Analogue Rescaling Module ARM

Description

The IO-ARM analogue rescaling module accepts voltage or current inputs and rescales them to voltage or current outputs. A range of preset values are link selectable and fine adjustments can be made using trim potentiometers. The IO-ARM can also reverse the signal. Units are supplied in a DIN rail mounting housing.

Features

- Field selectable ranges
- Reverse or normal output
- Factory calibrated
- LED power indication
- DIN rail mounting

Technical Specification

Input signals:	0 to 35Vdc
	0 to 44mA
Ambient range:	-10°C to +50°C
Output signals:	0.25 to 20Vdc
	1 to 44mA
Power supply:	24Vac/dc @ 200mA max.
Dimensions:	94 x 55 x 26mm

Order Code

ARM   Analogue Rescaling Module

Installation

Ground yourself before touching board. Some components are static sensitive.
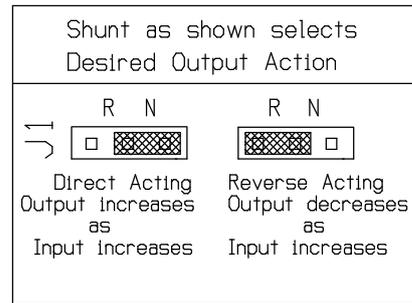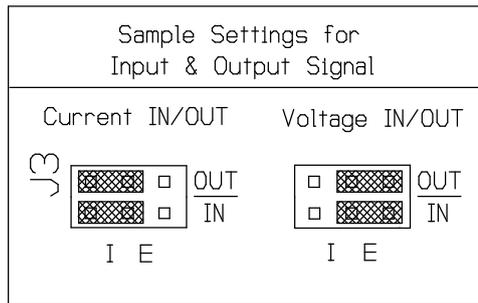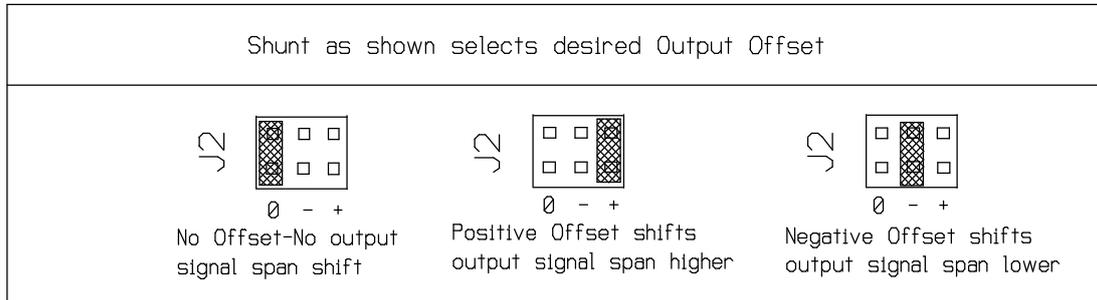
Mounting:

Circuit board may be mounted in any position. If circuit board slides out of snap track, a nonconductive "stop" may be required.

Use only fingers to remove board from snap track. Slide out of snap track or push against side of snap track and lift that side of the circuit board to remove. Do not flex board or use tools.

Power connections:

1. 24 VDC - with power off, connect 24 volt DC power supply to "24" (+) and (-) terminals on the board.

   24 VAC - with power off, connect one transformer secondary leg to "24" (+) and the other to the common (-) on the board, along with signal input and signal output common (-). Check the wiring configuration of any other loads that may be connected to this transformer. Any field device connected to this transformer must use the same common. If you are not sure of other field device configuration, use separate transformers.

2. If the 24 volt AC power is shared with devices that have coils such as relays, solenoids, or other inductors, each coil must have an MOV, AC Transorb, or other spike snubbing device across each of the shared coils. Without these snubbers, coils produce very large voltage spikes when de-energizing that can cause malfunction or destruction of electronic circuits.

3. If the 24 volt DC power is shared with devices that have coils such as relays, solenoids, or other inductors, each coil must have an MOV, DC Transorb, or diode placed across the coil or inductor. The cathode, or banded side of the DC Transorb or diode, connects to the positive side of the power supply.

4. If you are not sure of other field device configuration, use separate transformers. It is highly suggested that the 24 VAC neutral of all transformers be earthed at the transformer. Analog input, digital input, and analog output circuits should not be earth grounded at two points. Any field device connected to this transformer must use the same common. If you are not sure of other field device configuration, use separate transformers.

5. You should measure the actual voltage output of the secondary. If the output is not fully loaded you may read a higher voltage than the circuit board can handle. The ARM does NOT isolate the input signals from the output. Use the Analog Isolation Module (AIM1, AIM2, or AIM3) if you need to isolate the signal from the device being controlled.

Jumper Settings

Shunt as shown selects desired Output Offset

J2   0 – +
No Offset–No output signal span shift

J2   0 – +
Positive Offset shifts output signal span higher

J2   0 – +
Negative Offset shifts output signal span lower

Sample Settings for Input & Output Signal

Current IN/OUT   Voltage IN/OUT

J3   OUT / IN   I E   OUT / IN   I E

Shunt as shown selects Desired Output Action

J1   R N   R N

Direct Acting
Output increases as Input increases

Reverse Acting
Output decreases as Input increases

Wiring

PWR L1

(Label Space)

J1 | R | N

OFFSET
J2   0 – +

J3   OUT / IN   I E

FINE GAIN OSET REV ATTN

+ 24 - P IN OUT

(+)   (+)   Analog Output Signal

(–)   (–)   Analog Input Signal

(+)

20 VDC Regulated Accessory Power Output used for resistance to analog conversions

(+)