2200 Series / 2600 Series – General Purpose Industrial Pressure Transducers

- Gauge, Absolute, Vacuum and Compound Pressure Models Available
- Submersible, General Purpose and Wash down Enclosures
- High Stability Achieved by CVD Sensing Element
- Millivolt, Voltage and Current Output Models

The 2200 series features stability and accuracy in a variety of enclosure options. The 2600 series extends the packaging options via an all welded stainless steel back end for demanding submersible and industrial applications. The 2200 and the 2600 feature proven CVD sensing technology, an ASIC (amplified units), and modular packaging to provide a sensor line that can easily accommodate specials while not sacrificing high performance.

Series 2200

Series 2600

Specifications

Input	
Pressure Range	Vacuum to 400 bar (6000 psi)
Proof Pressure	2 x Full Scale (FS) (1.5 x Fs for 400 bar, >= 5000 psi)
Burst Pressure	>35 x FS <= 6 bar (100 psi); >20 x FS >=60 bar (1000 psi); >5 x FS <= 400 bar (6000 psi)
Fatigue Life	Designed for more than 100 million FS cycles
Performance	
Long Term Drift	0.2% FS/year (non-cumulative)
Accuracy	0.25 % FS typical (optional 0.15% FS)
Thermal Error	1.5% FS typical (optional 1% FS)
Compensated Temperatures	-20° to 80° C (-5° to 180° F)
Operating Temperatures	-40° to 125° C (-22° to 260° F) for elec. codes A, B, C, 1 -20° to 80° C (-5° to 180° F) for elec. codes 2, D, G, 3 -20° to 50° C (-5° to 125° F) for elec. codes F,M, P Amplified units >100°C maximum 24 Vdc supply
Zero Tolerance	1% of span
Span Tolerance	1% of span
Response Time	0.5 ms
Mechanical Configuration	
Pressure Port	See ordering chart
Wetted Parts	17-4 PH Stainless Steel
Electrical Connection	See ordering chart
Enclosure	316 ss, 17-4 PH ss IP65 for elec. codes A, B, C, D, G,1, 2, 3 IP67 for elec. code “F” IP68 for elec. codes M, P (max depth 200 meters H_2O) IP30 for elec. code “3” with flying leads
Vibration	70g, peak to peak sinusoidal, 5 to 2000 Hz (Random Vibration: 20 to 2000 Hz @ ≈20g Peak per MIL-STD.-810E Method 514.4)
Acceleration	100g steady acceleration in any direction 0.032% FS/g for 1 bar (15 psi) range decreasing logarithmically to 0.0007% FS/g for 400 bar (6000 psi) range.
Shock	20g, 11 ms, per MIL-STD.-810E Method 516.4 Procedure I
Approvals	CE, UR (22ET, 26ET Intrinsically safe)
Weight	Approx. 100 grams (additional cable; 75 g/m)

Individual Specifications

Millivolt Output units	
Output	100 mV (10 mv/v)
Supply Voltage (Vs)	10 Vdc (15 Vdc max.) Regulated
Bridge resistance	2600-6000 ohms
Voltage Output units	
Output	see ordering chart
Supply Voltage (Vs)	1.5 Vdc above span to 35 Vdc @ 6 mA
Supply Voltage Sensitivity	0.01% FS/Volt
Min. Load Resistance	(FS output / 2) Kohms
Current Consumption	approx 6 mA at 7.5V output
Current Output units	
Output	4-20 mA (2 wire)
Supply Voltage (Vs)	24 Vdc, (7-35 Vdc)
Supply Voltage Sensitivity	0.01% FS/Volt
Max. Loop Resistance	(Vs-7) x 50 ohms

Electromagnetic Capability

Meets the requirement for CE marking of EN50081-2 for emissions and EN50082-2 for susceptibility.

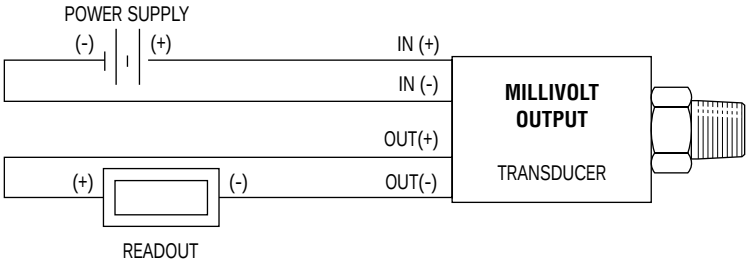
Test Data:

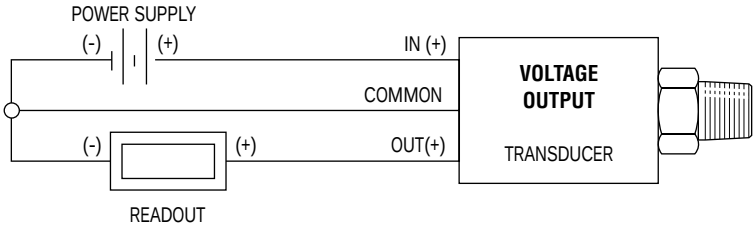
- EN61000-4-2 Electrostatic Discharge. 8kV air discharge, 4kV contact discharge. Unit survived.
- ENV50140 Radiated RF Susceptibility. 10V/m, 80MHz-1GHz, 1kHz mod. Maximum recorded output error was <±1%
- ENV50204 Radiated RF Susceptibility to Mobile Telephones. 10V/m, 900MHz. Maximum recorded output error was <±1%.
- EN61000-4-4 Fast Burst Transient. 2kV, 5/50ns, 5kHz for 1 minute. Unit survived.
- ENV50141 Conducted RF Susceptibility. 10Vms, 1kHz mod, 150kHz - 80MHz. Maximum recorded output error was <±1%

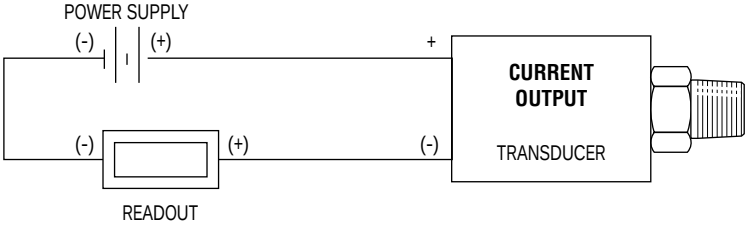
Connection Code			**mV Units**				**Voltage units**				**Current units** (4-20mA)		
			IN+	OUT+	OUT-	IN-	IN+	COM	OUT+	EARTH	(+)	(-)	EARTH
A, B, G	"DIN"	PIN	1	2	3	E	1	2	3	4	1	2	4
C	"10-6 Bayonet"	PIN	A	B	C	D	A	C	B	E	A	B	E
D	"cable"		R	Y	BL	G	R	BK	W	DRAIN	R	BK	DRAIN
F	"IP 67 cable"		R	Y	BL	G	R	W	Y	DRAIN	R	BL	DRAIN
M, P	"Immersible		R	Y	BL	W	R	W	Y	DRAIN	R	BL	DRAIN
1	"8-4 Bayonet"	PIN	A	B	C	D	A	C	B	D	A	B	D
2	"cable"		R	W	G	BK	R	BK	W	DRAIN	R	BK	DRAIN
3	"conduit & cable"		R	W	G	BK	R	BK	W	DRAIN	R	BK	DRAIN

Cable Legend:

R = Red
BL = Blue
BK = Black
W = White
Y = Yellow







Dimensions

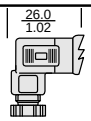
2200 Series

Mini 4 Pin - No Connector

Code B

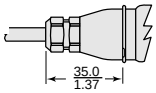
Mini 4 Pin - With Connector

Code A



IP67 Cable (Waterproof)

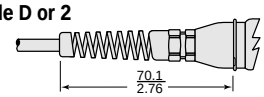
Code F



24 AWG Shielded PVC

IP65 or NEMA4 Cable

Code D or 2

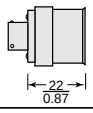


24 AWG Shielded PVC

2600 Series

10-6 or 8-4 Mil-C Connector

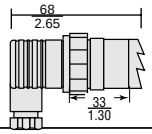
10-6 Code C



8-4 Code 1

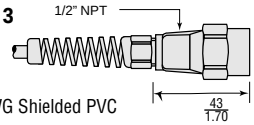
Large DIN 43650 Plug

Code G



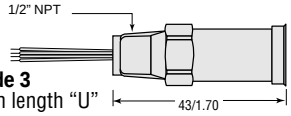
Conduit Connector with Cable

Code 3



24 AWG Shielded PVC

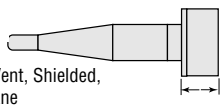
Conduit Connector with Flying Leads



Code 3
with length "U"

Moulded, Immersible Cable <150M

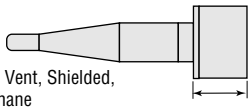
Code M



24 AWG, Vent, Shielded, Polyurethane

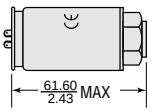
Moulded, Immersible Cable >150M

Code P

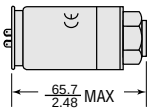


24 AWG, Vent, Shielded, Polyurethane

mV Gauge/Absolute Amplified Gauge

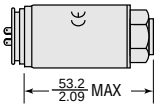


Amplified Absolute

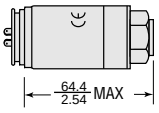


Maximum diameter 27.3 mm (1.07")

mV Gauge/Absolute Amplified Gauge



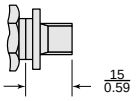
Amplified Absolute



Maximum diameter 27.3 mm (1.07")

1/8-27 NPT

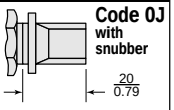
Code 08



1/4 - 18 NPT

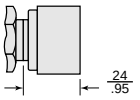
Code 02 with

Code 0J with snubber



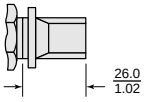
1/4-18 NPT Internal

Code 0E



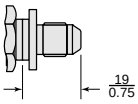
1/2-14 NPT

Code 0H



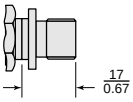
7/16-20 UNF-2A

Code 04



9/16-18 UNF-2A

Code 1P

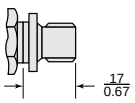


G 1/8 Internal

Code 09

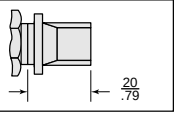
G 1/4 External

Code 01



R 1/4

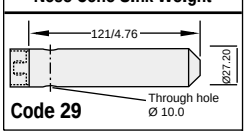
Code 0A



Nose Cone - Black Acetal

Code 19

Nose Cone Sink Weight



Code 29

mm
inch

PRESSURE TRANSDUCERS

How to Order

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

2200 B G A60 01 A 3 U A

Series
2200 **2600** **22 ET** (Note 4) **26 ET** (Note 4)

Output
A - 100 mV **C** - 1-6V **J** - 0.5-5.5V **G** - 0.2-10.2V
B - 4-20mA **D** - 1-11V **R** - 0-5V **F** - 0.1-5.1V
H - 1-5V **S** - 0-10V

Pressure Datum
A* - Absolute **G** - Gauge
*Max absolute range is 25 bar. (≤ 300 psi)

Pressure Range – psi (See Notes)

F15 - 0-15	**G60** - 0-600	**Vac** = -15 psi
F30 - 0-30	**H10** - 0-1,000	**1F5** - Vac-0
F60 - 0-60	**H15** - 0-1,500	**3F0** - Vac-15
G10 - 0-100	**H20** - 0-2,000	**6F0** - Vac-45
G15 - 0-150	**H30** - 0-3,000	**1G0** - Vac-85
G20 - 0-200	**H40** - 0-4,000	**1G5** - Vac-135
G30 - 0-300	**H50** - 0-5,000	**2G0** - Vac-185
G50 - 0-500	**H60** - 0-6,000	**3G0** - Vac-285

Pressure Range - bar

A10 - 0-1	**B25** - 0-25	**Vac** = -1 bar
A16 - 0-1.6	**B40** - 0-40	**1A0** - Vac-0
A25 - 0-2.5	**B60** - 0-60	**1A6** - Vac-0.6
A40 - 0-4	**C10** - 0-100	**2A5** - Vac-1.5
A60 - 0-6	**C16** - 0-160	**4A0** - Vac-3
B10 - 0-10	**C25** - 0-250	**6A0** - Vac-5
B16 - 0-16	**C40** - 0-400	**1B0** - Vac-9
		1B6 - Vac-15
		2B5 - Vac-24
		4B0 - Vac-39

Pressure Port
08 - 1/8-27 NPT External
02 - 1/4-18 NPT External
0J - 1/4 NPT External w/snubber
0E - 1/4 NPT Internal
0H - 1/2-14 NPT External
04 - 7/16-20 External (SAE #4, J514)
1P - 9/16-18 External (SAE #6, J1926-2)
IJ - 7/16-20 External (SAE #4, J1926-2)

Submersible (2600 only)
19 - Plastic Nose Cone
29 - Sink Weight Nose Cone European Threads
09 - G1/8 Internal
01 - G1/4 External
0A - R1/4 External

Performance Code
Accuracy/Thermal
A - .25%/1.5%
B - .15%/1.0%

Cable Length (Note 1)
U - No Cable Fitted (See Notes 1 and 2)
D - 1 Metre (3 feet)
E - 3 Metres (9 feet)
F - 5 Metres (16 feet)
G - 10 Metres (32 feet)

Apparatus Protection
2 - mV Only Transient Protection CE Mark, UR
3 - Amplified Only RFI Protected CE Mark, UR
E - Amplified only IS mark

Electrical Connection (See Notes)
2200 Series
A - 4 PIN DIN (Micro) Mating Connector Supplied
B - 4 PIN DIN (Micro) Mating Connector Not Supplied
2 - Cable Nema 4 USA
D - Cable European Color Code
F - Cable Gland Metal IP67

2600 Series
C - Fixed Plug Size 10-6 Mating Plug Not Supplied
G - Fixed Plug To DIN 43650 Mating Plug Supplied
M - Moulded Cable Immersible Max. (<150 M Submersible Cable)
P - Moulded Immersible Cable (>150 M Submersible Cable)
1 - Fixed Plug Size 8-4 Mating Plug Not Supplied
3 - Conduit Connector 1/2NPT Ext. 1M Cable (See Note 2)

Notes:
1. When electrical connection is cable please select a cable length from Table 1. When electrical connection is DIN or plug style "U" must be specified.
2. Where electrical connection **-3** and cable length **-U** occur in part number, the unit will be supplied with flying leads (IP30).
3. Additional Pressure Ranges are available. Please consult factory.
4. Intrinsically safe transducers are available with amplified outputs only. (ETL, entity approved for Class I, Division 1, Groups C & D, hazardous areas).

Table 1 - Cable Units

(2600 Series) (2200 Series select "U" through "G")

Code	Length (M)	Code	Length (M)	Code	Length (M)	Code	Length (M)
U	No Cable Fitted	F	5	K	25	P	75
		G	10	L	30	O	100
D	1	H	15	M	40	R	125
E	3	J	20	N	50	S	150

Code	Length (M)
4	170
5	200
6	225