



CPA-K-351

- hydrostatic level transmitter
- screw-in probe
- nominal pressure: from 0...40 mbar up to 0...20 bar
- output signals: 2-wire: 4...20 mA; 3-wire: 0...20 mA / 0...10 V
- stainless steel probe
- ceramic sensor, optional diaphragm 99.9 % Al_2O_3
- accuracy 0.35 % / 0.25 % span
- pressure port PVDF for aggressive media / G 1½" for pasty and polluted media
- certified for contact with drinking water by the Polish National Institute of Public Health (PZH) - EPDM version

The screw-in transmitter **CPA-K-351** has been designed for measuring small system pressure and level measurement in container. Is based on an own-developed capacitive ceramic sensor element. Usage in viscous and pasty media is possible because of the flush mounted sensor. For the usage in aggressive media a pressure port in PVDF and the diaphragm in Al_2O_3 99.9 % is available.

PREFERRED AREAS OF USE ARE



Plant and Machine Engineering



Environmental Engineering
(water - sewage - recycling)

TECHNICAL DATA

Pressure ranges																
Nominal pressure	[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 ₂ 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
Low pressure	[bar]	-0.2		-0.3		-0.5				-1						

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / $V_S = 9 \dots 32 V_{DC}$
Option 3-wire	3-wire: 0 ... 10 V / $V_S = 12.5 \dots 32 V_{DC}$
Performance	
Accuracy ¹	standard: $\pm 0.35 \% \text{ span}$ option: $\leq \pm 0.25 \% \text{ span}$
Permissible load	current 2-wire: $R_{\max} = [(V_S - V_{S \min}) / 0.02 A] W$ voltage 3-wire: $R_{\min} = 10 kW$
Influence effects	supply: 0.05 % span / 10 V load: 0.05 % span / kW
Long term stability	$\leq \pm 0.1 \% \text{ span / year}$
Turn-on time	700 msec
Mean measuring time	5/sec
Response time	mean response time: $\leq 200 \text{ msec}$ max. response time: 380 msec
¹ accuracy according to EN IEC 62828-2- limit point adjustment (non-linearity, hysteresis, repeatability)	
Thermal effects (Offset and Span) / Permissible temperatures	
Tolerance band	$\leq \pm 0.1 \% \text{ span / 10 K}$ in compensated range - 20 ... 80 °C
Permissible temperatures ²	medium: -40 ... 125 °C electronics / environment: -40 ... 85 °C storage: -40 ... 100 °C
² for pressure port of PVDF the permissible temperature is -30...60 °C	
Electrical protection	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326
Mechanical stability	
Vibration	10 g RMS (20 ... 2000 Hz) according to DIN EN 60068-2-6
Shock	100 g / 1 msec according to DIN EN 60068-2-27

Materials (media wetted)			
Pressure port	standard: stainless steel 1.4404 (316L)		option: PVDF
Housing	standard: stainless steel 1.4404 (316L)		option: PVDF
Option field housing	stainless steel 1.4301 (304)		
Seals	FKM	-40 ... 125 °C	
	FFKM	-15 ... 125 °C	
	EPDM	-40 ... 125 °C (with drinking water certificate)	
Diaphragm	standard:	ceramics Al ₂ O ₃ 96 %	
	options:	ceramics Al ₂ O ₃ 99.9 %	
Media wetted parts	pressure port, seals, diaphragm		
Miscellaneous			
Current consumption	signal output current:	max. 21 mA	signal output voltage: max. 5 mA
Weight	approx. 200 g		
Installation position	any		
Operational life	> 100 x 10 ⁶ loading cycles		
CE-conformity	EMV-directive: 2014/30/EU		
Option oxygen application	for P _N ≤ 15 bar: O-ring in 70 EPDM 281 (with BAM-approval); permissible maximum values are 15 bar / 60° C and 10 bar / 90° C		
	for P _N ≤ 25 bar: O-ring in FKM Vi 567 (with BAM-approval); permissible maximum values are 25 bar / 150° C		

ELECTRICAL CONNECTION

Wiring diagram

2-wire-system (current)

3-wire-system (current/voltage)

Pin configuration

Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 (4-pin)	field housing	cable colours (IEC 60757)
Supply +	1	3	1	IN +	wh (white)
Supply -	2	4	2	IN -	bn (brown)
Signal + (only for 3-wire)	3	1	3	OUT +	gn (green)
Shield	ground pin	5	4		gn/ye (green/yellow)

Electrical connections (dimensions in mm)

standard

ISO 4400 (IP 65)

options:

Binder Series 723 5-pin (IP 67)

M12x1

M12x1 4-pin (IP 67)

gland PG7/cable length specify (IP 67) ⁴

gland PG7/cable length specify (IP 67) ⁴

cable outlet, cable with ventilation tube (IP 68) ⁵

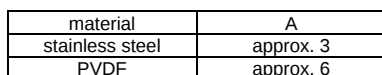
cable outlet, cable with ventilation tube (IP 68) ⁵

field housing (IP 67)

field housing (IP 67)

⁴ standard: 2m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)
⁵ different cable types and lengths available, permissible temperature depends on kind of cable





ORDER CODE

Customer



Level transmitters

CPA-K-351- - - - - - - - - -

Electrical connection												
Connector DIN 43650 (ISO 4400) (IP 65)	1	0	0									
Connector Binder Serie 723 5-pin (IP 67)	2	0	0									
Cable gland PG7 / cable length specify (IP 67)	4	0	0									
+ PVC cable / 1 m												
Connector Buccaneer (IP 68)	5	0	0									
Field housing stainless steel, cable gland M 20 x 1,5 (IP 67)	8	8	0									
Connector DIN 43650 (ISO 4400) - potting compound inside (IP 67)	E	0	0									
Connector M12 x 1, 4-pin (IP 67)	M	0	0									
Connector M12 x 1, 4-pin (IP 67) - metal	M	1	0									
Cable outlet, cable with ventilation tube (IP68) ¹	T	R	0									
+ PVC cable / 1 m												
Customer	9	9	9									
Mechanical connection												
G 1 1/2" (DIN 3852) - flush				M	0	0						
Customer				9	9	9						
Seals												
Viton (FKM)								1				
EPDM ⁴								3				
FFKM								7				
Customer								9				
Housing												
Stainless steel 1.4404 (316 L)								1				
PVDF ²								B				
Customer								9				
Diaphragm												
Ceramic Al ₂ O ₃ 96 %								2				
Ceramic Al ₂ O ₃ 96 % with PTFE foil (accuracy ≥ 1%) - not possible for underpressure								3				
Ceramic Al ₂ O ₃ 99,9 %								C				
Customer								9				
Special version												
Standard										0	0	0
Version for oxygen										0	0	7
Customer										9	9	9

1 - code TR0 = PVC cable, cable with ventilation tube available in different types and lengths; cable not included in the price

2 not possible in combination with compact field housing; permissible medium temperature: -30 ... 60 °C

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

4 - drinking water certification only possible with EPDM seal

The manufacturer reserves the right to change sensor specifications without prior notice.

