# Pressure transmitter for general industrial applications
# Model A-10



## Applications

- Mechanical engineering
- Machine tools
- Control and feedback control systems
- Hydraulics / Pneumatics
- Pumps/ Compressors

## Special Features

- Pressure ranges: from 0 … 1 bar up to 0 … 600 bar
- Non-linearity: 0.25 % or 0.5 %
- Signal output: 4 ... 20 mA, 0 ... 10 V, 0 ... 5 V and other
- Electrical connection: DIN 175301-803 A and C, M12x1, Flying leads 2m
- Pressure connection: G1/4 DIN 3852-E, 1/4 NPT and others


**Pressure transmitter A-10**

## Description

**Simple - reliable – competitive**
The WIKA A-10 can be used for a multitude of functions across many different applications. Exceptionally simple installation, set-up and operation with an excellent price/performance ratio set this highly-reliable product apart.



Data Sheets for related models
Pressure transmitter for general applications; Model S-10; see Data Sheet PE 81.01

| Specifications | | Model A-10 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pressure ranges | bar | 1 | 1.6 | 2,5 | 4 | 6 | 10 | 16 | 25 |
| Over pressure safety | bar | 2 | 3.2 | 5 | 8 | 12 | 20 | 32 | 50 |
| Burst pressure | bar | 5 | 10 | 10 | 17 | 34 | 34 | 100 | 100 |
| Pressure ranges | bar | 40 | 60 | 100 | 160 | 250 | 400 | 600 | |
| Over pressure safety | bar | 80 | 120 | 200 | 320 | 500 | 800 | 1200 | |
| Burst pressure | bar | 400 | 550 | 800 | 1000 | 1200 | 1700 | 2400 | |
| | MPa and kg/cm$^2$ are available | | | | | | | | |
| | {Absolute pressure: 0 ... 1 bar up to 0 ... 25 bar} | | | | | | | | |
| Pressure ranges | psi | 15 | 25 | 30 | 50 | 100 | 160 | 200 | 300 |
| Over pressure safety | psi | 30 | 60 | 60 | 100 | 200 | 290 | 400 | 600 |
| Burst pressure | psi | 75 | 150 | 150 | 250 | 500 | 500 | 1500 | 1500 |
| Pressure ranges | psi | 500 | 1000 | 1500 | 2000 | 3000 | 5000 | 10000 | |
| Over pressure safety | psi | 1000 | 1740 | 2900 | 4000 | 6000 | 10000 | 17400 | |
| Burst pressure | psi | 2500 | 7975 | 11600 | 14500 | 17400 | 24650 | 34800 | |
| | {Absolute pressure: 0 ... 15 psi up to 0 ... 300 psi}. | | | | | | | | |
| Vacuum resistance | | As of 0 ... 10 bar | | | | | | | |
| Fatigue life | | 10 Mio. max. load cycles | | | | | | | |
| Materials | | | | | | | | | |
| ■ Wetted parts | | | | | | | | | |
| » Pressure Connection | | 316 L | | | | | | | |
| » Pressure sensor | | 316 L (as of 0 ... 10 bar rel 13-8 PH) | | | | | | | |
| ■ Internal transmission fluid | | Silicone oil (only with pressure ranges < 0 ... 10 bar and ≤ 0 ... 25 bar abs) | | | | | | | |
| ■ Case | | 316 L | | | | | | | |
| Power supply UB | UB in VDC | 8 ... 30 {8 ... 36 [1]} | | | | | | | |
| maximum ohmic load $R_A$ | | 14 ... 30 {14 ... 36} with signal output 0 ... 10 V | | | | | | | |
| | | 5 ± 10 % with signal output 0,5 ... 4,5 V ratiometric | | | | | | | |
| | [1] not with non-linearity 0.25 % BFSL and 4 ... 20 mA | | | | | | | | |
| Signal output and | $R_A$ in Ohm | 4 ... 20 mA, 2-wire | $R_A$ ≤ (UB – 8 V) / 0.02 A | | | | | | |
| maximum ohmic load $R_A$ | | 0 ... 10 V, 3-wire | $R_A$ > 10 k | | | | | | |
| | | 0 ... 5 V, 3-wire | $R_A$ > 5 k | | | | | | |
| | | 1 ... 5 V, 3-wire | $R_A$ > 5 k | | | | | | |
| | | 0.5 ... 4.5 V, 3-wire | $R_A$ > 4.5 k | | | | | | |
| | | 0.5 ... 4.5 V, ratiometric | $R_A$ > 4.5 k | {other signal outputs on request} | | | | | |
| Setting time | ms | < 4 | | | | | | | |
| Current consumption | mA | Signal current (max. 25) for current output | | | | | | | |
| | | Max. 8 for voltage output signal | | | | | | | |
| Insulation voltage | VDC | 500 [2] | | | | | | | |
| | [2] For power supply, use a circuit with energy limitation (EN/UL/IEC 61010-1, section 9.3) with the following maximum values for the current: bei UB = 30 V (DC): 5 A. Provide a separate switch for the external power supply. Alternative for North America: The connection may also be made to „Class 2 Circuits“ or „Class 2 Power Units“ according to CEC (Canadian Electrical Code) or NEC (National Electrical Code). | | | | | | | | |
| Non-linearity | % of span | ≤ ± 0.25 | (BFSL) according to IEC 61298-2 | | | | | | |
| | | ≤ ± 0.5 | (BFSL) according to IEC 61298-2 | | | | | | |
| | Adjusted in vertical mounting position with lower pressure connection | | | | | | | | |
| Accuracy [3] | % of span | ≤ ± 0.5 | (with non-linearity 0.25 %) | | | | | | |
| | | ≤ ± 0.6 | (with non-linearity 0.25 % and with signal output 0 ... 5 V) | | | | | | |
| | | ≤ ± 1.0 | (with non-linearity 0.5 %) | | | | | | |
| | [3] Including non-linearity, hysteresis, zero point and full scale error (corresponds to error of measurement per IEC 61298-2) | | | | | | | | |
| Zero offset | % of span | ≤ 0.15 typ., ≤ 0.4 max. | (with non-linearity 0.25 %) | | | | | | |
| | | ≤ 0.5 typ., ≤ 0.8 max. | (with non-linearity 0.5 %) | | | | | | |
| Hysteresis | % of span | ≤ 0.16 | | | | | | | |
| Non-repeatability | % of span | ≤ 0.1 | | | | | | | |
| Long-term drift | % of span | ≤ 0.1 | according to IEC 61298-2 | | | | | | |
| Signal noise | % of span | ≤ 0.3 | | | | | | | |

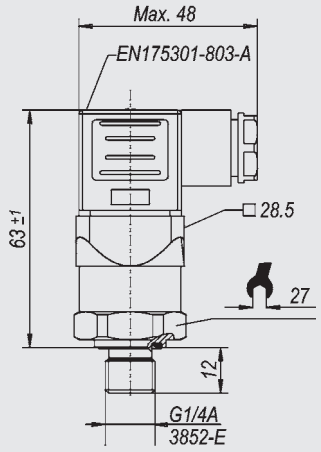
| Specifications | | Model A-10 | |
|---|---|---|---|
| Permissible temperature of | | | |
| ■ Medium | | 0 ... +80 °C {-30 ... +100 °C} | +32 ... +176 °F {-22 ... +212 °F} |
| ■ Ambience | | 0 ... +80 °C {-30 ... +100 °C} | +32 ... +176 °F {-22 ... +212 °F} |
| ■ Storage | | -20 ... +80 °C {-30 ... +100 °C} | -4 ... +176 °F {-22 ... +212 °F} |
| Rated temperature range | | 0 ... +80 °C | +32 ... +176 °F |
| Temperature error within | % of span | ≤ 1.0 typ., ≤ 2.5 max. | |
| rated temperature range | | | |
| Approvals | | UL, CSA, GOST | |
| RoHS-conformity | | Yes | |
| CE-conformity | | | |
| ■ Pressure equipment directive | | 97/23/EC | |
| ■ EMC directive | | 89/336/EEC emission (class B) and immunity according to EN 61 326 | |
| Shock resistance | g | 500 according to IEC 60068-2-27 | (mechanical shock) |
| Vibration resistance | g | 10 according to IEC 60068-2-6 | (vibration under resonance) {20 g on request} |
| Wiring protection | | | |
| ■ Overvoltage protection | VDC | 32; 36 with 4 ... 20 mA | |
| ■ Short-circuit proofness | | S+ towards UB- | |
| ■ Reverse polarity protection | | UB+ towards UB- | |
| Reference conditions | | According to IEC 61298-1 | |
| ■ Relative humidity | % | 45 ... 75 | |
| Weight | g | Approx. 80 | |

{ } Items in curved brackets are optional extras for additional price.

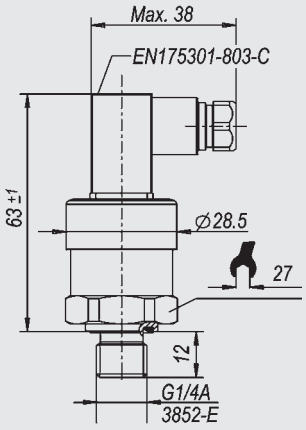
### Dimensions in mm

Ingress protection IP per IEC 60529. The ingress protection classes specified only apply while the pressure transmitter is connected with female connectors that provide the corresponding ingress protection.

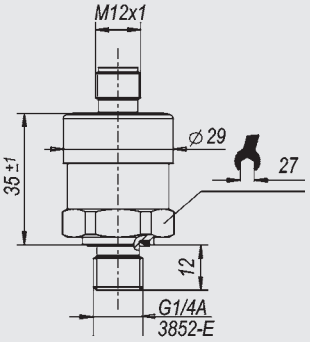
DIN 175301-803 A
L-connector
for conducter cross section up to max. 1.5 mm ², conducter outer diameter 6-8 mm, IP 65



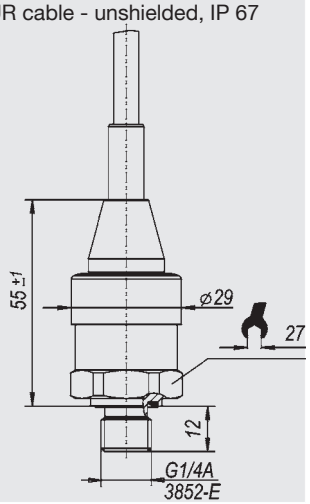

DIN 175301-803 C
L-connector
for conducter cross section up to max. 0.75 mm ², conducter outer diameter 4.5-6 mm, IP 65




M 12x1, 4-pin
IP 67




Flying leads,
conducter cross section 3x 0.34 mm ², conducter outer diameter 6.6 mm,
PUR cable - unshielded, IP 67

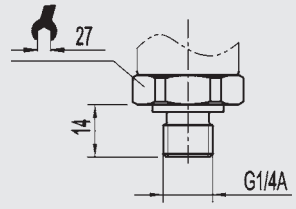



For tapped holes and welding sockets please see Technical Information IN 00.14 for download at www.wika.de

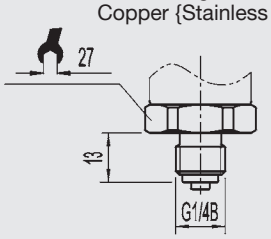
### Pressure connections

Pressure port (0.3 or 0.6 mm) and extended pressure port on request

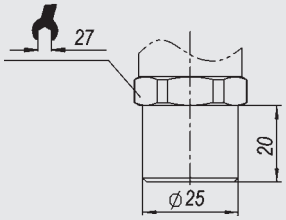
G 1/4
DIN 3852-E
with sealing NBR {FKM}
Over pressure safety max. 600 bar




G 1/4
EN 837
with sealing
Copper {Stainless steel}

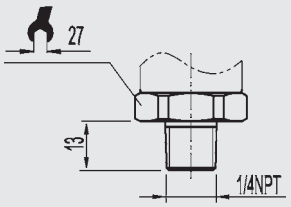



G 1/4 female
EN 837
with sealing
Copper {Stainless steel}

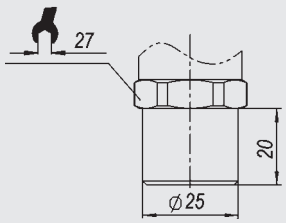


## Pressure connections

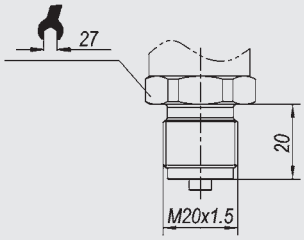
1/4 NPT



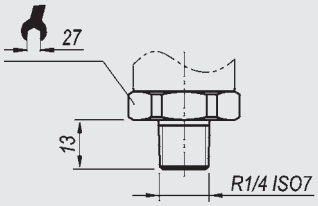

1/4 NPT female



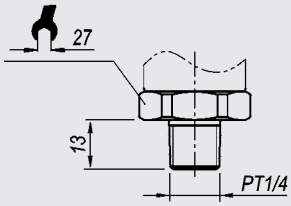

M 20 x 1,5
with sealing
Copper {Stainless steel}



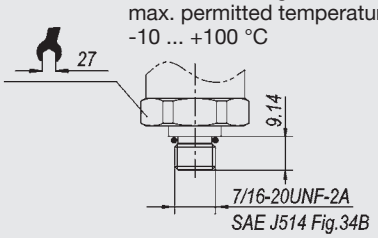

R 1/4 ISO 7



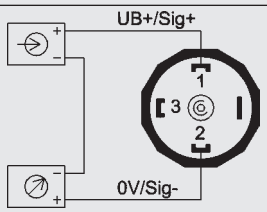
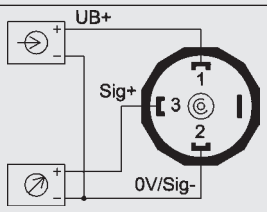
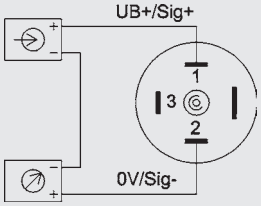
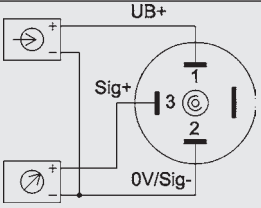
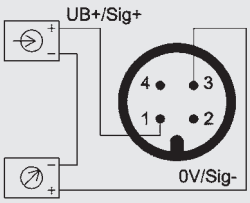
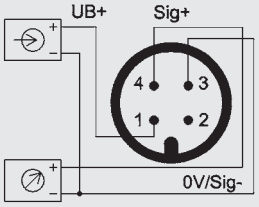
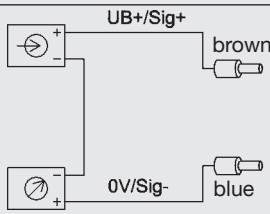
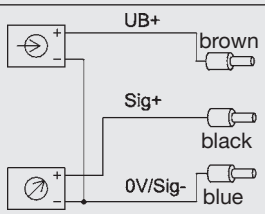

PT 1/4




7/16-20 UNF
with Boss O-ring FKM
max. permitted temperature
-10 ... +100 °C




## Electrical connections

| | 2-wire | 3-wire |
|---|---|---|
| DIN 175301-803 A<br>L-connector |  |  |
| DIN 175301-803 C<br>L-connector |  |  |
| M 12x1, 4-pin<br>without angle socket or<br>female cable connectors |  |  |
| Flying leads |  |  |

power supply

load (e.g. display)

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.
Modifications may take place and materials specified may be replaced by others without prior notice.



**WIKA Alexander Wiegand GmbH & Co. KG**
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. (+49) 9372/132-0
Fax (+49) 9372/132-406
E-mail info@wika.de
www.wika.de

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