DATA LOGGER FOR FLOW METER

USER MANUAL

For Service Support: +91 7046960991

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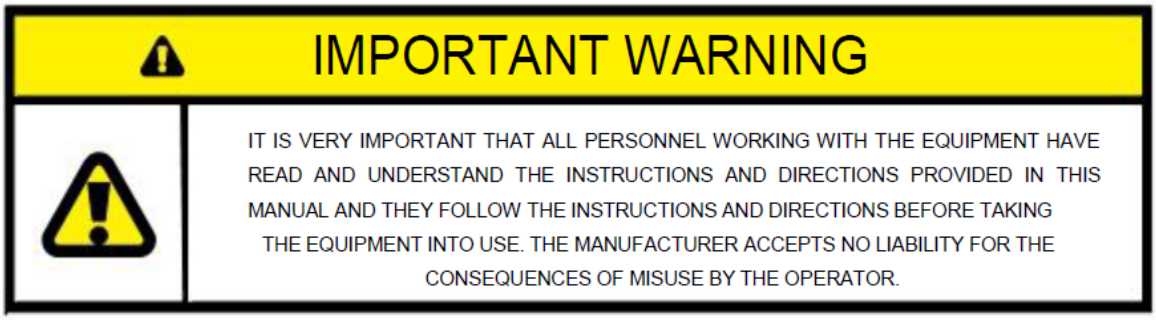

The operator shall bear responsibility for the suitability of the device for the specific purpose:

1. Improper installation and operation of the devices (systems) will cause the warranty to be void.
2. The manufacturer will not be liable for any damage of any kind by using its product, including, but not limited direct, indirect, incidental, punitive, and consequential damages.

Installation, connection, commissioning, and service must be carried out by personnel who are qualified and authorized to do so.
Installation personnel must ensure that the measuring system is correctly connected according to the connection diagram.
This device contains electrical components with an electrical current therefore installation, services, and maintenance must be carried out by expert and qualified personnel, aware of all necessary precautions. Before opening any internal parts, please shut off the power supply.
The Device is composed of metal and plastic parts, all of which must comply with local norms and requirements concerning their trash disposal.

Manufacturer's design and safety statement

- Stresses and loading caused by earthquakes, traffic, high winds, and fire damage are not taken into account during device design.
- During operation do not exceed the pressure and/or temperature ratings indicated on the data label or in this Operating Manual.
- The manufacturer reserves the right to update safety information without prior notice.
- Read and follow all guidelines outlined in this manual to ensure a safe and reliable user experience.
- Ensure that the Device is connected to a power source within the specified voltage range.
- Insert and remove the SD card with caution, Make sure the SD card is not corrupted.

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1. Introduction

1.1 Overview

Introducing our latest innovation in industrial processes: the Data Logger for Flow meter. This advanced data logger is built to work smoothly with various flow meters, making it easier than ever to accurately and efficiently record essential totalizer data. With the ability to log data from up to 15 flow meters simultaneously, this data logger offers unparalleled flexibility and convenience. Whether you're monitoring flow rates in industrial settings or conducting research in a laboratory, the Data Logger for Flow Meter is the ideal tool for the job.

This user manual provides detailed instructions for safe installation, configuration, and use of the device. It also includes troubleshooting tips and warranty information to ensure you get the most out of your device. Ensuring a hassle-free experience for professionals and novices alike. With its robust design and user-friendly interface, it's the perfect companion for any flow-monitoring application.

1.2 Key feature

- **Advanced data storage**: Data storage with a high-capacity SD Card for secure and reliable storage of totalizer data from multiple flow meters.
- **Communication excellence**: Leveraging the RS-485 physical layer and the Modbus protocol, the Data logger establishes a robust and efficient communication link with flow meters.
- **User-friendly interface**: The user interface of the Data logger is designed with simplicity in mind.
- **Enhanced reliability**: Data logger is engineered for durability and reliability in challenging industrial environments. With robust construction and adherence to industry standards, this data logger ensures consistent performance, even in harsh conditions.

1.3 Package Contents

- Data logger for flow meter device
- SD card
- User Manual

2. Setup and Configuration

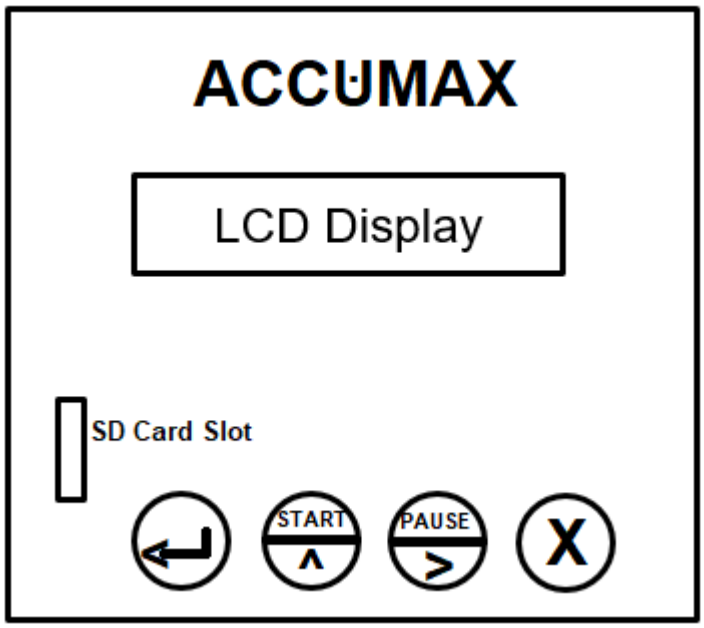
2.1 Installation

- **Mounting the device**: Choose a stable, secure location near the flow meters. Ensure the device is mounted away from direct sunlight, high temperature, and moisture.

2.2 Hardware connections

2.2.1 SD Card

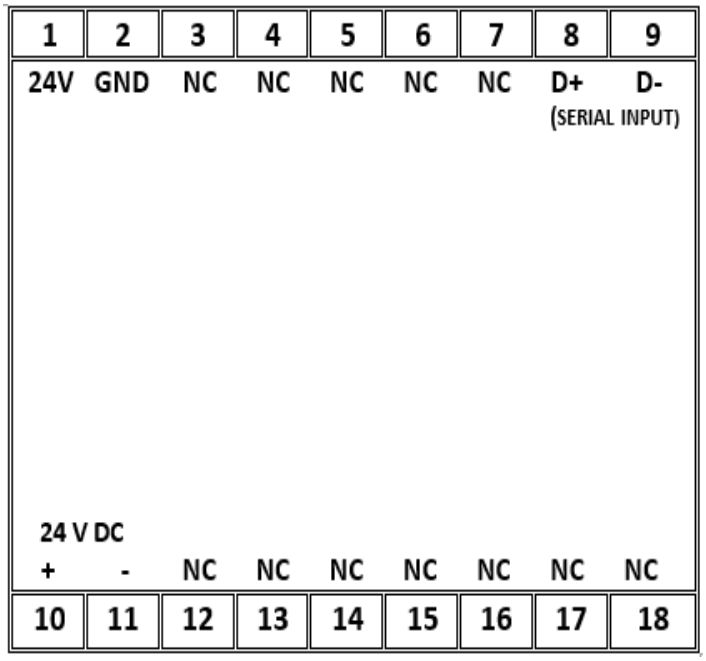
- Insert SD Card in SD Card Slot.



Front Side

2.2.2 If the Device is a 24-volt DC Supply

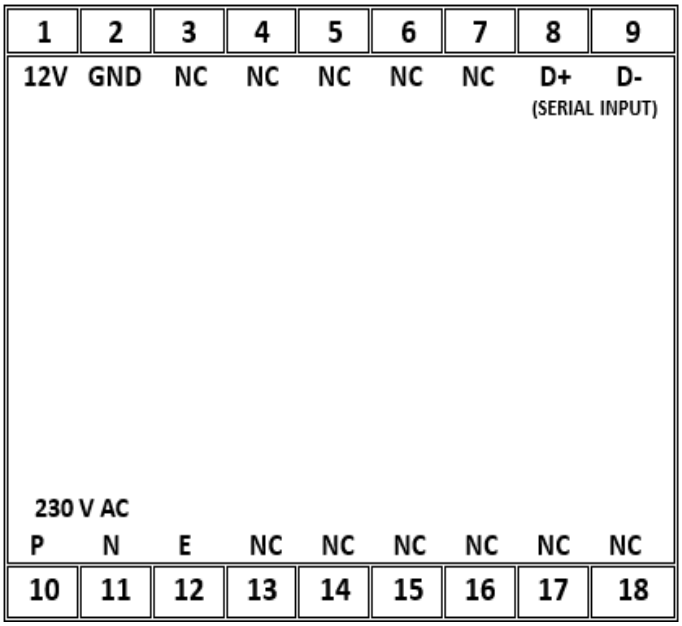
- Connect the positive terminal of the 24-volt DC Supply to the Device + terminal (PIN 10) and the negative terminal to the Device – terminal (PIN 11).



Back side for 24 V DC supply

2.2.3 If the Device is a 230-volt AC Supply

- Connect the Phase terminal of the 230-volt AC supply to the P (PIN 10), the Neutral terminal to the N (PIN 11), and the earthing terminal to the E (PIN 12).



Back side for 230 V AC supply

2.3 LED Indication

- Red LED ON Indicates that the Power is on.
- The Green LED blinking indicates that the Controller is on.

2.4 RS485 Connection

- Connect the D+ (PIN 8), D- (PIN 9), and GND (PIN 2) wires of the device to the flow meter's D+, D-, and GND terminals respectively.

3. Device Operation

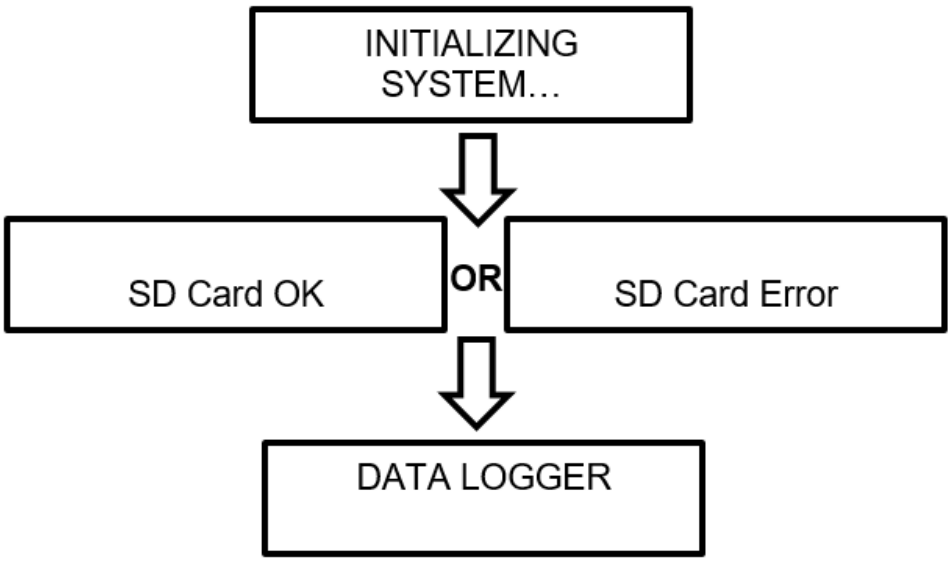
- Key 1 - Enter 
- Key 2 - UP 

- Key 3 – Shift 

- Key 4 – Esc 

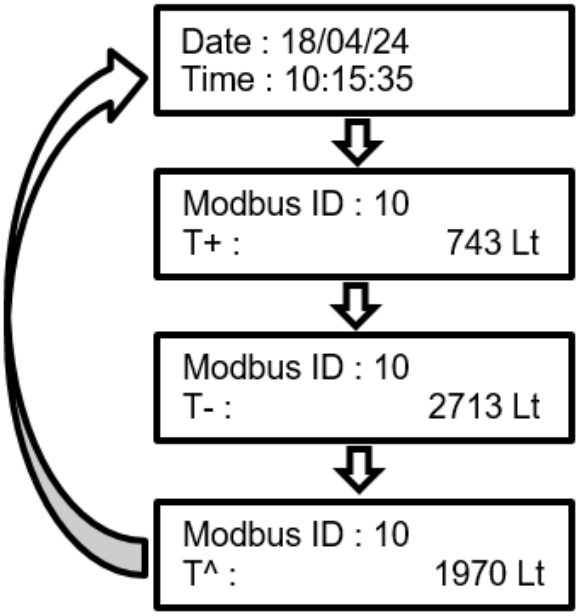
3.1 Home screen

- Once the device is powered up below screen will appear in sequence.

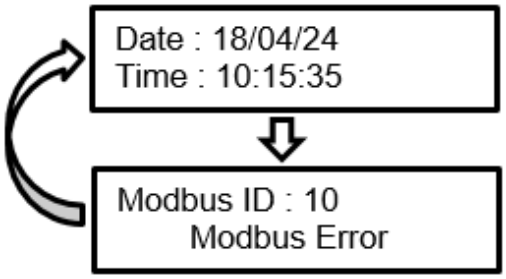


Note: if an SD Card is inserted then the “SD Card OK” screen will appear and if an SD Card is not inserted or the SD Card is faulty then the “SD Card Error” screen will appear.

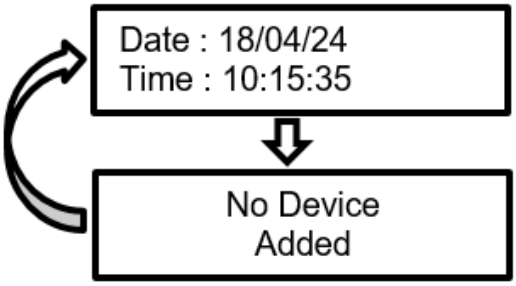
- Once the system initializing is completed then the home screen will appear as shown in the below sequence.



- If there is an Error in Modbus communication the following screen will appear as the home screen.



- If the device is not added, then the following screen will appear as the home screen.



3.2 Password menu

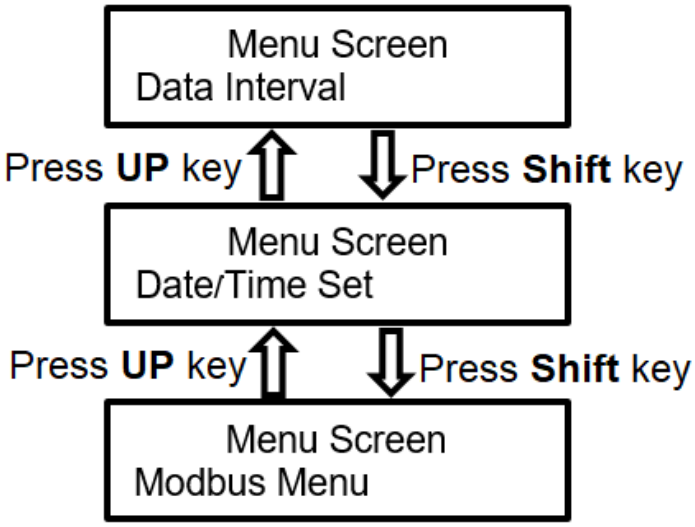
- Long press the **Enter** key for Password mode.
- Press the **UP** key to enter the number and the **Shift** key to shift the cursor.
  (Enter 1111 password for menu screen)

- Press the **Enter** key to access the menu screen, if the right password is entered then the below screen will appear.

- Pressing the **Esc** key will navigate the user to the home screen.

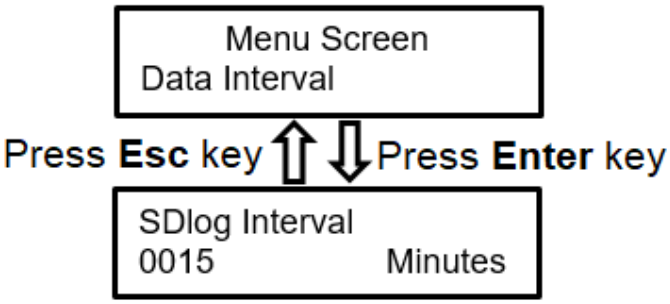
3.3 Menu screen

- To navigate between menus in the menu screen, use the **UP** or **Shift** key and the following screen sequence will appear.



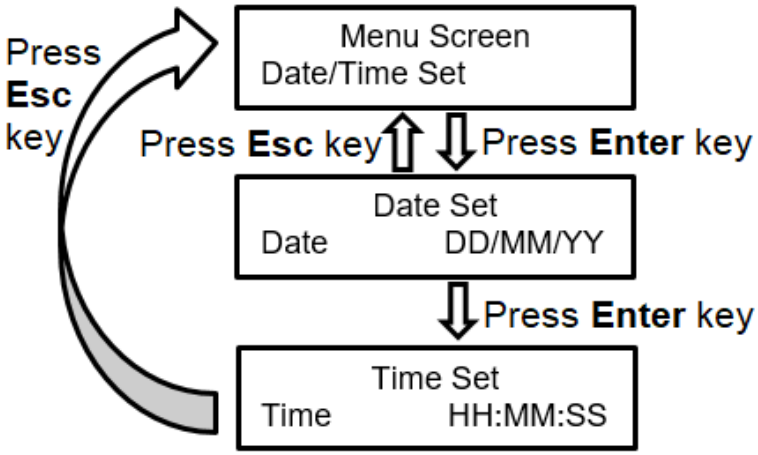
- Press the **Enter** key to access the corresponding menu.
- If the **Esc** key is pressed it will direct the user to the home screen.

3.3.1 Data interval



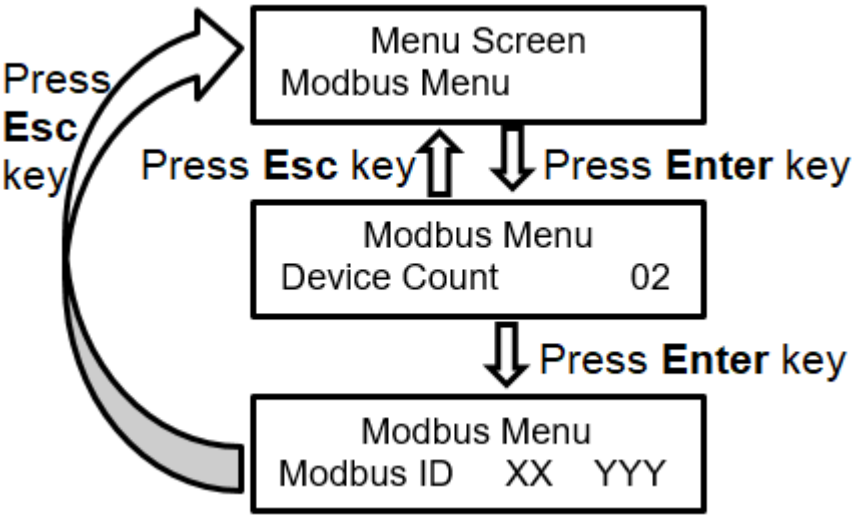
- Use the **UP** and **Shift** keys to enter the SD log interval and Press the **Enter** key to save the entered SD log interval.
- Once the **Enter** key is pressed, the Next menu Date/Time will appear.

3.3.2 Date/Time Set



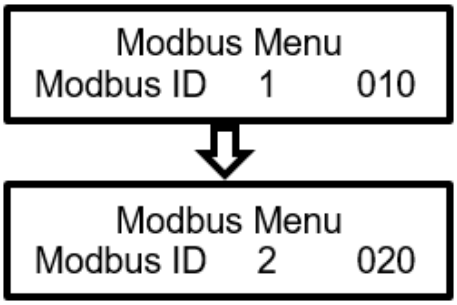
- Use the **UP** and **Shift** keys to set the current date and Time and Press the **Enter** key to save the date and Time.
- Once the **Enter** key is pressed with the correct date and time, the Next menu, Modbus Menu will appear.

3.3.3 Modbus menu



- Use the **UP** and **Shift** keys to enter the device count.
- If the value is zero and the **Enter** key is pressed then it will direct the user to the Menu Screen and the Modbus Menu will appear.
- If the value is non-zero and the **Enter** key is pressed then it will ask for Modbus ID, which is the device ID or Modbus ID of your flow meter.
- If the device count is more than the allowed number below screen will appear and the user will be directed to the home screen.

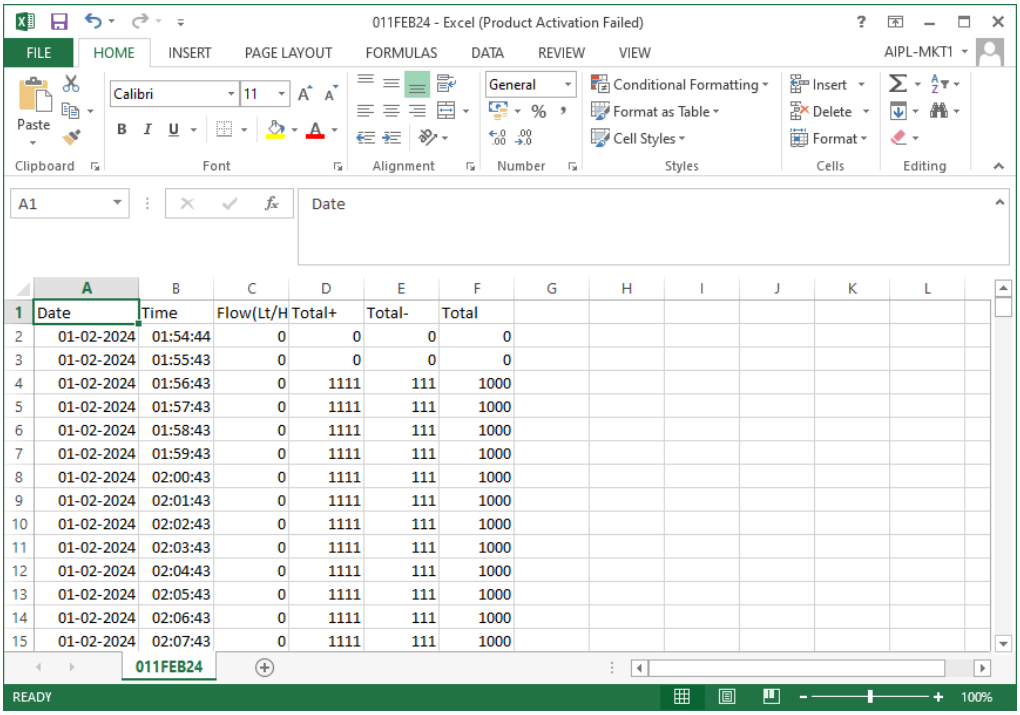
- Here in the above image XX represents the number of devices (Device count, starting from one) and YYY represents the device ID or Modbus ID of your flow meter.
- Use the **UP** and **Shift** keys to enter the device ID or Modbus ID of your flow meter.
- Press the **Enter** key to add the device ID or Modbus ID of the next flow meter.



- It will go up to the last device count and when you press **Enter** key after giving the device ID or Modbus ID, it will direct you to the Data Interval Menu.
- If the **Esc** key is pressed it will direct the user to the home screen.

3.4 Data saving format

- Data will be stored on an SD card in .CSV format at preset time intervals.
- The file name of the device in the SD card will be in (DEVICE-ID MONTH YEAR) format**.**
  Ex. 10JAN24 (10-DeviceID, JAN-Month, 24-Year)
- Flow, Totalizer (+), Totalizer (-), and final Totalizer () data will be stored in an Excel sheet with the Date and time as given in the below format.



	Date	Time	Flow(Lt/H	Total+	Total-	Total
2	01-02-2024	01:54:44	0	0	0	0
3	01-02-2024	01:55:43	0	0	0	0
4	01-02-2024	01:56:43	0	1111	111	1000
5	01-02-2024	01:57:43	0	1111	111	1000
6	01-02-2024	01:58:43	0	1111	111	1000
7	01-02-2024	01:59:43	0	1111	111	1000
8	01-02-2024	02:00:43	0	1111	111	1000
9	01-02-2024	02:01:43	0	1111	111	1000
10	01-02-2024	02:02:43	0	1111	111	1000
11	01-02-2024	02:03:43	0	1111	111	1000
12	01-02-2024	02:04:43	0	1111	111	1000
13	01-02-2024	02:05:43	0	1111	111	1000
14	01-02-2024	02:06:43	0	1111	111	1000
15	01-02-2024	02:07:43	0	1111	111	1000

Note: Flow will be in liter/hr and Totalizer in liters.

4. Technical specification

POWER	
Power	230 VAC/+24 volt VDC(As per requirement)
RANGE	
Max Devices With RS485	Up to 15 devices.
INTERFACE	
Display	16 x 2 matrix display
Operating	4 tactile button
Memory	SD Card
OPERATING CONDITIONS	
Location	Indoor
Temperature	0 degree to 65 degree

5. Troubleshooting

- **If you encounter any issues with the data logger, try the following steps:**
  - Check the power supply and connections.
  - Ensure the SD Card is inserted correctly.
  - Verify the Modbus RS485 connections from the flow meters.
  - Verify Modbus ID.
  - If the problem persists, contact customer support for assistance.

6. Warranty and support

A warranty period for our company's products is within 12 months from the date of purchase.

- **The following are not covered by a free warranty period.**
  - Hardware failure due to inconsistent usage environment.
  - Failure or damage caused by a bad power environment.
  - Failure or damage caused by unauthorized disassembly, repair, or override of authority, modification, or abuse.

❖ Thank you for choosing Data Logger we hope this device enhances your peace of mind by efficiently storing the totalizer readings of the flow meter.