

## CPA-K-382



- hydrostatic level transmitter
- submersible probe, diameter 39.5 mm
- nominal pressure: from 0...40 cmH<sub>2</sub>O up to 0...200 mH<sub>2</sub>O
- output signals: 2-wire: 4...20 mA; 3-wire: 0...10 V
- stainless steel probe
- ceramic sensor
- accuracy 0.35 % / 0.25 % span
- especially for sewage, viscous and pasty media
- optional: diaphragm 99.9 % Al<sub>2</sub>O<sub>3</sub>, different kinds of cables and seals



The stainless steel probe CPA-K-382 has been designed for continuous level measurement in waste water, waste and higher viscosity media.

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

### PREFERRED AREAS OF USE ARE



**Water**  
- drinking water abstraction



**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

Input pressure range		0.04	0.06	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	20
Nominal pressure gauge [bar]		0.04	0.06	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	20
Level [mH <sub>2</sub> O]		0.4	0.6	1	1.6	2.5	4	6	10	16	25	40	60	100	160	200
Overpressure [bar]		2	2	4	4	6	6	8	8	15	25	25	35	35	45	45
max. ambient pressure (housing)		40 bar														

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / V <sub>S</sub> = 9 ... 32 V <sub>DC</sub>
Option 3-wire	3-wire: 0 ... 10 V / V <sub>S</sub> = 12.5 ... 32 V <sub>DC</sub>

Performance	
Accuracy <sup>1</sup>	standard: ≤ ± 0.35 % span option: ≤ ± 0.25 % span
Permissible load	R <sub>max</sub> = [(V <sub>S</sub> - V <sub>S min</sub> ) / 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	700 msec
Mean response time	< 200 msec
Max. response time	380 msec

<sup>1</sup> accuracy according to EN IEC 62828-2— limit point adjustment (non-linearity, hysteresis, repeatability)

Thermal effects (Offset and Span)	
Thermal error	≤ ± 0.1 % span / 10 K in compensated range 0 ... 70 °C

Permissible temperatures	
Permissible temperatures	Medium/ electronics/ environment/ storage: -20 ... 125 °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 <sup>2</sup>	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326

<sup>2</sup> additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request

Electrical connection (only for 4 ... 20 mA / 2-wire)	
Cable with sheath material <sup>3</sup>	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 <sup>4</sup> (-25 ... 75 °C) black Ø 7,4 mm
	TPE-U (-25 ... 125 °C) blue Ø 7,4 mm

<sup>3</sup> shielded cable with integrated air tube for atmospheric pressure reference

<sup>4</sup> do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected



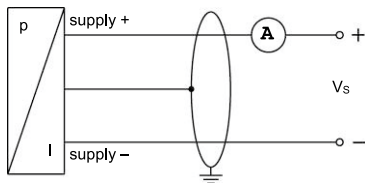
# Level transmitters

Materials (media wetted)	
Housing	stainless steel 1.4404 (316 L)
Seals	FKM FFKM EPDM others on request
Diaphragm	standard: ceramics Al <sub>2</sub> O <sub>3</sub> 96 % option: ceramics Al <sub>2</sub> O <sub>3</sub> 99.9 %
Nose cone	POM
Miscellaneous	
Current consumption	max. 21 mA
Weight	approx. 400 g (without cable)
Ingress protection	IP 68
CE-conformity	EMC Directive: 2014/30/EU

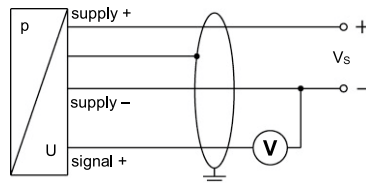
## ELECTRICAL CONNECTION

### Wiring diagram

2-wire-system (current)



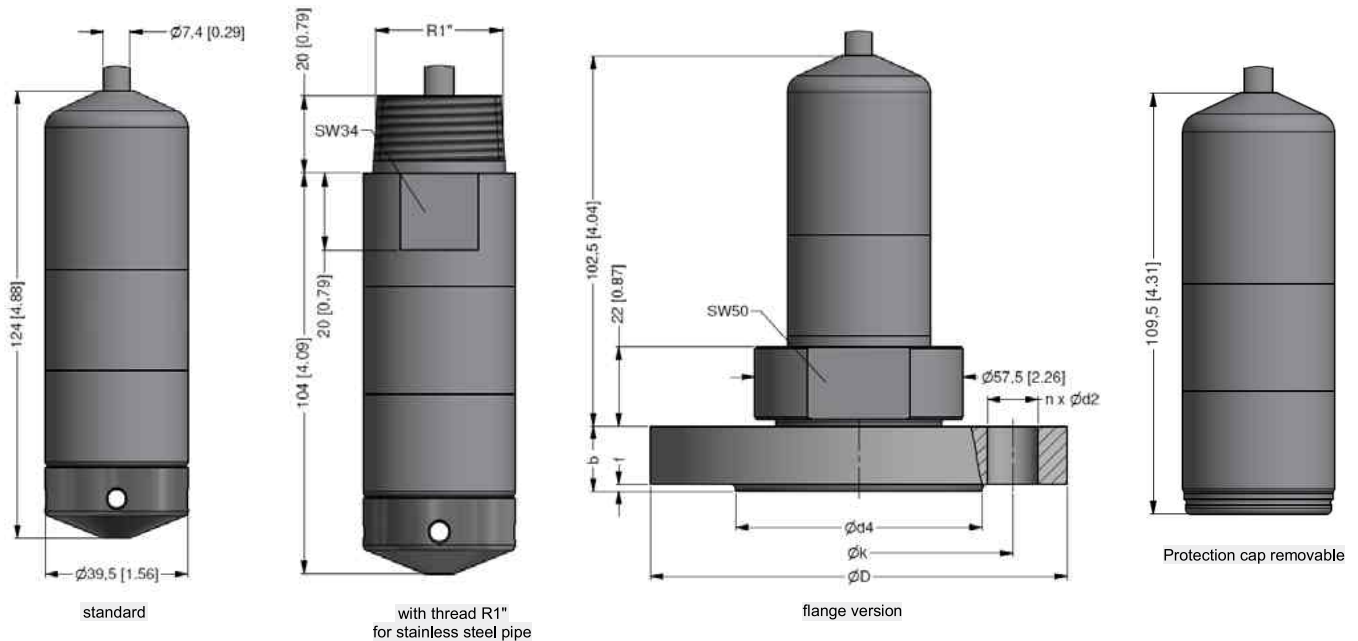
3-wire-system (voltage)



### Pin configuration

Electrical connection	cable colours (IEC 60757)
Supply +	wh (white)
Supply -	bn (brown)
Signal + (only for 3-wire)	gn (green)
Shield	gn/ye (green / yellow)

## DIMENSION DRAWINGS



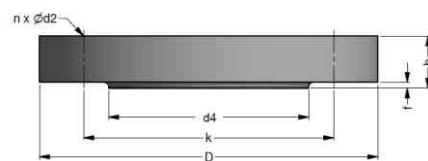
dimensions in mm				
dimen- sions	DN25 / PN40	DN40/ PN40	DN50 / PN40	DN80 / PN16
D	115	150	165	200
k	85	110	125	160
d4	68	88	102	138
b	18	18	20	20
f	2	3	3	3
n	4	4	4	8
d2	14	18	18	18

## ACCESSORIES

### Transmitter flange for flange version

#### Technical data

Suitable for	CPA-K-382	
Flange material	stainless steel 1.4404 (316L)	
Hole pattern	according to DIN 2507	
<b>Version</b>	<b>Size (in mm)</b>	<b>Weight</b>
DN25 / PN40	D = 115, k = 85, b = 18, n = 4, d = 14	1.2 kg
DN50 / PN40	D = 165, k = 125, b = 20, n = 4, d = 18	2.6 kg
DN80 / PN16	D = 200, k = 160, b = 20, n = 8, d = 18	4.1 kg



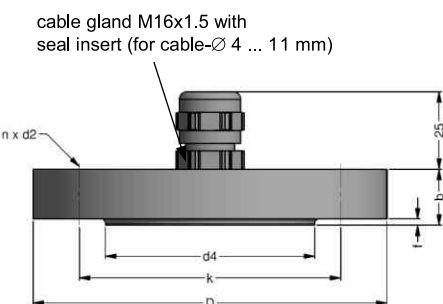
#### Ordering type

Transmitter flange DN25 / PN40	ZFS2540
Transmitter flange DN50 / PN40	ZFS5040
Transmitter flange DN80 / PN16	ZFS8016

### 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	
<b>Version</b>	<b>Size (in mm)</b>	<b>Weight</b>
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

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

### Terminal clamp

#### Technical Data

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



#### Ordering type

Terminal clamp, steel, zinc plated	1003440
Terminal clamp, stainless steel 1.4301 (304)	1000278



