



IDCL 532

Stainless Steel Probe with i²C interface

Stainless Steel Sensor

accuracy according to IEC 61298-2:
standard: 0.25 % FSO
option: 0.1 % FSO

Nominal pressure

from 0 ... 1 mH₂O up to 0 ... 40 mH₂O

Digital output signal

- i²C
- bus frequency max. 400 kHz

Special characteristics

- ▶ min. current consumption 0.15 mA @ 2.7 V
- ▶ diameter 26.5 mm
- ▶ small thermal effect
- ▶ excellent accuracy
- ▶ good long term stability

Optional versions

- ▶ accuracy 0.1 % FSO
- ▶ different kinds of cables and elastomers

The stainless-steel level probe IDCL 532 is designed for continuous level measurement in water and clean or slightly polluted liquids. A piezoresistive pressure sensor with low thermal error, an excellent linearity and long-term stability, provides the basis of IDCL 532.

Contrary to level probes with analogue output signal, the IDCL 532 offers a digital i²C-interface. Thanks to the very low current consumption and supply voltage, it is ideally combined with battery-powered data acquisition systems.

Preferred areas of use are

Water / filtrated sewage

drinking water system, ground water level measurement, rain spillway basin
pump and booster stations
level measurement in container
water treatment plants
water recycling



Fuel and oil

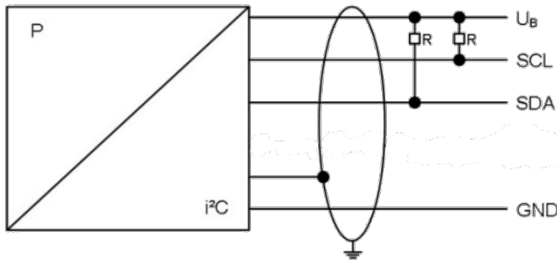
fuel storage
tank farm



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Technical Data

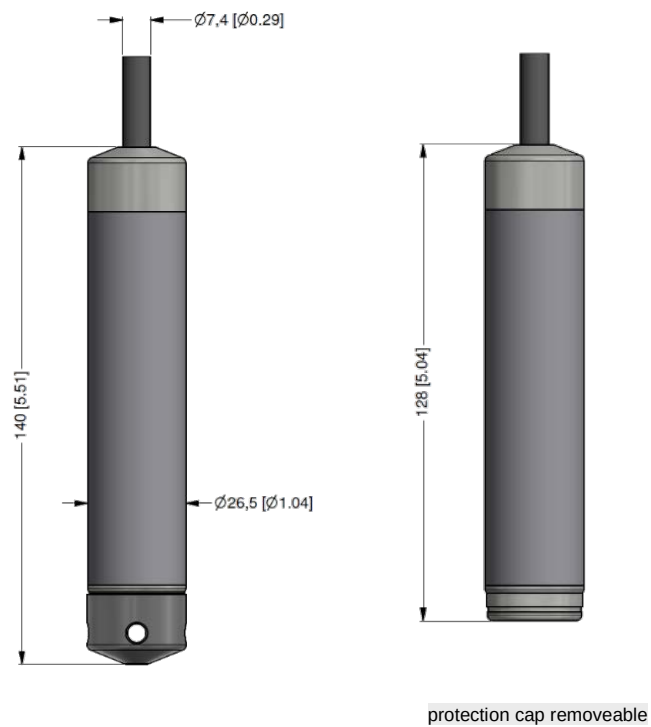
Input pressure range										
Nominal pressure gauge	[bar]	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4
Level	[mH ₂ O]	1	1.6	2.5	4	6	10	16	25	40
Overpressure	[bar]	0.5	1	1	2	5	5	10	10	20
Max. ambient pressure (housing): 40 bar										
Output signal / supply										
Digital		i ² C Power Save / V _S = 2.7 ... 5.5 V _{DC} sensor signal conditioner ZSC31014								
Performance										
Accuracy ¹		standard: ≤ ± 0.25 % FSO option: ≤ ± 0.1 % FSO								
Long term stability		≤ ± 0.1 % FSO / year at reference conditions								
Measuring rate		8 Hz (adjustable from 8 up to 660 Hz)								
Current consumption		min. 0.15 mA (V _S 2.7 V, measuring rate 8 Hz), max. 3.2 mA (V _S 5.5 V, measuring rate 660 Hz)								
¹ accuracy according to IEC 61298-2 – limit point adjustment (non-linearity, hysteresis, repeatability)										
Thermal effects (offset and span)										
Tolerance band		≤ ± 0.75 % FSO								
in compensated range		-20 ... 85 °C								
Permissible temperatures										
Medium		-10 ... 70 °C								
Storage		-25 ... 70 °C								
Electrical protection										
Short-circuit protection		none								
Reverse polarity protection		by exchanged supply connections no damage, but also no function by exchange of communication with supply lines, a damage is possible								
Electrical connection										
Cable with sheath material ²		PUR	(-10 ... 70 °C)	black	Ø 7.4 mm	max. cable length 50 m ³				
		FEP	(-10 ... 70 °C)	black	Ø 7.4 mm	max. cable length 50 m ³				
Cable capacitance		signal line/shield also signal line/signal line: 160 pF/m								
Cable inductance		signal line/shield also signal line/signal line: 1 µH/m								
Bending radius		static installation:		10-fold cable diameter						
		dynamic application:		20-fold cable diameter						
² shielded cable with integrated ventilation tube for atmospheric pressure reference										
³ with max. cable length and standard settings, the bus frequency must be set to < 100 kHz										
Materials (media wetted)										
Housing		stainless steel 1.4404 (316L)								
Seals		FKM, EPDM, others on request								
Diaphragm		stainless steel 1.4435 (316L)								
Protection cap		POM-C								
Cable sheath		PUR, FEP, others on request								
Miscellaneous										
Weight		approx. 200 g (without cable)								
Ingress protection		IP 68								
Pull-up resistor		4.7 kΩ (recommended)								
Wiring diagram / pin configuration										
						Electrical connection		Cable colours (IEC 60757)		
						Supply +		WH (white)		
						Supply –		BN (brown)		
						SCL		GN (green)		
						SDA		YE (yellow)		
						Shield		GNYE (green-yellow)		

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Dimensions (mm / in)

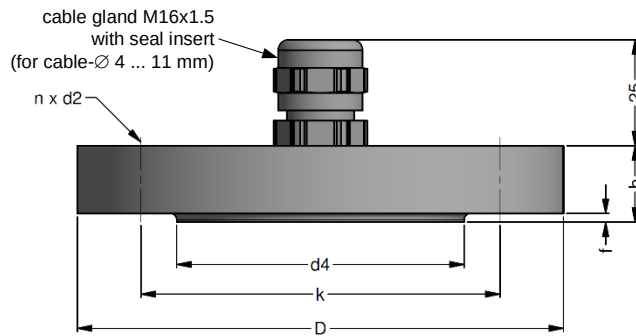


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Accessories

Mounting flange with cable gland



dimensions in mm			
size	DN25 / PN40	DN50 / PN40	DN80 / PN16
b	18	20	20
D	115	165	200
d2	14	18	18
d4	68	102	138
f	2	3	3
k	85	125	160
n	4	4	8

Technical data

Suitable for	all probes	
Flange material	stainless steel 1.4404 (316L)	
Material of cable gland	standard: brass, nickel plated on request: stainless steel 1.4305 (303); plastic	
Seal insert	material: TPE (ingress protection IP 68)	
Hole pattern	according to DIN 2507	
Ordering type	Ordering code	Weight
DN25 / PN40 with cable gland brass, nickel plated	ZMF2540	1.4 kg
DN50 / PN40 with cable gland brass, nickel plated	ZMF5040	3.2 kg
DN80 / PN16 with cable gland brass, nickel plated	ZMF8016	4.8 kg

Terminal clamp



Technical data

Suitable for	all probes with cable Ø 5.5 ... 10.5 mm	
Material of housing	standard: steel, zinc plated optionally: stainless steel 1.4301 (304)	
Material of clamping jaws	PA (fibre-glass reinforced)	
Dimensions (mm)	174 x 45 x 32	
Hook diameter	20 mm	
Ordering type	Ordering code	Weight
Terminal clamp, steel, zinc plated	Z100528	approx. 160 g
Terminal clamp, stainless steel 1.4301 (304)	Z100527	

Ordering code IDCL 532

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[illegible]¹ shielded cable with integrated ventilation tube for atmospheric pressure reference, max. cable length 50 m