mm	1												
Float:	Plastics Ø24 ¹⁾	1												
	Plastics Ø29 (Standard)	2												
	Stainless steel Ø29	3												
Process connection:	1"	0												
	1,5"	1												
	1"NPT	2												
	3/4" (for float 24 mm)	3												
Fitting length:²⁾	100 mm												100	
	200 mm												200	
	300 mm												300	
	400 mm												400	
	600 mm												600	
	1000 mm												A00	
Electrical connection:	Lateral (Standard)													0
	Upwards													1
Electrical connection:	M12, 4-pole													0
	M12, 5-pole													1
	M12, 8-pole													2
	Deutsch DT04, 3-pole													3
	Deutsch DT04, 4-pole													4
	Super Seal 1.5, 3-pole													5
	Bayonet (DIN), 4-pole													6
	Valve plug, 4-pole													7
	Cable, 2m													8
	MIL, 6-pole													9
Configuration:	Factory setting ³⁾													0
	Customized (please indicate) ⁴⁾													1
Other:	Special model													0

- 1) For float with Ø24 mm the minimum density is 1
- 2) Other fitting lengths: 150 = 150 mm / 250 = 250mm / 350 = 350 mm / 450 = 450 mm / 500 = 500 mm / 550 = 550 mm / 650 = 650 mm / 700 = 750 mm / 800 = 800 mm / 850 = 850 mm / 900 = 950 mm / A05 = 1050 mm / A10 = 1100 mm / A15 = 1150 mm / A20 = 1200 mm / A25 = 1250 mm / A30 = 1300 mm / A35 = 1350 mm / A40 = 1400 mm / A45 = 1450 mm / A50 = 1500 mm / A55 = 1550 mm / A60 = 1600 mm / A65 = 1650 mm / A70 = 1700 mm / A75 = 1750 mm / A80 = 1800 mm / A85 = 1850 mm / A90 = 1900 mm / A95 = 1950 mm / B00 = 2000 mm
- 3) For factory setting, measuring range equals indicating range
- 4) Settings as per technical data can be selected.

Accessories:	DEV-HM (Interface HART, USB, software)	Order No.: 01310-00220
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