



Application area

- Pharmaceutical industry
- Food industry
- Biotechnology

Technical data

Constructional design / case

Design:	Hygienic case design Excellent moisture protection Fully encapsulated electronics unit
Material:	Stainless steel mat.-no. 1.4301 (304)
Degree of protection per EN 60529:	<ul style="list-style-type: none"> ■ IP 65 ■ Optional IP 67
Pressure compensation:	Aeration via sintered filter
El. connection:	<ul style="list-style-type: none"> ■ Circular connector M12x1 ■ Right angle plug EN 175301-803-A (DIN 43650 model A) others upon request

Features

- Universal pressure transmitter, hygienic design per EHEDG, FDA and GMP
- Stainless steel case, degree of protection IP 65
- Direct ventilated sensor element
- Measuring range
 - 0...100 mbar to 0...40 bar rel.
 - 0...1 bar to 0...6 bar abs.
- Accuracy $\leq 0,2\%$
- Output signal 4...20 mA, 2-wire technology
- Easy zero setting by using a magnet
- Various process connections with flush mounted diaphragm

Options

- Approvals/Certificates
 - Certificate of measuring equipment for Russian Federation
 - Material certificate as per EN 10204-3.1
 - Calibration certificate as per EN 10204-3.1
 - Roughness height rating with inspection certificate acc. to EN 10204-3.1
- Wetted parts electropolished
- Degree of protection IP 67
- Hygienic design

Application

The pressure transmitter UNIVERSAL CA is suited for measuring gauge pressure and absolute pressure of gases, vapors and liquids, especially for hygienic applications.

Climatic category per EN 60721 3-4: 4K4H

Process connection

Design: See order details

Hygienic design

The wetted surfaces made of stainless steel are executed according to EHEDG Doc.8 and ASME BPE SF3 (Code: HY).

We guarantee the following surface roughness values:

Diaphragm foil:	$Ra \leq 0.38 \mu m$
Laser welds:	$Ra \leq 0.76 \mu m$
Turned parts:	$Ra \leq 0.76 \mu m$

Further versions of hygienic design upon request.

Measuring system

Sensor:	Piezoresistive measuring element
System filling:	Synthetic oil, free of silicone FD1, FDA listed

Measuring ranges / overload limits

Measuring range / overload limit:	See order details
Vakuum tightness:	Long term vacuum measurements at relative measurement ranges can alter the device characteristics. (piezoresistive measuring system, only)

Zero settings

Zero point:	Easy zero setting max. $\pm 20\%$.
-------------	-------------------------------------

Accuracy

Limit point setting:	per DIN 16086
Accuracy (Lin./Hyst./Repr.):	0.2 % v. of mr (mr ≥ 250 mbar) 0.5 mbar (mr < 250 mbar)
Long-term drift:	$\leq 0.1\%$ / year per EN 61298-1
Temperature influence:	<u>Range:</u> 0...50 °C: $\leq 0.25\%$ of mr (mr ≥ 400 mbar) $\leq 0.4\%$ of mr (mr < 400 mbar) $\leq 0.5\%$ of mr (mr < 160 mbar) <u>Range:</u> -20...0 and 50...85 °C: $\leq 0.4\%$ of mr (mr ≥ 400 mbar) $\leq 0.6\%$ of mr (mr < 400 mbar) $\leq 0.8\%$ of mr (mr < 160 mbar) mr = measuring range
<u>Process connection:</u> (zero error)	
3/4"	10 mbar/10K
DN 25/1"	4.8 mbar/10K
DN 32/1 1/2"	2.3 mbar/10K
DN 40	1.6 mbar/10K
DN 50/2"	0.6 mbar/10K

Output

Signal:	4...20 mA in 2-wire technology
Sampling rate:	10 measurement/second
Current range:	3.8...20.8 mA
Resolution:	2 μ A
Current limitation:	≤ 22 mA
Alarm state:	< 3.6 mA
Load, R:	$R \leq (U-9V)/0.02$ A [Ω] U = supply voltage

Supply voltage

Function range:	9...30 V DC
-----------------	-------------

Temperature ranges

Ambient:	-20...85 °C
Medium:	-20...125° C, short term 140 °C, optional up to 160 °C for 1 h. Higher process temperatures upon request
Storage:	-40...85 °C

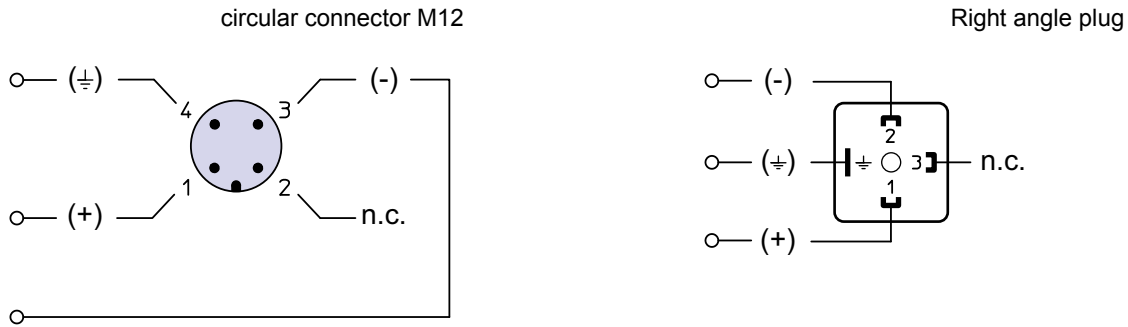
Tests and certificates

EMC:	EMC directives 2014/30/EU
■	EAC declaration upon request
■	Certificate of measuring equipment for Russian Federation

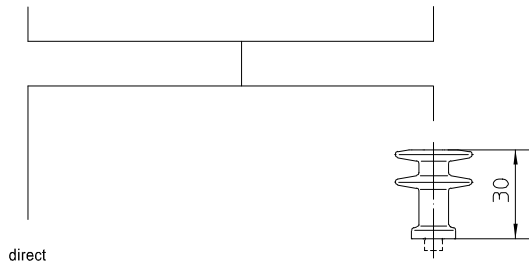
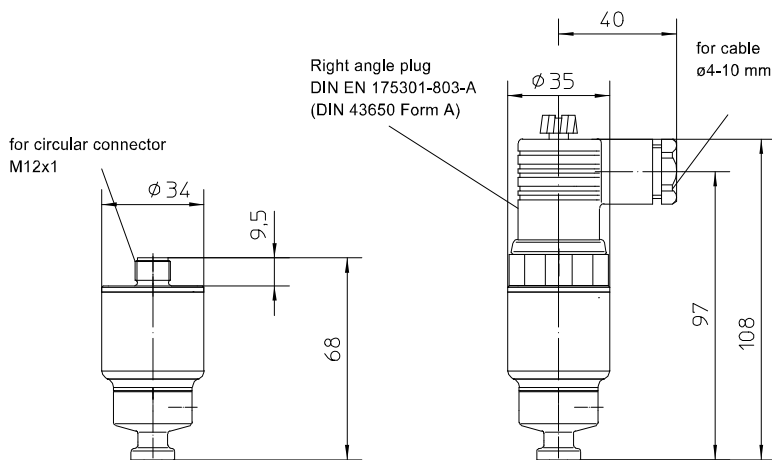
Mounting information

Mounting position:	At choice
Calibration position:	Vertical

Connection diagram



Dimensions



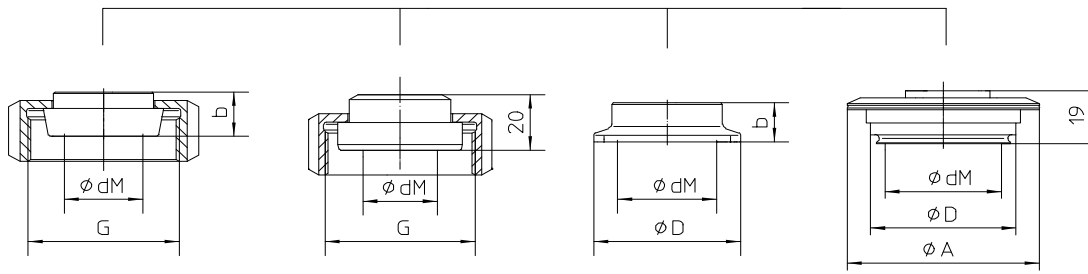
for process temperatures
up to 125°C
(short period up to 140°C, 1h)

temperature decoupler
for process temperatures
up to 160°C

All dimensions are in mm

Process connection

process connection (standard)

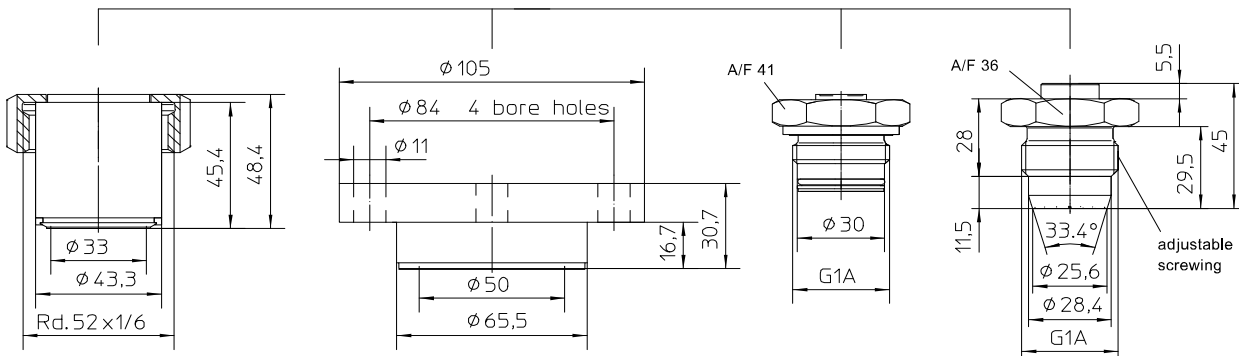


sanitary connection
with coupling nut
per DIN 11851

aseptic screw joint
collar connection
with union nut per
DIN 11864-1 type A

clamp connection
per DIN 32676/ISO 2852

Varivent connection



HYGENIC-Tubus
ø43,3 with screwing
DN25/PN40

weld-in adapter
see data-sheet D6-037

DRD-connection DN50 PN40

weld-in adapter
see data-sheet D6-037

Screw-in thread
G1A with o-ring-
gasket

weld-in adapter
see data-sheet D6-037

HYGENIC-
screw-in thread
G1A no gasket

weld-in adapter
see data-sheet D6-037

All dimensions are in mm

Sanitary pipe connection with union nut per DIN 11851

DN	PN	dM	b	G
25	40	27	16	Rd.52x1/6"
32	40	34	16	Rd.58x1/6"
40	40	40	16	Rd.65x1/6"
50	25	51	17	Rd.78x1/6"

Aseptic screw joint collar connection with union nut per DIN 11864-1 type A

DN	PN	dM	G
25	40	24	Rd.52x1/6"
32	40	30	Rd.58x1/6"
40	40	34	Rd.65x1/6"
50	25	48	Rd.78x1/6"

Clamp connection per DIN 32676 model A (metric) for pipes per EN 10357 (DIN 11850)

DN	PN	dM	b	D
25	25	22.6	14	50.5
32	25	27	12	50.5
40	25	34	12	50.5
50	16	46	14	64

Clamp connection per DIN 32676 model B (OD, ISO) for pipes per EN ISO 1127

DN	PN	dM	b	D
26.9	25	22.6	14	50.5
33.7	25	27	12	50.5
42.4	25	34	12	64
48.3	16	46	14	64

Clamp connection per DIN 32676 model C (Tri-Clamp) for pipes per ASME BPE

DN	PN	dM	b	D
3/4"	25	15.5	15	25
1"	25	22.6	14	50.5
1 1/2"	25	34	12	50.5
2"	16	46	14	64

Clamp connection per ISO 2852 for pipes per ISO 2037

DN	PN	dM	b	D
25	16	22.6	14	50.5
38	16	34	12	50.5
51	16	46	14	64

Varivent connection

DN / Zoll	PN	dM	A	D
25 / 1"	25	40	66	50
40-80/ 1 1/2" - 3"	25	58	84	68
100 / 4"	20	58	84	68
125 / 6"	10	58	84	68

Order details

Pressure transmitter Universal CA for food/pharmaceutical/biotechnology Type series CA2110

Order details UNIVERSAL CA				
CA2110	Pressure transmitter UNIVERSAL CA for food/pharmaceuticals/biotechnology			
		measuring range	overload limit (bar)	
A1008	measuring ranges	0...100 mbar	1	
A1009		0...160 mbar	1	
A1010		0...250 mbar	3	
A1011		0...400 mbar	3	
A1012		0...600 mbar	3	
A1053		0...1 bar	10	
A1054		0...1.6 bar	10	
A1055		0...2.5 bar	10	
A1056		0...4 bar	20	
A1057		0...6 bar	20	
A1058		0...10 bar	100	
A1059		0...16 bar	100	
A1060		0...25 bar	100	
A1061		0...40 bar	100	
A1025		-100...0 bar	1	
A1026		-160...0 bar	1	
A1027		-250...0 bar	3	
A1028		-400...0 bar	3	
A1552		-600...0 bar	3	
A1086		-1...0 bar	10	
A1087		-1...0.6 bar	10	
A1088		-1...1.5 bar	10	
A1089		-1...3 bar	20	
A1090		-1...5 bar	20	
A1091		-1...9 bar	100	
A1092		-1...15 bar	100	
A1093		-1...24 bar	100	
B1053		0...1 bar abs	10	
B1054		0...1.6 bar abs	10	
B1055		0...2.5 bar abs	10	
B1056		0...4 bar abs	20	
B1057		0...6 bar abs	20	
A9999		variants as in writing		
H11		output signal	4...20 mA, 2-wire technology	
T30		electrical connection	circular connector M12	
T51	right angle plug, DIN EN 175301-803-A (DIN 43650 model A) ¹			
T99	others upon request			

Continuation order code			
K1085	design	standard	
K2085		with temperature decoupler	
K102	process connection material: ASTM 316L ²	sanitary pipe connection with union nut per DIN 11851	DN 25
K103			DN 32
K104			DN 40
K105			DN 50
K162			aseptic screw joint collar connection with union nut per DIN 11864-1, type A
K163		DN 32	
K165		DN 40	
K166		DN 50	
K124		clamp connection per ISO 2852 for pipes per ISO 2037	DN 25 (1")
K126			DN 38 (1 1/2")
K127			DN 51 (2")
K144		clamp connection per DIN 32676, model A (metric) for pipes per EN 10357 (DIN 11850)	DN 25
K146			DN 32
K147			DN 40
K148			DN 50
K213			clamp connection per DIN 32676, model B (OD, ISO) for pipes per DIN EN ISO 1127
K214		DN 33,7	
K215		DN 42,4	
K216		DN 48,3	
K134		clamp connection per DIN 32676, model C (Tri-Clamp) for pipes per ASME BPE	DN 3/4" ³
K136			DN 1"
K137			DN 1 1/2"
K138			DN 2"
K152		Varivent	D= 50 for Varivent DN 25 and 1"
K153			D= 68 for Varivent DN 40...125 and 1 1/2"...6"
K172		HYGIENIC Tubus	Ø 43,3 mm with screwing DN 25/PN 40
K185		DRD connection	nominal width DN 50 / nominal pressure PN 40
K195		screw-in thread	G 1 A with O-ring seal ⁴
K80			G 1 A with hygienic process connection (elastomer-free)
		surface roughness	standard
HY	(wetted parts)	Hygienic version as per EHEDG Doc.8 and ASME BPE SF3	
Additional features (to be indicated if required)			
T1	degree of protection IP 67 ⁵		
W1020	material certificate per DIN EN 10204-3.1, wetted parts (stainless steel)		
W2673	certificate of measuring equipment for Russian Federation		

Order code (example): CA2110 - A1009 - H11 - K2085 - K214 - HY - ...

¹ not in degree of protection IP 67

² further process connections upon request

³ possible for measuring ranges ≥ 250 mbar. For a function calculation and optimum system design it is necessary to specify the operation temperature

⁴ hygienic design not available

⁵ only with circular connector