



CCA-K-351P

- industrial pressure transmitter
- hygienic version
- 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
- different process connections (G1 1/2", diary pipe, clamp, etc.)
- high overpressure capability
- optionally: diaphragm 99.9 % Al₂O₃, 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-351P** has been designed for measuring small system pressure in the food industry and chemical industry. The CCA-K-351P is based on an own-developed capacitive ceramic sensor element. It features high overpressure resistance and high resistance against most of aggressive media. A variety of different process and electrical connections and an intrinsically safe version complete the range of possibilities.

PREFERRED AREAS OF USE ARE



Food Industry



Paint and Varnish



Chemical and Petrochemical Industry



Viscous and Pasty Media

TECHNICAL DATA

Pressure ranges																
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
Nominal pressure abs.*	[bar]	on request					0.4	0.6	1	1.6	2.5	4	6	10	16	20
Overpressure	[bar]	2	2	4	4	6	6	8	8	15	25	25	35	35	45	45
Permissible vacuum *	[bar]	-0.2	-0.3	-0.5					-1							

*for 0 ... 1 bar abs. or -1 ... 0 bar gauge max.temperature 70°C

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / $V_S = 9 ... 32 V_{DC}$
Option 3-wire	3-wire: 0 ... 10 V / $V_S = 12.5 ... 32 V_{DC}$
Performance	
Accuracy ¹	standard: ± 0.35 % span option: ± 0.25 % span
Long term stability	$\leq \pm 0.1$ % span / year
Influence effects	supply: 0.05 % span / 10 V load: 0.05 % span / k Ω
Permissible load	current 2-wire: $R_{max} = [(V_S - V_{Smin}) / 0.02 A] \Omega$ voltage 3-wire: $R_{min} = 10 k\Omega$
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) / -Permissible temperatures	
Thermal error	$\leq \pm 0.1$ % span / 10 K in compensated range -20 ... 80°C
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 (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	stainless steel 1.4404
Housing standard	stainless steel 1.4404
Option field housing	stainless steel 1.4435
Seal (media wetted)	FKM -40 ... 125 °C EPDM (with drinking water certificate) -40 ... 125 °C others on request
Diaphragm	standard: ceramic Al ₂ O ₃ 96 % option: ceramic Al ₂ O ₃ 99.9 %
Media wetted parts	pressure port, seals, diaphragm
Miscellaneous	
Current consumption	max. 21 mA
Weight	min. 200 g
Installation position	any
Operational life	> 100 x 10 ⁶ loading cycles
EMC-directive: 2014/30/EU	EMC-directive: 2014/30/EU

ELECTRICAL CONNECTION

Wiring diagram

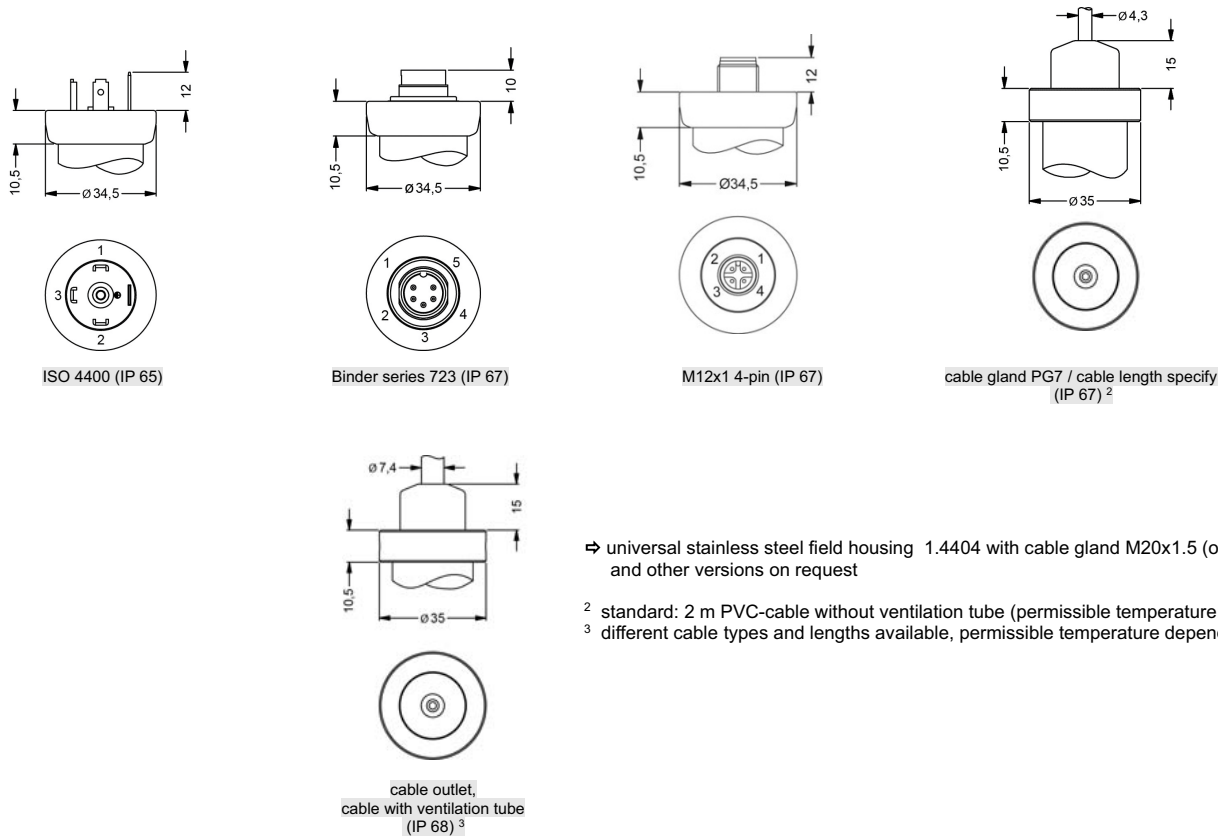
2-wire-system (current)

Diagram illustrating the wiring for a 2-wire system (current). The sensor has two terminals: 'p' (pressure) and 'I' (current). The 'p' terminal is connected to 'supply +'. The 'I' terminal is connected to 'supply -'. A current 'I' flows from 'supply +' through the sensor to 'supply -'. A voltmeter 'V_s' is connected across the supply terminals.

3-wire-system (current / voltage)

Diagram illustrating the wiring for a 3-wire system (current / voltage). The sensor has three terminals: 'p' (pressure), 'I / U' (current / voltage), and 'signal +'. The 'p' terminal is connected to 'supply +'. The 'I / U' terminal is connected to 'supply -'. The 'signal +' terminal is connected to 'signal +'. A voltmeter 'V_s' is connected across the supply terminals. An ammeter 'A/V' is connected in series with the signal line.

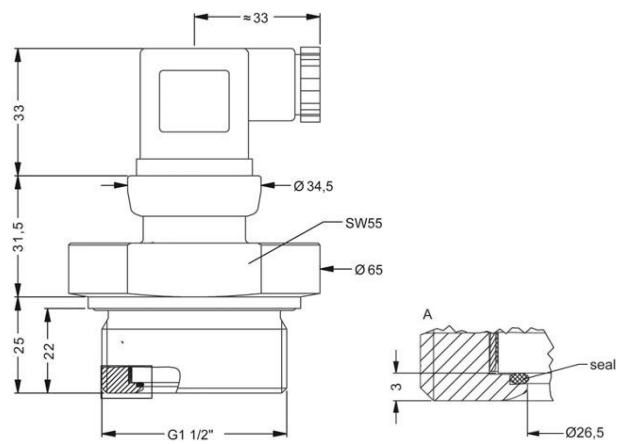
Pin configuration					
Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 (4-pin)	field housing	cable colour (DIN 47100)
Supply +	1	3	1	IN +	wh (white)
Supply -	2	4	2	IN -	bn (brown)
Signal + (only 3-wire)	3	1	3	OUT +	gn (green)
Shield	ground pin	5	4		ye/gn (yellow / green)



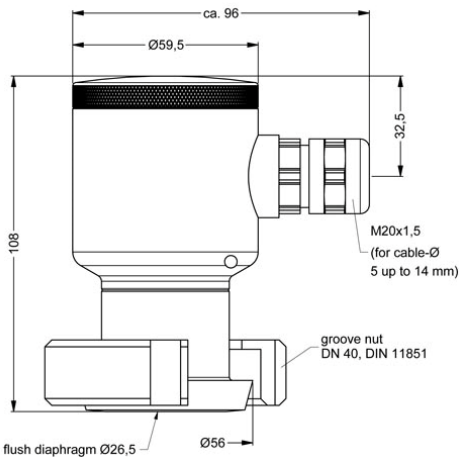
- ⇒ universal stainless steel field housing 1.4404 with cable gland M20x1.5 (ordering code 880) and other versions on request
- ² standard: 2 m PVC-cable without ventilation tube (permissible temperature: -5 ... 70 °C)
- ³ different cable types and lengths available, permissible temperature depends on kind of cable



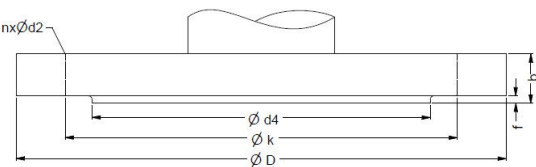
DIMENSION DRAWINGS



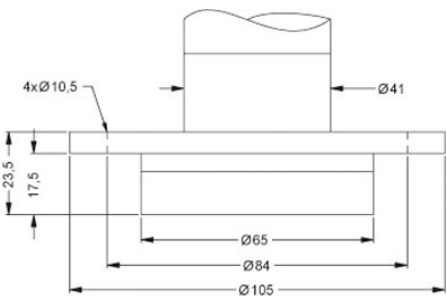
G1 1/2" EN 837



field housing
with dairy pipe (DIN 11851)



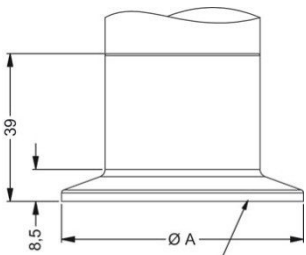
flange (DIN 2501)



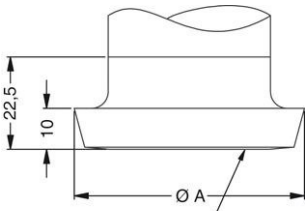
flange DRD⁴

dimensions in mm			
size	DN25	DN50	DN80
D	115	165	200
k	85	125	160
d4	68	102	138
b	18	20	20
f	2	3	3
n	4	4	8
d2	14	18	18
P _N [bar]	≤ 40	≤ 40	≤ 16

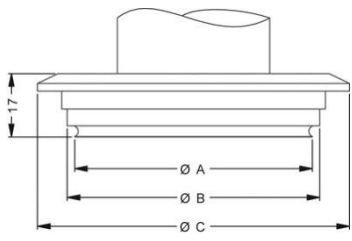
⁴ mounting flange is included in the delivery (already pre-assembled)



Clamp (DIN 32676)



dairy pipe (DIN 11851)



Varivent®

dimensions in mm		
size	DN32	DN50
A	50,5	64
P _N [bar]	≤ 16	≤ 16

dimensions in mm			
size	DN25	DN40	DN50
A	44	56	68,5

size (mm)	DN 40/50
A	64
B	68
C	84

ORDER CODE

- 1 - absolute pressure from 0.04 bar up to 0.25 bar on request
- 2 - code TR0 = PVC cable, cable with ventilation tube available in different types and lengths; cable not included in the price
- 3 - the cup nut has to be mounted by production of pressure transmitter with electrical connection field housing and mechanical connection dairy pipe.
The cup nut has to be ordered as separate position.
- 4 - drinking water certification only possible with EPDM seal

CCA-K-351P.4