

PKBUP-MFT-T

Modulating, Electronic Fail-Safe, 24-240 V, NEMA 4X with BACnet



Technical Data	
Power Supply	24...240 VAC, -20% / +10%, 50/60 Hz, 24...125 VDC, -20% / +10%
Power Consumption Running	52 W @ 24 V, 40 W @ 120 V, 40 W @ 230 V
Power Consumption Holding	7 W @ 24 V, 8 W @ 120 V, 9 W @ 230 V
Transformer Sizing	55 VA @ 24 VAC/DC (class 2 power source), 43 VA @ 120 VAC/DC, 68 VA @ 230 VAC
Electrical Connection	terminal blocks
Overload Protection	electronic throughout 0° to 95° rotation
Operating Range Y	2 to 10 VDC, 4 to 20 mA variable (VDC, floating point, on/off)
Input Impedance	100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA, 1500 Ω for On/Off
Feedback Output U	2 to 10 VDC, 0.5 mA max, VDC variable
Angle of Rotation	95°
Nominal Torque	Min. 1400 in-lbs [160 Nm]
Direction of Rotation (Motor)	reversible with app
Direction of Rotation (Fail-Safe)	reversible with app
Fail-Safe Position	adjustable with dial or tool 0 to 100% in 10% increments
Position Indication	integral pointer
Manual Override	7 mm hex crank, supplied
Running Time (Motor)	default 35 sec (default), variable (30 to 120 sec), variable 30...120 sec
Running Time (Fail-Safe)	<30 sec
Bridge Time	programmable 0 to 10 sec (2 sec default) delay before fail-safe activates
Pre-charging Time	5 to 20 seconds
Ambient Humidity	5 to 100% RH (UL Type 4)
Ambient Temperature Range	-22°F to 122°F [-30°C to 50°C]
Housing	NEMA 4X, IP66/67, UL Enclosure Type 4
Housing Material	aluminum die cast polycarbonate cover
Agency Listings†	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)	68 dB (A)
Noise Level (Fail-Safe)	<62 dB (A)
Servicing	maintenance free
Quality Standard	ISO 9001
Weight	14.1 lbs [6.4kg]
Auxiliary switch	2 x SPDT, 3A resistive (0.5A inductive) @ 250 VAC, one set at 12.5°, one adjustable 2.5° - 92.5°
Communication	BACnet MS/TP
Passive Sensor Inputs	2 (PT1000) (NI1000) (NTC)
Degree of Protection IEC/EN	IP66/67

Application

PKB Series damper actuators are designed to accommodate a mounting bracket and coupler or linkage for remote linkage connection. A visual position indicator shows the actuators position through-out its stroke. For outdoor applications, the installed actuator must be mounted with the actuator at or above horizontal. For indoor applications the actuator can be in any position including upside down.

Default/Configuration

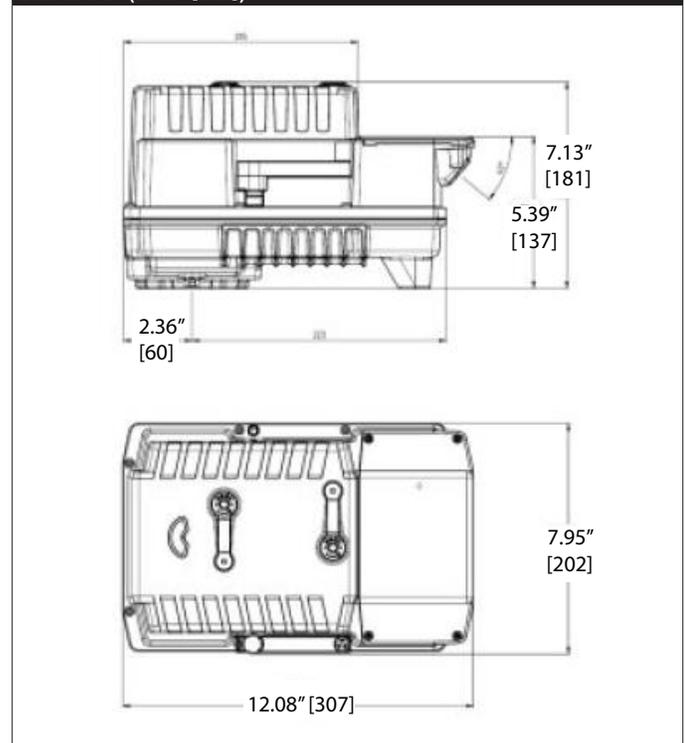
Default parameters for 2 to 10 VDC applications of the PKBUP-MFT actuator are assigned during manufacturing. These parameters can be edited in the field via NFC and the Belimo Assistant APP.

Operation

The PKB series provides 95° of rotation and a visual indicator shows the position of the damper actuator. The PKB series actuator uses a low power consumption brushless DC motor and is electronically protected against overload. A universal power supply is furnished to connect supply voltage in the range of 24-240 VAC and 24-125 VDC. Included is a smart heater with thermostat to eliminate condensation. Two auxiliary switches are provided; one set at 12.5° open and the other is field adjustable. Running time is field adjustable from 30-120 seconds by using the Near Field Communication (NFC) app and a smart phone.

†Use 60°C/75°C copper wire size range 12-28 AWG, stranded or solid. Use flexible metal conduit. Push the listed conduit fitting device over the actuator's cable to butt against the enclosure. Screw in conduit connector. Jacket the actuators input wiring with listed flexible conduit. Properly terminate the conduit in a suitable junction box. Rated impulse Voltage 4000V. Type of action 1. Control pollution degree 3.

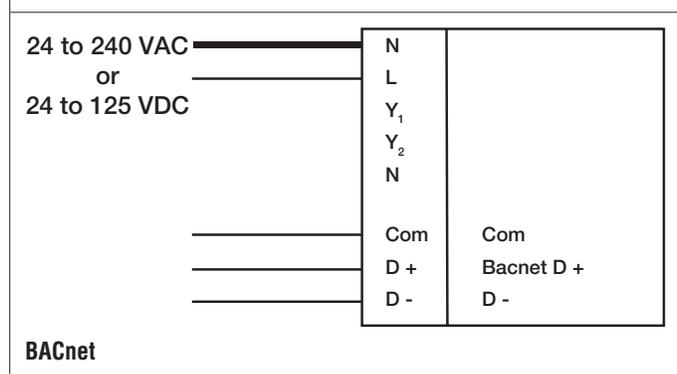
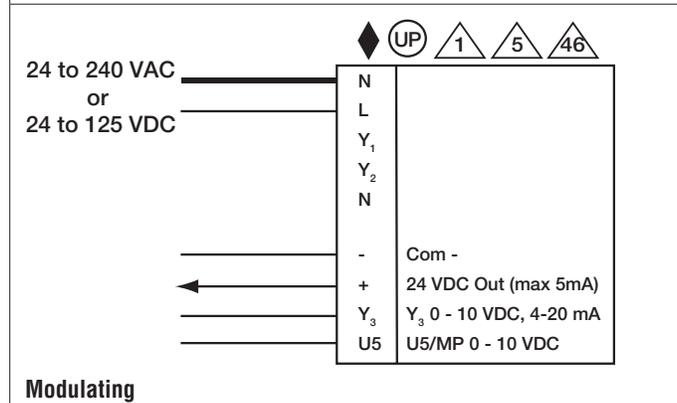
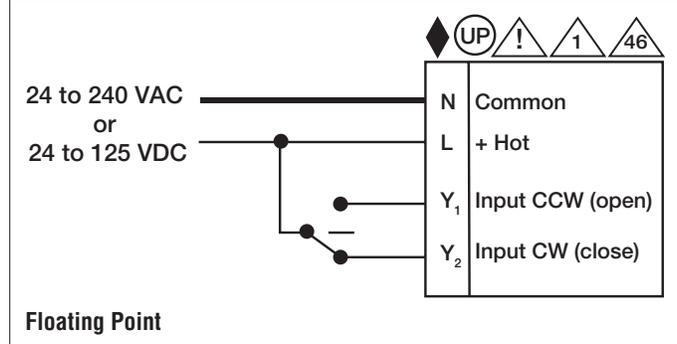
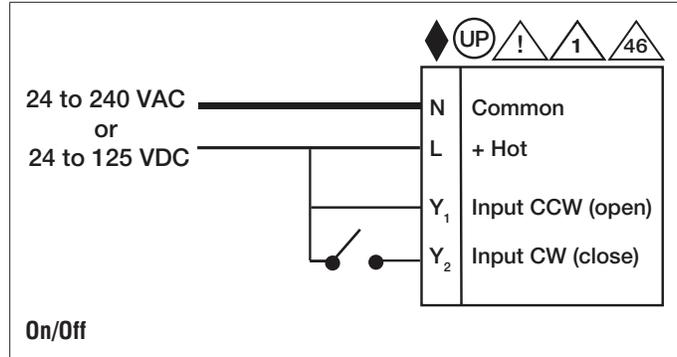
Dimensions (Inches[mm])



Wiring Diagrams

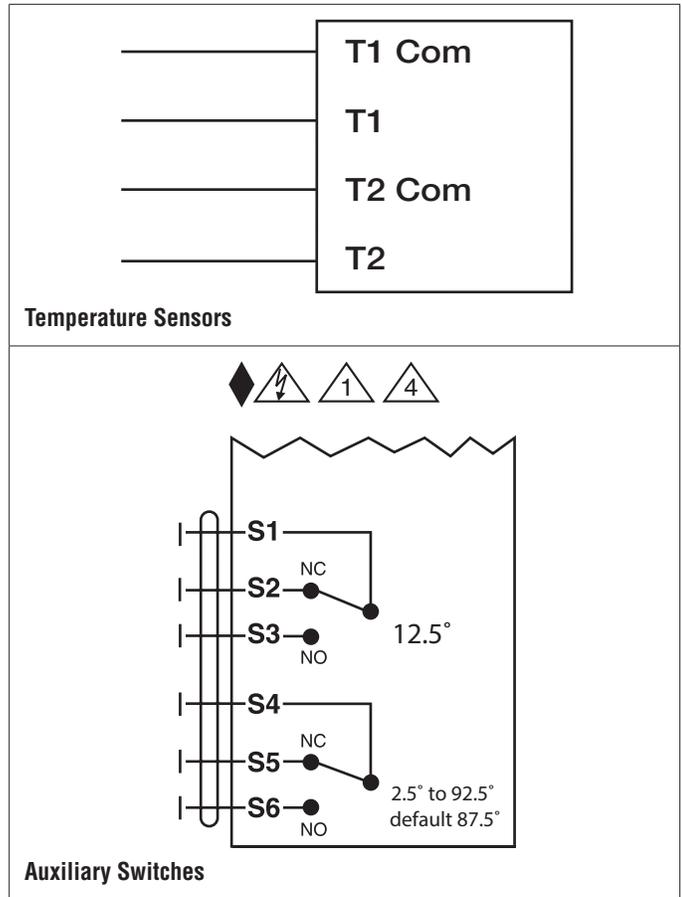
- ◆ Meets cULus requirements without the need of an electrical ground connection.
- Ⓢ Universal Power Supply (UP) models can be supplied with 24 VAC up to 240 VAC, or 24 VDC up to 240 VDC.
- ⚡ Disconnect power.
- 1 Provide overload protection and disconnect as required.
- 4 Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.
- 5 Only connect common to negative (-) leg of control circuits.
- 46 Actuators may be controlled in parallel. Current draw and input impedance must be observed.

! 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.



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Date created, 03/29/2018 - Subject to change. © Belimo Aircontrols (USA), Inc.