

## Smart Gas Transmitter 1X Series Model BI500



### Features:

- Visual & Audio Alarm
- Non-intrusive calibration using magnetic wand
- 1.8" TFT Graphic LCD Display
- Advance Intimation for Cal. due date
- Bump Test
- Sensor Life Estimation
- Industry standard 4-20mA analog signal output
- Fully configurable on-board potential free relay contact
- Inbuilt ambient temperature sensor
- User settable alarm set-points
- Provision to mute relay output
- Force-testing of alarm and relays
- Digital communication by RS 485
- CIMFR/ PESO/ ATEX certified to Exd IIC T6, IP66

## ***Smart Gas Transmitter 1X Series Model BI500***

**Bhoomi BI500 – 1X Series Smart Gas Transmitter** is a Single Gas Transmitter comprising of transmitter and sensor which detects Flammable, Toxic and Oxygen gas present in Industrial & Commercial premises and provides Audio and Visual alarm indication for Industrial and Human safety. It is designed to use hazardous & non-hazardous area.

It is 3 wire transmitter with 4-20 mA, Modbus and Relay output. Electrochemical, Infrared and Pellistor technology based sensors used for detection of Flammable, Toxic and Oxygen gases.

The transmitter enclosure has three threaded entries. The two cable/conduit entries either side of the upper part of the transmitter housing are for connecting the power source, signal output and relay contacts to associated signalling equipment. The bottom entry allows direct connection of the sensor socket.

There is a mounting plate incorporated into the transmitter housing allowing for various mounting configuration. It can be installed on vertical or horizontal pipe/structure using pipe mounting bracket or it can be directly mount on surface. Sensor should be pointed downside to ensure no dust or water collect on the sinter and stop gas entering the sensor.

1.8" TFT Graphic LCD Display provides information about gas type, concentration, unit, alarm set point, temperature and time.

Transmitter has glass window through which user can operate magnetic switches using magnetic wand. "Non-intrusive calibration" is a tool that eliminates the need to remove the glass window or any other part of the transmitter and makes the calibration procedure user friendly using magnetic wand.

"Bump Test" offer as an alternative to full calibration every 3 months. On higher risk sites, a full calibration could be performed once every six months, with only a simple bump test in-between. A bump test enables to produce an auditable record that the test was conducted and the sensor was fully operational.

"Modbus communication" can be tested remotely for operating status or fault diagnosis. Whereas the 4-20mA analogue signal and relay output can be used to perform the safety function, workers can communicate with detectors remotely to get detailed information on the current 'health' of the detector. If any faults or issues are found, corrective actions can be properly planned before sending the engineer into the area.

"Advance Intimation of Calibration due date" helps user to calibrate instrument on / before time.

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### Gas & Ranges

Gas Type	Gases	Range	Resolution	Technology
C2H2	Acetylene	0 - 100% LEL	1% LEL	Pellister
CH2CHCN	Acrylonitrile	0 - 100 PPM	1 PPM	EC
NH3	Ammonia	0 - 100 PPM	1 PPM	EC
NH3	Ammonia	0 - 500 PPM	1 PPM	EC
NH3	Ammonia	0 - 1000 PPM	1 PPM	EC
C4H9OH	Butanol	0 - 100% LEL	1% LEL	Pellister
CO2	Carbon Dioxide	0 - 5% V/V	0.01% V/V	NDIR
CO2	Carbon Dioxide	0 - 100% V/V	1% V/V	NDIR
CS2	Carbon Disulfide	0 - 100 PPM	1 PPM	EC
CO	Carbon Monoxide	0 - 100 PPM	1 PPM	EC
CO	Carbon Monoxide	0 - 500 PPM	1 PPM	EC
CO	Carbon Monoxide	0 - 1000 PPM	1 PPM	EC
Cl2	Chlorine	0 - 20 PPM	0.1 PPM	EC
CH2O	Formaldehyde	0 - 10 PPM	0.1 PPM	EC
C6H14	Hexane	0-100 LEL	1% LEL	Pellister
C6H14	Hexane	0-100 LEL	1% LEL	NDIR
CH4	HC (Methane)	0 - 100% LEL	1% LEL	Pellister
CH4	HC (Methane)	500 - 10000 PPM	10 PPM	Solid State
H2	Hydrogen	0 - 1000 PPM	1 PPM	EC
H2	Hydrogen	0 - 100% LEL	1% LEL	EC
H2	Hydrogen	0 - 100% LEL	1% LEL	Pellister
HC	Hydro Carbon	50 - 1000 PPM	1 PPM	Solid State
HCN	Hydrogen Cyanide	0 - 100 PPM	1 PPM	EC
HCl	Hydrogen Chloride	0 - 20 PPM	0.1 PPM	EC
HF	Hydrogen Fluoride	0 - 10 PPM	0.1 PPM	EC
H2S	Hydrogen Sulphide	0 - 100 PPM	1 PPM	EC
CH4	Methane	0 - 100% LEL	1% LEL	Pellister
CH4	Methane	0- 100% V/V	1% V/V	NDIR
	Mercaptan	0 - 20 PPM	0.1 PPM	EC
	LPG	0 - 100% LEL	1% LEL	Pellister
NO2	Nitrogen Dioxide	0 - 20 PPM	0.1 PPM	EC
O2	Oxygen	0 - 25% V/V	0.1% V/V	EC
O3	Ozone	0 - 1 PPM	0.01 PPM	EC
PH3	Phosphine	0 - 10 PPM	0.01 PPM	EC
COCl2	Phosgene	0 - 1 PPM	0.01 PPM	EC
C8H8	Styrene	0 - 100 PPM	1 PPM	EC
SO2	Sulphur Dioxide	0 - 20 PPM	0.1 PPM	EC
C2H3Cl	Vinyl Chloro Monomer	0 - 100 PPM	1 PPM	EC
C4H8	VOC (Isobutylene)	0 - 1000 PPM	1 PPM	PID
C4H8	VOC (Isobutylene)	0 - 40 PPM	0.1 PPM	PID

**\*\* Other gases on request.**

**Technical Specification:**

➤ Power	: 15 – 28 VDC (Typically 24 VDC)
➤ Power Consumption	: Max. 5 Watts
➤ Display	: TFT LCD Graphic Display
➤ Output	: 4 – 20 mA Analog Output & 3 Nos. Relay Output
➤ Digital Interface	: RS 485 Protocol Modbus
➤ Operating Temperature	: -20°C to 60°C
➤ Operating Pressure	: Ambient +/-10%
➤ Operating Humidity	: 0-95% RH (non-condensing)
➤ Mounting	: Wall, Pole
➤ Response Time	: < 90 seconds
➤ Transmitter MOC	: Flameproof - cast aluminium alloy. SS-316 on request
➤ Sensor Enclosure MOC	: SS316
➤ Sensor Filter Type	: Sintered Filter
➤ Ingress protection	: IP 66
➤ Cable Entries	: 2 Nos. M20
➤ Transmitter Size	: 250 mm X 170 mm X 105 mm
➤ Certification	: CIMFR/ PESO/ ATEX certified to Exd IIC T6, IP66

**Application:**

- Oil & Gas
- Refineries & Petrochemical plants
- Chemical Plant
- Pharmaceutical
- Power Industries
- Pollution monitoring
- Waste water treatment plants
- Printing
- Iron and steel plants
- Fertilizer Plant
- Tunnels & car parking areas
- Confined space
- Printing Industries
- Ammonia Refrigeration
- Duct Monitoring
- Marine
- Military & national security
- Pulp & Paper Industry
- Semiconductor
- Photovoltaic
- Building & Construction



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