

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

Pressure Range (bar)	6	10	16	25	40	60	100	160	250	400	600	1000	1600	2200
Max. Over Pressure	3x			2x						1.4x				
Min. Burst Pressure	40x			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 Volt above Full Scale, to max 30 Volts
External load (sink/source current)	2mA Max

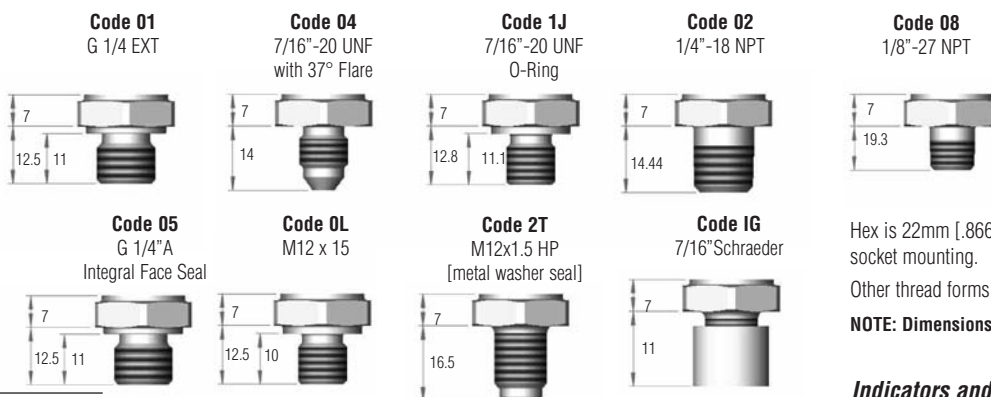
Current Output Units

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 (3.5mA max)
Supply Voltage	5Vdc, ± 10%

MECHANICAL FITTINGS



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

NOTE: Dimensions in mm

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** - 0-5 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
- 0606G** - 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.

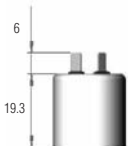
Note 1 Pressure and temperature output available with voltage output and electrical connectors B, E, 7 and 6 only

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

ELECTRICAL CONNECTOR

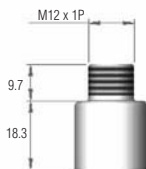
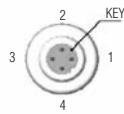
Code B

DIN43650C Industrial



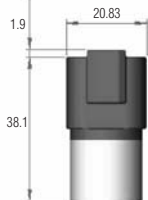
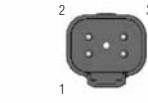
Code E

M12 x 1P



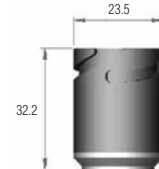
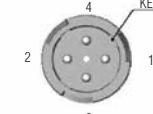
Code 8

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

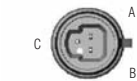
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	Current	Voltage
1	+VE	Supply +VE
2	N/A	Press O/P +VE
3	-VE	Common
4	N/A	Temp O/P +VE

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

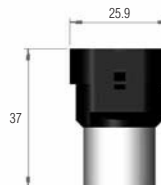
Packard MetriPack



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

Code 6

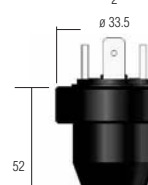
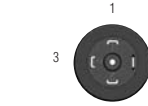
Amp Superseal 1.5



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

PRESSURE TRANSDUCERS

SPUTTERED THIN FILM

- ▶ 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		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
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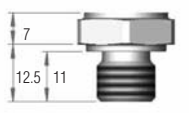

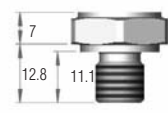



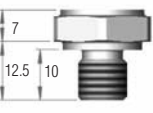
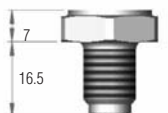
Current Output Units

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

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

Electrical Connectors



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

NOTE: Dimensions in mm

Indicators and Accessories Pages 64-69

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)

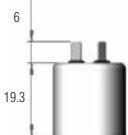
For mating electrical connectors and cables see page 67.

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

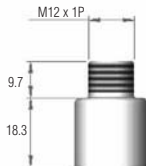
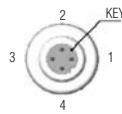
Code B

DIN43650C Industrial



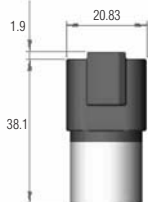
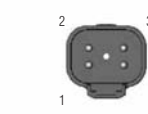
Code E

M12 x 1P



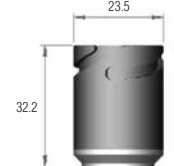
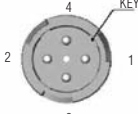
Code 8

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

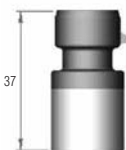
Pin #	Function	
	Current	Voltage
1	+VE	Supply +VE
2	N/A	Press O/P +VE
3	-VE	Common
4	N/A	Temp O/P +VE

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

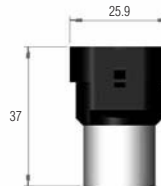
Packard MetriPack



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

Code 6

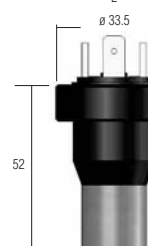
Amp Superseal 1.5



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

Code G

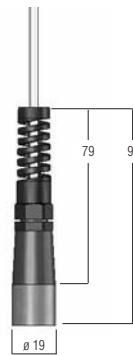
DIN 43650A



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.

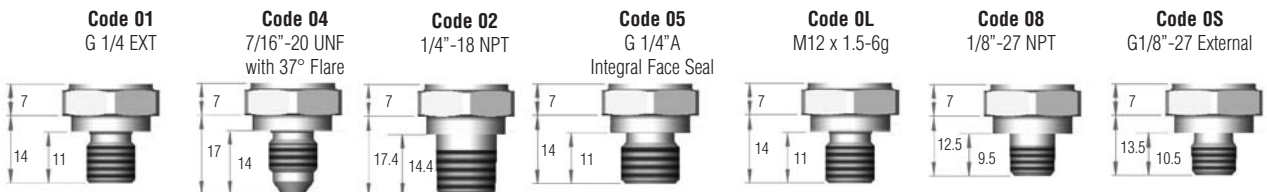
Specifications

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

Individual Specifications

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

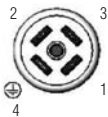
01B0 - 1 bar **015P** - 15 psi
01B6 - 1.6 bar **030P** - 30 psi
02B5 - 2.5 bar **050P** - 50 psi
04B0 - 4 bar **100P** - 100 psi
06B0 - 6 bar **150P** - 150 psi
10B0 - 10 bar **200P** - 200 psi
16B0 - 16 bar **250P** - 250 psi

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

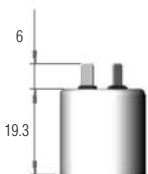
ELECTRICAL CONNECTOR

Code B and K

DIN43650C Industrial

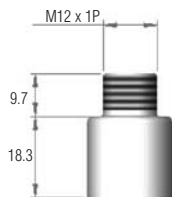
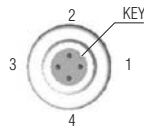


POLARIZING
WIDE CONTACT



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