

## CRA-P-831



- differential pressure transmitter for fluids and gases
- with display and contact
- differential pressure: from 0...1 bar up to 0...70 bar
- output signal: 3-wire: 4...20 mA
- contact: 1 PNP (standard), 2 independent PNP (option)
- 2 piezoresistive stainless steel sensors
- accuracy 1 % span
- display and pressure port rotatable



The **CRA-P-831** is a differential pressure transmitter for fluids (fuels and oils, water) and gases. It is particularly suited for machine and plant engineering, chemical industry, energy industry, HVAC and food and beverage.

Basic elements of the CRA-P-831 are two piezoresistive stainless steel sensors, rotatable display and pressure port, up to 2 independent PNP contacts.

### PREFERRED AREAS OF USE ARE



Plant and machine engineering



Energy industry



HVAC

### TECHNICAL DATA

Input pressure range							
Type	D5	D6	D7	D8	DA	DB	H1
Differential pressure range [bar] gauge <sup>1</sup> /abs. <sup>2</sup> (calibration)	0 ... 1	0 ... 2	0 ... 3,5	0 ... 7	0 ... 20	0 ... 35	0 ... 70
Permissible static pressure [bar] one-sided	1	2	3,5	7	20	35	70
<sup>1</sup> gauge: If the reference point is the ambient atmosphere, the value "0" is displayed with unloaded system.							
<sup>2</sup> abs.: If the reference point is the absolute vacuum, the atmospheric pressure is indicated with unloaded system.							
Analogue signal / Supply							
Standard	3-wire: 4 ... 20 mA			24 V <sub>DC</sub> ± 10 %			
Permissible load	500 Ω						
Accuracy <sup>1</sup>	≤ ± 1 % BFSL						
<sup>1</sup> accuracy according to EN IEC 62828-2 – limit point adjustment (non-linearity, hysteresis, repeatability)							
Contact							
Number, type	standard: 1 PNP			option: 2 independent PNP			
Max. switching current	125 mA, short-circuit proof						
Switching accuracy <sup>1</sup>	≤ ± 0.5 % span						
Repeatability	≤ ± 0.1 % span						
Switching cycles	> 100 x 10 <sup>6</sup>						
Delay time	0 ... 100 sec						
Programming							
Adjustability	analogue output / contact refers to:						
	- pressure (+ port) - pressure (- port) - differential pressure						
turn-down: max. 10:1							
Thermal error <sup>2</sup> (offset and span) / Permissible temperatures							
Tolerance band	≤ ± 1.5 % span						
TC, average	± 0.2 % span / 10 K						
In compensated range	0 ... 70 °C						
Permissible temperatures	medium: -40 ... 125 °C		electronics / environment: -25 ... 85 °C			storage: -40 ... 85 °C	
<sup>2</sup> relating to nominal pressure range							
Electrical protection							
Short-circuit protection	permanent						
Reverse polarity protection	no damage, but also no function						
Electromagnetic compatibility	emission and immunity according to EN 61326						

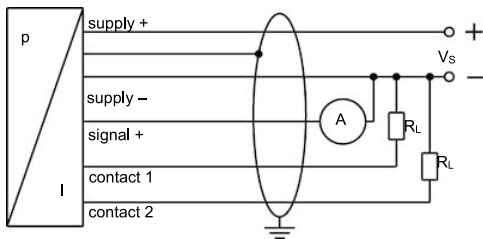


# Pressure transmitters

Mechanical stability		
Vibration	10 g RMS (20 ... 2000 Hz)	according to DIN EN 60068-2-6
Shock	100 g / 11 msec	according to DIN EN 60068-2-27
Materials		
Pressure port	stainless steel 1.4404 (316L)	
Housing	PA 6.6, Polycarbonate	
Seals (media wetted)	FKM	others on request
Diaphragm	stainless steel 1.4435 (316L)	
Media wetted parts	pressure port, seals, diaphragm	
Miscellaneous		
Display	4-digit, red LED-display, digit size 7 mm range of indication -1999 ... +9999; accuracy 0.1 % +/- 1 digit; digital damping 0.3 ... 30 sec (programmable);	
Current consumption	signal output current: max. 60 mA (without switching current)	
Weight	approx. 350 g	
Operational life	100 million load cycles	
Ingress protection	IP 65	
Electrical connections		
Standard	connector M12x1 / 5- pin (IP 67)	others on request

## ELECTRICAL CONNECTION

### Wiring diagram

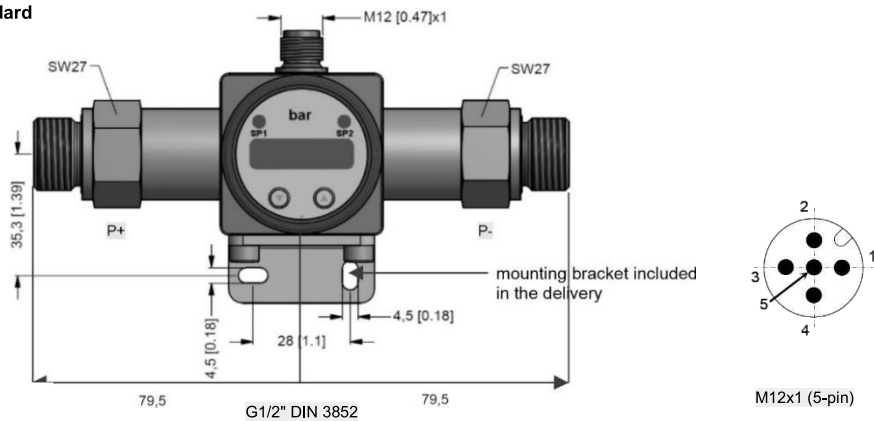


### Pin configuration

Electrical connections	M12x1 (5-pin), plastic	cable outlet (IEC 60757) (IP 67)
Supply +	1	wh (white)
Supply -	3	bn (brown)
Signal +	2	gn (green)
Contact 1	4	gy (grey)
Contact 2	5	pk (pink)
Shield	via pressure port	gnye (green-yellow)

## MECHANICAL CONNECTION

### standard



### option

