Technical data sheet EXT-LD14106BE1AX

Potable water valve, 2-way, Flange for use with ASME/ANSI class 125/150

- **For potable water applications**
- **NSF/ANSI 372 – Lead Free**
- **NSF/ANSI 61 – CLD 23 – Water Quality**
- **CRN: OC/2102CL**
- **MSS SP67-2002a**

Picture may differ from product

2-year warranty

Type overview

DN	Cv	Body Pressure Rating
6" [150]	1579	ANSI Class Consistent with 125, 200 psi CWP

Technical data

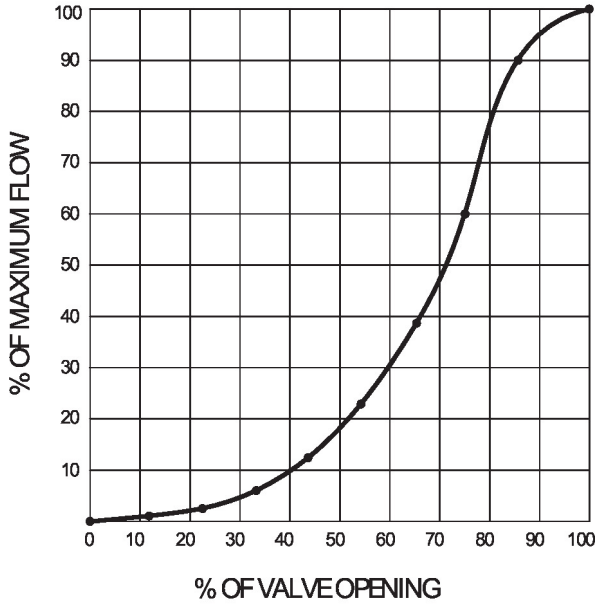
Functional data	Valve size [mm]	6" [150]
	Fluid	Potable Water
	Fluid Temp Range (water)	-22...250°F [-30...120°C]
	Close-off pressure	Δps 150 psi
	Flow characteristic	modified equal percentage
	Leakage rate	0%
	Pipe connection	Flange for use with ASME/ANSI class 125/150
	Installation orientation	upright to horizontal (in relation to the spindle)
	Servicing	maintenance-free
	Rangeability Sv	30:1 (for 30...70° range)
	Flow Pattern	2-way
	Controllable flow range	90° rotation
	Maximum Velocity	12 FPS
	Lug threads	3/4-10 UNC
Materials	Valve body	Ductile cast iron ASTM A536
	Body finish	Epoxy powder coating (black RAL 9005)
	Stem	416 stainless steel
	Stem seal	Buna-N
	Seat	EPDM
	Bearing	RPTFE
	Disc	Aluminum Bronze
Suitable actuators	Non Fail-Safe	DRB(X) DRCB(X) N4
	Electronic fail-safe	DKRB(X)

Safety notes

- The valve has to be exercised at least once a week, so that the quality of potable water as well as the functionality are not affected.

Product features

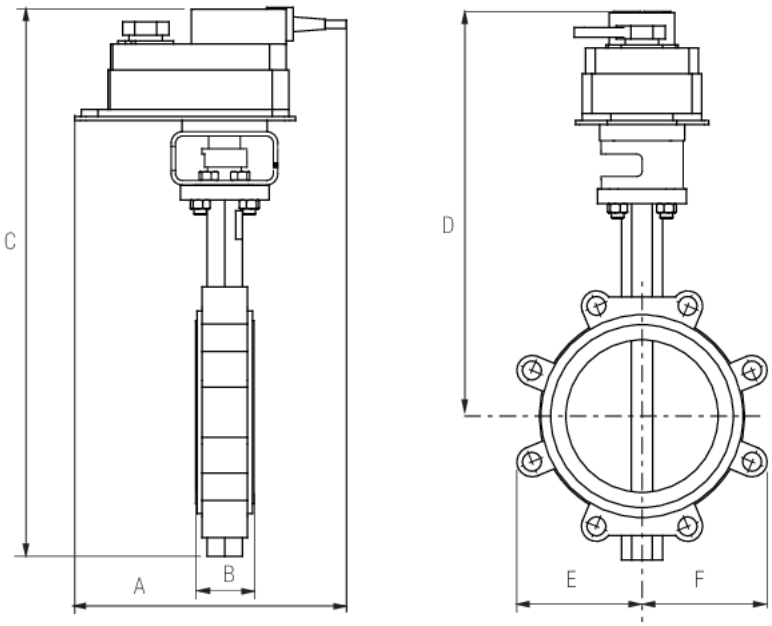
Flow/Mounting details



Operating mode The valve is adjusted by a rotary actuator. The rotary actuator is connected by an on/off signal. Open the ball valve counterclockwise and close it clockwise.

Dimensions

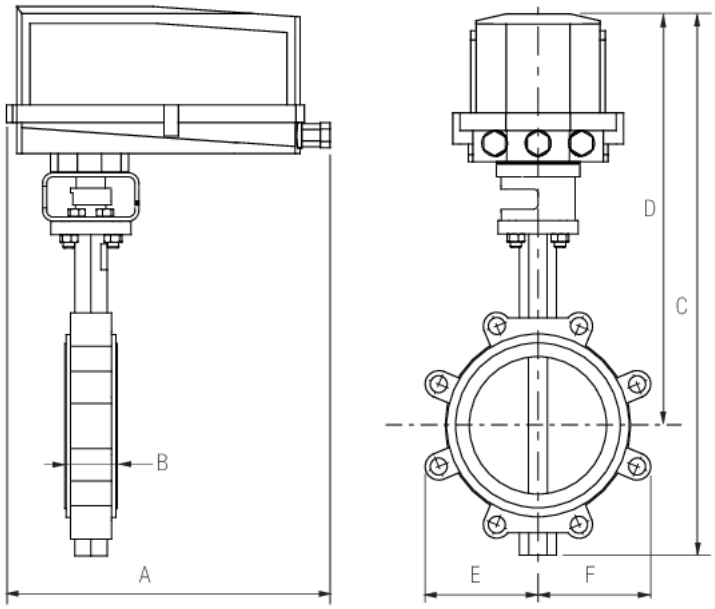
DN	Weight
6" [150]	22 lb [10 kg]



Valve with DR/DK Actuator

A	B	C	D	E	F	Number of Bolt Holes
11.3" [286]	2.3" [58]	22.1" [562]	18.0" [457]	5.4" [137]	5.4" [137]	8

Dimensions



Valve with DR N4/DK N4 Actuator

A	B	C	D	E	F	Number of Bolt Holes
14.1" [358]	2.3" [58]	25.1" [638]	20.1" [511]	5.4" [137]	5.4" [137]	8

MFT/programmable, Electronic fail-safe, 24...240 V

Picture may differ from product

5-year warranty

Technical data

Electrical data	Nominal voltage	AC 24...240 V / DC 24...125 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...264 V / DC 19.2...137.5 V
	Power consumption in operation	52 W
	Power consumption in rest position	9 W
	Transformer sizing	with 24 V 54 VA / with 240 V 68 VA
	Auxiliary switch	2x SPDT, 1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V (II, reinforced insulation), 1x 10° / 1x 0...90° (default setting 85°)
	Switching capacity auxiliary switch	1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V (II, reinforced insulation)
	Electrical Connection	Terminal blocks, (PE) Ground-Screw
	Overload Protection	electronic thoughout 0...90° rotation
Data bus communication	Communicative control	BACnet MS/TP Modbus RTU MP-Bus
Functional data	Operating range Y	2...10 V
	Operating range Y note	4...20 mA
	Input impedance	100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA, 1500 Ω for On/Off
	Operating range Y variable	Start point 0.5...30 V End point 2.5...32 V
	Operating modes optional	variable (VDC, on/off, floating point)
	Position feedback U	2...10 V
	Position feedback U note	Max. 0.5 mA
	Position feedback U variable	VDC variable
	Setting fail-safe position	0...100%, adjustable with Belimo Assistant App (default setting 0%)
	Bridging time (PF)	2 s
	Bridging time (PF) variable	0...10 s
	Pre-charging time	5...20 s
	Direction of motion motor	reversible with app
	Direction of motion fail-safe	reversible with app
	Manual override	7 mm hex crank, supplied
	Angle of rotation	90°
	Running Time (Motor)	35 s / 90°
	Running time motor variable	30...120 s

Technical data

Functional data	Running time fail-safe	<30 s
	Sound power level, motor	68 dB(A)
	Sound power level, fail-safe	62 dB(A)
	Position indication	top mounted domed indicator
Safety data	Power source UL	Class 2 Supply
	Degree of protection NEMA/UL	NEMA 4X
	Housing	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 humidity	Max. 100% RH
	Ambient temperature	-22...122°F [-30...50°C]
	Servicing	maintenance-free
Weight	Weight	15 lb [6.6 kg]
Materials	Housing material	Die cast aluminium and plastic casing

Product features

Default/Configuration

Default parameters for DC 2...10 V applications of the PKR..-MFT 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 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 10° 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.

Bridging time

Power failures 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, the actuator will move into the selected fail-safe position.

The bridging time set at the factory is 2 s. It can be modified on site in operation by means 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 2...10 V applications of the PKR..-MFT 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

Tools	Description	Type
	Connecting cable 10 ft [3 m], A: RJ11 6/4 LINK.10, B: 3-pin Weidmüller and supply connection	ZK4-GEN
	Service tool, with ZIP-USB function, for configurable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US

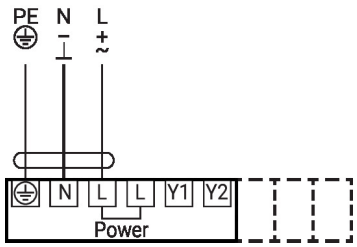
Electrical accessories	Description	Type
	Service tool, with ZIP-USB function, for configurable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US

Gateways	Description	Type
	Gateway MP to BACnet MS/TP	UK24BAC
	Gateway MP to Modbus RTU	UK24MOD
	Gateway MP to LonWorks	UK24LON

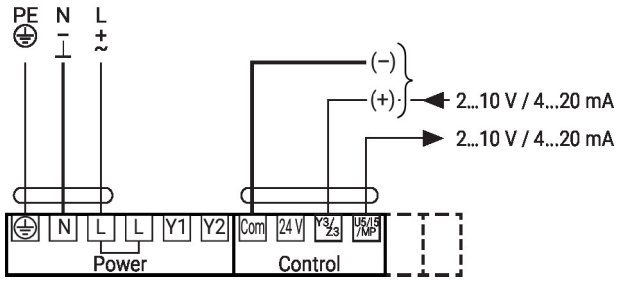
Mechanical accessories	Description	Type
	Hand crank for PR, PKR, PM	ZG-HND PR

Electrical installation

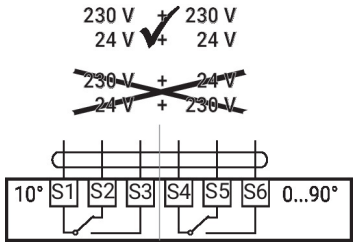
AC 24...240 V / DC 24...125 V



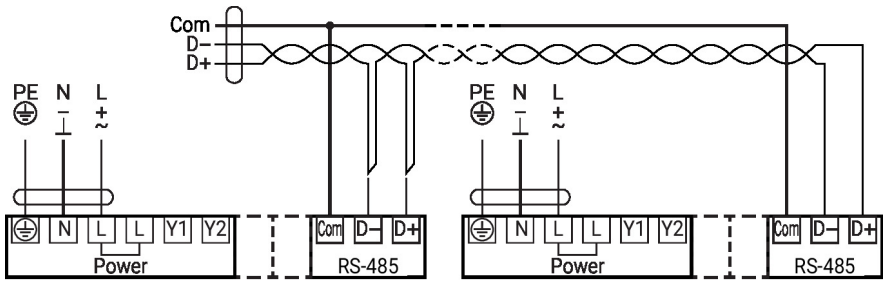
Modulating control



Auxiliary switch



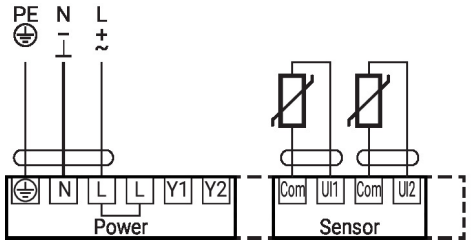
Connection BACnet MS/TP / Modbus RTU



Electrical installation

Converter for sensors

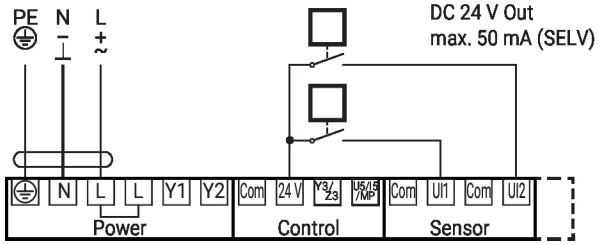
Connection of passive sensors (BACnet MS/TP / Modbus RTU / MP-Bus)



1)	2)
500 Ω...2 kΩ	+/-1%
2 kΩ...10 kΩ	+/-2%
10 kΩ...55 kΩ	+/-6%

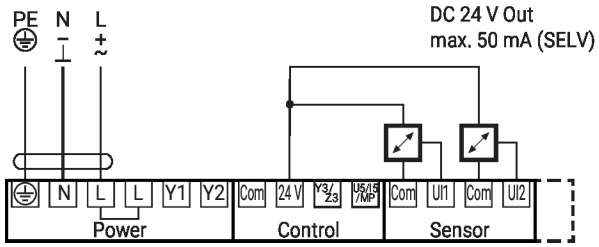
1) Resistance range
2) Tolerance measured value
Compensation of the measured value is recommended
- Suitable for Ni1000 and Pt1000
- Suitable Belimo types 01DT-..

Switching contact connection (BACnet MS/TP / Modbus RTU / MP-Bus)



Switching contact requirements:
The switching contact must be able to switch a current of 10 mA at 24 V accurately.
To capture, for example:
- Flow monitors
- Operation/malfunction messages of chillers

Connection of active sensors (BACnet MS/TP / Modbus RTU / MP-Bus)

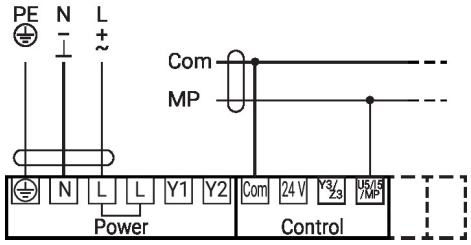


Possible input voltage range:
0...10 V
Resolution 5 mV
To capture, for example:
- Active temperature sensors
- Flow sensors
- Pressure/differential pressure sensors

Further electrical installations

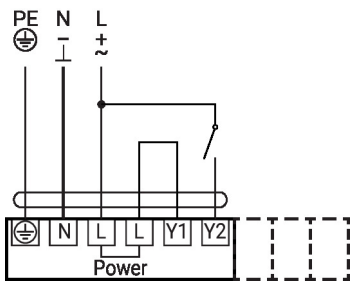
Functions with basic values (conventional mode)

Connection on the MP-Bus

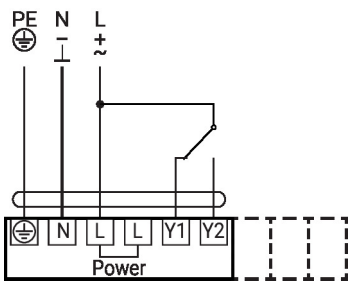


Functions with specific parameters (configuration necessary)

Control on/off



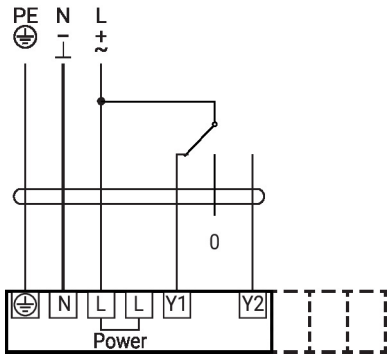
Control on/off



Further electrical installations

Functions with specific parameters (configuration necessary)

Control floating point



Connection BACnet MS/TP / Modbus RTU with analog setpoint (hybrid mode)