



Features

- Measuring ranges 0...160 mbar up to 0...400 bar
- Linearity error including hysteresis <+ 0.2 % f.s.
- Piezoresistive measuring system
- Internal diaphragm (type series CB60 . .)
- Flush mounted diaphragm (type series CE61 . .)
- Wetted parts of stainless steel; completely welded
- Stainless steel housing as standard or field housing
- Type of protection IP 65, IP 67 option
- Output signal: 4...20 mA, 0...20 mA option
- Process temperature up to 140 °C (short term, for sterilization)
- Explosion protection: II 2G EEx ib IIC T6

Application

The device converts pressure measurements into a load-independent current signal. Because of their robust design these transmitters are suitable for use in tough environments. The process temperature is allowed up to 140 °C (short term). The flush mounted diaphragm allows dead-zone free measuring.

The transmitters have extensive circuitry which ensures electromagnetic compatibility.

Technical Data

Case design

Designs

- field housing IP 65 or IP 67, with cable gland
- right-angle plug DIN 43650, IP 65,
- cable connection, IP 67
- locking plug M12, IP 65

case material

- stainless steel material no. 1.4404/1.4305
- electronics encapsulated with silicone.
- Inner chamber aeration for measuring ranges < 16 bar over case thread or connection cable (depending on design)

Process connection

see page 2 and order code for variants.

Material-no.: 1.4404 for sleeve and diaphragm.

O-ring seal from NBR (type series CE6100)

Temperature ranges

- ambient temperature: -25...+70 °C
- storage temperature: -40...+90 °C
- process temperature:
- standard: -10...+80 °C
- with temperature decoupler -10...+140 °C

(short term, for sterilization)

compensated temperature range: 0...50 °C

System filling

silicon oil

Measuring ranges/overrange limits

see order details

intermediate measuring ranges upon request

Response time

≤ 20 ms

Measuring accuracy

linearity error incl. hysteresis: <+ 0.2 % f.s.
(<+ 0.3 % f.s. for measuring ranges ≥ 0...60 bar)

fixed-point adjustment

accuracy of adjustment: <± 0.2 % f.s.

temperature effect im compensated temperature range 0...50 °C:

- zero point < 0.2 %/10 K f.s.
- span < 0.2 %/10 K f.s.

other values upon request

Auxiliary energy supply

standard design:

- nominal voltage 24 V DC
- function range 6...30 V DC
- max. allowable operating voltage 30 V DC

Supply voltage influence

≤ 0.01 % f.s. / V

Signal output

4...20 mA, 2-wire circuitry or
0...20 mA, 3-wire circuitry

Current limitation in output signal

max. output current approx. 30 mA

Adjusting range

approx. ± 5 % f.s.

zero point and measuring span separately adjustable

Burden

2-wire circuitry

standard design $R_a = \frac{U_B - 6 V}{20 mA}$ (KOhm)

U_B = operating voltage

R_a = max. permissible burden resistance (incl. lead)

Burden influence

for 500 ohm burden change: ≤ 0.1 % f.s.

Ex approval

CENELEC approval according to ATEX explosion protection intrinsically safe Government Testing Laboratories

(TÜV) 00 ATEX 1557 X

⊕ II 2G EEx ib IIC T6

- $U_{max} \leq 30 V DC$
- $I_{max} \leq 150 mA$
- $P_{max} \leq 1 W$
- $C_i \leq 49 nF$
- $L_i \leq 33 \mu H$

Weights

- case with plug connector approx. 200 g
- field housing: + approx. 260 g
- with temperature decoupler + approx. 50 g

Installation position

any, standard: vertical

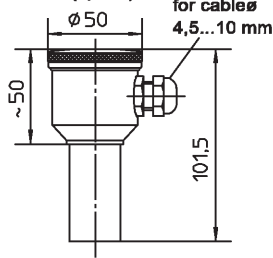
EMC test

- noise immunity according to EN 50082 section 2, version March 1995 issue for industry
 - emitted interference according to EN 50081 section 1, 1993 issue for residential and industrial areas
- Device emits no radiation of its own

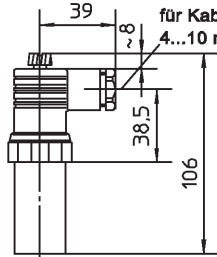
Information on other models upon request or see order details

Dimensions/Designs

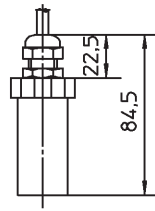
field housing
material stainless steel,
protection type IP 65
IP 67 (option)



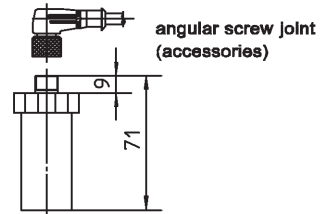
right angle plug
per DIN 43650
protection type IP65



cable connection
protection type IP 67
(cable aeration)



locking plug M12
protection type IP65

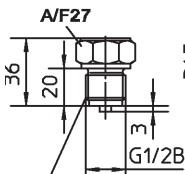


direct
for process temperatures
up to 80°C

temperature decoupler
for process temperatures up to 140°C
(short term, for sterilization)

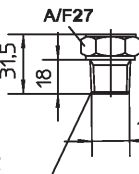
Process connections

type series CB6000
internal diaphragm



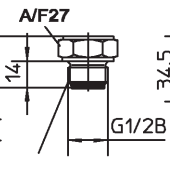
connection per
DIN EN 837-1

type series CE6100
flush mounted diaphragm



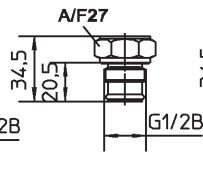
connection per
DIN EN 837-1

type series CE6100
flush mounted diaphragm and with O-ring seal

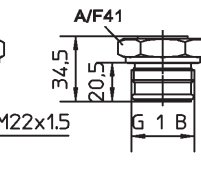
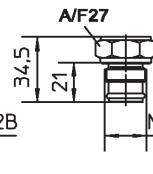


connection per
DIN 3852 Form A

type series CE6100
flush mounted diaphragm and with O-ring seal

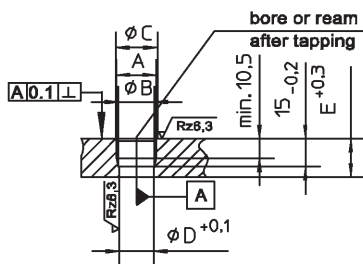


type series CE6100
flush mounted diaphragm and with O-ring seal

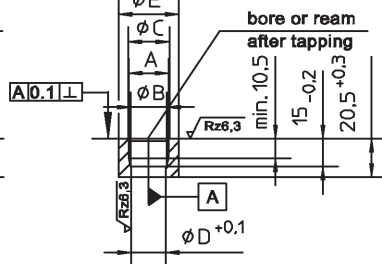


screw-in hole/welding nipple for flush mounted diaphragm with O-ring (type series CE6100)

screw-in hole
(process side)



welding nipple
material stainless steel



	A	Ø B	Ø C	Ø D	E
G 1/2	19.4	21.3	18.2	20.5	
G 1	30.5	33.5	30.1	20.5	
M 22x1,5	20.7	22.6	18.2	21	

A	Ø B	Ø C	Ø D	Ø E	order code
G 1/2	19.4	21.3	18.2	32	MC1000-A1
G 1	30.5	33.5	30.1	48	MC1000-A3

Connection diagram

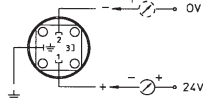
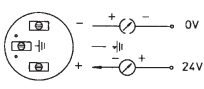
field housing

right-angle plug

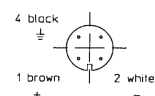
cable connection

locking plug

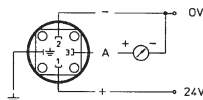
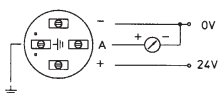
2-wire
connection



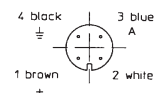
brown +
white ⚡
green -



3-wire
connection



brown + supply
white ⚡
green - supply
black A



Order Details - please give additional specifications for models not listed -

Pressure transmitter COMPACT or general applications												
design	· internal diaphragm · flush mounted diaphragm							CB60 . . CE61 . .				
version	· for process temperature up to + 80 °C (standard) · for process temperature up to + 140 °C (short term, for sterilization)							1 . 2 .				
Ex-protection	· without · II2G EEx ib IIC T6							0 1				
	meas. rang	overload limit (bar)	CB6000 connection G 1/2 B/ 1/2 NPT	CE6100 connection with 0-ring G 1/2 B/ M22x1.5	CE6100 connection with 0-ring G 1 B	CE6100 connection DIN 3852 G 1/2 B						
	0...160 mbar	2	-	-	x	-			A1009			
	0...250 mbar	2	-	-	x	-			A1010			
	0...400 mbar	6	-	-	x	-			A1011			
	0...0.6 bar	6	-	-	x	-			A1052			
	0...1 bar	10	x	x	x	-			A1053			
	0...1.6 bar	10	x	x	x	x			A1054			
	0...2.5 bar	16	x	x	x	x			A1055			
	0...4 bar	16	x	x	x	x			A1056			
	0...6 bar	30	x	x	x	x			A1057			
	0...10 bar	30	x	x	x	x			A1058			
	0...16 bar	50	x	x	x	x			A1059			
	0...25 bar	50	x	x	x	x			A1060			
	0...40 bar	70	x	x	-	x			A1061			
	0...60 bar	70	x	x	-	x			A1062			
	0...100 bar	200	x	-	-	x			A1063			
	0...160 bar	200	x	-	-	x			A1064			
	0...250 bar	500	x	-	-	x			A1065			
	0...400 bar	500	x	-	-	x			A1066			
	-160...0 mbar	2	-	-	x	-			A1026			
	-250...0 mbar	2	-	-	x	-			A1027			
	-400...0 mbar	6	-	-	x	-			A1028			
	-0.6...0 bar	6	-	-	x	-			A1085			
	-1...0 bar ²	10	x	x	x	-			A1086			
	-1...0.6 bar ²	10	x	x	x	x			A1087			
	-1...1.5 bar ²	16	x	x	x	x			A1088			
	-1...3 bar ²	16	x	x	x	x			A1089			
	-1...5 bar ²	30	x	x	x	x			A1090			
	-1...9 bar ²	30	x	x	x	x			A1091			
	-1...15 bar ²	50	x	x	x	x			A1092			
	0...1 bar abs	10	x	x	x	-			B1053			
	0...1.6 bar abs	10	x	x	x	x			B1054			
	0...2.5 bar abs	16	x	x	x	x			B1055			
	0...4 bar abs	16	x	x	x	x			B1056			
	0...6 bar abs	30	x	x	x	x			B1057			
	0...10 bar abs	30	x	x	x	x			B1058			
	0...16 bar abs	50	x	x	x	x			B1059			
	0...25 bar abs	50	x	x	x	x			B1060			
output signal	· 4...20 mA, 2-wire (standard) · 0...20 mA, 3-wire								H1 H2			
process connection	type series CB6000	· G 1/2 B, inline diaphragm seal for meas. ranges 0...1 to 160 bar · 1/2"NPT, inline diaphragm seal for meas. ranges 0...1 to 160 bar								K1010 K1030		
	type series CE6100	· G 1/2 B, flush mounted diaphragm with 0-ring for meas. ranges 0...1 to 60 bar · G 1 B, flush mounted diaphragm with 0-ring for meas. ranges 0...0.16 to 25 bar · M22x1.5, flush mounted diaphragm with 0-ring for meas. ranges 0...1 to 60 bar · G 1/2 B, flush mounted diaphragm acc. to DIN 3852, for meas. ranges 0...1.6 to 400 bar								K1010 K1014 K1020 K1022		
case/ electrical connections	field housing of stainless steel	· IP 65, with cable gland · IP 67, with cable gland								T410 T420		
	right angle plug according to DIN 43650, IP 65									T110		
	cable connection IP 67	· 2 m cable length · 5 m cable length · 10 m cable length · cable length as in writing								T310 T311 T312 T319		
	locking plug M12, IP 65 ¹									T120		
Order code (example):								CB6010	A1057	H1	K1010	T410
accessory for CE6100	· welding nipple of stainless steel G 1/2" · welding nipple of stainless steel G 1"							MC1000-A1 MC1000-A3				

x = available

¹ locking plug with cable connection see product group D6

² negative relative pressure ranges (e.g. -1...+1 bar) are adjusted at works to 0...100%, e.g. 4...20mA.

Temporary operation up to -1 bar at room temperature and continuous operation up to -500 mbar at max. 50°C is admissible.

Long-term vacuum measurements at temperatures above +50°C may cause changes in the properties of the measurement device.

Vacuum-proof designs are available upon request.