

SENSE-GT101

Multi-Gas Sensor

User Manual



Item	Information
Target Gas	Ammonia (NH3)
Gas Code	SG2
Product Platform	SENSE-GT101
Enclosure Type	FP - Flameproof industrial enclosure
Document Type	User Manual
Document Revision	Rev. 1.0

Important: Read this complete manual before installation, commissioning, operation, calibration or servicing of the gas transmitter.

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1. INTRODUCTION

The SENSE-GT101 is an advanced flameproof industrial multi-gas transmitter designed for hazardous industrial applications requiring high-accuracy continuous gas monitoring, environmental sensing, network connectivity and cloud-based monitoring. The device supports up to three targeted gas sensors simultaneously along with temperature, relative humidity and pressure monitoring.

The device architecture is specially designed for industrial hazardous areas requiring local display, alarm annunciation, Ethernet connectivity, IoT integration and remote monitoring over industrial protocols.

Application note: This manual copy is prepared specifically for the Ammonia (NH₃) SG-2 variant. Gas-specific range, accuracy, response, cross-sensitivity values and sensor life shall always be verified against the final approved sensor datasheet and factory calibration certificate.

2. PRODUCT OVERVIEW

The SENSE-GT101 combines industrial sensing, communication and cloud-ready architecture into a single flameproof platform suitable for smart industrial monitoring applications.

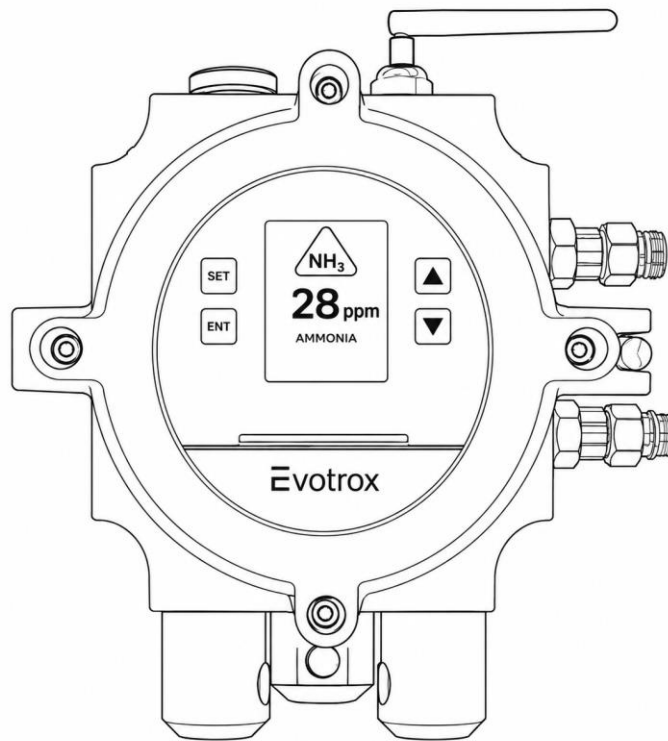


Figure 1: SENSE-GT101 Flameproof Gas Sensor - Product Image

Product Area	Description
Multi-Gas Sensing	Supports up to 3 targeted gas sensors in a single unit.
Environmental Sensing	Temperature, RH and pressure monitoring supported.
Display	2.4-inch TFT LCD color display with touch keypad.
Communication	RS485 Modbus RTU and Modbus TCP/IP support.
LAN Interface	PoE-enabled Ethernet interface.
IoT	MQTT(S), HTTP(S), Linked IoT SCADA integration.
Connectivity	Ethernet and Wi-Fi internet connectivity.
Enclosure	Flameproof cast aluminum industrial enclosure.

3. FEATURES

- Flameproof industrial enclosure suitable for hazardous areas.
- Supports up to 3 targeted gases in a single transmitter.
- Higher-accuracy sensing platform for targeted gas monitoring.
- Integrated temperature, RH and pressure sensing.
- 2.4-inch TFT LCD color display.
- Touch keypad interface for device configuration with all applicable safety precautions.
- RS485 Modbus RTU communication.
- Modbus TCP/IP communication support.
- PoE (Power over Ethernet) support.
- Ethernet and Wi-Fi internet connectivity.
- Cloud protocol support: MQTT(S), HTTP(S).
- Default compatibility with Linked IoT SCADA platform.
- 4-20 mA analog outputs and relay outputs.
- Built In buzzer and top alarm indicator/lens for alarm annunciation.
- IP65 industrial protection.
- Continuous 24x7 monitoring operation.

4. APPLICATIONS

- Oil & Gas Plants
- Refineries
- Cold Storage Plants and Ammonia Refrigeration Areas
- Chemical Processing Industries
- LNG / LPG Areas
- Boiler Rooms
- Compressor Rooms
- Hazardous Storage Areas
- Pharmaceuticals
- Industrial Safety Systems
- Gas metering skids and pipeline projects
- Ventilation monitoring and alarm interlock systems

5. TECHNICAL SPECIFICATIONS

5.1 ELECTRICAL AND FUNCTIONAL SPECIFICATIONS

Parameter	Specification
Sensor Technology	Electrochemical / Catalytic / Pellistor / NDIR
Configured Target Gas	Ammonia (NH ₃) - SG-2
Sensing Range	0 to 1000 PPM
Cross Sensitivity	Nil
Gas Channels	Up to 3 targeted gases in one unit
Environmental Parameters	Temperature, RH and pressure detection along with gases
Display	2.4-inch TFT LCD color display
User Interface	Touch keypad for device configuration
Typical Power Supply	24 VDC
Power Supply Range	12 to 30 VDC
PoE	PoE (Power over Ethernet)
Outputs	2 x 4-20 mA, relay
Communication	RS485 Modbus RTU, Ethernet Modbus TCP/IP (Optional)
Internet Connectivity	Ethernet / Wi-Fi
Operating Temperature	10°C to +50°C
Storage Temperature	10°C to +60°C
Humidity	<95% RH, non-condensing recommended
Mounting	Wall / surface mount

5.2 FLAMEPROOF ENCLOSURE AND MECHANICAL SPECIFICATIONS

Parameter	Specification
Enclosure	Flameproof cast aluminum enclosure
General Construction	As per IS:2148-2004 / IEC 60079-1:2001 reference shown in drawing; final certification shall be verified from product approval label/certificate.
Area Classification	Hazardous locations of Zone 1 & Zone 2, as per approved configuration.
Protection	IP65
Atmosphere	Suitable for Gas Group I, IIA & IIB as per drawing reference; final approved gas group shall be followed.
Material of Construction	Cast Aluminum Alloy LM-6 / equivalent, or ADC12 aluminum alloy as shown in exploded view.
Gasket	Endless molded neoprene / silicone O-ring as per enclosure construction.
Cable Entry	1 x M20 x 1.5 standard cable entry; drawing also indicates 2 nos. right-side and 3 nos. bottom entries depending on enclosure configuration.
Earthing	1 No. inside and 2 Nos. outside as per drawing reference.
Hardware	H.T.S. zinc plated / stainless steel as applicable.
Finish	Light grey epoxy shade 631 as per IS:5.
Glass Window	Ø 103 mm round glass.
Overall Dimensions	Width 235 mm x Height 230 mm x Depth 115 mm as shown in dimensional drawing.
Mounting Centre	H: 210 mm, W: 215 mm.
Mounting Holes	Ø 7 mm, 4 places.
Tolerance	±1 mm general; ±5 on overall dimensions as per drawing note.

Specification note: Exact gas range, measuring accuracy, sensor life, response time, calibration interval and environmental limits depend on the selected gas sensor module and final factory configuration.

6. PRODUCT IMAGES AND MECHANICAL DRAWINGS

6.1 EXPLODED VIEW AND PARTS DESCRIPTION

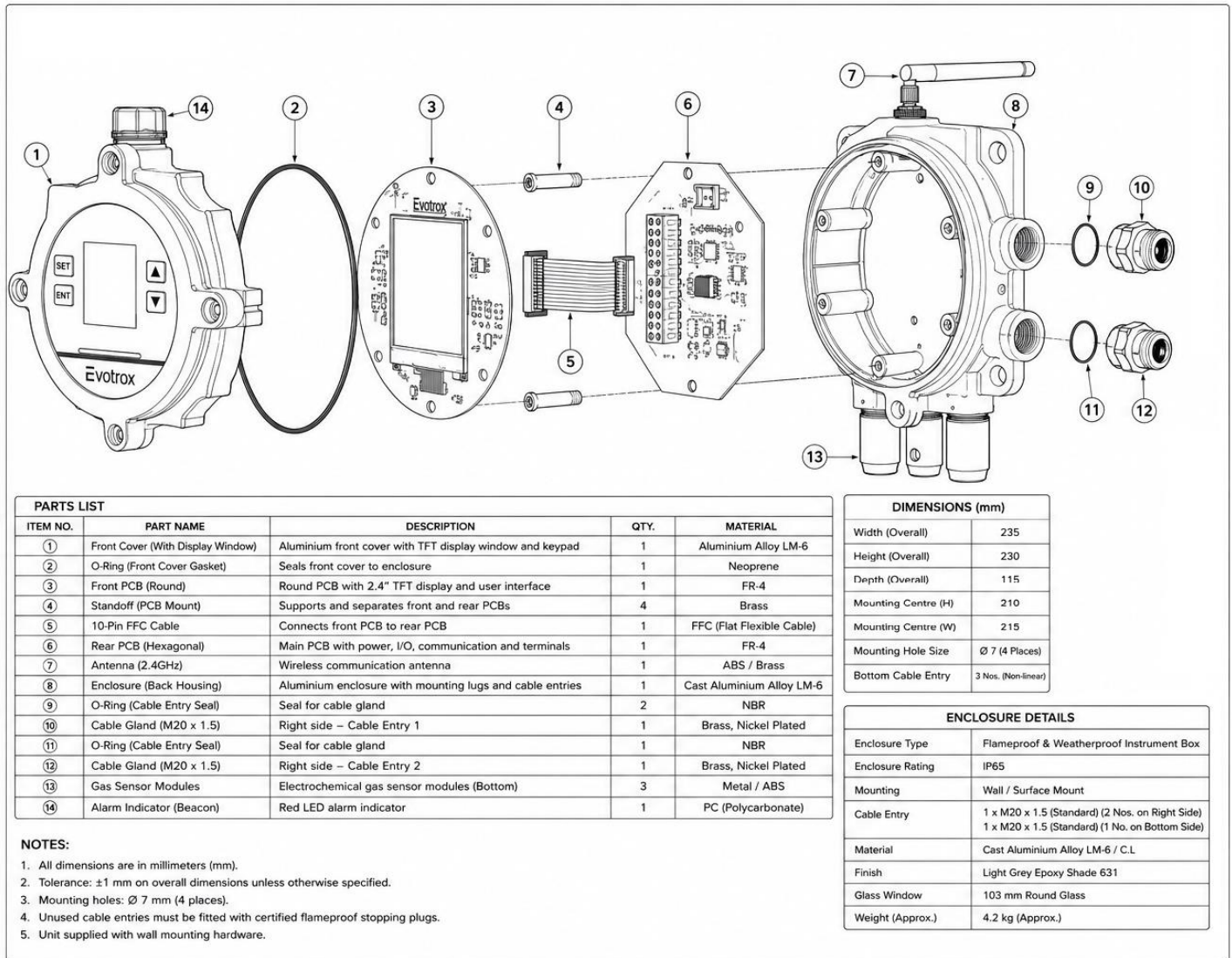


Figure 4: Exploded View and Parts Description

No.	Part Name	Description	Qty.	Material
1	Front Cover (With Display Window)	Aluminum front cover with TFT display window and keypad	1	Aluminum Alloy LM-6
2	O-Ring (Front Cover Gasket)	Seals front cover to enclosure	1	Neoprene
3	Front PCB (Round)	Round PCB with 4.3 inch TFT display and user interface	1	FR-4
4	Standoff (PCB Mount)	Supports and separates front and rear PCBs	4	Brass
5	10-Pin FFC Cable	Connects front PCB to rear PCB	1	FFC (Flat Flexible Cable)
6	Rear PCB (Hexagonal)	Main PCB with power, I/O, communication and terminals	1	FR-4
7	Antenna (2.4GHz)	Wireless communication antenna	1	ABS / Brass
8	Enclosure (Back Housing)	Aluminum enclosure with mounting lugs and cable entries	1	Cast Aluminum Alloy LM-6
9	O-Ring (Cable Entry Seal)	Seal for cable gland	2	NBR
10	Cable Gland (M20 x 1.5)	Right side - Cable Entry 1	1	Brass, Nickel Plated
11	O-Ring (Cable Entry Seal)	Seal for cable gland	1	NBR
12	Cable Gland (M20 x 1.5)	Right side - Cable Entry 2	1	Brass, Nickel Plated
13	Gas Sensor Modules	Electrochemical gas sensor modules (Bottom)	3	Metal / ABS
14	Alarm Indicator (Beacon)	Red LED alarm indicator	1	PC (Polycarbonate)

6.2-DIMENSIONAL DRAWING

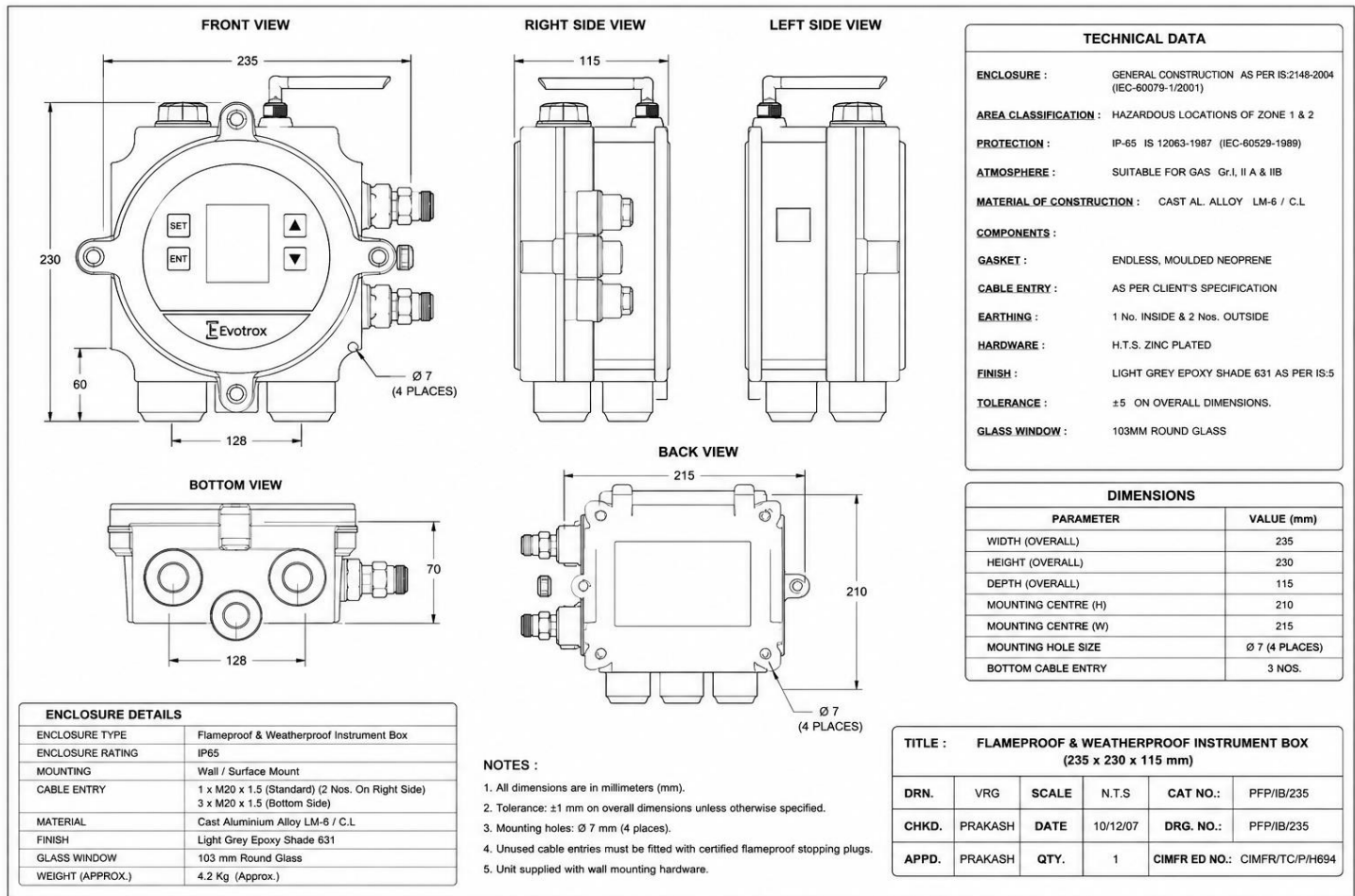


Figure 3: Dimensional Drawing with Front, Side, Bottom and Back Views

7. SAFETY PRECAUTIONS

- Installation, wiring, commissioning and servicing shall be performed by qualified personnel only.
- Disconnect power before opening the enclosure or touching internal wiring.
- Never open the enclosure in a hazardous atmosphere while the device is powered.
- Do not replace the sensor in a hazardous atmosphere while the device is powered.
- Ensure proper earthing of enclosure and panel wiring as per site electrical standards.
- Ensure proper earthing of enclosure and cable glands.
- Use certified flameproof cable glands and accessories only.
- Do not install the detector where it can be exposed to direct flame, heavy water jet, corrosive liquid splash or mechanical damage unless the installation is protected accordingly.
- Maintain calibration records periodically for safety and compliance traceability.
- Dispose expired or replaced sensors according to applicable environmental regulations.
- Do not use the detector as the only safety protection layer where local regulation requires redundant detection, emergency shutdown or certified safety system.
- Do not modify enclosure, threads, flame paths, cable entries, fasteners or sealing arrangements.
- Follow local hazardous area safety regulations, electrical codes and site safety procedures.

7.1 FLAMEPROOF SAFETY INSTRUCTIONS

- The flameproof enclosure must remain mechanically intact. Any damage to threaded joints, flame paths, glass window, cover, mounting bosses or cable entries may affect protection.
- Use only approved cable glands, blanking plugs, reducers and accessories suitable for the hazardous area classification.
- Before energizing, ensure that enclosure cover, cable gland, sensor housing and all fastening hardware are properly tightened.

- Do not paint, file, drill, machine, weld or modify flameproof surfaces.
- After maintenance, inspect gasket condition, cable entry sealing, earthing continuity and enclosure closing before returning the detector to service.

8. HAZARDOUS AREA INSTALLATION GUIDELINES

- Install detector as per target gas behavior, leak source, plant layout, ventilation pattern and airflow direction.
- For ammonia (NH₃), installation location shall be selected based on actual plant layout, expected leak source, airflow, ventilation and safety consultant recommendation.
- Avoid dead air zones where gas may not reach the sensor quickly.
- Avoid direct sunlight, heat sources and high vibration areas.
- Ensure adequate ventilation and avoid locations directly in front of strong air discharge where gas dilution may delay detection.
- Maintain safe service clearance around the detector for cable access, sensor replacement and calibration.
- Use proper flameproof cable glands and sealing arrangements to maintain enclosure protection.
- Ensure conduit sealing as required by hazardous area standards and site procedure.
- Mount the detector firmly on a stable wall, frame or structure using suitable fasteners.
- Ensure enclosure cover is properly tightened before energizing.

8.1 RECOMMENDED INSTALLATION CHECKS

- Confirm target gas and gas code on product label.
- Confirm power supply rating before applying power.
- Verify terminal wiring as per wiring diagram.
- Check relay logic and external alarm/interlock wiring.
- Verify RS485 polarity and device ID in multi-device network.
- Verify Ethernet IP address and PoE compatibility when LAN/PoE is used.
- Allow sensor stabilization time after first power-up or sensor replacement.
- Perform bump test or functional test before handing over the system.
- Confirm flameproof glands, sealing and earthing are complete before energizing in hazardous area.

8.2 GAS-BASED MOUNTING LOCATION GUIDELINES

Gas Behaviour	Recommended Detector Placement
Lighter-than-air gases	Install approximately 6-12 inches below the ceiling or above expected leak source, subject to site layout.
Heavier-than-air gases	Install approximately 6-12 inches above the floor or below expected leak source, subject to site layout.
	Select location according to refrigeration plant layout, leak source, airflow, ventilation, compressor room arrangement and safety consultant recommendation.

Installation note: Final detector location should be validated by plant safety team, gas detection consultant or authorized hazardous-area engineer.

9. WIRING AND ELECTRICAL CONNECTIONS

The device supports analog outputs, relay outputs, RS485 communication and Ethernet connectivity. All wiring must be carried out with power OFF and as per approved wiring diagram.

9.1 MAIN TERMINAL DETAILS

Terminal	Terminal Name	Description	Typical Use
1	24 VDC (+)	Positive DC supply input	24 VDC panel power supply positive
2	GND (-)	DC supply common / ground	Power supply negative / signal common
3	CH-1 / 4-20 mA	Analog output channel 1	PLC / data logger / indicator analog input
4	CH-2 / 4-20 mA	Analog output channel 2 or secondary analog output if configured	Secondary monitoring input / spare as configured
5	Relay NO	Normally open relay contact	Alarm hooter, exhaust or interlock
6	Relay C / NC	Relay common or normally closed contact as per configured PCB/wiring label	Fail-safe alarm logic, if configured
7	RS485 A	RS485 communication A line	Modbus RTU network
8	RS485 B	RS485 communication B line	Modbus RTU network

9.2 WIRING DIAGRAM AND TYPICAL SYSTEM CONNECTION

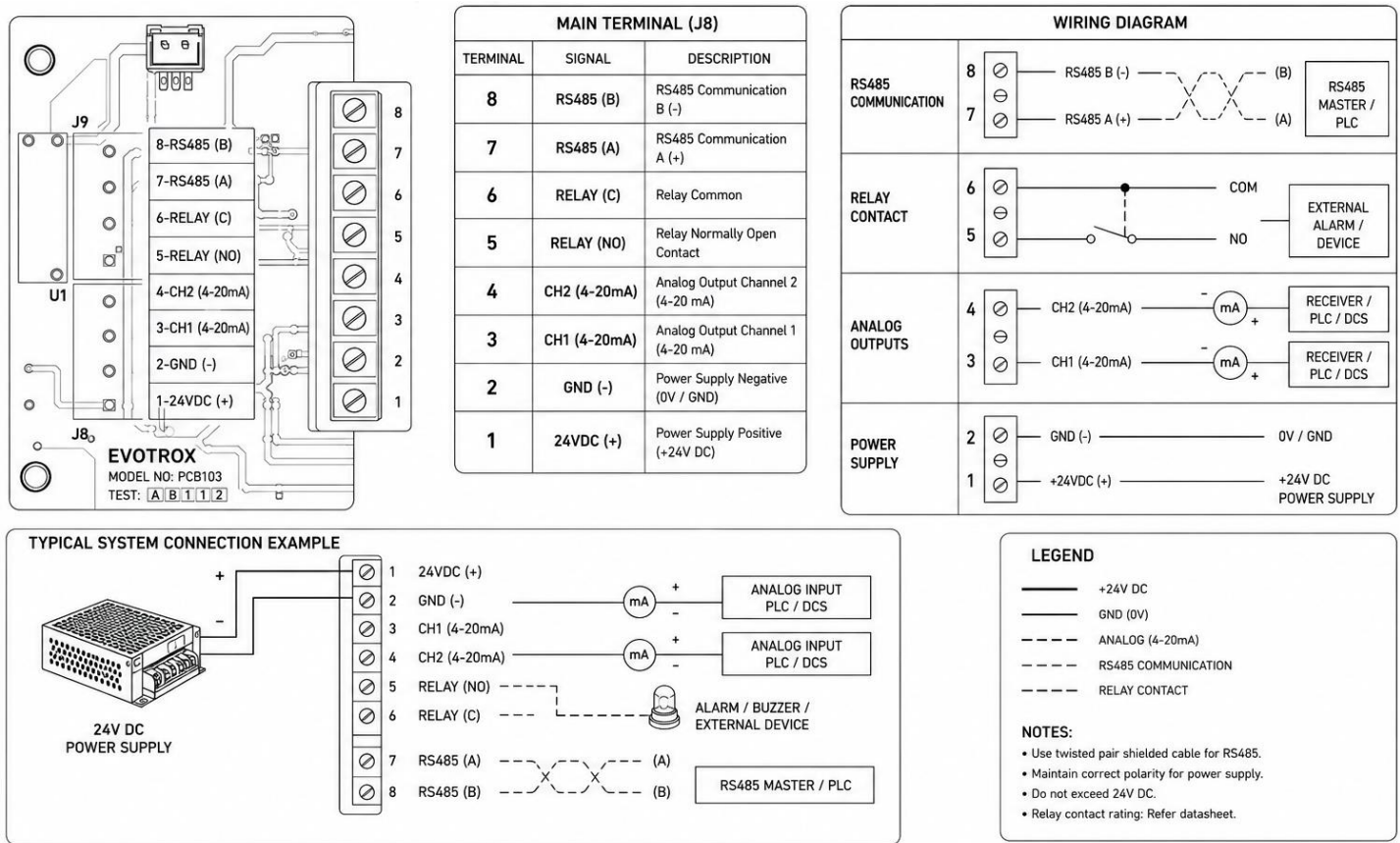


Figure 5: Main Terminal, Wiring Diagram and Typical System Connection

9.3 WIRING NOTES

- Use shielded twisted pair cable for RS485 communication in industrial environments.
- Maintain correct polarity for power supply.
- Relay contact rating shall be verified from final product datasheet before connecting external load.
- For hazardous area installation, cable gland, cable type, sealing and earthing shall be selected as per site classification and approved flameproof practice.
- For long RS485 networks, use proper cable routing, shielded twisted pair, common reference where required, end-of-line termination and unique device ID for each detector.
- For Ethernet/PoE installation, verify network switch/PoE injector rating, cable gland sealing, shield bonding and hazardous area cable routing practices.

10. OPERATING PRINCIPLE AND ALARM OPERATION

The gas sensor module generates an electrical response proportional to the target gas concentration. The controller processes the signal, compares it with configured level set values, operates visual indication, buzzer and relay output, displays warning/alarm conditions on the LCD and transmits data over RS485, Ethernet and IoT communication interfaces as per configuration.

10.1 ALARM LEVEL OPERATION

Level	Threshold	LED	Buzzer
1	< Level 1 set value	Green LED ON	OFF
2	> Level 1 set value	Yellow LED ON	ON every 30 seconds

Display indication: Inside display, all types of warnings, configured gas values, environmental values and alarm levels will be shown as per device configuration.

10.2 ALARM ACKNOWLEDGEMENT

The built-in buzzer can be acknowledged as per configured acknowledgement logic. Alarm acknowledgement silences or controls buzzer behavior only as configured; it shall not be treated as removal of gas hazard. The gas concentration and alarm LEDs must be monitored until the area returns to safe condition.

11. LED AND BUZZER INDICATIONS

LED / Indicator	Condition	Description
Power	Red	Power ON
Status	Flashing	RS485 communication OK
Status	Steady	RS485 error

12. CALIBRATION PROCEDURE

The device provides configurable 4-20 mA analog outputs. To ensure analog output accuracy, calibration procedure is available through Modbus holding registers. This procedure calibrates the 4-20 mA output signals. Gas calibration, zero calibration and span calibration shall be performed using approved calibration gas and procedure as per sensor type.

12.1 ANALOG OUTPUT CALIBRATION REGISTERS

Channel	Register Address	Function	Description
1	40013	4 mA Count	Sets the PWM count corresponding to 4 mA output.
1	40014	20 mA Count	Sets the PWM count corresponding to 20 mA output.
1	40015	Mode Selection	0 = Normal operation; 1 = Force 4 mA output; 2 = Force 20 mA output.
2	40016	4 mA Count	Sets the PWM count corresponding to 4 mA output.
2	40017	20 mA Count	Sets the PWM count corresponding to 20 mA output.
2	40018	Mode Selection	0 = Normal operation; 1 = Force 4 mA output; 2 = Force 20 mA output.

12.2 4-20 MA OUTPUT CALIBRATION STEPS

1. Connect a precision milliamp meter to the 4-20 mA output terminal.
2. Force 4 mA output by writing 1 into register 40015 for channel 1 or 40018 for channel 2. The device will output a fixed 4 mA signal.
3. If the measured value is not exactly 4 mA, adjust register 40013 for channel 1 or 40016 for channel 2 until the measured value is exactly 4 mA.
4. Force 20 mA output by writing 2 into register 40015 for channel 1 or 40018 for channel 2. The device will output a fixed 20 mA signal.
5. If the measured value is not exactly 20 mA, adjust register 40014 for channel 1 or 40017 for channel 2 until the measured value is exactly 20 mA.
6. Return to normal operation by writing 0 into the applicable mode selection register. The device will now output the calibrated 4-20 mA signal proportional to the input value.

Calibration caution: Calibration must be performed by trained personnel using calibrated reference instruments. After calibration, verify output at both 4 mA and 20 mA points and record results in the maintenance log.

12.3 GAS CALIBRATION AND BUMP TEST GUIDANCE

- Gas calibration, zero calibration and span calibration shall be carried out using approved calibration gas, regulator, flow cap and sensor-specific procedure.
- Perform zero calibration in clean air or with approved zero gas as recommended for the installed sensor.
- Perform span calibration using known concentration gas suitable for the target gas and range.
- After gas calibration, verify alarm set points, relay output, buzzer operation, LED indication and 4-20 mA output.
- In hazardous areas, follow site permit, isolation and safe work procedure before calibration activity.

13. COMMUNICATION PORTS

13.1 SERIAL PORT - RS485

The device can be connected to an RS485 port either in single-device mode or multi-device mode. In multi-device mode, each connected detector must have a unique device ID. User can change device ID from the configuration page.

Parameter	Default Value
Protocol	Modbus RTU
Slave ID	1
Baud Rate	9600
Bit	8
Stop Bit	1
Parity	None

13.2 ETHERNET (LAN / POE)

The detector is equipped with an Ethernet interface supporting Modbus TCP/IP communication. The device operates as a Modbus TCP slave and can be connected to SCADA systems, PLCs, BMS, IoT gateways and industrial Ethernet networks.

POWER OVER ETHERNET (POE)

The Ethernet port supports Power over Ethernet (PoE), allowing both power and communication through a single Ethernet cable, reducing wiring requirements and simplifying installation.

- Modbus TCP/IP communication
- Power over Ethernet (PoE) support
- Single cable for power and data
- Suitable for LAN-based monitoring systems
- Supports integration with SCADA, PLC, BMS and IoT platforms
- Multiple devices can operate on the same Ethernet network using unique IP addresses

PoE note: Ensure the connected network switch or PoE injector supports the required PoE standard before powering the device.

14. MODBUS RTU / TCP-IP ADDRESS LIST

14.1 PROTOCOL TYPE

Serial protocol: Modbus RTU slave over RS485. Ethernet protocol: Modbus TCP/IP slave over LAN interface.

Address	Access Type	Function Code	Description	Use
30001	READ	04	Read input register	To read all channel sensor data
40001	READ + WRITE	03 + 06	Read/write holding registers	To read or write all setting parameters

14.2 PARAMETER ADDRESS DETAILS

Sr. No.	Address	Parameter	Low	High
1	40001	Alarm set value	0	65535
2	40002	Alarm mode	0	1
3	40003	Alarm hysteresis	0	65535
4	40004	Level 2 set value	0	65535
5	40005	Level 3 set value	0	65535
6	40006	Level hysteresis	0	65535
7	40007	Timer hour	0	255
8	40008	Timer minute	0	59
9	40009	Buzzer mode	0	1
10	40010	Offset	0	65535
11	40011	Zero	0	65535
12	40012	Span	0	65535
13	40013	4 mA count	0	1000
14	40014	20 mA count	0	1000
15	40015	Analog output mode	0	2
16	40016	Acknowledgement	0	1

Communication note: For long RS485 networks, use proper cable routing, shielded twisted pair, common reference where required, end-of-line termination and unique device ID for each detector.

15. CLOUD-DEVICE INTERFACE / IOT CONFIGURATION

The device supports cloud connectivity through the Linked IoT platform, enabling remote monitoring, alarm notifications, data logging, analytics and device management from anywhere.

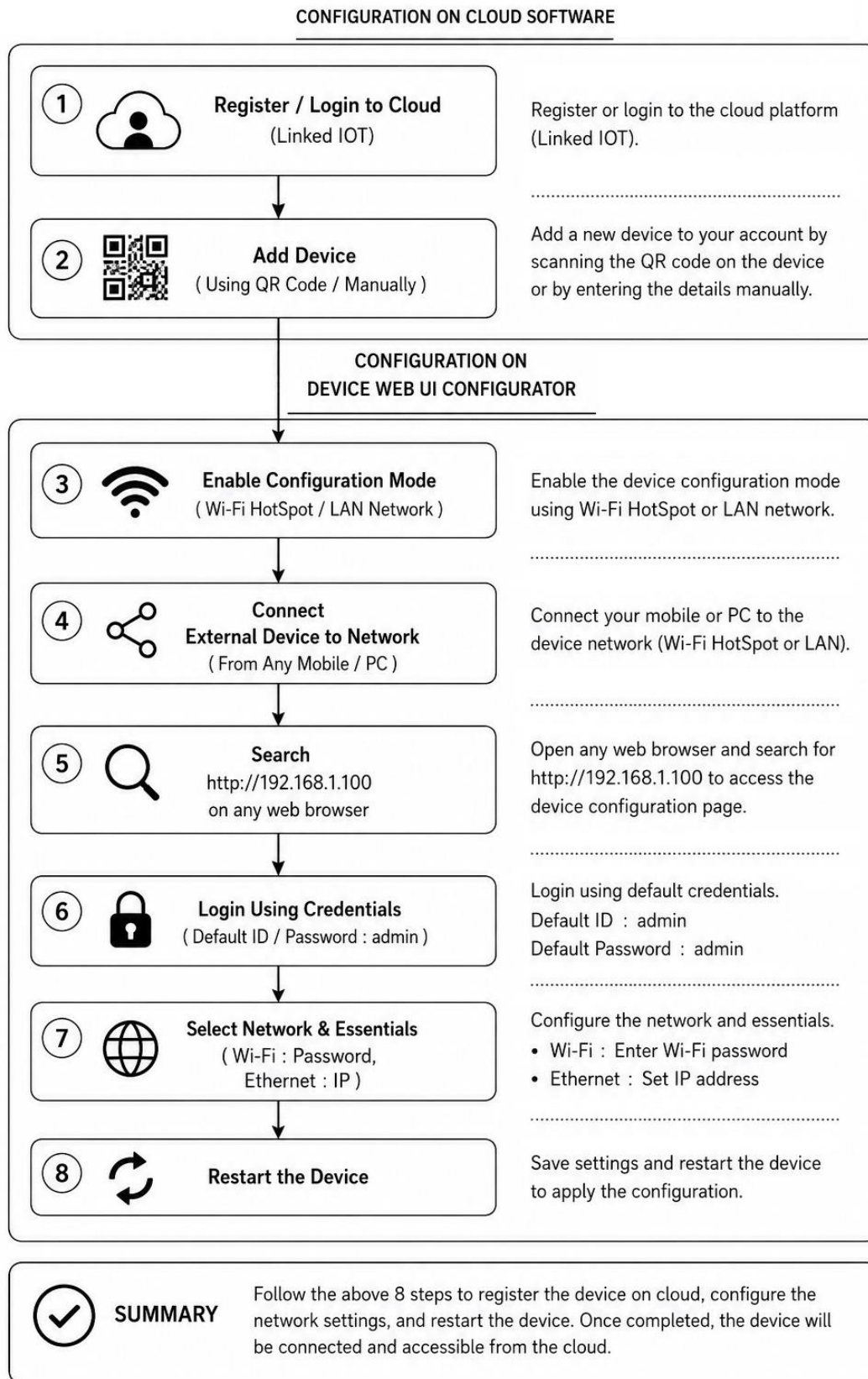


Figure 5: Cloud and Web UI Configuration Flow

15.1 STEPS TO CONNECT DEVICE

Cloud APP / Software

- Register or login to Linked IoT cloud platform.
- Add a new device using QR code or manual details.

Field Device

- Enable device configuration mode from settings.
- Connect mobile or PC to the device network using Wi-Fi Hotspot or LAN.
- Open browser and search <http://192.168.1.100> to access device configuration page.
- Login using default credentials. Default ID: admin. Default Password: admin.
- Select network and essential settings: Wi-Fi password or Ethernet IP settings.
- Save settings and restart the device to apply configuration.

15.2 PREREQUISITES

- The device variant must support IoT functionality.
- A stable Internet connection is available.
- A valid Linked IoT user account is available.
- The device is installed and powered correctly.

15.3 CLOUD CREDENTIALS

Access Type	Link
Web Portal	www.linkediot.com/login
Android Application	https://play.google.com/store/apps/details?id=com.linkediot
iOS Application	https://apps.apple.com/us/app/linkediot

15.4 NETWORK CONFIGURATION OPTIONS

Mode	Configuration Details
Wi-Fi Mode	Select available Wi-Fi network; enter Wi-Fi password; configure network priority.
Ethernet Mode	DHCP or static IP configuration; IP address; subnet mask; gateway; DNS server.
Cellular Mode (GSM)	APN settings; SIM configuration; network priority selection, depending on model variant.

15.5 NETWORK PRIORITY MANAGEMENT

When multiple communication interfaces are available, the device can automatically select the preferred network according to the configured priority sequence. This feature supports reliable cloud communication by switching to an available network when the primary connection becomes unavailable.

15.6 IMPORTANT NOTES

- Use a dedicated configuration network when accessing the Web UI Configurator.
- Ensure Internet connectivity is available on the selected communication interface.
- Change the default administrator password after commissioning for improved security.
- Network configuration parameters can be modified at any time through the Web UI Configurator.
- Successful cloud connection status can be verified from the device display and Linked IoT platform dashboard.

16. SENSING INFORMATION - AMMONIA SG-2

Item	Information
Target Gas	Ammonia (NH ₃)
Gas Code	SG-2
Sensor Type	Electrochemical ammonia sensor module
Application	Ammonia gas monitoring and leak detection

16.1 BASIC SENSITIVITY CHARACTERISTICS

This section defines how the sensor converts gas concentration into a measurable electrical signal. The sensor provides a linear output signal directly proportional to ammonia concentration. To read this signal, an I-V conversion amplifier, also known as a transimpedance amplifier, is required to transform nano-ampere (nA) current into voltage.

16.2 GAS RESPONSE

This describes the speed at which the sensor detects gas and how quickly it clears after the gas is removed. The sensor typically reaches 90% of its stable output within 120 to 150 seconds. Once returned to clean air, the signal gradually returns to the baseline level.

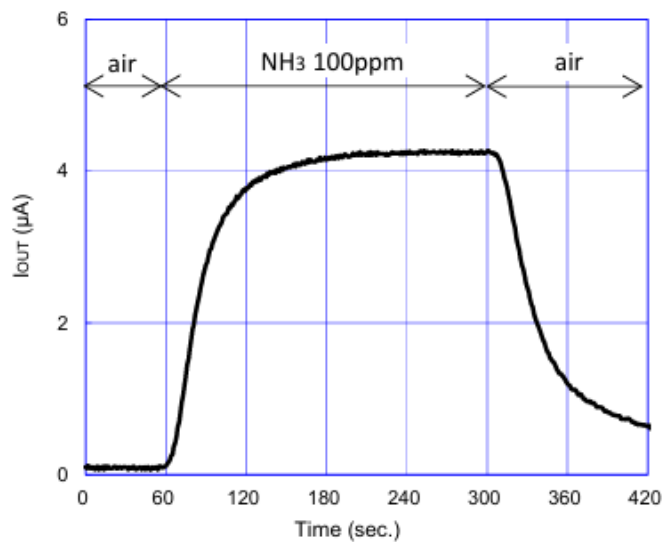


Figure 7: Typical NH₃ Sensor Response Characteristic

16.3 CROSS SENSITIVITY

This characteristic indicates the sensor ability to ignore other gases and focus on ammonia. The sensor is designed to be highly selective to ammonia (NH₃) with minimal interference from other common industrial gases. Under standard conditions, gases such as carbon monoxide, hydrogen and ethanol typically result in a 0 ppm equivalent reading.

16.4 TEMPERATURE DEPENDENCY

Since the sensor relies on a chemical reaction, its performance changes based on surrounding temperature. The output signal gradually decreases as temperature drops below room temperature of approximately 20°C. For high-accuracy applications, temperature compensation using an NTC thermistor or equivalent compensation method is recommended.

16.5 SENSOR INFORMATION

- SG-2 sensor module is designed for ammonia gas monitoring applications using electrochemical sensing technology.
- Linear sensor output proportional to gas concentration.
- High selectivity to ammonia gas.
- Minimal cross sensitivity to common industrial gases.
- Typical response time: 120-150 seconds.
- Recommended temperature compensation for high accuracy applications.

17. ORDERING INFORMATION

17.1 Ordering format: SENSE-GT101-SG2-GF2-I1

Code Segment	Meaning
SENSE	Product Family
GT101	Product Model
SG2	Targeted Gas
GF2	Filter Category
I1	WAN Card for Internet

Ordering note: Final ordering code may include additional options such as gas range, relay logic, output configuration, cable gland type, calibration certificate and communication settings.

17.2 FILTER VARIANTS

Code	Filter Type	Working Area	Protection
GF1	SS Mesh	Normal factory air	Dust protection, fast response
GF2	SS Sintered	Dusty industrial areas	Strong dust protection
GF3	PTFE Membrane	Outdoor / condensation	Blocks liquid water
GF4	PTFE + AC Membrane	Chemical vapors	Protects from chemicals

Note: If no filter option is specified during ordering, standard F1 filter variant will be supplied by default.

17.3 NETWORK VARIANTS

Code	Module Type	Description
I1	WAN Card for Internet	Used to connect device to internet for Remote Applications
L1	LAN Card for Local Network	Used to connect device to local network for PLC / Scada Applications

Note: If no filter option is specified during ordering, standard F1 filter variant will be supplied by default.

18. MAINTENANCE AND PERIODIC CHECKS

- Clean enclosure using soft dry cloth only.
- Inspect cable glands periodically.
- Verify sensor response periodically.
- Perform periodic bump testing using approved test gas.
- Check relay operation and external alarm/interlock operation periodically.
- Verify RS485 communication, Ethernet communication and data logging where applicable.
- Maintain calibration, bump test and sensor replacement records.
- For flameproof installation, periodically inspect enclosure closing, cable gland tightness, earthing and physical damage.

18.1 SUGGESTED MAINTENANCE LOG

Date	Activity	Result	Technician	Remarks

19. TROUBLESHOOTING

Issue	Possible Cause	Recommended Action
No power indication	Power supply not available, wrong polarity or loose terminal	Verify 24-36 VDC supply, polarity and wiring.
Status LED steady / RS485 error	Incorrect RS485 wiring, wrong baud setting or duplicate device ID	Check RS485 A/B polarity, device ID, network wiring and master settings.
Ethernet / PoE not working	PoE injector/switch issue, IP conflict or cable/network fault	Verify PoE source, Ethernet cable, IP settings, network switch and configuration.
Cloud connection not established	Internet not available, wrong network settings or device not added to cloud	Verify network configuration, Internet access, Linked IoT account and device registration.
Analog output not correct	Output calibration mismatch or wiring issue	Perform 4-20 mA output calibration and check loop wiring.
Frequent alarm without gas presence	Wrong set value, sensor drift, cross gas exposure or environmental issue	Check set values, perform zero/span check and inspect installation location.
No response during bump test	Expired sensor, blocked sensor path or wrong test gas	Inspect sensor opening, verify test gas and replace/calibrate sensor if required.
Relay not operating	Alarm threshold not reached, relay wiring issue or wrong relay logic	Check level set values, relay contacts and external circuit.
Flameproof enclosure cannot be closed properly	Damaged thread, obstruction, gasket issue or incorrect assembly	Do not energize in hazardous area. Inspect enclosure, clean mating surfaces and contact authorized service team if damage is observed.

20. LEGAL NOTICE AND DISCLAIMER

Specifications are subject to change without prior notice. The user is responsible for ensuring proper installation, commissioning, operation and maintenance according to local industrial safety regulations, electrical codes and site safety procedures.

This product is intended to assist in gas leak monitoring and alarm generation. It does not replace statutory safety systems, ventilation design, emergency response procedure, certified fire and gas system or operator training where such systems are required by applicable regulation or site safety policy.

Sensor performance depends on installation location, airflow, target gas behavior, calibration condition, sensor age, environmental exposure and maintenance practices. Periodic functional testing and calibration are essential for reliable operation.

Hazardous area classification, flameproof suitability, gas group, temperature class, cable gland selection and installation method must be verified against the final certified product label, certificate and local regulatory requirements before use.

21. CONTACT INFORMATION

Company	Details
Brand	EVOTROX
Location	Ahmedabad, Gujarat, India
Mail Us	support@evotrox.com
Website	www.evotrox.com