

PKBUP-MFT-T Technical Data Sheet

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 in operation	52 W
Power consumption in rest position	9 W
Transformer sizing	55 VA @ AC/DC 24 V (class 2 power source), 43 VA @ AC/DC 120 V, 68 VA @ AC 230 V
Electrical Connection	Terminal blocks, (PE) Ground-Screw
Overload Protection	electronic throughout 0...95° rotation
Operating Range	2...10 V (default), 4...20 mA, variable (VDC, on/off, floating point)
Operating range Y variable	Start point 0.5...30 V End point 2.5...32 V
Input Impedance	100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA, 1500 Ω for On/Off
Position Feedback	2...10 V, Max. 0.5 mA, VDC variable
Angle of rotation	95°
Torque motor	1400 in-lb [160 Nm]
Direction of motion motor	reversible with app
Direction of motion fail-safe	reversible with app
Setting fail-safe position	adjustable with Belimo Assistant App 0...100% (default 0%)
Position indication	integral pointer
Manual override	7 mm hex crank, supplied
Running Time (Motor)	default 35 s, variable 30...120 s
Running time fail-safe	<30 s
Bridging time	programmable 0...10 s (2 s default) delay before fail-safe activates
Pre-charging time	5...20 s
Ambient humidity	max. 95% r.H., non-condensing
Ambient temperature	-22...122°F [-30...50°C]
Degree of Protection	IP66/67, NEMA 4X, UL Enclosure Type 4X
Housing material	die cast aluminium polycarbonate cover
Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35/EU
Noise level, motor	68 dB(A)
Noise level, fail-safe	62 dB(A)
Servicing	maintenance-free
Quality Standard	ISO 9001
Weight	14 lb [6.5 kg]
Auxiliary switch	2 x SPDT, 3 A resistive (0.5 A inductive) @ AC 250 V, one set at 12.5°, one adjustable 2.5° - 92.5°
Communication	BACnet MS/TP
Passive Sensor Inputs	2x (Pt1000, Ni1000, NTC10k2)

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 DC 2...10 V 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.

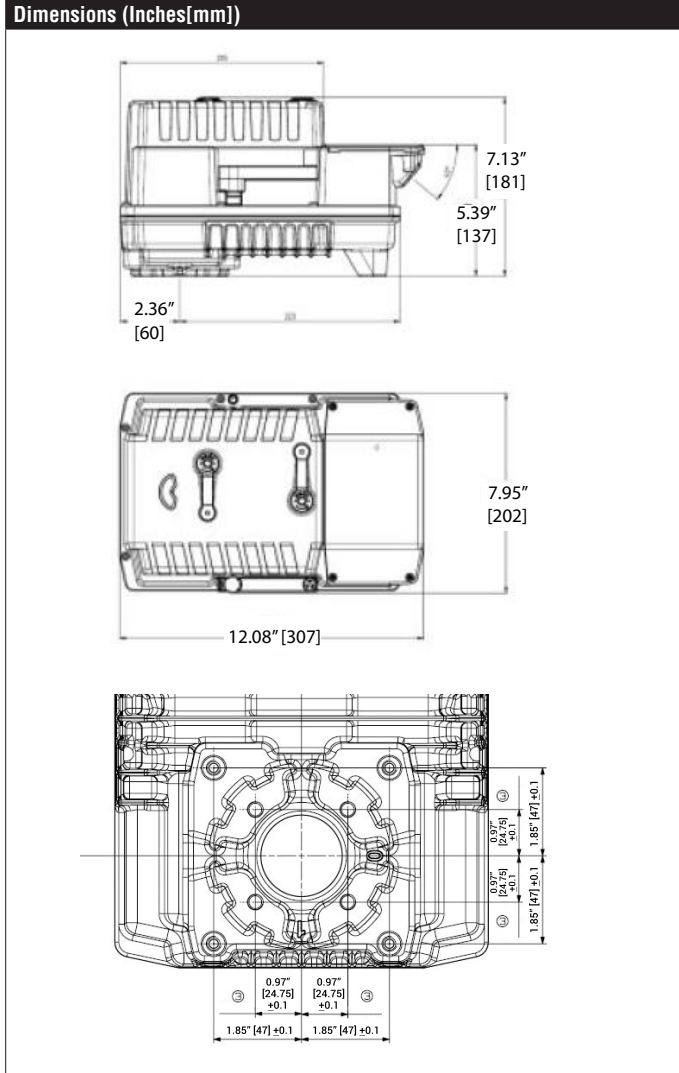
Operation

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 AC 24...240 V and DC 24...125 V. 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 4000 V. Type of action 1. Control pollution degree 3.

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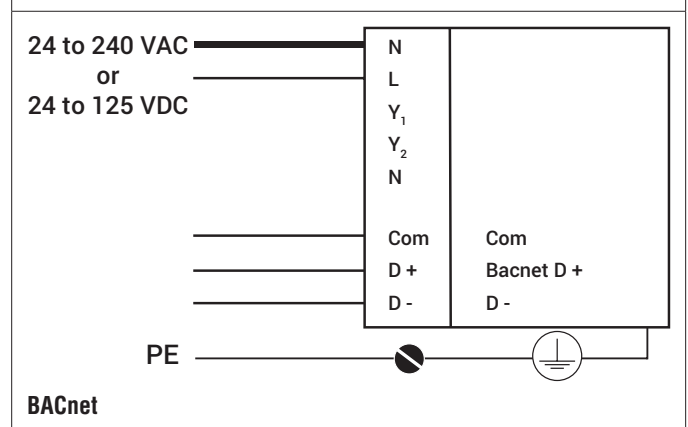
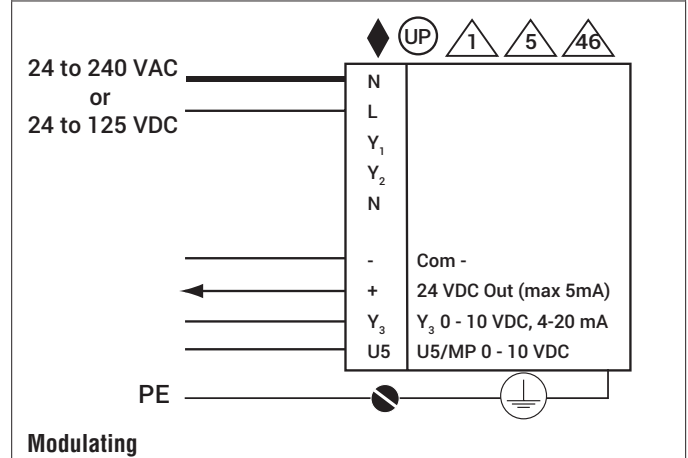
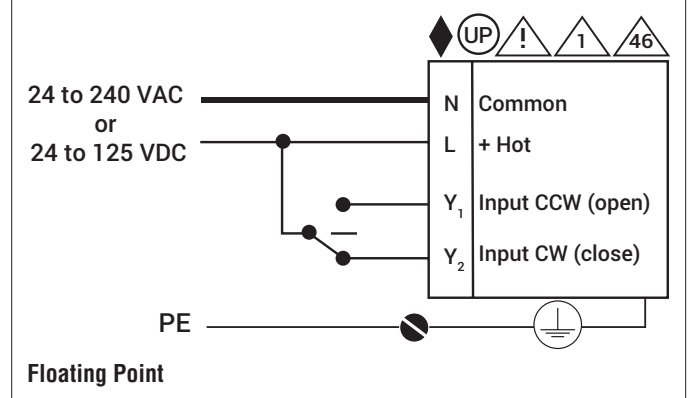
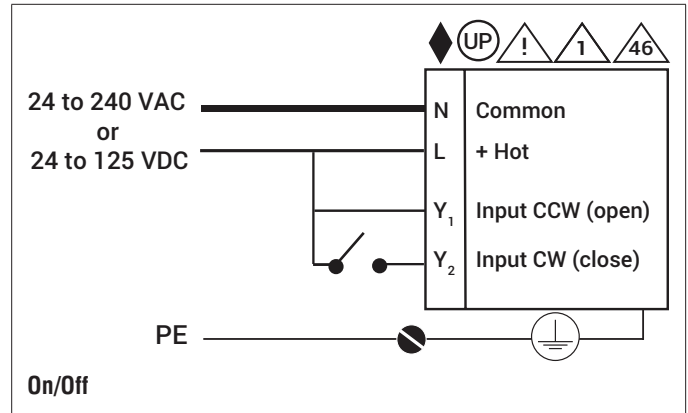
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Wiring Diagrams

- 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.
- Provide overload protection and disconnect as required.
- Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.
- Only connect common to negative (-) leg of control circuits.
- 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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