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

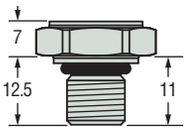
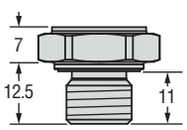
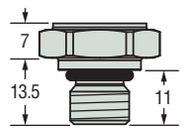
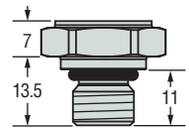
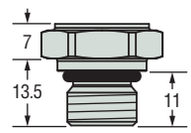
Voltage	
Output (3-wire)	0 V min. to 10 V max. See under “How to Order,” last page
Supply Voltage	1 Volt above full scale to 30 Vdc max @ 4.5 mA
Source and Sinks	2 mA
Current	
Output (2-wire)	4-20 mA
Supply Voltage	8-24 Volts measured at the input to the transducer terminals
Maximum Loop Resistance	(Supply 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

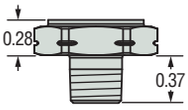
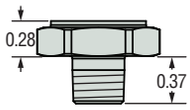
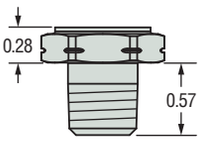
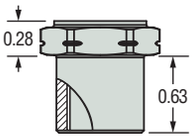
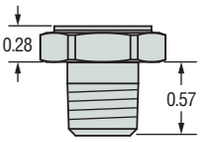
Pressure Range Bar (PSI)	Proof Pressure (x Full Scale)		Burst Pressure (x Full Scale)	
	3100	3200	3100	3200
7-20 (100-300)	3.00 x FS	3.00 x FS	40 x FS	
40-100 (500-1,500)	2.00 x FS		20 x FS	
140-400 (2,000-6,000)			10 x FS	
700 (10,000)			> 4,000 bar (60,000 PSI)	
1,000 (15,000)		2.50 x FS		
1,800 (25,000)	1.40 x FS	1.70 x FS		
2,200 (30,000)		—		

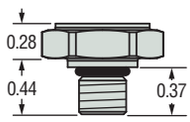
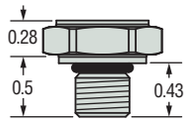
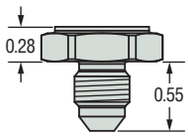
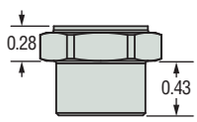
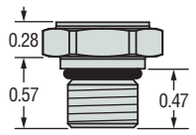
Pressure Ports

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**	**0K**
Torque	30-35NM	30-35 NM	28-30 NM	30-35 NM	2-3 TFFT*

SAE

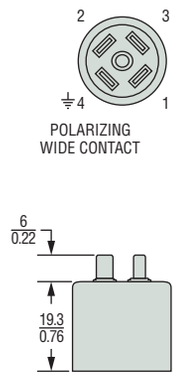
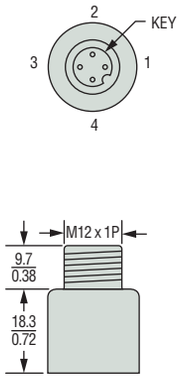
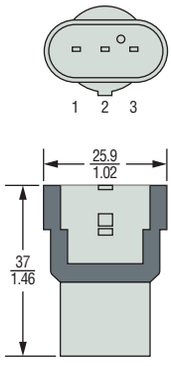
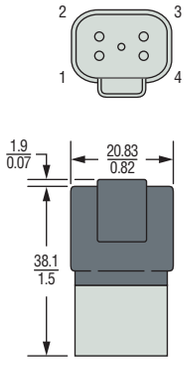
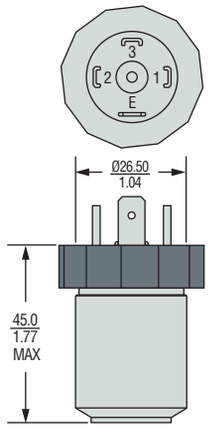
	1/8″-27 NPT	1/8″-27 NPTF Dryseal	1/4″-18 NPT	1/4″-18 NPT Internal	1/4″-18 NPTF Dryseal
Dimensions in MM					
Fitting Code	**08**	**4D**	**02**	**0E**	**4C**
Torque	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*

	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.

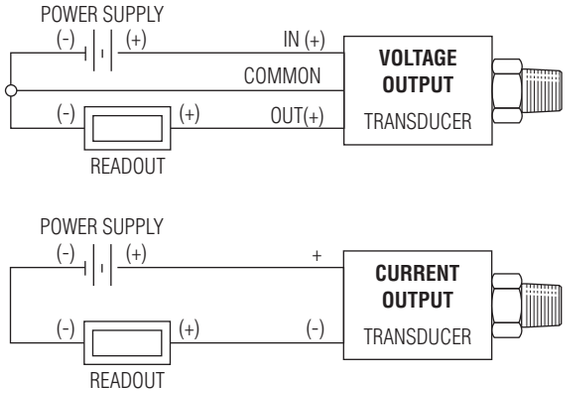
General Notes:
1. The diameter of all cans is 19 mm (0.748″).
2. Hex is 22 mm (0.866″) Across Flats (A/F) for deep socket mounting.

Electrical Connector

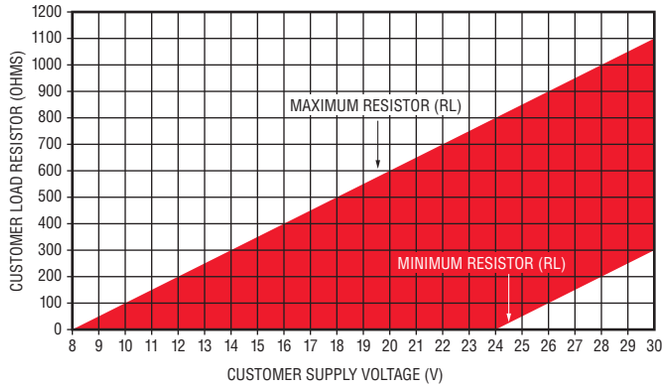
DIN 9.4 mm	M12 x 1P	Amp Superseal 1.5	Deutsch DT04-4P	DIN 43650A
				

	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



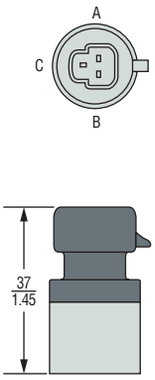
Current Output Mode (Load Resistor Range)



Minimum Resistor Value = 50*(+V – 24) for +V > 24V
Maximum Resistor Value = 50*(+V – 8) for +V > 8V

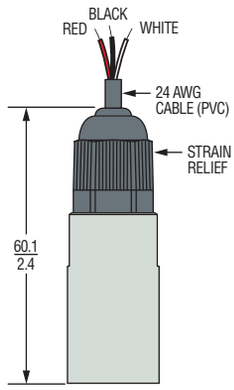
Cable-Out Types

Packard MetriPack

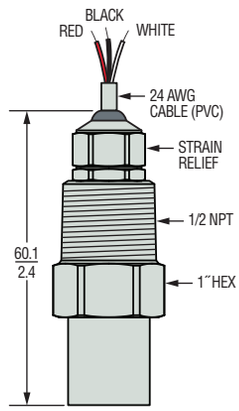


	Code 9	
Pin ID	**Voltage Mode**	**Current Mode**
C	V_{out}	No Connect
A	Ground	Return
B	V_{supply}	Supply
—	—	—

Cable



1/2˝ Conduit Connection



	Code F		Code 3	
Wire Color	**Voltage Mode**	**Current Mode**	**Voltage Mode**	**Current Mode**
Red	Supply	Supply	Supply	Supply
Black	Ground	Return	Ground	Return
White	V_{out}	No Connect	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

Output
- **B** - 4-20 mA
- **C** - 1-6 V
- **H** - 1-5 V
- **N** - 0.5-4.5 V
- **R** - 0-5 V
- **S** - 0-10 V
- **T** - 0.5-4.5 V Ratiometric

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]

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]

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)

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

Optional Restrictor (3200 only)
- **R** - Restrictor
- **0** - No Restrictor

Cable Length (For electrical connections F & 3 only)
- **00** - No Cable
- **01** - 1 metre
- **02** - 2 metres
- **03** - 3 metres
- **04** - 4 metres
- **05** - 5 metres

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