Pressure transmitter UNIVERSAL
thin film DMS, Type Series CB103 ./CB203 .

Features

- Measuring ranges 0...40 bar up to 0...600 bar rel.
- Thin film sensor element
- Zero point and measuring span can be adjusted externally by means of a potentiometer
- Stainless steel housing as standard or field housing
- Degree of protection IP 65, IP 67 (option)
- Wetted parts of stainless steel, completely welded
- Output signal: 4...20 mA, option: 0...20 mA, 0...10 V DC

Options

- Explosion protection

Application area

· Chemical and petrochemical industry
· Machinery construction
· General process technology

Application

The integrated pressure system does not contain any liquids and is therefore suitable for dry measurements, e.g. for oxygen. The area of application lies in general process measurement technology. There are two different designs of housings available: standard housing with right angle plug or stainless steel field housing for use in tough environments.

Technical Data

Housing designs
Standard housing with right angle plug
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.

Field housing, solid design
material: st. steel mat.-no. 1.4301 (304)
degree of protection: IP 67.
Screwable cover ring with O-ring seal for the externally accessible trimming potentiometers.
Screwable case cap for connection chamber.
Connection terminals 4 mm².
Cable gland M16x1.5 for cable diameter 4.5...10 mm, material polyamide.

Process connection
G 1/2 B

Measuring system
measuring bridge embedded in thin film on a stainless steel diaphragm

Material
diaphragm: st. steel mat.-no. 1.4542 (630)
socket: st. steel mat.-no. 1.4404 (316L)

Weights
Standard housing: approx. 300 g
Field housing: approx. 750 g

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

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

Rated temperature range
-10...+70 °C

Temperature influence
on zero point: ≤ 0.03 % of meas. span /K
on meas. span: ≤ 0.03 % 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 UE
for short-time overload.
See order details

Overload influence
≤ 0.1 % f.s.

Output signal
4...20 mA, 2-wire circuitry, standard.
Further possibilities see order details

Test output (with field housing only)
non interruptible output current measurement via integrated LOC diode

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

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

Linearity error incl. hysteresis
≤ 0.3 % f.s. (limit point calibration)

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

Response time
≤ 20 ms

EC-Type Examination Certificate
TÜV 02 ATEX 1971 X and
IECEx TUN 04.0008X
type of ex-protection:
Ex II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb
Ex 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
Ex 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

Technical Data (continued)

Ambient temperatures
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

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!

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.

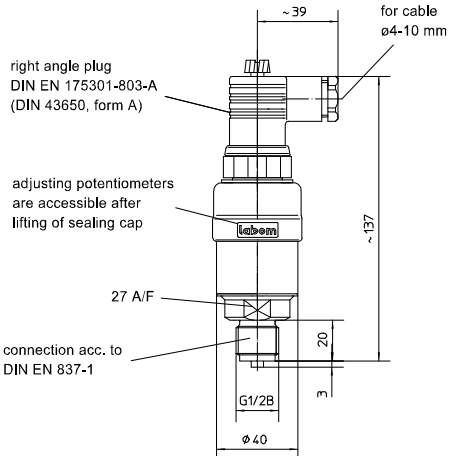
Burden influence
for 500 Ohm burden of change: ≤ 0.1 % f.s.

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

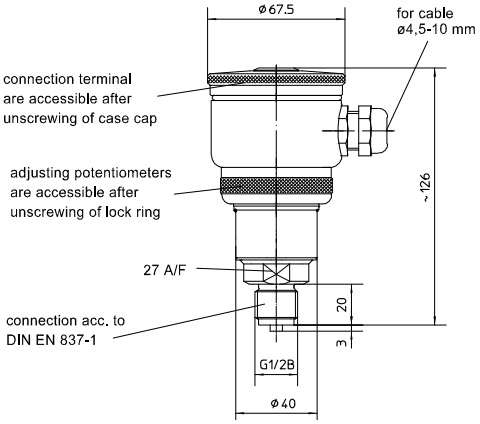
Information on other models see order details or upon request.

Dimensions

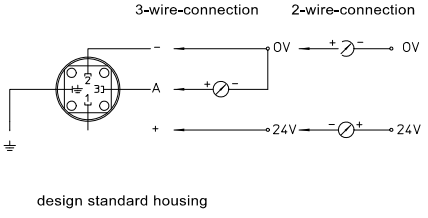
design standard housing



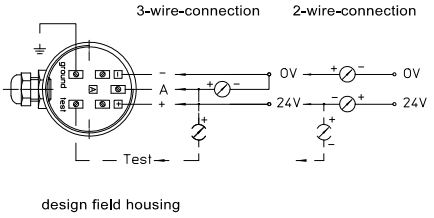
design field housing



Connection diagram



design standard housing



design field housing

Order Details

- please give additional specifications for models not listed -

Pressure transmitter UNIVERSAL thin film DMS								
design	· standard housing	CB103 .						
	· field housing	CB203 .						
version	· standard	0						
	· explosion protection, type of ex-protection s. below	1						
measuring range	· nach Tabelle		. . . . .					
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)								
type of ex-protection (for ex-protection only)	· II 2G Ex ia IIC T4 Gb						S69	
	· II 2G Ex ia IIC T5/T6 Gb, standard						S68	
	· II 1/2G Ex ia IIC T4 Ga/Gb						S62	
	· II 1/2G Ex ia IIC T5/T6 Ga/Gb						S66	
	IECEx · Ex ia IIC T4/T5/T6 Ga/Gb						S76	
	IECEx · Ex ia IIC T4/T5/T6 Gb						S76	
	IECEx · Ex ia I Ma						S76	
Order code (example):		CB1030	A1061	H4				

standard measuring range		
measuring range	UE [1]	order-code
0...40 bar	80 bar	A1061
0...60 bar	200 bar	A1062
0...100 bar	200 bar	A1063
0...160 bar	500 bar	A1064
0...250 bar	500 bar	A1065
0...400 bar	800 bar	A1066
0...600 bar	1000 bar	A1068

[1] special overload protection (UE) upon request

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