

## CRV-808/809



- differential pressure transmitter for gases and compressed air
- differential pressure: from 0..6 mbar up to 0..1000mbar
- output signal: 2-wire: 4...20mA; 3 and 4-wire: 0...20mA/4...20mA/0...10V
- silicon sensor
- accuracy 0.35 % / 1 % / 2 % span
- high overpressure capability
- compensated temperature output signal
- very short response

The differential pressure transmitter CRV-808/809 was developed for measuring of dry, non aggressive gases and compressed air. It can be used for varied HVAC applications.

The basic element of the CRV-808/809 is a temperature compensated piezoresistive pressure sensor which is able to operate a very long time without any maintenance. Robust design allows deployment also in laboratories and industrial conditions. The pressure transmitter CRV-808/809 features good long term stability, linearity and repeatability.

### PREFERRED AREAS OF USE ARE



Medical



HVAC

### TECHNICAL DATA

Input pressure range								
Nominal pressure P <sub>N</sub> (overpressure, underpressure, p. difference) [mbar]	6	10	20	40	60	100	160	
Max. static pressure [mbar]	100	100	200	350	350	1000	1000	
Nominal pressure P <sub>N</sub> (overpressure, underpressure, p. difference) [mbar]	250	400	600	1000				
Max. static pressure [mbar]	1000	1000	3000	3000				

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / V <sub>S</sub> = 19 ... 31 V <sub>DC</sub> (with display)
Option	2-wire: 4 ... 20 mA / V <sub>S</sub> = 12 ... 31 V <sub>DC</sub> (without display) 3/4-wire: 0 (4) ... 20 mA / V <sub>S</sub> = 19 ... 31 V <sub>DC</sub> or 230 V <sub>AC</sub> / 50/60 Hz (± 10 % tolerance) or 110 V <sub>AC</sub> / 50/60 Hz (± 10 % tolerance) or 230 V <sub>AC</sub> / 50/60 Hz (± 10 % tolerance) or 110 V <sub>AC</sub> / 50/60 Hz (± 10 % tolerance) 0 ... 10 V / V <sub>S</sub> = 19 ... 31 V <sub>DC</sub>

Performance	
Accuracy <sup>1</sup>	P <sub>N</sub> > 160 mbar: ± 0,35 % span P <sub>N</sub> = 40 ... 160 mbar: ± 1 % span P <sub>N</sub> < 40 mbar: ± 2 % span
Permissible load	current 2-wire: $R_{max} = [(V_S - V_{Smin}) / 0,02]$ voltage 3-wire: 500 current 3-wire: 1 M
Influence effects	supply: ± 0,05 % span / 10 V load: ± 0,05 % span / k

<sup>1</sup> accuracy according to EN IEC 62828-2 (non-linearity, hysteresis, repeatability)

Thermal effects (Offset and Span) / Permissible temperatures				
Nominal pressure P <sub>N</sub> [mbar]	± 10	± 20	± 250	± 250
Thermal error (offset and span) middle TK [% span / 10 K]	± 2	± 1,5	± 1	± 0,5
in compensated range [°C]	0 ... 60			
Permissible temperatures	medium: -40 ... 80 °C	electronics / environment: -25 ... 50 °C	storage: -40 ... 50 °C	

Electrical protection	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic protection	emission and immunity according to EN 61326

Materials	
Pressure port	brass nickel plated
Housing	ABS
Sensor	silicon, mineral glass, epoxy or RTV
Media wetted parts	pressure port, sensor, seals



Miscellaneous	
Display	2-wire: 4-digit, red LED display; digit height 7 mm
Current consumption (without contacts)	signal output current: max. 25 mA signal output voltage: max. 14 mA
Maximal dimensions	142 x 105 x 84 mm (l x w x h)
Weight	approx. 500 g
Installation position	any
Ingress protection	IP 54
Contacts <sup>2</sup>	1 or 2 contacts with switching capacity 5A / 230 V <sub>AC</sub> (configurable: switching point 5 ... 95 % span, hysteresis 1 ... 5 % span)

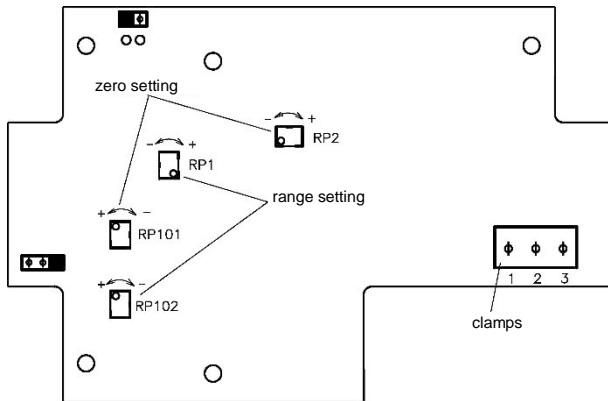
<sup>2</sup> possible with 3-wire or 4-wire version with display

ELECTRICAL CONNECTION

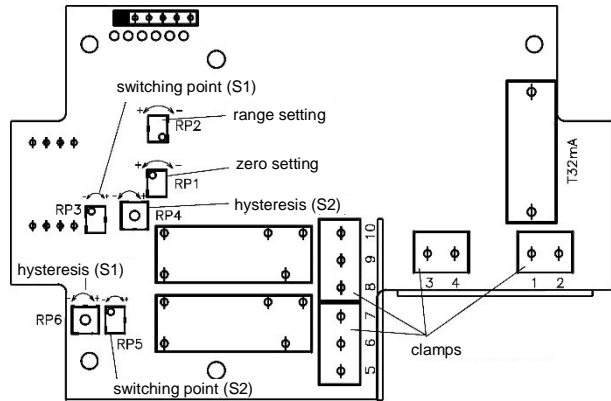
Pin configuration		Terminal marking
2-wire with display (V <sub>S</sub> = 19 ... 31 V <sub>DC</sub> )	supply +	1
	supply -	2
	ground pin	3
2-wire without display (V <sub>S</sub> = 12 ... 31 V <sub>DC</sub> )	supply +	1
	supply -	2
	ground pin	3
3-wire (V <sub>S</sub> = 19 ... 31 V <sub>DC</sub> )	supply+	2
	supply -	4
	signal +	3
4-wire (230 V <sub>AC</sub> / 110 V <sub>AC</sub> )	supply: L	1
	supply: N	2
	signal +	3
	signal -	4

Standard: screw clamps. 1,5 mm<sup>2</sup>, if supply DC – screw clamp Pg7, if supply AC clamp Pg9

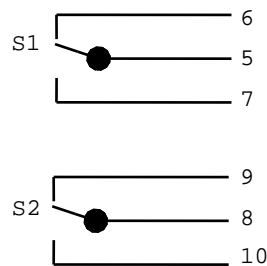
2-wire electronic



3-wire/4-wire electronic



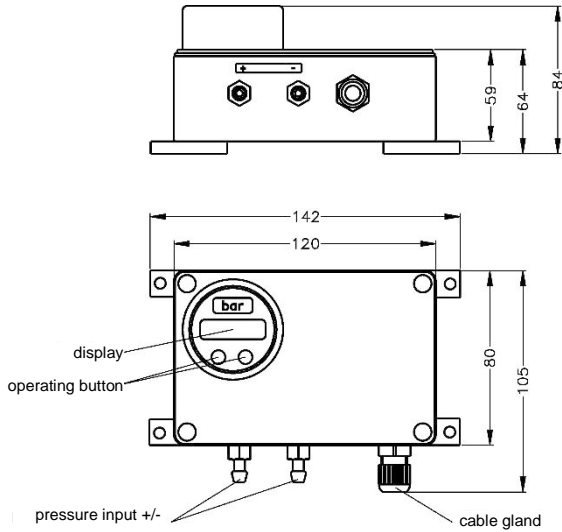
Switch contact



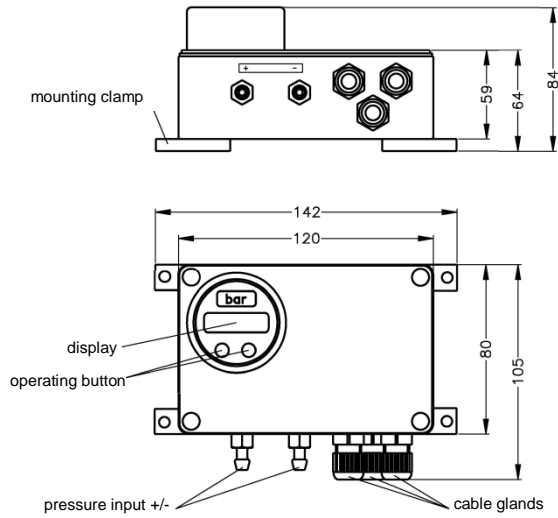
MECHANICAL CONNECTION

Standard: 6,6 x 11 (for flex. tubes 6)

2-wire electronic



3-wire/4-wire electronic



ORDER CODE

CRV-   -     -  -  -  -  -

	1	2	3	4	5	6	7	8	9
<b>Pressure</b>									
Differential	8	0	8						
Gauge	8	0	9						
<b>Input [mbar]</b>									
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			
Customer			9	9	9	9			
Customer underpressure			X	X	X	X			
<b>Output signal</b>									
4 ... 20 mA / 2-wire							1		
0 ... 20 mA / 3-wire							2		
0 ... 10 V / 3-wire							3		
4 ... 20 mA / 3-wire							7		
4 ... 20 mA / 4-wire (for supply 230 VAC, 110 VAC)							A		
Customer							9		
<b>Accuracy</b>									
0,35 % (P <sub>N</sub> > 160 mbar)								3	
1 % (P <sub>N</sub> = 40 ... 160 mbar)								8	
2 % (P <sub>N</sub> < 40 mbar)								G	
0,35 % including Calibration Certificate (P <sub>N</sub> > 160 mbar)								S	
1 % including Calibration Certificate (P <sub>N</sub> = 40 ... 160 mbar)								U	
2 % including Calibration Certificate (P <sub>N</sub> < 40 mbar)								L	
Customer								9	



CRV-    -     -  -  -  -  -  -

<b>Supply</b>										
12...31 VDC (only 2-wire, without display)									1	
19...31 VDC (only 2-wire / 3-wire)									2	
230 V / 50 Hz (only 3-wire / 4-wire)									5	
110 V / 50 Hz (only 3-wire / 4-wire)									4	
<b>Display</b>										
Without display									0	
LED display with 4-digits									D	
Customer									9	
<b>Switching contacts</b>										
Without switching contact									0	
With 1 switching contact (only for 3-wire with display)									1	
With 2 switching contacts (only for 3-wire with display)									2	
Customer									9	
<b>Specials versions</b>										
Standard								0	0	0
Clamp ring tube fitting 1/8" Ms, nickel-plated Ø 6 mm								Z	3	7
Customer								9	9	9

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

