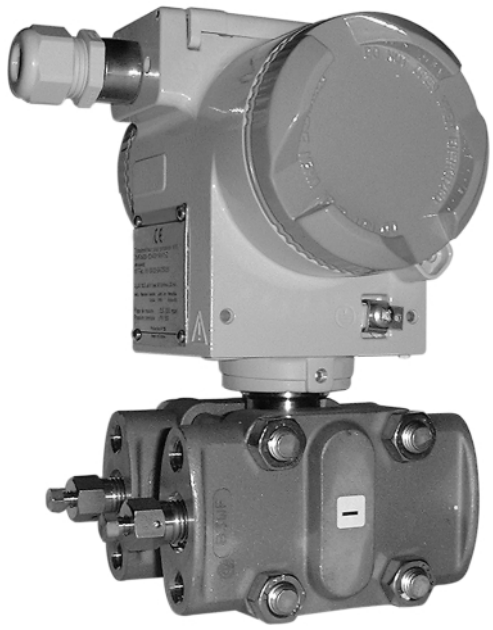
DIFFERENTIAL PRESSURE TRANSMITTER
SITRANS serie



PRINCIPLE

The differential pressure is applied trough diaphragms and filling liquid to a silicone pressure sensor. If the measuring limits are exceded, the pressure sensor is flexed until one of the measuring diaphragms rests against cell boby. The resistance of four piezo-resistors fitted in the measuring diaphragm in a bridge circuit thus changes. This change in resistance results in a bridge output voltage proportional to the differential pressure. This voltage is amplified and converted into a periodic signal by means of a voltage -to-frequency converter. The signal is evaluated by a microcontroller and its linearity and temperature response corrected. The signal processed in this manner is converted in a digital - to - analog converter into an output current 4 - 20 mA. The data specific to the measuring cell as well as the parameters of the transmItter are stored into a non volatil memory (EEPROM).

APPLICATIONS

On request, instruments can be supply with a local analog indicator. They deliver a signal directly proportional to the differential pressure or a signal proportional to the square root of the differential pressure. The choise of the type of output can be selected on plant. SITRANS transmItters are right for all measure of differential pressure between 1 and 1600 mbar with a line pressure up to 160 bar (or 400 bar on request). The design of this transmitter allows to get all static pressure on one side without any effect on calibration. Associated with a DEBIX flow sensor, SITRANS allows measures of flowrate in the best conditions. More, SITRANS gets signal output in case of damage or wrong measure.

ADJUSTMENT OF MEASURING RANGE

On all types, the measure range can continuously adjusted from 1 to 10 and on small ranges from 1 to 20. Adjustment can be realized through a pressure simulator or by programming directly on plant (display of percentage of full scall).

TECHNICAL CARACTERISTICS

Output signal	: 4 ... 20 mA
Supply	: 10,5 ... 45 VCC (10,5... 30 VCC in I.S.version)
Material	: Standard measure cell: 316 Stainless steel
Overload limit	: -1 bar to 100% of NP
Electronic reactive time	: Can be increased up to 15 second
Measurement accuracy	: ≤ 0,25 % of max.effective range
Fluid connection	: Internal threading 1/4" F NPT
Electrical connection	: PE 13,5 - Screw connector block
Ambient temperature	: -40 °C up to +85 °C
Fluid temperature	: -40 °C up to +100 °C
Housing	: Epoxy covered Light metal - IP 65 Protect
Intrinsic safety version	: (According to CENELEC) II 1/2 G EEx ia IIC T4, T5, T6 According to EN 50 014, EN 50 020, EN 50284
Weight	: 7,5 kg

CODES AND REFERENCES

Code	Type	Measure range	PN
766 300	SITRANS 20	0 - 1 up to 20 mbar	32
766 301	SITRANS 60	0 - 6 up to 60 mbar	160
766 302	SITRANS 250	0 - 25 up to 250 mbar	160

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