

31EP/EA and 32EP/EA Series Explosion Proof

- ▶ CSA Approved
- ▶ ATEX Approved

Oil & Gas equipment needs a pressure transducer that is reliable and able to withstand extreme environmental and pressure conditions. Gems Sensors explosion proof units offer an alternative to high priced, unreliable alternatives. The 31EP and 32EP are CSA approved explosion proof, and the 31EA/32EA carries the ATEX approval. They all feature all stainless steel wetted parts, a broad selection of pressure connections and a wide choice of electrical outputs—the 32 Series of each group provide higher proof pressures. Our manufacturing process includes the latest automated equipment, producing consistent sensor performance.

The compact yet rugged construction of these units makes them ideal for installation where space in a hazardous environment is at a premium.



Specifications

Performance	
Long Term Drift	0.2% FS/YR (non-cumulative)
Accuracy	0.25% FS
Thermal Error	
31EP/EA	±1.5% max., ±1% typical / 212°F (100°C)
32EP/EA	±2% max.
Compensated Temperatures	-40°F to +203°F (-40°C to +95°C)
Operating Temperatures	-40°F to +203°F (-40°C to +95°C)
Zero Tolerance, Max.	0.5% of span
Span Tolerance, Max.	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
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	
CSA (31EP/32EP)	Class I, Division 1, Groups A, B, C and D Class I, Zone 1 Exd IIC T4 Gb Class I, Zone 1 AExd T4 Gb
ATEX (31EA/32EA)	Exd IIC T4 Gb (Ambient Temperature: -40°C to +95°C)

EMC Specifications

Emissions Tests: EN61326-1:2006 and EN61326-2-3:2006		
EN55011:2007	Radiated Emissions:	30-230MHz 30dB μ V/M @10M 230-1000MHz 37dB μ V/M @10M
Immunity Tests: EN61326-1:2006 and EN61326-2-3:2006		
EN61000-4-2:2009	Electrostatic Discharge:	±4Kv contact ±8Kv air
EN61000-4-3:2006	Radiated Immunity:	10V/M 80-1000MHz 3V/M 1400-2000MHz 1V/M 2000-2700MHz
EN61000-4-4:2004	Fast Transients:	±0.25, 0.5, 1Kv
EN61000-4-6:2007	Conducted Immunity:	3V 0.15 to 80MHz 80% 1KHz 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 V 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 50 ohms
Ratiometric	
Output	0.5 to 4.5 V (Source and sink 2 mA)
Supply Voltage	5 Vdc ±10% @ 4.5 mA

Pressure Capability

Pressure Range PSI (Bar)	Proof Pressure (x Full Scale)		Burst Pressure (x Full Scale)	
	31EP/EA	32EP/EA	31EP/EA	32EP/EA
100-300 (7-20)	2.00 x FS	3.00 x FS	40 x FS	
500-1,500 (40-100)			20 x FS	
2,000-6,000 (160-400)			10 x FS	
10,000 (700)			>60,000 PSI (4,000 bar)	
15,000 (1,000)				

Pressure Ports

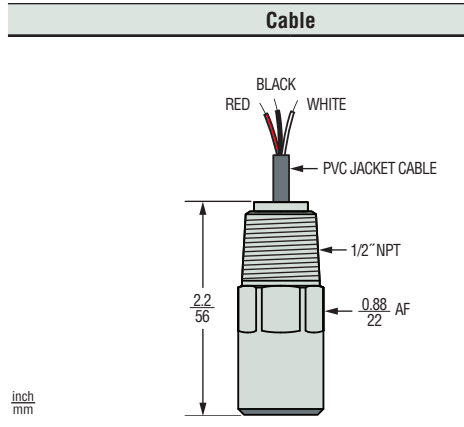
	SAE Dimensions in Inches			
Fitting Code	08 = 1/8"-27 NPT	02 = 1/4"-18 NPT	0H = 1/2" NPT	04 = 7/16"-20 UNF with 37° Flare
Torque	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	15-16 NM
Fitting Code	1J = 7/16"-20 UNF	0E = 1/4"-18 NPT Internal	1G = SAE 4 Female 7/16" Schraeder	4B = 1/4" Female (7/16UN with Schraeder Deflator)
Torque	18-20 NM	2-3 TFFT*	18-20 NM	15-16 NM
Fitting Code	1P = 9/16-18 "Heavy Duty"	4C = 1/4"-18 NPT Dryseal	4D = 1/8"-27 NPT Dryseal	4N = SAE J1926/2:3/8-24
Torque	18-20 NM	2-3 TFFT*	2-3 TFFT*	18-20 NM
Fitting Code	0S = G1/8" A Stud (BS 5380 Port)	01 = G1/4"-27 External	05 = G1/4" A Integral Face Seal	0A = G1/4"-19 PT (JIS) or BSPT
Torque	30-35NM	30-35NM	30-35 NM	30-35NM
Fitting Code	4P = G1/2" A 27A/F	0L = M12 x 1.5	2T = M12x1.5 HP Metal Washer Seal	0K = M14 x 1.5
Torque	30-35NMi	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 0.965" (24.5 mm)
2. Hex is 0.866" (22 mm) Across Flats (A/F) for deep socket mounting, except Fitting Code 4P which is 1.063" (27 mm).

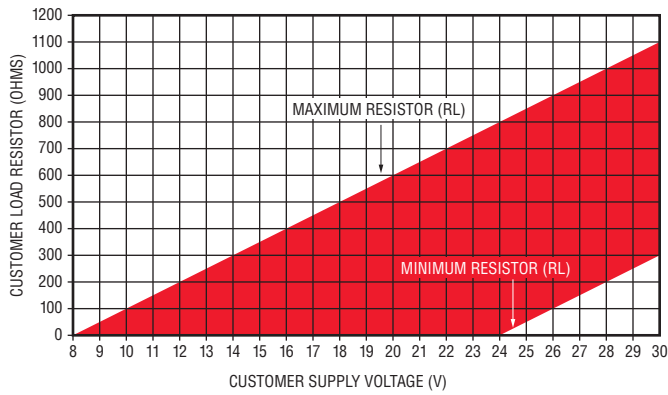
Cable-Out Type



Code S

Wire Color	Voltage Mode	Current Mode
Red	Supply	Supply
Black	Ground	Return
White	V _{out}	No Connect

Current Output Mode (Load Resistor Range)



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

How to Order

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

			31EP	B	200PG	02	S	R	01	
Series	31EP / 32EP - CSA Approved Pressure Transducer		B		200PG	02	S	R	01	Cable Length
	31EA / 32EA - ATEX Approved Pressure Transducer									01 - 1 meter
Output	B - 4-20 mA	C - 1-6 V	H - 1-5 V							02 - 2 meters
	N - 0.5-4.5 V	R - 0-5 V	S - 0-10 V							03 - 3 meters
	T - 0.5-4.5 V Ratiometric									04 - 4 meters
Pressure Range – psi										05 - 5 meters
	100PG - 0-100 psiG	10CPG - 0-1,000 psiG	10KPS = 0-10,000 psiS							10 - 10 meters
	150PG - 0-150 psiG	15CPG - 0-1,500 psiG								Optional Restrictor
	200PG - 0-200 psiG	20CPS - 0-2,000 psiS								R - Restrictor
	300PG - 0-300 psiG	25CPS - 0-2,500 psiS								0 - No Restrictor
	500PG - 0-500 psiG	30CPS - 0-3,000 psiS								Electrical Connection
	600PG - 0-600 psiG	35CPS - 0-3,500 psiS								S - Explosion Proof Conduit 1/2" NPT
	750PG - 0-750 psiG	40CPS - 0-4,000 psiS								Pressure Port ⁴
Pressure Range - bar										08 - 1/8"-27 NPT External
	0007G - 0-7 barG	0160S - 0-160 barS								02 - 1/4"-18 NPT External
	0010G - 0-10 barG	0250S - 0-250 barS								0H - 1/2" NPT
	0016G - 0-16 barG	0400S - 0-400 barS								04 - 7/16"-20 External (SAE #4, J514)
	0025G - 0-25 barG	0600S - 0-600 barS								1J - 7/16"-20 External (SAE #4, J1926-2)
	0040G - 0-40 barG	1000S - 1,000 barS ²								0E - 1/4"-18 NPT Internal
	0060G - 0-60 barG									1G - Schraeder SAE #4, 7/16" Internal
	0100G - 0-100 barG									4B - 1/4" Female (7/16UN with Schraeder Deflator)
Notes:										
1. For use with pull-up or pull-down resistors, contact factory.										
2. Range 1,000 bar available with -2T pressure port only.										
4. Pressure ports 0E and 1G are NOT available with the Restrictor option.										
										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)
										European Threads
										0S - G1/8" A Stud (BS 5380 Port)
										01 - G1/4" External
										05 - G1/4" External Soft Seal
										0A - G1/4"-19 PT (JIS) or BSPT
										4P - G1/2" A 27A/F
										0L - M12 x 1.5 (<1,000 bar, 15,000 psi)
										2T - M12 x 1.5 (6g) (≥1,000 bar, 15,000 psi)
										0K - M14 x 1.5 Straight