

CRA-P-341



- differential pressure transmitter for gases and compressed air
- differential pressure: from 0...6 mbar up to 0...1000 mbar
- output signals: 2-wire: 4...20 mA; 3-wire: 0...20 mA / 0...10 V
- silicon sensor
- accuracy 0.35 % span
- aluminium housing
- suited for non-aggressive gases and compressed air
- compact design



The CRA-P-341 is a differential pressure transmitter for non-aggressive gases and compressed air. Because of its compact and robust aluminium housing it is particularly suited for machine and plant engineering.

Basic element of the CRA-P-341 is a piezoresistive stainless steel silicon sensor, which features high accuracy and excellent long term stability.

PREFERRED AREAS OF USE ARE



Plant and machine engineering



Heating and Air Conditioning

TECHNICAL DATA

Input pressure range												
Nominal pressure P_N (over, differential pressure) [mbar]	0...6	0...10	0...20	0...40	0...60	0...100	0...160	0...250	0...400	0...600	0...1000	
Nominal pressure P_N symmetric (differential pressure) [mbar]	± 6	± 10	± 20	± 40	± 60	± 100	± 160	± 250	± 400	± 600	± 1000	
Overpressure [mbar]	100	100	200	350	350	1000	1000	1000	1000	3000	3000	

Output signal / Supply	
Standard	standard pressure range: 2-wire: 4 ... 20 mA / $V_S = 8 \dots 32 V_{DC}$
Options 3-wire	standard pressure range: 3-wire: 0 ... 20 mA / $V_S = 14 \dots 30 V_{DC}$ 0 ... 10 V / $V_S = 14 \dots 30 V_{DC}$

Performance	
Accuracy ¹	$P_N > 160$ mbar: $\leq \pm 0.35$ % span $40 \text{ mbar} \leq P_N \leq 160$ mbar: $\leq \pm 1$ % span $P_N < 40$ mbar: $\leq \pm 2$ % span
Permissible load	current 2-wire: $R_{max} = [(V_S - V_S \text{ min}) / 0.02 A] \Omega$ current 3-wire: $R_{max} = 500 \Omega$ voltage 3-wire: $R_{min} = 10 \text{ k}\Omega$
Influence effects	supply: 0.05 % span / 10 V load: 0.05 % span / k Ω
Long term stability	$\leq \pm 0.2$ % span / year at reference conditions
Response time	< 5 msec

¹ accuracy according to EN IEC 62828-2- limit point adjustment (non-linearity, hysteresis, repeatability)

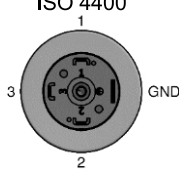
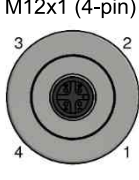
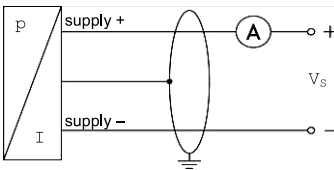
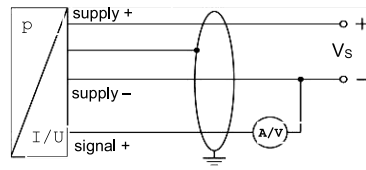
Thermal effects (Offset and Span) / Permissible temperatures				
Nominal pressure P_N [mbar]	≤ 10	≤ 20	≤ 250	> 250
Tolerance band [% span]	$\leq \pm 2$	$\leq \pm 1.5$	$\leq \pm 1$	$\leq \pm 0.5$
TC, average [% span / 10 K]	± 0.3	± 0.25	± 0.15	± 0.08
in compensated range	0 ... 60 °C			
Permissible temperatures	medium: -25 ... 125 °C	electronics / environment: -25 ... 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)			
Shock	100 g / 11 msec			



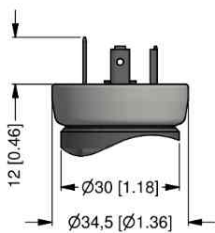
Pressure transmitters

Materials	
Pressure port	G1/8" internal: aluminium, silver anodized flexible tube connection Ø6.6 x 11: brass, nickel plated
Housing	aluminium, silver anodised
Seal (media wetted)	PUR, bonded
Sensor	silicon, glass, RTV, ceramics Al ₂ O ₃ , nickel
Media wetted parts	pressure port, housing, seal, sensor
Miscellaneous	
Connecting cables (by factory)	cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1 µH/m
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 250 g
Operational life	> 100 x 10 ⁶ pressure cycles
CE-conformity	EMC Directive: 2014/30/EU

ELECTRICAL CONNECTION

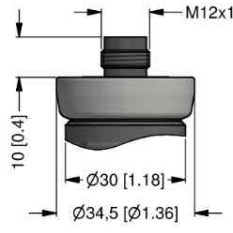
Pin configuration			
Electrical connection	ISO 4400	M12x1 (4-pin)	cable colours (IEC 60757)
			
Supply +	1	1	white
Supply -	2	2	brown
Signal + (only 3-wire)	3	3	green
Shield	ground pin	4	yellow / green
Wiring diagrams			
2-wire-system (current)		3-wire-system (current / voltage)	
			

standard



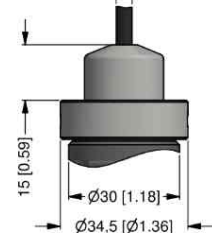
ISO 4400 (IP 65)

option



M12x1 4-pin (IP 67)

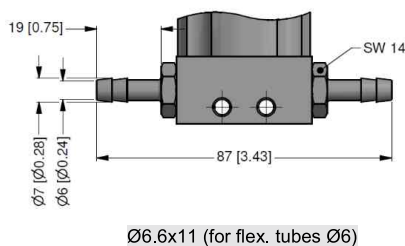
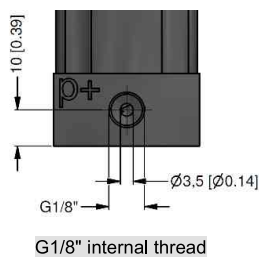
Ø4,3 [Ø0.17]



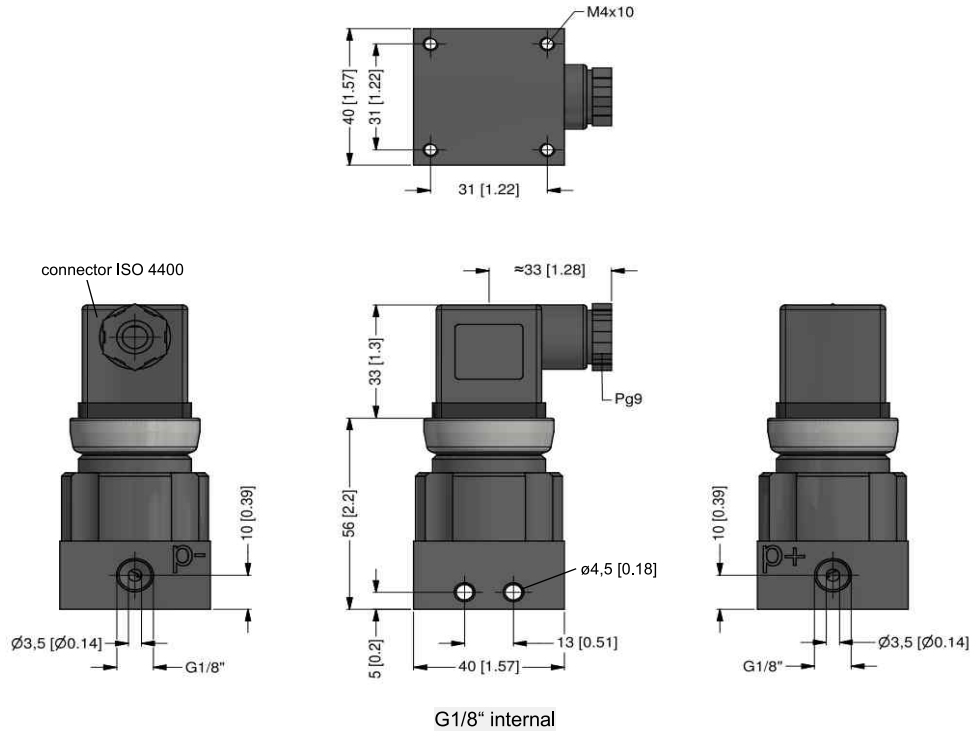
Cable outlet with PVC-cable (IP 67)²

² standard: 2 m PVC cable (without ventilation tube), optionally cable with ventilation tube

MECHANICAL CONNECTION



DIMENSION DRAWINGS



ORDER CODE

CRA-P-341---------

Pressure																				
Differential		3	3	0																
Gauge		3	3	1																
Input [mbar]																				
0 ... 6 mbar					0	0	6	0												
0 ... 10 mbar					0	1	0	0												
0 ... 20 mbar					0	2	0	0												
0 ... 40 mbar					0	4	0	0												
0 ... 60 mbar					0	6	0	0												
0 ... 100 mbar					1	0	0	0												
0 ... 160 mbar					1	6	0	0												
0 ... 250 mbar					2	5	0	0												
0 ... 400 mbar					4	0	0	0												
0 ... 600 mbar					6	0	0	0												
0 ... 1000 mbar					1	0	0	1												
-6 ... 6 mbar					S	0	0	6												
-10 ... 10 mbar					S	0	1	0												
-20 ... 20 mbar					S	0	2	0												
-40 ... 40 mbar					S	0	4	0												
-60 ... 60 mbar					S	0	6	0												
-100 ... 100 mbar					S	1	0	0												
-160 ... 160 mbar					S	1	6	0												
-250 ... 250 mbar					S	2	5	0												
-400 ... 400 mbar					S	4	0	0												
-600 ... 600 mbar					S	6	0	0												
-1000 ... 1000 mbar					S	1	0	2												
Customer range					9	9	9	9												
Customer underpressure					X	X	X	X												



Pressure transmitters

CRA-P-341----------

Output												
4 ... 20 mA / 2-wire									1			
0 ... 20 mA / 3-wire									2			
0 ... 10 V / 3-wire									3			
Customer									9			
Accuracy												
0,35 % (P _N > 160 mbar)									3			
1 % (P _N = 40 ... 160 mbar)									8			
2 % (P _N < 40 mbar)									G			
0,35 % including Calibration Certificate (P _N > 160 mbar)									S			
1 % including Calibration Certificate (P _N = 40 ... 160 mbar)									U			
2 % including Calibration Certificate (P _N < 40 mbar)									L			
Customer									9			
Electrical connection												
Connector DIN 43650 (ISO 4400) (IP 65)								1	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 with PVC cable (cable length needs to specified) (IP 67) ¹								T	A	0		
+ PVC cable / 1 m												
Customer								9	9	9		
Mechanical connection												
G 1/8" internal thread									Q	0	0	
Ø 6,6 x 11 (for tubes Ø 6)									Y	0	0	
Customer									9	0	0	
Seals												
PUR											6	
Special version												
Standard										0	0	0
Customer										9	9	9

1 - cable without through capillary (permissible temperature -5 ... +70°C)

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

