MBus_io14_DIN: DIN-Rail Mount Programmable Modbus I/O Controller

This full-featured programmable Modbus I/O controller is DIN-Rail mountable and can be programmed with the MBus_ioFlash software.

The MBus_io14_DIN controller provides full programmability, easy Modbus integration, a large and diverse set of I/O points, and a Real-Time Clock at one of the best performance to price ratios on the market.

Highlights:

- Licensed for MBus_ioFlash software
- Communicates using Modbus-RTU over RS485
- DIN-Rail mountable
- 10 Universal inputs (12-bit)
- 4 Analog outputs (0-10VDC, 4-20mA, 10-bit)
- 8 Relays (3A @ 24VAC) with manual HOA Switches
- Real-Time Clock
- 2 independent RS485 ports. Adjustable baud rate.
- Jumpers to enable RS485 biasing resistors
- Ability to act as a modbus master & slave simultaneously using the two RS485 ports.

Technical Data:

I/O Specs: 8 Relays: 3A @ 24VAC, 3A@30VDC: Certified to CAN/CSA-C22.2 No. 14: UL File No: E238496
10 Universal Inputs: 12-bit Resolution, Jumper selectable: Thermistor/Dry Contact, 0-10V, 0/4-20mA
4 Analog Outputs: 10-bit Resolution, Jumper selectable: 0-10V, 4-20mA

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Operating Temperature:	-30C to 70C (-22 to 158F)
Operating Environment:	0-95%RH Non-Condensing
Supply Voltage:	12-24VDC +/- 20% or 12-24VAC +/-20% (50-60Hz)
Nominal Power Consumption:	100mA @ 24VDC
Housing:	Plastic Material Flammability rating: UL 94V0 file E194560
Color:	White, RAL9003-Signal White
Weight:	320g

Enclosure Dimensions:
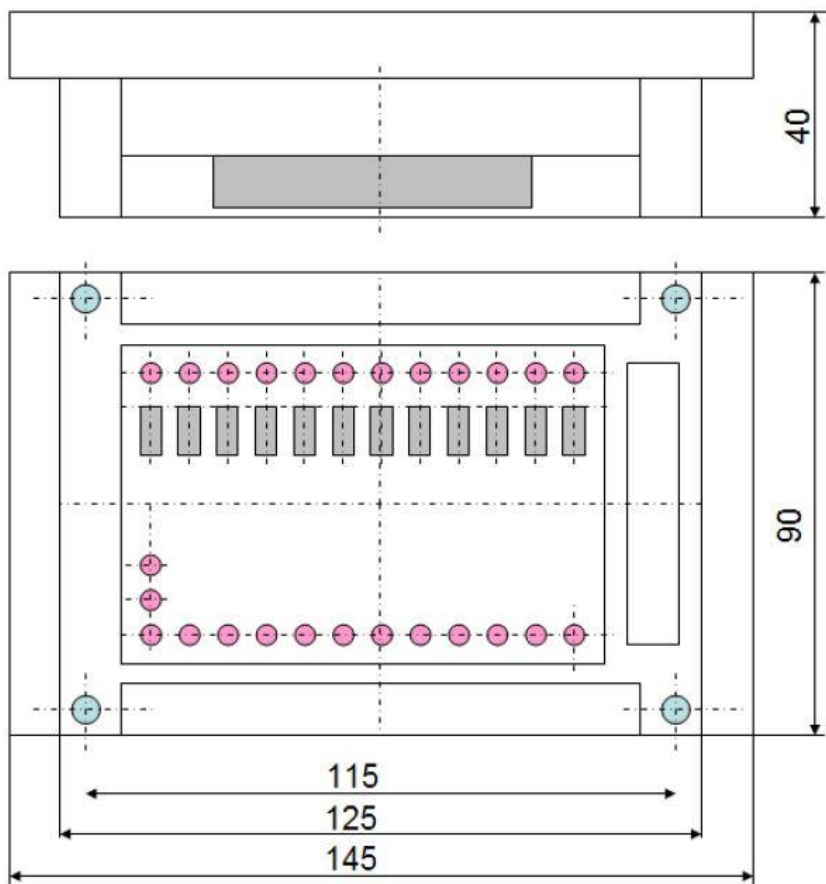
**Power, RS485, and
Input Terminals:**

**Relay and Analog
Output Terminals:**
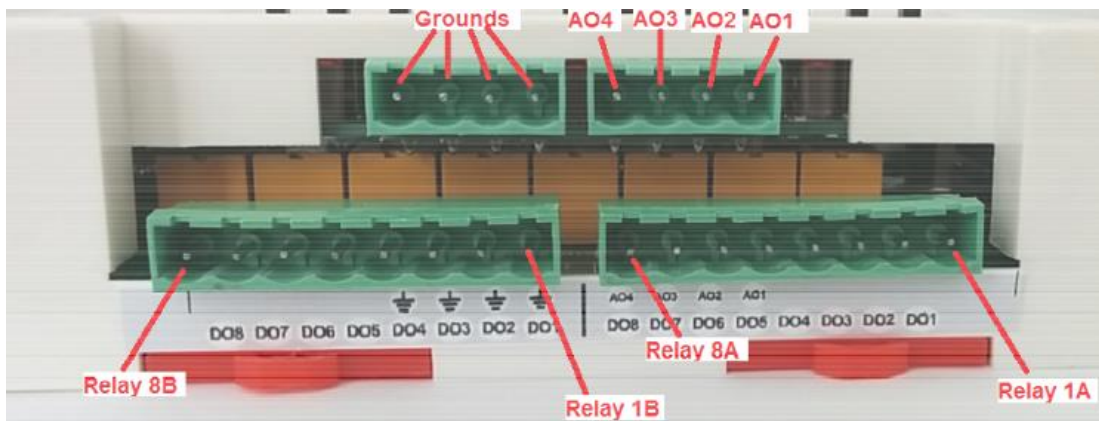
Jumpers for:
- **Universal Inputs**
- **Analog Outputs**
- **RS485 Biasing Resistors.**

Analog Output Jumpers:
- The diagram on the right shows the correct orientation of the analog output jumpers. The etching on the PCB is backwards on the first production batch of this hardware version, but will be fixed on future batches.
- The top position sets the analog output for 0-10V mode and the bottom position sets it for 4-20mA mode.

Biasing Resistors:
- **COM2 biasing resistors** are on the top board and are shown in this picture.
  - ○ The **Pull-Up** biasing resistor is enabled by setting the jumper on the right 2 pins of the top row, and it is disabled by setting the jumper on the left 2 pins of the top row.
  - ○ The **Pull-Down** biasing resistor is enabled by setting the jumper on the right 2 pins of the bottom row, and it is disabled by setting the jumper on the left 2 pins of the bottom row.
- **COM1 biasing resistors** are on bottom board and are not shown in this picture, but they are arranged in the same way as the COM2 biasing resistors explained above.
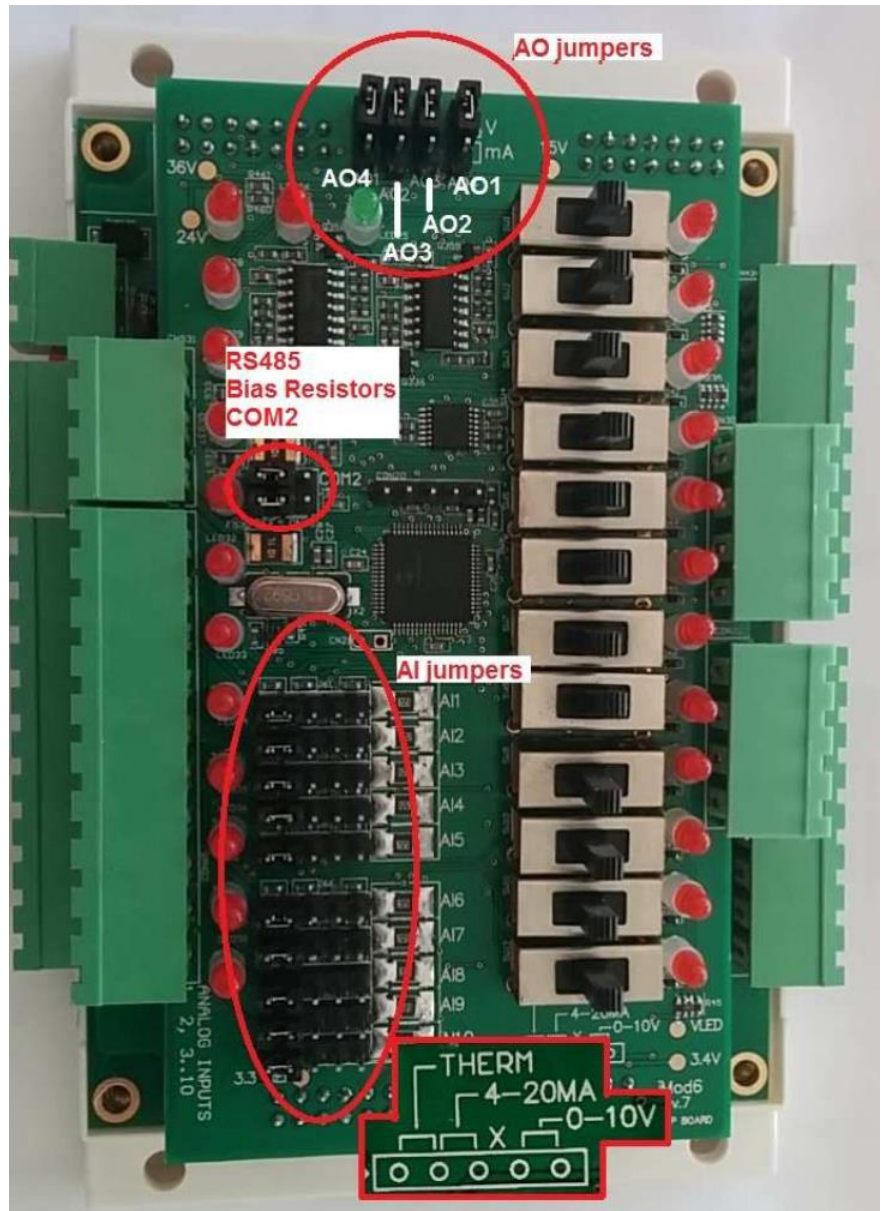
Universal Input Jumper details and positions:

When measuring 0-5VDC signals, you should set the jumper to the 0-10V position and only use half of the range.
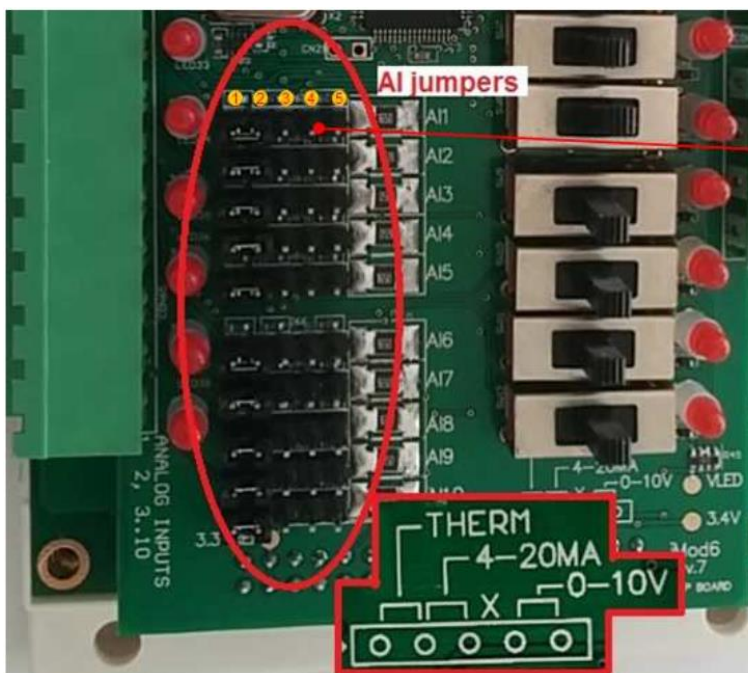
Power and RS485 Network Wiring Diagram: