

# 3100 SERIES AND 3200 HEAVY DUTY SERIES

## Compact OEM Pressure Transmitters

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

For OEMs that need consistent high levels of performance, reliability and stability the 3100 and 3200 Series sputtered thin film units offer 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 wide choice of electrical outputs to allow

stock configurations suitable for most applications without modification. At the heart of both these series is a sputter element that also provides exceptional temperature specifications. Plus, our manufacturing process for the 3100 and 3200 Series include the latest automated equipment, producing the most consistent and best price to performance sensor on the market today.

Additionally, 3200 Series transmitters feature thicker diaphragms 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.

### Specifications

<b>Performance</b>	
Long Term Drift	0.2% FS/YR (non-cumulative)
<b>Accuracy</b>	
3100	0.25% FS
3200	0.5% FS for <1000 psi (60 bar)
<b>Thermal Error</b>	
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)
<b>Zero Tolerance</b>	
3100	0.5% of span
3200	1% FS for <1000 psi (60 bar)
<b>Span Tolerance</b>	
3100	0.5% of span
3200	1% FS for <1000 psi (60 bar)
Response Time	1 ms
Fatigue Life	Designed for more than 100 M cycles
<b>Mechanical Configuration</b>	
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 code G)
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, UL recognized files # E219842 & E174228
Weight	35 grams



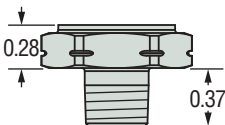
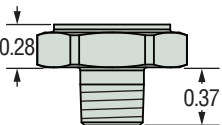
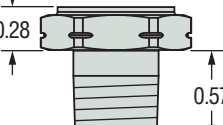
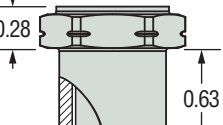
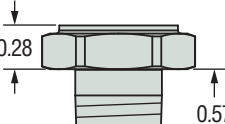
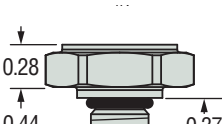
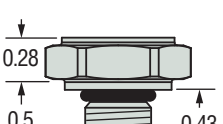
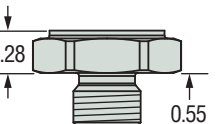
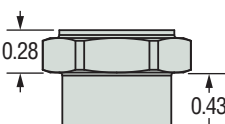
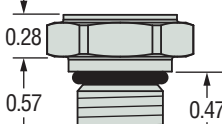
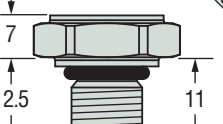
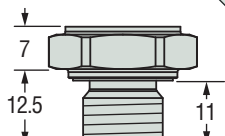
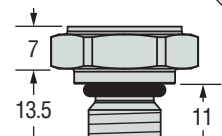
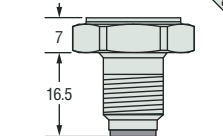
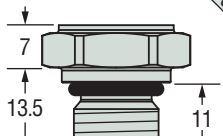
### Individual Specifications

<b>Voltage</b>	
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
<b>Current</b>	
Output (2-wire)	4–20 mA
Supply Voltage	8–30 Vdc
Maximum Loop Resistance	(Supply Voltage–8) x 50 ohms
<b>Ratiometric</b>	
Output	0.5 to 4.5 Vdc @ 4 mA (6.5 mA on dual output version)
Supply Voltage	5 Vdc ±10%

## Pressure Capability

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

## Pressure Ports

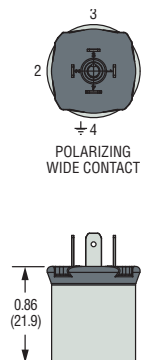
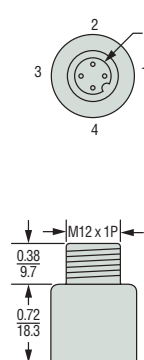
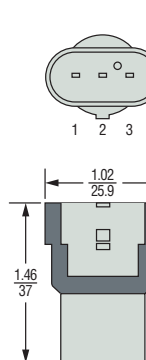
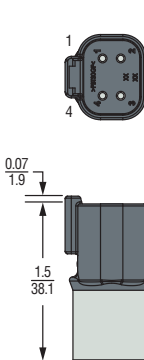
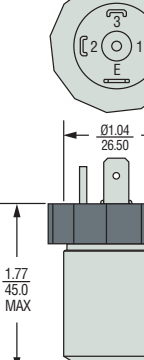
SAE Dimensions in Inches				
	<b>Fitting Code</b> <b>08</b> = 1/8"-27 NPT	<b>4D</b> = 1/8"-27 NPTF Dryseal	<b>02</b> = 1/4"-18 NPT	<b>0E</b> = 1/4"-18 NPT Internal
<b>Torque</b>	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*
				
<b>Fitting Code</b>	<b>4C</b> = 1/4"-18 NPTF Dryseal	<b>4N</b> = SAE J1926/2:3/8-24	<b>1J</b> = 7/16"-20 UNF	<b>04</b> = 7/16"-20 UNF with 37° Flare
<b>Torque</b>	2-3 TFFT*	18-20 NM	18-20 NM	15-16 NM
		Metric Dimensions in MM →		
<b>Fitting Code</b>	<b>1G</b> = SAE 4 Female 7/16" Schraeder	<b>1P</b> = 9/16-18 "Heavy Duty"	<b>01</b> = G1/4"-27 External	
<b>Torque</b>	18-20 NM	18-20 NM	30-35NM	
				
<b>Fitting Code</b>	<b>05</b> = G1/4" A Integral Face Seal	<b>0L</b> = M12 x 1.5	<b>2T</b> = M12x1.5 HP Metal Washer Seal	<b>0K</b> = M14 x 1.5
<b>Torque</b>	30-35 NM	28-30 NM	30-35 NM	2-3 TFFT*

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

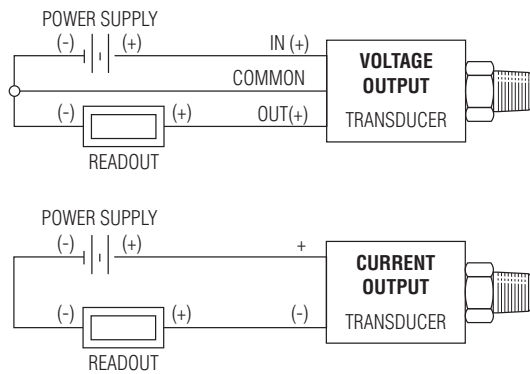
### General Notes:

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 Nitrile® unless otherwise specified.

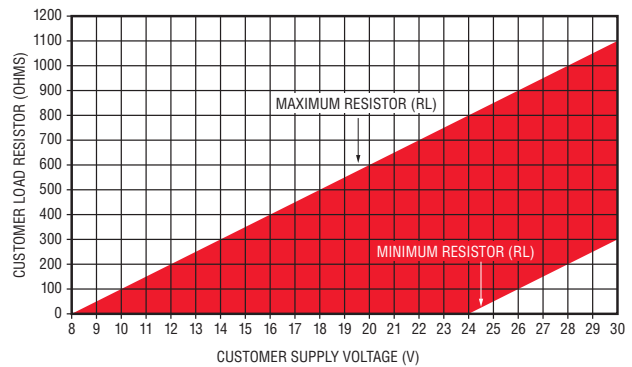
## Electrical Connector

DIN 9.4 mm			M12 x 1P		Amp Superseal 1.5		Deutsch DT04-4P		DIN 43650A			
												
Code B		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	Voltage Mode	Current Mode
1	V <sub>out1</sub> (pressure)	No Connect	V <sub>supply</sub>	Supply	V <sub>supply</sub>	Supply	V <sub>out</sub>	No Connect	Ground	Return	V <sub>supply</sub>	Supply
2	V <sub>supply</sub>	Supply	Ground	Return	V <sub>out</sub>	No Connect	Ground	Return	V <sub>supply</sub>	Supply	Ground	Return
3	V <sub>out2</sub> (temp)	No Connect	V <sub>out</sub>	No Connect	Ground	Return	V <sub>supply</sub>	Supply	No Connect	No Connect	V <sub>out</sub>	No Connect
4	Ground	Return	No Connect	No Connect	No Connect	No Connect	—	—	V <sub>out</sub>	No Connect	No Connect	No Connect

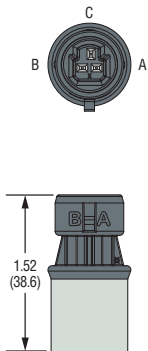
## Wiring Diagram



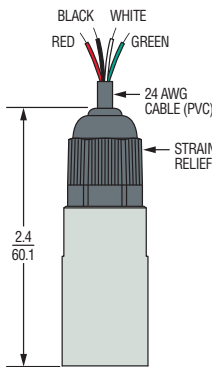
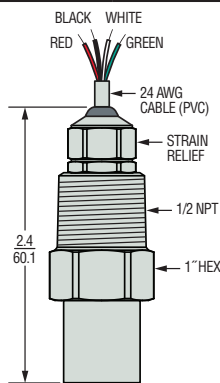
## Current Output Mode (Load Resistor Range)



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

Packard MetriPack				
				
Code 9				
Pin ID	Voltage Mode	Current Mode		
C	V <sub>out</sub>	No Connect		
A	Ground	Return		
B	V <sub>supply</sub>	Supply		
—	—	—		

## Cable-Out Types

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 <sub>out 1</sub> (pressure)	No Connect	V <sub>out 1</sub> (pressure)	No Connect
Green	V <sub>out 2</sub> (temp)	No Connect	V <sub>out 2</sub> (temp)	No Connect

## Mating Connectors

Description	For Use on Elect. Code #
MINI DIN Connector, Strain Relief (with drive screw & gasket)	B and R
M12 Cord Set – 1 Meter (Red 1, Green 2, Blue 3, Yellow 4)	E
M12 Cord Set – 3 Meters (Red 1, Green 2, Blue 3, Yellow 4)	E
M12 Cord Set – 4 Meters (Red 1, Green 2, Blue 3, Yellow 4)	E
M12 Cord Set – 5 Meters (Red 1, Green 2, Blue 3, Yellow 4)	E
Recommended Mating Parts (AMP p/n: Housing 282087-1; Contacts 3X 183025-1; Seal 281934-1; Boot 880811-2)	6
AMP Superseal Mate Kit	6
AMP 3.5' Cable Cord Set – Clear Pos 1, Black Pos 2, Red Pos 3	6
AMP 12" Flying Leads Cord Set – White Pos 1, Black, Red Pos 3	6
Recommended Mating Parts (AMP p/n: Socket Conn 1-967325-1. Consult AMP for Contacts, Wire Seal and Strain Relief options)	7
DIN 72585 Twist Lock Mate Kit	7
Recommended Mating Parts (Deutsch p/n: Housing Plug DT064S-P012; Wedge W4S-P012; Sockets 4X 0462-201-1631)	8
Deutsch Cord Set 3' Long (18 AWG PVC Cable – Black 1, Red 2, Green 3, White 4)	8
Recommended Mating Parts (Delphi Packard MetriPack p/n: Body 12065286; Seal 12052893. Consult Delphi for Contacts)	9
Packard Mate Kit	9
Packard Cord Set 3' Long (24 AWG PVC Cable – White 1, Black 2, Red 3)	9
Packard Cord Set 6' Long (24 AWG PVC Cable – White 1, Black 2, Red 3)	9
Packard Cord Set 14.75' Long (22 AWG PVC Cable - White 1, Black 2, Red 3)	9
Packard Mate - 12" Flying Leads – 3 Conductor PVC 18 AWG	9
Packard Mate - 18" Flying Leads – 3 Conductor PVC 18 AWG	9
Packard Mate - 24" Flying Leads – 3 Conductor PVC 18 AWG	9