

IGP10 I/A Series® Intelligent Gauge Pressure Transmitters



- Choice of Mounting Styles
 - ✓ IGP10 for compact light weight and direct-to-process mounting (bracket optionally available)
- Rugged & Dependable
 - ✓ Field-proven silicon strain gauge technology
 - ✓ Corrosion-resistant epoxy finish
- Superior Performance
 - ✓ Accuracy to $\pm 0.05\%$ of span
 - ✓ Ambient temperature effects to $\pm(0.03\% \text{ URL} + 0.06\%) \text{ span per } 28^\circ\text{C } (50^\circ\text{F})$
- Choice of Electronics Modules
 - ✓ Intelligent HART, Foundation Fieldbus, FoxCom, and 4-20 mA versions
 - ✓ Economical 4-20 mA and 1 to 5 Vdc versions
- LCD Indicator/Pushbutton Configurator
 - ✓ Optional on Foundation Fieldbus, FoxCom/4-20 mA, and HART/4-20 versions; Standard on 4-20 mA and 1 to 5 Vdc versions
- Standard Warranty 5 Years

Functional Specifications

Sensor Temperature Limits:

DC200: -46 & $+121^\circ\text{C } (-50^\circ + 250^\circ\text{F})$

FC77: -29 & $+85^\circ\text{C } (-20^\circ + 185^\circ\text{F})$

Ambient Temperature Limits:

DC200: -40 & $+85^\circ\text{C } (-40^\circ + 185^\circ\text{F})$

FC77: -29 & $+85^\circ\text{C } (-20^\circ + 185^\circ\text{F})$

Electrical Classification: Various agency certifications for Zone and Division hazardous locations. Refer to Product Specification sheets for complete specifications.

This transmitter measures gauge pressure and transmits a 4-20 mA, 1 to 5 Vdc, or digital output signal over a pair of wires.

For complete specifications, refer to Product Specification Sheets PSS 2A-1C13 A, B, C, D, E, F, K, and L.

Output Signal and Configuration:

Version	Output Choices	Configure From
-D	✓ FoxCom Digital ✓ FoxCom/4 to 20 mA	✓ I/A Series Workstation ✓ Hand-Held Terminal ✓ Personal Computer ✓ Optional Pushbuttons
-T	✓ HART/ 4 to 20mA	✓ HART Communicator ✓ Workstation ✓ Personal Computer
-F	✓ Foundation Fieldbus	✓ Workstation
-A	✓ 4 to 20mA	✓ Standard Pushbuttons
-V	✓ 1-5 Vdc	✓ Standard Pushbuttons

Span, Range and Overrange Limits:

Span Limits Code	Span Limits		
B	0.87 & 50 kPa	3.5 & 200 in H ₂ O	8.7 & 500 mbar
C	0.007 & 0.21 MPa	1 & 30 psi	0.07 & 2.1 bar or kg/cm ²
D	0.07 & 2.1 MPa	10 & 300 psi	0.70 & 21 bar or kg/cm ²
E	0.70 & 21 MPa	100 & 3000 psi	7.0 & 210 bar or kg/cm ²
F	14 & 42 MPa	2000 & 6000 psi	140 & 420 bar or kg/cm ²
K	17 & 52	2500 & 7500 psi	175 & 525 bar or kg/cm ²
G	35 & 105	5000 & 15000 psi	350 & 1050 bar or kg/cm ²
H	70 & 210	10000 & 30000 psi	700 & 2100 bar or kg/cm ²

	Range Limits		
C	0 & 0.21 MPa	0 & 30 psi	0 & 2.1 bar or kg/cm ²
D	0 & 2.1 MPa	0 & 300 psi	0 & 21 bar or kg/cm ²
E	0 & 21 MPa	0 & 3000 psi	0 & 210 bar or kg/cm ²
F	0 & 42 MPa	0 & 6000 psi	0 & 420 bar or kg/cm ²
K	0 & 52 MPa	0 & 7500 psi	0 & 525 bar or kg/cm ²
G	0 & 105 MPa	0 & 15000 psi	0 & 1050 bar or kg/cm ²
H	0 & 210 MPa	0 & 30000 psi	0 & 2100 bar or kg/cm ²

	Maximum Overrange		
C	0.31 MPa	45 psi	3.15 bar or kg/cm ²
D	3.1 MPa	450 psi	31.5 bar or kg/cm ²
E	31 MPa	4500 psi	315 bar or kg/cm ²
F	63 MPa	9000 psi	630 bar or kg/cm ²
K	79 MPa	11250 psi	775 bar or kg/cm ²
G	137 MPa	19500 psi	1365 bar or kg/cm ²
H	231 MPa	33000 psi	2310 bar or kg/cm ²

Note: Span Limit Code B only available with Sanitary and Pulp and Paper Structures.

Performance Specifications

Accuracy (Includes Linearity, Hysteresis, and Repeatability):

Version	Output	Signal Accuracy in % of Calib. Span
-D or -T	Digital 4 to 20 mA	±0.05 ±0.075
-F	Digital	±0.05
-A	4 to 20 mA	±0.20
-V	1 to 5 Vdc	±0.10

Refer to PSSs for accuracies at small spans
(less than 10% of URL) and Span Codes K, G, and H.

Physical Specifications

Material Combinations and Value Package: Refer to "How to Order" for material versions available. For exceptional value and corrosion resistance, standard material combination with the lowest price is 316 ss Process Connection and 316L ss or Sensor.

Sensor Fill Fluid: Dow Corning dimethylsiloxane (DC 200) or fluorinated hydrocarbon (3M Fluorinert FC77), as specified.

Enclosure Classification: Meets IEC IP66 & NEMA Type 4X.

How to Order – Specify Model IGP10**Electronics Versions and Output Signal**

4-20 mA/FoxCom	D
4 to 20 mA/HART	T
Foundation Fieldbus	F
4 to 20 mA	A
1 to 5 V dc	V

Structure Code – Select from one of the following eight groups:**1. Transmitter Only (no seals)**

Process Connection	Sensor	Sensor Fill Fluid	Connection Type	
316L ss	Co-Ni-C	Silicone	½ NPT External Thread, ¼ NPT Internal Thread.	20
316L ss	Co-Ni-Cr	Fluorinert	½ NPT External Thread, ¼ NPT Internal Thread.	21
316L ss	316L ss	Silicone	½ NPT External Thread, ¼ NPT Internal Thread.	22
316L ss	316L ss	Fluorinert	½ NPT External Thread, ¼ NPT Internal Thread.	23
316L ss	Hastelloy C	Silicone	½ NPT External Thread, ¼ NPT Internal Thread.	30
316L ss	Hastelloy C	Fluorinert	½ NPT External Thread, ¼ NPT Internal Thread.	31
Hastelloy C	Hastelloy C	Silicone	½ NPT External Thread, ¼ NPT Internal Thread.	32
Hastelloy C	Hastelloy C	Fluorinert	½ NPT External Thread, ¼ NPT Internal Thread.	33
15-5 ss	15-5 ss	None	¼ NPT, Internal (available with Span Limit Code G & K only)	24
Inconel X-750	Inconel X-750	None	¼ NPT, Internal (available with Span Limit Code G & K only)	26
13-8 Mo ss	13-8 Mo ss	None	Autoclave F-250-C (c) Available with Span Limit Code H only)	28

2. Flameproof Transmitter Only (no seals)

Process Connection	Sensor	Sensor Fill Fluid	Connection Type	
316L ss	316L ss	Silicone	½ NPT External Thread, ¼ NPT Internal Thread.	52
316L ss	316L ss	Fluorinert	½ NPT External Thread, ¼ NPT Internal Thread.	53
316L ss	Hastelloy C	Silicone	½ NPT External Thread, ¼ NPT Internal Thread.	60
316L ss	Hastelloy C	Fluorinert	½ NPT External Thread, ¼ NPT Internal Thread.	61
Hastelloy C	Hastelloy C	Silicone	½ NPT External Thread, ¼ NPT Internal Thread.	62
Hastelloy C	Hastelloy C	Fluorinert	½ NPT External Thread, ¼ NPT Internal Thread.	63

3. Transmitter with Sanitary Connection⁽¹⁾

Process Connection	Sensor	Sensor Fill Fluid	Connection Type	
316L ss	316L ss	NEOBEE M-20	1.5-in Tri-Clamp	TA
316L ss	316L ss	NEOBEE M-20	2.0-in Tri-Clamp	T2
316L ss	316L ss	NEOBEE M-20	3.0-in Tri-Clamp	T3
316L ss	Hastelloy C276	NEOBEE M-20	1.5-in Tri-Clamp	TB
316L ss	Hastelloy C276	NEOBEE M-20	2.0-in Tri-Clamp	T4
316L ss	Hastelloy C276	NEOBEE M-20	3.0-in Tri-Clamp	T5
316L ss	316L ss	NEOBEE M-20	Mini Tank Spud Type, 1½ in extension.	M1
316L ss	316L ss	NEOBEE M-20	Mini Tank Spud Type, 6-in extension	M6
316L ss	316L ss	NEOBEE M-20	Mini Tank Spud Type, 9-in extension	M9
316L ss	316L ss	NEOBEE M-20	1-in Threaded Spud Type.	PX
316L ss	316L ss	NEOBEE M-20	1.5-in Threaded Spud Type	PZ

4. Transmitter with Pulp & Paper Connection⁽¹⁾

Process Connection	Sensor	Sensor Fill Fluid	Connection Type	
316L ss	316L ss	Silicone	Sleeve Type, 1 inch nominal	PA
316L ss	316L ss	Silicone	Threaded Type, 1 inch nominal	PB
316L ss	316L ss	Silicone	Sleeve Type, 1½ inch nominal	PC
316L ss	316L ss	Silicone	Threaded Type, 1½ inch nominal	PD
316L ss	Hastelloy C276	Silicone	Sleeve Type, 1 inch nominal	PE
316L ss	Hastelloy C276	Silicone	Threaded Type, 1 inch nominal	PF
316L ss	Hastelloy C276	Silicone	Sleeve Type, 1½ inch nominal	PG
316L ss	Hastelloy C276	Silicone	Threaded Type, 1½ inch nominal	PH
316L ss	Hastelloy C276	Silicone	Threaded Type, 1½ inch nominal (fits Ametek spud)	PJ

5. Transmitter Prepared for Foxboro Model Coded Seals⁽²⁾

Transmitter Prepared for Foxboro Direct Connect Seal; Silicone Fill in Sensor ⁽³⁾	D1
Transmitter Prepared for Foxboro Direct Connect Seal; Fluorinert Fill in Sensor ⁽³⁾	D2
Transmitter Prepared for Foxboro Remote Mount Seal; Silicone Fill in Sensor ⁽⁴⁾	S3
Transmitter Prepared for Foxboro Remote Mount Seal; Fluorinert Fill in Sensor ⁽⁴⁾	S4

6. Transmitters Prepared for non-Foxboro Seals

Transmitter Prepared for Remote Seal; Silicone Fill in Sensor	SC
Transmitter Prepared for Remote Seal; Fluorinert Fill in Sensor	SD

7. Flameproof Transmitter Prepared for Foxboro Model Coded Seals⁽²⁾

Flameproof Transmitter Prepared for Direct Connect Seal; Silicone Fill in Sensor ⁽³⁾	D5
Flameproof Transmitter Prepared for Direct Connect Seal; Fluorinert Fill in Sensor ⁽³⁾	D6
Flameproof Transmitter Prepared for Remote Mount Seal; Silicone Fill in Sensor ⁽⁴⁾	S5
Flameproof Transmitter Prepared for Remote Mount Seal; Fluorinert Fill in Sensor ⁽⁴⁾	S6

8. Flameproof Transmitter Prepared for non-Foxboro Seals

Flameproof Transmitter Prepared for Remote Seal; Silicone Fill in Sensor	SH
Flameproof Transmitter Prepared for Remote Seal; Fluorinert Fill in Sensor	SJ

Span Limits

KPa	inH ₂ O	mbar	
0.87 and 50	3.5 and 200	8.7 and 500 (available with Sanitary and Pulp & Paper Structure Codes)	B
Mpa	psi	bar or kg/cm ²	
0.007 and 0.21	1 and 30	0.07 and 2.1	C
0.07 and 2.1	10 and 300	0.7 and 21	D
0.7 and 21	100 and 3000	7 and 210	E
14 and 42	2000 and 6000	140 and 420	F
17 and 52	2500 and 7500	175 and 525 (available with Structure Codes 24 and 26 only)	G
35 and 105	5000 and 15 000	350 and 1050 (available with Structure Codes 24 and 26 only)	K
70 and 210	10 000 and 30 000	700 and 2100 (available with Structure Code 28 only)	H

Conduit Connection and Housing Material

1/2 NPT Conduit Connections, Aluminum Housing	1
PG 13.5 Conduit Connections, Aluminum Housing	2
1/2 NPT Conduit Connections, 316 ss Housing	3
PG 13.5 Conduit Connections, 316 ss Housing	4
M20 Conduit Connection, Both Sides, Aluminum Housing	5
M20 Conduit Connection, Both Sides, 316 ss Housing	6

Electrical Safety (See PSS for Description and Restrictions)

ATEX II GD, EEx ia IIC, or II ½ GD, EEx ib IIC	E
ATEX Flameproof; II 2 GD, EEx d IIC, Zone 1	D
ATEX II 3 GD, EEx nL IIC	N
ATEX Multiple Certifications (E and N)	M
ATEX Multiple Certifications (E, D, and N)	P
CSA Certified	C
CSA Certified (including Flameproof Zones)	B
FM Approved	F
FM Approved (including Flameproof Zones)	G

IECEx Intrinsically Safe, Ex ia IIC T4	-T
IECEx Intrinsically Safe, Protection n; Ex nL IIC T4	-U
Optional Selections	
Mounting Bracket Set—Specify Only One	
Painted Steel Bracket with Plated Steel Bolts (for Conduit Connection Codes 1 and 3)	-M1
Stainless Steel Bracket with Stainless Steel Bolts (for Conduit Connection Codes 1 and 3)	-M2
Painted Steel Bracket with Plated Steel Bolts (for Conduit Connection Codes 2 and 4)	-M3
Stainless Steel Bracket with Stainless Steel Bolts (for Conduit Connection Codes 2 and 4)	-M4
Painted Steel Bracket with Plated Steel Bolts for use with M20 (for Conduit Connection Codes 5 & 6)	-M5
Stainless Steel Bracket with Stainless Steel Bolts for use with M20 (for Conduit Connection Codes 5 and 6)	-M6
Digital Indicator with Pushbuttons—Specify Only One	
Digital Indicator, Pushbuttons, and Window Cover for IGP10-D, -T, and -F only ⁽⁵⁾	-L1
Blind (solid) cover over the std. LCD on -A or -V	-L2
Conduit Thread Adapters – Specify Only One	
Hawk-Type ½ NPT Cable Gland for use with Conduit Connection Codes 1 & 3	-A1
Plastic PG 13.5 Connector for use with Conduit Connection Codes 2 & 4	-A2
M20 Connector for use with Conduit Connection Codes 1 & 3	-A3
Trumpet shaped PG 13.5 Cable Gland (Nickel Plated Brass) for use with Conduit Connection Codes 2 & 4	-A4
Vent Screw and Block & Bleed Valve – Specify Only One	
Vent screw in process connection	-V1
Block and Bleed Valve—carbon steel	-V2
Block and Bleed Valve—316 ss	-V3
Block and Bleed Valve—316 ss body w/Monel trim	-V4
Electronic Housing Features – Specify Only One	
External Zero Adjustment	-Z1
Custody Transfer Lock & Seal	-Z2
External Zero Adjustment and Custody Transfer Lock & Seal	-Z3
Factory Configuration – Specify Only One	
Digital Output (FoxCom only)	-C1
Full Factory Configuration (Requires configuration form)	-C2
Instruction Book Options	
Without Instruction Book & CD	-K1
Process Connection	
G ½ Form B, External Thread ⁽⁶⁾	-G
Autoclave F-250-C (with Span Limit Codes G & K only, standard with Span Code H)	-G1
½ NPT External Thread (with Span Codes G & K)	-G2
Cleaning and Preparation	
Unit Degreased – for Silicone Filled Sensors Only	
Not for Oxygen/Chlorine Service, Option -V1, or Pressure Seals	-X1
Cleaned and Prepared for Oxygen Service – for Fluorinert Filled Sensors Only	
Not with Option -V1, or Pressure Seals	-X2
Cleaned and Prepared for Chlorine Service – with Structure Code 33 or 63 Only	
Not with Option -V1, or Pressure Seals	-X3
Miscellaneous Optional Selections	
G ½ B Manometer Process Connection	-G
R ½ Process Connection (½ NPT to R ½ Adapter)	-R
Five-Year Warranty	-W
Supplemental Customer Tag	-T
Low Temperature Operative Limit of -50°C (-58°F) for Entire Transmitter	-J

Specify calibrated range.

Specify information for instrument tag.

- Notes:**
- 1 Refer to Section "Pressure Seals and Industry-Specific Connections" for additional information.
 - 2 Both transmitters and pressure seal model codes are required.
 - 3 Direct connect seal models that may be specified are PSTAD, PSFAD, and PSISD.
 - 4 Remote mount seal models that may be specified are PSFPS, PSFES, PSFAR, PSTAR, PSISR, PSSCR, and PSSSR.
 - 5 Standard equipment in IGP10, -A, and -V.
 - 6 Not available with Span Code H.