CPA-P-808



- **hydrostatic level transmitter**
- **detachable probe, diameter 35 mm**
- **nominal pressure: from 0...1 mH_2O up to 0...100 mH_2O**
- **output signals: 2-wire: 4...20 mA; 3-wire: 0...20 mA / 0...10 V**
- **stainless steel sensor**
- **plastic probe**
- **accuracy 0.25 % / 0.35 % span**
- **small thermal effect, excellent linearity**
- **optional: different kinds of cables and seals**

The detachable plastic probe **CPA-P-808** is designed for level measurement of water, waste water as well as fuels and oils. Basic element is a piezoresistive stainless steel sensor.
In order to facilitate stock-keeping and maintenance the transmitter head is plugged to the cable assembly with a connector and can be changed easily.

PREFERRED AREAS OF USE ARE

Water / filtrated sewage
ground water level measurement
storm water systems
drinking water system
water treatment plants

Fuel / Oil
fuel storage
tank farm
biogas plants
process water recycling

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	6	10
Level	[mH_2O]	1	1.6	2.5	4	6	10	16	25	40	60	100
Overpressure	[bar]	0.5	1	1	2	5	5	10	10	20	40	40
Burst pressure ≥	[bar]	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50	50
max. ambient pressure (housing)		20 bar										

Output signal / Supply		
Standard	2-wire:	4 ... 20 mA / V_S = 8 ... 32 V_{DC}
Options	3-wire:	0 ... 20 mA / V_S = 14 ... 30 V_{DC}
		0 ... 10 V / V_S = 14 ... 30 V_{DC}
Performance		
Accuracy	standard:	nominal pressure < 0.4 bar: ≤ ± 0.5 % span
		nominal pressure ≥ 0.4 bar: ≤ ± 0.35 % span
	option 1:	nominal pressure ≥ 0.4 bar: ≤ ± 0.25 % span
Permissible load	current 2-wire:	R_{max} = [(V_S – V_S min) / 0.02 A] W
	current 3-wire:	R_{max} = 500 W
	voltage 3-wire:	R_{min} = 10 kW
Influence effects	supply:	0.05 % span / 10 V
	load:	0.05 % span / kW
Long term stability	≤ ± 0.1 % span / year	
Response time	< 10 msec	
[1] accuracy according to EN IEC 62828-2– limit point adjustment (non-linearity, hysteresis, repeatability)		

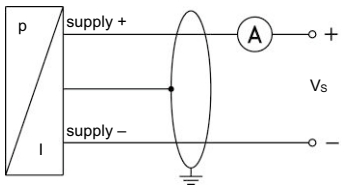
Thermal effects (Offset and Span)			
Nominal pressure P_N	[bar]	< 0.40	≥ 0.40
Tolerance band	[% span]	≤ ± 1	≤ ± 0.75
in compensated range	[°C]	0 ... 50	
Permissible temperatures			
Permissible temperatures	Medium/ electronics/ environment/ storage: -20 … 80 °C *		
**If the cable is intended for use in a smaller temperature range, the use of the probe is limited by this range.*			
Electrical protection [2]			
Short-circuit protection	permanent		
Reverse polarity protection	no damage, but also no function		
Lightning protection	2-wire: integrated 3-wire: without		
Electromagnetic compatibility	emission and immunity according to EN 61326		
[2] additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request			

Electrical connection		
Cable with sheath material [3]	PVC (-5 … 70 °C) grey (-25 … 70 °C in fixed condition) Ø 7,4 mm PUR (-25 … 80 °C) black (with drinking water certificate) Ø 7,4 mm FEP [4] (-25 … 75 °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] shielded cable with integrated air tube for atmospheric pressure reference *[4] do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected*		
Materials (media wetted)		
Housing	PP-H	
Seals	FKM EPDM	
Diaphragm	stainless steel 1.4435 (316L)	
Cable sheath	PVC, PUR, FEP, others on request	
Protection cap	POM-C	
Miscellaneous		
Option cable protection (on request)	prepared for mounting with PP-H pipe Ø 25 mm; available as compact product (standard: pipe with a total length up to 2 m possible)	
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA	
Weight	approx. 400 g (without cable)	
Ingress protection	IP 68	
CE-conformity	EMC Directive: 2014/30/EU	

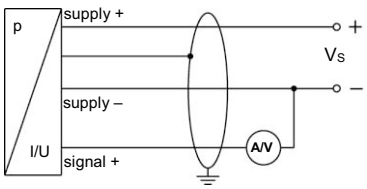
ELECTRICAL CONNECTION

Wiring diagrams

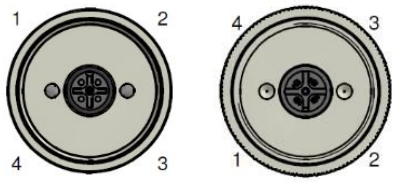
2-wire-system (current)



3-wire-system (current / voltage)



M12x1 (4-pin)



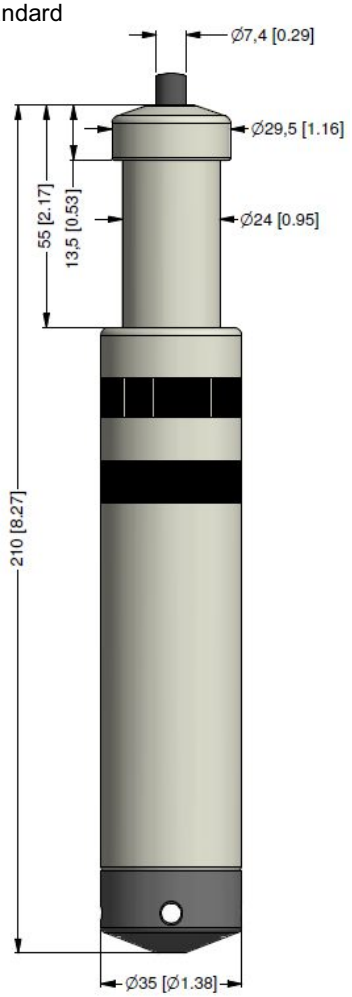
Pin configuration

Electrical connection	Binder serie 723 [6] (4-pin)	cable colours (DIN 47100)
Supply + Supply – Signal + (only 3-wire)	3 4 1	wh (white) bn (brown) gn (green)
Shield	2	gn/ye (green / yellow)

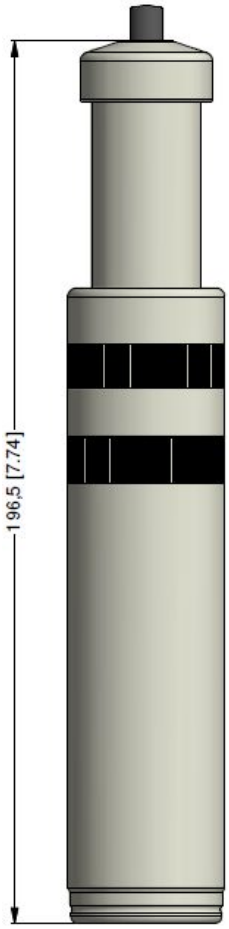
[6] in detached version

DIMENSION DRAWINGS

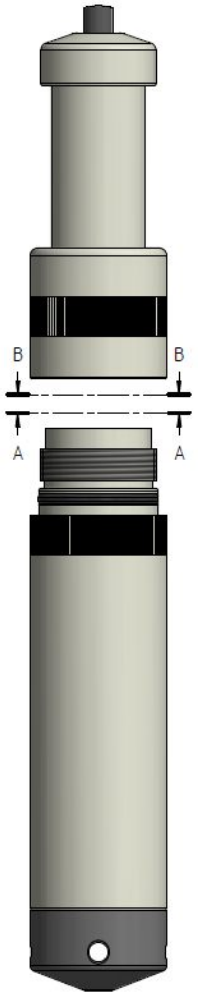
standard



option



protection cap removable

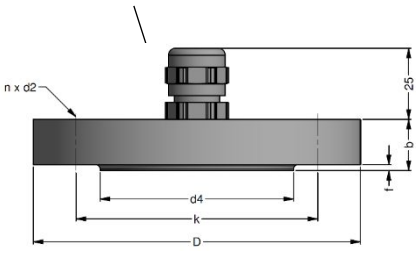


probe head detached and cable assembly

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)



Cable clamp	
Technical Data	
Suitable for	all probes with cable Ć 5.5 ... 10.5 mm
Material	standard: steel, zinc plated optionally: stainless steel 1.4301 (304)
Weight	approx. 160 g



Ordering type	**Ordering code**
Terminal clamp, of steel, zinc plated	1003440
Terminal clamp, of stainless steel 1.4301 (304)	1000278

ORDER CODE

CPA-P-808- [ ][ ][ ] - [ ][ ][ ][ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ][ ][ ] - [ ][ ][ ]

Pressure			
in bar			410
in m H_2O			411
Input	**[mH_2O]**	**[bar]**	
	0 … 1	0 … 0,1	1000
	0 … 1,6	0 … 0,16	1600
	0 … 2,5	0 … 0,25	2500
	0 … 4	0 … 0,4	4000
	0 … 6	0 … 0,6	6000
	0 … 10	0 … 1	1001
	0 … 16	0 … 1,6	1601
	0 … 25	0 … 2,5	2501
	0 … 40	0 … 4	4001
	0 … 60	0 … 6	6001
	0 … 100	0 … 10	1002
Customer			9999
Housing material			
PP-H			R1
Diaphragm material			
Stainless steel 1.4435 (316 L)			1
Output			
4 … 20 mA / 2-wire			1
0 … 20 mA / 3-wire			2
0 … 10 V / 3-wire [3]			3
0 … 5 V / 3-wire [3]			4
4 … 20 mA / 3-wire			7
Customer			9
Seals			
Viton (FKM)			1
EPDM			3
Customer			9
Electrical connection			
Without cable part			0
PVC - cable (grey, Ø 7,4 mm, price for 1 m)[1]			1
PUR - cable (black, Ø 7,4 mm, price for 1 m)[1]			2
FEP - cable with PTFE sheath (black, Ø 7,4 mm, price for 1 m)[1]			3
Customer			9
Accuracy			
0,5 % ($P_N \leq$ 0,4 bar)			5
0,35 % ($P_N >$ 0,4 bar)			3
0,25 % ($P_N >$ 0,4 bar)			2
0,5 % including Calibration Certificate ($P_N \leq$ 0,4 bar)			T
0,35 % including Calibration Certificate ($P_N >$ 0,4 bar)			S
Measured values table for accuracy 0,35 %			M
Customer			9
Cable length			
in m			999
Special version			
Standard			000
Prepared for mounting with protecting pipe Ø 20 mm[2]			106
Customer			999
Accessories for submersible transmitter			
Cabel part + price for cabel in m			5000695
Terminal clamp - zinc plated			1003440
Terminal clamp - stainless steel 1.4301			1000278
Mounting screw PG16 - plastic			5002200

1 - cable with integrated ventilation tube for atmospheric pressure reference
2 - pipe is not part of the supply
3 - maximum length of PVC cable - 25 m, PUR, FEP, TPE - 40 m

Manufacturer reserves the right to change sensor specifications without further notice.

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