

CPA-K-382H



- hydrostatic level transmitter
- submersible probe, diameter 39.5 mm
- nominal pressure: from 0...0,6 mH₂O up to 0...200 mH₂O
- output signal: 2-wire: 4...20 mA
- HART® communication (setting of offset, span and damping)
- stainless steel probe
- ceramic sensor
- accuracy 0.2% / 0.1% span
- especially for sewage, polluted and higher viscosity fluids
- optional: diaphragm 99.9% Al₂O₃, different kinds of cables and seals

The stainless steel probe **CPA-K-382H** has been designed for continuous level measurement in sewage, polluted and higher viscosity fluids.

Basic element is a robust and high overpressure capable capacitive ceramic sensor e.g. for low levels.

PREFERRED AREAS OF USE ARE

Water

- ground water level measurement
- rain spillway basins

Sewage

- waste water treatment
- water recycling

Fuel / Oil

- level monitoring in open tanks with low filling heights
- fuel storage
- tank farms / biogas plants

TECHNICAL DATA

Pressure ranges ¹								
Nominal pressure [bar]	0.06	0.16	0.4	1	2	5	10	20
Level [mH ₂ O]	0.6	1.6	4	10	20	50	100	200
Overpressure [bar]	2	4	6	8	15	25	35	45
Max. ambient pressure (housing): 40 bar								
¹ on customer request we adjust the devices by software on the required pressure ranges, within the turn-down possibility (starting at 0.02 bar)								
Output signal / Supply								
Standard	2-wire: 4 ... 20 mA / V _S = 12 ... 36 V _{DC} with HART® communication			V _{S rated} = 24 V _{DC}				
Performance								
Accuracy ²	p _N 160 mbar	TD 1:5	± 0.2 % FSO	TD _{max} = 1:10				
	p _N < 160 mbar	TD > 1:5	± [0.2 + 0.03 x TD] % FSO					
	p _N 1 bar	TD 1:5	± 0.1 % FSO	TD _{max} = 1:3				
		TD > 1:5	± [0.1 + 0.02 x TD] % FSO	TD _{max} = 1:10				
Permissible load	R _{max} = [(V _S - V _{S min}) / 0.02 A]			load at HART®-communication: R _{min} = 250				
Long term stability	± (0.1 x turn-down) % FSO / year at reference conditions							
Influence effects	supply: 0.05 % FSO / 10 V			permissible load: 0.05 % FSO / k				
Turn-on time	850 msec							
Mean response time	140 msec without consideration of electronic damping					mean measuring rate 7/sec		
Max. response time	380 msec							
Adjustability	configuration of following parameters possible (interface / software necessary ³):							
	- electronic damping: 0 ... 100 sec							
	- o set: 0 ... 80 % FSO							
	- turn down of span: max. 1:10							
² accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)								
³ software, interface, and cable have to be ordered separately (software appropriate for Windows® 95, 98, 2000, NT Version 4.0 or higher, and XP)								
Thermal effects (o set and span)								
Tolerance band	± 1 % FSO							
in compensated range	-20 ... 80 °C							
Permissible temperatures								
Permissible temperatures	medium / electronics / environment / storage: -25 ... 85 °C							
Electrical protection ⁴								
Short-circuit protection	permanent							
Reverse polarity protection	no damage, but also no function							
Electromagnetic compatibility	emission and immunity according to EN 61326							
⁴ additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request								

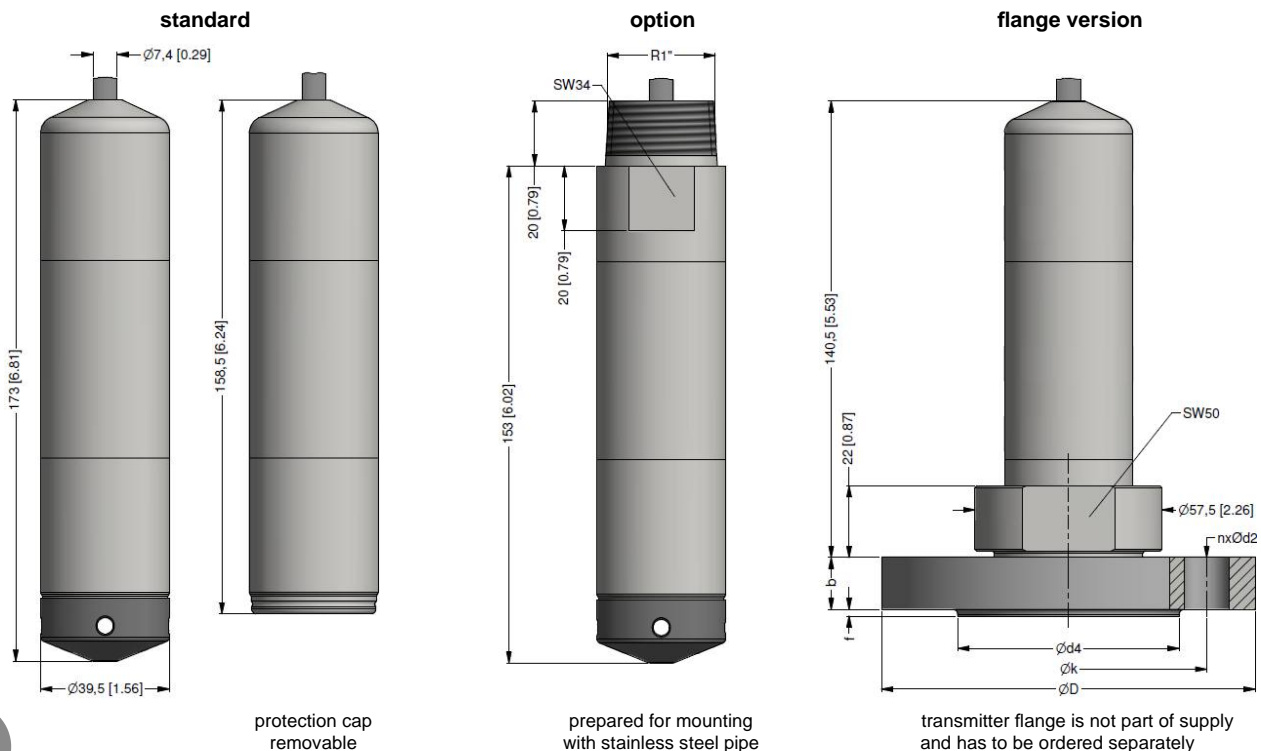


Mechanical stability	
Vibration	4 g (according to: DIN EN 60068-2-6)
Electrical connection	
Cable outlet with sheath material ⁵	PVC (-5 ... 70 °C) grey Ø 7.4 mm PUR (-25 ... 70 °C) black Ø 7.4 mm FEP ⁶ (-25 ... 70 °C) black Ø 7.4 mm TPE-U (-25 ... 85 °C) blue Ø 7.4 mm
Bending radius	static installation: 10-fold cable diameter dynamic application: 20-fold cable diameter
⁵ shielded cable with integrated ventilation tube for atmospheric pressure reference ⁶ do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected	
Materials	
Housing	stainless steel 1.4404 (316 L)
Seals	FKM, FFKM, EPDM, others on request
Diaphragm	standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 %
Protection cap	POM-C
Cable sheath	PVC, PUR, FEP, TPE-U, others on request
Miscellaneous	
Option cable protection for probes	prepared for mounting with stainless steel pipe
Ingress protection	IP 68
Current consumption	max. 21 mA
Weight	approx. 400 g (without cable)
CE-conformity	EMC Directive: 2014/30/EU

ELECTRICAL CONNECTION

Wiring diagram	
2-wire-system (current) HART®	
Pin configuration	
Electrical connection	cable colours (IEC 60757)
Supply +	WH (white)
Supply -	BN (brown)
Shield	GYNE (green-yellow)

DIMENSION DRAWINGS



ACCESSORIES

Transmitter flange for flange version



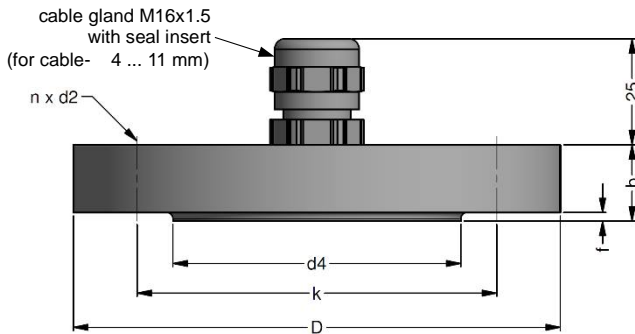
dimensions in mm			
size	DN25 / PN40	DN50 / PN40	DN80 / PN16
b	18	20	20
D	115	165	200
d2	14	18	18
d4	68	102	138
f	2	3	3
k	85	125	160
n	4	4	8

Technical data

Suitable for	CPA-K-382, CPA-K-382H
Flange material	stainless steel 1.4404 (316L)
Hole pattern	according to DIN 2507

Ordering type	Ordering code	Weight
Transmitter flange DN25 / PN40	ZSF2540	1.2 kg
Transmitter flange DN50 / PN40	ZSF5040	2.6 kg
Transmitter flange DN80 / PN16	ZSF8016	4.1 kg

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 \varnothing 5.5 ... 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	Z100528	approx. 160 g
Terminal clamp, stainless steel 1.4301 (304)	Z100527	



