

ML6420A/ML6425A,B

Electric Linear Valve Actuators

SPECIFICATION DATA



ML6420

ML6425

APPLICATION

The ML6420A / ML6425A,B actuators enable floating control, and are suitable for use in conjunction with ON/OFF or floating single-pole, double-throw (SPDT) control outputs. They can operate Honeywell's standard valves in heating, ventilation, and air conditioning (HVAC) applications.

FEATURES

- Quick and easy installation
- No separate linkage required
- No adjustments
- Low power consumption
- Force-limiting end switches
- Spring-return models
- Manual operator
- Models for low and line voltage
- Synchronous motor
- Corrosion-resistant design
- Maintenance-free

SPECIFICATIONS

Temperature Limits

Ambient operating limits	-10...+50 °C at 5...95% RH
Ambient storage limits	-40...+70 °C at 5...95% RH
Medium valve temperature	Max. 150 °C (220 °C with High-Temperature kit)

Protection

Protection standard per DIN 40050	IP54
Insulation per DIN EN60730	Class II
Flame retardant as per	UL 94-V0 (with metal cable gland)

Wiring

Wiring terminals	1.5 mm ²
Cable entry	PG13.5 and two additional knock-outs PG11 and PG13.5

Weight

non-spring return type	1.3 kg
spring return type	2.4 kg

Material

Cover	ABS-FR
Base	glass fiber reinforced plastic
Yoke	aluminum diecast

Dimensions

See Fig. 1 on page 3

model	ML6420 A3007	ML6420 A3023	ML6425 A3006	ML6425 B3005	ML6425 A3014	ML6425 B3021	ML6420 A3015	ML6420 A3031
supply voltage	24 Vac \pm 15%, 50/60 Hz				230 Vac +10/-15%, 50/60 Hz			
power consumption	4 VA	6 VA	11 VA		12 VA		6.5 VA	
signal input 1	Supply voltage between terminals 1 and 24 V~; actuator stem extended. Two-way valve: "closed", three-way valve port A-AB: "open"				Supply voltage between terminals N and Ph 1; actuator stem extended. Two-way valve: "closed", three-way valve port A-AB: "open"			
signal input 2	Supply voltage between terminals 2 and 24 V~; actuator stem retracted. Two-way valve: "open", three-way valve port A-AB: "closed".				Supply voltage between terminals N and Ph 2; actuator stem retracted. Two-way valve: "open", three-way valve port A-AB: "closed".			
stroke	20 mm							
run time at 50 Hz	1 min	0.5 min	1.8 min				1 min	0.5 min
close-off force	\geq 600 N							
spring return time	--		\approx 12 s				--	
spring return direction (upon power failure)	--		actuator stem extends	actuator stem retracts	actuator stem extends	actuator stem retracts	--	

OPERATION

General

The drive of a synchronous motor is converted into linear motion of the actuator stem by using a spur gear transmission. The actuator stem is connected with the valve stem by a button keyed retainer connection.

An integrated spring package limits the stem force to a factory-adjusted value in either direction.

Installed microswitches switch off the actuator precisely when the specified stem force is reached.

Manual Operation

Actuators without spring return are equipped with a manual operator used in case of power failure. Manual operation is possible only after the power supply has been switched off or disconnected.

To operate, push the manual operator knob down and turn clockwise to move the stem downward and counter-clockwise to move the stem upward. If the actuator returns to automatic control, the manual operator knob unlocks automatically.

In the case of actuators with spring return, the manual operator is located under the cover.

Spring Return

The ML6425A,B spring return actuators provide a defined safety position of the valve in case of power failure.

The spring return actuators are shipped from the factory with a shipment stop (to lock the knob) in order to allow connection of the stem button retainer to the valve stem without power supply.

Electrical Installation

The actuators are delivered with a pre-installed cable gland PG13.5 (21.2 mm) and two additional knock-outs for PG11 (18.9 mm) and PG13.5.

Accessories

Auxiliary Switches

The actuators can be equipped on site with an auxiliary switch unit with two switches. Their switching points are adjustable over the full length of the actuator stroke.

The switches can be used to switch pumps or provide remote indication of any stroke position.

Part number: 43191680 – 005.

Auxiliary Potentiometers

Auxiliary potentiometers are available for mounting on site. They can be used as feedback potentiometer and/or to provide remote indication of the valve position.

Part number: 43191679 - 011 (10 k Ω)

Part number: 43191679 - 012 (220 Ω)

High Temperature Kit

(for applications $>$ 150 $^{\circ}$ C medium temperature)

High Temperature Kit, Order Number	Valve	DN
43196000-001	V5011R/V5013R	15 – 50
	V5328A/V5329A	15 – 32
43196000-002	V5328A/V5329A	40 – 80
	V5049A	15 – 65
	V5050A	15 – 80
	V5016A/V5025A	15 – 80

CLOSE-OFF PRESSURE RATINGS in kPa

Stem Force		600 N							
Stroke		20 mm							
Valve Size	mm	15	20	25	32	40	50	65	80
	inch	½	¾	1	1 ¼	1 ½	2	2 ½	3
Valves		Close-Off Pressure Ratings							
V5011R		1600	1600	1000	700	460	260		
V5328A		1600/1000	1000	1000	600	350	200	120	50
V5095A			1600	1600	1600	1600	1600	1600	1600
V5016A		1600	1600	1600	1600	1600	1600	1600	1600
V5025A		2500	2500	2500	2500	2500	2500	2500	2500
V5049A		1600/1000	1000	1000	600	350	200	120	
V5013R		1600	1600	1000	700	460	260		
V5329C (PN6)		600	600	600	600	480	260	160	100
V5329A (PN16)		1000	1000	1000	790	480	260	160	100
V5050A		1000	1000	1000	600	350	200	120	50

For details on the valves, see following Specification Data No.:

V5011R	EN0B-0064GE51	V5328A/5049A	EN0B-0309GE51
V5011S	EN0B-0085GE51	V5329A/5050A	EN0B-0310GE51
V5016A	EN0B-0440GE51	V5025A	EN0B-0442GE51
V5095A	EN0B-0412GE51	V5013R	EN0B-0065GE51

DIMENSIONS

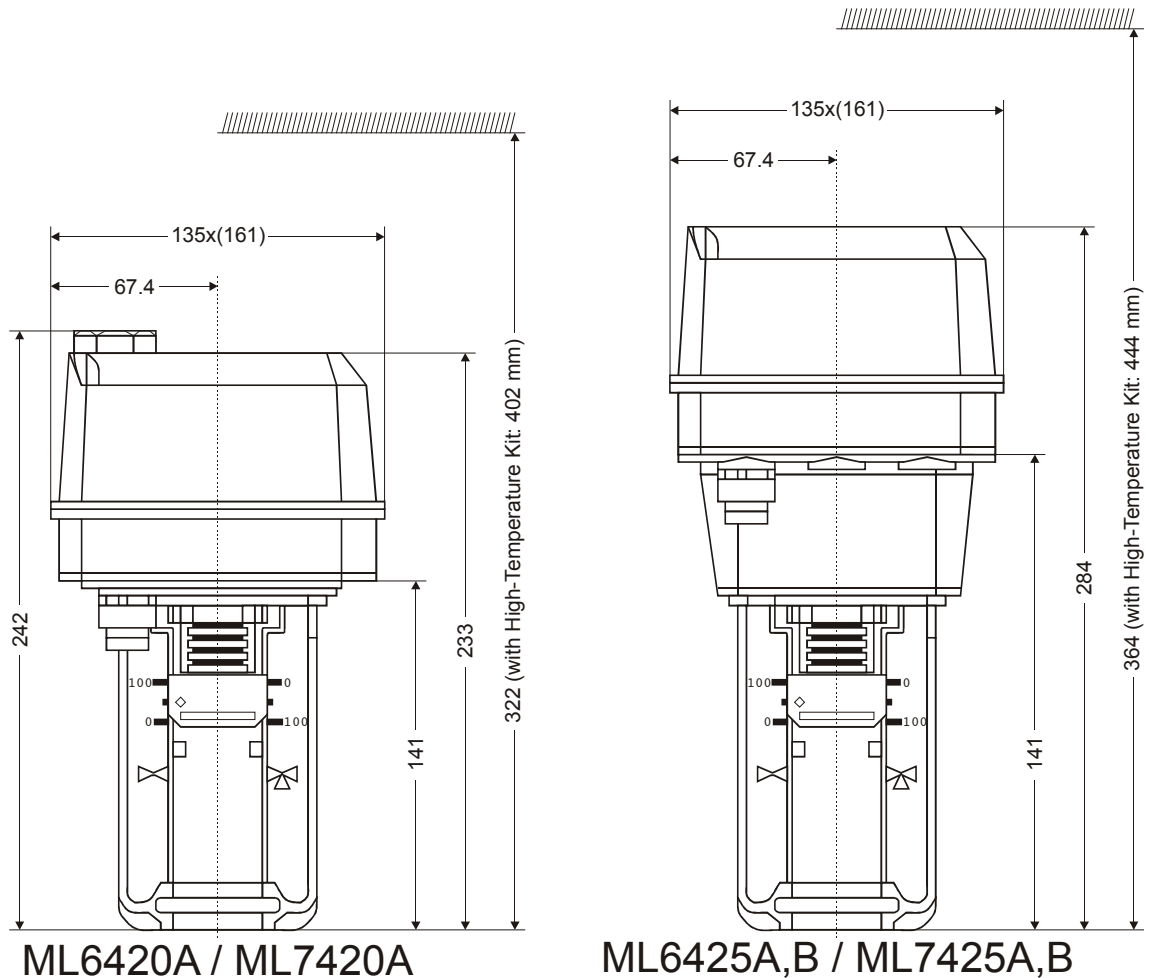


Fig. 1. Dimensions in mm

WIRING

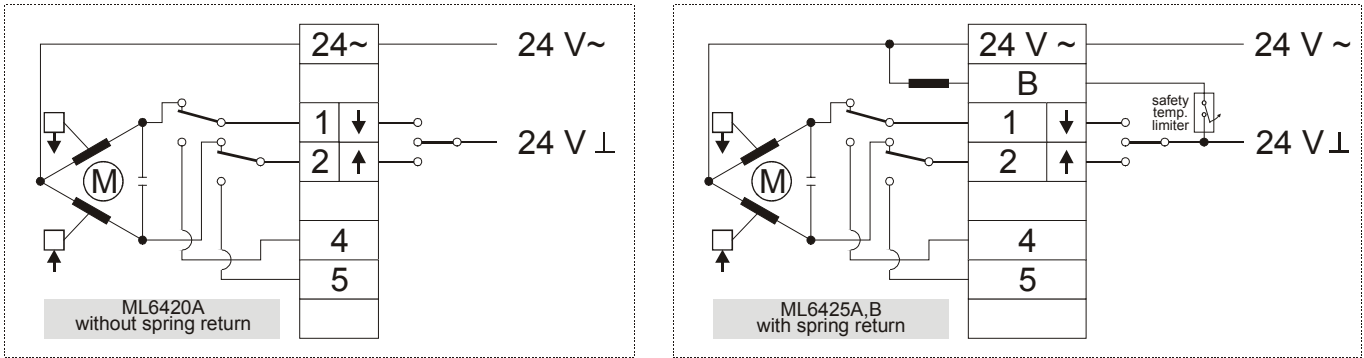


Fig. 2. Wiring 24 V~ models

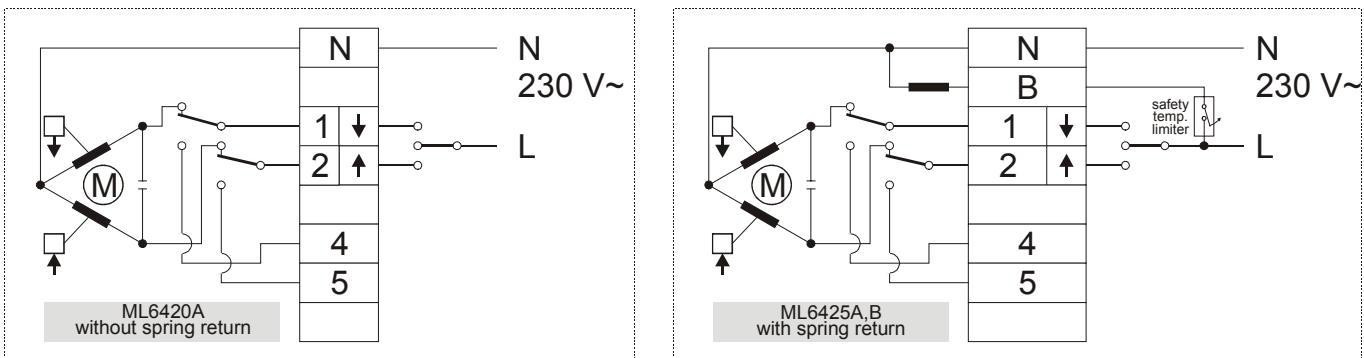


Fig. 3. Wiring 230 V~ models

AUXILIARY SWITCHES (OPTION)

Part number: 43191680 – 005.

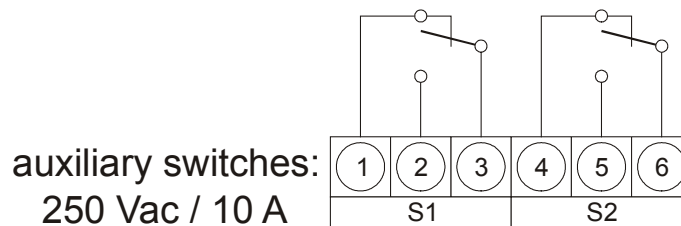


Fig. 4. Wiring auxiliary switch

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