

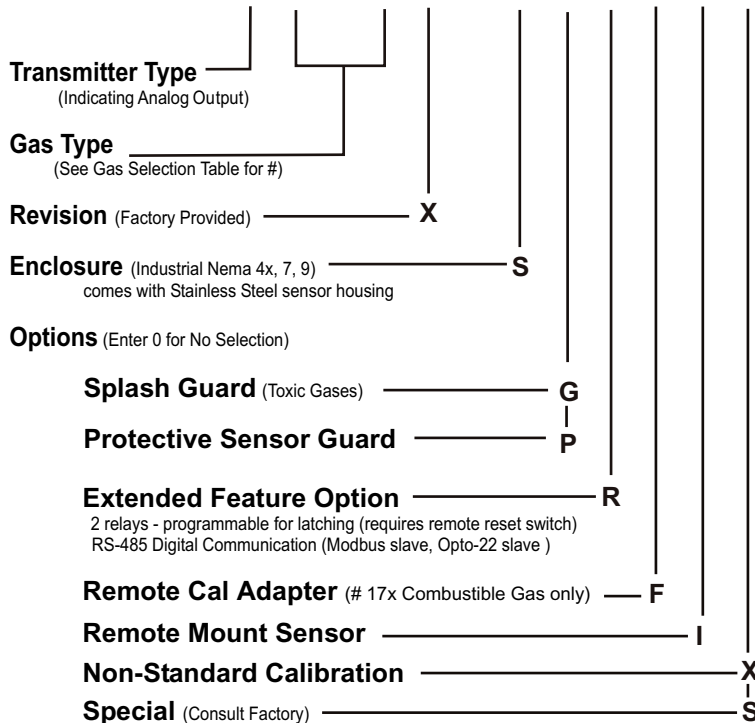
NON - INTRUSIVE TRANSMITTER / SENSORS

The ITS-8000 series is a digitally controlled, microprocessor based "Smart Sensor" for detection and data transmission of toxic or combustible gases. When configured with the extended feature option it acts as a controller with 2 relays, adjustable setpoints and RS-485 communication. Calibration and relay logic configuration is non-intrusive via a keypad activated through the glass cover by a magnetic tool. The electrochemical sensor elements, for detection of toxic gases, have a typical life of 2 to 3 years, are easily field replaceable, and do not require electrolyte replacement. The catalytic bead sensors for combustible gases are highly poison resistant and have a similar life expectancy.



MODEL NUMBER ORDERING CODE

I T S - 8 1 X - S 0



GAS SELECTION TABLES

TOXIC GASES

GAS TYPE	#	RANGE*	TEMP.
Transmitter Only	000	NONE	-40° - +50°C
Hydrogen Sulphide - H ₂ S	110	0 - 25 ppm	-20° - +50°C
Hydrogen Cyanide - HCN	115	0 - 20 ppm	-20° - +50°C
Chlorine - Cl ₂	120	0 - 3 ppm	-20° - +50°C
Chlorine Dioxide - ClO ₂	123	0 - 1 ppm	-20° - +50°C
Hydrogen Chloride - HCl	125	0 - 10 ppm	-20° - +50°C
Oxygen - O ₂	130	0 - 25% vol	-20° - +50°C
Sulphur Dioxide - SO ₂	140	0 - 6 ppm	-20° - +50°C
Nitrogen Dioxide - NO ₂	150	0 - 6 ppm	-20° - +50°C
Carbon Monoxide - CO	160	0 - 250 ppm	-20° - +50°C
Nitric Oxide - NO	190	0 - 100 ppm	-20° - +50°C
Hydrogen - H ₂	211	0 - 2000 ppm	-20° - +50°C
Ammonia - NH ₃	220	0 - 50 ppm	-25° - +30°C
Ozone - O ₃	240	0 - 2 ppm	-20° - +50°C

* Standard ranges, please inquire for other possible ranges.

COMBUSTIBLE GASES

GAS TYPE	#	100% LEL IN % VOLUME	DETECTION CONSTANT
Methane	170	5.0 %	112
Acetylene	171	2.5 %	63
Ethane	172	3.0 %	76
Propane	173	2.1 %	62
n-Butane	174	1.6 %	66
n-Pentane	175	1.5 %	51
n-Octane	176	1.0 %	42
Gasoline	178	1.3 %	44
Other	179	Advise	Advise

PRINCIPLE OF OPERATION

ELECTROCHEMICAL SENSORS: are microfuel cells designed to be maintenance free and stable for long periods. Toxic gas continuously enter the self-contained cell through a diffusion barrier. The target gas reacts with oxygen within the electrodes creating a microamp current between them. No fluid replacement is required as these cells are not self-consuming.

CATALYTIC SENSORS: consist of two matched pellistor beads, each encasing a coiled platinum wire. One pellistor acts as a reference and both are exposed to the same environmental conditions. Combustible gases undergo catalyzed combustion with atmospheric oxygen changing the resistance of the active bead. Measurement is taken across a Wheatstone bridge.

SPECIFICATIONS

STANDARD FEATURES

Power: 24 VDC
15 - 24 VAC

Fuse: 1.0 A socketed Pico fuse

Output signals: 4-20 mA or 0-10 V

Enclosure: NEMA 4X, 7 and 9
Explosion Proof
Class 1, Div 1,
Group B,C,D,
Copper free aluminum
Epoxy coated

Sensor housing: Stainless steel

Display: Alphanumeric LCD backlit
display
2 lines by 8 characters

Calibration: Non-Intrusive
(Magnetic Keypad)

Sensor Technologies: Electrochemical Fuel Cell
Catalytic Bead



Humidity:
- intermittent 0-99%, non-condensing
- continuous 15-90%, non-condensing

Pressure: Atmospheric +/- 10%

Repeatability: +/- 1 %

Accuracy:
- electrochemical ± 2.5% of reading
- catalytic pellistor ± 1% LEL

Temperature:
- electrochemical *See Gas Selection Tables*
- catalytic pellistor -40° - +60°C

Response time:
- electrochemical t < 60 secs for 90%
step change
- catalytic pellistor t < 15 secs for 90%
step change

Approvals: CSA

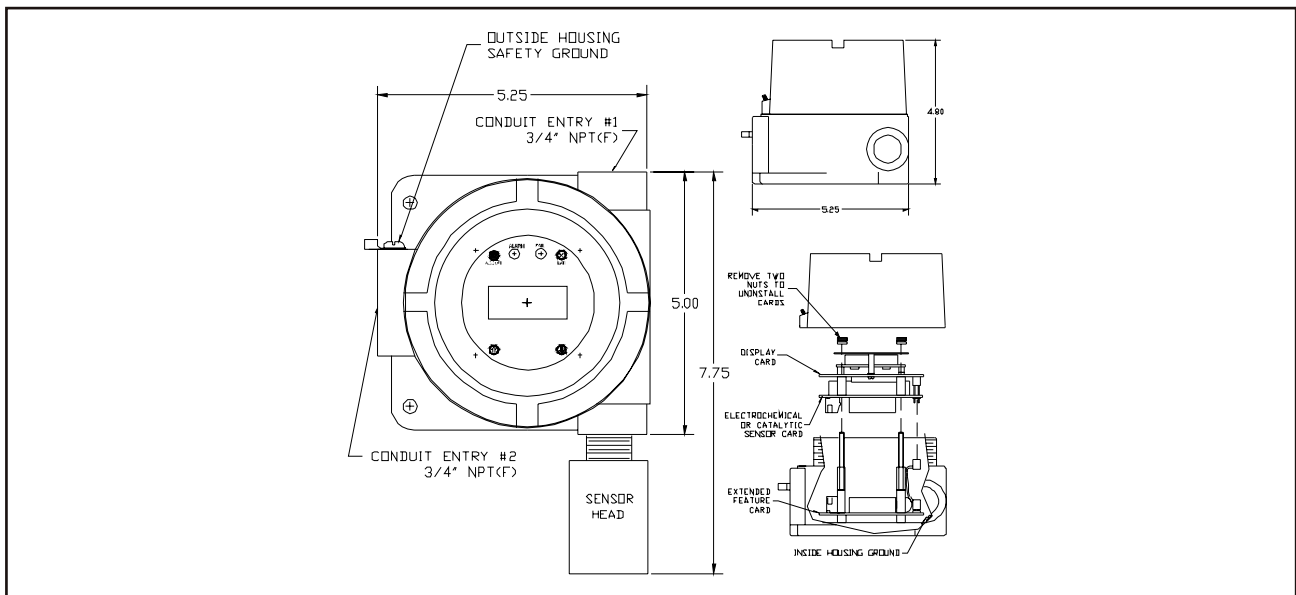
Sensor life expectancy:
Electrochemical
- sensor 2-3 yrs, normal operating
environment
(oxygen 1-2 yrs, normal
operating environment)
6 months
Catalytic pellistor
- sensor 3-5 yrs, normal operating
environment
1 year
- warranty

EXTENDED FEATURE OPTION

AC Power: 24 VAC Nominal
15 - 24 VAC

Relays: 2 SPDT, 115 VAC,
30 VDC, 1 amp

Communications: RS-485:
Modbus Slave
Opto-22 Slave



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This brochure includes general specifications which are subject to change without notice. Ensure a complete understanding of all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products.

Read and understand fully all instructions before using these products.

