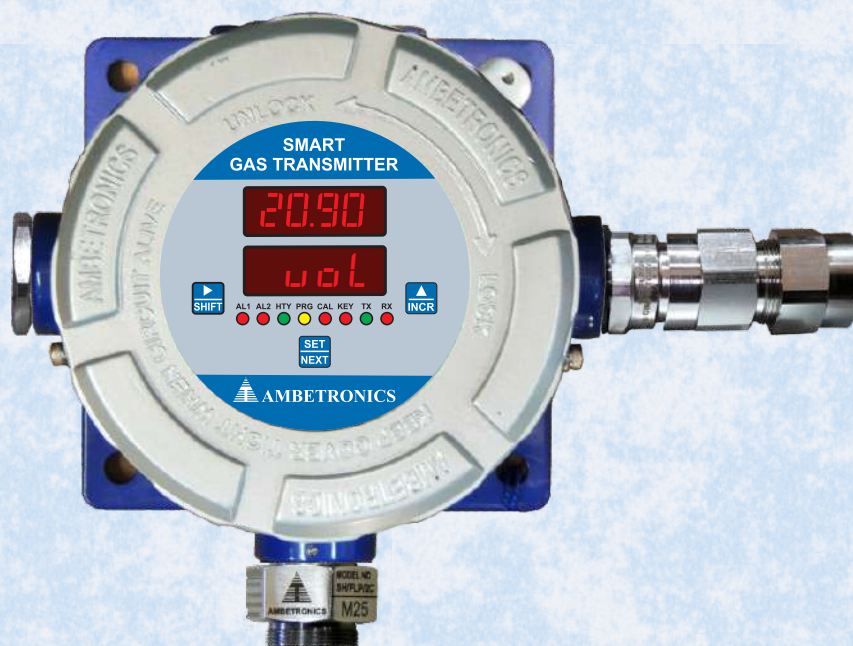# SMART GAS TRANSMITTER
FOR OXYGEN / TOXIC / COMBUSTIBLE GASES

Features

- Provides a fast and reliable output by using Electro Chemical / Pellister Sensor Technology.
- Optimized for detection of smallest leak of Oxygen, Toxic and Combustible Gases.
- Highly resistant to poisoning and etching.
- Capable of detecting down to PPM, %LEL & %V/V.
- Digital display of Gas Concentration on LED Display
- Standard 4-20mA signal output with configurable range.
- Non - Intrusive programming for Flameproof model using Magnetic pen.
- Password protected programming with password changing facility.
- One man Auto Software Gas Calibration.
- Optional Alarm relay contacts with two configurable Alarm levels & one Relay for fail safe relay.
- Optional STEL and TWA set points can be configured for Toxic Gases.
- Optional RS-485 communication port with MODBUS RTU Protocol.

Approval & Compliance

- Approval& Compliance for Flameproof :

  Certified to EX-d IIC, IP66

  Standard Compliance :

- IS/IEC 60079-0 : 2011
- IS/IEC 60079-1 : 2014
- IS/IEC 60529 : 2001

Applications

- Gas Metering skid
- Gas Cylinder Bank
- Oil & Gas Industries
- Gas Pipeline Project
- Refineries
- Cold Storage
- Sewage Plants
- Fertilizers Plants
- Stack Monitoring
- Chlorination Plant
- Ambient Monitoring
- Pulp & Paper Plants

- Gas Metering Station
- Burner / Furnace Areas
- Bullet Yard / Storage Yard
- Chemical Processing Plant
- Acid Alkalizes & Dyes Mfg. Plants
- Offshore Drilling & Processing Platforms
- Heat Treatment Plants
- Chemical Storage Area
- Control Atmosphere
- Power & Industrial Plants
- Coal Mine and Confined Area
- Chemical & Petrochemical Plants
- Automotive Industries / Paint Shops

MUST FOR HUMAN AND INDUSTRIAL SAFETY

General :

Detection Method	:	Electrochemical / Catalytic Bead / Pellistor /Siegistor
Gases Detected	:	Oxygen / Toxic / Combustible (Please select from the table below).
Display	:	2-Line, 4-Digit 8 mm (H) Seven Segment LED Display & 8 LEDs to indicate status of instrument
Control Action	:	i) Two independent Alarm set points with Latch & Non-latch facility.
		ii) User selectable Hysteresis and Logic option.
		iii) Configurable STEL and TWA set points for Toxic Gases (optional).
Setting	:	By using 3 Keys on front panel for Weatherproof Model By using Magnetic pen for Flameproof model

Performance :

Accuracy	:	±2% of Full Scale.
Response Time	:	For response time, contact to factory
Start-up Time	:	Less than 30 Seconds.

Electrical :

Supply Voltage	:	18 to 36 VDC, Typically 24VDC, 150mA
Power Consumption	:	Less than 3.6 Watts.
Cable	:	3 Wires (1.5 mm^2) Flexible or Armoured Shielded Cable

Output Signal :

Standard	:	4-20mA Current Output with configurable range selection. with 470 ohm load driving capacity.
Optional	:	Three SPDT Relays (one for FailSafe and Two for Alarm indication) of rating '2A/120VAC, 2A/24VDC'.
Optional	:	RS-485 Communication port with MODBUS RTU protocol.

Error Monitoring :

i) During Sensor Break / Open, the Display shows 'SENSOR OPEN' & 4-20mA output goes down to 3.7mA for Combustible gases only.

ii) During Over range, the Display shows 'OVER RANGE' & 4-20mA output goes up to 21mA

Environmental :

Operating Temperature	:	-15^{0}C to +50^{0}C
Storage Temperature	:	-20^{0}C to +60^{0}C
Humidity	:	Less than 95% Non-Condensing.

Accessories (Optional) :

- CE certified 24 VDC Power supply.
- Canopy & Mounting stand.
- Gas Calibration Kit (0.5,1, 3,10)Liter.
- Hooter Cum Flasher.
- Gas Sampling & Conditioning System.
- RS-485 to USB OR RS-232 convertor
- PC Based SCADA Software, Modem

Flameproof Housing :

Protection Class	:	IP-66 and for Zone 1 & 2 Gas Group : IIC atmosphere CMRI tested enclosure,
Cabinet Material	:	Cast Aluminium alloy, LM-6
Cable Entry	:	Double compression cable gland (ET-Proof) M20 x 1.5 (P)
Dimension	:	190mm (H) with sensor holder x 215 mm (W) with stopper plug & cable gland x 125 mm (D)
Mounting	:	Wall Mounting / Stand Mounting / Pipe Mounting
Weight	:	Approx 2.53 Kg

LIST OF GAS TRANSMITTERS WITH RANGES & RESOLUTION

S.N.	GASES	RANGE	UNIT	RES.
O1	Oxygen (O$_2$)	25	%Vol.	0.1
O2	Oxygen (O$_2$)	100	%Vol.	0.1
TOXIC GASES				
T1	Carbon Monoxide (CO)	1000	PPM	1
		5000	PPM	1
T2	Sulphur Dioxide (SO$_2$)	50	PPM	0.1
		2000	PPM	1
T3	Hydrogen Sulfide (H$_2$S)	100	PPM	1
		2000	PPM	1
T5	Ammonia (NH3)	100	PPM	1
		1000	PPM	1
T6	Hydrogen (H2)	1000	PPM	1
T7	Chlorine (CL2)	20	PPM	0.01
T8	Hydrogen Chloride (HCL)/	20	PPM	0.01
	Hydrogen Bromide (HBR)	200	PPM	1
T9	Nitrogen Dioxide (NO2)	20	PPM	0.01
T10	Hydrogen Cyanide (HCN)	100	PPM	1
T11	Ozone (O3)	5	PPM	0.01
T12	Phosphine (Ph3)	10	PPM	0.01

S. N.	GASES	RANGE	UNIT	RES.
T13	Hydrazine (N2H4)	1	PPM	0.01
T14	Bromine (Br2)	20	PPM	0.01
T15	Hydrogen Fluoride (HF)	10	PPM	0.01
		100	PPM	1
T16	Phosgene/Cobalt (II) Chloride (COCL2)	1	PPM	0.01
COMBUSTIBLE GASES				
C1	Methane (CH$_4$)	100	%LEL	1
C2	Butane/n-Butane(C$_4$H$_{10}$)	100	%LEL	1
C3	Propane/n-Propane (C$_3$H$_8$)	100	%LEL	1
C4	Acetylene (C$_2$H$_2$)	100	%LEL	1
C5	Hexane/n-Hexane (C$_6$H$_{14}$)	100	%LEL	1
C6	CNG	100	%LEL	1
C7	LNG	100	%LEL	1
C8	LPG	100	%LEL	1
C9	Natural Gas	100	%LEL	1
C10	Pentane/n-Pentane (C$_5$H$_{12}$)	100	%LEL	1
C11	Flammable (Explosive) Gas	100	%LEL	1

S. N.	GASES	RANGE	UNIT	RES.
COMBUSTIBLE GASES				
C12	Acetone (CH$_3$) 2CO	100	%LEL	1
C13	Ethanol (C$_2$H$_5$OH)	100	%LEL	1
C14	Ethyl Acetate (CH$_3$COOC$_2$H$_5$)	100	%LEL	1
C15	Ethylene (C$_2$H$_4$)	100	%LEL	1
C16	Hydrogen (H$_2$)	100	%LEL	1
C17	Isopropanol (CH$_3$C$_2$H$_4$OH)	100	%LEL	1
C18	Methanol (CH$_3$OH)	100	%LEL	1
C19	Methyl ethyl ketone (CH$_3$-CO-C$_2$H$_5$)	100	%LEL	1
C20	N-heptane (C$_7$H$_{16}$)	100	%LEL	1
C21	N-pentane (C$_5$H$_{12}$)	100	%LEL	1
C22	N-octane (C$_8$H$_{18}$)	100	%LEL	1
C23	Toluene (C$_6$H$_5$CH$_3$)	100	%LEL	1
C24	Ammonia (NH$_3$)	100	%LEL	1
C25	Carbon Monoxide (CO)	100	%LEL	1
C26	Unleaded Petrol	100	%LEL	1

* Please specify if any other gases and gas range you require which is not in the list available on Request

ORDERING INFORMATION

GT — A — B — C — D — E — F — G —

A) Model No.
1) 2500-LED

B) Enclosure
1) FLP (Flameproof)

C) Gas
Please select the Serial No of the gas from the list given above.

D) Retransmission Output
1) None
2) 4 to 20mA

E) Relay Output
1) None
2) 3 Relays (AL1, AL2 Failsafe Relay)

F) Communication Port
1) None
2) RS-485 serial port

G) Sensor Housing
1) PVC material
2) Teflon
3) Stainless Steel (SS316)

* Before placing order please Refer the above ordering information or Contact below address for assistance.

Specifications subject to change without any prior notice