

**Model:** SERMOD-IO

The **SERMOD-IO** is a versatile DIN rail mountable I/O module featuring isolated relays, isolated inputs and outputs, an analog output, temperature sensor inputs, and a real-time clock (RTC). With Modbus RTU communication, the module can easily integrate into industrial control and monitoring systems. It is powered by an ARM Cortex MCU and supports configuration flexibility for communication baud rates and parity.

## FEATURES

- **6x Isolated Relays** (Optocoupler Isolation, 5000Vrms)
  - Max Switching Voltage: 250VAC
  - Max Current: 15A
- **6x Isolated Inputs** (Optocoupler Isolation, 5000Vrms)
  - Max Collector Emitter Voltage: 35V
- **6x Isolated Outputs** (Optocoupler Isolation, 5000Vrms)
  - Max Emitter Voltage: 80V
- **Analog Output**
  - Selectable Output Ranges:
    - 0-10V
    - 0-20mA
    - 4-20mA
- **Temperature Sensor Inputs**
  - Supports PT100/PT1000 sensors
  - Supports 2-wire, 3-wire, and 4-wire sensor configurations
  - High-accuracy measurement
- **Real-Time Clock (RTC)**
  - High-precision RTC for accurate timekeeping
- **Communication Interface**
  - Modbus RTU (Slave)
    - Selectable baud rates via rotary switch
    - Configurable parity via pin header
    - CRC Check for data integrity
- **Expansion Capabilities**
  - **SPI Header**
  - **I<sup>2</sup>C Terminal** for additional sensor integration (customizable)
  - **Serial port (UART)**

## 3. ELECTRICAL SPECIFICATIONS

### 3.1. RELAY OUTPUTS

- Isolation: 5000Vrms
- Max Switching Voltage: 250VAC
- Max Current: 15A

### 3.2. ISOLATED INPUTS

- Isolation: 5000Vrms
- Maximum Collector-Emitter Voltage: 35V

### 3.3. ISOLATED OUTPUTS

- Isolation: 5000Vrms
- Maximum Emitter Voltage: 80V

### 3.4. ANALOG OUTPUT

- Voltage Range: 0-10V
- Current Range: 0-20mA or 4-20mA (selectable)

### 3.5. TEMPERATURE SENSOR INPUTS

- Supported Sensors: PT100 / PT1000
- Supported Configurations: 2-wire, 3-wire, 4-wire

### 3.6. INPUT VOLTAGE

- 12-24VDC

## 4. MODBUS RTU REGISTERS

### 4.1. INPUT REGISTERS (READ-ONLY)

Register Address	Description
30001 - 30006	Isolated Inputs 1-6
30020	Temperature Sensor Reading
30030	RTC Time Reading

## 4.2. HOLDING REGISTERS (READ/WRITE)

Register Address	Description
40001 - 40006	Isolated Outputs 1-6
40020 - 40040	Relay Outputs 1-6

Part Number	Description
SERMOD-IO	Isolated I/O Module

## 5. MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS

- **Mounting:** DIN Rail
- **Operating Temperature:** -20°C to 70°C
- **Storage Temperature:** -40°C to 85°C
- **Dimensions:** [To be specified]
- **Weight:** [To be specified]

## 6. CONFIGURATION

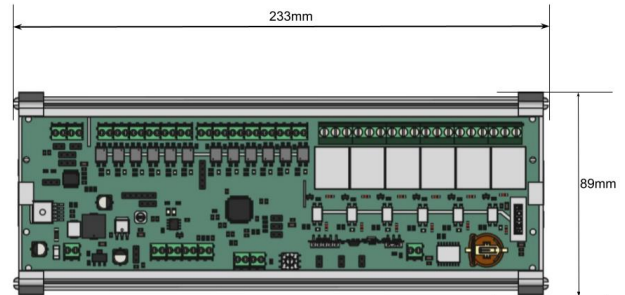
- **Baud Rate:** Selectable via rotary switch
- **Parity:** Selectable via pin header

## 7. APPLICATIONS

- Industrial automation
- Remote monitoring systems
- Building management systems
- Temperature and environmental monitoring

## 8. ORDERING INFORMATION

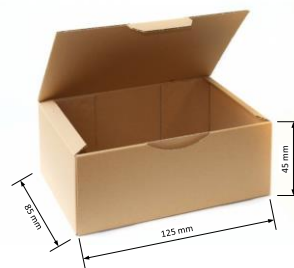
## Mounting Installation



## Wiring Diagram

- Follow board remarks

## Packaging



Hoogkamerstraat 188  
9140, Temse  
Oost-Vlaanderen, Belgium  
<https://ebimicro.com>



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