CPA-325S

- hydrostatic level transmitters
- nominal range: from 0...1 mH_2O up to 0...250 mH_2O
- output signal: 2-wire: 4...20 mA; 3-wire: 4...20 mA / 0...20 mA / 0...10 V / 0...5V (option)
- stainless steel probe and diaphragm (diameter 48 mm)
- separator diameter 76 mm
- accuracy from 0.35 % span
- high resistance to contamination and deposits
- high resistance to mechanical damage
- optional: different kinds of cable

The CPA-325S hydrostaəc level probe is designed to measure the level of liquids containing impuriəes and suspended solids. It is ideal for monitoring wastewater in pumping staəons, fermentaəon chambers, seğling tanks, and similar installaəons.

A large, thickened membrane (48 mm) in a special separator reduces the impact of sediments and enables stable operaəon in contaminated media, including those with abrasive parəcles, such as sand. The membrane can be cleaned with a gentle stream of water. However, the use of pressurized water is not recommended, as it may damage the probe.

PREFERRED AREAS OF USE ARE

Sewage
waste water treatment
water recycling
dumpsite

TECHNICAL DATA

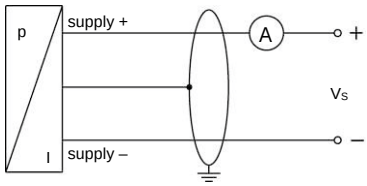
Input pressure range													
Nominal pressure gauge [bar]	0.10	0.16	0.20	0.40	0.60	1	1.6	2.5	4	6	10	16	25
Level [mH_2O]	1	1.6	2	4	6	10	16	25	40	60	100	160	250
Overpressure [bar]	0.5	1	1	2	5	5	10	10	20	40	40	80	80
Burst pressure ≥ [bar]	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50	50	120	120
Vacuum resistance	$P_N \geq 1$ bar: unlimited vacuum resistance $P_N < 1$ bar: on request												
Output signal / Supply													
Standard	2-wire: 4 ... 20 mA / V_S = 8 ... 32 V_{DC}												
Options 3-wire	3-wire: 0 ... 20 mA / V_S = 14 ... 30 V_{DC} 0 ... 5 V / V_S = 14 ... 30 V_{DC}								4 ... 20 mA / V_S = 14 ... 30 V_{DC} 0 ... 10 V / V_S = 14 ... 30 V_{DC}				
Performance													
Accuracy [1]	nominal pressure < 0.4 bar: ≤ ± 0.5 % span nominal pressure ≥ 0.4 bar: ≤ ± 0.35 % span												
Permissible load	$R_{max} = [(V_S - V_S \text{ min}) / 0.02 \text{ A}]$ W												
Influence e ects	supply: 0.05 % span / 10 V load: 0.05 % span / kW												
Long term stability	≤ ± 0.1 % span / year at reference conditions												
Mean response time	≤ 10 ms												
[1] accuracy according to EN IEC 62828-2– limit point adjustment (non-linearity, hysteresis, repeatability)													
Thermal e ects (O set and Span)													
Nominal pressure P_N [bar]	< 0.40							≥ 0.40					
Tolerance band [% span]	≤ ± 1.5							≤ ± 0.75					
in compensated range [°C]	0 ... 70												
Permissible temperatures [2]	medium [2]: -40 ... 125°C for filling fluid (silicon oil) electronics / environment: -40 ... 85°C storage: -40 ... 100°C												
[2] max. temperature of the medium for nominal pressure gauge > 0 bar: 150 °C for 60 minutes with a max. environmental temperature of 50 °C													
Electrical protection													
Short-circuit protection	permanent												
Reverse polarity protection	no damage, but also no function												
Electromagnetic compatibility	emission and immunity according to EN 61326												
Filling fluids													
Standard	silicon oil												

Materials	
Pressure port	stainless steel 1.4404 (316 L)
Housing	stainless steel 1.4404 (316 L)
Diaphragm	stainless steel 1.4435 (316 L)
Electrical connection	
Cable with sheath material [3]	PUR (-40 … 80 °C) black Ø 7,4 mm PVC (-40 … 80 °C) grey Ø 7,4 mm TPE-U (-40 … 125 °C) black Ø 7,4 mm FEP [4] (-40 … 80 °C) black Ø 7,4 mm
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
[3] cable with integrated air tube for atmospheric pressure reference *[4] do not use freely suspended probes with an FEP cable if e ects due to highly charging processes are expected*	
Miscellaneous	
Connecting cables (by factory)	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
Current consumption	signal output current: max. 25 mA
Weight	approx. 400 g (without cable)
Ingress protection	IP 68
CE-conformity	EMC Directive: 2014/30/EU

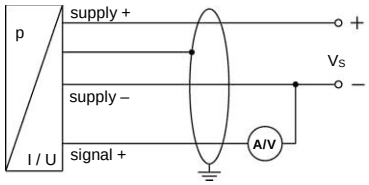
ELECTRICAL CONNECTION

Wiring diagrams

2-wire-system (current)

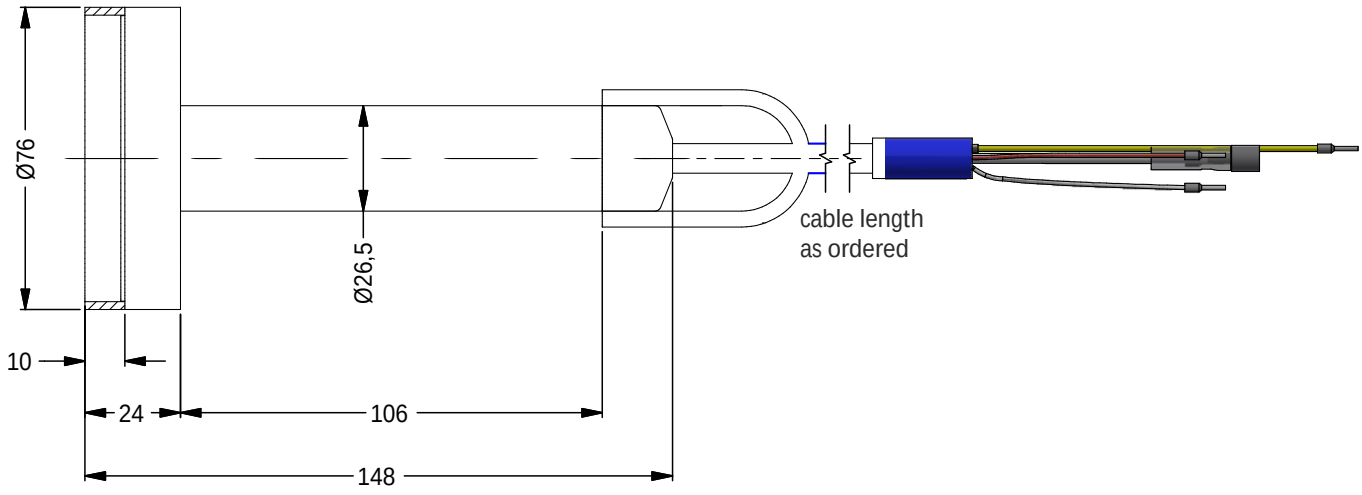


3-wire-system (current / voltage)



Pin configuration	
Electrical connection	cable colours (DIN 47100)
Supply + Supply – Signal + (only 3-wire)	wh (white) bn (brown) gn (green)
Shield	ye/gn (yellow / green)

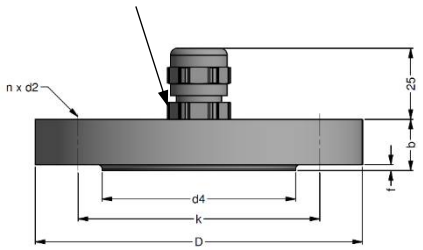
DIMENSION DRAWINGS



ACCESSORIES

Mounting flange with cable gland		
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	
Version	**Size (in mm)**	**Weight**
DN25 / PN40	D = 115, k = 85, b = 18, n = 4, d= 14	1.4 kg
DN50 / PN40	D = 165, k = 125, b = 20, n = 4, d= 18	3.2 kg
DN80 / PN16	D = 200, k = 160, b = 20, n = 8, d= 18	4.8 kg
Ordering type		**Ordering code**
DN25 / PN40 with cable gland brass, nickel plated		ZMF2540
DN50 / PN40 with cable gland brass, nickel plated		ZMF5040
DN80 / PN16 with cable gland brass, nickel plated		ZMF8016

cable gland M16x1.5 with
seal insert (for cable-Ć 4 ... 11 mm)



Anchor clamp	
Technical Data	
Suitable for	all probes with cable Ć 6 ... 9 mm
Material	high quality thermoplastic stainless steel bail
Weight	approx. 120 g
Minimum breaking force	3,6 kN
Ordering code	UMK-1

ORDER CODE

CPA-325S/X-Xm/X/Xm/X

Start of measuring range in relation to start of output signal

End of measuring range in relation to end of output signal

type of cable:
PUR
PVC
TPE-U
FEP

cable length:
in [m]

options:
4...20mA/3 : 4...20 mA, 3-wire
0...20mA/3 : 0...20 mA, 3-wire
0...10V/3 : 0...10 V, 3-wire
0...5V/3 : 0...5 V, 3-wire

Ordering sample:

CPA-325S/0-4m/PUR/10m

Level probe CPA-325S, measuring range 0...4 mH_2O, with PUR cable, length 10 m, output signal 4...20 mA, 2-wire (standard)

CPA-325S/0-2m/PVC/10m/0...10V/3

Level probe CPA-325S, measuring range 0...2 mH_2O, with PVC cable, length 10 m, output signal 0...10 V, 3-wire