

Type A-10 General Purpose Pressure Transmitters



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, vacuum and compound available
- 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 and compound available									
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.							

Electronic Pressure Catalog > General Purpose > A-10

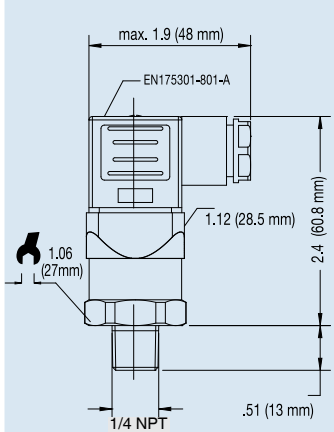
Specifications		Type A-10
Approvals		CULUS, GOST
RoHS-conformity		Yes
CE-conformity		
■ Pressure equipment directive		97/23/EC
■ EMC directive		2004/108/EEC (Group 1, Class B) and immunity according to EN 61 326
Shock resistance	g	500 according to IEC 60068-2-27 (mechanical shock)
Vibration resistance	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.

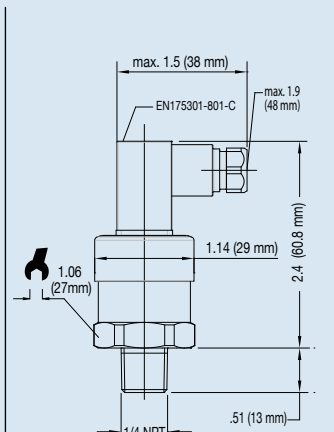
Dimensions in inches (mm)

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

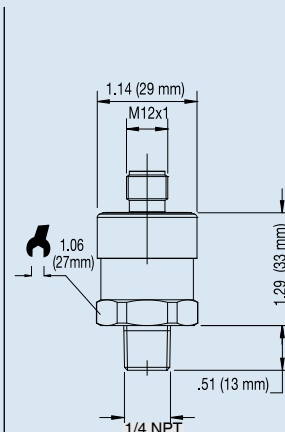


DIN 175301-803 C
L-connector
conductor outer diameter
.18" to .24"
IP 65
Order Code: CG

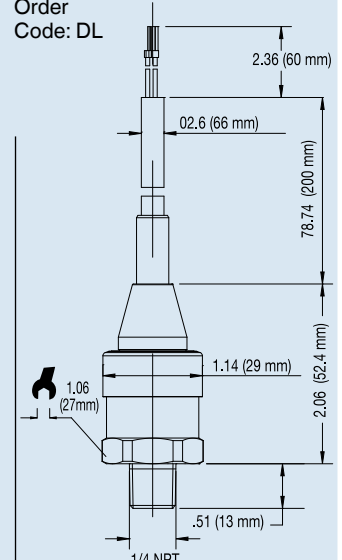


M 12x1, 4 pin
IP 67
AG

Order Code: M4



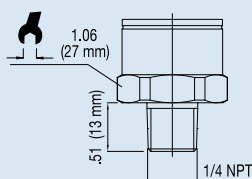
Cable with free ends,
conductor cross section .013 in²,
conductor outer diameter .26",
PUR cable - unshielded, IP 67
Order
Code: DL



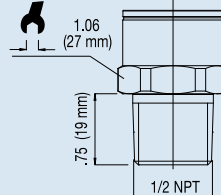
For tapped holes and welding sockets please see Technical Information IN 00.14 for download at www.wika.de

Pressure connections

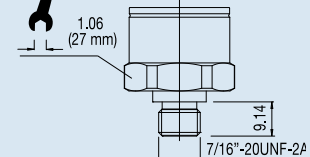
1/4 NPT Male
Order Code: NB



1/2 NPT Male
Order Code: ND



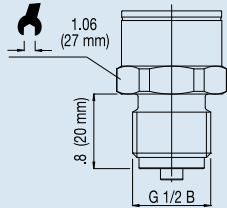
7/16 - 20 UNF
O-ring boss
Order Code: MV



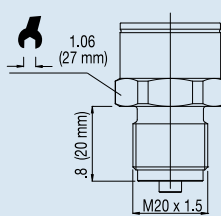
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Pressure connections

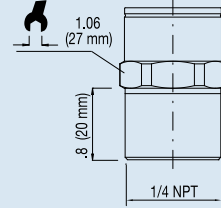
G 1/2 B
Order Code: GD



M20 x 1.5
with sealing ring
Order Code: MI



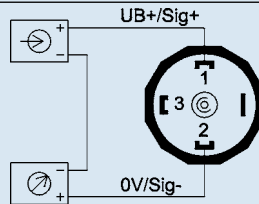
1/4" NPT female
Order Code: NP



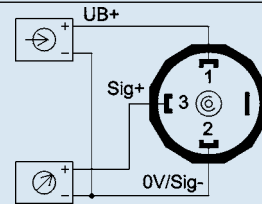
Electrical connections

DIN 175301-803 A
L-connector
IP 65

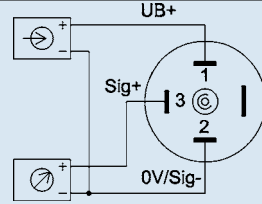
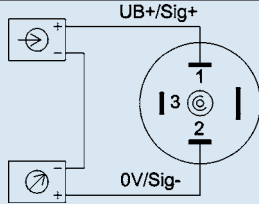
2-wire



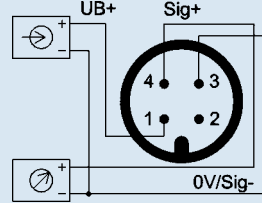
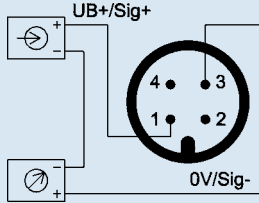
3-wire



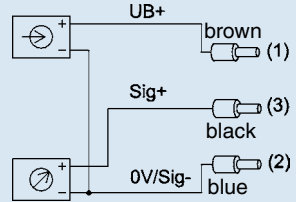
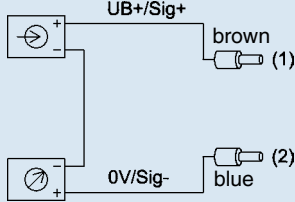
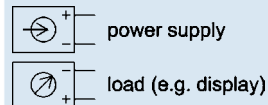
DIN 175301-803 C
L-connector
IP 65



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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Standard Features

- **Signal output:** 4-20 mA 2-wire or 0-10 V 3-wire
- **Supply voltage:** 8-30 DC (14-30 VDC)
- **Process connection:** 1/4 NPT Male
- **Electrical connection:** DIN EN 175301-803 (DIN 43 650) with plug connector
- **Non-linearity:** ≤ +/- 0.5% B.F.S.L.



Description		
Range	Part #	
	4-20 mA 2-wire	0-10 V 3-wire
0 ... 15 psia	50426354	50426737
0 ... 100 psia	50426389	50426761
0 ... 15 psi	50426397	50426770
0 ... 25 psi	50426401	83928788
0 ... 50 psi	50426427	50426800
0 ... 100 psi	50372475	50426818
0 ... 200 psi	50398083	50426834
0 ... 300 psi	50426460	50426842
0 ... 500 psi	50426478	50426851
0 ... 1,000 psi	50426486	50426869
0 ... 1,500 psi	50426494	50426877
0 ... 2,000 psi	50426508	50426885
0 ... 3,000 psi	50426516	50426893
0 ... 5,000 psi	50372483	50426907
0 ... 10,000 psi	50426532	50426915

NOTE: Standard part numbers shown in **bold, blue** print.

A-10 Smart Codes for Custom Order Configurations

Field no. Code Feature

Field no.	Code	Feature
Non-linearity		
1	6	$\leq \pm 0.5\%$ BFSL
	3	$\leq \pm 0.25\%$ BFSL
Unit		
2	P	psi
	?	Other
Absolute or relative pressure		
3	G	Gauge
	A	Absolute
	V	Compound
Pressure range		
4	310	0 ... 15 psig 0 ... 15 psia -30 inHg vacuum
	317	0 ... 25 psig 0 ... 25 psia
	321	0 ... 30 psig 0 ... 30 psia
	331	-30 inHg ... 30 psi
	335	0 ... 50 psig 0 ... 50 psia
	351	-30 inHg ... 60 psi
	369	0 ... 100 psig 0 ... 100 psia
	379	-30 inHg ... 100 psi
	411	0 ... 160 psig
	412	-30 inHg ... 160 psi
	414	0 ... 200 psig
	415	-30 inHg ... 200 psi
	421	0 ... 300 psig 0 ... 300 psia
	422	-30 inHg ... 300 psi
	434	0 ... 500 psig
	469	0 ... 1,000 psig
	510	0 ... 1,500 psig
	514	0 ... 2,000 psig
	521	0 ... 3,000 psig
	534	0 ... 5,000 psig
	569	0 ... 10,000 psig
	4	???
Process connection		
5	NB	1/4 NPT <i>(Sealing Code T2)</i>
	NP	1/4 NPT female <i>(Sealing Code T2)</i>
	ND	1/2 NPT <i>(Sealing Code T2)</i>
	MV	7/16"-20 UNF SAE O-ring Boss <i>(Sealing Code T1)</i>
	MI	M20 x 1.5 <i>(Sealing Code T3)</i>
	GB	G 1/4 B <i>(Sealing Code T3)</i>
	GD	G 1/2 B <i>(Sealing Code T3)</i>
	??	other

A-10 Smart Codes for Custom Order Configurations (cont'd)

Field no.	Code	Feature
Sealing		
6	L	FPM/FKM <i>(Use with Code T1)</i>
	C	Copper <i>(Use with Code T3)</i>
	S	Stainless steel <i>(Use with Code T3)</i>
	Z	Without <i>(Use with Code T2)</i>
Temperature range of medium		
7	Z	0...+80 °C (-32°F ... 176 °F)
	A	-30...+100 °C (-22°F ... 212 °F)
Signal output		
8	A	4 ... 20 mA, 2-wire
	F	0 ... 10 V, 3-wire
	G	0 ... 5 V, 3-wire
	K	1 ... 5 V, 3-wire
	W	0.5 ... 4.5 V, 3-wire ratiometric
	?	Other
Power supply		
9	A	8...30 V DC (only with signal outputs A, G, or K)
	C	14...30 V DC (only with signal output F)
	E	5 V DC +/- 10% (only with signal output W)
	?	Other
Electrical connection		
10	AG	Valve connector, size A
	AK	Valve connector, size A with cable
	CG	Valve connector, size C
	CK	Valve connector, size C with cable
	M4	Circular connector M12x1, 4 pin
	MG	Angled connector M12x1, 4 pin with cable
	MI	Straight connector M12x1, 4 pin with cable
	DL	Cable with free ends (IP 67)
Cable length		
11	Z	Without
	6	6 feet (only with: AK,CK, MG, MI, or DL)
	7	15 feet (only with: AK,CK, MG, MI, or DL)
	?	Other
Certificates		
12	Z	Without
Approvals		
13	S	CULUS / GOST
	?	Other

Order Code: 1 2 3 4 5 6 7 8 9 10 11 12 13*

A-10 - - - - -

*Additional order details _____