



PRODUCT DATA SHEET

3100 Series & 3200 Heavy Duty Series

Compact OEM Pressure Transmitters

- ▶ Exceptional Long Term Stability
- ▶ 0–100 psi to 0–30,000 psi Ranges (0–7 bar to 0–2,200 bar)
- ▶ High Proof Pressures with All Stainless Steel Wetted Parts
- ▶ Broad Choice of Outputs, Electrical Connectors, and Pressure Ports
- ▶ Dual Pressure and Temperature Sensing option

3100 and 3200 Series offer high levels of stability and reliability with proven sputtered thin film technology and unbeatable price performance ratio in a small package size. A broad choice of electrical and pressure connections allow stock configurations to suit most applications without modification.

Specifications

Performance	
Long Term Drift	0.2% FS/YR (non-cumulative)
Accuracy	
3100	0.25% FS
3200	0.25% FS for >1000 psi (60 bar) 0.50% FS for <1000 psi (60 bar)
Thermal Error	
3100	0.83% FS/100°F (1.5% FS/100°C)
3200	2% FS/100°C for <1000 psi (60 bar)
Compensated Temperatures	
Operating Temperatures	
–40°F to +257°F (–40°C to +125°C)	
–40°F to +257°F (–40°C to +125°C) for elec. codes B, E, G, 6, 8, 9, Y	
–5°F to +180°F (–20°C to +80° C) for elec. code W	
Zero Tolerance	
3100	0.5% of span
3200	0.50% of span for >1000 psi (60 bar) 1.00% of span for <1000 psi (60 bar)
Span Tolerance	
3100	0.5% of span
3200	0.50% of span for >1000 psi (60 bar) 1.00% of span for <1000 psi (60 bar)
Response Time	
Fatigue Life	
Designed for more than 100 M cycles	
Mechanical Configuration	
Pressure Port	See under “How to Order,” last page
Wetted Parts	17-4 PH Stainless Steel
Housing	304 Stainless Steel
Electrical Connection	See under “How to Order,” last page
Enclosure	IP67 (IP65 for electrical codes G & W)
Vibration	40 G peak to peak sinusoidal, (Random Vibration: 20 to 1000 Hz @ approx. 40 G peak per MIL-STD-810E)
Shock	Withstands free fall to IEC 68-2-32 procedure 1
EMC (Radiated Immunity)	100 V/m
Approvals	CE, conforms to European Pressure Directive, Fully RoHS compliant, CRN Registered to ANSI/ASME B31.3, UL recognized files # E219842 & E174228
Weight	1.8–5.3 ounces (50–150 grams). Configuration dependent.
Voltage	
Output (3-wire)	0 V min. to 10 V max. See under “How to Order,” last page
Supply Voltage	2 Volts above full scale to 30 VDC max @ 4.5 mA (6.5 mA on dual output version)
Source and Sinks	2 mA
Current	
Output (2-wire)	4–20 mA
Supply Voltage	8–30 VDC
Maximum Loop Resistance	(Supply Voltage–8) × 50 ohms
Ratiometric	
Output	0.5–4.5 VDC @ 4 mA (6.5 mA on dual output version)
Supply Voltage	5 VDC ±10%



Integral Connector Versions



Wire Options

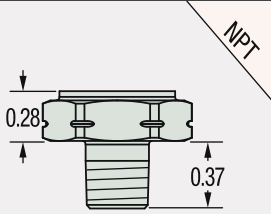
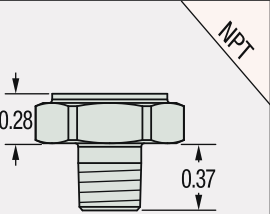
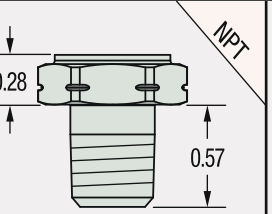
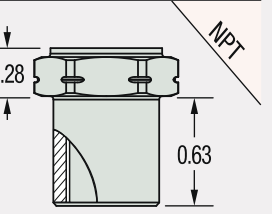
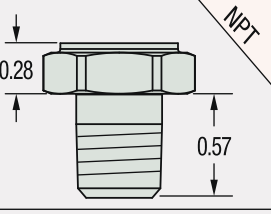
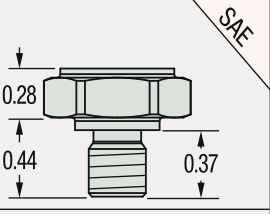
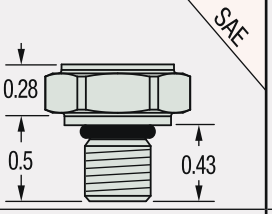
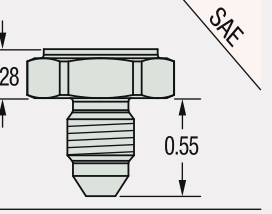
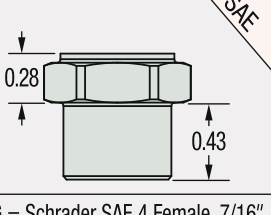
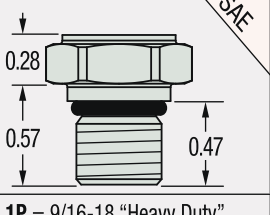
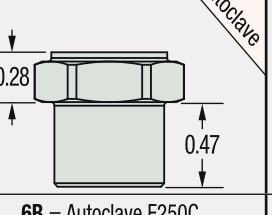
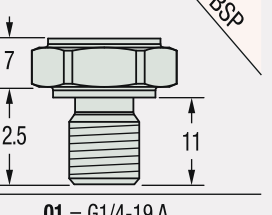
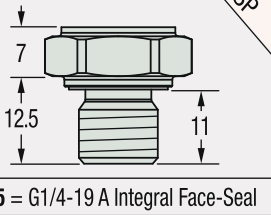
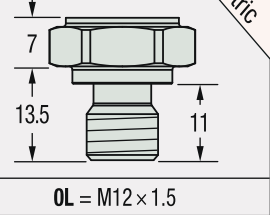
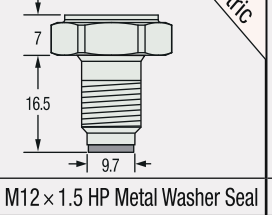
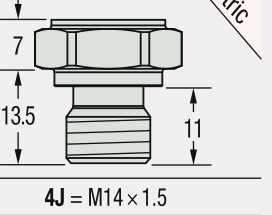


Pressure Capability

Pressure Range psi (bar)	Proof Pressure (× Full Scale)		Burst Pressure (× Full Scale)	
	3100	3200	3100	3200
100–300 (7–25)	3.00 × FS	3.00 × FS	40 × FS	
500–1,500 (40–100)	2.00 × FS		20 × FS	
2,000–6,000 (160–400)			10 × FS	
7,500–9,000 (600)			4 × FS	10 × FS
10,000 (700)		>60,000 psi (4,000 bar)		
15,000 (1,000)	2.50 × FS		1.8 × FS	
25,000 (1,800)	1.40 × FS	1.5 × FS		—
30,000 (2,200)				

Pressure Ports

NPT, SAE, and BSP dimensions in inches. Metric dimensions in millimeters.

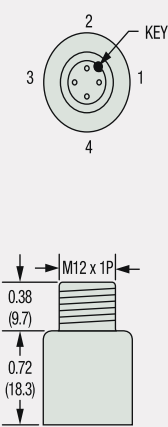
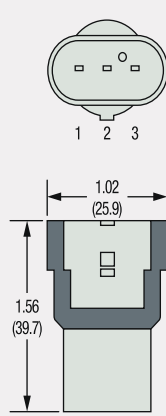
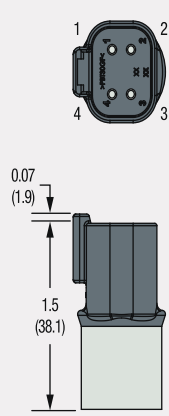
							
Fitting Code	08 = 1/8-27 NPT	4D = 1/8-27 NPTF Dryseal	02 = 1/4-18 NPT	0E = 1/4-18 NPT Internal			
Torque	2–3 TFFT*	2–3 TFFT*	2–3 TFFT*	2–3 TFFT*			
							
Fitting Code	4C = 1/4-18 NPTF Dryseal	4N = 3/8-24 UNF	1J = 7/16-20 UNF	04 = 7/16-20 UNF with 37° Flare			
Torque	2–3 TFFT*	18–20 NM	18–20 NM	15–16 NM			
							
Fitting Code	1G = Schrader SAE 4 Female, 7/16"	1P = 9/16-18 "Heavy Duty"	6B = Autoclave F250C	01 = G1/4-19 A			
Torque	18–20 NM	18–20 NM	18–20 NM	30–35 NM			
							
Fitting Code	05 = G1/4-19 A Integral Face-Seal	0L = M12 × 1.5	2T = M12 × 1.5 HP Metal Washer Seal	4J = M14 × 1.5			
Torque	30–35 NM	28–30 NM	30–35 NM	30–35 NM			

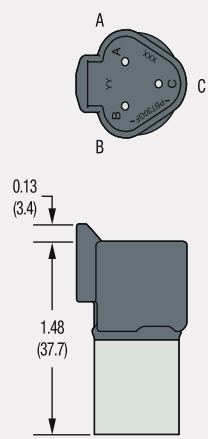
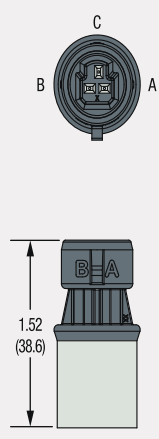
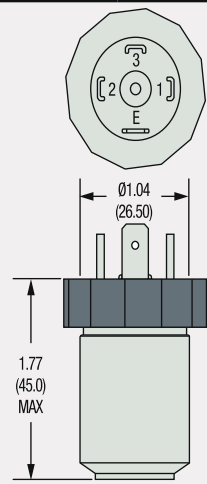
* NPT Threads 2–3 turns from finger tight. Wrench tighten 2–3 turns.

General Notes:

1. The diameter of all cans is 19 mm (0.748")
2. Hex is 22 mm (0.866") Across Flats (A/F) for deep socket mounting
3. O-Ring material, where applicable, is Viton® unless otherwise specified.

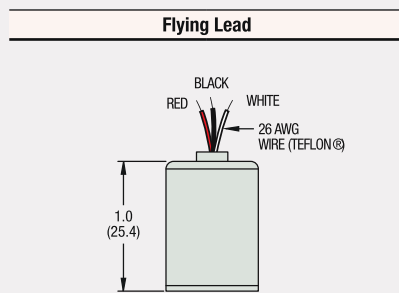
Integral Connector Options

DIN 9.4 mm				M12 x 1P		Amp Superseal 1.5		Deutsch DT04-4P		
										
Code B		Code R		Code E		Code 6		Code 8		
Pin #	Voltage Mode	Current Mode	Voltage Mode	Current Mode	Voltage Mode	Current Mode	Voltage Mode	Current Mode	Voltage Mode	Current Mode
1	V _{out} 1 (pressure)	Do Not Connect	+IN	+IN	+IN	+IN	V _{out}	Do Not Connect	0V	0V
2	+IN	+IN	0V	0V	V _{out} 1 (pressure)	Do Not Connect	0V	0V	+IN	+IN
3	PE or V _{out} 2 (temp)*	PE	V _{out}	Do Not Connect	0V	0V	+IN	+IN	PE or V _{out} 2 (temp)*	PE
4	0V	0V	PE	PE	PE or V _{out} 2 (temp)*	PE	—	—	V _{out} 1 (pressure)	Do Not Connect

	Deutsch DT04-3P		Packard Metri-Pack		DIN 43650A		
							
	Code Y		Code 9			Code G	
Pin ID	Voltage Mode	Current Mode	Voltage Mode	Current Mode	Pin #	Voltage Mode	Current Mode
A	+IN	+IN	0V	0V	1	+IN	+IN
B	0V	0V	+IN	+IN	2	0V	0V
C	V _{out}	Do Not Connect	V _{out}	Do Not Connect	3	V _{out} 1 (pressure)	Do Not Connect
E	—	—	—	—	E	PE or V _{out} 2 (temp)*	PE

* This pin is used for temperature sensing output when this option is utilized. Otherwise, the pin is used for PE.

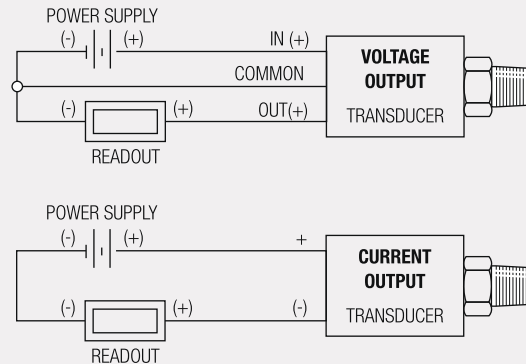
Wire Options



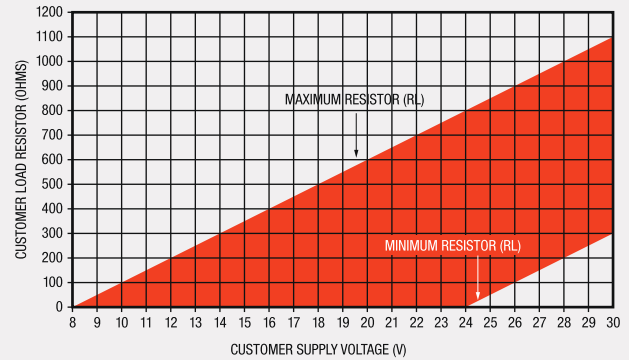
inch
(mm)

Code W	
Voltage Mode	Current Mode
+IN	+IN
0V	0V
V _{out}	Do Not Connect
—	—

Wiring Diagram



Current Output Mode (Load Resistor Range)



Minimum Resistor Value = $50 \times (+V - 24)$ for $+V > 24V$
Maximum Resistor Value = $50 \times (+V - 8)$ for $+V > 8V$

Note: Mating connectors available upon request - contact factory.

How to Order

Use the **bold** characters from the chart below to construct a product code

Series	XXXX	X	XXXXX	XX	X	X	
3100 / 3200 - Pressure Transducer Combination Pressure and Temperature ¹ 3101 / 3201 - Temp. Output Range -40°C to 125°C 3102 / 3202 - Temp. Output Range 0°C to 100°C 3103 / 3203 - Temp. Output Range 0°C to 80°C							Optional Restrictor R - Restrictor 0 - No Restrictor
Output	B - 4-20 mA N - 0.5-4.5 V T - 0.5-4.5 V Ratiometric	C - 1-6 V R - 0-5 V ²	H - 1-5 V S - 0-10 V ²				Electrical Connection B - Industrial DIN 9.4 mm (mating connector not supplied) E - M12 × 1P (4-Pin) G - Large DIN R - Industrial DIN 9.4 mm (alternate pin out) W - Flying lead (12 inches/300mm) Y - Deutsch DT04-3P 6 - Amp - Superseal 1.5 Series 8 - Deutsch DT04-4P 9 - Packard Metri-Pack
Pressure Range - psi	100PG - 0-100 psiG 150PG - 0-150 psiG 200PG - 0-200 psiG 300PG - 0-300 psiG 500PG - 0-500 psiG ³ 600PG - 0-600 psiG 750PG - 0-750 psiG	10CPG - 0-1,000 psiG 15CPS - 0-1,500 psiS 20CPS - 0-2,000 psiS 25CPS - 0-2,500 psiS 30CPS - 0-3,000 psiS 35CPS - 0-3,500 psiS 40CPS - 0-4,000 psiS 50CPS - 0-5,000 psiS 60CPS - 0-6,000 psiS 75CPS - 0-7,500 psiS	10KPS = 0-10,000 psiS 15KPS - 0-15,000 psiS ⁴ 20KPS - 0-20,000 psiS ⁴ 25KPS - 0-25,000 psiS ⁴ 32KPS - 0-32,000 psiS ⁴				Pressure Port ⁵ 08 - 1/8-27 NPT External 02 - 1/4-18 NPT External 04 - 7/16-20 External (SAE #4, J514) 0E - 1/4-18 NPT Internal 1G - Schrader SAE #4, 7/16" Internal 1J - 7/16-20 External (SAE #4, J1926-2) 1P - SAE 6 (9/16-18 UNF 2A) 4C - 1/4-18 NPTF External (Dryseal) 4D - 1/8-27 NPTF External (Dryseal) 4N - 3/8-24 UNF External (SAE J1926) 6B - Autoclave 250C Internal (15,000 psi, >1000 bar)
Pressure Range - bar	0007G - 0-7 barG 0010G - 0-10 barG 0016G - 0-16 barG 0025G - 0-25 barG 0040G - 0-40 barG 0060G - 0-60 barG 0100S - 0-100 barS	0160S - 0-160 barS 0250S - 0-250 barS 0400S - 0-400 barS 0600S - 0-600 barS	1000S - 1,000 barS ⁴ 1600S - 1,600 barS ⁴ 2200S - 2,200 barS ⁴				European Threads 01 - G1/4 A External 05 - G1/4 A External Soft Seal 0L - M12 × 1.5 (<1,000 bar, 15,000 psi) 2T - M12 × 1.5 (6g) (≥1,000 bar, 15,000 psi) 4J - M14 × 1.5 Straight

Notes:

- Temperature outputs are for voltage output pressure sensors only (applies to codes **-C**, **-H**, **-N**, and **-T** only) and limited to electrical codes **-B**, **-E**, **-G**, and **-8**. Accuracy is 3.5% of temperature span. Requires additional 2 mA of power.
- For use with pull-up or pull-down resistors, contact factory.
- 500PG** - 0-500 psiG not available as 3200 Series in output code **-B** (4-20 mA) and **-S** (0-10V).
- Ranges 15,000 psi (1,000 bar) and above available with **-2T** and **-6B** pressure ports only.
- Pressure ports **0E**, **6B**, and **1G** are not available with the **-R** Restrictor option.