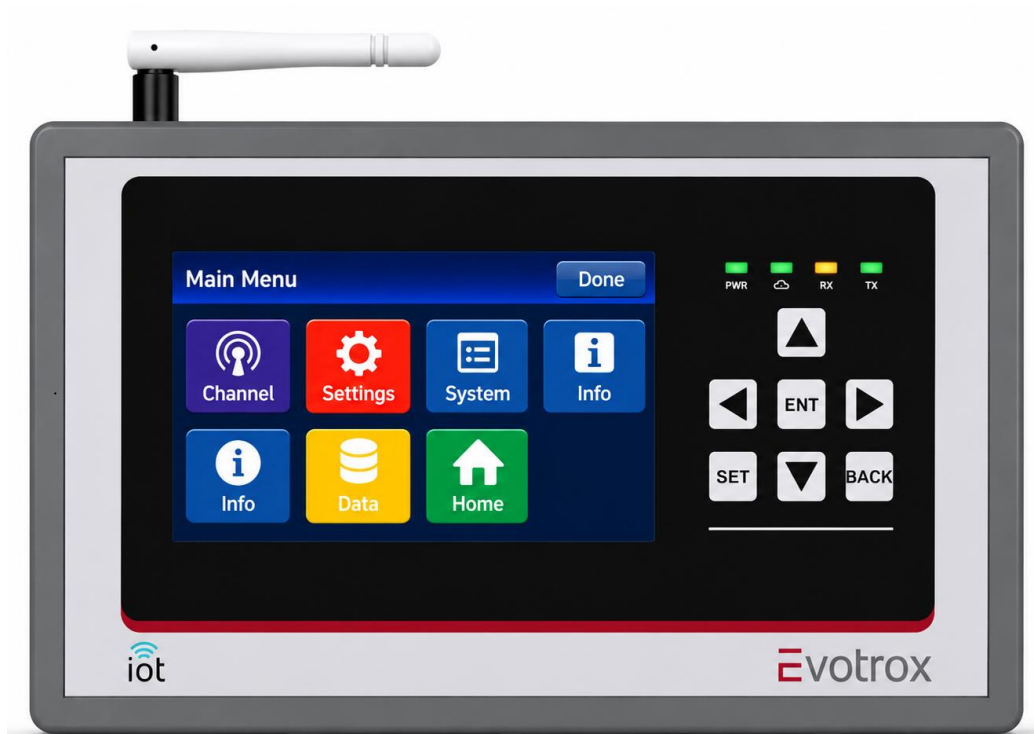


# LOG-DL200

## Industrial Data Logger

### User Manual



| Item              | Information           |
|-------------------|-----------------------|
| Name              | Data Logger LOG-DL200 |
| Document Type     | User Manual           |
| Document Revision | Rev. 1.0              |

**Note:** The screen content shown in product images is representative only and may vary according to the configured application profile.

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## 1. INTRODUCTION

The LOG-DL200 is a compact industrial monitoring and data logging unit designed for process monitoring, data logging, communication, and Industrial IoT applications. It combines a graphical operator interface, configurable monitoring and logging functions, industrial communication capabilities, and cloud connectivity within a single platform, reducing system complexity while improving operational visibility.

Equipped with a 4.3-inch TFT display and keypad-based navigation interface, the data logger enables users to monitor process conditions, manage alarms, review system status, and configure operating parameters directly from the device. Built-in communication interfaces including RS485, Ethernet, USB, and wireless connectivity allow seamless integration with field devices, supervisory systems, and cloud platforms.

The data logger supports local data logging, remote monitoring, alarm notifications, and firmware updates through the Linked IoT platform. Its industrial-grade design and flexible architecture make it suitable for a wide range of applications including environmental monitoring, refrigeration systems, utility management, process automation, OEM equipment, and Industrial IoT solutions.

While the hardware platform remains common, application-specific functions, logging logic, wiring, parameters, and operating screens are configured according to the intended application. Application-specific details are therefore reserved for Part-2 of this manual.

## 2. PRODUCT OVERVIEW

The LOG-DL200 combines display, keypad, communication, data logging, and IoT functionality into a single panel-mounted data logger platform. It is intended to simplify monitoring and data logging applications while providing local data access and remote visibility.

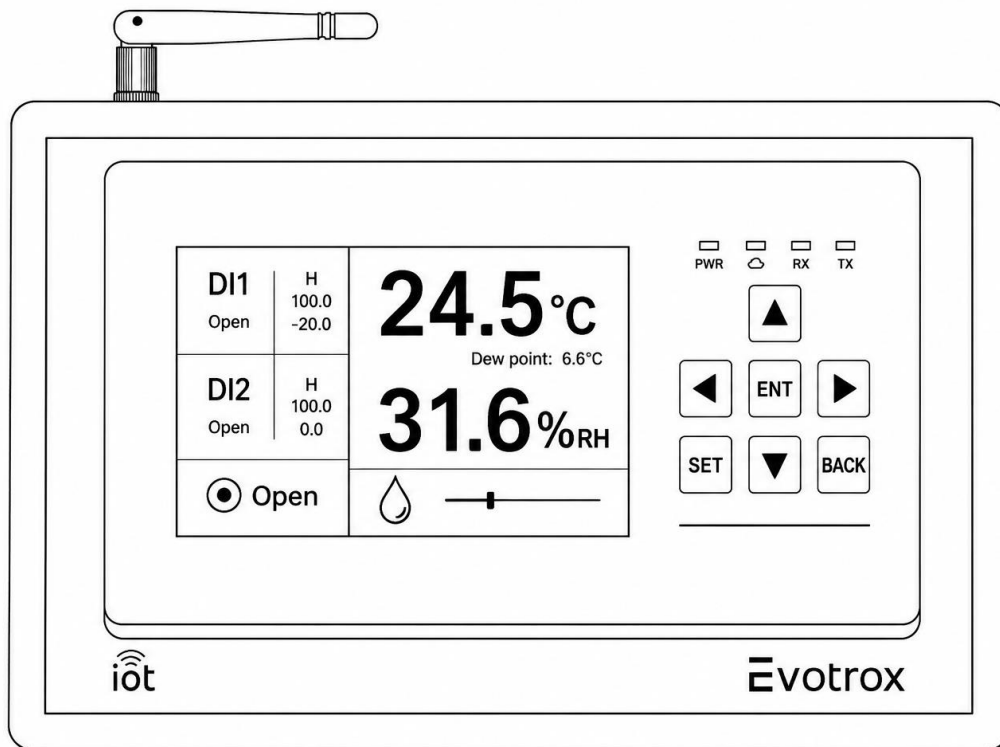


Figure 1: Front view of LOG-DL200 data logger

## 3. FEATURES, APPLICATIONS AND TECHNICAL SPECIFICATIONS

### 3.1 FEATURE HIGHLIGHTS

- 4.3-inch TFT graphical display with 7-key navigation interface
- Real-time monitoring and data logging
- Integrated alarm and event management
- Configurable input/output architecture
- Industrial RS485 communication with Modbus RTU support
- Ethernet connectivity through LAN/WAN ports
- Cloud Connectivity (optional)
- Local data logging and USB data export
- Firmware Over-the-Air (FOTA) updates
- Password-protected configuration access
- Industrial panel mount design
- IP65 front protection
- Designed for continuous industrial operation

### 3.2 APPLICATION AREAS

- Industrial monitoring and data logging
- Cold storage and refrigeration
- Pharmaceutical facilities
- Food processing plants
- Water and wastewater systems
- Building management systems
- Environmental monitoring
- Agriculture and greenhouses
- Utility monitoring
- Industrial IoT applications

### 3.3 TECHNICAL SPECIFICATIONS

| Parameter              | Value                                                        |
|------------------------|--------------------------------------------------------------|
| Supply Voltage         | 24 VDC, < 10 W                                               |
| Display                | 4.3-inch TFT                                                 |
| Communication          | 2 x RS485, 1 LAN Port, 1 WAN Port                            |
| USB                    | USB data export (Secondary)                                  |
| Wireless Connectivity  | External antenna for supported wireless / cloud connectivity |
| Mounting               | Panel mount                                                  |
| Front Protection       | IP65                                                         |
| Dimensions (W x H x D) | 230 x 150 x 30 mm                                            |
| Panel Cutout           | 217 x 139 mm                                                 |
| Operating Use          | Indoor industrial panel installation                         |

## 4. PRODUCT IMAGES AND MECHANICAL DRAWINGS

### 4.1-DIMENSIONAL DRAWING

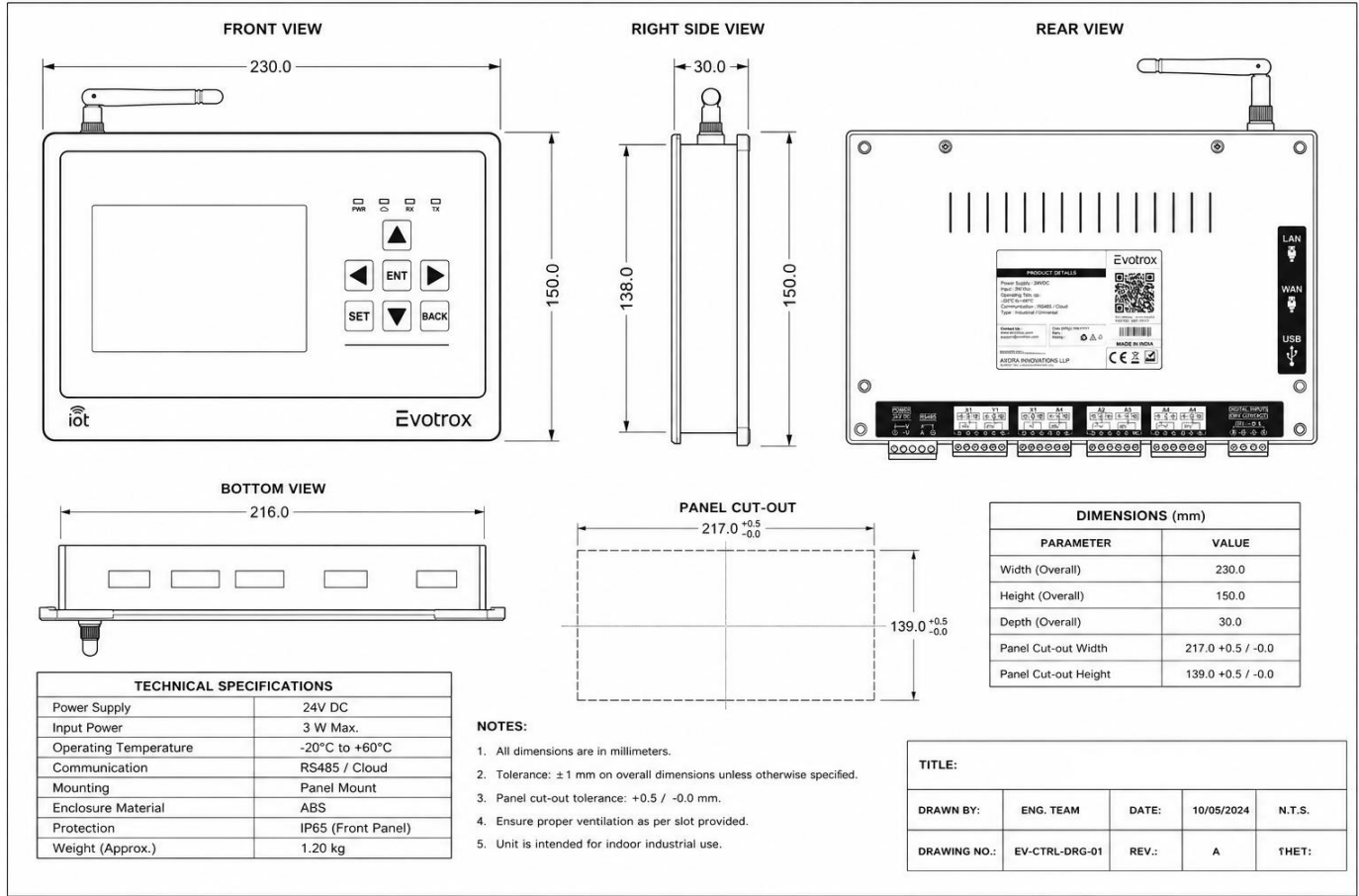


Figure 3: Dimensional drawing and panel cut-out

| Parameter            | Value                     |
|----------------------|---------------------------|
| Width (Overall)      | 230.0 mm                  |
| Height (Overall)     | 150.0 mm                  |
| Depth (Overall)      | 30.0 mm                   |
| Panel Cut-out Width  | 217.0 mm $\pm 0.5$ / -0.0 |
| Panel Cut-out Height | 139.0 mm $\pm 0.5$ / -0.0 |

**Note:** All dimensions are in millimeters unless otherwise specified. Verify cut-out before panel fabrication.

## 4.2 EXPLODED VIEW AND PARTS DESCRIPTION

The exploded view shows the general mechanical construction of the data logger, including the antenna, top cover with display, keypad/front panel assembly, main PCB assembly and bottom housing.

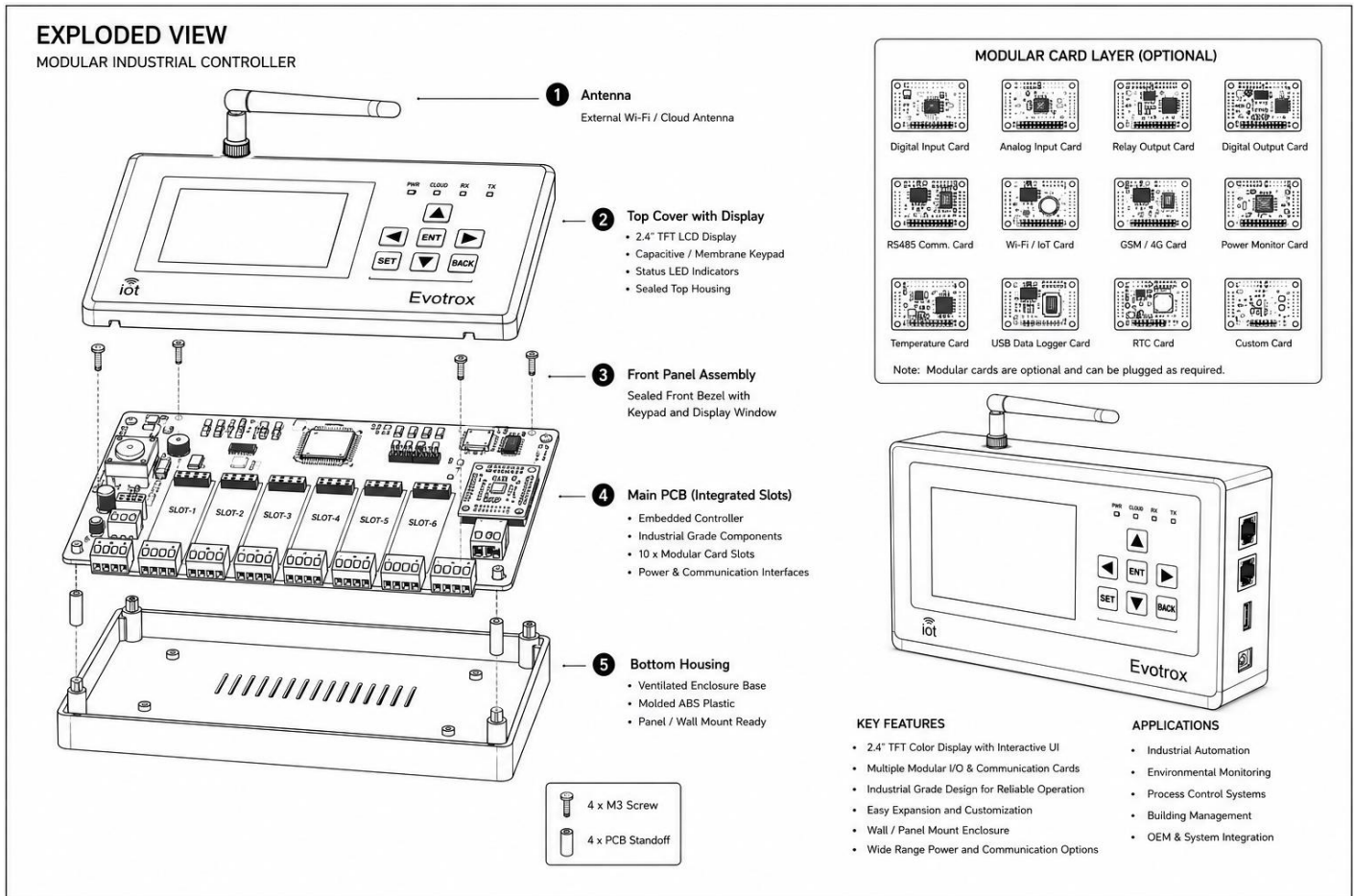


Figure 2: Exploded view and major parts of the data logger

## 5. SAFETY PRECAUTIONS

- Installation, wiring, commissioning and servicing shall be performed by qualified personnel only.
- Disconnect power before opening the enclosure or touching internal wiring.
- Do not open the enclosure in a wet, dusty or chemically exposed environment unless the device is isolated and properly protected.
- Ensure proper earthing and panel wiring as per site electrical standards.
- Do not install the device where it can be exposed to direct flame, heavy water jet, corrosive liquid splash or mechanical damage unless additional protection is provided.
- Do not modify the enclosure, cable entries, fasteners, PCB assembly, or sealing arrangements.
- Follow local industrial safety regulations, electrical codes and site safety procedures.
- Do not use the data logger as the only safety protection layer where local regulation requires redundant safety devices, emergency shutdown, or certified safety systems.

**Note:** Sensor replacement, bump testing, calibration, gas-specific safety, flameproof suitability and hazardous-area requirements are application-specific and shall be defined in Part-2 where applicable.

## 6. INSTALLATION GUIDELINES

Before installation, ensure that the data logger model, power supply, mounting location, and wiring requirements are suitable for the intended application. Install the data logger in a clean, dry and well-ventilated control panel away from excessive heat, vibration, moisture, corrosive gases, and sources of electrical interference.

### 6.1 PANEL MOUNTING

- Prepare the panel cut-out as specified.
- Insert the data logger from the front side of the panel.
- Secure the data logger using the supplied mounting clips.
- Ensure proper sealing and mechanical stability.

### 6.2 ELECTRICAL WIRING

- Disconnect power before wiring.
- Use a regulated 24VDC power supply.
- Verify terminal connections and polarity before powering the device.
- Use ferrules and properly sized conductors.

### 6.3 GROUNDING AND COMMUNICATION CABLING

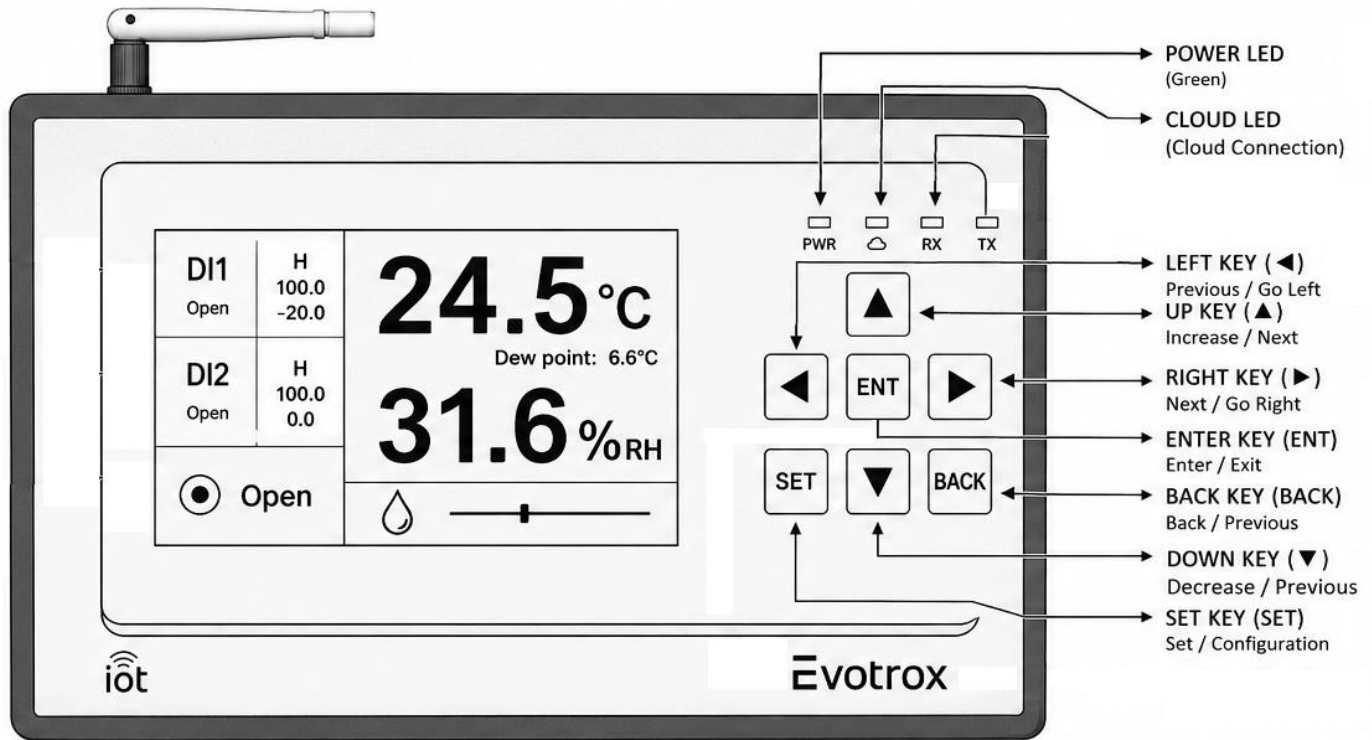
- Follow proper grounding practices.
- Use shielded cables for communication networks.
- Route communication cables separately from power cables.
- Use industrial-grade Ethernet and RS485 cabling where applicable.

### 6.4 POWER-UP CHECK

After installation, verify power, display operation, communication status, and connected device functionality before placing the system into service.

## 7. USER INTERFACE

The front interface includes a 4.3-inch TFT display, seven navigation keys and status indication LEDs. The display is used for process monitoring, alarms, logging parameters and system status information.



KEY FUNCTION GUIDE

| KEY       | SYMBOL | FUNCTION                                                                                                                                                                                    |
|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Up KEY    | ▲      | Press 1 time to open next 4 sensor level pages.<br>Press 1 time to increment the value in configuration page.<br>Press 2 second to increment the value in fast mode in configuration page.  |
| Down KEY  | ▼      | Press 1 time to open first 4 sensor level pages.<br>Press 1 time to decrement the value in configuration page.<br>Press 2 second to decrement the value in fast mode in configuration page. |
| Left KEY  | ◀      | Press 1 time to open error page.<br>Press 1 time to go left side in configuration page.                                                                                                     |
| Right KEY | ▶      | Press 1 time to open event page.<br>Press 1 time to go right side in configuration page.                                                                                                    |
| Set KEY   | SET    | Press 1 time to open field application configuration page.<br>Press for 5 second to open system configuration page.                                                                         |
| Enter KEY | ENT    | Press to enter or exit the parameter.                                                                                                                                                       |
| Back KEY  | BACK   | To go back from pages.                                                                                                                                                                      |

Figure 4: User interface guide

| Indicator / Key | Symbol | Function                                       |
|-----------------|--------|------------------------------------------------|
| Up Key          | UP     | Navigate up / increase value / next page       |
| Down Key        | DOWN   | Navigate down / decrease value / previous page |
| Left Key        | LEFT   | Navigate left / previous option                |
| Right Key       | RIGHT  | Navigate right / next option                   |
| Set Key         | SET    | Open configuration or setting page             |
| Enter Key       | ENT    | Enter, confirm, or exit selected parameter     |
| Back Key        | BACK   | Return to previous page                        |

## 8. HARDWARE INTERFACES

The rear side of the data logger provides terminal and communication interfaces for power, field devices, RS485 communication, Ethernet connectivity and USB functions. Actual field terminal assignments may vary depending on the application profile.

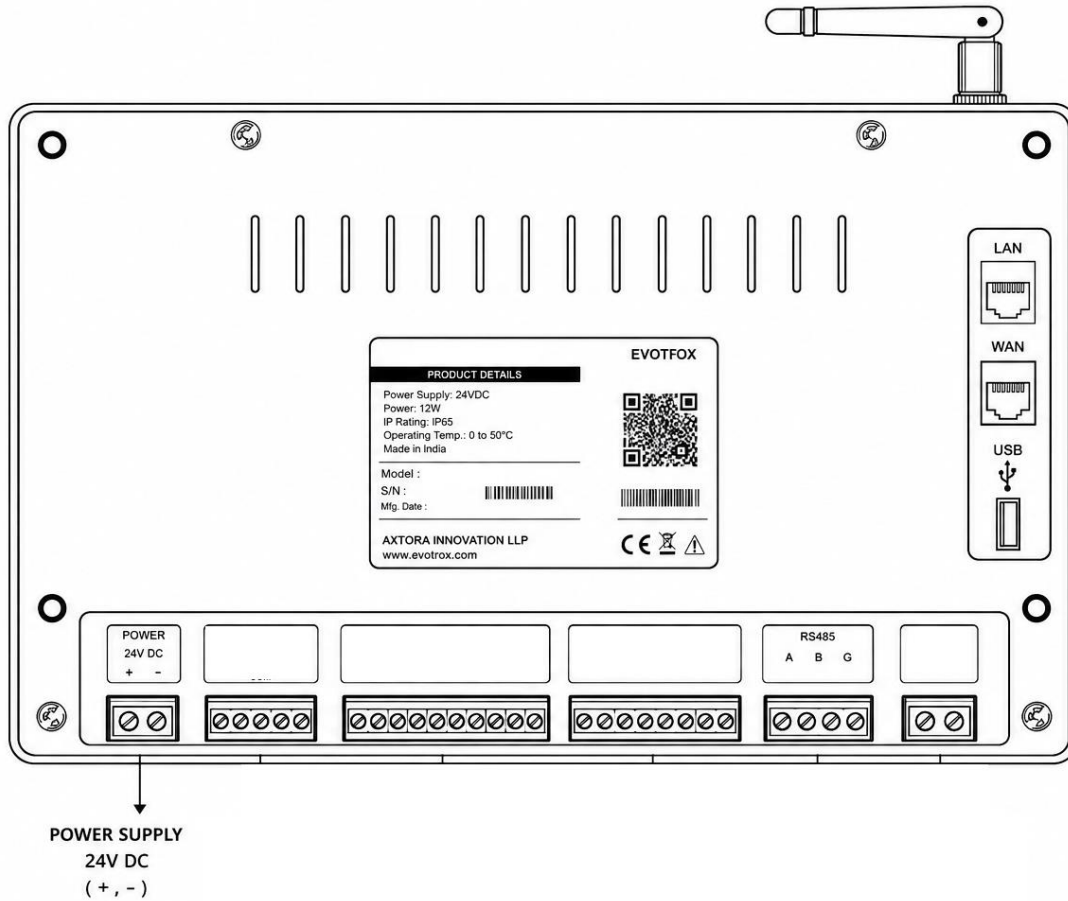


Figure 5: Rear side ports and terminal guide

| Interface             | Purpose                                                           |
|-----------------------|-------------------------------------------------------------------|
| Power Supply          | 24VDC device power input                                          |
| LAN Port              | Local network / Modbus TCP/IP communication                       |
| WAN Port              | Internet or network connectivity for cloud communication          |
| USB Port              | Data export, backup                                               |
| RS485 Port            | Serial communication with field devices or external systems       |
| Wireless Antenna      | Wireless connectivity for supported IoT functions                 |
| Application Terminals | Field inputs and outputs defined according to application profile |

## 9. SYSTEM CONFIGURATION

The LOG-DL200 provides common device configuration settings applicable across all application profiles. These settings configure general device behavior, communication ports, network parameters, display settings, buzzer status, IoT connectivity and password protection.

To Go into the System Settings Press Set Button for 5 Seconds.

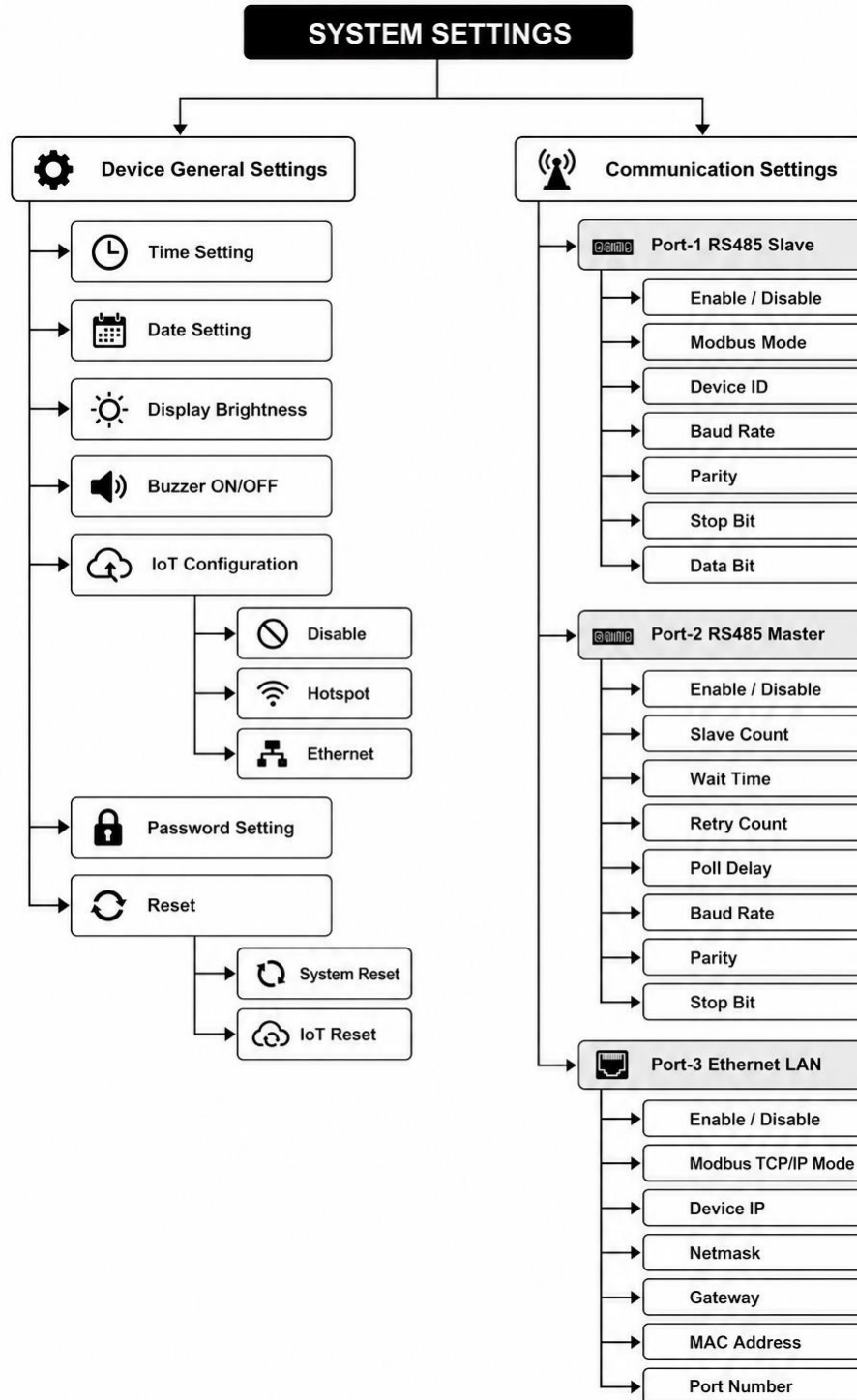


Figure 6: System settings configuration flow

## 9.1 DEVICE GENERAL SETTINGS

| Parameter         | Description                                          | Range / Options                          | Default Value |
|-------------------|------------------------------------------------------|------------------------------------------|---------------|
| Time              | Sets device time                                     | Hour: 0-23, Minute: 0-59                 | —             |
| Date              | Sets device date                                     | Date: 1-31, Month: 1-12, Year: 2000-2999 | —             |
| Brightness        | Sets display brightness level                        | 0: 50%, 1: 75%, 2: 100%                  | 50%           |
| Buzzer            | Enables or disables buzzer output                    | 0: OFF, 1: ON                            | OFF           |
| IoT Configuration | Selects IoT configuration mode                       | 0: Disable, 1: Hotspot, 2: Ethernet      | Disable       |
| Password Set      | Sets password for field application parameter access | 0000-9999                                | 2015          |
| Reset             | Performs system reset or IoT reset                   | System Reset / IoT Reset                 | —             |

## 9.2 COMMUNICATION PARAMETER SETTINGS

Communication settings define how the data logger communicates with external devices, field instruments, SCADA systems, PLCs, and cloud or network systems.

### 9.2.1 Port-1 Serial RS485 - Modbus Slave

| Parameter   | Description                                    | Range / Options             | Default Value |
|-------------|------------------------------------------------|-----------------------------|---------------|
| COM1 Slave  | Enables or disables Modbus slave communication | 0: Enable, 1: Disable       | Enable        |
| Modbus Mode | Selects Modbus communication mode              | 0: RTU, 1: ASCII            | RTU           |
| Device ID   | Sets RS485 slave device address                | 1-255                       | 1             |
| Baud Rate   | Sets RS485 baud rate                           | 0: 9600, 1: 19200, 2: 38400 | 19200         |
| Parity      | Sets parity bit                                | 0: None, 1: Odd, 2: Even    | None          |
| Stop Bit    | Sets stop bit                                  | 1 or 2                      | 1             |
| Data Bit    | RS485 data bit setting                         | Fixed 8 bit                 | 8             |

### 9.2.2 Port-2 Serial RS485 - Modbus Master

| Parameter   | Description                                     | Range / Options             | Default Value |
|-------------|-------------------------------------------------|-----------------------------|---------------|
| COM2 Master | Enables or disables Modbus master communication | 0: Enable, 1: Disable       | Enable        |
| Slave Count | Number of slave devices connected               | 0-16                        | 0             |
| Wait Time   | Response waiting time from slave device         | 500-8000 ms                 | 1000 ms       |
| Retry Count | Number of retry attempts if response fails      | 1-3                         | 3             |
| Poll Delay  | Delay between two polling requests              | 500-8000 ms                 | 2000 ms       |
| Baud Rate   | Sets RS485 baud rate                            | 0: 9600, 1: 19200, 2: 38400 | 19200         |
| Parity      | Sets parity bit                                 | 0: None, 1: Odd, 2: Even    | None          |
| Stop Bit    | Sets stop bit                                   | 1 or 2                      | 1             |

### 9.2.3 Port-3 Ethernet LAN - Modbus TCP/IP

| Parameter          | Description                                | Range / Options       | Default Value      |
|--------------------|--------------------------------------------|-----------------------|--------------------|
| Ethernet           | Enables or disables Ethernet communication | 0: Enable, 1: Disable | Enable             |
| Modbus TCP/IP Mode | Selects Modbus TCP/IP mode                 | 0: Slave, 1: Master   | Slave              |
| Device IP          | Sets data logger IP address                | Valid IP address      | 192.168.1.100      |
| Netmask            | Sets subnet mask                           | Valid subnet mask     | 255.255.255.0      |
| Gateway            | Sets gateway address                       | Valid gateway IP      | 192.168.1.10       |
| MAC Address        | Device MAC address                         | Valid MAC format      | 00:11:22: 33:44:55 |
| Port               | TCP/IP communication port                  | Valid TCP port        | 502                |

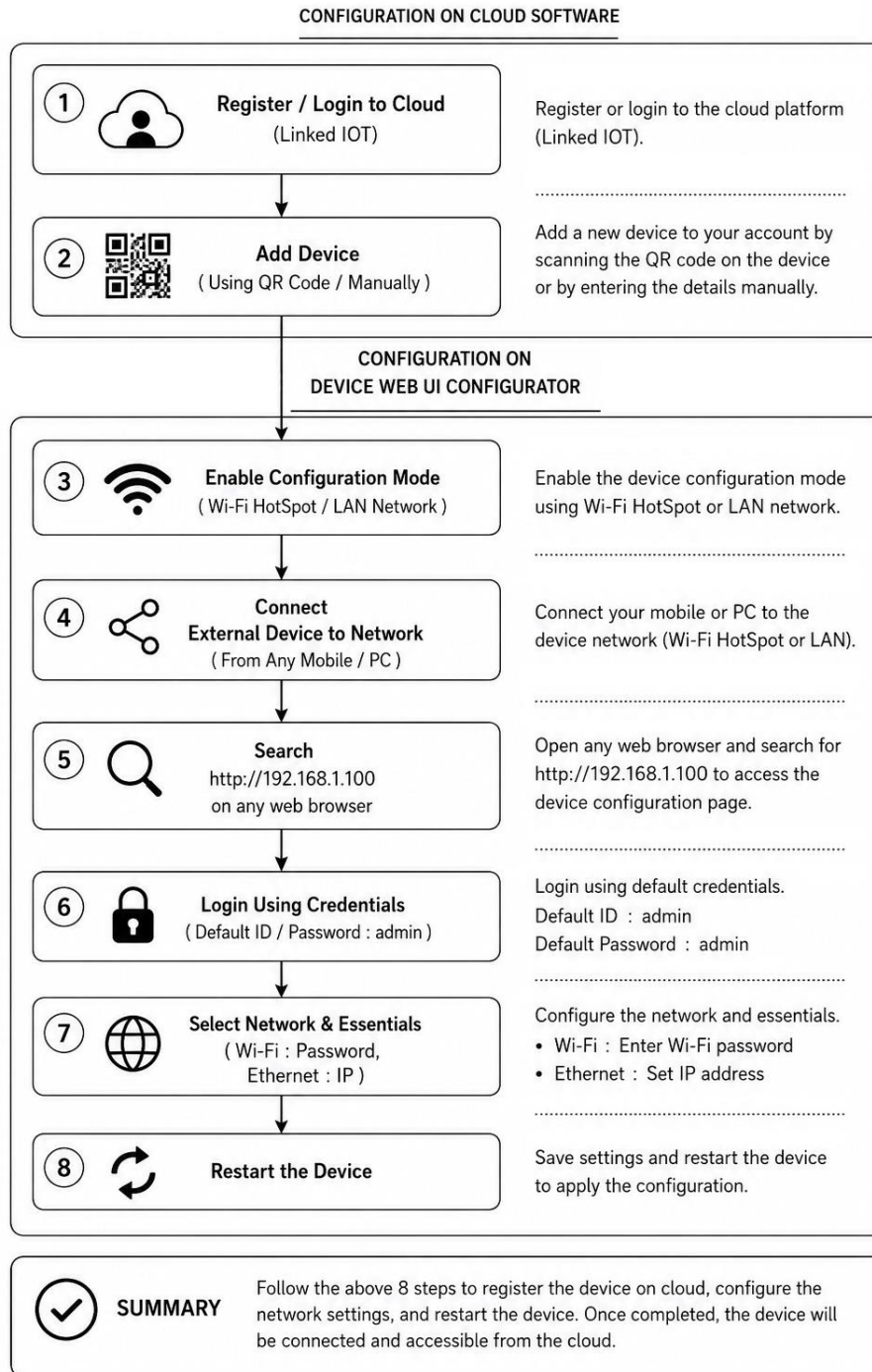
## 10. COMMUNICATION INTERFACE

The data logger supports industrial serial and Ethernet communication for integration with external devices, supervisory systems and network platforms. Communication settings must match the connected system to avoid communication failure, timeout or data loss.

| Port                         | Typical Role                       | Key Settings                                               |
|------------------------------|------------------------------------|------------------------------------------------------------|
| Port-1 RS485                 | Modbus Slave                       | Device ID, baud rate, parity, stop bit, data bit           |
| Port-2 RS485                 | Modbus Master                      | Slave count, wait time, retry count, poll delay, baud rate |
| Port-3 Ethernet LAN          | Modbus TCP/IP                      | IP address, netmask, gateway, MAC address, port number     |
| Port-4 WAN / Cloud Interface | Internet / Linked IoT connectivity | Network mode, credentials, cloud registration              |

## 11. CLOUD DEVICE INTERFACE / IOT CONFIGURATION

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



## 11.1 STEPS TO CONNECT DEVICE

### Cloud APP / Software

- Step-1 Register or login to Linked IoT cloud platform.
- Step-2 Add a new device using QR code or manual details.

### Field Device

- Step-3 Enable device configuration mode from settings.
- Step-4 Connect mobile or PC to the device network using Wi-Fi Hotspot or LAN.
- Step-5 Open browser and search <http://192.168.1.100> to access device configuration page.
- Step-6 Login using default credentials. Default ID: admin. Default Password: admin.
- Step-7 Select network and essential settings: Wi-Fi password or Ethernet IP settings.
- Step-8 Save settings and restart the device to apply configuration.

## 11.2 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.

## 11.3 CLOUD CREDENTIALS

| Access Type         | Link                                                                                                                                  |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Web Portal          | <a href="http://www.linkediot.com/login">www.linkediot.com/login</a>                                                                  |
| Android Application | <a href="https://play.google.com/store/apps/details?id=com.linkediot">https://play.google.com/store/apps/details?id=com.linkediot</a> |
| iOS Application     | <a href="https://apps.apple.com/us/app/linkediot">https://apps.apple.com/us/app/linkediot</a>                                         |

## 11.4 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. |

## 11.5 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.

## 11.6 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.

## 12. APPLICATION OVERVIEW

The LOG-DL200 configured as an Ammonia Leak Detection Monitor is designed to monitor ammonia concentration from connected field sensors, generate alarms based on configured set values, operate assigned digital outputs, and communicate monitored data to external systems. This application profile defines the application-specific hardware code, firmware code, I/O structure, communication behavior, wiring reference, settings, commissioning steps, and troubleshooting guidance.

| Parameter        | Details                                                                                                    |
|------------------|------------------------------------------------------------------------------------------------------------|
| Title            | Ammonia Leak Detection Monitor                                                                             |
| Description      | Application profile for ammonia leak monitoring, alarm generation, output control, and data communication. |
| Hardware Details | LOG-DL200-4A1-X1-Y2-E1                                                                                     |
| Firmware Details | F101                                                                                                       |
| I/O Details      | 2 Ch DI<br>2 Ch DO<br>8 Ch AI                                                                              |
| Version Update   | Initial application profile release                                                                        |

### 12.1 APPLICATION FEATURES

- Supports up to 8 ammonia sensing channels through analog input or serial communication, based on final configuration.
- Alarm generation based on configured set value (SV) and hysteresis.
- Alarm acknowledgement support through user interface or assigned digital input.
- Digital output control for pump, exhaust fan, hooter, valve, or external alarm device as configured.
- Data retransmission through RS485 Modbus RTU and Ethernet Modbus TCP/IP where enabled.
- Cloud monitoring support through Linked IoT when IoT card is enabled.

## 13. ORDERING INFORMATION

### 13.1 Ordering format: LOG DL200 - 4A1 - X1 - Y2 - E1 - F101

| Code Segment | Description                                  |
|--------------|----------------------------------------------|
| LOG DL200    | Data logger platform                         |
| 4A1          | Four AI-IV modules / 8 analog input channels |
| X1           | 2-channel digital input card                 |
| Y2           | 2-channel relay output card                  |
| E1           | IoT card / EdgeLink-100                      |
| F101         | Ammonia leak detection firmware code         |

### 13.2 Card Variants

| Code | Title                   | Description                                                                                               |
|------|-------------------------|-----------------------------------------------------------------------------------------------------------|
| X1   | DI Card - 2CH           | 2 Ch Opto-Isolated Digital Input                                                                          |
| Y1   | DO Card - R1CH          | 1 Ch Relay Output                                                                                         |
| Y2   | DO Card - R2CH          | 2 Ch Relay Output                                                                                         |
| Y3   | DO Card - T2CH          | 2 Ch Transistor Output                                                                                    |
| A1   | AI Card - IV            | 2 Ch Configurable Active Analog Input:<br>0-1 V, 0-5 V, 0-10 V, 0-20 mA, 4-20 mA                          |
| A2   | AI Card - RMV           | 1 Ch Configurable Passive Analog Input:<br>NTC Thermistor (10K), PT100, PT1000, CU50, T/C (J, K, R, S, T) |
| A3   | AO Card - 2CH           | 2 Ch Analog Output: 0-20 mA, 4-20 mA                                                                      |
| I1   | GSM Card                | GSM / 4G Module for Cellular Network                                                                      |
| E1   | IoT Card (EdgeLink-100) | IoT Card for Cloud Network Connectivity and IoT Application                                               |
| L1   | Lan Card                | Lan card for Internal Network                                                                             |

## 14. WIRING DIAGRAM

The following wiring diagram represents the terminal arrangement for the configured LOG-DL200 application. Wiring shall be performed only by qualified personnel after disconnecting power.

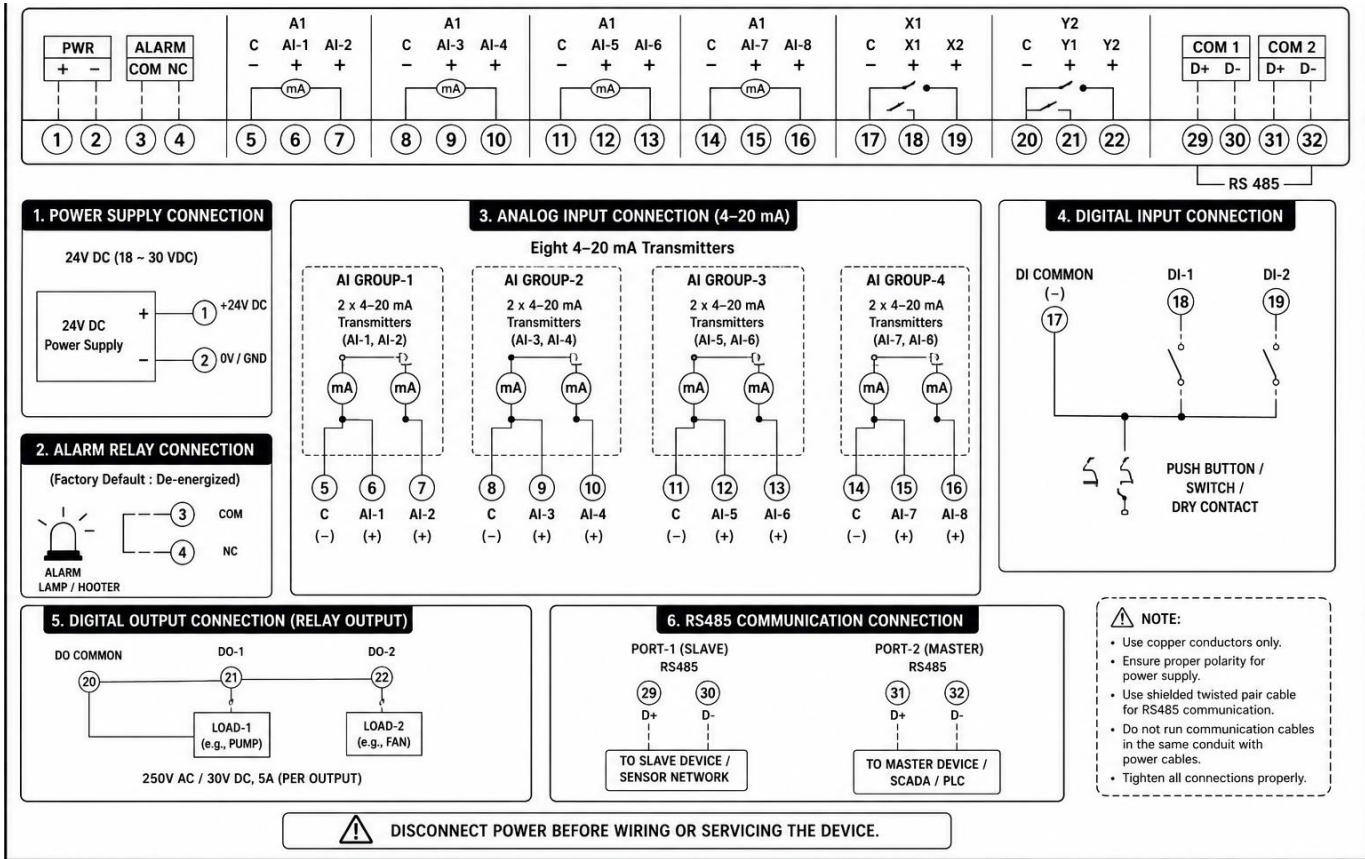


Figure 14.1: Application wiring diagram

## 15. WORK FUNCTION & LOGGING LOGIC

The data logger continuously monitors process values from connected sensors and performs alarm monitoring, logging actions, alarm handling, and data communication.

### KEY FUNCTIONS

- Supports sensing through up to 8 analog input channels or up to 8 serial sensors connected through RS485 communication.
- Allows configuration and monitoring of connected serial sensors where supported.
- Generates alarms based on configured set values (SV) with acknowledgement functionality.
- Operates assigned digital output channels such as pumps, fans, valves, hooters, or external alarm devices based on configured output settings.
- Retransmits process data through RS485 Modbus RTU and Ethernet Modbus TCP/IP communication where enabled.

This application provides sensing, alarm management, output operation, and communication functions for ammonia leak monitoring applications.

## 16. APPLICATION SETTINGS

Application settings define how input channels, logging logic, alarms, and sensor calibration parameters operate for this application. Available menu items may vary depending on the configured firmware and enabled features.

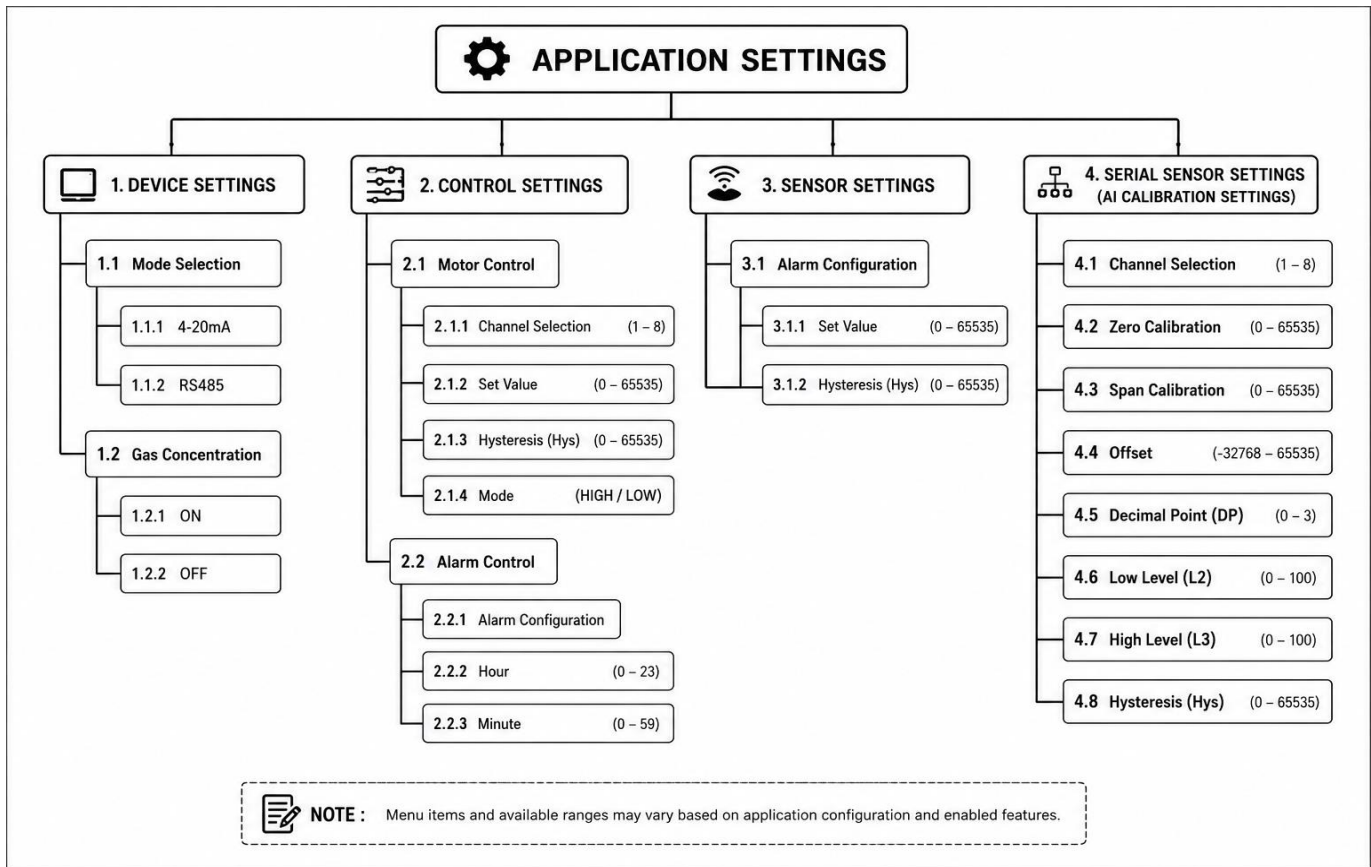


Figure 18.1: Application settings menu flow

| Parameter             | Description                                                    | Range / Options                                                                                                | Default Value                                                                      |
|-----------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Device Setting        | Sets mode selection and gas concentration display behavior.    | Selected / Not Selected                                                                                        | -                                                                                  |
| Mode Selection        | Selects data receiving method.                                 | 4-20 mA / RS485                                                                                                | 4-20 mA                                                                            |
| Gas Concentration     | Enables or disables gas value display on main screen.          | ON / OFF                                                                                                       | OFF                                                                                |
| Control Setting       | Controls assigned digital output operation.                    | Output Control / Alarm Control                                                                                 | -                                                                                  |
| Output Control        | Sets assigned output parameters.                               | Channel: 1-8<br>Set Value: 0-65535<br>Hys: 0-65535<br>Mode: HIGH / LOW                                         | Channel: 1<br>Set Value: 0<br>Hys: 0<br>Mode: LOW                                  |
| Alarm Control         | Sets alarm timing parameters.                                  | Alarm Configuration<br>Hour: 0-23<br>Minute: 0-59                                                              | Hour: 00<br>Minute: 00                                                             |
| Alarm Configuration   | Sets alarm set value and hysteresis for channels.              | All 8-channel parameters<br>Set Value: 0-65535<br>Hys: 0-65535                                                 | Set Value: 0<br>Hys: 0                                                             |
| Serial Sensor Setting | Handles AI channel calibration and display scaling parameters. | Zero: 0-65535<br>Span: 0-65535<br>Offset: -32768 to 65535<br>DP: 0-3<br>L2: 0-100<br>L3: 0-100<br>Hys: 0-65535 | Channel: 0<br>Zero: 0<br>Span: 0<br>Offset: 0<br>DP: 0<br>L2: 0<br>L3: 0<br>Hys: 0 |

## 17. COMMUNICATION PROTOCOL

The communication ports are used for field sensor communication, data retransmission, external monitoring, and integration with PLC/SCADA systems. Communication parameters must match the connected devices.

### 17.1 PORT-1 COMMUNICATION DETAILS - MODBUS RTU SLAVE / DATA RETRANSMISSION

| Item               | Details                                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------------------------------|
| Description        | Port-1 is used to share data logger data with an external Modbus master device such as PLC, SCADA, HMI, or data logger. |
| Protocol           | Modbus RTU                                                                                                              |
| Mode               | Modbus RTU Slave                                                                                                        |
| Default Parameters | Device Address: 1<br>Baud Rate: 9600<br>Data Bit: 8<br>Stop Bit: 1<br>Parity: None                                      |

Note: In multi-device RS485 networks, each device must have a unique device address between 1 and 255.

#### 17.1.1 Modbus Address Details

| Address | Access Type  | 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 setting parameters |

#### 17.1.2 Modbus Communication Address List

| Sr. No. | Address | Parameter             |
|---------|---------|-----------------------|
| 1       | 30001   | Channel 1 Data        |
| 2       | 30002   | Channel 2 Data        |
| 3       | 30003   | Channel 3 Data        |
| 4       | 30004   | Channel 4 Data        |
| 5       | 30005   | Channel 5 Data        |
| 6       | 30006   | Channel 6 Data        |
| 7       | 30007   | Channel 7 Data        |
| 8       | 30008   | Channel 8 Data        |
| 9       | 30009   | Channel 1 Gas Level   |
| 10      | 30010   | Channel 2 Gas Level   |
| 11      | 30011   | Channel 3 Gas Level   |
| 12      | 30012   | Channel 4 Gas Level   |
| 13      | 30013   | Channel 5 Gas Level   |
| 14      | 30014   | Channel 6 Gas Level   |
| 15      | 30015   | Channel 7 Gas Level   |
| 16      | 30016   | Channel 8 Gas Level   |
| 17      | 40001   | Output channel values |
| 18      | 40002   | Output set value      |
| 19      | 40003   | Output hysteresis     |
| 20      | 40004   | Output alarm mode     |
| 21      | 40005   | Alarm hours           |
| 22      | 40006   | Alarm minutes         |
| 23      | 40007   | Channel-1 set value   |
| 24      | 40008   | Channel-2 set value   |
| 25      | 40009   | Channel-3 set value   |
| 26      | 40010   | Channel-4 set value   |
| 27      | 40011   | Channel-5 set value   |
| 28      | 40012   | Channel-6 set value   |
| 29      | 40013   | Channel-7 set value   |
| 30      | 40014   | Channel-8 set value   |
| 31      | 40015   | Channel-1 hysteresis  |
| 32      | 40016   | Channel-2 hysteresis  |
| 33      | 40017   | Channel-3 hysteresis  |
| 34      | 40018   | Channel-4 hysteresis  |
| 35      | 40019   | Channel-5 hysteresis  |
| 36      | 40020   | Channel-6 hysteresis  |
| 37      | 40021   | Channel-7 hysteresis  |
| 38      | 40022   | Channel-8 hysteresis  |

## 17.2 PORT-2 COMMUNICATION DETAILS - MODBUS RTU MASTER / FIELD SENSOR NETWORK

| Item               | Details                                                                                                                        |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Description        | Port-2 works as a Modbus RTU Master for field RTU sensor devices. User can connect up to 8 supported devices in an RS485 loop. |
| Protocol           | Modbus RTU                                                                                                                     |
| Mode               | Modbus RTU Master                                                                                                              |
| Default Parameters | Baud Rate: 9600<br>Data Bit: 8<br>Stop Bit: 1<br>Parity: None                                                                  |

## 18. COMMISSIONING PROCEDURE

Follow the steps below after installation and wiring are completed.

Verify data logger model, firmware code, and application profile details.

Check power supply voltage and polarity before powering the device.

Verify all sensor, DI, DO, alarm relay, and communication wiring as per the wiring diagram.

Power ON the data logger and confirm display, status LEDs, and startup sequence.

Configure date, time, communication parameters, and application settings.

Verify sensor readings for all enabled channels.

Set alarm set values, hysteresis, delay, and output logic as required by site conditions.

Test alarm acknowledgement and digital output operation safely.

Verify RS485 / Ethernet data communication with the connected external system.

Record final settings, test results, and commissioning observations.

## 19. APPLICATION TROUBLESHOOTING

| Issue                         | Possible Cause                                                                         | Recommended Action                                                                      |
|-------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| No sensor reading             | Sensor not powered, wrong wiring, input disabled, or communication mismatch            | Check sensor wiring, power supply, channel selection, and communication settings.       |
| Incorrect gas value           | Wrong scaling, calibration mismatch, or sensor drift                                   | Verify zero/span values, calibration settings, and sensor condition.                    |
| Alarm not generated           | Set value too high, alarm disabled, or wrong mode selection                            | Check SV, hysteresis, alarm mode, and alarm configuration.                              |
| Alarm remains active          | Actual gas condition, wrong hysteresis, sensor drift, or acknowledgement not performed | Verify gas condition, check set values, perform zero/span check, and acknowledge alarm. |
| Digital output not operating  | Output not assigned, relay wiring issue, or control condition not met                  | Check output mapping, relay wiring, set value, and control mode.                        |
| RS485 communication failure   | Wrong address, baud rate, polarity, or duplicate device ID                             | Verify device ID, baud rate, parity, stop bit, A/B polarity, and termination.           |
| Ethernet / Modbus TCP failure | Wrong IP, gateway, port, or network issue                                              | Check IP settings, cable, network switch, gateway, and TCP port 502.                    |
| IoT connection unavailable    | Internet not available or cloud configuration incomplete                               | Check Wi-Fi/Ethernet settings, cloud credentials, and network availability.             |

### 19.1 APPLICATION NOTES

If the issue remains unresolved after the above checks, record the data logger model, firmware code, active alarm condition, wiring details, communication settings, and observed behavior before contacting technical support.

| Item              | Details                |
|-------------------|------------------------|
| Data Logger Model | LOG-DL200-4A1-X1-Y2-E1 |
| Firmware Code     | F101                   |



## 20. MAINTENANCE AND PERIODIC CHECKS

The LOG-DL200 is designed for reliable operation with minimal maintenance. To ensure long-term performance and system reliability, follow the recommendations below:

- Periodically inspect all wiring connections and terminal tightness.
- Keep the data logger and surrounding panel free from dust, moisture and contaminants.
- Clean the front surface using a soft, dry cloth. Do not use solvents or abrasive cleaning agents.
- Verify proper operation of communication interfaces and connected devices.
- Ensure adequate ventilation inside the control panel to prevent excessive heat buildup.
- Regularly back up configuration settings and logged data, if applicable.
- Update firmware only using approved procedures and authorized firmware versions.
- Immediately replace damaged cables, connectors or accessories.

**Note:** Sensor response verification, bump testing, calibration, analog output calibration and relay/interlock checks shall be defined in the application-specific section where applicable.

## 21. TROUBLESHOOTING

If the data logger does not operate as expected, perform the following basic checks before contacting technical support.

| Issue                                  | Possible Cause                                                            | Recommended Action                                                                   |
|----------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| No power indication                    | Power supply not available, wrong polarity or loose terminal              | Verify 24VDC supply, polarity and terminal wiring.                                   |
| Display not starting                   | Power issue, loose connector, firmware or internal fault                  | Check supply voltage and restart the device. Contact service if the issue continues. |
| RS485 communication error              | Incorrect wiring, wrong baud rate, parity mismatch or duplicate device ID | Check RS485 A/B polarity, device ID, baud rate, parity, stop bit and network wiring. |
| Ethernet communication failure         | Wrong IP settings, cable fault or network mismatch                        | Check IP address, subnet mask, gateway, port number and Ethernet cable.              |
| Cloud connection not available         | Internet unavailable, wrong network credentials or IoT disabled           | Check IoT mode, network connection, credentials and Linked IoT configuration.        |
| USB export not working                 | Unsupported USB drive, file system issue or logging disabled              | Use supported USB drive and verify logging/export settings.                          |
| Alarm or output action not as expected | Application parameter, wiring or logic issue                              | Check application-specific set values, output wiring and control logic in Part-2.    |
| Incorrect field reading                | Sensor/instrument wiring, calibration or configuration issue              | Check wiring and application-specific scaling/calibration settings.                  |

**Note:** If the issue persists, record the observed fault condition, device model, serial number, application details and system settings before contacting authorized technical support.

## 22. WARRANTY AND SUPPORT

The LOG-DL200 is covered by a limited warranty against manufacturing defects in materials and workmanship for the period specified in the product warranty policy. The warranty applies under normal operating conditions and does not cover damage resulting from improper installation, misuse, unauthorized modifications, electrical surges, accidents or operation outside the specified limits.

For technical assistance, product support, firmware updates, documentation or service-related inquiries, contact Evotrox Technical Support through the official support channels. When requesting support, provide the product model, serial number, application details and a brief description of the issue.

## 23. COMPLIANCE INFORMATION

The data logger is designed for industrial panel-mounted applications and shall be installed according to applicable electrical, safety and site regulations. Product certification and compliance markings shall be verified against the final product label, declaration and applicable certificate supplied with the product.

| Compliance / Marking  | Status / Note                                                     |
|-----------------------|-------------------------------------------------------------------|
| CE                    | Applicable only if declared for the supplied model                |
| RoHS                  | Applicable only if declared for the supplied model                |
| IP65 Front Protection | Applicable to correctly mounted front panel condition             |
| WEEE / Disposal       | Dispose according to local electronic waste regulations           |
| Site Safety Approval  | To be verified by installer or end user as per final installation |

## 24. 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 industrial monitoring, data logging, alarm generation and data communication. It does not replace statutory safety systems, emergency response procedures, certified safety systems or operator training where such systems are required by applicable regulation or site safety policy.

Performance depends on installation quality, wiring condition, field device condition, parameter configuration, environmental exposure and maintenance practices. Periodic functional testing and verification are essential for reliable operation.

Application-specific safety, calibration, sensor replacement, gas-specific operation, hazardous-area suitability, cable gland selection and field installation requirements must be verified against the final product label, application documentation and local regulatory requirements before use.

## 25. CONTACT INFORMATION

| Company  | Details                   |
|----------|---------------------------|
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