Six Relay Module IOR6

Description

This IO module is used with DDCs to convert an analogue control output to a staged, reverse staged or sequenced relay output. LEDsindicate correct operation and low current draw from 0-10Vdc controller means that the IOR6 can work successfully with most BEMs controllers.

Features

- DIN Rail mounting
- Relay status and fault finding LEDs indication
- Link selectable staged, reverse staged, sequenced
- On/Off/Auto links for ease of commissioning

"Designed and manufactured exclusively for E. C. Products Limited by Dura Controls UK Limited"

Technical Specification

Input signal: 0-10Vdc 1mA min. into 22kΩ impedance

Output contacts: 8A at 230Vac (resistive load)

Power supply: 24Vac ±15% @ 50Hz or 24Vdc +15%/-6%, 90mA max.

Hysteresis: ±0.2Vdc about switching points (±0.1Vdc in binary)

Operating modes: Staged, Reverse Staged, Sequenced

LED indication: see description under LED Status

Manual override: On/Off/Auto jumper selectable

Electrical terminals: Rising cage connectors for 0.5-2.5mm² wire

Operating temp: -10°C to +40°C, RH 0-80% non-condensing

Dimensions: H52mm x W116mm x D83mm

Order Code

IOR6 Six Relay Module

LED Status

The green LED indicates power supply connection:

Green LED is ON continuously indicates module powered correctly.

Green LED double flashes twice a second (*-*-----*-*-----*-*-----*-*) indicates low power supply (below about 21.2 V, condition clears at about 22V)

Green LED flashes 6 times a second (*-*-*-*-*-*) indicates high power supply (above about 35Vdc or 28Vac) and the relays are off (except when forced ON by jumper settings) as excessive voltage might overload the voltage regulator.

The relays are also switched off for 2 seconds after power-up or any over 35V condition clears. This prevents the relays from switching on and off during power-up or power failure with an over voltage power supply.

The red LED indicates input voltage condition, normally the red LED is off:

Red LED is ON continuously indicates high input voltage (voltage exceeds 10.8V)

Red LED flashes 6 times a second (*-*-*-*-*-*) indicates an unstable input voltage. The input voltage should settle on one 'voltage band'. Voltage is deemed to have settled after it has been within one band for 250ms. If it has not settled for 500ms it is deemed to be unstable.

Red LED does triple flashes (*-*-*---*-*-*---*-*-*---*-*-*) indicates a mode select error (a jumper missing or incorrectly placed)

Switching sequences

Staged (STG) 0-10V

Nominal	Relay1	Relay2	Relay3	Relay4	Relay5	Relay6
0.5Vdc	OFF	OFF	OFF	OFF	OFF	OFF
1.5Vdc	ON	OFF	OFF	OFF	OFF	OFF
2.5Vdc	ON	ON	OFF	OFF	OFF	OFF
3.75Vdc	ON	ON	ON	OFF	OFF	OFF
5.25Vdc	ON	ON	ON	ON	OFF	OFF
6.9Vdc	ON	ON	ON	ON	ON	OFF
8.9Vdc	ON	ON	ON	ON	ON	ON

Reverse Staged (STG1) 0-10V:

Nominal	Relay1	Relay2	Relay3	Relay4	Relay5	Relay6
0.5Vdc	OFF	OFF	OFF	OFF	OFF	OFF
1.5Vdc	OFF	OFF	OFF	OFF	OFF	ON
2.5Vdc	OFF	OFF	OFF	OFF	ON	ON
3.75Vdc	OFF	OFF	OFF	ON	ON	ON
5.25Vdc	OFF	OFF	ON	ON	ON	ON
6.9Vdc	OFF	ON	ON	ON	ON	ON
8.9Vdc	ON	ON	ON	ON	ON	ON

Sequenced (SEQ) 0-10V:

Nominal	Relay1	Relay2	Relay3	Relay4	Relay5	Relay6
0.5Vdc	OFF	OFF	OFF	OFF	OFF	OFF
1.5Vdc	ON	OFF	OFF	OFF	OFF	OFF
2.5Vdc	OFF	ON	OFF	OFF	OFF	OFF
3.75Vdc	OFF	OFF	ON	OFF	OFF	OFF
5.25Vdc	OFF	OFF	OFF	ON	OFF	OFF
6.9Vdc	OFF	OFF	OFF	OFF	ON	OFF
8.9Vdc	OFF	OFF	OFF	OFF	OFF	ON

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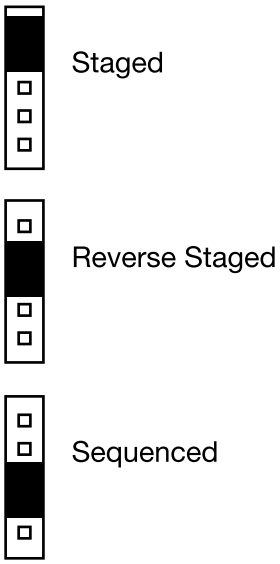
Installation

The IO module should only be installed by a qualified technician.

1. Disconnect power before carrying out any work on the IOR6.
2. Maximum cable is 2.5mm², care must be taken not to over tighten terminals.
3. Strictly follow the wiring diagram below. Either 24VDC or 24VAC can be used.
4. The relay outputs are single Pole Change Over (SPCO) so they can be wired as Normally Open (NO) or Normally Closed (NC).
5. The 0-10Vdc signal input requires a minimum of 1mA to operate.
6. Relays can be activated in a certain delay time from 200ms to 25s (Proportional to the value of potentiometer VR from 0 to 10)

Jumper Settings



Wiring