Pressure transmitter COMPACT ECOnomic
for food/pharmaceutical/biotechnology, type series CC7510 ECO

ECOnomic

CERTIFIED HYGIENIC ENGINEERING DESIGN EHEDG EUROPEAN GROUP TYPE EL APRIL 2006

Features

- Digital pressure transmitter
- Measuring ranges 0...1 up to 0...40 bar, -1...0 up to -1...15 bar
- Accuracy ≤ 0.3 %
- Output signal 4...20 mA, 2-wire technology
- Hygienic design according to EHEDG
- Stainless steel case
- Degree of protection IP 65
- Wetted parts of stainless steel
- Process temperature up to 140 °C
- Easy zero correction using a magnet

Options

- Output signal (invers) 20...4 mA
- Material inspection certificate acc. to DIN EN 10204
- Roughness height rating with inspection certificate acc. to DIN EN 10204-3.1
- Wetted parts electropolished

Application areas

· Food industry
· Pharmaceutical industry
· Biotechnology

Applications

The pressure transmitter COMPACT ECOnomic is suited for measuring the relative and absolute pressures of gases, vapors and liquids.

Technical Data

Case design

Design	compact housing with outstanding protection against moisture
Material	stainless steel mat.-no.1.4301 (304)
Pressure compensation	ventilation via electrical connection
Degree of protection	IP 65, per EN 60529
Climatic category	DIN EN 60721 3-4, 4K4H
Electrical connection	circular connector M12x1 others upon request
Weight	approx. 0.8 kg
Mounting position	variable

Process connection

Process connection	see order code
Diaphragm material	stainless steel mat.-no. 1.4404/ 1.4435 (316L)

Surface formation of wetted parts

The surface quality of wetted parts is of major importance.
The hygienic type device, Code: HY, has the following surface roughness values:

Foil	Ra ≤ 0.4 µm
Laser welds	Ra ≤ 1.5 µm
Turned parts	Ra ≤ 0.8 µm

Measuring system

Sensor	DMS
System filling	foodstuff oil FDA listed

Temperature ranges

Ambient temperature	20...85 °C
Process temperature	0...120 °C, short-term up to 140°C (½ h)
Allowed storage temperature	-40...85 °C

variant temperature ranges upon request

Supply

Operating range	10...30 V DC

Test

EMC directives	EMC 2004/108/EG

Instrument ranges

nominal range [bar]	standard meas. ranges * [bar]		meas. spans min. [bar]	meas. spans max. [bar]	overload limits [bar]	vacuum tight at < 50 °
3	0...1 0...1.6 0...2.5	-1...0 -1...0.6 -1...1.5	1	3	6	10 mbar abs
10	0...4 0...6 0...10	-1...3 -1...5 -1...9	4	12	20	
50	0...16 0...25 0...40	-1...15	12.5	50	100	

* variant measuring ranges and units upon request

Output

Reading rate	100 measurement / second
Damping	30 ms
Output signal	4...20 mA (20...4 mA), 2-wire
Current range	3.8...20.8 mA
Resolution	6 µA
Current limitation	≤ 22 mA
Load	$R \leq \frac{U - 10\ V}{20\ mA}$ (Ohm)

Accuracy

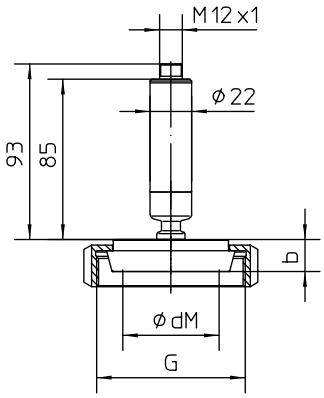
General

Limit point setting	per DIN 16086
Reference conditions	per DIN EN 60770-1
Calibration position	vertical mounting position
Lin./Hyst./Repr.	≤ 0.3 % of nominal range
Long-term drift	≤ 0.1 % year of nonimal range

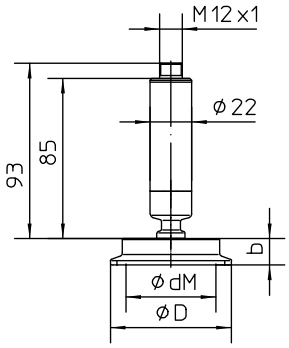
Temperature effect

range 0... 50°C	≤ 0.2 %/10 K of nominal range
range -20...0 °C and 50...80 °C	≤ 0.3 %/10 K of nominal range

Dimensions/Designs

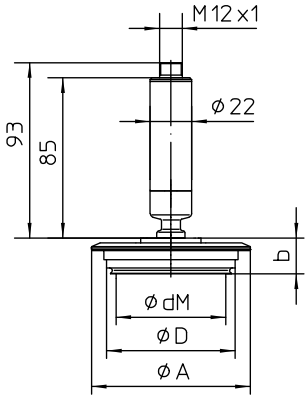


Sanitary pipe connection with union nut per DIN 11851				
DN	PN	dM	b	G
25	40	27	16	Rd. 52x1/6"
32	40	36	16	Rd. 58x1/6"
40	40	40	16	Rd. 65x1/6"
50	25	51	17	Rd. 78x1/6"

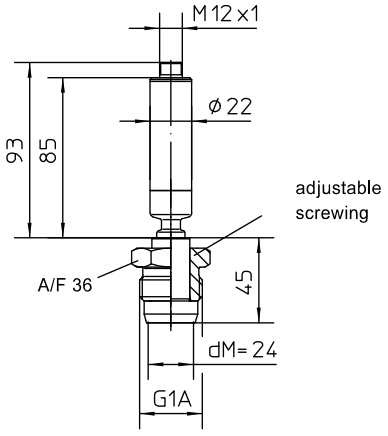


Clamp connection							
ISO 2852		Tri -Clamp	DIN 32676				
DN	Zoll	DN	DN	PN	dM	D	b
-	-	3/4" *	-	16	15	25	15
-	-	1"	-	16	22.6	50.5	15
25	1"	-	25	16	22.6	50.5	14
-	-	-	32	16	30	50.5	14
38	1 1/2"	1 1/2"	40	16	34	50.5	12
51	2"	2"	50	16	46	64	14

* Please regard the active diaphragm surface !



Varivent connection				
DN	dM	A	D	b
25 1"	40	66	50	19
40...125 1 1/2"...6"	58	84	68	19



Screw-in thread HYGIENIC
G 1 A adjustable

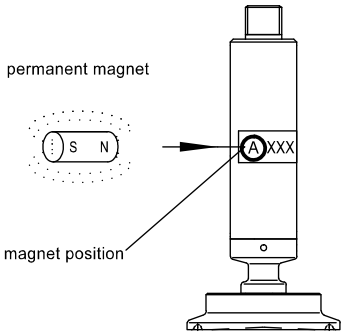
Tightening torque:
20 Nm, up to nominal range 10 bar
50 Nm, up to nominal range 50 bar

Applicable welded sockets type MC1510-K4010-E1
s. product range D6.

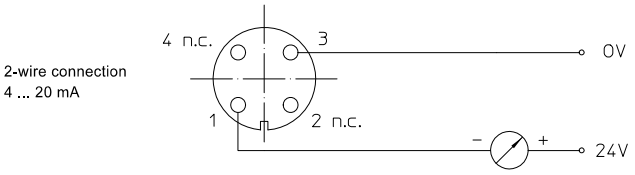
Zero correction

The zero can be set easily with a magnet within ± 10 % of the nominal range.

To correct the zero point, hold a permanent magnet – a pin board magnet, for example – at the position marked on the pressure transmitter (i.e. a letter in a circle) for ½ to 2 ½ minutes after the power has been switched on. To correct the zero, atmospheric pressure is applied. Offsets for previously set values for initial and ultimate pressures will be corrected automatically by the device. A magnetic field applied outside of this time period has no effect on the setting. The power must be switched off and on before the zero point can be set again.



Connection diagram



The transmitter is grounded via the process connection

Do not wire terminals 2 + 4

Order Details

- please give additional specifications for models not listed -

Pressure transmitter COMPACT ECOnomic for food/pharmaceutical/biotechnology			**CC7510 ECO**							
surface roughness	· standard									
	· hygienic version (see data sheet D1-030)			**HY**						
measuring range [bar]	· 0...1				**A1053**					
	· 0...1.6				**A1054**					
	· 0...2.5				**A1055**					
	· 0...4				**A1056**					
	· 0...6				**A1057**					
	· 0...10				**A1058**					
	· 0...16				**A1059**					
	· 0...25				**A1060**					
	· 0...40				**A1061**					
	· -1...0				**A1086**					
	· -1...0.6				**A1087**					
	· -1...1.5				**A1088**					
	· -1...3				**A1089**					
	· -1...5				**A1090**					
	· -1...9				**A1091**					
	· -1...15				**A1092**					
	variant measuring ranges and units as in writing				**A9999**					
output signal	· 4...20 mA, 2-wire (standard)						**H1**			
	· 20...4 mA, 2-wire						**H7**			
electrical connection circular connector M12x1								**T120**		
process connection material: 1.4404/ 1.4435 (316L)	sanitary pipe connection with union nut per DIN 11851	· DN 25								**K102**
		· DN 32								**K103**
		· DN 40								**K104**
		· DN 50								**K105**
	Clamp connection per ISO 2852	· DN 1"								**K124**
		· DN 1 1/2 "								**K126**
		· DN 2"								**K127**
	Tri-Clamp	· DN 3/4"								**K134**
		· DN 1"								**K136**
		· DN 1 1/2"								**K137**
		· DN 2"								**K138**
	Clamp per DIN 32676	· DN 25								**K144**
		· DN 32								**K146**
		· DN 40								**K147**
		· DN 50								**K148**
	Varivent	· D=50 for Varivent DN 25 and 1"								**K152**
		· D=68 for Varivent DN 40...125 and 1 1/2...6"								**K153**
	screw-in thread HYGIENIC	· G 1 A adjustable, no gasket, diaphragm 25 µm								**K80**
order code (example):			**CC7510 ECO**		**A1056**		**H1**	**T120**		**K102**

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