


## ● 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

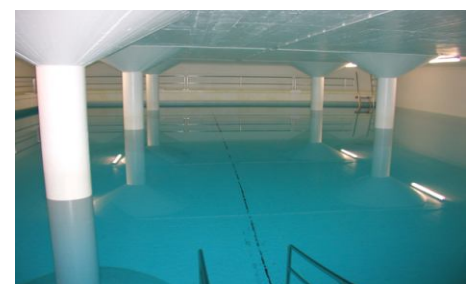
Sensor:	Resolution:	3 mm
	Hysteresis:	1,5 mm
Measuring amplifier:	Resolution:	16 Bit / 0,3 µA
	Long term stability:	0,05% / year
	Filter setting:	yes
	Transmission behaviour:	linear with level
Indicator / limit values:	Turn-on delay time:	<5 s
	Response time:	1 s
	Resolution:	-9999...9999 digit
	Error 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

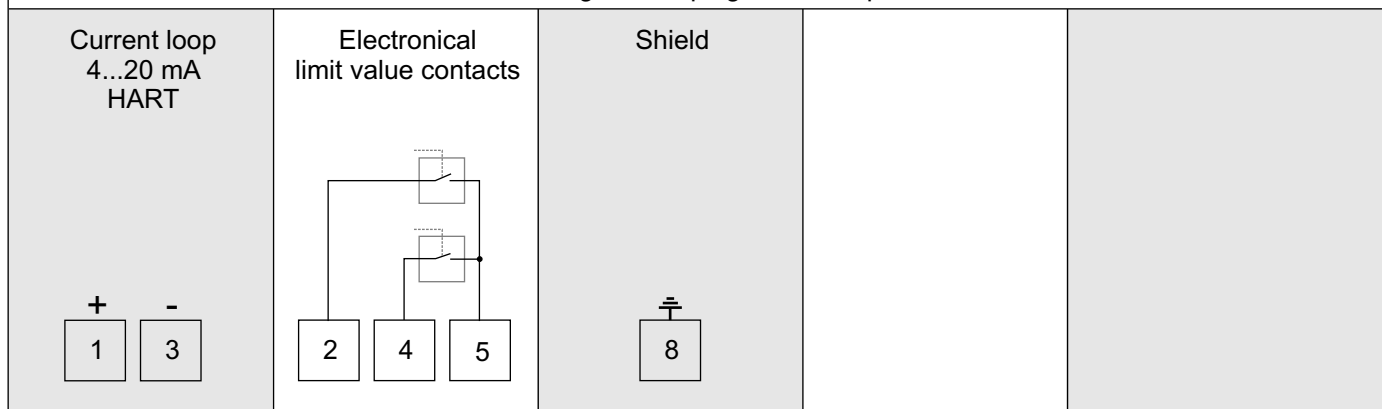
Temperature:	Operating range:	0...+85 °C
	Storing:	-20...+85 °C
	Medium:	0...+100 °C
Condensation:	uncritical	

### 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 <sup>1)</sup>
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)**

