

FIXED GAS DETECTION SYSTEM

Sr. No.	Description	Qty. Required	
1	8-Channel Remote Detection Control Panel (compatible with gas detectors at Sr. No. 1~4 and complete with all accessories) (Technical Specifications are attached at Annexure-I)	2	No.
2	Control Panel to PC Interface Software (along with communication cable and other necessary accessories)	1	No.
3	Transmitter Type Nitrogen dioxide (N ₂ O) Gas Detector (Fixed Installation complete with all accessories) (Technical Specifications are attached at Annexure-I)	5	No.
4	Transmitter Type Nitric Oxide (NO) Gas Detector (Fixed Installation complete with all accessories) (Technical Specifications are attached at Annexure-I)	5	No.
5	Transmitter Type Nitric Acid (HN ₃ O) Gas Detector (Fixed Installation complete with all accessories) Technical Specifications are attached at Annexure-I)	4	No.
6	Transmitter Type I formaldehyde Gas Detector 1 Fixed Installation complete with all accessories) (Technical Specifications are attached at Annexure-I)	2	No.
7	Spare N ₂ O Sensor compatible with item at Sr. No. 3)	5	No.
8	Spare NO Sensor (compatible with item at Sr. No. 4)	5	
9	Spare HN ₃ O Sensor (compatible with item at Sr. No.	4	
10	Spare Formaldehyde Sensor (compatible with item at Sr. No. 6)	2	

A. FIXED GAS DETECTION SYSTEM

Fixed Gas Detection System includes:

Sr. No.	Item Description	Quantity Required
1.	8-Channel Gas Detection Control Panel (along with necessary accessories required for maintenance, installation and operation including Manuals)	02 No.
2.	Control Panel to PC Interface Software	01 No.
3.	Fixed Nitrogen dioxide Detectors (along with necessary accessories required for maintenance, installation and operation including Manuals)	05 Nos.
4.	Fixed Nitrogen Oxide Detectors (along with necessary accessories required for maintenance, installation and operation including Manuals)	05 Nos.
5.	Fixed Nitric Acid Detectors (along with necessary accessories required for maintenance, installation and operation including Manuals)	04 Nos.
6.	Fixed Formaldehyde Detectors (along with necessary accessories required for maintenance, installation and operation including Manuals)	02 Nos.
7.	Spare NO₂ Sensor (compatible with item at Sr. No. 3)	05 Nos.
8.	Spare NO Sensor (compatible with item at Sr. No. 4)	05 Nos.
9.	Spare HNO₃ Sensor (compatible with item at Sr. No. 5)	04 Nos.
10.	Spare Formaldehyde Sensor (compatible with item at Sr. No. 6)	02 Nos.

B. TECHNICAL SPECIFICATIONS FOR 8-CHANNEL GAS DETECTION CONTROL PANEL & SOFTWARE**1. Quantity Required:**

- i. 8-Channel Gas Detection Panel: 02 Nos.
- ii. Control Panel to PC Interface Software (along with communication cable and other necessary accessories): 01 No.

2. Inputs:

8 No. gas sensor input channels per Control Panel;

3. Required Control Panels Channel Configurations:**Control Panel # 1**

Channel No.	Gas Type
1	Formaldehyde
2	Formaldehyde
3	NO ₂
4	NO ₂
5	NO
6	NO
7	HNO ₃
8	HNO ₃

Control Panel # 2

Channel No.	Gas Type
1	NO ₂
2	NO ₂
3	NO ₂
4	NO
5	NO
6	NO
7	HNO ₃
8	HNO ₃

4. Outputs:

- i. Relay contacts rated 220 Vac 8A:
Low / High Alarm per channel and fault, alarm relays can be set for rising or falling alarms & Analogue outputs (4mA-20mA).
- ii. Analogue:
4-20mA for each channel
- iii. Serial Link:
RS-485 Modbus RTU for monitoring and control via PLC systems.

5. Power:

100-240 Vac 50-60Hz

6. Battery Backup:

Battery backup of suitable capacity shall available.

7. Operating Temperature:

-10 °C to +50 °C

8. Humidity:

0-95% RH non-condensing

9. Memory:

At least 300 events (alarms, systems errors, setting and adjustments)

10. Panel Indications:

- i. LCD back-lit display with indication of gas levels (in ppb, ppm, % vol. or % LEL units);
- ii. Scrolling alpha-numeric status indication;
- iii. LED for Alarm, Fault, Power and Warning;
- iv. Integral 85 db sounder.

11. Operational Warranty:

Operational Warranty of at least Two Years shall be provided by the supplier.

C. TECHNICAL SPECIFICATION FOR FIXED GAS DETECTORS And Spare Sensors

Specification	Nitrogen dioxide (NO ₂)	Nitric Oxide (NO)	Nitric Acid (HNO ₃)	Formaldehyde
Quantity Required (No.)	05 Nos. Detectors & 05 Nos. Spare Sensors	05 Nos. Detectors & 05 Nos. Spare Sensors	04 Nos. Detectors & 04 Nos. Spare Sensors	02 Nos. Detectors & 02 Nos. Spare Sensors
Sensor Type	Electrochemical cell Plug-in field replaceable Type	Electrochemical cell Plug-in field replaceable Type	Electrochemical cell Plug-in field replaceable Type	Electrochemical cell Plug-in field replaceable Type
Sensor Measuring Range	0-20 ppm	0-100 ppm	0-40 ppm	0-100 ppm
Operating Temperature Range	-20 °C to +50°C			
Operating Humidity Range	0% to 99% non-condensing			
Signal Output	Linear 4mA-20mA DC	Linear 4mA-20mA DC	Linear 4mA-20mA DC	Linear 4mA-20mA DC
Alarm/Control Relays	Local horn / strobe notification			
Housing	Aluminum / Stainless Steel explosion proof			
Indicator	Local digital display indicating gas levels, fault / troubles / maintenance warnings.	Local digital display indicating gas levels, fault / troubles / maintenance warnings.	Local digital display indicating gas levels, fault / troubles / maintenance warnings.	Local digital display indicating gas levels, fault / troubles / maintenance warnings.
Transmitter / Sensor Life/Warranty	Plug-in cell: minimum 2 years; Transmitter: minimum 2 Years.	Plug-in cell: minimum 2 years; Transmitter: minimum 2 Years.	Plug-in cell: minimum 2 years; Transmitter: minimum 2 Years.	Plug-in cell: minimum 2 years; Transmitter: minimum 2 Years.
Accessories	All related accessories for maintenance installation shall be included	All related accessories for maintenance installation shall be included	All related accessories for maintenance installation shall be included	All related accessories for maintenance installation shall be included

D. TERMS & CONDITIONS

- i. Complete specification of the all the indented items shall be provided along with quotation;
- ii. Calibration / Technical services shall be provided by supplier, as and when required;
- iii. Supplier shall be responsible for provision of accessories, if required for the quoted system for at least 05 Years;
- iv. Items shall be according to the supplied specification;
- v. Installation/Maintenance manuals shall be provided along with supply.