


Characteristics

1 - MODULAR - ECONOMIC -

	- Input:	level 100...1000 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 / cable
	- Temperature range:	-40...+85 °C (operation)
	- Limit value contacts:	2 electronically (NPN, PNP)
	- Adjustment:	keys / 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...20,8 mA
 Signal on error: 3,8 mA (sensor break, sensor open circuit)

Performance

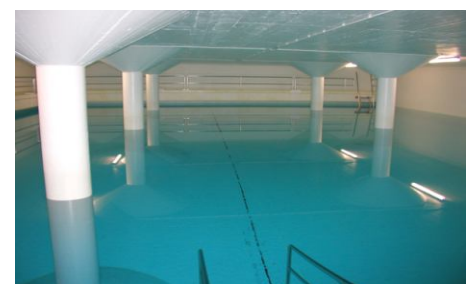
Sensor:	Resolution:	3 mm
	Hysteresis:	1,5 mm
Measuring amplifier:	Resolution:	16 Bit / 0,3 µA
	Long term stability:	0,05% / year
	Filter setting:	yes
	Transmission behaviour:	linear with level
	Turn-on delay time:	<5 s
	Response time:	1 s
Indicator / limit values:	Resolution:	-9999...9999 digit
	Error of measurement:	±0,2% of range, ±1 digit
	Temperature drift:	100 ppm/K
	Features:	according VDMA 24574-1 up to 24574-4
	Operation:	according VDMA 24574-1 up to 24574-4

Programmable features

Measuring amplifier: measuring range start / measuring range end /
 Display: range of indication / time of indication / decimal point / units / stabilisation of zero point /
 locking of programming / calibration points / TAG number
 Limit value contacts: limit value 1 and 2 / hysteresis 1 and 2 / delay times 1 and 2

Applications

For use in industrial plants, terotechnology and public utility (eg tanks for hydraulic oil). With it's two configurable limit value contacts, the integrated display and the numerous electrical connections, the temperature sensor is also suitable for applications with higher requirements.



● Technical data (continued)

Indication

Display:	7 segment, 8,5 mm, red, 4 digits, representation mirror-inverted 180° possible
Head of display:	rotatable approx. 330°
Memory:	minimum / maximum values
Indication:	- measuring value - unit of measurement - control menu
Decimal point:	automatically or manually, dependent on measuring range / unit
	Representation: xxxx / xxx.x / xx.xx / x.xxx

Limit contacts

Electronically:	2x NPN or PNP (30 VDC, 200 mA) Option: 2x NPN or PNP (30 VDC, 1000 mA)
Indication:	1 LED red for each limit value
Voltage across:	<1 V
Settings:	with 3 keys (TouchM-Technology)
Setting range:	switch point and hysteresis: any value within measuring range
Switching delay:	0,0...999,9 s
Failsafe function:	adjustable
Galvanical insulation:	switching outputs are separated from measuring amplifier

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)

Ambient conditions

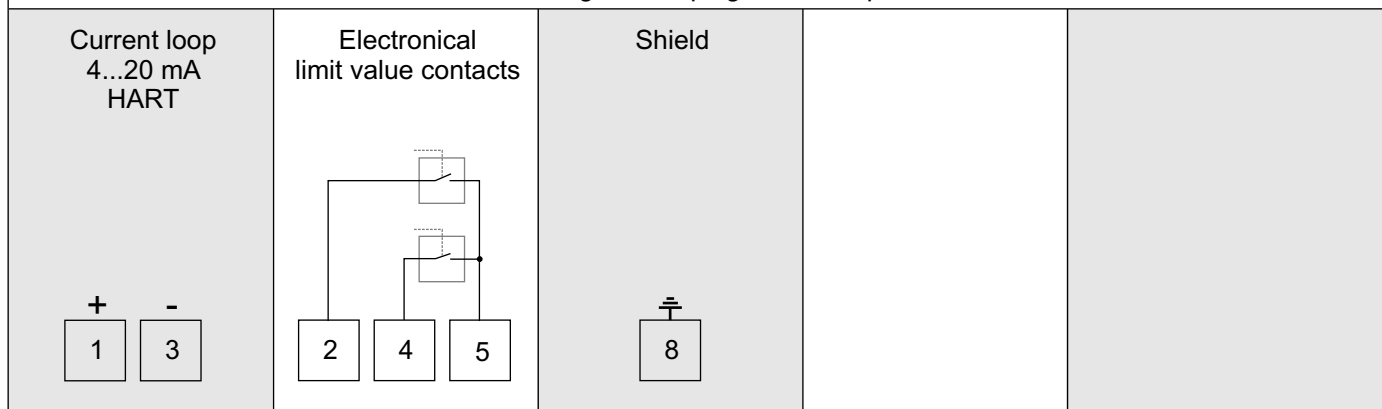
Temperature:	Operating range:	0...+85 °C
	Storing:	-20...+85 °C
	Medium:	0...+100 °C
Condensation:	uncritical	

Mechanics








Dimensions:	see page 3	
Process connection:	1" / 1,5" / 1"NPT (adaptor)	
System pressure:	25 bar	
Electrical connection:	see page 3	
Material:	Protecting tube:	stainless steel 1.4571
	Float:	stainless steel 1.4571
	Adaptor:	stainless steel 1.4571
	Process connection:	stainless steel 1.4571
	Body:	PTB GF30
	Head of display:	polycarbonate
Weight:	approx. 200 g (300 mm, 1", M12)	
Fitting position:	vertical	
System pressure:	PN 25	
Protection:	Sensor:	IP 68
	Electronics:	at least IP 65

● Connection M12-plug (example)

Assignment plug M12x1, 8-pole



● **Electrical connection**

M12x1	Super Seal	Deutsch	Deutsch	Bajonett	Valve	Cable
						
4-pole 5-pole 8-pole	3-pole	3-pole	4-pole	4-pole	4-pole	2-pole 5-pole

● **Option limit values**

Connection	M12 4-pole	M12 5-pole	M12 8-pole	Bajonett 4-pole	Deutsch 4-pole	Deutsch 3-pole	Super Seal 3-pole	Valve 4-pole	Cable ¹⁾
Limit value (LV)									
1 LV electronically	X	X	X	X	X			X	X
2 LV electronically		X	X						X

1) 2-pole (+shield) without limit value contacts, 5-pole (+shield) with limit value contacts

● **HART Communication and configuration**

The HART-Tool is a graphical user interface for the ME series 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.

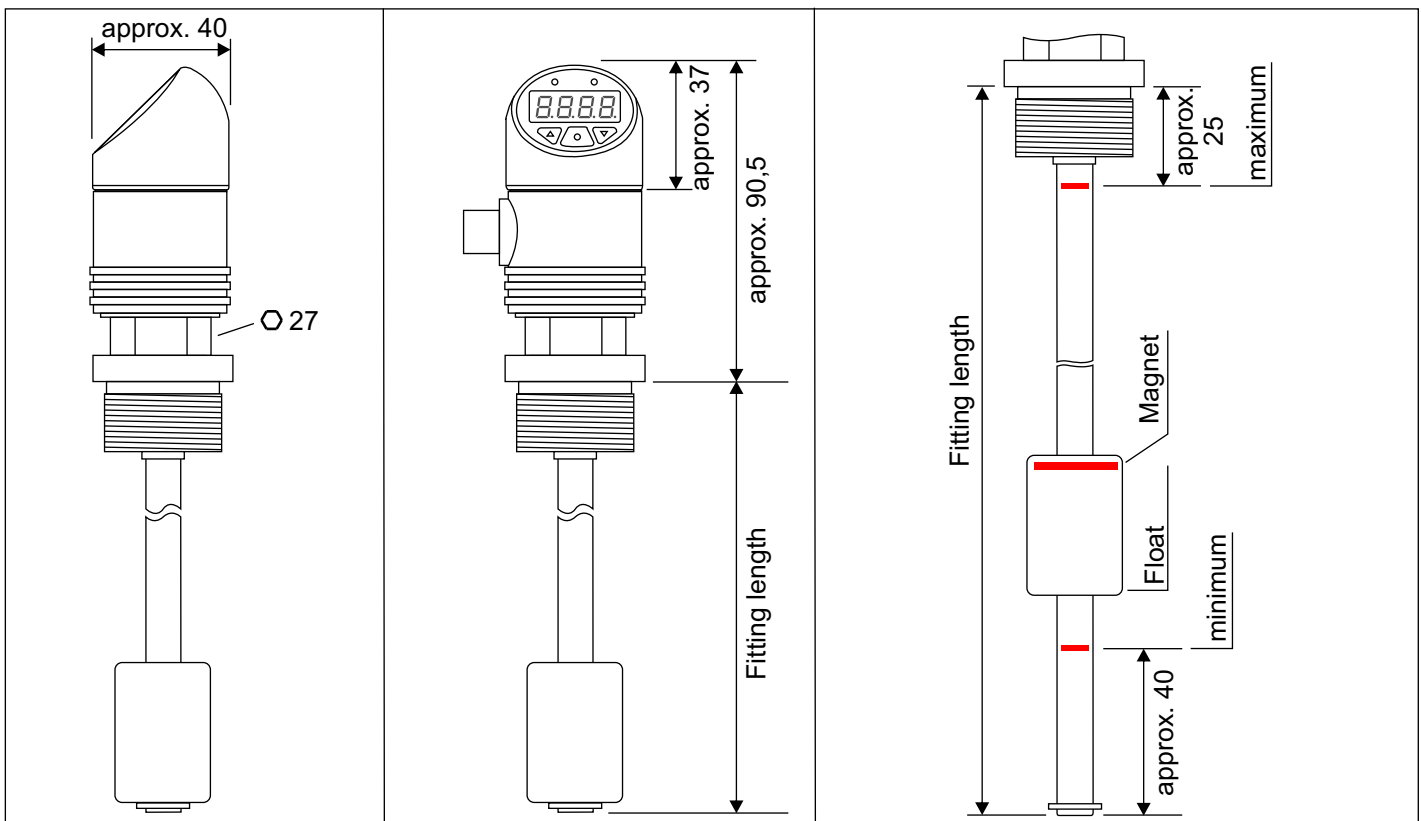
Operating systems: Windows 2000, Windows XP

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

- Settings:
- Adjustment of output current
 - Limits of measuring range
 - HART TAG number
 - 6-point calibration (linearization)
 - Simulation of output current
 - Linear output signal
 - 2-point calibration
 - Filter function
 - HART address

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

● **Dimensions (in mm)**



● **Ordering code**

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Input:	level	0																		
Resolution:	3 mm	0																		
Material to medium:	stainless steel	0																		
Process connection:	1"																			0
	1,5"																			1
	1"NPT																			2
Fitting length:	100 mm																			0
	200 mm																			1
	300 mm																			3
	400 mm																			4
	600 mm																			5
	1000 mm																			6
	other length (to specify)																			7
Limit value contacts:	2x PNP, 30 VDC, 200 mA (standard)																			0
	1x PNP, 30 VDC, 200 mA																			1
	without																			2
	2x NPN, 30 VDC, 200 mA																			3
	1x NPN, 30 VDC, 200 mA																			4
	2x PNP, 30 VDC, 1000 mA																			5
	1x PNP, 30 VDC, 1000 mA																			6
	2x NPN, 30 VDC, 1000 mA																			7
	1x NPN, 30 VDC, 1000 mA																			8
Electrical connection:	M12, 4-pole																			0
	M12, 5-pole																			1
	M12, 8-pole																			2
	Deutsch DT04, 3-pole																			3
	Deutsch DT04, 4-poe																			4
	Super Seal 1.5, 3-pole																			5
	bayonet (DIN), 4-pole																			6
	valve plug, 4-pole																			7
	cabl, 2 m																			8
Configuration:	factory setting ¹⁾																			0
	customized (please indicate) ²⁾																			1
Other:	special model																			0

1) Measuring range: / Indicating range

2) The possibilities which are specified in the technical data can be selected. For not given values the details of factory-set are used.

Accessories:

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