

Technical Data IRM-100

Power supply	24 VAC ± 15% 24 VDC ± 15%
Power consumption	< 1 W
Transformer sizing	1 VA

Input

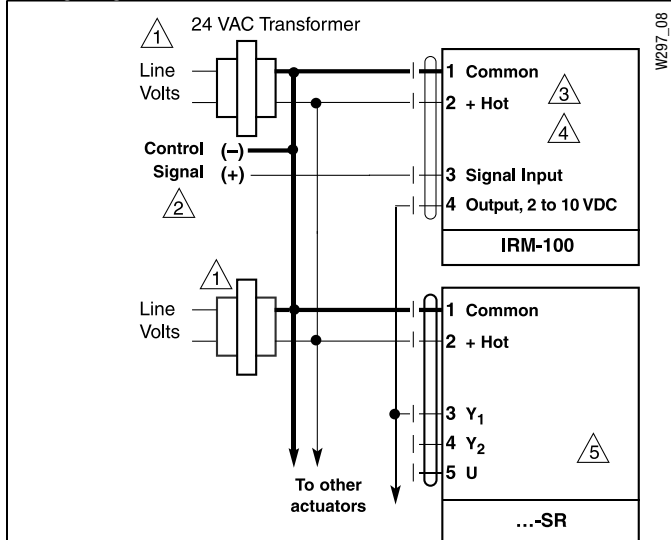
Voltage (max)	25 VDC
Zero (starting point)	0 to 18 VDC
Span adjustment	2.6 to 17 VDC
Impedance	400 kΩ
Current	0 to 20 mA
Impedance	500 Ω

Output

Voltage	2 to 10 VDC
Current	15 mA max

Electrical connection	wire terminals, 14 gauge max
Ambient temperature	-20° F to 150° F [-30° C to 65° C]
Humidity	5 to 95% RH non-condensing
Mounting	Snap-Track (provided)
Dimensions	board 1-3/16" x 2-3/16" x 9/16" with Snap-Track 1-7/8" x 2-3/8" x 15/16"
Weight	0.9 oz.

Wiring Diagram



- ① Provide overload protection and disconnect as required.
- ② The controller should be powered from a separate transformer.
- ③ The actuator and IRM-100 may be powered from the same transformer.
- ④ Consult controller instruction data for more detailed installation information.
- ⑤ To reverse control rotation, use the reversing switch.

Application

The IRM-100 input rescaling module is designed to change non-standard voltage or current signal levels into a 2 to 10 VDC output to modulate Belimo -SR type actuators. The IRM-100 is available for replacement of existing installations. The ...MFT product can replace 100% of the IRM-100 applications, more effectively.

Operation

The IRM-100 is installed between a controller and a Belimo ...-SR actuator. The module can be adjusted to work with a zero offset of 0 to 18 VDC and a span range of 2.6 to 17 VDC. The IRM-100 has a 2 pin jumper mounted to the circuit board. When the jumper is connected between these 2 pins, a 4 to 20 mA signal can be fed directly into the IRM. The result being the conversion of a wide range of analog control signals to a 2 to 10 VDC range.

Jumper not connected to both pins for voltage applications (as shipped)

Jumper on both pins for 4 to 20 mA applications

The IRM may also be used to sequence several actuators from one signal source. This is done by adjusting the IRM units to work at different in put ranges.

IRM-100 Used as a Current Amplifier

In some applications, the capacity of a controller output may not have current available to control multiple end devices. An example would be a controller which has an output current of .5 mA maximum. If 10 AF24-SR US actuators have to be driven from the same output, the current requirement would be $I = E/R = (10 \text{ volts})/(100000 \Omega) = .1 \text{ mA}$ for each actuator. For the 10 actuators, 1 mA of current would be necessary to properly control the actuators.

The IRM-100 may be used as an interface to provide a higher current capacity to the system. The IRM-100 has an output capacity of 15 mA. This higher level output can handle a greater number of actuators. By calibrating the IRM-100 for a 2 to 10 VDC input to achieve a 2 to 10 VDC output, IRM-100 provides this added capacity for the system.

The same circuit will also work if a 4 to 20 mA signal is used. A 500 Ω resistor is placed across terminal #1 and #3 which converts the 4 to 20 mA to 2 to 10 VDC.

