

# AFRB24-SR Technical Data Sheet

## Modulating, Spring Return, AC 24 V for DC 2...10 V or 4...20 mA Control Signal



Technical Data	
Power Supply	24 VAC, ±20%, 50/60 Hz, 24 VDC, ±10%
Power consumption in operation	5.5 W
Power consumption in rest position	3 W
Transformer sizing	8.5 VA (class 2 power source)
Electrical Connection	18 GA appliance cable, 3 ft [1 m], with 1/2" conduit connector
Overload Protection	electronic throughout 0...95° rotation
Operating Range	2...10 V, 4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)
Input Impedance	100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA
Position Feedback	2...10 V, Max. 0.5 mA
Angle of rotation	90°
Torque motor	180 in-lb [20 Nm]
Direction of motion motor	selectable with switch
Direction of motion fail-safe	reversible with cw/ccw mounting
Position indication	Mechanical
Manual override	5 mm hex crank (3/16" Allen), supplied
Running Time (Motor)	95 s
Running time fail-safe	<20 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
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	45 dB(A)
Noise level, fail-safe	62 dB(A)
Servicing	maintenance-free
Quality Standard	ISO 9001
Weight	5.4 lb [2.4 kg]

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

Date created, 12/04/2019 - Subject to change. © Belimo Aircontrols (USA), Inc.

**Wiring Diagrams**

**✂️ INSTALLATION NOTES**

- A Actuators with appliance cables are numbered.
- 1 Provide overload protection and disconnect as required.
- 3 Actuators may also be powered by 24 VDC.
- 5 Only connect common to negative (-) leg of control circuits.
- 7 A 500 Ω resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.
- 11 Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
- 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.

