Differential pressure transmitter UNIVERSAL

for filter monitoring

Type series CP131.

Features

- Small, solid design
- Wetted parts of stainless steel
- Measuring ranges 0...250 mbar up to 0...25 bar
- Zero point and measuring span can be adjusted externally by means of a potentiometer
- Output signal: 4...20 mA 2-wire circuitry
  0...20 mA 3-wire circuitry
  0(2)...10 V 3-wire circuitry

Options

- Explosion protection
- As per UKCA regulations

Application area

· General process technology
· Power engineering
· Machinery construction

Application

The analog pressure transmitter UNIVERSAL is suited for measuring the differential pressure of gases. The area of application lies in general filter monitoring.

Technical Data

Housing designs
material: st. steel mat.-no. 1.4301 (304)
degree of protection: IP 65
silicon cover plate for trimming potentiometers.
Right angle plug as per DIN EN 175301-803-A (DIN 43650, form A) with cable gland M16x1.5 mm, cable diameter 4...10 mm

Process connection
2 x NPT 1/4 - 18, standard distance 54 mm.
Option: compression fitting (Ermeto).
Further models upon request

Measuring system
piezoresistive measuring bridge, protected by integrated stainless-steel diaphragm

Filling material
silicone-free synthetic oil

Material
diaphragm: st. steel mat.-no. 1.4404 (316L)
cell: st. steel mat.-no. 1.4404 (316L)

Weights
standard housing: approx. 1030 g

Storage temperature range
-25...+80 °C

Limiting temperature range
-25...+70 °C

Rated temperature range
-10...+70 °C

Temperature influence
on zero point: ≤ 0.05 % of meas. span /K
on meas. span: ≤ 0.05 % of meas. span /K

Auxiliary power supply
standard version:
· nominal voltage 24 V DC
· function range
2-wire circuitry 14...30 V DC
3-wire circuitry 16...30 V DC
· max.permiss.operating voltage 30 V DC
Ex design:
· permiss. voltage range of 2-wire circuitry 15...30 V DC
Ex design:
· permiss. voltage range of 3-wire circuitry 16...30 V DC

Standard measuring ranges
see order details

Overload limits one sided and static excess pressure both sides
see order details

Overload influence
≤ 0.1 % f.s.

Output signal
4...20 mA, 2-wire circuitry, standard.
Other signals see order details.

Current limitation in output signal
max. output current approx. 30 mA

Supply voltage influence
≤ 0.2 % f.s. / 10 V

Adjusting range
zero point and measuring span
approx. ± 10 %

Response time
≤ 20 ms

Linearity error incl. hysteresis
≤ 0.5 % f.s. (terminal based)

Electrical data
Sum of maximum values in the intrinsically safe circuits
Ui = 30 V
Ii = 100 mA
Pi = 0,7 W

The table shows the values for different pressure transmitter signals:

signal mode	Ci [nF]	Li [µH]
2-wire 4...20 mA	33	20
3-wire 0(2)...10 V	43	30
3-wire (0)4...20 mA	43	30

Caution:
Make sure that there is equipotential bonding along the entire wiring run both inside and outside the explosion hazardous area.

Switch off device if it is installed in zone 0 and in temperature class T5 and T6 and it fails!

Ex-approval
The limit values detailed in the EC-Type Examination Certificate are to be observed!

EC-Type Examination Certificate
TÜV 02 ATEX 1971 X and
IECEx TUN 04.0008X

type of ex-protection:
Ⓔx II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb
Ⓔx II 2G Ex ia IIC T4/T5/T6 Gb

IECEx TUN 04.0008X

type of ex-protection:
Ex ia IIC T4/T5/T6 Ga/Gb
Ex ia IIC T4/T5/T6 Gb
Ex ia I Ma

Since the intrinsically safe circuits are connected with the earth potential for safety reasons, potential equalization has to exist in the complete course of the erection of the intrinsically safe circuits.

Ambient temperatures
Ⓔx II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb
Ex ia IIC T4/T5/T6 Ga/Gb

Ta [°C]	TM [°C]	temperature class
70	40	T6
70	60	T5
70	60	T4

Ambient temperatures
Ⓔx II 2G Ex ia IIC T4/T5/T6 Gb
Ex ia IIC T4/T5/T6 Gb

Ta [°C]	TM [°C]	temperature class
70	55	T6
70	70	T5
70	70	T4

Ambient temperatures Ex ia I Ma:
Ta = Tm 70°C max

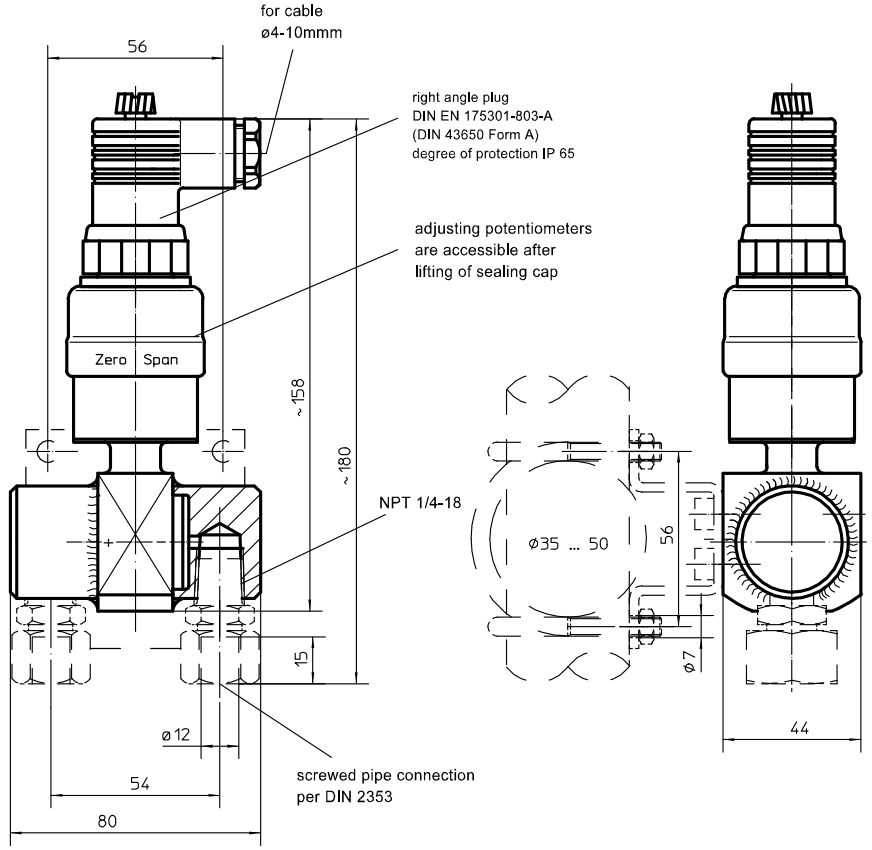
Burden
- current output
  2-wire circuitry
  standard version $R_a = \frac{U_B - 14\ V}{20\ mA}$ (KOhm)
  with explosion protection $R_a = \frac{U_B - 15\ V}{20\ mA}$ (KOhm)
- voltage output
  a current of 20 mA can be obtained in the case of devices with power output.

Burden influence
for 500 Ohm burden of change: ≤ 0.1 % f.s.

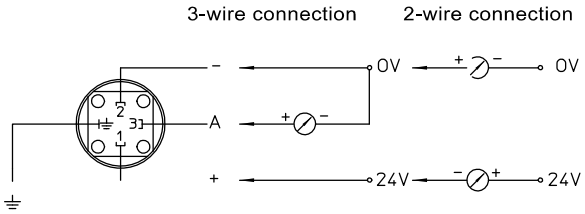
EMC-Test
- noise immunity as per EN 50082, section 2, March 95 issue for industry
- emitted interference as per EN 50081, section 1, 1993 issue for residential and industrial areas

Information on other models see order details or upon request.

Dimensions



Connection diagram



Order details

Differential pressure transmitter UNIVERSAL for filter monitoring				
design	· standard			CP1310
	· explosion protection, type of ex-protection s. below			CP1311
measuring range	differential nominal pressure	overload limits one-sided (+side or -side)	static excess pressure (both sides)	
	0...250 mbar	2 bar	75 bar	A1010
	0...400 mbar	6 bar	75 bar	A1051
	0...0.6 bar	6 bar	75 bar	A1052
	0...1 bar	6 bar	75 bar	A1053
	0...1.6 bar	10 bar	75 bar	A1054
	0...2.5 bar	10 bar	75 bar	A1055
	0...4 bar	16 bar	75 bar	A1056
	0...6 bar	30 bar	75 bar	A1057
	0...10 bar	30 bar	75 bar	A1058
	0...16 bar	50 bar	75 bar	A1059
	0...25 bar	50 bar	75 bar	A1060
output signal	· 4...20 mA, 2-wire			H1
	· 0...20 mA, 3-wire			H2
	· 0...10 V, 3-wire			H4
	· 0...5 V, 3-wire			H6

additional features (to be indicated in case of need, only)

process connection	with screwed pipe per DIN 2353 (Ermeto compression fitting)	· 6 mm	K11
		· 8 mm	K12
		· 10 mm	K13
		· 12 mm	K14
type of ex-protection (for ex-protection only)	· Ex II 2G Ex ia IIC T4 Gb		S69
	· Ex II 2G Ex ia IIC T5/T6 Gb, standard		S68
	· Ex II 1/2G Ex ia IIC T4 Ga/Gb		S62
	· Ex II 1/2G Ex ia IIC T5/T6 Ga/Gb		S66
	IECEx	· Ex ia IIC T4/T5/T6 Ga/Gb	S76
		· Ex ia IIC T4/T5/T6 Gb	
		· Ex ia I Ma	
assembly set	· mounting clip		V2
As per UKCA regulations			W2660

Order code (example)	CP1310	A1053	H1					