

CCA-P-333



- industrial pressure transmitter for high pressure
- nominal pressure: from 0...60 bar up to 0...600 bar
- output signals: 2-wire: 4...20 mA; 3-wire: 0...20 mA / 0...10 V
- stainless steel sensor
- accuracy 0.35 % span
- excellent long term stability, also with high dynamic pressure loads
- insensitive to pressure peaks
- high overpressure capability
- option: various electrical and mechanical connections



The pressure transmitter type **CCA-P-333** has been especially designed for use in hydraulic applications with high static and dynamic pressure. The transmitter is characterized by an excellent long term stability, also under fast changing pressure as well as positive and negative pressure peaks. The modular concept of the device allows to combine different stainless steel sensors and electronic modules with a variety of electrical and mechanical versions. Thus a diversity of variations is created, meeting almost all requirements in hydraulic applications.

PREFERRED AREAS OF USE ARE



Plant and Machine Engineering



Mobile Hydraulics

TECHNICAL DATA

Input pressure range							
Nominal pressure gauge ¹ / abs.	[bar]	60	100	160	250	400	600
Overpressure	[bar]	210	210	600	1000	1000	1000
Burst pressure ≥	[bar]	420	1000	1000	1250	1250	1800
¹ measurement starts with ambient pressure							
Output signal / Supply							
Standard	2-wire:	4 ... 20 mA / V _S = 12 ... 36 V _{DC}					
Option accuracy 0.1 % span	2-wire:	4 ... 20 mA / V _S = 12 ... 36 V _{DC}				3-wire: 0 ... 10 V / V _S = 14 ... 30 V _{DC}	
Options 3-wire	3-wire:	0 ... 20 mA / V _S = 14 ... 30 V _{DC} 0 ... 10 V / V _S = 14 ... 30 V _{DC}					
Performance							
Accuracy ²	standard:	≤ ± 0.35 % span					
	option 1:	≤ ± 0.25 % span					
	option 2:	≤ ± 0.1 % span					
Permissible load	current 2-wire:	R _{max} = [(V _S - V _S min) / 0.02 A] Ω					
	current 3-wire:	R _{max} = 500 Ω					
	voltage 3-wire:	R _{min} = 10 kΩ					
Influence effects	supply:	0.05 % span / 10 V					
	load:	0.05 % span / kΩ					
Long term stability	≤ ± 0.1 % span / year at reference conditions						
Response time	2-wire:	≤ 10 msec					
	3-wire:	≤ 3 msec					
² accuracy according to EN IEC 62828-2— limit point adjustment (non-linearity, hysteresis, repeatability)							
Thermal effects (Offset and Span)							
Tolerance band	≤ ± 0.75 % span						
in compensated range	0 ... 70 °C						
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	100 g / 11 msec according to DIN EN 60068-2-27						



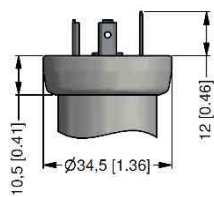
Pressure transmitters

Materials	
Pressure port	stainless steel 1.4404 (316 L)
Housing	stainless steel 1.4404 (316 L)
Option field housing	stainless steel 1.4301 (304), cable gland M16x 1.5 brass, nickel plated (clamping range 2...8 mm)
Seals (media wetted)	standard: FKM options: EPDM (for $P_N \leq 160$ bar) NBR others on request
Diaphragm	stainless steel 1.4435 (316 L)
Media wetted parts	pressure port, seals, diaphragm
Miscellaneous	
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 140 g
Installation position	any ³
Operational life	100 million load cycles
CE-conformity	EMC Directive: 2014/30/EU Pressure Equipment Directive: 2014/68/EU (module A) ⁴
³ Pressure transmitters are calibrated in a vertical position with the pressure connection down.	
⁴ This directive is only valid for devices with maximum permissible overpressure > 200 bar	

ELECTRICAL CONNECTION

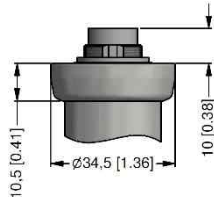
Wiring diagrams																																		
<p>2-wire-system (current)</p>	<p>3-wire-system (current / voltage)</p>																																	
Pin configuration																																		
Electrical connection	<table border="1"> <thead> <tr> <th>ISO 4400</th> <th>Binder 723 (5-pin)</th> <th>M12x1 / metal (4-pin)</th> <th>Bayonet MIL-C-26482 (10-6)</th> <th>field housing</th> <th rowspan="2">cable colours (IEC 60757)</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supply +</td> <td>1</td> <td>1</td> <td>A</td> <td>IN +</td> <td rowspan="3">wh (white) bn (brown) gn (green) ye/gn (yellow / green)</td> </tr> <tr> <td>Supply -</td> <td>2</td> <td>2</td> <td>B</td> <td>IN -</td> </tr> <tr> <td>Signal + (only for 3-wire)</td> <td>3</td> <td>3</td> <td>-</td> <td>OUT +</td> </tr> <tr> <td>Shield</td> <td>ground pin</td> <td>4</td> <td>pressure port</td> <td></td> <td>ye/gn (yellow / green)</td> </tr> </tbody> </table>	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	Bayonet MIL-C-26482 (10-6)	field housing	cable colours (IEC 60757)						Supply +	1	1	A	IN +	wh (white) bn (brown) gn (green) ye/gn (yellow / green)	Supply -	2	2	B	IN -	Signal + (only for 3-wire)	3	3	-	OUT +	Shield	ground pin	4	pressure port		ye/gn (yellow / green)
ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	Bayonet MIL-C-26482 (10-6)	field housing	cable colours (IEC 60757)																													
Supply +	1	1	A	IN +	wh (white) bn (brown) gn (green) ye/gn (yellow / green)																													
Supply -	2	2	B	IN -																														
Signal + (only for 3-wire)	3	3	-	OUT +																														
Shield	ground pin	4	pressure port		ye/gn (yellow / green)																													

standard

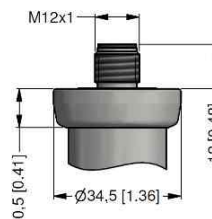


ISO 4400 (IP 65)

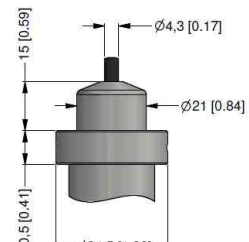
option



Binder Series 723 5-pin (IP 67)

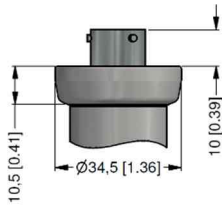


M12x1 4-pin (IP 67)



cable gland PG7/cable length specify (IP 67)⁶

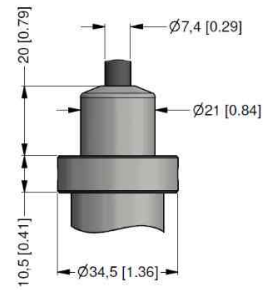
Pressure transmitters



Bayonet MIL-C-26482 (10-6)
(IP 67)



field housing
(IP 67)



cable outlet with ventilation tube
(IP 68)⁷

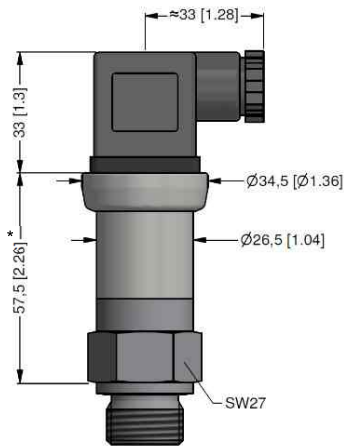
⇒ universal field housing stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request

⁶ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)

⁷ different cable types and lengths available, permissible temperature depends on kind of cable

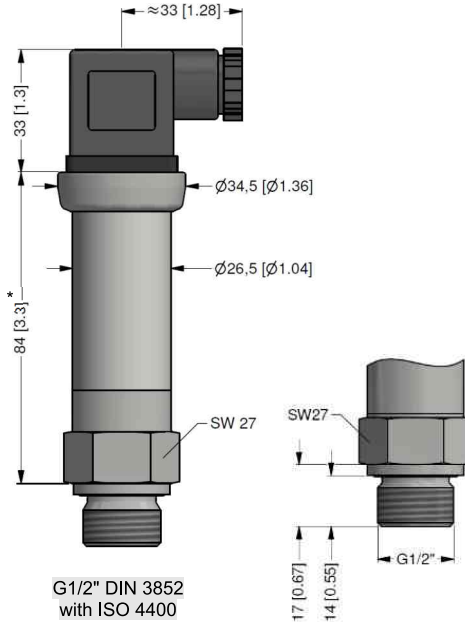
DIMENSION DRAWINGS

standard for accuracy 0.35 / 0.5 %



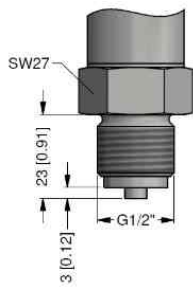
G1/2" DIN 3852
with ISO 4400

standard for accuracy 0.1 % / 0.25 %

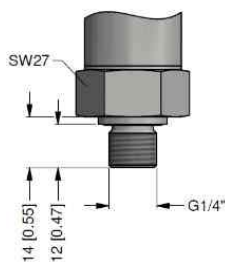


G1/2" DIN 3852
with ISO 4400

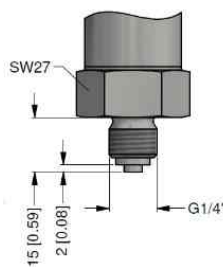
options



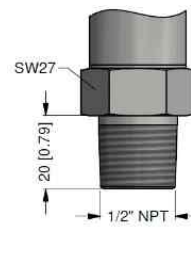
G1/2" EN 837



G1/4" DIN 3852



G1/4" EN 837



1/2" NPT

⇒ metric threads and other versions on request

* with electrical connection Bayonet MIL-C-26482 (10-6) increases the length of devices by 5 mm.

ORDER CODE

	CCA-P-333-												
Pressure													
Gauge ¹													
Absolute		1	3	0									
		1	3	1									
Input [bar]													
0 ... 60					6	0	0	2					
0 ... 100					1	0	0	3					
0 ... 160					1	6	0	3					
0 ... 250					2	5	0	3					
0 ... 400					4	0	0	3					
0 ... 600					6	0	0	3					
Customer					9	9	9	9					
Customer - underpressure					X	X	X	X					
Output													
4 ... 20 mA / 2-wire									1				
0 ... 20 mA / 3-wire									2				
0 ... 10 V / 3-wire									3				
0 ... 5 V / 3-wire									4				
0 ... 1 V / 3-wire									5				
1 ... 6 V / 3-wire									6				
4 ... 20 mA / 3-wire									7				
Customer									9				
Accuracy													
0,5 %									5				
0,35 %									3				
0,25 %									2				
0,2 %									B				
0,1 %									1				
0,5 % including Calibration Certificate									T				
0,35 % including Calibration Certificate									S				
0,25 % including Calibration Certificate									R				
0,2 % including Calibration Certificate									Q				
0,1 % including Calibration Certificate									P				
Table of measured values for accuracy 0,5 %									N				
Table of measured values for accuracy 0,35 %									M				
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 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 (IP 68) ²									T	R	0		
+ PVC cable / 1 m													
Customer									9	9	9		
Mechanical connection													
G 1/2" DIN 3852										1	0	0	
G 1/2" EN 837										2	0	0	
G 1/4" DIN 3852										3	0	0	
G 1/4" EN 837										4	0	0	
M 20 x 1,5 DIN 3852										5	0	0	
M 12 x 1 DIN 3852										6	0	0	
M 10 x 1 DIN 3852										7	0	0	
M 20 x 1,5 EN 837										8	0	0	
M 12 x 1,5 DIN 3852										C	0	0	
1/2" NPT										N	0	0	
1/4" NPT										N	4	0	
Customer										9	9	9	
Seals													
Viton (FKM)												1	
Without seals - welded (only with EN 837-1/-3; only for P _N < 170 bar)												2	
EPDM (P _N < 160 bar)												3	
NBR (standard)												5	
Customer												9	
Special version													
Standard													0 0 0
Temperature compensation -20 ... +50 °C													0 0 6
Temperature compensation -40 ... +60 °C (only with seals "F" or welded "2")													0 2 2
Power supply 7 ... 30 V DC for output 4...20 mA / 2-wire													0 2 A
Adjustable (using trimmers)													0 4 1
Customer													9 9 9

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

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

