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.

Control Signal

- (+) 2 to 10 VDC
- (–)

Line Volts

- 1 Common
- 2 + Hot
- 3 Y1 Input, 2 to 10 V
- 5 U Output 2 to 10 V

Wiring Diagrams

**APPLICATION NOTES**

- The ZG-R01 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC.

**WARNING Live Electrical Components!**

- During installation, testing, servicing and troubleshooting, it is necessary to work with live electrical components. Have a qualified licensed electrician or trained individual perform these tasks. Failure to follow all electrical safety precautions could result in death or serious injury.

Technical Data AFRB24-SR, AFRB24-SR-S, AFRX24-SR, AFRX24-SR-S

| Power supply | 24 VAC ±20%, 50/60 Hz
| Power consumption | running 5.5 W, holding 3 W
| Transformer sizing | 8.5 VA (class 2 power source)
| Electrical connection AFRB... | 3 ft, 18 GA appliance cable, 1/2" conduit connector
| - S models: two 3 ft, 18 gauge appliance cables with 1/2" conduit connectors
| AFRX... | 3 ft [1m], 10 ft [3m] or 16 ft [5m] 18 GA appliance or plenum cables, with or without 1/2" conduit connector
| - S models: Two 3 ft [1m], 10 ft [3m] or 16 ft [5m] appliance cables, with or without 1/2" conduit connectors
| Overload protection | electronic throughout 0 to 90° rotation
| Operating range Y | 2 to 10 VDC, 4 to 20mA
| Input impedance | 100 kΩ for 2 to 10 VDC (0.1 mA)
| 500 Ω for 4 to 20 mA
| Feedback output U | 2 to 10 VDC (max. 0.5 mA)
| Direction of rotation | spring reversible with CW/CCW mounting
| - motor reversible with built-in switch
| Mechanical angle of rotation | 90° (adjustable with mechanical end stop, 35° to 90°)
| Running time | spring < 20 seconds @ -4°F to 122°F [-20°C to 50°C]; 60 seconds @ 4°F to 8°F [-20°C to 30°C]
| Position indication | visual indicator, 0° to 90° (0° is full spring return position)
| Manual override | 5 mm hex crank (¾" Allen), supplied
| Humidity | max. 95% RH non-condensing
| Ambient temperature | -22°F to 122°F [-30°C to 50°C]
| Storage temperature | -40°F to 176°F [-40°C to 80°C]
| Housing | Nema 2, IP54, Enclosure Type2
| Housing material | zinc coated metal and plastic casing
| Agency listings† | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC & 2006/95/EC
| Noise level | <40dB(A) motor @ 90 seconds
<82dB(A) spring return
| Quality standard | ISO 9001

† Rated Impulse Voltage 800V, Type of action 1 AA (1AA.B for -S version), Control Pollution Degree 3.

AFRB24-SR-S, AFRX24-SR-S

Auxiliary switches 2 x SPDT 3A (0.5A) @ 250 VAC, UL approved one set at +10°, one adjustable 10° to 90°

**INSTALLATION NOTES**

- Provide overload protection and disconnect as required.
- Actuator may also be powered by 24 VDC.
- For end position indication, interlock control, fan startup, etc., AFRB24-SR-S and AFRX24-SR-S incorporates two built-in auxiliary switches: 2 x SPDT, 3A (0.5A) @ 250 VAC, UL Approved, one switch is fixed at +10°, one is adjustable 10° to 90°.
- Only connect common to neg. (–) leg of control circuits

**Wiring Diagrams**

2 to 10 VDC control of AFRB24-SR and AFRX24-SR

4 to 20 mA control of AFRB24-SR and AFRX24-SR with 2 to 10 VDC feedback output

Auxiliary switches for AFRB24-SR-S, AFRX24-SR-S
AFRB24-SR, AFRB24-SR-S, AFRX24-SR, AFRX24-SR-S
Proportional, Spring Return, 24 V, for 2 to 10 VDC to 4 to 20 mA Control Signal