

Modulating, Electrical Fail-Safe, 24...240 V, NEMA 4X with BACnet **Technical data sheet**

PKRBUP-MFT-T-250





Technical data

Electrical data	Nominal voltage	AC 24240 V / DC 24125 V
	Nominal voltage frequency	50/60 Hz
	Power consumption in operation	52 W
	Power consumption in rest position	9 W
	Power consumption for wire sizing	68 VA
	Transformer sizing	55 VA @ AC/DC 24 V (class 2 power source), 43 VA @ AC/DC 120 V, 68 VA @ AC 230 V
	Auxiliary switch	2 x SPDT, 3 A resistive (0.5 A inductive) @ AC 250 V, 1 x 10° / 1 x 090° (default setting 85°)
	Switching capacity auxiliary switch	3 A resistive (0.5 A inductive) @ AC 250 V
	Electrical Connection	Terminal blocks, (PE) Ground-Screw
	Overload Protection	electronic thoughout 090° rotation
Functional data	Communicative control	BACnet MS/TP Modbus RTU MP-Bus
	Operating range Y	210 V
	Operating range Y note	420 mA
	Input Impedance	100 kΩ for 210 V (0.1 mA), 500 Ω for 420 mA, 1500 Ω for On/Off
	Operating range Y variable	Start point 0.530 V End point 2.532 V
	Options positioning signal	variable (VDC, on/off, floating point)
	Position feedback U	210 V
	Position feedback U note	Max. 0.5 mA
	Position feedback U variable	VDC variable
	Setting Fail-Safe Position	0100%, adjustable with Belimo Assistant App (default setting 0%)
	Bridging time (PF)	2 s
	Bridging time (PF) variable	010 s
	Pre-charging time	520 s
	Direction of motion motor	reversible with app
	Manual override	7 mm hex crank, supplied
	Angle of rotation	90°
	Running Time (Motor)	35 s / 90°
	Running time motor variable	30120 s
	Running time fail-safe	<30 s
	Noise level, motor	68 dB(A)
	Noise level, fail-safe	62 dB(A)
	Position indication	top mounted domed indicator
	Passive sensor inputs	2x (Pt1000, Ni1000, NTC10k2)



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Safety data	Degree of protection IEC/EN	IP66/67
	Degree of protection NEMA/UL	NEMA 4X
	Enclosure	UL Enclosure Type 4X
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA
		E60730-1:02, CE acc. to 2014/30/EU and
		2014/35/EU
	Quality Standard	ISO 9001
	Ambient temperature	-22122°F [-3050°C]
	Ambient humidity	Max. 100% RH
	Servicing	maintenance-free
Materials	Housing material	Die cast aluminium and plastic casing

Product features

Default/Configuration	Default parameters for DC 210 V applications of the PKRMFT actuator are assigned during manufacturing. If required, different parameters of the actuator can be ordered. These parameters are variable and can be modified by factory pre-set, the handheld ZTH US or using the Belimo App on a smart phone with Near Field Communications (NFC) programming.
Application	PR Series valve actuators are designed with an integrated linkage and visual position indicators. For outdoor applications, the installed valve must be mounted with the actuator at or above horizontal. For indoor applications the actuator can be in any location including directly under the valve.
Operation	The PR series actuator provides 90° of rotation and a visual indicator shows the position of the valve. The PR 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 24240 V and DC 24125 V. Included is a smart heater with thermostat to eliminate condensation. Two auxiliary switches are provided; one set at 10° open and the other is field adjustable. Running time is field adjustable from 30120 seconds by using the Near Field Communication (NFC) app and a smart phone.
	[†] Use 60°C/75°C copper wire size range 1228 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.
Bridging time	Electrical interruptions can be bridged up to a maximum of 10 s.
	In the event of a power failure, the actuator will remain stationary in accordance with the set bridging time. If the power failure is greater than the set bridging time, then the actuator will move into the selected fail-safe position.
	The bridging time set ex-works is 2 s. This can be modified on site in operation with the use of the Belimo service tool MFT-P.
	Settings: The rotary knob must not be set to the "PROG FAIL-SAFE" position!
	For retroactive adjustments of the bridging time with the Belimo service tool MFT-P or with the ZTH EU adjustment and diagnostic device only the values need to be entered.
Factory settings	Default parameters for DC 210 V applications of the PKRMFT actuator are assigned during manufacturing. If required, different parameters of the actuator can be ordered. These parameters are variable and can be modified by factory pre-set, the handheld ZTH US or using the Belimo App on a smart phone with Near Field Communications (NFC) programming.

Accessories

Electrical accessories	Description	Туре
	Service Tool, with ZIP-USB function, for programmable and	ZTH US
	communicative Belimo actuators, VAV controller and HVAC performance	
	devices	



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Mechanical accessories

Hand crank for PR, PKR, PM

Description

Туре

ZG-HND PR

Electrical installation

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

(UP) Universal Power Supply (UP) models can be supplied with 24 V up to 240 V.

Disconnect power.

 \bigwedge Provide overload protection and disconnect as required.

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

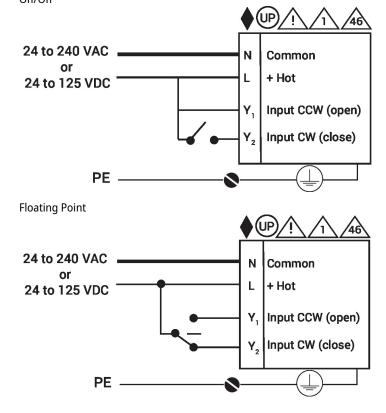
\Lambda Only connect common to negative (-) leg of control circuits.

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

Warning! Live electrical components!

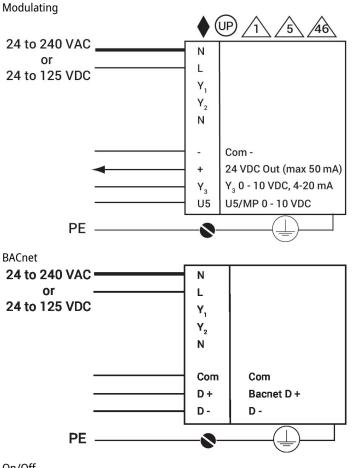
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.







Technical data sheet



On/Off

