



Industrial Pressure Transmitters

Type S-10 - Vacuum to 60,000 PSI

Tronic

(Previous model numbers 891.13.500, 891.23.510)

- Standard ranges available from stock
- 4-20 mA 2-wire output signal, others available
- Highly resistant to pressure spikes and vibration
- Stainless steel case and wetted parts
- Can be assembled to diaphragm seals



WIKAI S-10 pressure transmitters and transducers are precision engineered to fit most industrial pressure measurement applications. Each unit undergoes extensive quality control testing and calibration to achieve an accuracy $\leq 0.25\%$ full scale. The printed circuit boards use state-of-the-art surface mount technology and are potted in silicone gel for protection against mechanical shock, vibration, and moisture. Each unit is temperature compensated to assure accuracy and long term stability when exposed to severe ambient temperature variations.

The compact design provides a rugged transmitter suitable for many applications in hydraulics and pneumatics, vacuum, test equipment, liquid level measurement, press control, compressor control, pump protection and numerous other processing and control operations.

STANDARD RANGES

RANGE	MAXIMUM*	BURST**	RANGE	MAXIMUM*	BURST**
30"-0 HgVac	70 PSI	70 PSI	0-250 PSI(A)	1100 PSI	1100 PSI
30"-0-30 PSI	250 PSI	250 PSI	0-300 PSI	1100 PSI	1100 PSI
30"-0-60 PSI	500 PSI	500 PSI	0-400 PSI	1100 PSI	3600 PSI
30"-0-100 PSI	500 PSI	500 PSI	0-500 PSI(A)	1100 PSI	5800 PSI
30"-0-160 PSI	500 PSI	500 PSI	0-600 PSI	1100 PSI	5800 PSI
30"-0-200 PSI	1100 PSI	1100 PSI	0-750 PSI	1100 PSI	5800 PSI
0-50 INWC	30 PSI	30 PSI	0-1000 PSI	1750 PSI	8000 PSI
0-100 INWC	30 PSI	30 PSI	0-1500 PSI	2900 PSI	11,600 PSI
0-5 PSI	30 PSI	30 PSI	0-2000 PSI	4600 PSI	14,500 PSI
0-10 PSI	60 PSI	60 PSI	0-3000 PSI	4600 PSI	14,500 PSI
0-15 PSI(A)	70 PSI	70 PSI	0-5000 PSI	11,600 PSI	25,000 PSI
0-25 PSI(A)	145 PSI	145 PSI	0-8000 PSI	17,400 PSI	35,000 PSI
0-30 PSI	145 PSI	145 PSI	0-10,000 PSI	17,400 PSI	35,000 PSI
0-50 PSI(A)	250 PSI	250 PSI	0-15,000 PSI	21,750 PSI	43,500 PSI
0-60 PSI	250 PSI	250 PSI	0-25,000 PSI	29,400 PSI	58,800 PSI
0-100 PSI(A)	500 PSI	500 PSI	0-40,000 PSI	44,100 PSI	73,500 PSI
0-160 PSI	500 PSI	500 PSI	0-60,000 PSI	65,000 PSI	102,900 PSI
0-200 PSI	500 PSI	500 PSI			

Notes:

* Pressure applied up to the maximum rating will cause no permanent change in specifications

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

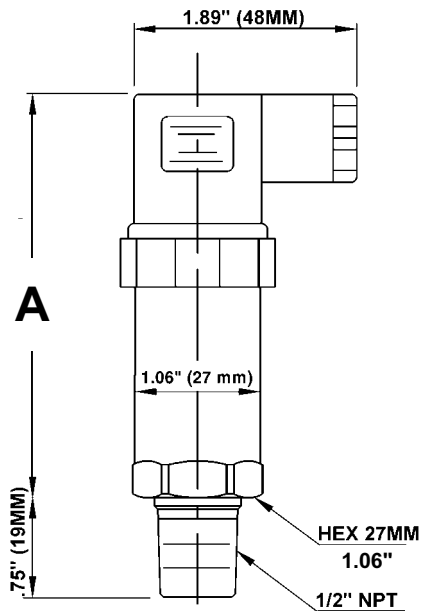
(A) identifies standard ranges available with absolute pressure reference.

APE S-10
(APE 81.01)

Specifications	Units	Type S-10
Sensing principle Pressure ranges Pressure reference	PSI	piezoresistive up to 300 PSI, thin film \geq 400 PSI standard ranges as listed {custom ranges available} relative pressure {absolute reference to 500 PSIA}
Pressure connection for ranges \leq 15,000 PSI: for ranges $>$ 15,000 PSI: Material: -wetted parts -case -internal transmitting liquid		1/2" NPT male; (1/4"NPT male, G1/2B, G1/4B) {SAE #4 (7/16-20 UNF) male O-ring boss for ranges \geq 400 PSI} F-250-C autoclave (9/16-18 UNF) {other pressure connections available} 1.4571 and 1.4542 stainless steel (316 ss and PH17-4 ss) {for other materials see WIKA diaphragm seals} 1.4301 stainless steel (304 ss) silicone oil for piezoresistive sensors to 300 PSI, {halocarbon oil for oxygen service}, no liquid fill used for thin film sensors \geq 400 PSI
Supply voltage U_B Output and load limitations: Output signal and maximum load Response time (10...90%) zero and span adjustment	DC Volts milliseconds %	10 - 30 (14 - 30 for 0 - 10 V output signal) 4-20 mA 2-wire system $R_A [\text{Ohm}] \leq (U_B [\text{V}] - 10\text{V}) / 0.02 \text{ A}$ {0-20 mA 3-wire system} $R_A [\text{Ohm}] \leq (U_B [\text{V}] - 10\text{V}) / 0.02 \text{ A}$ {0-5 V 3-wire system} $R_A > 5 \text{ kOhm (min)}$ {0-10 V 3-wire system} $R_A > 10 \text{ kOhm (min)}$ {other signal outputs available} ≤ 1 ± 10
Accuracy (linearity, including hysteresis and repeatability) Repeatability Hysteresis 1 year stability	% of span % of span % of span	$\leq 0.25\%$ (B.F.S.L.) {0.125%} ¹ (Calibrated in vertical mounting position with process connection down) ≤ 0.05 ≤ 0.1 ≤ 0.2 (under reference conditions)
Temperature Media Ambient Storage Compensated range Temperature error (reference 70°F) on zero point on span	 % of span	-22°F to +212°F (-30°C to +100°C) { -40°F to +257°F (-40°C to +125°C)} -4°F to +176°F (-20°C to +80°C) -40°F to +212°F (-40°C to +100°C) +32°F to +176°F (0°C to +80°C) ≤ 0.2 per 18°F (10°C) change (≤ 0.4 per 18°F for ranges $<$ 100 INWC) ≤ 0.2 per 18°F (10°C) change
CE conformity		Interference emission per EN 50 081-1 (March 1993) and EN50 081-2 (March 94), Interference immunity per EN 50 082-2 (March 1995)
Shock resistance Vibration resistance	g g	1000 per IEC 770 for mechanical shock 50 per IEC 770 for vibration under resonance conditions
Electrical connection Weight Dimensions Electrical protection Environmental protection	 lb	4-pin L-plug per DIN 43 650 with solderless screw terminal and PG 13 fitting {4- pin L-plug with 1/2" female conduit opening, 5 foot vented flying lead, 4 or 6 pin MIL plug} {custom plug and cable assemblies} approximately 0.4 (0.2 Kg) see drawing protected against reverse polarity, short circuit, and overvoltage IP 65 (NEMA 5) with 4 pin L-plug, MIL plugs {IP 67 (NEMA 4) with 5 foot flying lead} {IP 68 (NEMA 6) submersible with cable and special case}

Notes: Items in curved brackets { } are available as special order options
¹improved accuracy available with pressure ranges \geq 100 INWC

Dimensions

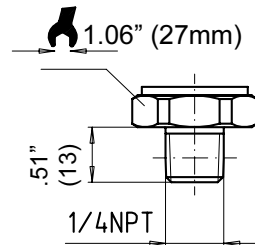


Key	Description	Dimension
A	Standard case	3.25" (82mm)
	Long case	4.33" (110mm)

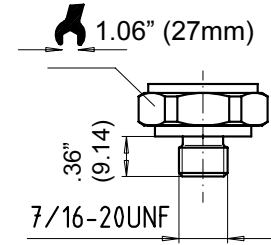
Case length supplied depends upon special order options.

Optional process connections

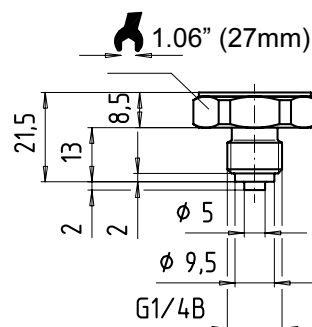
1/4 NPT male



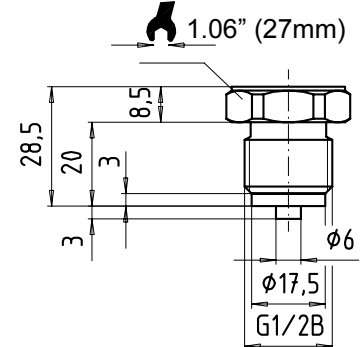
SAE #4 male O-ring boss (for ranges from 400 to 15,000 PSI)



G1/4B BSP



G1/2B BSP



metric connections shown in mm

For non-clogging flush diaphragm process connections see **Type S-11** on data sheet APE 81.02

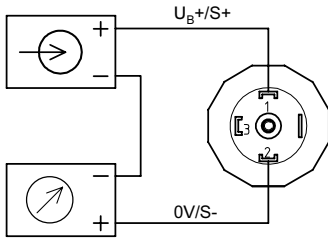
Electrical connections

	Standard				
Type	DIN 43 650 plug	Attachable LCD Display	Vented cable with free ends	Snap Cap™ with terminal block	MIL plug
Protection	IP 65 / NEMA 5	IP 65 / NEMA 5	IP 67 / NEMA 4	IP 67 / NEMA 4	IP 65 / NEMA 5
Description and part numbers	PG9 cable gland (standard) Part # 1006711 1/2" NPT female conduit opening Part # 1632159	Loop powered programmable 4-20 mA 3.5 digit Part # 4210069	5 foot - #9744479 10 foot - #9838915 20 foot - #4239904 30 foot - #4239921 50 foot - #4293348	PG 11 cable gland, 4-20 mA Part # 2130017 1/2 NPT female conduit, 4-20 mA Part # 4260261	4 - pin PT02E-8-4P Part # 8990935 6 - pin PT02E-10-6P Part # 9744460

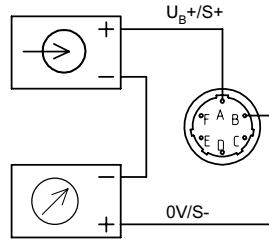
Wiring

2-wire system

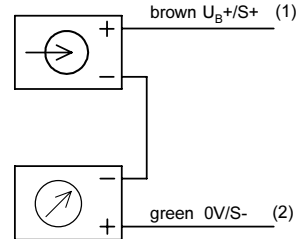
DIN 43 650 plug



MIL-plug PT 02 E-10-6P

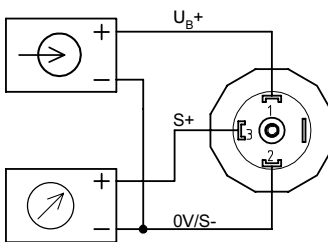


flying lead

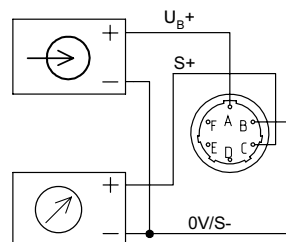


3-wire system

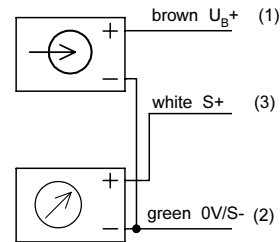
DIN 43 650 plug



MIL-plug PT 02 E-10-6P



flying lead



2-wire system

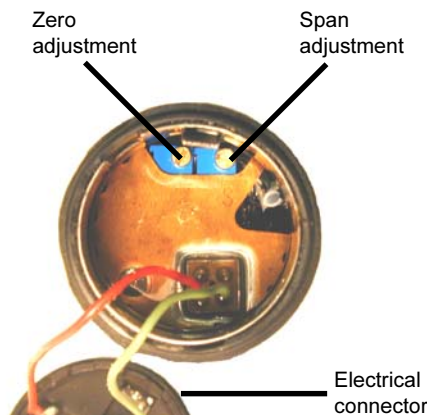
Wire	Coding	DIN Plug	Wire Color
Supply +	$U_B + / S +$	pin 1	brown
Signal -	$0V / S -$	pin 2	green

3-wire system

Wire	Coding	DIN Plug	Wire Color
Supply +	$U_B +$	pin 1	brown
Supply - Signal -	$0V / S -$	pin 2	green
Signal +	$S +$	pin 3	white

Calibration

Remove the electrical connector and retaining ring. Carefully pull the connector plate from the transmitter body. Attach a meter and power supply to the electrical connector. For gauge ranges the zero potentiometer can be adjusted to produce a null output when no pressure is applied. Span adjustment requires the use of a reference pressure source. Compound and absolute ranges require a vacuum and pressure source. When calibrated, reassemble connector, taking care not to pinch the wires between the case and connector plate.



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Ordering Information:

State computer part number (if available) / type number / range / output / process connection / electrical connection / other required options.

Specifications given in this data sheet represent the state of engineering at the time of printing. Modifications may take place and the specified materials may change without prior notice.

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