

CPA-K-387



- hydrostatic level transmitter especially for waste water
- submersible probe, diameter 22 mm
- nominal pressure: from 0...1 mH₂O up to 0...100 mH₂O
- output signals: 2-wire: 4...20 mA
- stainless steel probe
- ceramic sensor
- accuracy 0.35 % / 0.25 % span
- diaphragm 99.9 % Al₂O₃, good long-term stability
- optional: housing material titanium, temperature sensor Pt 100, mounting with stainless steel tube, drinking water certificate



The stainless steel probe CPA-K-387 was developed for level and gauge measurement in waste water, sludge or water courses. The mechanical robustness of the flush ceramic diaphragm facilitates an easy disassembly and cleaning of the probe in case of service. Compared to the level probe CPA-K-382 the outer diameter is only 22 mm, whereby the installation or retrofitting can be easily carried out in 1" pipes or in confined installation conditions.

PREFERRED AREAS OF USE ARE



Water
- groundwater and level monitoring



Sewage
- waste water treatment
- water recycling



Fuel / Oil
- tank battery
- biogas plants

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 ₂ O]	1	1.6	2.5	4	6	10	16	25	40	60	100
Overpressure	[bar]	3	4	5	5	7	7	12	20	20	20	20
Burst pressure ≥	[bar]	4	6	8	8	9	9	18	25	25	30	30
Permissible vacuum	[bar]	-0.2	-0.3			-0.5				-1		
Max. ambient pressure (housing): 40 bar												
Output signal / Supply												
Standard	2-wire: 4 ... 20 mA / V _S = 12 ... 36 V _{DC}											
Option temperature element Pt 100												
Temperature range	-25 ... 125 °C											
Connectivity technology	3-wire											
Resistance	100 Ω at 0 °C											
Temperature coefficient	3850 ppm/K											
Supply I _s	0.3 ... 1.0 mA _{DC}											
max. voltage 10 V _{DC} max. current 2 mA max. power 10 mW												
Performance												
Accuracy ¹	standard: ≤ ± 0.35 % span						option: ≤ ± 0.25 % span					
Permissible load	R _{max} = [(V _S - V _{S min}) / 0.02 A] Ω											
Influence effects	supply: 0.05 % span / 10 V						load: 0.05 % span / kΩ					
Long term stability	≤ ± 0.1 % span / year											
Turn-on time	450 msec											
Mean response time	≤ 70 msec											
Measuring rate	80 Hz											
¹ accuracy according to EN IEC 62828-2- limit point adjustment (non-linearity, hysteresis, repeatability)												
Thermal effects (offset and span)												
Tolerance band	≤ ± 1 % span											
in compensated range	-20 ... 80 °C											
Permissible temperatures												
Permissible temperatures	medium / storage: -25 ... 85 °C											
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											
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	PUR (-25 ... 70 °C)	black	Ø 7.4 mm									
	FEP ⁴ (-25 ... 70 °C)	black	Ø 7.4 mm									
	TPE-U (-25 ... 125 °C)	blue	Ø 7.4 mm	(without / with drinking water certificate)								
	others on request											
Bending radius	static installation: 10-fold cable diameter						dynamic application: 20-fold cable diameter					
³ shielded cable with integrated ventilation tube for atmospheric pressure reference (for nominal pressure ranges absolute, the ventilation tube is closed)												
⁴ do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected												



Level transmitters

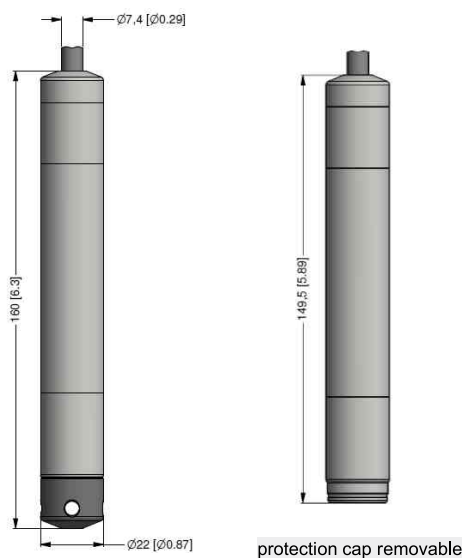
Materials (media wetted)		
Housing	standard: stainless steel 1.4404 (316 L) option: titanium	others on request
Seals (O-rings)	standard: FKM option: EPDM (without / with drinking water certificate) FFKM (min. permissible temperature from -15 °C)	others on request
Diaphragm	ceramics Al ₂ O ₃ 99.9%	
Protection cap	POM-C	
Cable sheath	PUR, FEP, TPE-U	
Miscellaneous		
Drinking water certificate ⁶	according to DVGW W 270 and UBA KTW (with order the indication "with drinking water certificate" is necessary)	
Option cable protection	prepared for mounting with stainless steel pipe	
Current consumption	max. 22 mA	
Weight	approx. 180 g (without cable)	
Ingress protection	IP 68	
CE-conformity	EMC Directive: 2014/30/EU	
⁶ only possible with EPDM seal in combination with TPE-U cable; not possible with housing material titanium		

ELECTRICAL CONNECTION

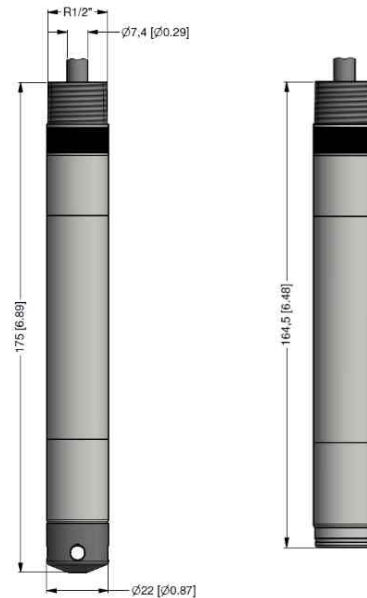
Pin configuration	
Electrical connection	cable colours (IEC 60757)
Supply +	WH (white)
Supply -	BN (brown)
Supply T+ (with Pt 100)	YE (yellow)
Supply T- (with Pt 100)	GY (grey)
Supply T- (with Pt 100)	PK (pink)
Shield	GNYE (green-yellow)
Wiring diagrams	
<p>2-wire-system (current)</p>	<p>2-wire-system current (pressure) / 3-wire-system (temperature Pt 100)</p>

DIMENSION DRAWINGS

probes

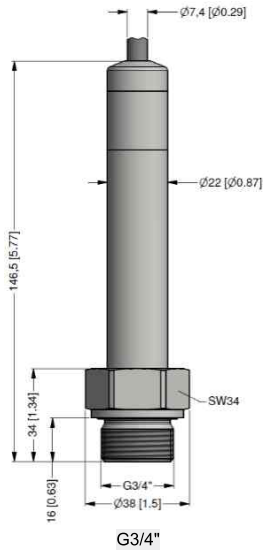


option: with thread R1/2" for mounting with stainless steel tube

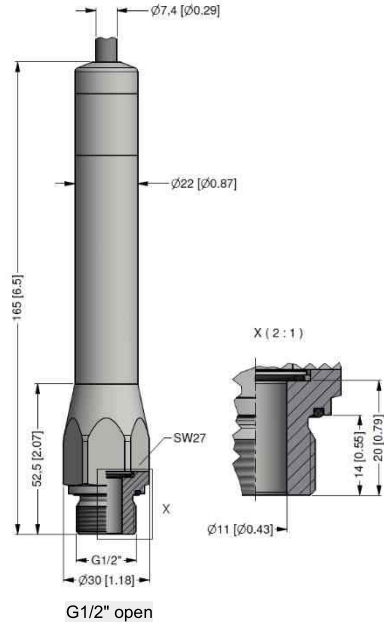


Level transmitters

option: screw-in version in stainless steel 1.4404 (316 L)

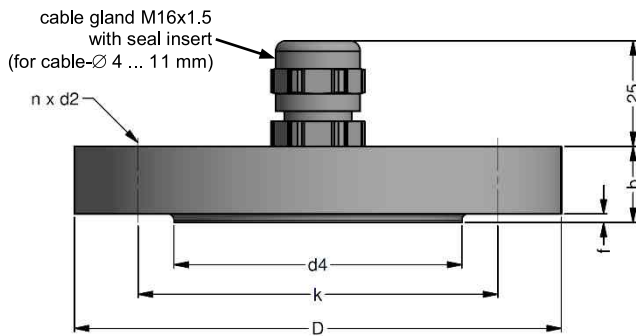


⇒ cable diameter $\varnothing 9$ mm for TPE-U cable (red), drawings for option with Pt 100 on request



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	5000275	1.4 kg
DN50 / PN40 with cable gland brass, nickel plated	5000278	3.2 kg
DN80 / PN16 with cable gland brass, nickel plated	5000279	4.8 kg

Terminal clamp



Technical data

Suitable for	all probes with cable $\varnothing 5.5 \dots 10.5$ mm		
Material of housing	standard: steel, zinc plated	optionally: stainless steel 1.4301 (304)	
Material of clamping jaws and positioning clips	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	5000275	approx. 160 g
Terminal clamp, stainless steel 1.4301 (304)	5000278	

