

CPA-P-307



- hydrostatic level transmitter
- submersible probe, diameter 27 mm
- nominal pressure: from 0...1 mH₂O up to 0...250 mH₂O
- output signals: 2-wire: 4...20 mA; 3-wire: 0...20 mA / 0...10 V
- stainless steel probe and sensor
- accuracy 0.35 % / 0.25 % / 0.1 % span
- small thermal effect, excellent accuracy and long term stability
- certified for contact with drinking water by the Polish National Institute of Public Health (PZH) - EPDM/PUR version

The stainless steel probe CPA-P-307 is designed for continuous level measurement in water and clean or waste fluids. Basic element is a high quality stainless steel sensor with high requirements for exact measurement with excellent long term stability.

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 containerwater treatment plants
water recycling



Fuel / Oil
fuel storage
tank farm

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	16	25
Level	[mH ₂ O]	1	1.6	2.5	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
max. ambient pressure (housing)	40 bar													
Output signal / Supply														
Standard	2-wire: 4 ... 20 mA / V _S = 8 ... 32 V _{DC}													
Option accuracy 0.1 % span	2-wire: 4 ... 20 mA / V _S = 12 ... 36 V _{DC} 3-wire: 0 ... 10 V / V _S = 14 ... 30 V _{DC}													
Options 3-wire	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 option 2: for all nominal pressures: ≤ ± 0.1 % 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 at reference condition													
Response time	2-wire: ≤ 10 msec; 3-wire: ≤ 3 msec													
¹ accuracy according to EN IEC 6228-2– 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 ... 70												
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
Electromagnetic compatibility	emission and immunity according to EN 61326
Integrated overvoltage protection (ground wire) in accordance with CSN EN 61000-4-5 (1 kV) ³	
² additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request	
³ version with the output signal 4 ... 20 mA / 2-wire	
Electrical connection	
Cable with sheath material ⁴	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 ⁵ (-25 ... 75 °C) black Ø 7,4 mm TPE-U (-25 ... 125 °C) blue Ø 7,4 mm
Cable sheath	static installation: 10-fold cable diameter dynamic application: 20-fold cable diameter
⁴ cable with integrated air tube for atmospheric pressure reference	
⁵ do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected	
Materials (media wetted)	
Housing	stainless steel 1.4404 (316L)
Seals	FKM / EPDM (with drinking water certificate) others on request
Diaphragm	stainless steel 1.4435 (316L)
Protection cap	POM
Cable sheath	PVC / PUR (with drinking water certificate) / FEP / TPE-U
Miscellaneous	
Drinking water certificate ⁶	According to Polish National Institute of Public Health (PZH) (with order please indicate if device must be certificated for drinking water)
Current consumption	signal output current: max. 25 mA / signal output voltage: max. 7 mA
Weight	approx. 200 g (without cable)
Ingress protection	IP 68
CE-conformity	EMC Directive: 2014/30/EU
⁶ only possible with EPDM seal in combination with PUR cable	

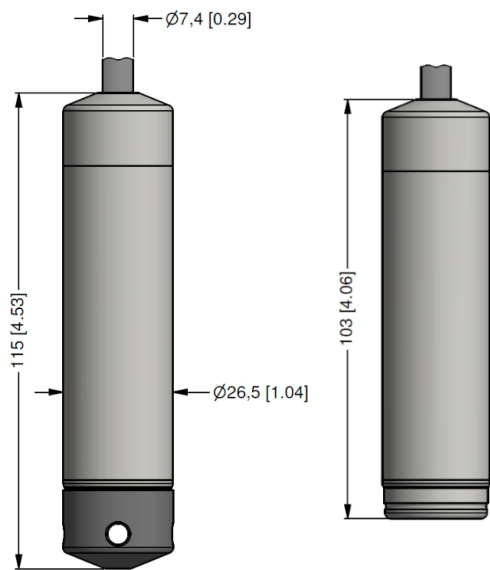
ELECTRICAL CONNECTION

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)



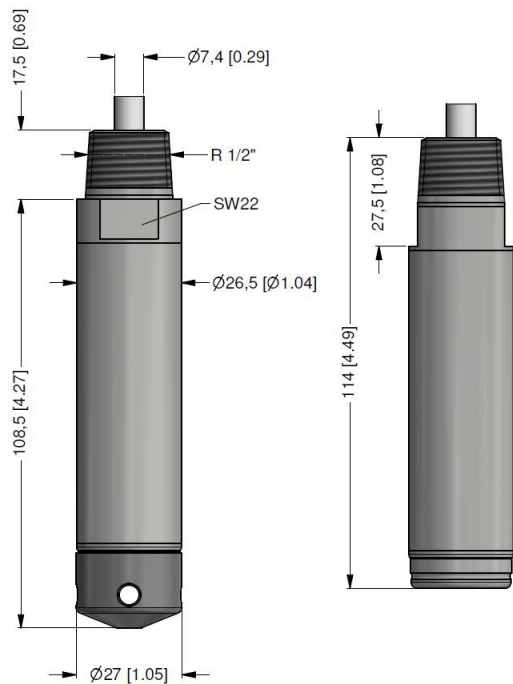
DIMENSION DRAWINGS

standard



d Total length of devices with accuracy 0.1 %
span IEC 60770 increases by 35 mm!

option



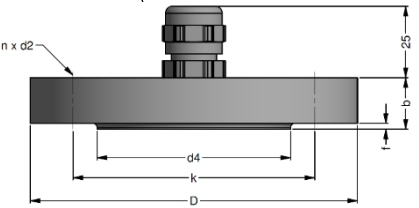
protection cap removable; cable protection
with stainless steel pipe (max length 20 m)

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

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



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 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



3 - maximum length of PVC cable – 25 m, PUR, FEP, TPE – 40 m

