Pressure transmitter COMPACT ECOnomic

with threaded connection

Type series CA1100

Application area

- General process technology
- Plant and mechanical engineering
- Chemical and petrochemical industry

Features

- Digital pressure transmitter
- Case and wetted parts of stainless steel, degree of protection IP 65, optionally IP67
- Measuring ranges
  - 0…1 bar up to 0…1000 bar
  - -1…0 bar up to -1…15 bar
- Output signal 4…20 mA, 2-wire technology
- Accuracy ≤ 0.5 %
- Easy zero point correction using a magnet
- Media temperature -40…120 °C

Options

- As per UKCA regulations
- Output signal (invers) 20…4 mA
- Various process connections
- Further electrical connections
- Accuracy ≤ 0.3%

Application

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

Technical data

Constructional design / case

Design:	Compact case with high protection against moisture
Material:	Stainless steel mat.-no. 1.4301 (304)
Degree of protection per EN 60529:	Circular connector: IP 65 / IP 67 Right-angle plug: IP 65
Pressure compensation:	Ventilation via electrical connection
Electrical connection	■ Circular connector M12x1 (4 pin) ■ Right-angle plug per DIN EN 175 301-803-A (DIN 43650 model A)
Weight:	Approx. 0.15 kg

Process connection

Design: For measuring range up to 1000 bar:

- G 1/2 B per EN 837-1

For measuring range up to 600 bar:

- G 1/4 B per EN 837-1
- G 1/2 A per DIN EN ISO 1179-2 (DIN 3852-11) model E
- G 1/4 A per DIN EN ISO 1179-2 (DIN 3852-11) model E
- 1/2“ NPT per EN 837-1
- 1/4“ NPT per EN 837-1
- M20 x 1.5

Material wetted parts

Process connection:	Stainless steel mat.-no. 1.4301 (304), 1.4542 (630) at nominal range 1000 bar
Diaphragm:	Stainless steel mat.-no. 1.4542 (630)

Measuring system

Sensor: Thin film sensor

Nominal range

Nominal range [bar]	Standard measuring range* [bar]		Measuring spans min. [bar]	Measuring spans max. [bar]	Overload limits [bar]	Vacuum tight
3	0..1 0…1.6 0…2.5	-1…0 -1...0.6 -1…1,5 -1…3	1	3	6	-1 bar
10	0..4 0…6 0…10	-1...5 -1…9	3	12	20	
50	0..16 0…25 0…40	-1...15	12.5	50	100	
200	0..60 0…100 0…160		50	200	400	
1000	0..250 0…400 0…600 0…1000		250	1000	1200	

* different measuring ranges upon request

For information on definitions of terms regarding the Pressure Equipment Directive, see Technical Instruction TA_068.

Accuracy

General

Limit point setting:	Per DIN 16086
Reference conditions:	Per EN 60770-1
Calibration position:	Vertical mounting position
Accuracy (Lin./Hyst./Repr.):	≤ 0.5 % of adjusted measuring range optional: ≤ 0.3 % of adjusted measuring range
Long term drift:	≤ 0.1 % / year of nominal range
Temperatureinfluence (transmitter):	≤ 0.2 %/10 K of nominal range

Output

Signal:	4…20 mA (20…4 mA), 2-wire technology
Damping:	12 ms
Measuring rate:	80 Hz *
Current range:	3.7…22 mA
Resolution:	6 µA
Load, R_B:	$R_B \leq (U_V\text{-}10V)/0.022\ A\ [\Omega]$ U_V = supply voltage

* Other measuring rates upon request.

Supply voltage

Functional range: 10…32 V DC

Temperature ranges

Ambient:	-40…85 °C
Media:	-40…120 °C *
Storage:	-40…85 °C

* at a maximal ambient temperature of 40°C

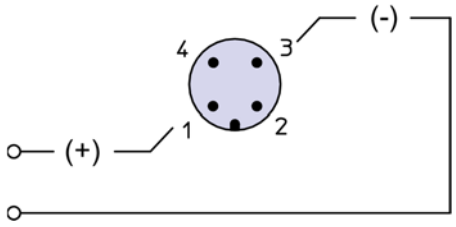
Extended temperature ranges upon request

Tests and certificates

EMC : Per EN 61326-2-3 : 2013-07, EN 61326-1 : 2013

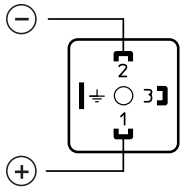
Connection diagram

circular connector M12



Do not wire terminal 2 + 4

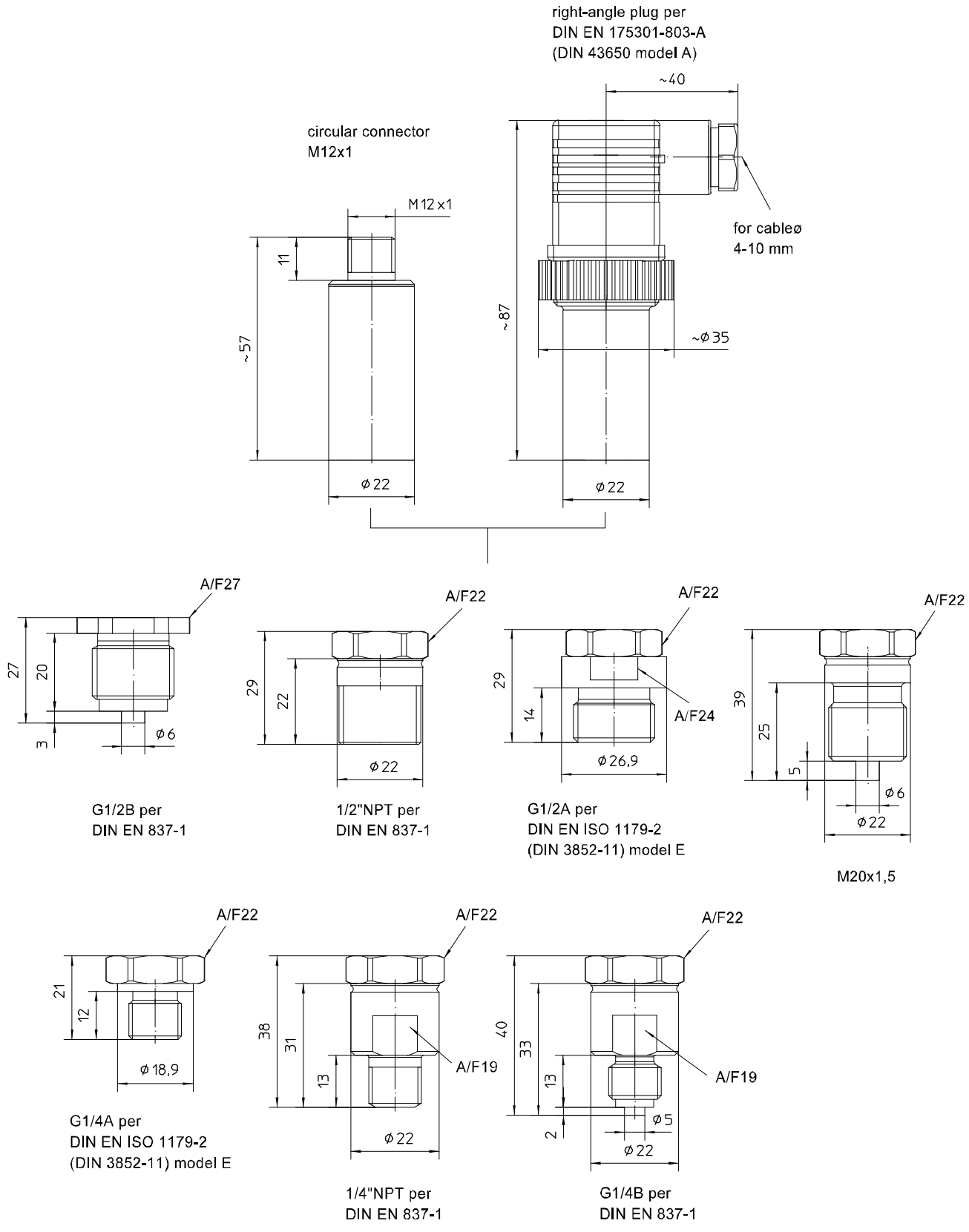
right-angle plug



Do not wire terminals 3 + ⏚

The transmitter is grounded via the process connection

Dimensions

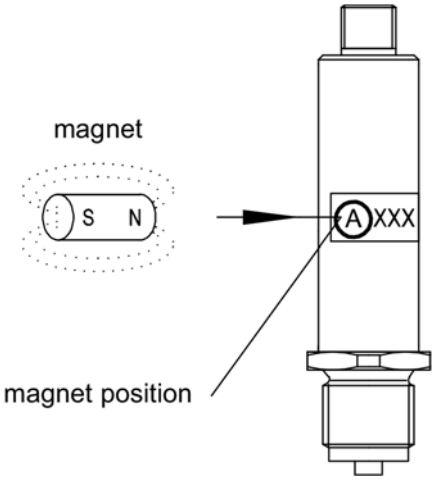


All dimensions are in millimeters

Zero point correction

The zero point 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. the letter in a circle) within 30 to 120 seconds after the power has been switched on. To correct the zero point, atmospheric pressure has to be applied. Offsets for previously set values for lower range value with a constant measuring range 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.



Order details

Pressure transmitter COMPACT ECO with threaded connection
Type series CA1100

Order details	COMPACT ECO CA1100	
CA1100	Pressure transmitter COMPACT ECO with threaded connection	
A3053	Measuring range (bar)	0…1
A3054		0…1.6
A3055		0…2.5
A3056		0…4
A3057		0…6
A3058		0…10
A3059		0…16
A3060		0…25
A3061		0…40
A3062		0…60
A3063		0…100
A3064		0…160
A3065		0…250
A3066		0…400
A3068		0…600
A3070		0…1000 [1]
A3086		-1…0
A3087		-1…0.6
A3088		-1…1.5
A3089		-1…3
A3090		-1…5
A3091		-1…9
A3092		-1…15
A9999		different measuring ranges upon request [1]
H1	Output signal	4…20 mA, 2-wire technology (standard)
H7		20…4 mA, 2-wire technology
T110	Electrical connection	right-angle plug per DIN EN 175 301-803-A (DIN 43650, model A)
T120		circular connector M12x1 (4 pin)
K10	Process connection internal diaphragm	G 1/2 B, EN 837-1
K12		G 1/4 B, EN 837-1
K20		G 1/2 A, DIN EN ISO 1179-2 (DIN 3852-11) model E
K24		G 1/4 A, DIN EN ISO 1179-2 (DIN 3852-11) model E [2]
K30		1/2“ NPT, EN 837-1
K32		1/4“ NPT, EN 837-1
K40		M20 x 1.5

Additional features (to be indicated if required)		
Q3	Accuracy	≤ 0,3 %
W2660	As per UKCA regulations	

Order code (example): CA1100 – A1054 – H1 - T120 - …

[1] Measuring ranges and overload limit > 630 bar only for process connections K10
[2] Maximum permissible measuring range and overload limit ≤ 630 bar