

3100 Series and 3200 Heavy Duty Series Compact OEM Pressure Transmitters

- ▶ 0-7 bar to 0-2,200 bar ranges (0-100 psi to 0-30,000 psi)
- ▶ High Proof Pressures
- ▶ Broad Choice of Outputs
- ▶ RoHS Compliant

For OEMs that need consistent high levels of performance, reliability and stability the 31/3200 Series sputtered thin film units offer an unbeatable price performance ratio in a small package size. They feature all-stainless steel wetted parts, a broad selection of electrical and pressure connections, and a wide choice of electrical outputs. Our manufacturing process includes the latest automated equipment, producing consistent sensor performance.

Additionally the 3200 Series transmitters feature a thicker diaphragm and a pressure restrictor to withstand the rigors of cavitations or extreme pressure spikes, delivering years of reliable and stable performance in pulsating applications.

The compact construction of both these series makes them ideal for installation where space is at a premium.

These transmitters are fully RoHS compliant.

Specifications

Performance	
Long Term Drift	0.2% FS/YR (non-cumulative)
Accuracy	0.25% FS
Thermal Error	
3100	±1.5% max, ±1% typical / 100°C (212°F)
3200	±2% FS / 100°C (212°F)
Compensated Temperatures	-40°C to +120°C (-40°F to +250°F)
Operating Temperatures	-40°C to +120°C (-40°F to +250°F)
Zero Tolerance	±0.5% of span
Span Tolerance	±0.5% of span
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
Electrical Connection	See under "How to Order," last page
Enclosure	IP67 (IP65 for electrical codes B, R and G)
Vibration	BSEN 60068-2-6 (FC) Sine (20G) BSEN 60068-2-64 (FH) Random (14.1 Grms)
Shock	BSEN 60068-2-27 (Ea) (50G, 11ms)
Approvals	CE
Weight	50-150 grams (1.8 to 5.3 ounces). Configuration dependant

EMC Specifications

Emissions Tests: EN61326-1:2006 and EN61326-2-3:2006		
EN55016-2-3:2006	Radiated Emissions:	30-230MHz 30dB µV/M @10M 230-1000MHz 37dB µV/M @10M
Immunity Tests: EN61326-1:2006 and EN61326-2-3:2006		
EN61000-4-2:1995	Electrostatic Discharge:	±4Kv contact ±8Kv air
EN61000-4-3:2006	Radiated Immunity:	100V/M 80-1000MHz
EN61000-4-4:2004	Fast Transients:	±4Kv
EN61000-4-6:2007	Conducted Immunity:	10V 0.15 to 80MHz 80% 1 Khz modulation



Individual Specifications

Voltage	
Output (3-wire)	0 V min. to 10 V max. See under "How to Order," last page
Supply Voltage	1 Volt above full scale to 30 Vdc max @ 4.5 mA
Source and Sinks	2 mA
Current	
Output (2-wire)	4-20 mA
Supply Voltage	8-24 Volts measured at the input to the transducer terminals
Maximum Loop Resistance (Supply Voltage – 8) x 50ohms	
Ratiometric	
Output	0.5 to 4.5 Vdc @ 4 mA (Source and sink 2 mA)
Supply Voltage	5 Vdc ±10% @ 4.5 mA

Pressure Capability

Pressure Range Bar (PSI)	Proof Pressure (x Full Scale)		Burst Pressure (x Full Scale)	
	3100	3200	3100	3200
7-20 (100-300)	3.00 x FS	3.00 x FS	40 x FS	
40-100 (500-1,500)			20 x FS	
140-400 (2,000-6,000)			10 x FS	
700 (10,000)			> 4,000 bar (60,000 PSI)	
1,000 (15,000)	1.40 x FS	2.50 x FS		
1,800 (25,000)		1.70 x FS		
2,200 (30,000)		—		

Pressure Ports

BSP & Metric

	G1/4"-19 External w/O-Ring	G1/4"-19 A Integral Face Seal	M12 x 1.5 w/O-Ring	M12x1.5 HP w/O-Ring	M14 x 1.5 w/O-Ring
Dimensions in MM					
Fitting Code	01	05	0L	2T	OK
Torque	30-35NM	30-35 NM	28-30 NM	30-35 NM	2-3 TFFT*

SAE

	1/8"-27 NPT	1/8"-27 NPTF Dryseal	1/4"-18 NPT	1/4"-18 NPT Internal	1/4"-18 NPTF Dryseal
Dimensions in MM					
Fitting Code	08	4D	02	0E	4C
Torque	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*

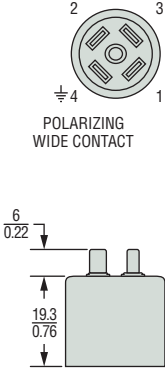
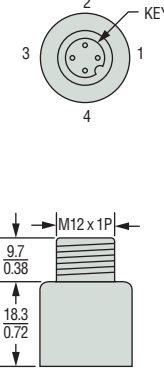
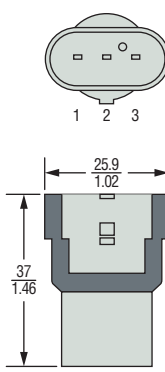
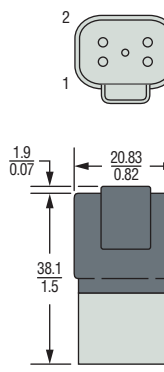
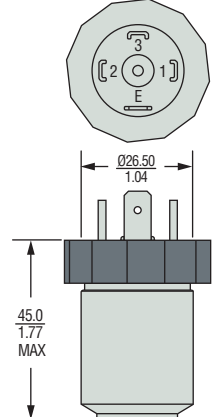
	SAE J1926/2:3/8-24 w/O-Ring	7/16"-20 UNF w/O-Ring	7/16"-20 UNF with 37° Flare	SAE 4 Female 7/16" Schraeder	9/16-18 "Heavy Duty" w/O-Ring
Dimensions in MM					
Fitting Code	4N	1J	04	1G	1P
Torque	18-20 NM	18-20 NM	15-16 NM	18-20 NM	18-20 NM

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

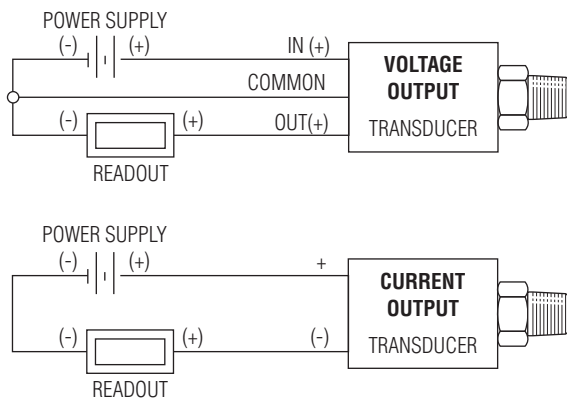
General Notes:

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.

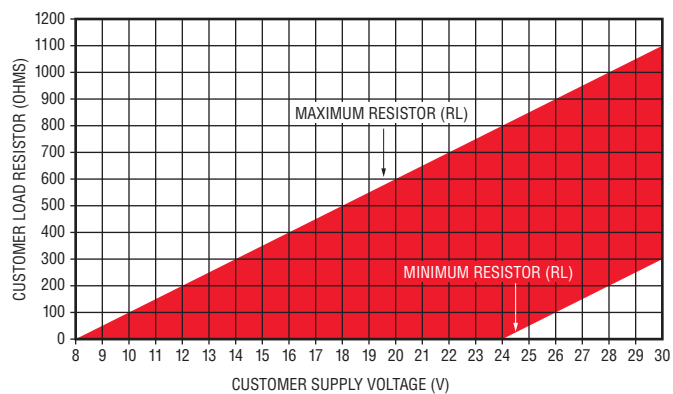
Electrical Connector

DIN 9.4 mm			M12 x 1P		Amp Superseal 1.5		Deutsch DT04-4P		DIN 43650A	
 POLARIZING WIDE CONTACT										
Code R			Code E		Code 6		Code 8		Code G	
Pin #	Voltage Mode	Current Mode	Voltage Mode	Current Mode	Voltage Mode	Current Mode	Voltage Mode	Current Mode	Voltage Mode	Current Mode
1	V _{supply}	Supply	V _{supply}	Supply	V _{out}	No Connect	Ground	Return	V _{supply}	Supply
2	Ground	Return	V _{out}	No Connect	Ground	Return	V _{supply}	Supply	Ground	Return
3	V _{out}	No Connect	Ground	Return	V _{supply}	Supply	No Connect	No Connect	V _{out}	No Connect
4	No Connect	No Connect	No Connect	No Connect	—	—	V _{out}	No Connect	No Connect	No Connect

Wiring Diagram



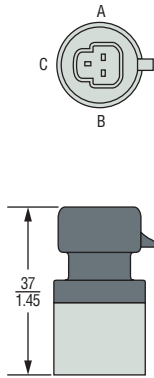
Current Output Mode (Load Resistor Range)



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

Cable-Out Types

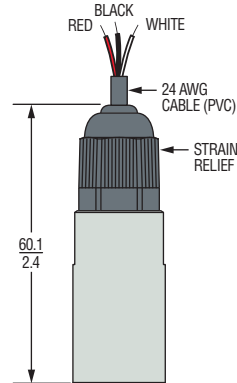
Packard MetriPack



Code 9

Pin ID	Voltage Mode	Current Mode
C	V _{out}	No Connect
A	Ground	Return
B	V _{supply}	Supply
—	—	—

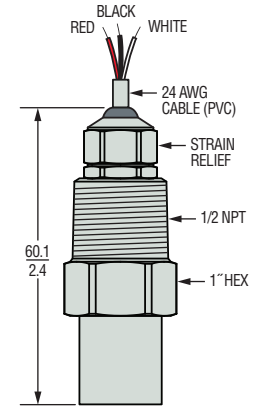
Cable



Code F

Wire Color	Voltage Mode	Current Mode
Red	Supply	Supply
Black	Ground	Return
White	V _{out}	No Connect

1/2" Conduit Connection



Code 3

Voltage Mode	Current Mode
Supply	Supply
Ground	Return
V _{out}	No Connect

Mating Connectors

Part Number	Description	For Use on Elect. Code #
557701	Amp Superseal Connector	6
557254	DIN 43650A Connector	G
557230	Mini DIN Connector	B and K
557703-0000	M12X1 for 4mm to 6mm Dia. Cable	E
557818-01M0	Connector + Cable, Temp -20°C to +80°C (-4°F to +176°F), M12X1 with 1 Metre Cable	E
557818-02M0	Connector + Cable, Temp -20°C to +80°C (-4°F to +176°F), M12X1 with 2 Metre Cable	E
557818-03M0	Connector + Cable, Temp -20°C to +80°C (-4°F to +176°F), M12X1 with 3 Metre Cable	E
557818-05M0	Connector + Cable, Temp -20°C to +80°C (-4°F to +176°F), M12X1 with 5 Metre Cable	E
557818-10M0	Connector + Cable, Temp -20°C to +80°C (-4°F to +176°F), M12X1 with 10 Metre Cable	E
557813-01M0	Connector + Cable, Temp -40°C to +150°C (-40°F to +302°F), M12X1 with 1 Metre Cable	E
557813-02M0	Connector + Cable, Temp -40°C to +150°C (-40°F to +302°F), M12X1 with 2 Metre Cable	E
557813-03M0	Connector + Cable, Temp -40°C to +150°C (-40°F to +302°F), M12X1 with 3 Metre Cable	E
557813-05M0	Connector + Cable, Temp -40°C to +150°C (-40°F to +302°F), M12X1 with 5 Metre Cable	E
557813-10M0	Connector + Cable, Temp -40°C to +150°C (-40°F to +302°F), M12X1 with 10 Metre Cable	E

How to Order

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

	3100	B	200PG	02	B	R	01	
Series	3100 / 3200 - Pressure Transducer							Cable Length (For electrical connections F & 3 only)
Output	B - 4-20 mA N - 0.5-4.5 V T - 0.5-4.5 V Ratiometric							00 - No Cable 01 - 1 metre 02 - 2 metres 03 - 3 metres 04 - 4 metres 05 - 5 metres
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 0100G - 0-100 barG	0160S - 0-160 barS 0250S - 0-250 barS 0400S - 0-400 barS 0600S - 0-600 barS	1000S - 1,000 barS ² 1600S - 1,600 barS ²					Optional Restrictor (3200 only) R - Restrictor 0 - No Restrictor
Pressure Range - psi	100PG - 0-100 psiG 150PG - 0-150 psiG 200PG - 0-200 psiG 300PG - 0-300 psiG 500PG - 0-500 psiG 600PG - 0-600 psiG 750PG - 0-750 psiG	10CPG - 0-1,000 psiG 15CPG - 0-1,500 psiG 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 ² 20KPS - 0-20,000 psiS ² 25KPS - 0-25,000 psiS ²					Electrical Connection E - M12 x 1P (4-Pin) F - Cable version ³ G - Large DIN R - Industrial DIN 9.4 mm 3 - 1/2" NPT Male Conduit ³ 6 - Amp - Superseal 1.5 Series 8 - Deutsch DT04-4P 9 - Packard MetriPack
								Pressure Port ⁴ 08 - 1/8-27 NPT External 02 - 1/4-18 NPT External 04 - 7/16-20 External (SAE #4, J514) 1J - 7/16-20 External (SAE #4, J1926-2) 0E - 1/4-18 NPT Internal 0K - M14 x 1.5 Straight 1G - Schrader SAE #4, 7/16" Internal 1P - SAE 6 (9/16-18 UNF 2A) 4C - 1/4-18 NPTF External (Dryseal) 4D - 1/8-27 NPTF External (Dryseal) 4N - SAE 3 (3/8-24 UNF External) 01 - G1/4 External 05 - G1/4 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)

Notes:

- For use with pull-up or pull-down resistors, contact factory.
- Ranges 1,000 bar (15,000 psi) and above available with -2T pressure port only.
- For electrical codes **F** & **3**, specify cable length in meters.
- Pressure ports **0E** and **1G** are NOT available with the Restrictor option.

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