

IO-RMA Adjustable Relay Module



Features:

- Adjustable switching point of relay
- On/Off/Auto links for ease of commissioning
- 8A relay and 0-10Vdc output
- DIN Rail mounting

Benefits:

- Fault finding LED indication
- Relay status LED indication

Technical Overview

The IO-RMA accepts a 0-10Vdc signal and provides a relay output with a adjustable switching threshold. The LED indicates that the relay is energised and Hand/Off/Auto jumpers ease commissioning.

The IO-RMA is ideal for any application where the switching of plant is interlocked with modulation of the same, or a different item of plant. Using the IO-RMA saves an output on the BMS controller.

Specification:

Input signal	0-10Vdc 1mA min. into 22k Ω impedance
Output contacts:	
Relay	8A at 230Vac (resistive load)
Voltage	0-10Vdc
Power supply:	24Vac \pm 15% @ 50Hz or 24Vdc +15% -6%, 65mA max.
LED indication:	Supply OK Supply voltage low Supply voltage high Relay Status Hi input voltage
Manual override	On/Off/Auto jumper selectable
Electrical terminals	Rising cage connectors for 0.5-2.5mm ² cables
Ambient range:	
Temperature	-10 to +40°C (14 to 107°F)
RH	0-80% non-condensing
Dimensions (H x W x H)	72 x 49.5 x 55 (2.83 x 1.95 x 2.17")
Country of origin	UK

Part Codes:

IO-RMA
Adjustable relay module



The products referred to in this data sheet meet the requirements of EU 2004/108/EC and 2006/95/EC



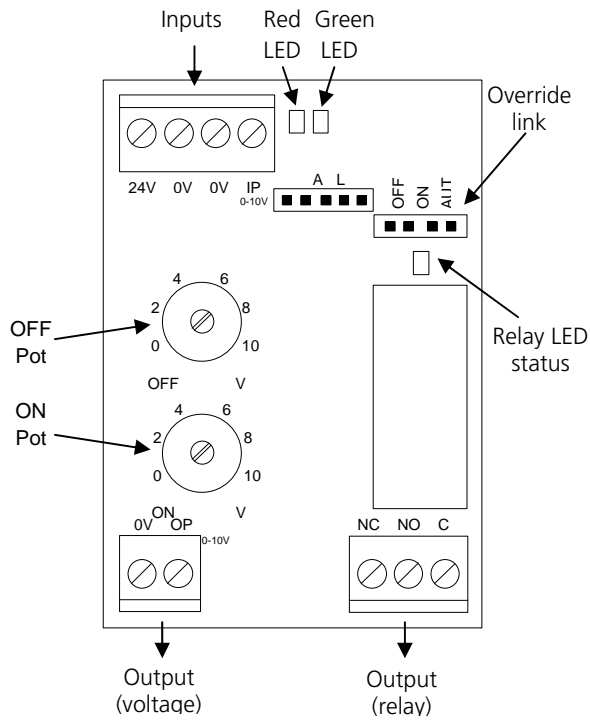
Warning!

When installed, the output relay contacts may carry 240Vac. Special care must be taken to isolate the switched voltages prior to any work being undertaken.

Connections:

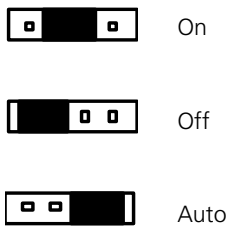
Inputs;
24V 24Vac/dc
0V 0V
0V 0V
IP 0 to 10Vdc

Outputs;
Relay
NC Normally open
NO Normally closed
C Common
Voltage
0V 0V
OP 0 to 10Vdc



Jumper Settings:

Override:



Potentiometer Locking:



Potentiometers:

There are 2 pots, the on-pot and the off-pot. These divide the 0-10Vdc input into 3 bands. The off band, the hysteresis band and the on band. For example if the off-pot is set for 4Vdc and the on-pot is set to 6V then the off band is 0Vdc-4Vdc, the hysteresis band is 4Vdc-6Vdc and the on band is above 6Vdc

Once the input has settled, the relay is off on off band and on in the on band. In the hysteresis band the relay remains on whatever state it was in last.

If you are powering up the system with input voltage in the hysteresis band, the relay starts according to the nearest pot setting. For example, with the above settings, if the input voltage is 4.5Vdc at power-up the relay will be off, but with 5.5Vdc it will be on.

Potentiometer setting:

- With the jumper in the 'A' position you can adjust the pots to the required settings.
- A 0 to 10Vdc scale is printed on the PCB to give approximate guidance; to set the pots accurately you should adjust them to test voltages.

Locking the potentiometers:

- Once the pots have been set you can lock them. This prevents the settings from drifting or being tampered with.
- To lock the pots move the jumper to 'L'.
- To unlock the pots move the jumper back to 'A'

Note

The on-pot should be set above the off-pot.

Tech Tip:

Electrical Noise

By far the most common cause of electrical noise on a typical HVAC site is the contactor. Little, if any, electrical noise is produced when the contactor coil is energized, but significant noise is produced when the coil de-energizes, and may exceed 700Vac P-P. Typically, the contactor coil is switched by the C & N/O contacts of an IO-RM module relay.

Fitting an "RF snubber" across the contactor coil is a good way of greatly reducing the electrical noise pulse produced when the coil de-energizes. The ROXBURGH flying lead RC network type XEB1201 (Farnell part code 1187659) is a tried and trusted component for this purpose. Alternatively, a suitable MOV (metal oxide varistor) across the IO-RM C & N/O relay contacts will also help to prevent electrical noise being induced."

Whilst every effort has been made to ensure the accuracy of this specification, Sontay cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.

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