

Pressure transmitter COMPACT for diaphragm seal operation, hygienic Type series CC60 . . . F

In Proud Partnership with Labom



For technical support, sales, & distribution within the USA & Canada

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Features

- Measuring ranges 0...250 mbar up to 0...100 bar
- Linearity error including hysteresis <+ 0.2 % f.s.
- Piezoresistive measuring system
- Hygienic design according to EHEDG, FDA und GMP recommendations
- Material and surface quality according to the hygienic requirements
- Wetted parts of stainless steel; completely welded
- Stainless steel housing as standard or field housing
- Degree of protection IP 65, IP 67 option
- Various output signals
- Process temperature up to 200 °C

Options

- Labom REconnect quick coupling device for easy and safe separation and connection of diaphragm seal systems; Type series MK1000, see data sheet D6-022
- Explosion protection for gases
- As per UKCA regulations
- Classi ication per SIL 2
- Inspection certi icate: material certi icate as per EN 10204-3.1

Application

The pressure transmitter COMPACT acts as a highly accurate converter of pressure measurements to load-independent current signals (4...20 mA, for example). Special attention has been given to a hygienic design. The completely welded stainless steel housing can be designed up to protection type IP 67. The use of temperature decouplers means that the COMPACT pressure transmitter can be used for process temperatures up to 200 °C.









Application area

- · Food industry
- · Pharmaceutical industry
- · Biotechnology

Technical Data

Case design

Designs

- · field housing IP 65 or IP 67, with cable gland
- · right-angle plug per DIN EN 175301-803-A (DIN 43650, Form A), IP 65,
- · cable connection, IP 67
- · circular connector M12, IP 65

case material stainless steel

union nut: polyamide (with plug connector or cable connection for electr. connection) electronics encapsulated with silicone. Inner chamber aeration for measuring ranges < 16 bar over case thread or connection cable (depending on design)

Process connection

see next page or order code for variants material-Nr.: 1.4404 (316L) for the sleeves

Temperature ranges

ambient temperature range: -25...+70 °C option: -40...85 °C

storage temperature range: -10...+90 °C process temperature: see order details

Measuring ranges/overrange limits

see order details

intermediate measuring ranges upon request

Response time

 \leq 20 ms

Measuring accuracy

linearity error incl. hysteresis:

 \leq 0.2 % f.s.

 ≤ 0.3 % f.s. for measuring ranges $\leq 0...60$ bar fixed-point adjustment accuracy of adjustment:

<± 0.2 % f.s.

Temperature effect

a) case

in compensated temperature range 0...50 °C:

- zero point ≤ 0.2 %/10 K - span ≤ 0.2 %/10 K in compensated temperature range -40...0 °C and 50...85 °C

- typical 0.3 %/10 K 0.3 %/10 K - max

b) process connection (diaphragm seal) depending on design

flat diaphragm seal zero error DN 25/1" 4 8 mbar/10 K DN 32/1 1/2" 2.3 mbar/10 K 1.6 mbar/10 K **DN 40** DN 50/2" 0.6 mbar/10 K inline diaphragm seal zero error DN 25/1" 9.5 mbar/10 K DN 32/1 1/2" 4.1 mbar/10 K 3.9 mbar/10 K DN 40 DN 50/2" 3.9 mbar/10 K

The specified zero error for the process connection is a guide value for a standard design. We can provide a detailed system calculation upon request. Systems with reduced diaphragm seal errors are also available.

Auxiliary energy supply

· nominal voltage 24 V DC

· max. allowable operating voltage 30 V DC

Supply voltage influence

 \leq 0.01 % f.s. / V

Output signal

4...20 mA, 2-wire technology

4...20 mA, 3-wire technology

Adjusting range

approx. ± 5 % f.s., zero point and measuring span separately adjustable

Burden

standard design $R_a = \frac{U_B - 6 \text{ V}}{20 \text{ mA}}$ $U_B = \text{ operating voltage}$ R = max. permissible burden resistance (incl. lead)

Burden influence

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

Functional safety

EN 61508, classification per SIL 2, TÜV-Reg.-No. 44 799 13190204

Ex-approval

ATEX:

TÜV 00 ATEX 1557 X marking:

(Ex II 2 G Ex ib IIC T6 Gb U_{max} ≤ 30 V DC

· | max ≤ 150 mA Ρ $\leq 1 \text{ W}$

Ci max ≤ 49 nF Li \leq 33 μ H

Further technical data see Ex-instruction XA 006.

Weights (without diaphragm seal)

· field housing: approx. 460 g · case with connector: approx. 200 g

Installation position

EMC test

- noise immunity according to EN 50082 section 2, version March 1995 issue for industry
- emitted interference according to EN 50081section 1, 1993 issue for residential and industrial areas

Device emits no radiation of its own

standard design:

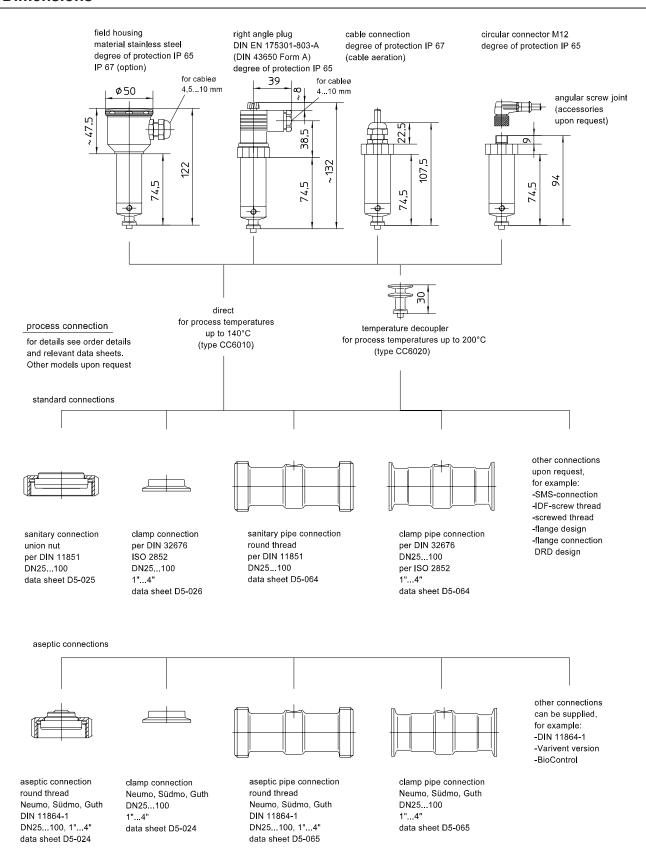
function range 6...30 V DC

0...20 mA, 3-wire technology

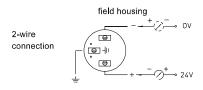
0...10 V, 3-wire technology

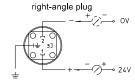
Current limitation in output signal max. output current approx. 30 mA

Dimensions



Connection diagram



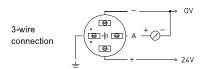


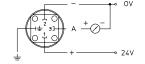








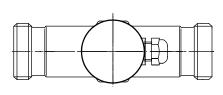


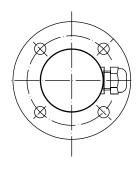






Standard position of el. connections. Pls. specify different position.





Order details

design	· for process tempor	erature to + 140 °C	C601F			
	· for process temp	C602F				
Ex protection	· without	0	1			
	(Ex) II 2G EEx ib	1	1			
	meas. range	overload limit (bar)				
	0250 mbar ³	1		A1010		
	0400 mbar ³	3		A1011		
meas.	00.6 bar	3		A1052		
	01 bar	3		A1053		
	01.6 bar	10		A1054		
	02.5 bar	10		A1055		
	04 bar	20		A1056		
	06 bar	60		A1057		
	010 bar	60		A1058		
	016 bar	60		A1059		
	025 bar	60		A1060		
	040 bar	100		A1061		
	060 bar	200		A1062		
	0100 bar	200		A1063		
	-2500 mbar³	1		A1027		
range	-4000 mbar³	3		A1028		
	-0,60 bar ¹	3		A1085		
	-10 bar ¹	3		A1086		
	-10.6 bar ¹	10		A1087		
	-11.5 bar ¹	10		A1088		
	-13 bar ¹	20		A1089		
	-15 bar ¹	20		A1090		
	-19 bar ¹	60		A1091		
	-115 bar ¹	60		A1092		
	01 bar abs	3		B1053		
	01.6 bar abs	10		B1054		
	02.5 bar abs	10		B1055		
	04 bar abs	10		B1056		
	06 bar abs	60		B1057		
	010 bar abs	60		B1058		
	measuring range a	as in writing		A9999		
	· 420 mA, 2-wire			H1		
output signal	· 020 mA, 3-wire			H2		
output signal	· 420 mA, 3-wire			Н3		
	· 010 V, 3-wire te			Н4		
case/ electrical connections	· field housing of s				Т	
	steel, with cable (Т	
	· right angle plug a	according to DIN EN 175301-803-A (DIN 43650, Form A), IP 6	5			Т
		· 2 m cable lengt				Т
	cable connection	· 5 m cable lengt				T
	IP 67	· 10 m cable length				Т
		· cable length as in writing				Т
	· circular connecto				Т	

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

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 connector with cable see product group D6 (accessories) low pressure ranges with increased temperature influence (zero point and span): max. = 0.4 %/10K not valid for absolte pressure

rocess connec	ction (further	process connec	tions upon request)													
					DN											
standard connection	flat diaphragm seal	tapered coupling with			· 25					DL2						
		groove union nut according to DIN 11851 clamp connection ISO 2852 clamp connection according to DIN 32676			· 32 · 40		-	_		DL2						
					. 50		_	_		DL2						
					· 1"					DL3						
					· 1 1/2"					DL3	200					
					· 2"					DL3	300					
					· 25					DL4	100					
					· 32					DL4						
					· 40					DL4						
					· 50					DL4						
		tapered couplir			· 25 · 32					DF1						
		groove union nut according to DIN 11851 both sides			· 32 · 40 · 50					DF1120 DF1130						
										DF1						
	inline				· 25					DF3	_					
	diaphragm seal	clamp connection according to			· 32					DF3						
		DIN 32676, both sides for pipes according to DIN 11850			· 40					DF3	130					
		, , 3 to 2 to 1 to 500			· 50					DF3						
		clamp connection according to ISO 2852			· 1"					DF3						
		both sides, for pipes according to BS 4825 Par and O.D. Tube			1 1/2"		-	_		DF3						
	El _ 1			no to DIN 440	· 2"		\rightarrow	_		DF3						
di	flat		agm seal for pipes ac				-	-+		_	L51 L52					
	diaphragm seal		agm seal for pipes pe		1127 4825 Part 3 and O.D. T	iuhe	+	+			L52 L53					
	inline		agm seal for pipes a			une	+	-			F61					
di	diaphragm		agm seal for pipes at				_				F62					
aseptic	seal		• • • •		4825 Part 3 and O.D. T	ube	_	\dashv			F63					
connections		pipes	pipes per DIN EN	pipes accord		420										
		DIN 11850	ISO 1127	1	art 3 and O. D. Tube											
		· DN 25	· DN 25	· 1"							10					
		· DN 32	· DN 32	-							20					
		· DN 40	· DN 40	· 1 1/2"							30					
		· DN 50	· DN 50	· 2"							40					
surface	· standard						_									
roughness	· hygienic version¹ as per EHEDG guidelines						\rightarrow	_				HY				
diaphragm material		stainless steel material no. 1.4435 (316L)						-				-	007			
IIIalellal		al upon request	İ .	operating to	mnoraturo rongo					-		A4	009			
	liquid filling	ED1 standard	ı		mperature range								1.	22		
system filling²		dstuff oil FD1, standard -10+140 °C, Standard -10+200 °C					\rightarrow					+		23		
9		foodstuff oil FD1, pls specify temperature, max. -10+200 °C ther liquids upon request														
		sterile connect acc. to DIN 11		collar conne	ection sleeve with									S11	01	
					ection sleeve with coupli	na nut	+	\dashv						S21	01	
	for flat	Südmo aseptio			nection (W601)	ng nut								S21	_	
type of	diaphram seal	0 " "		· ·	ection sleeve with coupling	na nut		\neg						S31	_	
aseptic connection	SEAL	Guth aseptic			nection (recess)	5								S32	_	
specifications		Neumo aseptio		collar conne	collar connection sleeve with coupling nut									S41	01	
required for		recumo asepuo		clamp conni	nection model R									S42	02	
aseptic process		sterile conn. ac	cc. to DIN 11864-1	threaded co										S10	_	
connection		Südmo aseptio			uplings (W501)		\perp						_	S20	_	
only)				clamp connection (W601)			+	_				1	_	S20	_	
		Guth aseptic		threaded couplings clamp connection (recess)			+	\dashv					-	S30 S30	_	
	both sides			threaded couplings			+	\dashv					-	S40		
	5,005	Neumo aseptio			ection (model R)		+	\dashv				1	<u> </u>	S40	_	
	I.			J.ap 001111								1		3.0		
dditional featu	ures (to be ir	dicated in cas	se of need, only)													
mbient temper																U
aterials certific	cate acc. to E	N 10204-3.1, w	etted parts (stainless	s steel)											٧	W1
		08, classification	on per SIL 2												_	W2
s per UKCA re	<u> </u>														_	W2
	electropolish	ed													٧	W4
aprıragm seai																
apnragm sear	pressure tran	•••				↓ CC6010-F	+	• 🛨					-			_

for aseptic connections
 for ideal system design the exact operating temperature should be specified
 not for Ex design and not in combination with SIL2