

CCA-K-351



- pressure transmitter
- nominal pressure: from 0..40mbar up to 0..20bar
- output signals: 2-wire: 4...20 mA; 3-wire: 0...10V
- ceramic sensor
- accuracy 0.35 % span
- high media resistance
- optionally: diaphragm 99.9% Al₂O₃, customer specific versions



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 Al₂O₃ 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

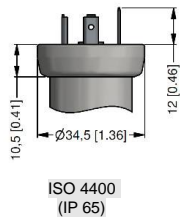


Materials	
Pressure port	standard: stainless steel 1.4404 (316L) option ³ : PP, PVDF
Housing	standard: stainless steel 1.4404 (316L) option ³ : PP, PVDF
Option field housing	stainless steel 1.4305 (304); cable gland M16x 1.5, brass, nickel plated (clamping range 2...8 mm)
Seal (media wetted)	FKM EPDM
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

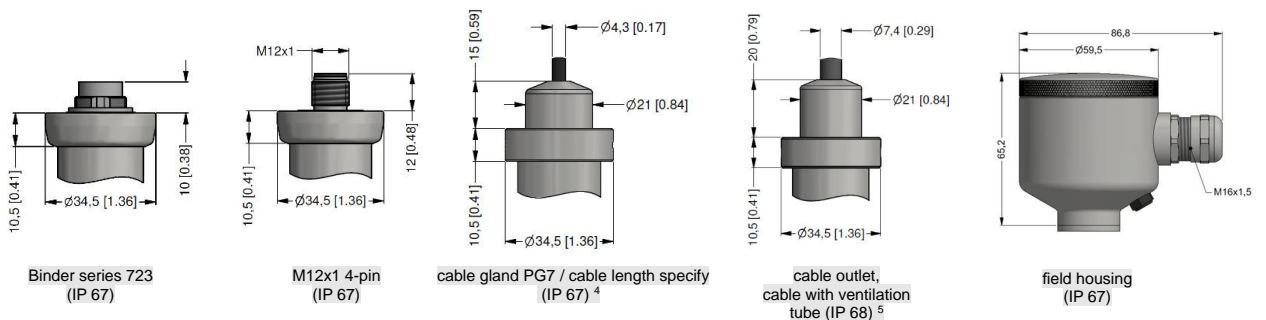
ELECTRICAL CONNECTION

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

standard



options

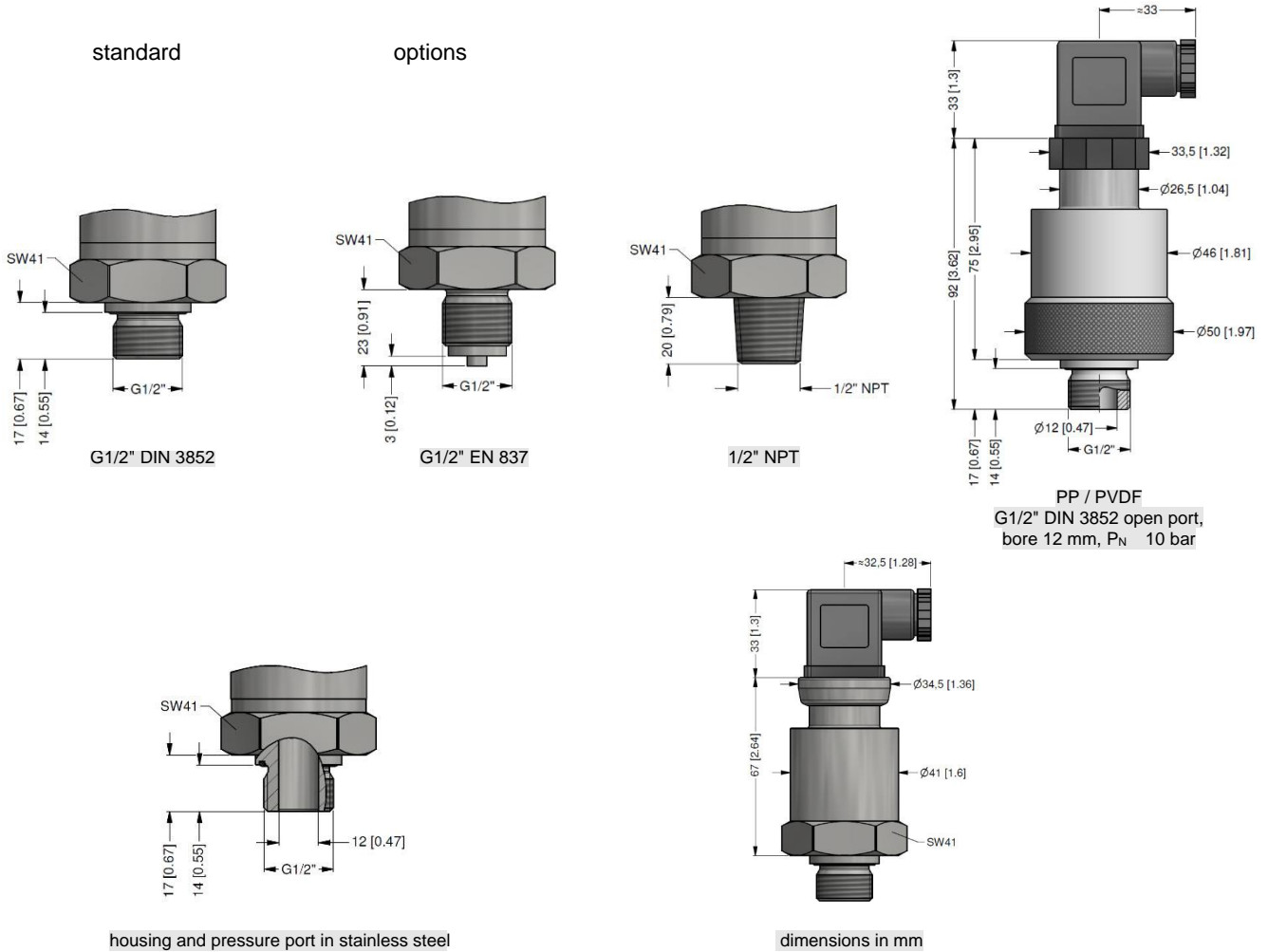


⁴ standard: 2 m PVC-cable without ventilation tube (permissible temperature: -5 ... 70°C), optional cable with ventilation tube

⁵ different cable types and lengths available, permissible temperature depends on kind of cable



DIMENSION DRAWINGS



housing and pressure port in stainless steel

dimensions in mm

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																				1
0 ... 10 V / 3-wire																				3
Customer																				9



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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) + PVC cable / 1 m	4	0	0						
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 + PVC cable / 1 m	T	R	0						
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 (P _N < 160 bar)							3		
Customer							9		
Pressure port									
Stainless steel 1.4404 (316 L)							1		
PP (only mech.con. H00) ³							E		
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 0
Customer									9 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 - PP / PVDF possible only with G1/2" DIN 3852 open pressure port, P_N 10 bar; permissible medium temperature: -30 ... 60°C

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

