

CCA-K-351



- pressure transmitter
- nominal pressure: from 0...40 mbar up to 0...20 bar
- output signals: 2-wire: 4...20 mA; 3-wire: 0...10 V
- ceramic sensor
- accuracy 0.35 % span
- high media resistance
- optionally: diaphragm 99.9 % Al_2O_3 , customer specific versions
- certified for contact with drinking water by the Polish National Institute of Public Health (PZH) - EPDM version

The pressure transmitter **CCA-K-351** has been specially designed for applications in plant and machine engineering as well as laboratory techniques and is suitable for measuring small system pressure and filling heights.

By using our own-developed capacitive sensor, optionally available as Al_2O_3 99.9%, the CCA-K-351 offers a high overpressure resistance and a high temperature / media resistance.

PREFERRED AREAS OF USE ARE



Plant and Machine Engineering



Fuel and Oil



Laboratory Techniques



Water

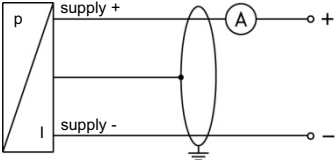
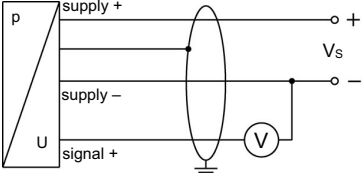
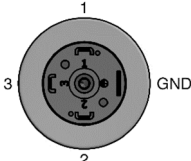
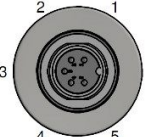
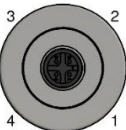
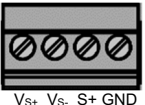
TECHNICAL DATA

Pressure ranges																	
Nominal pressure ¹	[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							
¹ available in gauge and absolute; nominal pressure ranges absolute from 1 bar																	
Output signal / Supply																	
Standard	2-wire:		4 ... 20 mA / V _S = 9 ... 32 V _{DC}														
Option	3-wire:		0 ... 10 V / V _S = 12.5 ... 32 V _{DC}														
Performance																	
Accuracy ¹	standard:		± 0.35 % span														
	option for P _N ≥ 0.6 bar:		± 0.25 % span														
Permissible load	current 2-wire R _{max} = [(V _S – V _{Smin}) / 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	± 0.1 % span / year at reference conditions																
Turn-on time	700 msec																
Mean measuring rate	5/sec																
Response time	mean response time: < 200 msec										max. response time: 380 msec						
¹ accuracy according to EN IEC 62828-2- limit point adjustment (non-linearity, hysteresis, repeatability)																	
Thermal errors (Offset and Span)																	
Tolerance band	≤ ± 0.1 % span / 10 K										in compensated range: -20 ... 80 °C						
Permissible temperatures																	
Permissible temperatures	medium*:		-40 ... 125 °C														
	electronics / environment:		-40 ... 85 °C														
	storage:		-40 ... 100 °C														
*for pressure port in PVDF the medium 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						

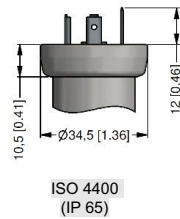
Pressure transmitters

Materials	
Pressure port	standard: stainless steel 1.4404 (316L) option ³ : PVDF
Housing	stainless steel 1.4404 (316L)
Option field housing	stainless steel 1.4305 (304); cable gland M16x 1.5, brass, nickel plated (clamping range 2...8 mm)
Seal (media wetted)	FKM EPDM (with drinking water certificate)
Diaphragm	standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 %
Media wetted parts	pressure port, seals, diaphragm
³ only with mech. connection G1/2" DIN 3852 open port, bore 12 mm, P _N ≤ 10 bar, min. permissible temperature -30 °C	
Miscellaneous	
Installation position	any
Current consumption	signal output current: max. 21 mA signal output voltage: max. 5 mA
Weight	min. 200 g
Operational life	> 100 x 10 ⁶ loading cycles
CE-conformity	EMC-directive: 2014/30/EU

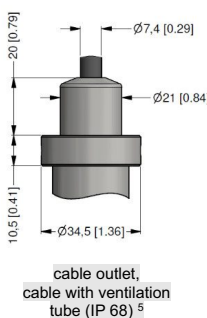
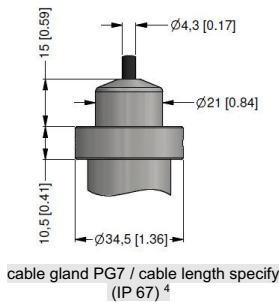
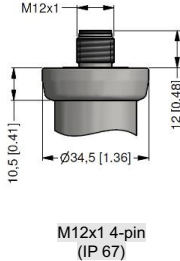
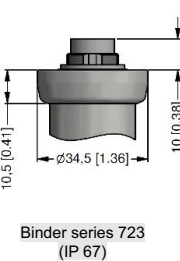
ELECTRICAL CONNECTION

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 (DIN 47100)
					
Supply + Supply - Signal + (only for 3-wire)	1 2 3	3 4 1	1 2 3	Vs + Vs - S +	wh (white) bn (brown) gn (green)
Shield	ground contact 	5	4	GND	ye/gn (yellow / green)

standard



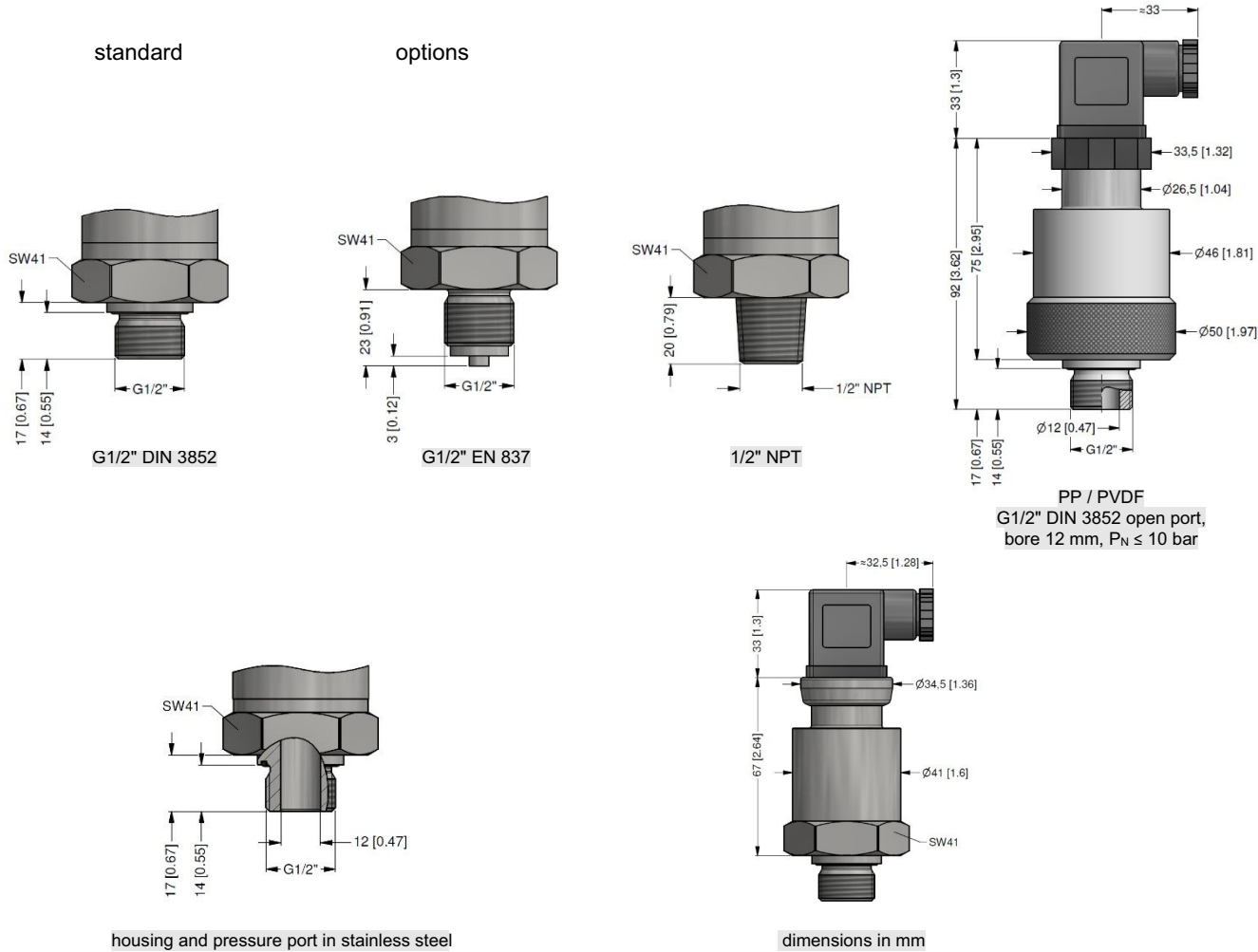
options



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



DIMENSION DRAWINGS



ORDER CODE

CCA-K-351-												-				-		-				-				-		-		-						
Pressure																																				
Gauge										2	9	0																								
Absolute ¹										2	9	1																								
Measured value in m H2O										2	9	2																								
Input		[mH ₂ O]	[bar]																																	
	0 ... 0,4	0 ... 0,04								0	4	0	0																							
	0 ... 0,6	0 ... 0,06								0	6	0	0																							
	0 ... 1	0 ... 0,1								1	0	0	0																							
	0 ... 1,6	0 ... 0,16								1	6	0	0																							
	0 ... 2,5	0 ... 0,25								2	5	0	0																							
	0 ... 4	0 ... 0,4								4	0	0	0																							
	0 ... 6	0 ... 0,6								6	0	0	0																							
	0 ... 10	0 ... 1								1	0	0	1																							
	0 ... 16	0 ... 1,6								1	6	0	1																							
	0 ... 25	0 ... 2,5								2	5	0	1																							
	0 ... 40	0 ... 4								4	0	0	1																							
	0 ... 60	0 ... 6								6	0	0	1																							
	0 ... 100	0 ... 10								1	0	0	2																							
	0 ... 160	0 ... 16								1	6	0	2																							
	0 ... 200	0 ... 20								2	0	0	2																							
Customer										9	9	9	9																							
Customer - underpressure										X	X	X	X																							
Output																																				
4 ... 20 mA / 2-wire																																				
0 ... 10 V / 3-wire																																				
Customer																																				

Pressure transmitters

CCA-K-351- - - - - - - - - -

Accuracy									
1 % (underpressure)	8								
0,5 %	5								
0,35 % (standard)	3								
0,25 % (P _N ≥ 0,6 bar)	2								
1 % including Calibration Certificate	U								
0,5 % including Calibration Certificate	T								
0,35 % including Calibration Certificate	S								
0,25 % including Calibration Certificate (P _N ≥ 0,6 bar)	R								
Customer	9								
Electrical connection									
Connector DIN 43650 (ISO 4400) (IP 65)	1	0	0						
Connector Binder 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 M16 x 1,5 (IP 67)	8	0	0						
Field housing stainless steel, cable gland M20 x 1,5 (IP 67)	8	8	0						
Connector DIN 43650 (ISO 4400) - potting compound inside (IP 67)	E	0	0						
Cable outlet / cable length specification needed (IP 68) ²	T	R	0						
+ PVC cable / 1 m									
Connector M12 x 1, 4-pin (IP 67)	M	0	0						
Connector M12 x 1, 4-pin (IP 67) - metal	M	1	0						
Customer	9	9	9						
Mechanical connection									
G1/2" DIN 3852		1	0	0					
G 1/2" EN 837		2	0	0					
G 1/4" DIN 3852		3	0	0					
M 20 x 1,5 EN 837		8	0	0					
1/2" NPT		N	0	0					
G 1/2" DIN 3852 open port (P _N ≤ 10 bar)		H	0	0					
Customer		9	9	9					
Seals									
Viton (FKM)						1			
EPDM ⁴ (P _N < 160 bar)						3			
Customer						9			
Pressure port									
Stainless steel 1.4404 (316 L)						1			
PVDF (only mech.con H00) ³						B			
Customer						9			
Diaphragm									
Ceramic Al ₂ O ₃ 96 %							2		
Ceramics Al ₂ O ₃ 99,9 %							C		
Customer							9		
Special version									
Standard								0	0
Customer								9	9

1 - nominal pressure ranges absolute from 1 bar

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

3 - PVDF possible only with G1/2" DIN 3852 open pressure port, $P_N \leq 10$ bar; permissible medium temperature: -30 ... 60°C

4 - drinking water certification only possible with EPDM seal

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

