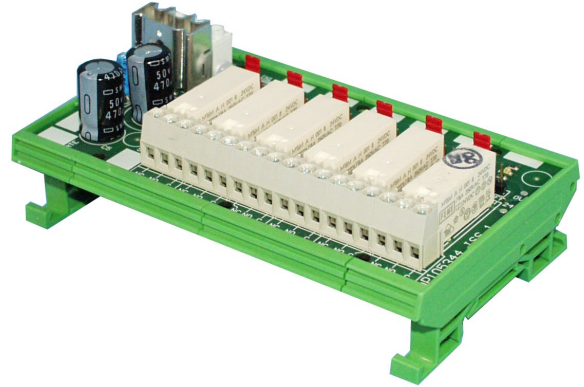


6RM/24VAC Six Relay Module (24 Vac/dc)

6RM/24VAC Six Relay Module (24 Vac/dc)



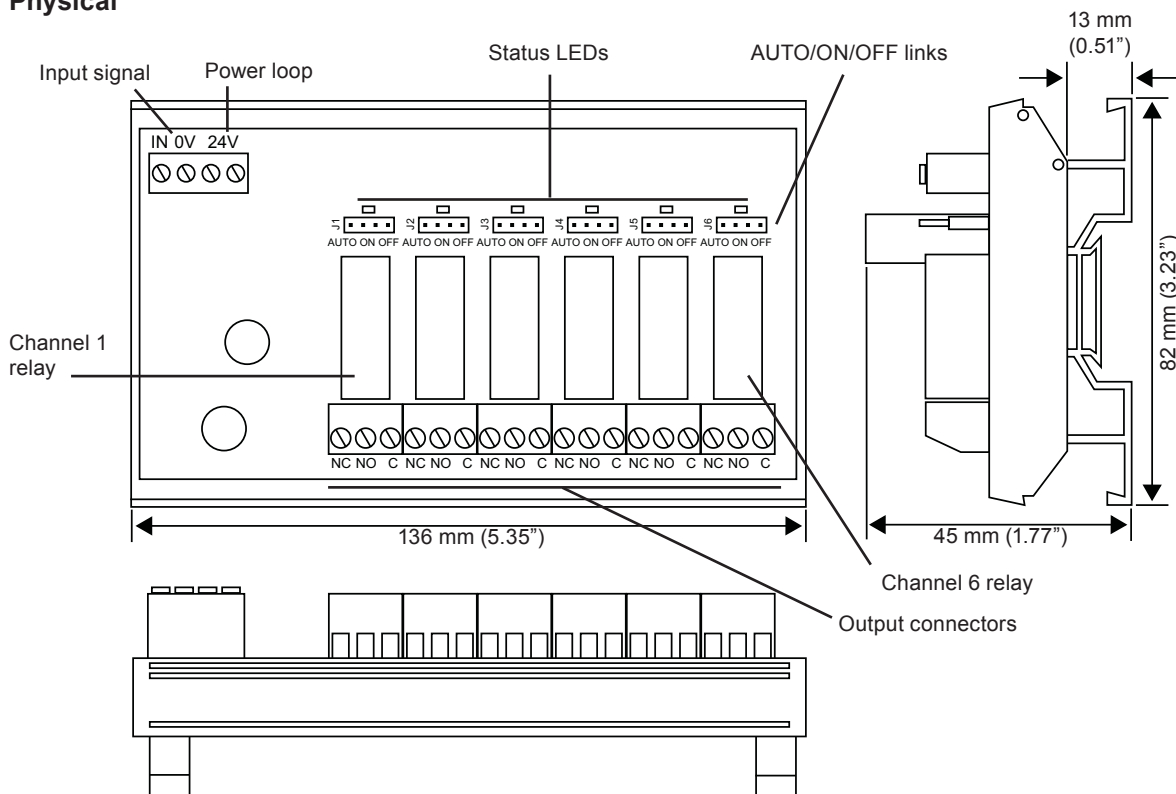
Description

The Six Relay Module (6RM) converts an analogue output of an IQ controller to six stages of relay output, and acts as an interface between the controller and heating and ventilation equipment. This compact unit includes manual override links for each relay to aid commissioning. Field wiring is facilitated by rising cage clamp type terminals, and a supply loop terminal aids wiring to additional modules.

Features

- Six stages of relay output from one analogue output.
- AUTO/ON/OFF Manual override links.
- LED status indication.
- Standard DIN rail mounting.
- Rising cage clamp terminals.
- Vac/dc supply.

Physical



FUNCTIONALITY

Operation: The 6RM converts an analogue voltage output of an IQ controller to six stages of relay output, and acts as an interface between the controller and heating and ventilation equipment. Each relay may be manually overridden using an AUTO/ON/OFF link. The relays switch in the sequence shown in the table.

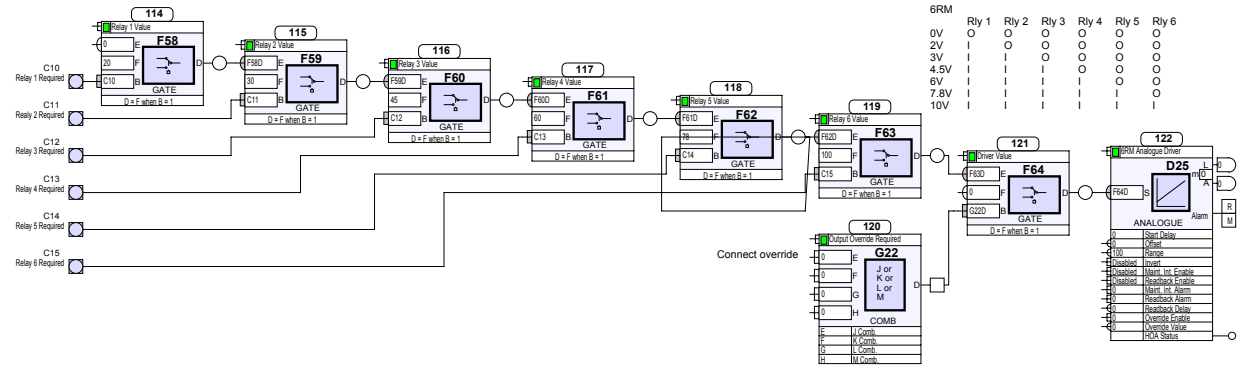
	Relay 1	Relay 2	Relay 3	Relay 4	Relay 5	Relay 6
0 V	OFF	OFF	OFF	OFF	OFF	OFF
2 V (1.4)	ON	OFF	OFF	OFF	OFF	OFF
3 V (2.5)	ON	ON	OFF	OFF	OFF	OFF
4.5 V (3.7)	ON	ON	ON	OFF	OFF	OFF
6 V (5.7)	ON	ON	ON	ON	OFF	OFF
7.8 V (7.4)	ON	ON	ON	ON	ON	OFF
10 V (8.8)	ON	ON	ON	ON	ON	ON

Note that the voltage levels shown in the switching table are approximate values - exact switching points are lower and may vary slightly from unit to unit. Typical threshold values are shown in brackets

Strategy:

It is recommended to use SET (software tool) for configuring the controller. SET is supplied with 2RM strategy blocks for IQ1, IQ2, and IQ3 controllers. These can be used as they are or as examples.

There is 1 strategy block for the 6RM:



The above is the SET 6RM strategy block.

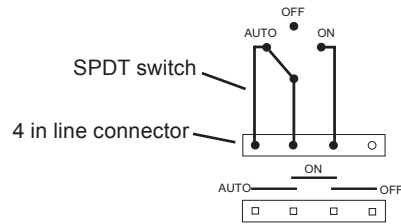
Mounting: The 6RM is designed to be mounted on a standard DIN rail.1

Power connection: The relay's power connection is made to a 24 Vdc (e.g. IQ's auxiliary supply) or 24 Vac supply (isolated or earthed, grounded, to IQ earth, ground) using the 0V and 24 V connectors.

AUTO/ON/OFF: For commissioning purposes each relay may be switched ON or OFF using its AUTO/ON/OFF link. The relay operation may be checked by monitoring its LED. Each AUTO/ON/OFF link can be replaced with a SPDT switch.

Note that feeds switched from other relays on the same module or interlocks provided by other relays will not necessarily be operative when using manual overrides. It is the system designer's responsibility to ensure that adequate interlock protection is built into the design.

Connectors: 1 part screw terminals for 0.5 to 2.5mm² cross section area (20 to 14 AWG) cable are used for inputs, outputs, and power connection. All terminals are rising cage clamp type. Each link can be replaced with a 4 in line connector for connection of a switch.



ORDER CODES

6RM/24VAC	1 off 6RM module for DIN rail
6RM/24VAC/USA/UL	1 off 6RM module for DIN rail (for USA)

SPECIFICATIONS

Electrical

Input Power Supply voltage	:24 Vac or Vdc \pm 20%
Input Power Supply current	
24 Vac	:203 mA (34 mA per relay)
24 Vdc	:86 mA (15 mA per relay)
Input signal	:0 to 10 Vdc (10 mA max per channel). See operating voltage levels in text above
Relays	
Switching	:6 single pole changeover.
Contact rating	:5 A @ 240 Vac ($\cos\phi=0.4$) 5 A @ 30 Vdc (resistive) 2 A @ 24 Vdc (inductive, $T\leq 30$ ms). NOTE: To meet safety requirements, relays being used must all be switching either low voltage or mains and not a mixture of voltages. If switching mains, they must all switch the same phase and polarity. Arc suppression circuit (RC) recommended for inductive loads, see TG200208. The UL rating applies to loads of up to 30 V.
Manual override	:linkable AUTO/ON/OFF.
LED	:Single LED for each relay. ON when energised.

Mechanical

Dimensions	:82 mm (3.23") x 136 mm (5.35") x 45 mm (1.77").
Connectors	:Single part with rising cage clamp type terminals for 0.5 to 2.5 mm ² cross section area (20 to 14 AWG) cable. Use copper cable only.
DIN rail	:for use with top hat profile DIN46277-3, EN50022, BS5584:1978.

Environmental

Safety	:EN61010-1: 2001.
UL	:The /USA/UL unit is UL rated as 'UL916 listed accessory to open energy management equipment'.
Ambient limits	
Storage	:-10 °C (14 °F) to +70 °C (158 °F)
Operating	:-10 °C (14 °F) to +50 °C (122 °F)
Humidity	:0 to 90 %RH non-condensing
Altitude	:<2000m (6562 ft)

IQ Configuration

It is recommended to use SET (software tool) for configuring the controller. SET is supplied with 6RM strategy blocks for IQ1, IQ2, and IQ3 controllers. These can be used as they are or as examples- see text above for details

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Trend Control Systems Limited

Albery House, Springfield Road, Horsham, West Sussex, RH12 2PQ, UK. Tel:+44 (0)1403 211888 Fax:+44 (0)1403 241608 www.trendcontrols.com

Trend Control System USA

6670 185th Avenue NE, Redmond, Washington 98052, USA. Tel:(425) 869-3900 Fax:(425) 869-8445 www.trend-america.com