

# TFRB24-SR

Modulating, Spring Return, 24 VAC for 2 to 10 VDC or 4...20 mA Control Signal



### Technical Data

Power Supply	24 VAC, ±20%, 50/60 Hz, 24 VDC, ±10%
Power consumption in operation	2 W
Power consumption in rest position	1 W
Transformer sizing	4 VA (class 2 power source)
Electrical Connection	18 GA plenum cable, 3 ft [1 m], with 1/2" conduit connector
Overload Protection	electronic throughout 0° to 95° rotation
Operating Range	DC 2...10 V, 4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)
Input Impedance	100 kΩ for DC 2...10 V (0.1 mA), 500 Ω for 4...20 mA
Position Feedback	DC 2...10 V, Max. 0.5 mA
Angle of rotation	Max. 95°, 90°
Direction of rotation motor	reversible with built-in switch
Direction of motion fail-safe	reversible with CW/CCW mounting
Position indication	Mechanical
Running Time (Motor)	95 s
Running time fail-safe	<25 s
Ambient humidity	max. 95% r.H., non-condensing
Ambient temperature	-22...122°F [-30...50°C]
Storage temperature	-40...176°F [-40...80°C]
Degree of Protection	IP54, NEMA 2, UL Enclosure Type 2
Housing material	UL94-5VA
Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC
Noise level, motor	35 dB(A)
Noise level, fail-safe	62 dB(A)
Maintenance	maintenance-free
Quality Standard	ISO 9001
Weight	1.6 lb [0.80 kg]

†Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3

### Safety Notes

⚠ WARNING: For Belimo Products sold in California, these Products do or may contain chemicals which are known to the State of California to cause cancer and or birth defects or other reproductive harms. For more information see [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

**Wiring Diagrams**
**INSTALLATION NOTES**

- Provide overload protection and disconnect as required.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by 24 VDC.
- Only connect common to negative (-) leg of control circuits.
- A 500 Ω resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Actuators with plenum cable do not have numbers; use color codes instead.
- Meets cULus requirements without the need of an electrical ground connection.

**WARNING! LIVE ELECTRICAL COMPONENTS!**  
 During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

