

General Purpose Pressure Transmitters Type A-10

WIKA Datasheet A-10



Applications

- Mechanical engineering
- Machine tools
- Process control and automation
- Hydraulics and Pneumatics
- Pumps and Compressors

Special Features

- Pressure ranges: from 0 ... 15 psi up to 0 ... 10,000 psi
- Non-linearity: $\leq \pm 0.5\%$ BFS ($\leq \pm 0.25\%$ available)
- Signal output: 4-20 mA, 0-10 V, 0-5 V, others available
- Electrical connection: DIN 175301-803 A and C, M12x1, 6 ft. cable, others available
- Pressure connection: 1/4 NPT , 1/2 NPT , SAE #4, others available

Description

The WIKA A-10 pressure transmitter is precision engineered and manufactured to fit many industrial and OEM pressure measurement applications. The rugged design provides resistance to vibration, shock, wide temperature variations, RFI and other extreme environmental conditions that are typical of industrial and OEM applications.

Performance and reliability is enhanced by the all stainless steel welded measuring cell that eliminates the need for soft sealing materials that may deteriorate over time. The state-of-the-art manufacturing and assembly process increases the long term reliability of the A-10.

Primary applications include process control and automation, hydraulics, pneumatics and machine controls.



Left: A-10 with DIN
Center: A-10 with cable
Right: A-10 with mini DIN

Specifications		Type A-10						
Pressure ranges	15 psi	25 psi	30 psi	50 psi	100 psi	160 psi	200 psi	300 psi
Over pressure safety	30 psi	60 psi	60 psi	100 psi	200 psi	290 psi	400 psi	600 psi
Burst pressure	75 psi	150 psi	150 psi	250 psi	500 psi	500 psi	1,500 psi	1,500 psi
Pressure ranges	500 psi	1,000 psi	1,500 psi	2,000 psi	3,000 psi	5,000 psi	10,000 psi	
Over pressure safety	1,000 psi	1,740 psi	2,900 psi	4,000 psi	6,000 psi	10,000 psi	17,400 psi	
Burst pressure	2,500 psi	7,975 psi	11,600 psi	14,500 psi	17,400 psi	24,650 psi	34,800 psi	
{Absolute pressure: 0 ... 15 psi up to 0 ... 300 psi}.								
Vacuum resistance		Ranges greater than 150 psi						
Fatigue life		10 million load cycles maximum						
Materials								
■ Wetted parts								
» Pressure Connection		316 L						
» Pressure sensor		316 L (as of ≥0 ... 150 psig are PH 13-8 ss)						
■ Internal transmission fluid		Silicone oil (only with pressure ranges < 0 ... 100 psig and ≤ 0 ... 300 psi absolute)						
■ Case		316 L						
Power supply UB	UB in VDC	8 ... 30 (14 ... 30 with signal output 0 ... 10 V)						
Maximum resistive load RA		4 ... 20mA, 2-wire $R_A \leq (U_B - 8V) / 0.02 A$						
		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 $R_A > 4.5 k$ {Other signal output on request}						
Response time	ms	< 4						
Current consumption	mA	Signal current (max. 25) for current output (max. 8 for voltage output signal)						
Isolation voltage	VDC	500 ¹⁾						
¹⁾ 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: where 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	$\leq \pm 0.5\%$ BFSL according to IEC 61298-2						
		$\{\leq \pm 0.25 \text{ BFSL}\}$ according to IEC 61298-2						
Accuracy ²⁾	% of span	$\leq \pm 1.0$ (with 0.5% non-linearity)						
		$\{\leq \pm 0.5 \}$ (with 0.25% non-linearity)						
		$\{\leq \pm 0.6 \}$ (with 0.25% non-linearity and with signal output 0 ... 5 V)						
²⁾ Includes non-linearity, hysteresis, zero point and full scale error accordingly to IEC 61298-2								
Calibrated in vertical mounting position with pressure connection facing down								
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						
Permissible temperature of								
■ Medium		32 ... +176 °F {-22 ... +212 °F}			0 ... +80 °C {-30 ... +100 °C}			
■ Ambient		32 ... +176 °F {-22 ... +212 °F}			0 ... +80 °C {-30 ... +100 °C}			
■ Storage		-4 ... +176 °F {-22 ... +212 °F}			-20 ... +80 °C {-30 ... +100 °C}			
Operating temperature range		32 ... +176 °F			0 ... +80 °C			
Temperature error within operating temperature range	% of span	≤ 1.0 typ., ≤ 2.5 max.						

Specifications

Type A-10

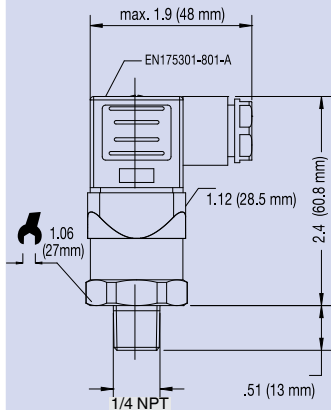
Approvals		UL, CSA, GOST
RoHS-conformity		Yes
CE-conformity		
■ Pressure equipment directive		97/23/EC
■ EMC directive		2004/108/EEC (Group 1, Class B) and immunity according to EN 61 326
Shock resistance	g	500 according to IEC 60068-2-27 (mechanical shock)
Vibration resistance	g	10 according to IEC 60068-2-6 (vibration under resonance)
Wiring protection		
■ Overvoltage protection	VDC	32; 36 with 4 ... 20 mA
■ Short-circuit protection		Sig+ to UB-
■ Reverse polarity protection		UB+ to UB-
Test reference conditions		According to IEC 61298-1
■ Relative humidity	%	45 ... 75
■ Temperature	%	59 ... 77 °F (15 ... 25 °C)
■ Atmospheric Pressure	KPa	86 ... 106 (25.4...31.3 inhg)
Weight	oz.	Approx. 2.8 oz. (80 g)

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

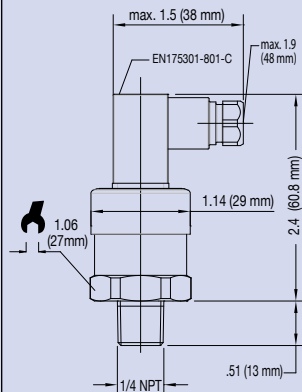
Dimensions in inches (mm)

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 equivalent ingress protection.

DIN 175301-803 A
L-connector
conductor outer diameter
.24" to .32"
IP 65
Order Code: AG

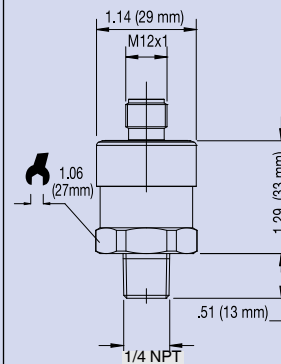


DIN 175301-803 C
L-connector
conductor outer diameter
.18" to .24"
IP 65
Order Code: CG

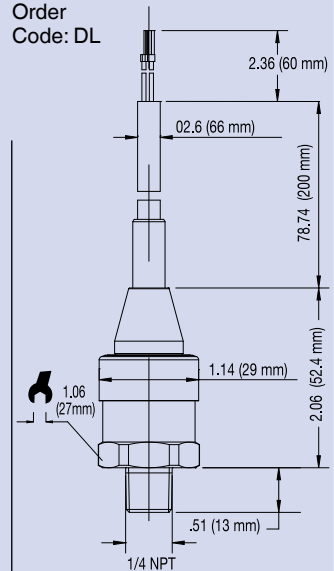


M 12x1, 4 pin
IP 67
AG

Order Code: M4



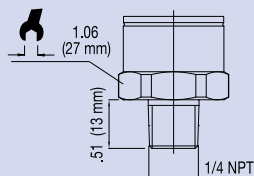
Cable with free ends,
conductor cross section .013 in²,
conductor outer diameter .26",
PUR cable - unshielded, IP 67
Order
Code: DL



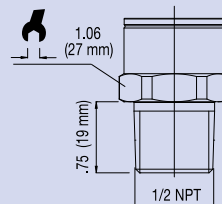
For tapped holes and welding sockets please see Technical Information IN 00.14 for download at www.wika.de

Pressure connections

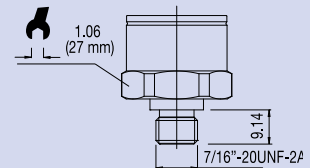
1/4 NPT Male
Order Code: NB



1/2 NPT Male
Order Code: ND

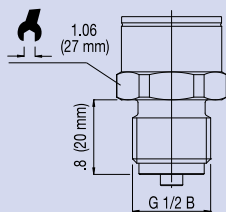


7/16 - 20 UNF
O-ring boss
Order Code: MV

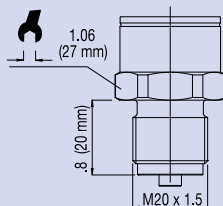


Pressure connections

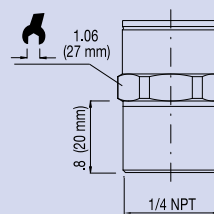
G 1/2 B
Order Code: GD



M20 x 1.5
with sealing ring
Order Code: MI



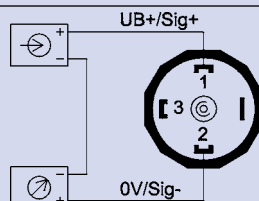
1/4" NPT female
Order Code: NP



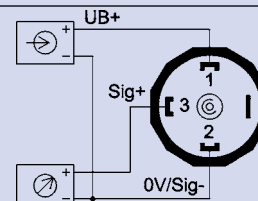
Electrical connections

DIN 175301-803 A
L-connector
IP 65

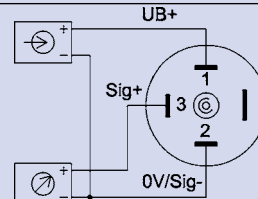
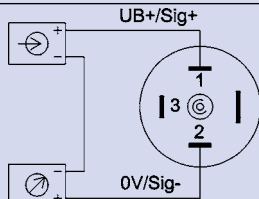
2-wire



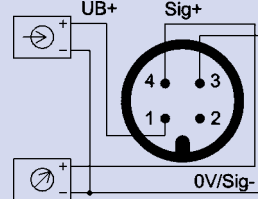
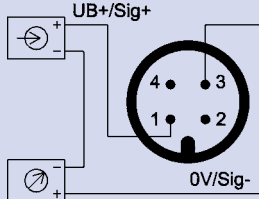
3-wire



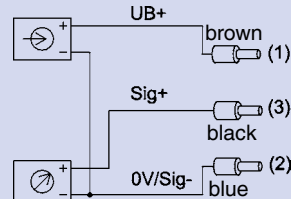
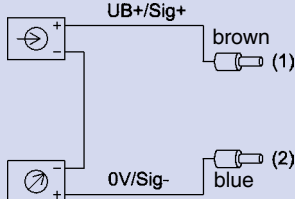
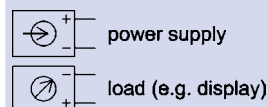
DIN 175301-803 C
L-connector
IP 65



M 12x1, 4-pin
without angle socket or
female cable connectors
IP 67



Cable with free ends
IP 67



Specifications and dimensions given in this datasheet 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.



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