

Sanitary Pressure Transmitter Type S-10-3A

INSTRUMENTS • CONTROLS • VALVES

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Applications

- Food and beverage
- Pharmaceutical
- Cosmetic

Special Features

- Compliant with 3A
- Available with 3/4", 1.5" or 2.0" Tri-Clamp® connections
- 4-20 mA 2-wire output signal, others available
- Available with an integral cooling extension for high temperature applications
- Stainless steel case and wetted components



S-10-3A



S-10-3A.C

≥1½" Tri-Clamp®
process connection



WIKA S-10-3A pressure transmitters are in compliance with 3A 3rd party sanitary criteria for pressure and level measurement in the food, pharmaceutical, cosmetic and beverage industries. They feature 0.5% accuracy, 0.25 % B.F.S.L, rugged stainless steel construction, and a wide operating temperature range.

The 316L SS flush diaphragm minimizes product buildup. The all welded diaphragm seal system includes FDA and USP approved system fill fluid and is designed for "clean in place" (CIP) and "sterilize in place" (SIP) maintenance procedures. The transmitters are available with industry standard 3/4", 1.5" or 2.0" Tri-Clamp® connections. The S-10-3A.C is designed for use with media temperatures up to 350°F (177°C).

Each transmitter undergoes extensive quality control testing and calibration. 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 transmitter is manufactured to assure accuracy and long term stability when exposed to severe ambient temperature variations.

STANDARD RANGES ⁽¹⁾

| RANGE | 1.5" Tri-Clamp® Part # | 2.0" Tri-Clamp® Part # |
|---------------|---------------------------|---------------------------|
| 30"-0 HgVac | 9766329 | 9744770 |
| 30"-0-30 psi | 8997395 | 4204042 |
| 30"-0-60 psi | 9799732 | 4224167 |
| 30"-0-100 psi | 4204387 | 4300840 |
| 0-15 psi | 9748202 | 9748210 |
| 0-30 psi | 9748075 | 4225007 |
| 0-50 psi | 4215789 | 4215771 |
| 0-60 psi | 9744703 | 9748199 |
| 0-100 psi | 9748237 | 9747931 |
| 0-160 psi | 9748245 | 9748253 |
| 0-200 psi | 9749408 | 4213246 |
| 0-250 psi | 9776227 | 4268831 |
| 0-300 psi | 8990985 | 4253877 |
| 0-500 psi | 4205081 | 9745828 |
| 0-1,000 psi | 8993470 | 4281737 |

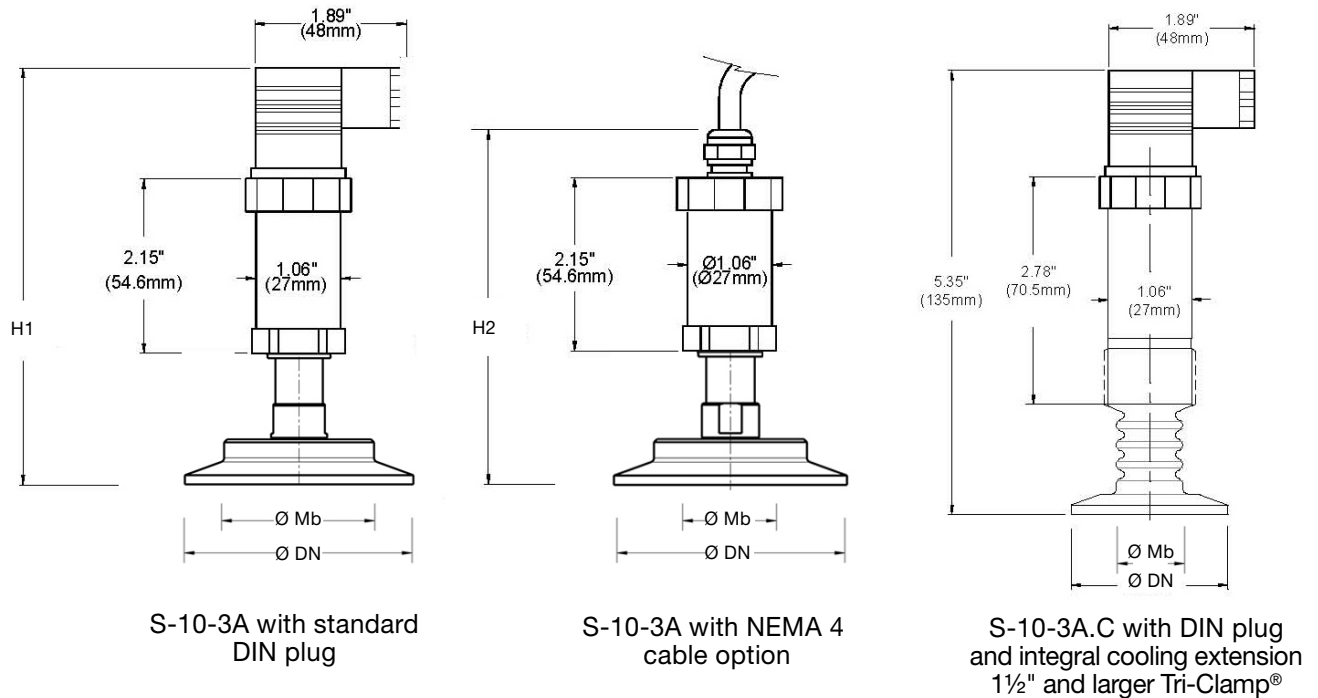
⁽¹⁾ Standard part numbers listed above include a S-10-3A, 4-20 mA two wire output signal and a DIN 43650 electrical connector.

Tri-Clamp® is a registered trademark of Tri-Clover Inc.

| Specifications | Units | Type S-10-3A / S-10-3A-C |
|---|-----------|--|
| Sensing principle | | piezoresistive up to 300 psi, thin film > 400 psi |
| Pressure ranges | psi | standard ranges as listed {custom ranges available} |
| Pressure reference | | relative pressure {absolute pressure reference available} |
| Pressure connection | | |
| Process connection | | 1.5" or 2.0" Tri-Clamp® connection {Electropolished available} {others available} |
| Diaphragm surface finish | Ra | < 20 µin |
| Material: | | |
| Wetted parts | | 1.4435 (316L SS) {others available} |
| ■ Case | | 1.4301 (304 SS) |
| ■ Internal transmitting liquid | | KN 92 Mineral oil - FDA and USP approved {others available} |
| Supply voltage U_B | DC Volts | 10 - 30 (14 - 30 for 0 - 10 V output signal) |
| Output and load limitations: | | |
| Output signal and maximum load | | 4-20 mA 2-wire system RA[Ohm] < (UB [V] -10V) / 0.02 A {0-20 mA 3-wire system} RA[Ohm] < (UB [V] -10V) / 0.02 A {0-5 V 3-wire system} RA> 5 kOhm (min) {0-10 V 3-wire system} RA> 10 kOhm (min) {other signal outputs available} |
| Response time (10...90%) | ms | < 10 |
| Zero and span adjustment | % of span | Approximately ±5% |
| Accuracy ¹⁾ (non-linearity, including hysteresis and non-repeatability) | % of span | <0.5% (0.25 % B.F.S.L.) (Calibrated in vertical mounting position with process connection down) |
| Repeatability | % of span | < 0.05 |
| 1 year stability | % of span | < 0.2 (under reference conditions) |
| Temperature | | |
| ■ Media: | | |
| S-10-3A | | -22° F to +248° F (-30° C to +120° C) |
| S-10-3A.C | | -22° F to +350° F (-30° C to +177° C) |
| ■ Ambient | | -4° F to +176° F (-20° C to +80° C) |
| ■ Storage | | -40° F to +212° F (-40° C to +100° C) |
| Temperature error: (reference 70° F) ²⁾ | | |
| ■ On zero point | % of span | < 0.5 per 18° F (10° C) change |
| ■ On span | % of span | < 0.5per 18° F (10° C) change |
| CE conformity | | |
| | | 97/23/EC 2004/108/EEC, EN 61 326 Emission Group (Group 1, Class B) and Immunity)industrial locations |
| Electrical connection | | 4 pin L-plug per DIN 43 650 with solderless screw terminal & PG 13 fitting {4 pin L-plug with 1/2" female conduit opening, 5 foot vented flying lead, 4 or 6 pin MIL plug} |
| Weight | lb | approximately 1.2 (0.6 Kg) |
| Dimensions | | see drawing |
| Electrical protection | | protected against reverse polarity, short circuit, and overvoltage |
| Environmental protection | | IP 65 (NEMA 5) with 4 pin L-plug, {MIL plugs} {IP 67 (NEMA 4) with 5 foot flying lead |

Notes: 1) Accuracy valid for 1.5" and 2.0" Tri-Clamp®
2) Temperature error valid for 1.5" and 2.0" Tri-Clamp®
Items in curved brackets { } are available as special order options

Dimensions

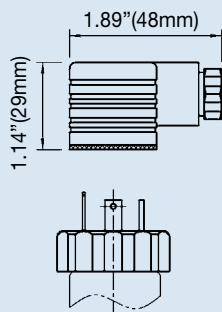


| PROCESS CONNECTION | DN | Mb | H1 | H2 |
|--------------------|-------|------|------|------|
| 3/4" Tri-Clamp® * | 0.98" | 0.6" | 5.1" | 4.5" |
| 1.5" Tri-Clamp® | 1.97" | 1.0" | 5.0" | 4.4" |
| 2.0" Tri-Clamp® | 2.52" | 1.6" | 5.0" | 4.4" |

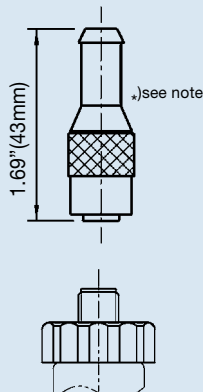
Note: * Accuracy: 1.0% (0.5% B.F.S.L.)
 Temperature error on zero point: 1.0 per 18°F (10°C) change
 Temperature error on span: 1.0 per 18°F (10°C) change

Electrical connections

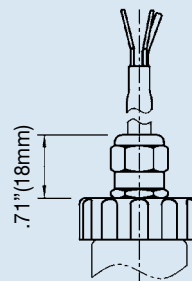
L-connector, DIN EN 175301-803, Form A (DIN 43 650) for conductor cross section up to max. 1.5 mm², conductor outer diameter 0.3" (6-8 mm), NEMA 5 / IP 65
 Order code: A4



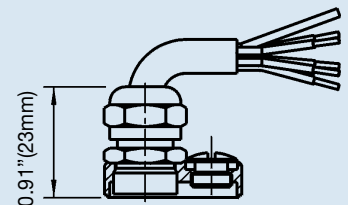
Circular connector M 12x1, 5-pin, NEMA 4 / IP 67
 Order code: M5



Flying leads conductor cross section up to max. 0.5 mm² / AWG 20 with end splices, conductor outer diameter 6.8 mm, NEMA 4 / IP 67
 Order code: DL



Cable with free ends, adjustable zero and span conductor cross section up to max. 0.5 mm² / AWG 20 with end splices, conductor outer diameter 6.8 mm, NEMA 6 P / IP 68
 Order code: XM



Wiring

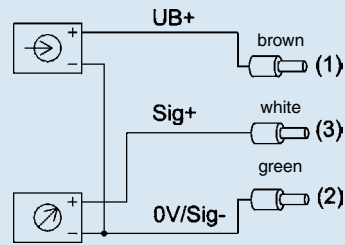
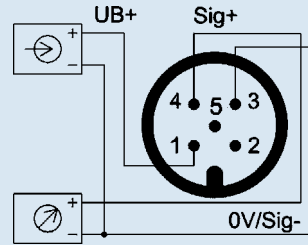
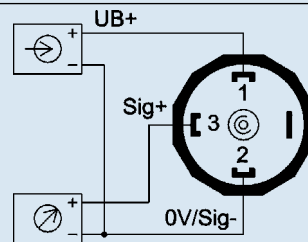
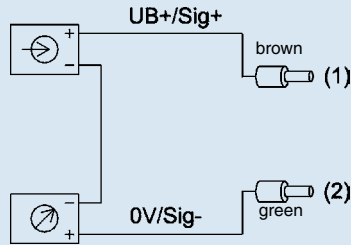
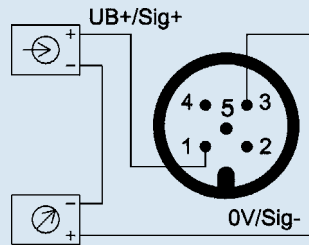
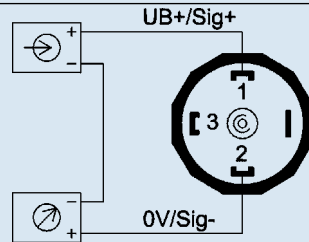
2-wire system

3-wire system

L-Connector,
DIN EN 175301-803, Form A
(DIN 43 650)

M12x1 Circular connector
5 pin

Vented cable with free ends



Legend:

| | | | |
|--|---------------------|------|------------------------|
| | power supply | Sig+ | output signal positive |
| | load (e.g. display) | UB+ | power supply positive |
| | | 0V | power supply negative |
| | | Sig- | output signal negative |

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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