Foxboro®
by Schneider Electric

Models IAP10S and IGP10S Absolute and Gauge Pressure Transmitters with HART Communication Protocol

IAP10S/IGP10S
Transmitter
Flameproof Structure Codes
52, 53, 60-63, D5, D6,
S5, S6, SH, and SJ

IAP10S/IGP10S
Transmitter
Structure Codes 20-23, 30-33
D1, D2, S3, S4,
SC, and SD

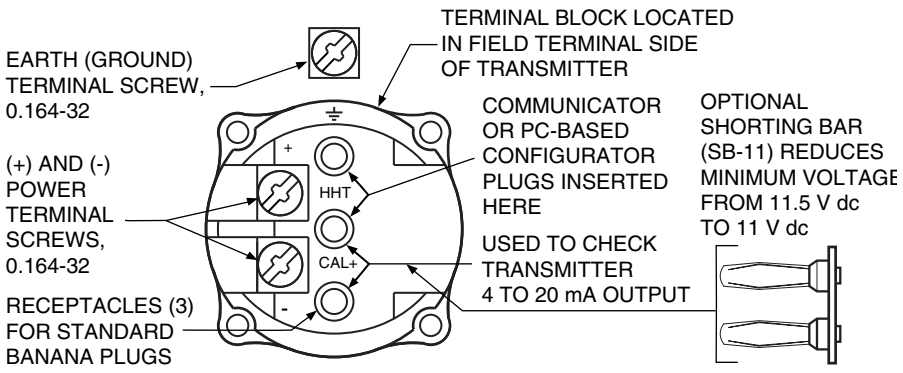
The Foxboro® Pressure S Series Models IAP10S and IGP10S transmitters are intelligent, two-wire transmitters that provide precise, reliable measurement of absolute or gauge pressure, and transmit a 4 to 20 mA output signal with a superimposed HART digital signal for remote configuration and monitoring.

FEATURES

- 100 mS response time
- Unique patented FoxCal™ feature maintains published accuracy without the need for field calibration, down to 30:1 turndown, by using multiple factory-present calibrated ranges.
- Time in Service meter features cumulative power-up time and time powered since last user reset
- Field-proven piezoresistive silicon microsensors
- Simple, elegant sensor packaging with very few parts; achieves exceptionally high reliability
- Durable aluminum or 316 ss housing options available; both meet NEMA 4X and IEC IP67 ratings
- Remote configuration capability via a HART communicator or PC-based configurator; local configuration capability via an optional LCD indicator with on-board pushbuttons
- Numerous configurations of direct connect or remote mount seals available
- HART 6 protocol allows multidrop topology
- Sensor wetted parts materials include Co-Ni-Cr, 316L ss, and nickel alloy(1)
- CE marked; complies with applicable EMC, ATEX, and PED European Union Directives

1. Equivalent to Hastelloy®. Hastelloy is a registered trademark of Haynes International, Inc.

PHYSICAL SPECIFICATIONS

Description	Absolute and Gauge Pressure Transmitters IAP10S and IGP10S
Process Wetted Parts Materials (High Pressure Side) ▸ Process Connection ▸ Sensor Diaphragm	 ▸ 316L ss or nickel alloy (a) ▸ 316L ss, Co-Ni-Cr, or nickel alloy (a)
Reference Side Materials (Atmospheric Pressure Side)	IGP10S Transmitter: Silicon, Pyrex, RTV, and 316 ss IAP10S Transmitter: N/A
Sensor Fill Fluid	Silicone or Fluorinert
Electrical Housing and Housing Covers	Two compartments to separate electronics from field connections. Material is low copper (1% maximum) die-cast aluminum alloy with epoxy finish, or 316 ss.
Environmental Protection	The enclosure has the weatherproof, dust-tight, water-tight, and corrosion resistant rating of IP 66/67 as defined by IEC 60529, and provides the environmental and corrosion resistant protection rating of NEMA 4X.
Electronics Module	Printed wiring assemblies are conformally coated for moisture and dust protection.
Electrical Connections	1/2 NPT (Code 1) or M20 (Code 2) entrances on both sides of electronics housing, as specified. Unused entrance must be plugged to ensure moisture and RFI protection (Aluminum or 316 ss plug supplied).
Mounting Position	The transmitter may be mounted in any orientation.
Approximate Mass (Does not include seals. Refer to PSS 2A-1Z11 A for integral transmitter and seal systems)	Standard Transmitter 1.4 kg (3.1 lb) With 316 ss Housing Add 1.1 kg (2.4 lb) With LCD Indicator Option Add 0.2 kg (0.4 lb)
Field Terminal Connections	

a. Equivalent to Hastelloy® C-276.

SUGGESTED RFQ SPECIFICATIONS

The manufacturer shall provide direct connected pressure transmitters featuring remote digital communications capability for measuring absolute or gauge pressure and transmitting a 4 to 20 mA output with a superimposed HART digital signal for use in a standard two-wire dc supply voltage system. These transmitters shall also be provided (as required) with direct connect pressure seals, or remote mount capillary connected pressure seals. The specifications for these transmitters are as follows:

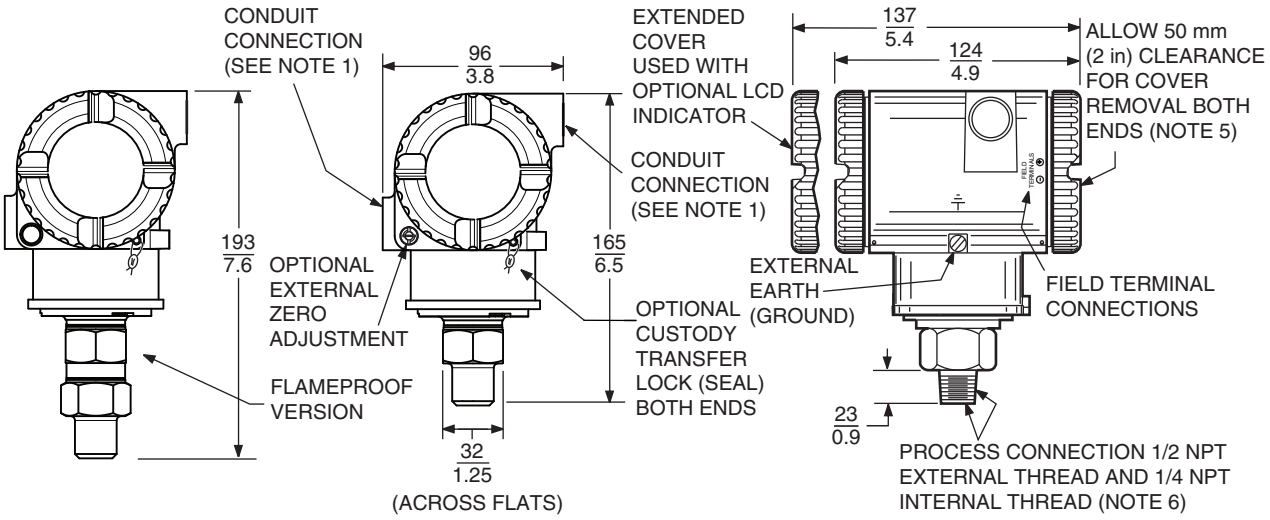
Communication Protocol:	HART, 4 to 20 mA dc, and digital output signal.
Remote Communications:	Must not interfere with output.
Accuracy:	Digital Output: ±0.050% of calibrated span. 4 to 20 mA Output: ±0.060% of calibrated span.
RFI Protection:	0.1% error between 30 and 1000 MHz at 30 V/m field intensity
Proof Pressure:	120, 1200, 11,500, or 22,000 psi for direct connected transmitters; as specified.
Span Limits:	IAP10S: From 0.5 to 2000 psi IGP10S: From 0.3 to 6000 psi For standard direct connected transmitters; as specified; or SI and Metric equivalents
Electronics Housing:	IEC IP67 (NEMA 4X); 316 ss or aluminum housing with Epoxy finish; two compartments (field wiring and electronics); housing sealed with O-rings for double protection against moisture or other contaminants.
Modular Electronics:	Easily replaceable modular electronics; optional integral LCD Digital Indicator with on-board configuration pushbuttons.
Mounting:	Direct to process.
Process Connection:	IAP10S/IGP10S Transmitters: Direct to process piping or pressure seal with 1/2 NPT; optional Rc 1/2 or G 1/2 B external threads to process piping. Internal 1/4 NPT thread also provided as plumbing connection to process; or prepared for a direct connect seal or capillary connected seal.
Sensor Materials:	Co-Ni-Cr, 316L ss, and nickel alloy (a) for IAP10S/IGP10S transmitters.
Electrical Classification:	Nonincendive for Class I and Class II, Division 2 locations; intrinsically safe or explosionproof for Class I and Class II, Division 1 locations. Versions available to meet Agency flameproof and zone requirements; comply with applicable European Union Directives.
Approximate Mass:	Direct Connected Transmitter: 1.4 kg (3.1 lb) With 316 ss Electronics Housing: Add 1.1 kg (2.4 lb) With Optional LCD Indicator: Add 0.2 kg (0.4 lb) With Pressure Seals: See PSS 2A-1Z11 A
Model Code:	IGP10S or IAP10S Direct Connected Gauge or Absolute Pressure Transmitters all with HART Communication Protocol; with or without pressure seals; or equivalent.

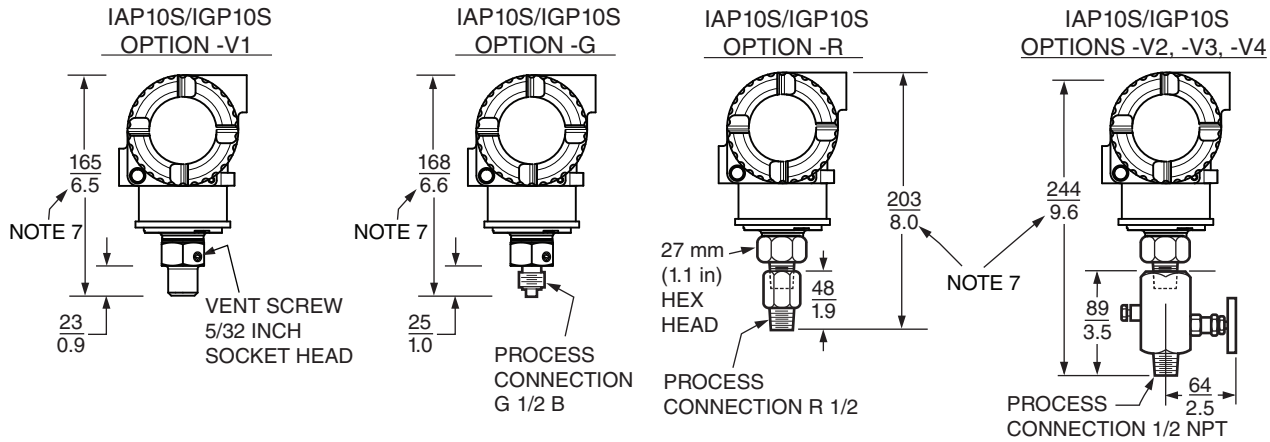
a. Equivalent to Hastelloy® C-276.

DIMENSIONS – NOMINAL

mm
in

IAP10S AND IGP10S DIRECT CONNNECTED TRANSMITTERS





NOTES

1. CONDUIT CONNECTION 1/2 NPT OR M20, BOTH SIDES: PLUG UNUSED CONNECTION WITH METAL PLUG (SUPPLIED).
2. PROCESS CONNECTOR CAN BE REMOVED AND CONNECTION MADE DIRECTLY TO PROCESS COVER USING 1/4 NPT INTERNAL THREAD IN PROCESS COVER. NOTE THAT WITH PROCESS CONNECTION CODE "0", THERE IS NO CONNECTOR.
3. PROCESS COVER CAN BE INVERTED MAKING OPTIONAL SIDE VENT A SIDE DRAIN.
4. FOR USERS WHO DESIRE THE PROCESS CONNECTOR ON THE RIGHT SIDE, MERELY ROTATE TRANSMITTER 180° AND RELOCATE PROCESS CONNECTOR SHOWN TO THE RIGHT SIDE.
5. TOPWORKS ROTATABLE TO ANY POSITION WITHIN ONE TURN COUNTERCLOCKWISE OF FULLY TIGHTENED POSITION.
6. DO NOT USE THE 1/4 NPT INTERNAL THREAD TO DIRECT-CONNECT THE TRANSMITTER.
7. FOR FLAMEPROOF TRANSMITTERS, ADD 28 mm (1.1in) TO OVERALL HEIGHT DIMENSION. REFER TO DIMENSIONAL PRINT DP020-463 FOR FURTHER INFORMATION.