

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

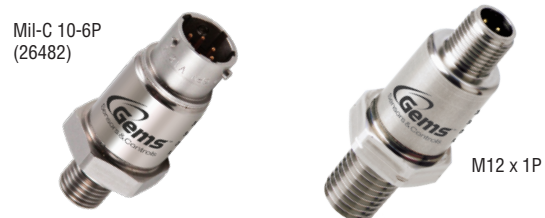
3100 and 3200 Series offer high levels of stability and reliability with proven sputtered thin film technology and unbeatable price performance ratio in a small package size. A broad choice of electrical and pressure connections allow stock configurations to suit most applications without modification.

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, C, E, G, 6, 8, 9, Y -5°F to +180°F (-20°C to +80°C) for elec. codes F, 3, 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	40G peak to peak sinusoidal, (Random Vibration: 20 to 1000 Hz @ approx. 40G 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) x 50 ohms
Ratiometric	
Output	0.5 to 4.5 VDC @ 4 mA (6.5 mA on dual output version)
Supply Voltage	5 VDC ±10%



Integral Connector Versions



Wire & Cable Options



Pressure Capability

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

Pressure Ports

NPT and SAE Dimensions in Inches. Metric and BSP Dimensions in MM.

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 = SAE 4 Female 7/16" Schraeder	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 = M12x1.5 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:

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 Versions

DIN 9.4 mm		M12 x 1P		Amp Superseal 1.5		Deutsch DT04-4P				
<p>POLARIZING WIDE CONTACT</p>										
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 _{out1} (pressure)	Do Not Connect	+IN	+IN	+IN	+IN	V _{out}	Do Not Connect	0V	0V
2	+IN	+IN	0V	0V	V _{out1} (pressure)	Do Not Connect	0V	0V	+IN	+IN
3	PE or V _{out2} (temp)*	PE	V _{out}	Do Not Connect	0V	0V	+IN	+IN	PE or V _{out2} (temp)*	PE
4	0V	0V	PE	PE	PE or V _{out2} (temp)*	PE	—	—	V _{out1} (pressure)	Do Not Connect

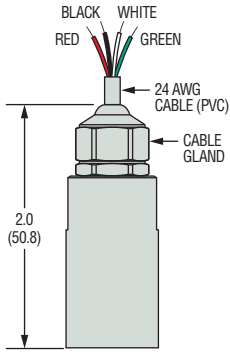
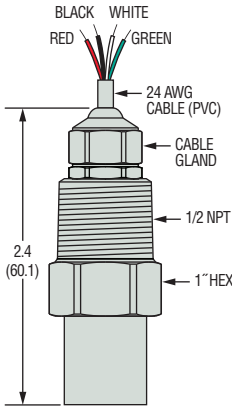
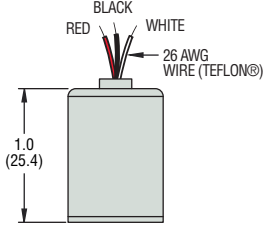
Mil-C 10-6P (26482)		Deutsch DT04-3P		Packard MetriPack		DIN 43650A			
Code C		Code Y		Code 9		Code G			
Pin ID	Voltage Mode	Current Mode	Voltage Mode	Current Mode	Voltage Mode	Current Mode	Pin #	Voltage Mode	Current Mode
A	+IN	+IN	+IN	+IN	0V	0V	1	+IN	+IN
B	V _{out1} (pressure)	0V	0V	0V	+IN	+IN	2	0V	0V
C	0V	Do Not Connect	V _{out}	Do Not Connect	V _{out}	Do Not Connect	3	V _{out1} (pressure)	Do Not Connect
E	PE or V _{out2} (temp)*	PE	—	—	—	—	E	PE or V _{out2} (temp)*	PE

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

PRESSURE TRANSDUCERS

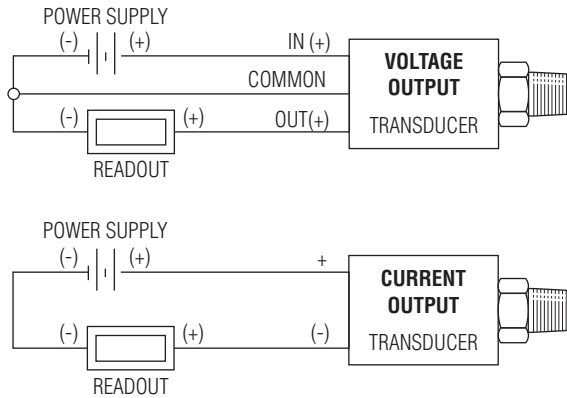
SPUTTERED THIN FILM

Wire & Cable Options

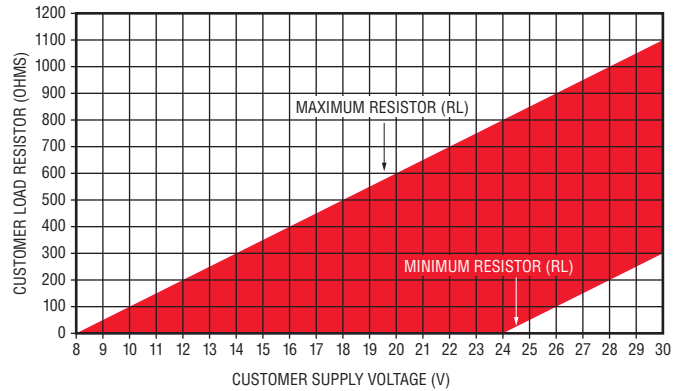
Cable			1/2" Conduit Connection		Flying Lead	
						
Code F			Code 3		Code W	
Wire Color	Voltage Mode	Current Mode	Voltage Mode	Current Mode	Voltage Mode	Current Mode
Red	+IN	+IN	+IN	+IN	+IN	+IN
Black	0V	0V	0V	0V	0V	0V
White	V _{out 1} (pressure)	Do Not Connect	V _{out 1} (pressure)	Do Not Connect	V _{out}	Do Not Connect
Green	PE or V _{out 2} (temp)*	PE	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.

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

			3100	B	200PG	02	B	R	01	
Series	<p>3100 / 3200 - Pressure Transducer Combination Pressure and Temperature¹ 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</p>									Cable Length (For electrical connections F & 3 only)
Output	<p>B - 4-20 mA C - 1-6 V H - 1-5 V N - 0.5-4.5 V R - 0-5 V² S - 0-10 V² T - 0.5-4.5 V Ratiometric</p>									Optional Restrictor (3200 only)
Pressure Range – psi	<p>100PG - 0-100 psiG 10CPG - 0-1,000 psiG 10KPS = 0-10,000 psiS 150PG - 0-150 psiG 15CPS - 0-1,500 psiS 15KPS - 0-15,000 psiS⁴ 200PG - 0-200 psiG 20CPS - 0-2,000 psiS 20KPS - 0-20,000 psiS⁴ 300PG - 0-300 psiG 25CPS - 0-2,500 psiS 25KPS - 0-25,000 psiS⁴ 500PG - 0-500 psiG³ 30CPS - 0-3,000 psiS 32KPS - 0-32,000 psiS⁴ 600PG - 0-600 psiG 35CPS - 0-3,500 psiS 750PG - 0-750 psiG 40CPS - 0-4,000 psiS 50CPS - 0-5,000 psiS 60CPS - 0-6,000 psiS 75CPS - 0-7,500 psiS</p>									Electrical Connection ⁶
Pressure Range - bar	<p>0007G - 0-7 barG 0160S - 0-160 barS 1000S - 1,000 barS⁴ 0010G - 0-10 barG 0250S - 0-250 barS 1600S - 1,600 barS⁴ 0016G - 0-16 barG 0400S - 0-400 barS 2200S - 2,200 barS⁴ 0025G - 0-25 barG 0600S - 0-600 barS 0040G - 0-40 barG 0060G - 0-60 barG 0100S - 0-100 barS</p>									Pressure Port ⁵
Notes:	<p>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, -C, -E, -F, -G, -3, and -8. Accuracy is 3.5% of temperature span. Requires additional 2mA 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. 4. Ranges 15,000 psi (1,000 bar) and above available with -2T & -6B pressure ports only. 5. Pressure ports 0E, 6B, and 1G are not available with the -R Restrictor option. 6. For electrical codes F & 3, specify cable length in meters.</p>									
										<p>B - Industrial DIN 9.4 mm (mating connector not supplied) C - Mil-C 10-6P (26482) E - M12 x 1P (4-Pin) F - Cable version G - Large DIN R - Industrial DIN 9.4 mm (alternate pin out) W - Flying lead (12 inches/300mm) Y - Deutsch DT04-3P 3 - 1/2" NPT Male Conduit 6 - Amp - Superseal 1.5 Series 8 - Deutsch DT04-4P 9 - Packard MetriPack</p> <p>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)</p> <p>European Threads 01 - G1/4 A External 05 - G1/4 A External Soft Seal 0L - M12 x 1.5 (<1,000 bar, 15,000 psi) 2T - M12 x 1.5 (6g) (≥1,000 bar, 15,000 psi) 4J - M14 x 1.5 Straight</p>

PRESSURE TRANSDUCERS





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