

CPA-P-331



- hydrostatic level transmitter
- screw-in probe
- nominal pressure: from 0...100 mbar up to 0...40 bar
- output signals: 2-wire: 4...20 mA; 3-wire: 0...20 mA / 0...10 V
- stainless steel probe and sensor
- accuracy 0.25 % / 0.35 % / 0.5 % span
- pressure port G 3/4" flush, excellent accuracy and long term stability, small thermal effect
- certified for contact with drinking water by the Polish National Institute of Public Health (PZH) - EPDM version

The screw-in transmitter **CPA-P-331** has been designed for continuous level measurement and is characterized by an excellent performance and a robust construction. The modular construction allows the user the highest possible flexibility in the adaption of CPA-P-331.

PREFERRED AREAS OF USE ARE



Plant and Machine Engineering

Environmental Engineering
(water - sewage - recycling)

Energy Industry

TECHNICAL DATA

Input pressure range															
Nominal pressure gauge	[bar]	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6	10	16	25	40
Level	[mH ₂ O]	1	1.6	2.5	4	6	10	16	25	40	60	100	160	250	400
Overpressure	[bar]	0.5	1	1	2	5	5	10	10	20	40	40	80	80	105
Burst pressure ≥	[bar]	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50	50	120	120	210
Vacuum resistance		P _N ≥ 1 bar: unlimited vacuum resistance P _N < 1 bar: on request													
Output signal / Supply															
Standard		2-wire: 4 ... 20 mA / V _S = 8 ... 32 V _{DC}													
Options		3-wire: 0 ... 20 mA / V _S = 14 ... 30 V _{DC} 0 ... 10 V / V _S = 14 ... 30 V _{DC}													
Performance															
Accuracy ¹		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													
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													
Response time ²		2-wire: ≤ 10 msec 3-wire: ≤ 3 msec													
¹ accuracy according to EN IEC 62828-2– limit point adjustment (non-linearity, hysteresis, repeatability)															
² with optional accuracy 0,1 % span the response time is 200 msec															
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						-20 ... 85						
Permissible temperatures															
Permissible temperatures		medium: -40 ... 125 °C electronics / environment: -40 ... 85 °C storage: -40 ... 100 °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 (25 ... 2000 Hz) according to DIN EN 60068-2-6													
Shock		500 g / 1 msec according to DIN EN 60068-2-27													

Materials		
Pressure port	stainless steel 1.4404 (316L)	
Housing	stainless steel 1.4404 (316L)	
Option field housing	stainless steel 1.4301 (304); cable gland M16x 1.5, brass, nickel plated (clamping range 2...8 mm)	
Seals	standard: FKM option: EPDM (with drinking water certificate) / NBR others on request	
Diaphragm	stainless steel 1.4435 (316L)	
Media wetted parts	pressure port, seals, diaphragm	
Miscellaneous		
Current consumption	signal output current: max. 25 mA	signal output voltage: max. 5 mA
Weight	approx. 200 g	
Installation position	any ³	
Operational life	> 100 x 10 ⁶ cycles	
CE-conformity	EMC Directive: 2014/30/EU	
³ Pressure transmitters are calibrated in a vertical position with the pressure connection down. If this position is changed on installation there can be slight deviation in the zero point for pressure ranges P _N ≤ 1 bar.		

ELECTRICAL CONNECTION

Pin configuration					
Electrical connections	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	field housing	cable colours (DIN 47100)
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		ye/gn (yellow/green)

Wiring diagrams	
2-wire-system (current)	3-wire-system (current/voltage)

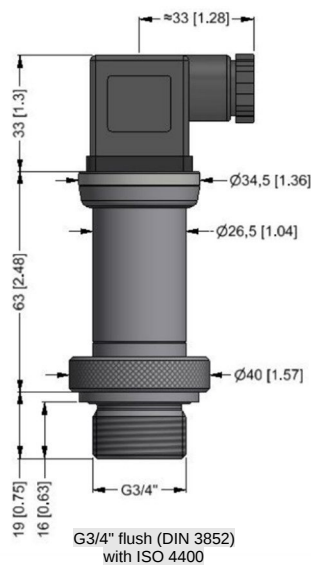
Electrical connections (dimensions in mm)					
standard	options				
ISO 4400 (IP 65)	Binder Series 723 5-pin (IP 67)	M12x1 4-pin (IP 67)	gland PG7/cable length specify (IP 67)⁵	field housing (IP 67)	cable outlet, cable with ventilation tube (IP 68)⁶

⁵ standard: 2 m PVC cable (without ventilation tube, permissible temperature: -5 ... 70 °C)

⁶ different cable types and lengths available, permissible temperature depends on kind of cable



standard for 0.25 %



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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 16 x 1,5 (IP 67)	8	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				
Accuracy							
0,5 % (P _N ≤ 0,4 bar)				5			
0,35 % (P _N > 0,4 bar)				3			
0,25 % (P _N > 0,4 bar)				2			
0,5 % including Calibration Certificate (P _N ≤ 0,4 bar)				T			
0,35 % including Calibration Certificate (P _N > 0,4 bar)				S			
Measured values table for accuracy 0,35 % (only on customer request)				M			
Customer				9			
Special version							
Standard					0	0	0
Temperature compensation -20...+50 °C					0	0	6
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 - maximum length of PVC cable – 25 m, PUR, FEP, TPE – 40 m
3 - drinking water certification only possible with EPDM seal

Manufacturer reserves the right to change sensor specifications without further notice.