

EMD31

(New EMD)

Product Specification

V1.
04/01/2021

Contents

1. INTRODUCTION	3
1.1 Advantages	3
1.2 Package Contents.....	3
1.3 EMD31 Hardware.....	3
1.3.1 Feature Summary.....	4
1.3.2 Major component.....	4
1.3.3 Board Dimension	4
1.4 I/O Connector Design	5
1.4.1 RJ45 Pin Assignment.....	5
1.4.2 Screw Terminal Pin Assignment.....	6
1.4.3 Dip-Switch for address setting.....	6
1.5 Enclosure	8
1.6 System Specification	9

1.

Introduction

The EMD31 (Environmental Monitoring Device) is a connectivity device that allows you to remotely monitor the temperature, humidity, and status of two contact devices. It's connection to the USHA 3 series or inSentry 3 enables monitoring or notification of alarms via standard Web browsers.

1.1 Advantages

- Real-time temperature/humidity and other environmental conditions monitoring
 - *Temperature Monitoring: Measures temperatures between 0°C and 80°C with an accuracy of $\pm 1^{\circ}\text{C}$
 - *Humidity Monitoring: Measures relative humidity between 10% and 90% RH with an accuracy of $\pm 3\%$
- Monitors the status of two user-provide contact devices to protect your critical equipments

Two additional sensor devices can be connected to the EMD31 and monitored via the inSentry3 or USHA 3.

 - * Addition sensor devices include:
 - > Motion detector
 - > Smoke detector
 - > Vibration detector
 - > Water Leak detector
 - > Universal (any device with normally-open or closed)
- Can cascade from the inSentry 3 or USHA 3 up to 8 EMD31
- User selectable alarm thresholds allow you define acceptable temperature or humidity limits
- Comprehensive environment conditions management and flexible configuration via Web Browser, NMS (Network Management System), SNMP or SSH
- Automatic events notification via E-mail and SNMP Trap
- Regularly records EMD31 parameters for statistical analysis and event diagnostics

1.2 Package Contents

- An EMD31 box (Environment Monitoring Device)
- Network cable for connect to EMD RJ45 port (Length: 2m)
- Cable Tie, Velcro or machine screw to fix EMD31 box on the wall.

1.3 EMD31 Hardware

This document provides an overview of the **EMD31 (Environmental Monitoring Device)**, showing the board layout of major components and connectors, and describing the pin assignments of the connectors.

1.3.1 Feature Summary

Sensor	➤ Humidity & Temperature sensor
Dry contact	➤ Two channels
Size	➤ 68*45*27mm (L * W * H)
Power Input	➤ No need for external Power supply

Table 1. Major features of the EMD31

1.3.2 Major component

Function	Product Type	Description
Sensor	SHT31	Humidity & Temperature sensor
DC/DC	UP8807PMA5-00	5V to 3,3V
DC/DC	LM2936MX-5.0/NOPB	RTS232 level to 5V
Transceiver	AZRS3088.RDG	RS485
Transceiver	ADM3232EARUZ-REEL7	RS232
MCU	NANO102ZC2AN	MCU

Table 2. Major component list

1.3.3 Board Dimension

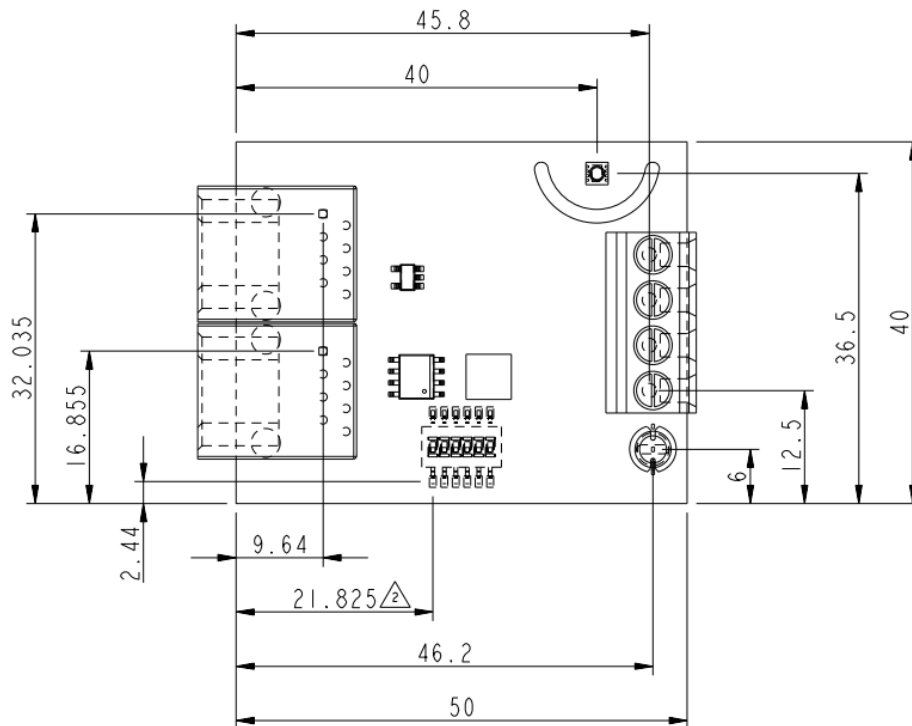


Figure 1. Dimension of the EMD31

1.4 I/O Connector Design

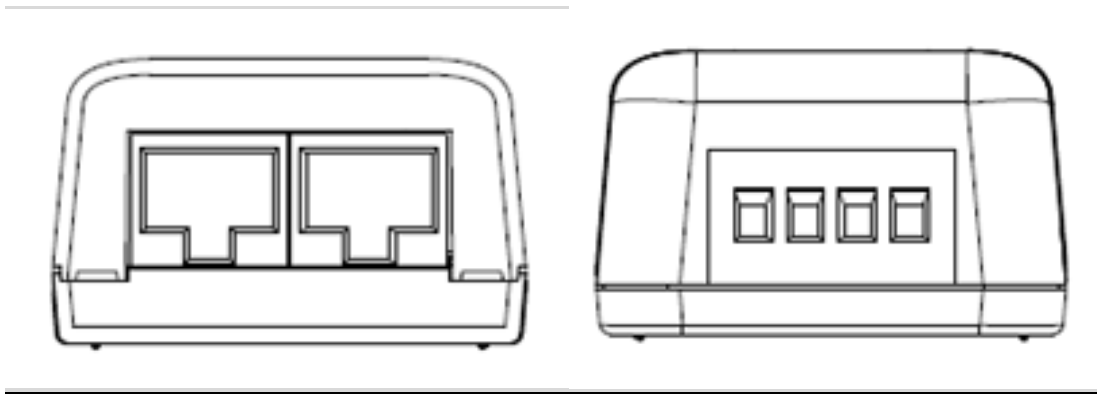


Figure 2. Connector location

Reference	Description	For more detail
	RJ45 Connector*2	1.4.1
	Screw Terminal*1 (4 Pin)	1.4.2
	LED (Green) *1	
	Dip-Switch *1 for address setting	1.4.3

1.4.1 RJ45 Pin Assignment

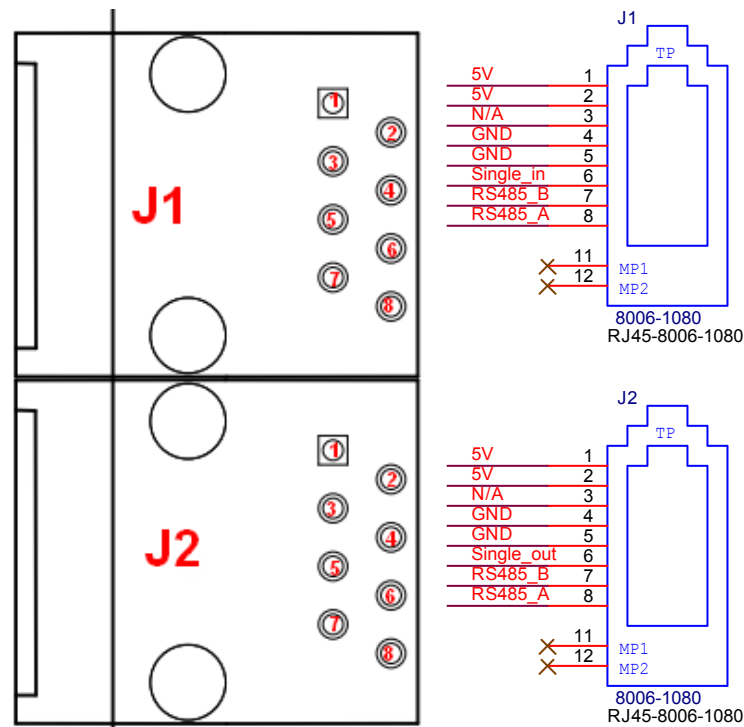


Figure 3. Pin Description of the RJ45 Connector

1.4.2 Screw Terminal Pin Assignment

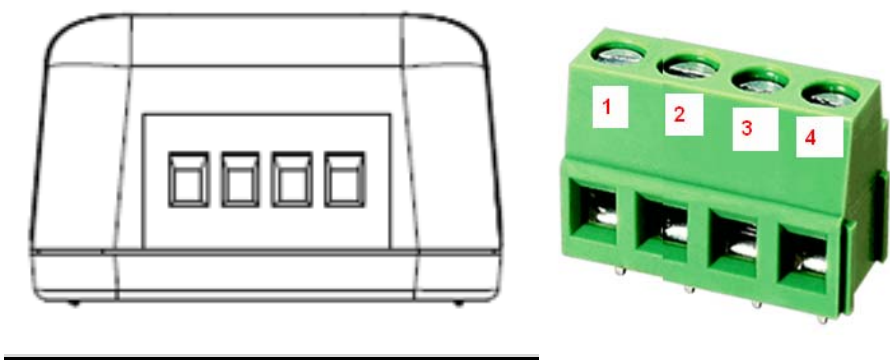


Figure 4. Screw Terminal Pin Assignment

Pin No.	Function	Description	Direction
1	Contact 1	High Level Signal	Output
2		Alarm 1 Signal	Input
3	Contact 2	High Level Signal	Output
4		Alarm 2 Signal	Input

Table 3. Pin Description of the Screw Terminal

1.4.3 Dip-Switch for address setting

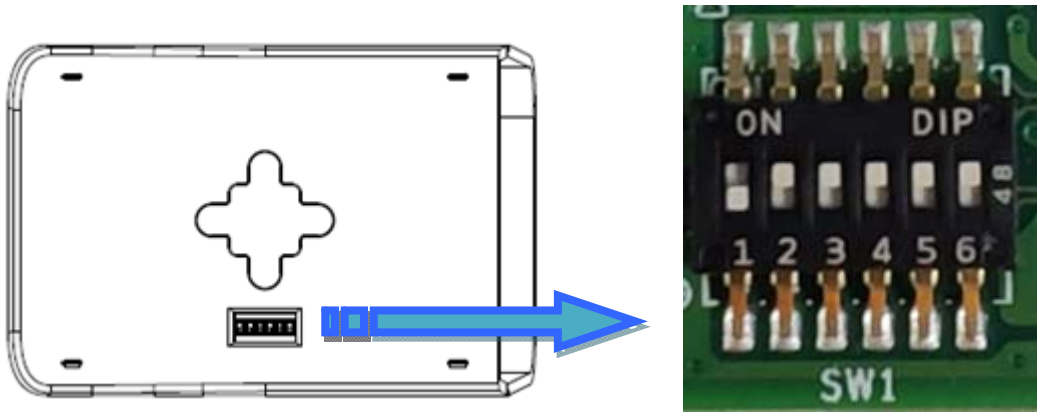


Figure 5. Dip-Switch for address setting

Pin	Function	120 ohm enable	120 ohm disable
6	120 ohm enable	On	OFF

Table 4. Pin 6 function define

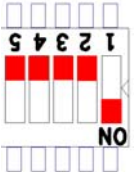
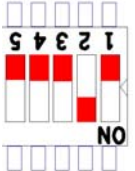
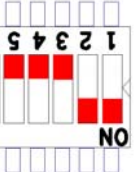
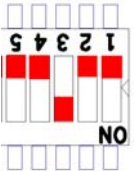
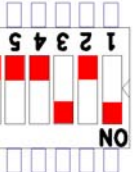
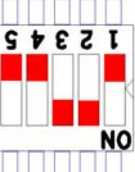
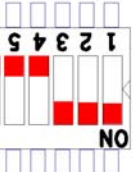
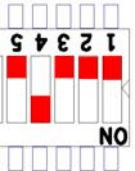
Pin5	Pin4	Pin3	Pin3	Pin1	MODBU Address	
off	off	off	off	on	1	
off	off	off	on	off	2	
off	off	off	on	on	3	
off	off	on	off	off	4	
off	off	on	off	on	5	
off	off	on	on	off	6	
off	off	on	on	on	7	
off	on	off	off	off	8	

Table 5. Address setting for EMD31

1.5 Enclosure

Dimensions: 68*45*27mm (L * W * H)

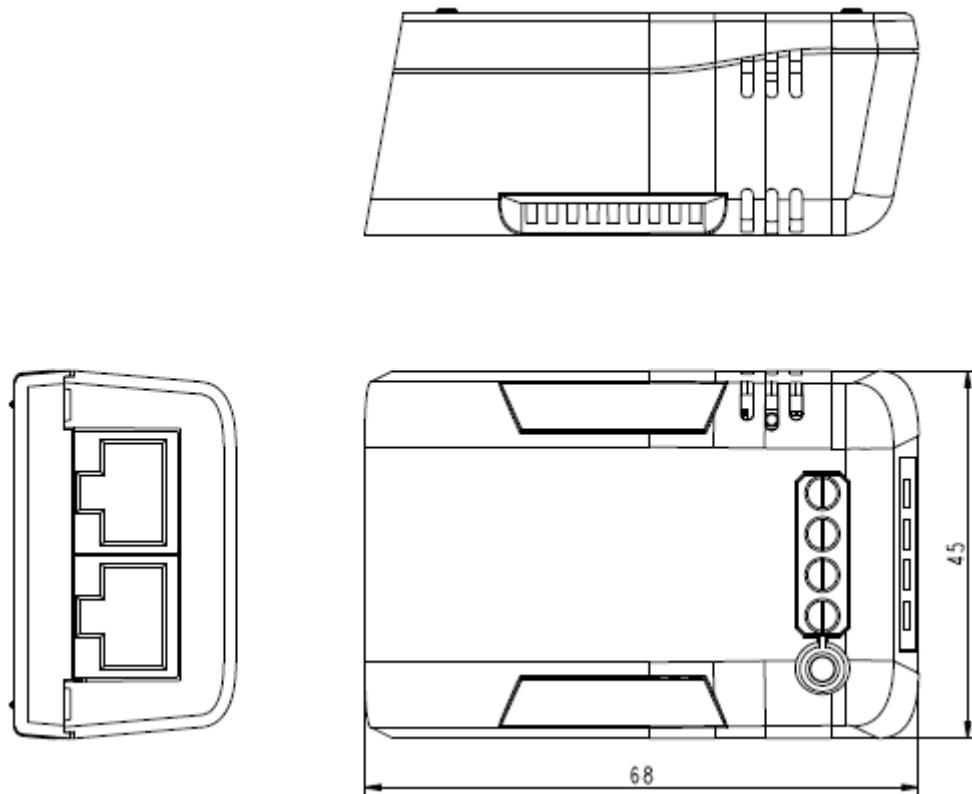


Figure 6. The front view and top view of the enclosure

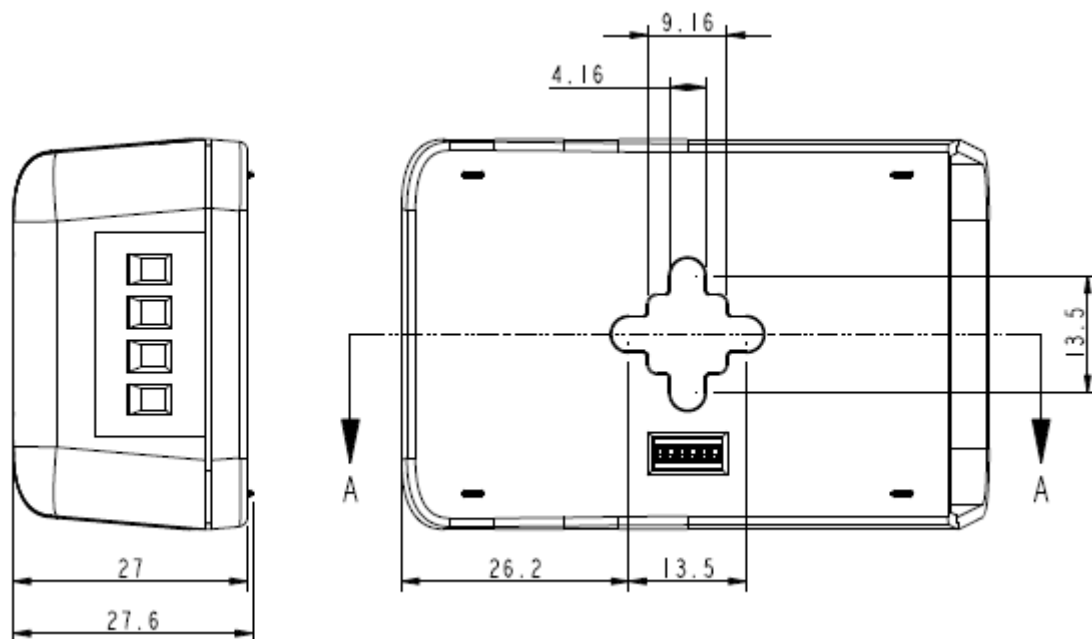


Figure 7. The back view and bottom view of the enclosure

1.6 System Specification

Description	Specification
Power Input	Vdc=5V
Power Consumption	300mW(MAX)
Operating Temperature	-20° C ~ +80° C
Operating Humidity	10 ~ 95 %
EMC Regulation	CE, FCC classB

Table 6. System specification