

OEM Pressure Transmitter Model C-10

WIKA Data Sheet C-10

Applications

- Hydraulics and pneumatics
- Mechanical engineering
- General industrial applications

Special Features

- Standard ranges from 0...100 INWC to 0...15,000 PSI
- Excellent shock and vibration resistance
- Environmental protection to NEMA 4 / IP 67
- Stainless steel case and wetted parts

Description

WIKA C-10 provides performance and economy for a wide range of OEM applications. They are especially suited to applications subject to severe mechanical shock, vibration, and electromagnetic interference. Typical applications include hydraulics and pneumatics, compressor controls, pump protection, refrigeration and air conditioning systems.

Dependable performance

The C-10 features an all-welded stainless steel measuring cell for improved media compatibility. There are no internal soft sealing materials that may react with the media or deteriorate over time. The case is also made of stainless steel and is available with environmental protection ratings up to NEMA 4 / IP 67.

Pressure ranges up to 300PSI use a piezoresistive measuring cell. The higher pressure ranges use thin film sensor technology. Both are time proven highly reliable sensor technologies.



Left: C-10 with MiniDIN connector
Right: C-10 with optional cable

A standard signal output of 4-20 mA allows the C-10 to be integrated into many existing applications. Many custom signal outputs, process connections, and electrical connections are available.

Each C-10 undergoes extensive quality control testing and calibration to achieve an accuracy of $\leq 0.50\%$ full scale. The printed circuit boards use state-of-the-art surface mount technology. Each is individually temperature compensated to assure accuracy and long-term stability even when exposed to severe ambient temperature variations.

Specifications

Model C-10

Pressure range	100inWC	5psi	10psi	15psi	25psi	30psi	50psi	100psi	200psi
Maximum pressure*	29psi	29psi	58psi	72psi	145psi	145psi	240psi	500psi	1160psi
Burst pressure**	34psi	34psi	69psi	87psi	170psi	170psi	290psi	600psi	1390psi
Pressure range	300psi	500psi	1000psi	2000psi	3000psi	5000psi	7500psi	10,000psi	15,000psi
Maximum pressure*	1160psi	1160psi	1740psi	4600psi	7200psi	11,600psi	17,400psi	17,400psi	21,750psi
Burst pressure**	1390psi	5800psi	7970psi	14,500psi	17,400psi	24,650psi	34,800psi	34,800psi	43,500psi

{absolute pressure references are available}

*Pressure applied up to the maximum rating will cause no permanent change in specifications but may lead to zero and span shifts

**Exceeding the burst pressure may result in destruction of the transmitter and possible loss of media

Materials		
■ Wetted parts		Stainless steel
■ Case		Stainless steel
Internal transmission fluid		Synthetic oil, only for pressure ranges up to 0 ... 300 psi {Halocarbon oil for oxygen applications} ¹⁾
Supply Voltage U_B	DC V	$10 < U_B \leq 30$ (14 ... 30 with signal output 0 ... 10 V)
Response time (10 ... 90 %)	ms	≤ 1 (≤ 10 ms at medium temperatures below -22°F (-30°C) for pressure ranges up to 300 psi)
Accuracy ²⁾	% of span	≤ 1.0 (limit point calibration)
	% of span	≤ 0.5 (BFSL)
Hysteresis	% of span	≤ 0.1
Non-repeatability	% of span	≤ 0.05
1-year stability	% of span	≤ 0.2 (at reference conditions)
Permissible temperature of		
■ Medium		$-22 \dots +212^\circ\text{F}$ { $-40 \dots +257^\circ\text{F}$ } $-30 \dots +100^\circ\text{C}$ { $-40 \dots +125^\circ\text{C}$ }
■ Ambient		$-22 \dots +185^\circ\text{F}$ $-30 \dots +85^\circ\text{C}$
■ Storage		$-40 \dots +212^\circ\text{F}$ $-40 \dots +100^\circ\text{C}$
Compensated temperature range		$0 \dots +176^\circ\text{F}$ $0 \dots +80^\circ\text{C}$
Temperature coefficients in compensated temp range		
■ Mean TC of zero	% of span	$\leq 0.3 / 10 \text{ K}$
■ Mean TC of range	% of span	$\leq 0.2 / 10 \text{ K}$
-conformity		89/336/EWG interference emission and immunity see EN 61326 97/23/EG Pressure equipment directive
Shock resistance	g	1000 according to IEC 60068-2-27 (mechanical shock)
Vibration resistance	g	20 according to IEC 60068-2-6 (vibration under resonance)
Wiring protection		Protected against reverse polarity, overvoltage and short circuiting
Ingress protection per		Per IEC 60529 / EN 60529, see page 3
Weight	lb	Approx. .22

1) Media temperature for oxygen version: $-30 \dots +60^\circ\text{C}$ ($-22 \dots 140^\circ\text{F}$).

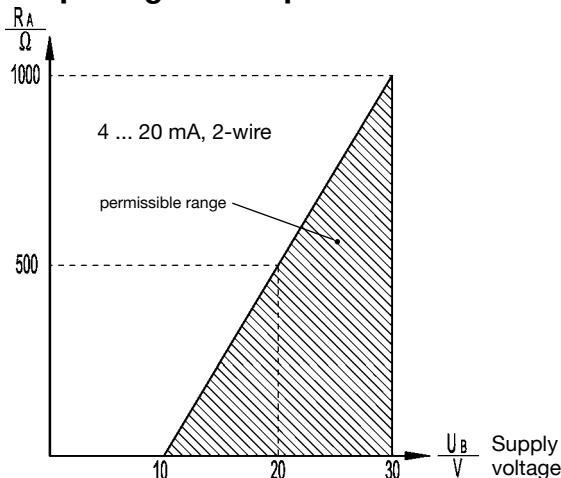
Cannot be manufactured for absolute pressure ranges < 1 bar abs.

2) Including linearity, hysteresis and repeatability.

Limit point calibration in vertical mounting position with lower pressure connection.

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

Output signal and permissible load



Output current (2-wire)
 $4 \dots 20 \text{ mA}; R_A \leq (U_B - 10 \text{ V}) / 0.02 \text{ A}$

Output current (3-wire)
 $0 \dots 20 \text{ mA}; R_A \leq (U_B - 3 \text{ V}) / 0.02 \text{ A}$

Output voltage (3-wire)
 $0 \dots 5 \text{ V}; R_A > 5 \text{ kOhm}$
 $0 \dots 10 \text{ V}; R_A > 10 \text{ kOhm}$

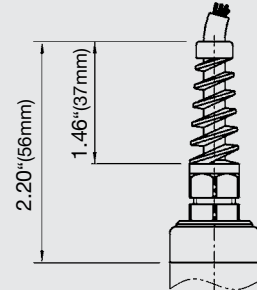
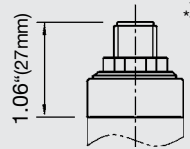
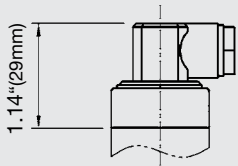
Dimensions in inches (mm)

Electrical connections

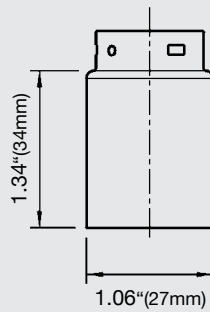
Mini L-connector
G-series
IP 65
Order code: II

Circular connector,
5-pin, M 12x1,
IP 65
Order code: M5

Flying leads with anti kink protection
IP 67
Order code: DL



Case

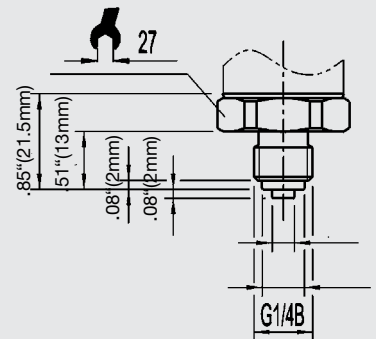
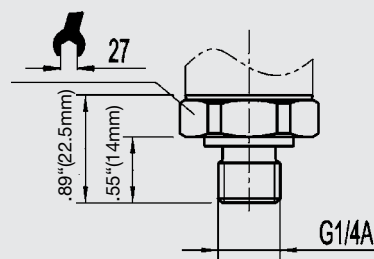
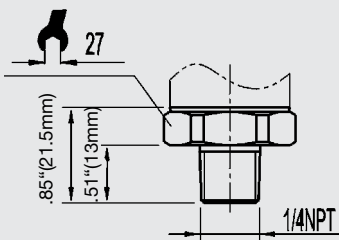


Pressure connections

1/4" NPT male
Order code: NB

G 1/4 male
DIN 3852-E
Order code: HD

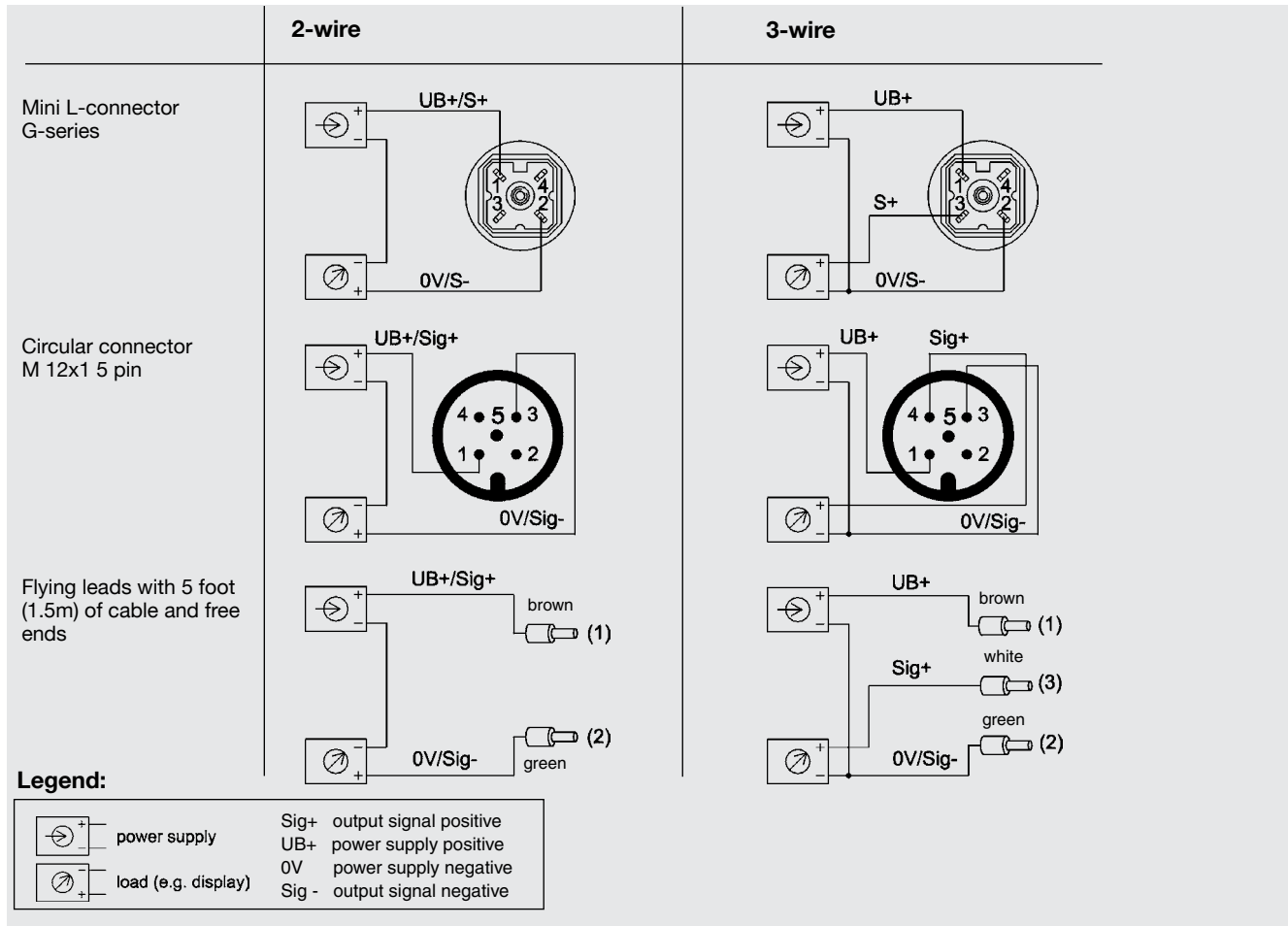
G 1/4 male
EN 837
Order code: GB



.) Mating connectors are not included

Other process connections available

Wiring details



Specifications and dimensions given in this data sheet 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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