

# 3100 Series Compact High Pressure OEM Pressure Transmitter

PRESSURE TRANSDUCERS

SPUTTERED THIN FILM

- ▶ 6 bar to 2200bar pressure ranges
- ▶ Less than 25mm long
- ▶ Choice of outputs

For OEMs that need consistent high levels of performance, reliability and stability the 3100 Series sputtered thin film units offer unbeatable price performance ratio in a small package size with all stainless steel wetted parts in the volumes required. A wide choice of electrical outputs as well as both electrical and pressure connections means the unit is suitable for most applications without modification. The compact construction of the 3100 series makes it ideal for installation where space is at a premium.

## Specifications

### Input

<b>Pressure Range (bar)</b>	6	10	16	25	40	60	100	160	250	400	600	1000	1600	2200
<b>Max. Over Pressure</b>	3x			2x						1.4x				
<b>Min. Burst Pressure</b>	40x			20x			10x			>4000 bar (test limit)				
<b>Fatigue Life</b>	Designed for more than 100,000,000 cycles													

### Performance

<b>Long Term Drift</b>	0.1% FS/year non cumulative
<b>Accuracy</b>	±0.25% FS (Temp O/P ± 3%FS)
<b>Thermal Error</b>	±1% typical/100°C
<b>Compensated Temperature</b>	-40° to 125°C
<b>Operable</b>	-40° to 125°C
<b>Zero Tolerance</b>	±0.5% of span
<b>Span Tolerance</b>	±0.5% of span

### Mechanical Construction

<b>Pressure Port</b>	See ordering chart
<b>Wetted Parts</b>	17-4 PH Stainless Steel/304 Stainless Steel
<b>Electrical Connection</b>	See ordering chart

### Enclosure

	IP65 for electrical code B, G (with connector fitted) IP67 for electrical codes E, F, 6, 7, 8 and 9
<b>Vibration</b>	20G, 10-2000Hz sinusoidal
<b>Shock</b>	Withstands free fall to IEC 68-2-32 procedure 1
<b>Approvals</b>	CE
<b>Weight</b>	35 gms

## Individual Specifications

### Voltage Output Units

<b>Output</b>	See ordering chart (current 4.5mA)
<b>Supply Voltage</b>	1 Volt above Full Scale, to max 30 Volts
<b>External load (sink/source current)</b>	2mA Max






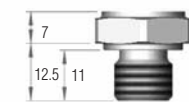



### Current Output Units

<b>Output</b>	4-20mA
<b>Supply Voltage</b>	8 to 30Vdc (24Vdc max for 110° and above)
<b>Max. Loop Resistance</b>	(Vs-8) x 50 ohms
<b>Min. Loop Resistance</b>	(Vs-24) x 50 ohms

### Ratiometric Output Units

<b>Output</b>	0.5 to 4.5Vdc (3.5mA max)
<b>Supply Voltage</b>	5Vdc, ± 10%

## MECHANICAL FITTINGS

<b>Code 01</b> G 1/4 EXT  7 12.5 11	<b>Code 04</b> 7/16"-20 UNF with 37° Flare  7 14	<b>Code 1J</b> 7/16"-20 UNF O-Ring  7 12.8 11.1	<b>Code 02</b> 1/4"-18 NPT  7 14.44	<b>Code 08</b> 1/8"-27 NPT  7 19.3
<b>Code 05</b> G 1/4"A Integral Face Seal  7 12.5 11	<b>Code 0L</b> M12 x 15  7 12.5 10	<b>Code 2T</b> M12x1.5 HP [metal washer seal]  7 16.5	<b>Code IG</b> 7/16"Schraeder  7 11	

Hex is 22mm [.866] Across Flats (A/F) for deep socket mounting.  
Other thread forms available. Consult factory.

**NOTE: Dimensions in mm**

## Electrical Connectors



AMP Superseal 1.5

DIN 43650C Industrial

DIN 72585 Bayonet

M12 Ranges

Deutsch DTD4-4P

Packard Metri-pack

Integral Cable

**How to Order**

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

**Series**

**Variants to Standard Types**

- 00** - Pressure output
- 01** - Pressure and temperature output (see **Note 1**)

**Output**

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

**Pressure Range**

- 0006G** - 6barG
- 0010G** - 10barG
- 0016G** - 16barG
- 0025G** - 25barG
- 0040G** - 40barG
- 0060G** - 60barG
- 0100S** - 100barS
- 0160S** - 160barS
- 0250S** - 250barS
- 0400S** - 400barS
- 0600S** - 600barS
- 1000S** - 1000barS
- 1600S** - 1600barS (see **Note 2**)
- 2200S** - 2200 barS

**Integral Pressure Connection**

- 01** - G1/4 External
- 02** - 1/4- 18 NPT External
- 04** - 7/16-20 UNF External
- 05** - G1/4 External Soft Seal
- 08** - 1/8 NPT External
- 1G** - Schraeder Deflator (Short)
- 1J** - 7/16 - 20 UNF External 'O' Ring Seal
- 0L** - M12 x 1.5 - 6g (600b and below)
- 2T** - M12 x 1.5-6g (1000b and above)

**Cable Length (metres)**

Maximum 10 metres **F** connector only

**Restrictor**

- 0** - No Resistor
- R** - Restrictor Fitted

**Electrical Connection**

- 6** - AMP Superseal 1.5 Series
- 7** - DIN 72585 Bayonet
- 8** - Deutsch Series DT-04
- 9** - Packard Metripak
- B** - Industrial DIN
- E** - M12x 1 4 pin
- F** - Integral cable
- G** - EN 175301-803 (ex DIN 43650A)

For mating electrical connectors and cables see page 67.

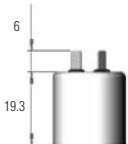
**Note 1** Pressure and temperature output available with voltage output and electrical connectors B, E, 7 and 6 only

**Note 2** Ranges 1000 bar and above available with 2T pressure port only.

**ELECTRICAL CONNECTOR**

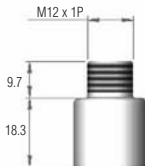
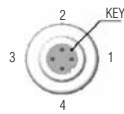
**Code B**

DIN43650C Industrial



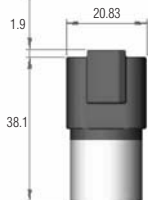
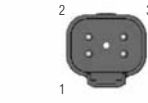
**Code E**

M12 x 1P



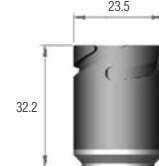
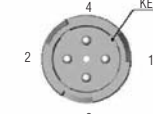
**Code 8**

Deutsch DT04-4P



**Code 7**

DIN72585A1-4, 1



**Note:** The diameter of all cans is 19mm [.748]

Pin #	Function	
	Current	Voltage
1	N/A	Press O/P +VE
2	+VE	Supply +VE
3	N/A	Temp O/P +VE
4	-VE	Common

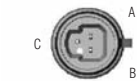
Pin #	Function	
	Current	Voltage
1	+VE	Supply +VE
2	N/A	Press O/P +VE
3	-VE	Common
4	N/A	Temp O/P +VE

Pin #	Function	
	Current	Voltage
1	-VE	Common
2	+VE	Supply +VE
3	N/A	Temp O/P +VE
4	N/A	Press O/P +VE

Pin #	Function	
	Current	Voltage
1	+VE	Supply +VE
2	-VE	Common
3	N/A	Press O/P +VE
4	N/A	Temp O/P +VE

**Code 9**

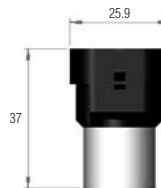
Packard MetriPack



Pin #	Function	
	Current	Voltage
A	-VE	Common
B	+VE	Supply +VE
C	N/A	Press O/P +VE

**Code 6**

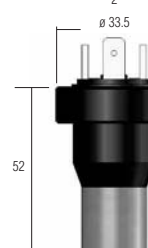
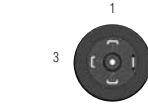
Amp Superseal 1.5



Pin #	Function	
	Current	Voltage
1	N/A	Press O/P +VE
2	-VE	Common
3	+VE	Supply +VE

**Code G**

DIN 43650A



Pin #	Function	
	Current	Voltage
1	Positive	Supply +VE
2	Negative	Common
3	N/A	Press O/P +VE
4	N/A	N/A

**Code F**

DIN



Pin #	Function	
	Current	Voltage
1	Positive	Supply +VE
2	N/A	Press O/P +VE
3	Negative	Common
4	N/A	N/A

# 3200 Heavy Duty Series OEM Pressure Transmitter

SPUTTERED THIN FILM PRESSURE TRANSDUCERS

- ▶ 60 bar to 600bar pressure ranges
- ▶ High proof pressure
- ▶ Choice of outputs

For OEMs that need stability and ruggedness the 3200 Series heavy duty pressure transmitters are designed with a thicker diaphragm and pressure snubber to withstand the rigours of cavitation or extreme pressure spikes which can be present in some applications such as hydraulic systems.

The 3200 has a modular construction which offers a wide selection of pressure ports and electrical connections in a small package size. All wetted parts are stainless steel ensuring excellent strength and fatigue life for long lasting operation.

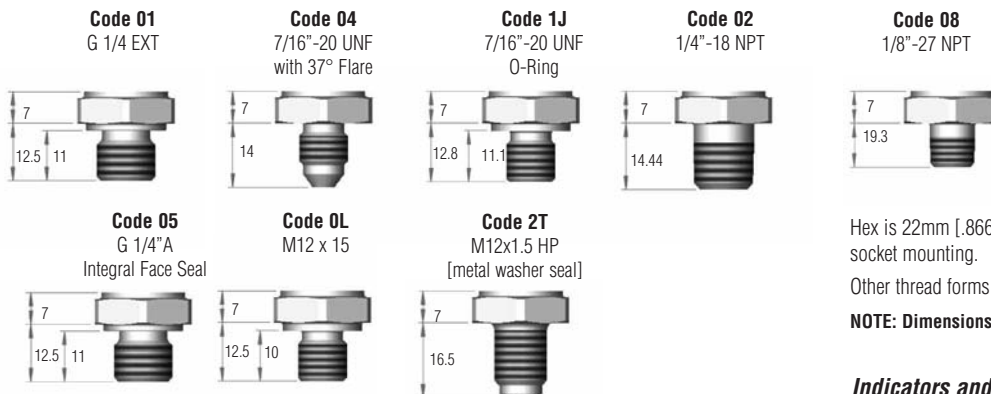
## Specifications

Input						
Pressure Range (bar)	60	100	160	250	400	600
Max. Over Pressure	3x					3x
Min. Burst Pressure	20x		10x	>4000 bar (test limit)		
Fatigue Life	Designed for more than 100,000,000 cycles					
Performance						
Long Term Drift	0.1% FS/year non cumulative					
Accuracy	±0.25% FS (Temp O/P ± 3%FS)					
Thermal Error	±1% typical/100°C					
Compensated Temperature	-40° to 125°C					
Operable	-40° to 125°C					
Zero Tolerance	±0.5% of span					
Span Tolerance	±0.5% of span					
Mechanical Construction						
Pressure Port	See ordering chart					
Wetted Parts	17-4 PH Stainless Steel/304 Stainless Steel					
Electrical Connection	See ordering chart					
Enclosure						
	IP65 for electrical code B, G (with connector fitted) IP67 for electrical codes E, F, 6, 7, 8 and 9					
Vibration	20G, 10-2000Hz sinusoidal					
Shock	Withstands free fall to IEC 68-2-32 procedure 1					
Approvals	CE					
Weight	35 gms					

## Individual Specifications

Voltage Output Units	
Output	See ordering chart (current 4.5mA)
Supply Voltage	1 Volts above Full Scale, to max 30 Volts
External load (sink/source current)	
	2mA Max
Current Output Units	
Output	4-20mA
Supply Voltage	8 to 30Vdc (24Vdc max for 110° and above)
Max. Loop Resistance	(Vs-8) x 50 ohms
Min. Loop Resistance	(Vs-24) x 50 ohms
Ratiometric Output Units	
Output	0.5 to 4.5Vdc
Supply Voltage	5Vdc, ± 10% (current 3.5mA)

## MECHANICAL FITTINGS



## Electrical Connectors



## How to Order

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

### Series

#### Variants to Standard Types

- 00** - Pressure output
- 01** - Pressure and temperature output (see Note 1)

#### Output

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

#### Pressure Range

- 0060G** - 60barG
- 0100S** - 100barS
- 0160S** - 160barS
- 0250S** - 250barS
- 0400S** - 400barS
- 0600S** - 600barS - 2T Pressure Port only

#### Integral Pressure Connection

- 01** - G1/4 External
- 02** - 1/4- 18 NPT External
- 04** - 7/16-20 UNF External
- 05** - G1/4 External Soft Seal
- 08** - 1/8 NPT External
- 1J** - 7/16 - 20 UNF External 'O' Ring Seal
- 0L** - M12 x 1.5 - 6g (400b and below)
- 2T** - M12 x 1.5-6g (600b)

**320X X XXXXX XX X X 00**

#### Cable Length (metres)

Maximum 10 metres **F** connector only

#### Restrictor

- 0** - Not fitted
- R** - Fitted

#### Electrical Connection

- 6** - AMP Superseal 1.5 Series
- 7** - DIN 72585 Bayonet
- 8** - Deutsch Series DT-04
- 9** - Packard Metripak
- B** - Industrial DIN
- F** - Cable
- E** - M12x 1 4 pin
- G** - EN 175301-803 (ex DIN 43650A)

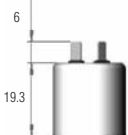
For mating electrical connectors and cables see page 67.

**Note 1** Pressure and temperature output available with voltage output options C, H, P & N and electrical connectors B, E, G, 7 and 8 only

### ELECTRICAL CONNECTOR

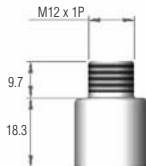
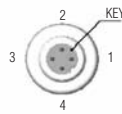
#### Code B

DIN43650C Industrial



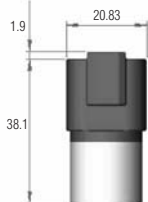
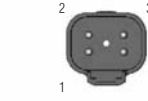
#### Code E

M12 x 1P



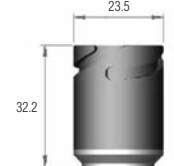
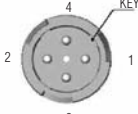
#### Code 8

Deutsch DT04-4P



#### Code 7

DIN72585A1-4, 1



**Note:** The diameter of all cans is 19mm [.748]

Pin #	Function	
	Current	Voltage
1	N/A	Press O/P +VE
2	+VE	Supply +VE
3	N/A	Temp O/P +VE
4	-VE	Common

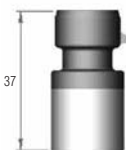
Pin #	Function	
	Current	Voltage
1	+VE	Supply +VE
2	N/A	Press O/P +VE
3	-VE	Common
4	N/A	Temp O/P +VE

Pin #	Function	
	Current	Voltage
1	-VE	Common
2	+VE	Supply +VE
3	N/A	Temp O/P +VE
4	N/A	Press O/P +VE

Pin #	Function	
	Current	Voltage
1	+VE	Supply +VE
2	-VE	Common
3	N/A	Press O/P +VE
4	N/A	Temp O/P +VE

#### Code 9

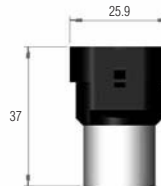
Packard MetriPack



Pin #	Function	
	Current	Voltage
A	-VE	Common
B	+VE	Supply +VE
C	N/A	Press O/P +VE

#### Code 6

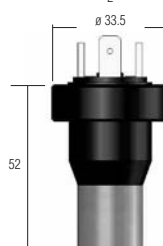
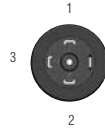
Amp Superseal 1.5



Pin #	Function	
	Current	Voltage
1	N/A	Press O/P +VE
2	-VE	Common
3	+VE	Supply +VE

#### Code G

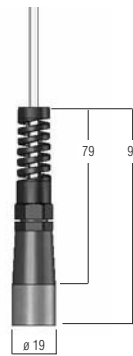
DIN 43650A



Pin #	Function	
	Current	Voltage
1	Positive	Supply +VE
2	Negative	Common
3	N/A	Press O/P +VE
4	N/A	N/A

#### Code F

DIN



Pin #	Function	
	Current	Voltage
1	Positive	Supply +VE
2	N/A	Press O/P +VE
3	Negative	Common
4	N/A	N/A

# 3300 Series Compact Low Pressure OEM Pressure Transmitter

- ▶ 1 to 16 bar and 15 to 250 psi pressure ranges
- ▶ Choice of outputs, electrical connections and pressure ports
- ▶ Operating temperature up to 125°C

For OEMs that need consistent high levels of performance, reliability and stability the 3300 Series units offer unbeatable price performance ratio in a small package size with all stainless steel wetted parts in the volumes required. A wide choice of electrical outputs as well as both electrical and pressure connections means the unit is suitable for most applications without modification. The compact construction of the 3300 series makes it ideal for installation where space is at a premium.

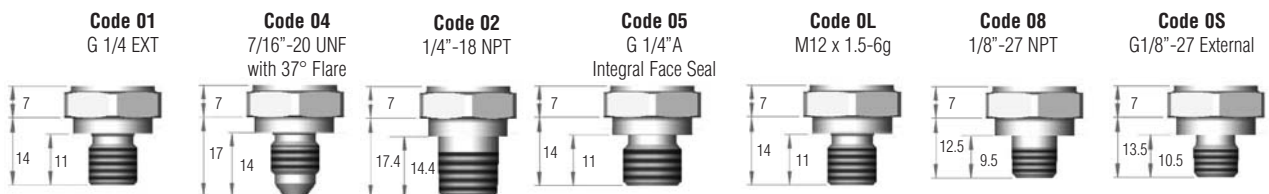
## Specifications

Input		1	1.6	2.5	4	6	10	16		
<b>Pressure Range</b>	<b>bar</b>	1	1.6	2.5	4	6	10	16		
	<b>psi</b>	15		30	50	100	150	200	250	
<b>Proof Pressure</b>		3 x FS								
<b>Burst Pressure (xFS)</b>		150	100	200	125	85	50	30	30	
<b>Fatigue Life</b>		Designed for more than 100M cycles								
Performance										
<b>Long Term Drift</b>		0.2% FS/year non cumulative								
<b>Accuracy</b>		0.25% FS								
<b>Thermal Error</b>		±1% max/80°C								
<b>Compensated Temperature</b>		-20° to 100°C (-4° to 212°F)								
<b>Operating Temperature</b>		-40° to 125°C (-40° to 257°F)								
<b>Zero Tolerance</b>		±0.5% of span max								
<b>Span Tolerance</b>		±1% of span max								
<b>Resolution</b>		0.15% max								
Mechanical Configuration										
<b>Pressure Port</b>		See ordering chart								
<b>Wetted Parts</b>		17-4 PH Stainless Steel								
<b>Electrical Connection</b>		See ordering chart								
Enclosure										
		IP65 for electrical code B IP67 for electrical code E								
<b>Vibration</b>		BSEN 60068-2-6 (FC) BSEN 60068-2-64 (FH)								
<b>Shock</b>		BSEN 60068-2-2n (Ea)								
<b>Approvals</b>		CE, PED								
<b>Weight</b>		53 gms								

## Individual Specifications

Voltage Output Units			
<b>Output</b>		See ordering chart (current 8mA)	
<b>Supply Voltage (Vs)</b>		3 Volts above Full Scale, to max 30 Volts (24 Vdc max for 110°C and above)	
Current Output Units			
<b>Output</b>		4-20 mA	
<b>Supply Voltage (Vs)</b>		10-30 Vdc (24 Vdc max. above 110°C applications)	
<b>Max Load Resistance</b>		(Supply Voltage - 7.5) x 50 ohms	
Ratiometric			
<b>Output</b>		0.5 to 4.5 Vdc	
<b>Supply Voltage (Vs)</b>		5 Vdc + 10%	

## Mechanical Fittings



22mm across flats

NOTE: Dimensions in mm

## Electrical Connectors



## EMC Specification

**EMISSIONS TESTS** EN61326-1:2006 and EN61326-2-3:2006

Test Standard	Test	Comment
EN55011:2007	Conducted Emissions	Pass
EN55011:2007	Radiated Emissions	Pass

**IMMUNITY TESTS** EN61326-1:2006 and EN61326-2-3:2006

Test Standard	Test	Comment
EN61000-4-2:1995 + A1 + A2	Electrostatic Discharge	Pass
EN61000-4-3:2006	Radiated Immunity	Pass
EN61000-4-4:2004	Fast Burst Transients	Pass
EN61000-4-6:2006	Conducted RF Immunity	Pass

## How to Order

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

**3300 X XXXX X XX X 0 00**

**Series** \_\_\_\_\_

**Output** \_\_\_\_\_

**Pressure Range** \_\_\_\_\_

**G = Gauge**  
**A = Absolute**

**Integral Pressure Connection** \_\_\_\_\_

**Electrical Connection**  
**B** - Industrial DIN  
**E** - M12x 1  
**K** - Industrial DIN

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

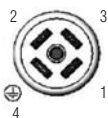
**01B0** - 1 bar      **015P** - 15 psi  
**01B6** - 1.6 bar      **030P** - 30 psi  
**02B5** - 2.5 bar      **050P** - 50 psi  
**04B0** - 4 bar      **100P** - 100 psi  
**06B0** - 6 bar      **150P** - 150 psi  
**10B0** - 10 bar      **200P** - 200 psi  
**16B0** - 16 bar      **250P** - 250 psi

**01** - G1/4 External  
**02** - 1/4- 18 NPT External  
**04** - 7/16-20 UNF External  
**05** - G1/4 External Soft Seal  
**08** - 1/8 NPT External  
**0L** - M12 x 1.5 - 6g  
**0S** - G1/8 External

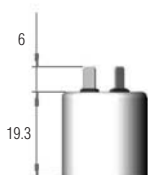
### ELECTRICAL CONNECTOR

#### Code B and K

DIN43650C Industrial

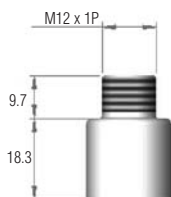
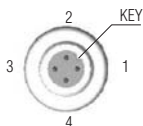


POLARIZING  
WIDE CONTACT



#### Code E

M12 x 1P



Industrial DIN Class C (GDS 207 Connector) - Code B

Output Identification	Current Output 4-20 mA	Voltage Output
1	Do not connect	Pressure output
2	Positive	Supply positive
3	Do not connect	Do not connect
4	Negative	Common

M12 Connector - Code E

Output Identification	Current Output 4-20 mA	Voltage Output
1	Positive	Supply positive
2	Do not connect	Pressure output
3	Negative	Common
4	Do not connect	Do not connect

Industrial DIN Class C (GDS 207 Connector) - Code K

Output Identification	Current Output 4-20 mA	Voltage Output
1	Positive	Supply positive
2	Negative	Common
3	Do not connect	Pressure output
4	Do not connect	Do not connect

**Note:** Diameter = 19mm