

Тонкопленочные датчики давления 3100/3200

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3100 Series and 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	–40°F to +257°F (–40°C to +125°C)
Operating Temperatures	–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	1 ms
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

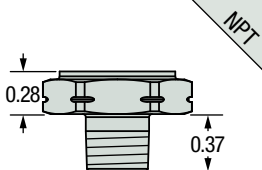
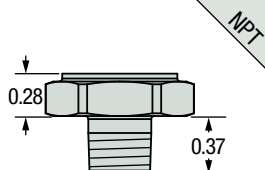
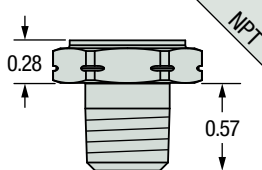
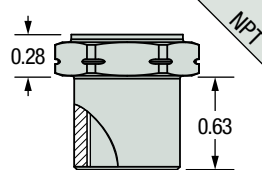
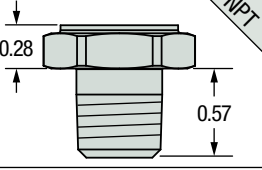
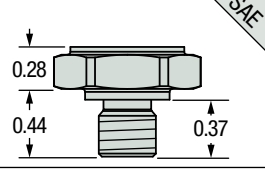
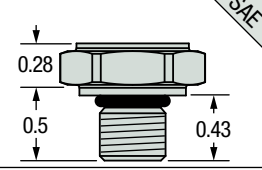
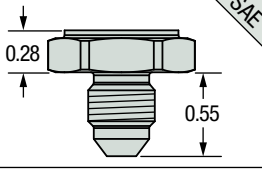
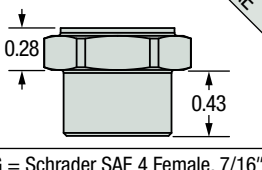
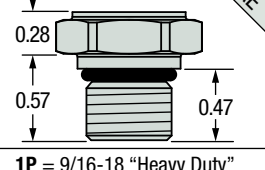
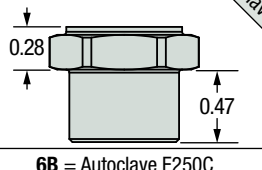
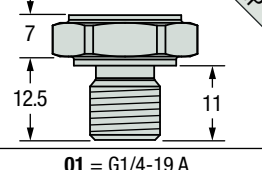
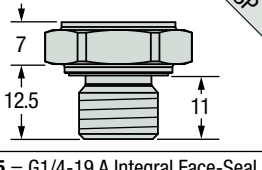
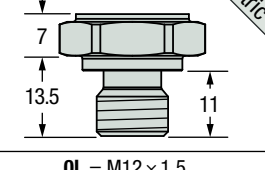
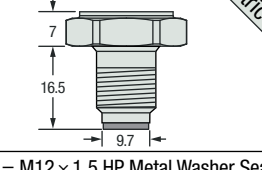
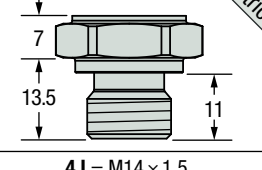


Pressure Capability

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	
25,000 (1,800)	1.40 × FS	1.8 × FS		
30,000 (2,200)		—	1.5 × FS	—

Pressure Ports

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

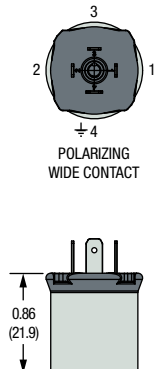
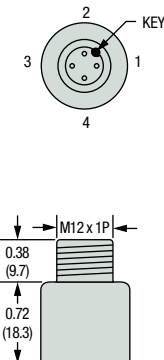
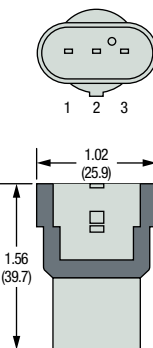
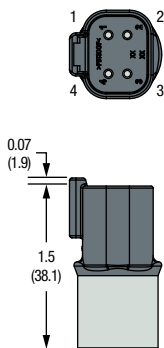
									
Fitting Code		08 = 1/8-27 NPT		4D = 1/8-27 NPTF Dryseal		02 = 1/4-18 NPT		0E = 1/4-18 NPT Internal	
Torque		2-3 TFFT*		2-3 TFFT*		2-3 TFFT*		2-3 TFFT*	
									
Fitting Code		4C = 1/4-18 NPTF Dryseal		4N = 3/8-24 UNF		1J = 7/16-20 UNF		04 = 7/16-20 UNF with 37° Flare	
Torque		2-3 TFFT*		18-20 NM		18-20 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 x 1.5		2T = M12 x 1.5 HP Metal Washer Seal		4J = M14 x 1.5	
Torque		30-35 NM		28-30 NM		30-35 NM		30-35 NM	

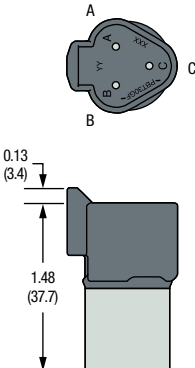
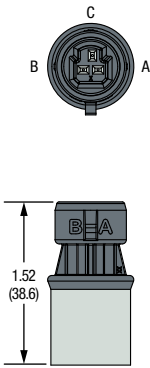
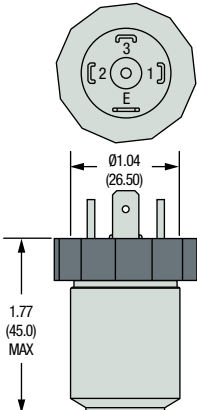
* NPT Threads 2–3 turns from finger tight. Wrench tighten 2–3 turns.

General Notes:

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

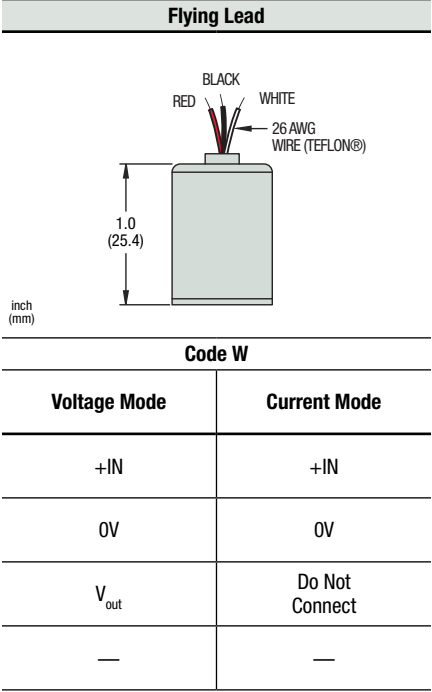
Integral Connector Options

DIN 9.4 mm				M12 × 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

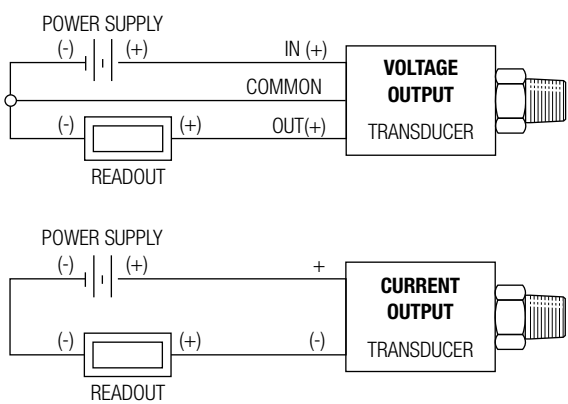
Deutsch DT04-3P			Packard Metri-Pack		DIN 43650A		
							
Code Y			Code 9		Code G		
Pin ID	Voltage Mode	Current Mode	Voltage Mode	Current Mode	Pin #	Voltage Mode	Current Mode
A	+IN	+IN	0V	0V	1	+IN	+IN
B	0V	0V	+IN	+IN	2	0V	0V
C	V _{out}	Do Not Connect	V _{out}	Do Not Connect	3	V _{out} 1 (pressure)	Do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

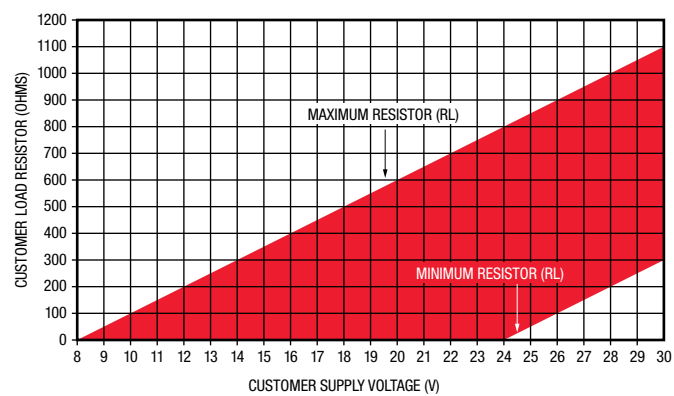
Wire Options



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

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

1. 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.
2. For use with pull-up or pull-down resistors, contact factory.
3. **500PG** - 0–500 psiG not available as 3200 Series in output code **-B** (4–20 mA) and **-S** (0–10V).
4. Ranges 15,000 psi (1,000 bar) and above available with **-2T** and **-6B** pressure ports only.
5. Pressure ports **0E**, **6B**, and **1G** are not available with the **-R** Restrictor option.

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