RSM & RSM/I Re-Scaler & Signal Converter Modules

The IO/RSM is designed to rescale and convert analogue control signals.

4 analogue input options are provided for 0-5V, 0-10V and a dual function current output to provide 4-20mA or 0-20mA. The latter is selected by a link adjacent to the output terminals.

The input to output re-scaling is provided by 4 setting potentiometers that define the start and end values of the input and output signals. Set-up switches are incorporated which allow the pots to be individually set over the required range.

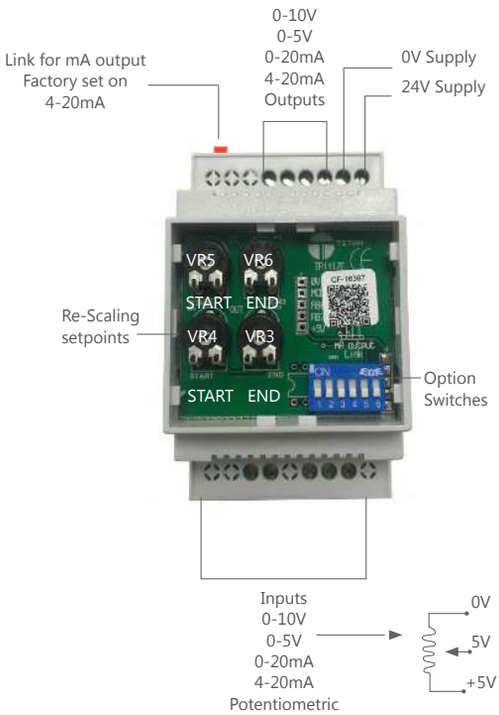
The module can be supplied with galvanic signal isolation if required (IO/RSM/I).

Specification

Power Supply:	24V AC/DC +/-10%
Input Selection:	0-5V, 0-10V, 0-20mA
(Option Selection):	1-5V, 2-10V, 4-20mA
Output Signals:	0-5V, 0-10V (rated at 10mA max.)
	0-20mA or 4-20mA
Power Consumption:	IO/RSM = 30mA plus output load
	IO/RSM/I = 65mA plus output load
Galvanic Isolation:	1KV (IO/RSM/I only)
Max Operation Voltage:	60V
Operating Temperature:	0 to 50°C
Operating Humidity:	5-80% non-condensing
Dimensions:	90mm high, 55mm wide, 58mm deep
Mounting:	DIN Rail
Country of Origin:	UK
Product Code:	IO/RSM (non-isolated)
	IO/RSM/I (galvanic isolated)

Connections

(Remove front cover for access)



Settings and Option Switches

SW	OFF	ON
1	Normal operation mode	Set-up mode for rescale values
2	See table below	See table below
3	See table below	See table below
4	SCM mode	Rescale mode
5	Input range (0-5V, 0-10V or 0-20mA)	Input range (1-5V, 2-10V or 4-20mA)
6	Voltage inputs signal	Current (mA) Input Signal

Notes:- SW1, 2 & 3 are used for set-up selection only, see table below.
SW4 in OFF condition de-activates the rescaling value and the module operates as a signal converter only.
SW5 Defines the input range (the stated mA inputs are only active is SW6 is ON). SW6 Defines the Input signal type (Voltage or Current).

Setup Selection

SW1	SW2	SW3	EFFECT
OFF	OFF	OFF	Normal operation
ON	OFF	OFF	Set VR5 Input start value
ON	OFF	ON	Set VR6 Input end value
ON	ON	OFF	Set VR4 Output start value
ON	ON	ON	Set VR3 Output end value

Note:- In set-up mode with SW1 ON all the rescale values can be measured on the 0-10V Output terminal. The Output values will depend on the position of SW2 & SW3 (see above table).

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Signal Inputs

1 x 0 to 10V input

1 x 0 to 5V input which can also be used as 0 to 20mA or 4 to 20mA by means of switch settings.

A separate +5V supply is also provided to allow for a three-wire potentiometer input signal (minimum value is 100 ohms).

Connect the potentiometer across +5V and 0V of the Aux Supply with the wiper connected to the 5V terminal.

Outputs

Three analogue outputs are provided and all output signals operate simultaneously. The mA output can be selected 0-20mA or 4-20mA.

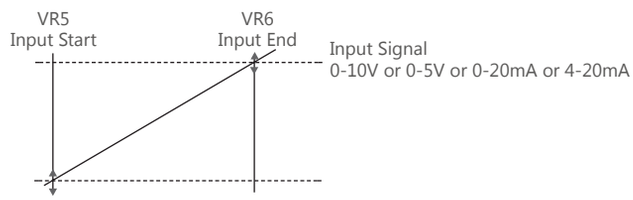
1 x 0 to 10V

1 x 0 to 5V

1 x mA this is selected 0 to 20 or 4 to 20mA by means of an option link.

Scaler Setting Pots (Input Signal)

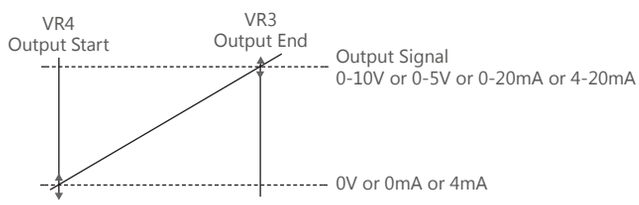
Remove the front cover plate to access all the settings and switches. Adjustment of VR5 and VR6 set-up the input signal range. The set-up can be increasing or decreasing input signal. (See switch table for set-up selection). The values of these settings can be measured on the 0-10V output.



See note below with reference to minimum differential between Start and End values.

Scaler Setting Pots (Output Signal)

This defines the output range that is generated by the range of the input signal. Adjustment of VR4 and VR3 set-up the output signal range. The set-up can be increasing or decreasing output signal. (See switch table for set-up selection). The values of these settings can be measured on the 0-10V output.



Note:- The start and end values must be a minimum of 1V (10%fsd) apart in a positive or negative direction. If they are set closer than this then the setting with default to a value of 1V (10%fsd) differential from the start setting (input or output).

Signal Isolation (RSM/I only)

The signal rescaling module can be supplied with signal isolation. Whilst the signal isolation barrier is rates at 1KV, the maximum permissible connected operating voltage must not exceed 60V.