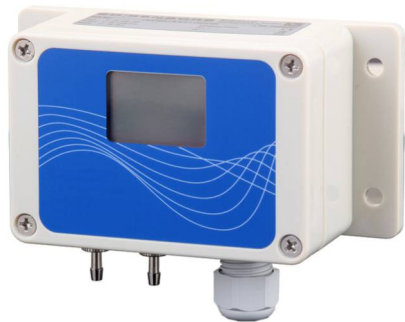


CRV-815/816



- multi range differential pressure transmitter for gas and compressed air
- differential pressure: from 0...1.6 mbar up to 0...1000 mbar
- output signal: 2-wire: 4... 20 mA; 3-wire: 0...10V / 0...20 mA (0...5V, 4...20 mA switchable)
- silicon sensor
- accuracy 0.5 % span
- adjustable ranges and damping
- high overpressure capability
- compact form
- LC-display, two-line



The pressure transmitter **CRV-815/816** was developed for the differential pressure measuring for dry, non-aggressive gases and compressed air and can be used for several HVAC applications. The CRV-815/816 is a multi-range transmitter with up to three adjustable ranges.

The device is equipped with a two-line LC display optionally and can be simply parameterized. Values, status of the contact and the unit are shown on the display.

PREFERRED AREAS OF USE ARE



Medical



HVAC

TECHNICAL DATA

Input pressure range						
Nominal pressure P_N [mbar] (differential, gauge pressure)	1,6	4	10	40	250	1000
Adjustable to P_N [mbar]	1,0	2,5	6	25	60 / 160	400 / 600
Nominal pressure P_N symmetric (differential pressure) [mbar]	±1.6	±4	±10	±40	±250	±1000
Max. static pressure [mbar]	200	200	200	345	1000	3000
Output signal / Supply						
Standard	3-wire:	switchable on:			0 ... 10 V / 0 ... 20 mA	$V_S = 19 ... 32 V_{DC}$
					0 ... 5 V / 4 ... 20 mA	$V_S = 24 ... 32 V_{DC}$
					with automatic zero adjustment:	$V_S = 24 ... 32 V_{DC}$
Option	2-wire:	4 ... 20 mA			$V_S = 11 ... 32 V_{DC}$	
		with automatic zero adjustment:			$V_S = 24 ... 32 V_{DC}$	
Performance						
Accuracy	for $P_N < 6$ mbar: ±0,5 % span BFSL		for $P_N \geq 6$ mbar ± 1 % span BFSL			
Permissible load	voltage 3-wire:	$R_{min} = 10$ kW		current 3-wire: 330 W		
	current 2-wire:	$R_{max} = [(V_S - V_{Smin}) / 0,02 A] W$				
Influence effects	supply:	0.05 % span / 10 V		load: 0.05 % span / kW		
Response time T_{90}	< 100 ms; adjustable by potentiometer in the range of 0 msec up to 5000 msec					
Turn on time	500 ms					
Long term stability	± 0.5% span / year at reference conditions, for $P_N < 6$ mbar ± 0.2% span / year at reference conditions, for $P_N \geq 6$ mbar					
Measuring rate	12,5 Hz					
Contact (optional)						
	3-wire version			2-wire version (optional)		
Number, form	2 x relay-output (NO/NC)			2 x PNP-open-collector-contact		
switching current	max. 2 A			max. 125 mA resistant; short-circuit-proof		
switching voltage	max. 220 V _{DC} ; max. 250 V _{AC}					
switching capacity	max. 60 W					
Accuracy of switching points	± 2 % span			± 2 % span		
Accuracy of repeatability	± 0.5 % span			± 0.5 % span		
Switching frequency	5 Hz			5 Hz		
Switching cycles	< 100 x 10 ⁶			< 100 x 10 ⁶		

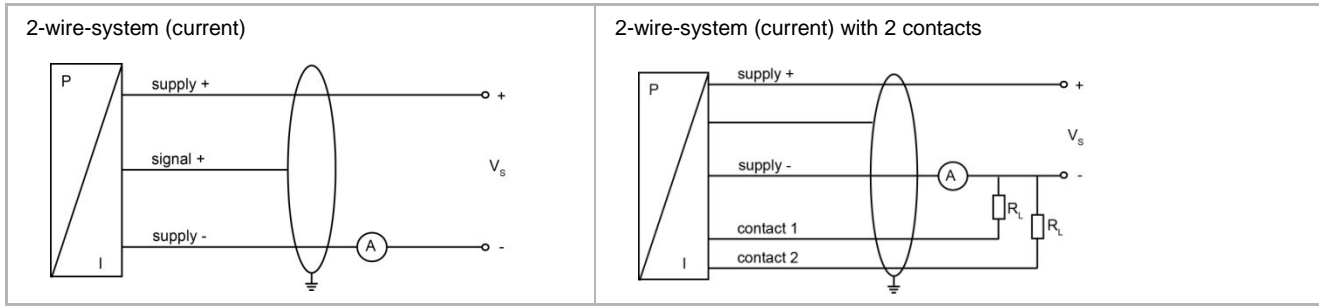


Thermal effects / Permissible temperatures	
Thermal error (o set and span) in compensated range	for $P_N < 6$ mbar: $\pm 0,5\%$ span / 10 K (typ.) for $P_N \geq 6$ mbar : $\pm 0,3\%$ span / 10 K (typ.) 0 ... 50 °C
Permissible temperatures	medium: 0 ... 50°C electronics / environment: 0 ... 50°C storage: -10 ... 70°C
Electrical protection	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic protection	EMC directive: 2014/30/EU emission and immunity according to EN 61326
Materials	
Pressure port	brass nickel plated
Housing	ABS
Sensor	Ceramic, silicon, epoxy, RTV
Media wetted parts	pressure port, PVC / silicone tube, sensor
Display (optional)	
Performance	two-line LC-Display, visible range 32.5 x 22.5 mm; 5-digit 7-segment-main display, digit size 8 mm, range of indication: ± 9999 ; 8-digit 14-segment-additional display, digit size 5 mm; 52-segment-bargraph; accuracy: 0,1% ± 1 digit
Functions	<ul style="list-style-type: none"> - parameterisation of contacts - selection of units - selection of signal (linear, square root extraction) - cut-off-function (only with square root extraction) - min- / max-value - re calibration - auto zeroing - factory setting
Miscellaneous	
Current consumption	2-wire: max. 22 mA 3-wire: max. 30 mA (during automatic zero adjustment: +23 mA)
Weight	Approx. 200 g
Ingress protection	IP 54
Installation position	vertical ¹
¹ The devices are calibrated in a vertical position with the pressure port down. If this position is changed on installation there can be slight deviations in the zero point.	
Mechanical connections (dimensions in mm)	
Standard	$\varnothing 6,6 \times 11$ (for flex. tubes $\varnothing 6$)
Option	$\varnothing 4,4 \times 10$ (for flex. tubes $\varnothing 4$)
Electrical connections (conductor cross-section)	
without ferrule	1.5 mm ²
with ferrule	1 mm ²

ELECTRICAL CONNECTION

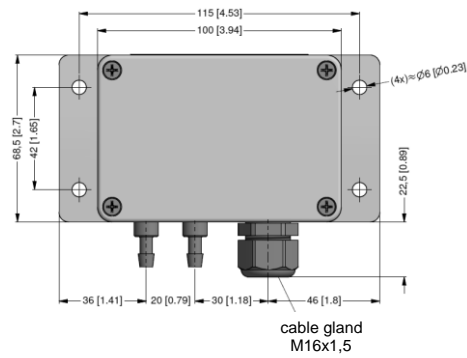
Pin configuration		
Standard	cable gland M16x1,5	
Electrical connections	3-wire	2-wire
supply +	VS +	VS +
supply -	VS -	VS -
signal + (only for 3-wire)	Iout / Vout	-
contact 1	C1 / NO1 / NC1	S1
contact 2	C2 / NO2 / NC2	S2
Wiring diagram		
3-wire-system (current / voltage)	3-wire-system (current / voltage) with 2 contacts	



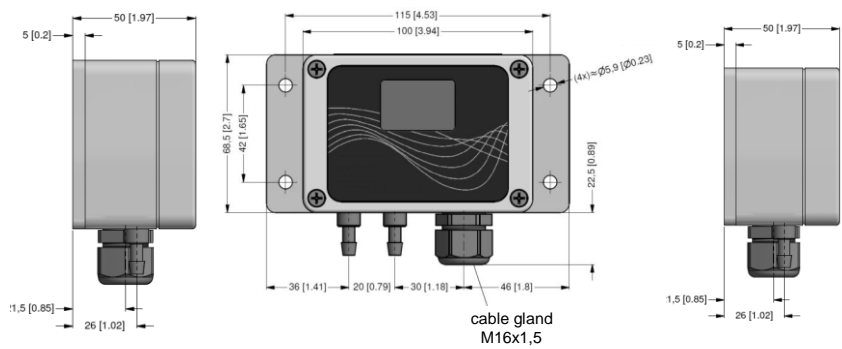


DIMENSION DRAWINGS

without display



with display



ORDER CODE

	CRV-																			
Pressure																				
Differential pressure		8	1	5																
Gauge pressure		8	1	6																
Input [mbar]																				
0 ... 1,6				0	0	1	6													
0 ... 4				0	0	4	0													
0 ... 10				0	1	0	0													
0 ... 40				0	4	0	0													
0 ... 250				2	5	0	0													
0 ... 1000				1	0	0	1													
-1.6 ... 1,6				S	1	K	6													
-4 ... 4				S	0	0	4													
-10 ... 10				S	0	1	0													
-40 ... 40				S	0	4	0													
-250 ... 250				S	2	5	0													
-1000 ... 1000				S	1	0	2													
Customer				9	9	9	9													
Customer - underpressure				X	X	X	X													
Output																				
3-wire: 0 ... 5 V / 0 ... 10 V / 0 ... 20 mA (switchable)																				3Z
2-wire: 4 ... 20 mA																				1
Customer																				2
Switching Outputs																				
Without																				0
2 switching contacts (only in combination with display)																				B
Accuracy																				
1% (P _N ≥ 6 mbar)																				8
2% (P _N < 6 mbar)																				G
Display																				
Without display																				0
LC display																				C
Customer																				9

CRV- [] [] [] - [] [] [] [] - [] - [] - [] [] - N - [] [] [] - [] - [] [] [] []

Mechanical connection					
Ø 6,6 x 11 (for flex. tubes Ø 6)		Y	0	0	
Ø 4,5 x 10 (for flex. tubes Ø 4)		Y	0	2	
Customer		9	9	9	
Pressure port					
Brass nickel plated				M	
Customer				9	
Special version					
Standart					0 0 0
Automatic zeroing					6 0 0
Squere-root extraction (only in combination with display)					6 0 5
Customer					9 9 9

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

