AFX24-MFT-S-X1

Modulating, Spring Return, 24 V, Multi-Function Technology®

Technical Data	
Power Supply	24 VAC, ±20%, 50/60 Hz, 24 VDC, -10% / +20%
Power consumption in operation	7.5 W
Power consumption in rest position	3 W
Transformer sizing	10 VA (class 2 power source)
Electrical Connection	(2) 3ft [1m], 10ft [3m] or 16ft [5m] 18 GA appliance cables with or without 1/2" conduit connectors
Overload Protection	electronic throughout 0° to 95° rotation
Operating Range	DC 2...10 V (default), 4 to 20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor), variable (VDC, PWM, floating point, on/off)
Operating range Y variable	starting point DC 0.5...30 V end point DC 2.5...32 V
Position Feedback	DC 2...10 V, Max. 0.5 mA, VDC variable
Angle of rotation	95°, adjustable with mechanical end stop, 35° to 95°
Torque motor	180 in-lbs [20 Nm]
direction of rotation motor	reversible with built-in switch
direction of rotation spring-return	reversible with CW/CCW mounting
Position indication	visual indicator, 0° to 95° (0° is full spring return position)
Manual override	5 mm hex crank (3/16" Allen), supplied
Running time motor	default 150 sec, variable 70...220 sec
Running time emergency control position	<20 sec
override control	min. position = 0% , mid. Position = 50% , max. position = 100% (Default)
Ambient humidity	5 to 95% RH non condensing (EN 60730-1)
Ambient temperature	-22...122 °F [-30...50 °C]
Non-operating temperature	-40...176 °F [-40...80 °C]
Degree of Protection	IP54, NEMA 2, UL Enclosure Type 2
Housing material	zinc coated metal and plastic casing
Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC
Noise level, motor	<40 dB (A)
Noise Level (Fail-Safe)	<62 dB (A)
Maintenance	maintenance free
Quality Standard	ISO 9001
Weight	4.6 lb [2.1 kg]
Auxiliary switch	2 x SPDT, 3A resistive (0.5A inductive) @ 250 VAC, one set at 10°, one adjustable 10° to 90°

*Variable when configured with MFT options.
†Rated Impulse Voltage 800V, Type of Action 1.AA.B, Control Pollution Degree 3.

Wiring Diagrams

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.

♦ Meets cULus requirements without the need of an electrical ground connection.

A Actuators with appliance cables are numbered.

Apply only AC line voltage or only UL-Class 2 voltage to the terminals of auxiliary switches. Mixed or combined operation of line voltage/safety extra low voltage is not allowed.

1 Provide overload protection and disconnect as required.

3 Actuators may also be powered by 24 VDC.

4 Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.

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.

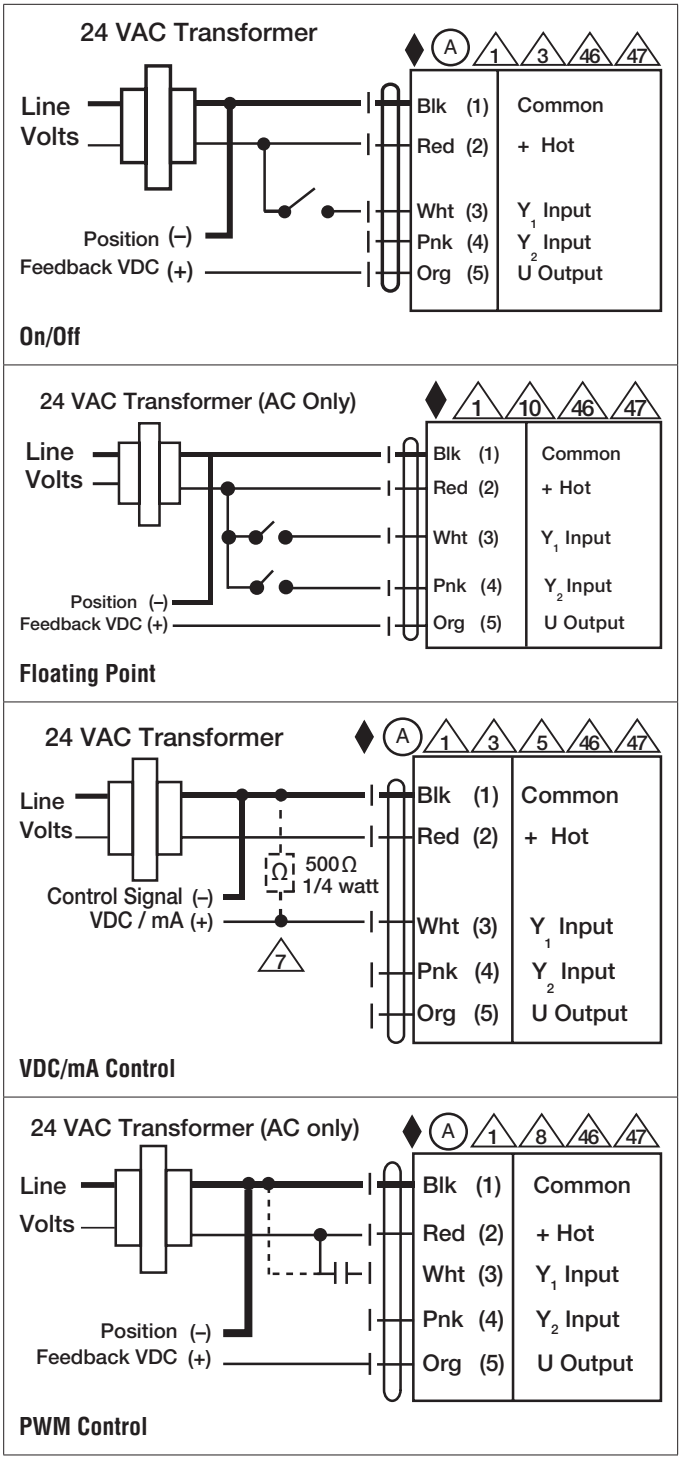
8 Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.

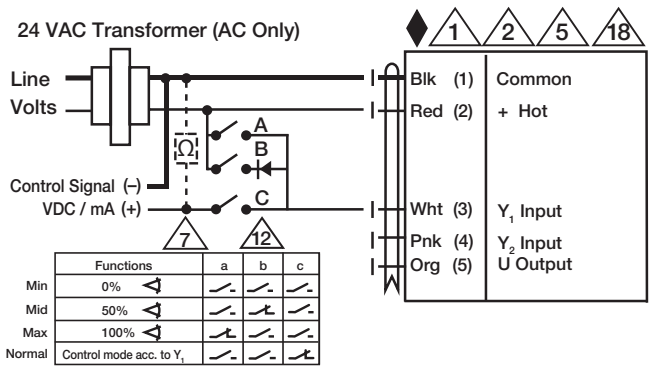
10 For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller; the actuator internal common reference is not compatible.

12 IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).

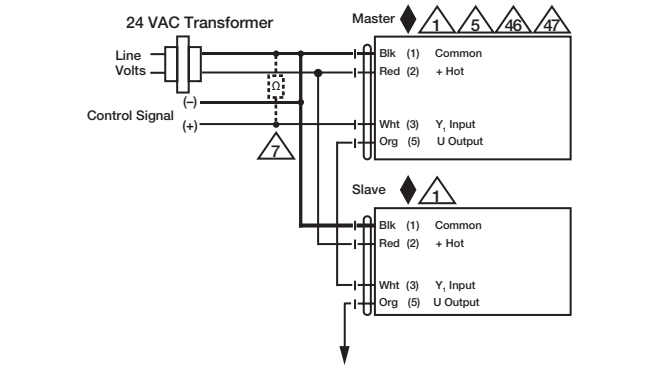
46 Actuators may be controlled in parallel. Current draw and input impedance must be observed.

47 Master-Slave wiring required for piggy-back applications. Feedback from Master to control input(s) of Slave(s).

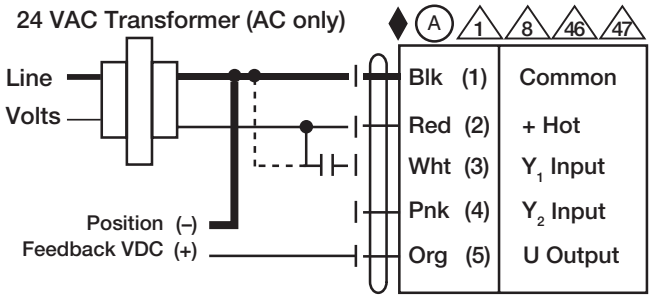




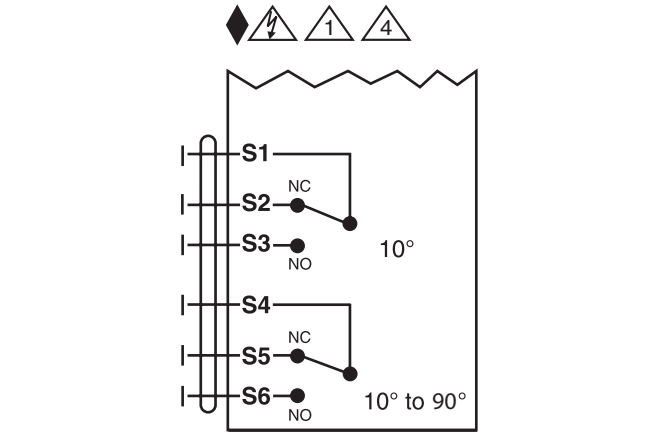
Override Control



Master - Slave



PWM Control



Auxiliary Switches