Linear Actuators
ML6420/ML6425

Linear Actuator, 600N, 3-point control

Application

The ML6420/ML6425 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 Resideo's standard valves in heating, ventilation, and air conditioning (HVAC) applications.

Approvals

- CE

Special Features

- Easy and quick 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
- Actuator-valve combinations approved according to DIN 14597 available

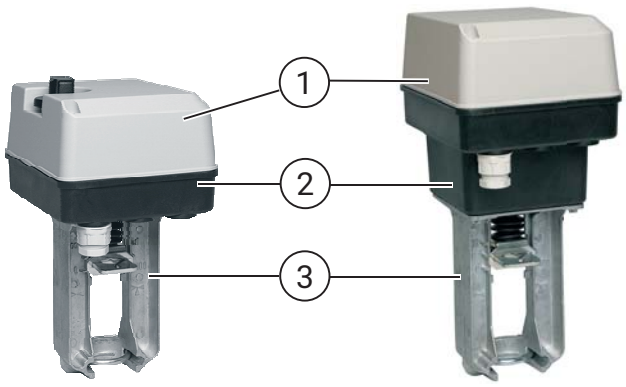
ML6420 **ML6425**

Technical Data

Temperature	
Operating temperature:	-10 … +50 °C
Max. medium temperature for Resideo linear valves*:	150 °C *
Max. medium temperature for Resideo Safety linear SV-valves:	130 °C
Weight	
Non-spring return type:	1.3 kg
Spring return type:	2.4 kg
Specifications	
Protection standard:	IP54 per DIN 40050
Protection class:	Class II per DIN EN60730
Flame retardant housing:	UL 94-V0 (with metal cable gland – not supplied)
Operating mode:	Type 2B as per EN 60730-1
Wiring terminals:	1.5 mm^2
Stroke:	20 mm
Closing force:	600 N

* When equipped with the High-Temp. Kit (see section Accessories), all actuators are suitable for medium valve temperatures of up to 220 °C.

ПРОМЭЛЕКТРОНИКА, sales@prom-elec.com

Overview		Components	Materials
 ML6420 ML6425	**1**	Cover	ABS-FR
	2	Base	glass fiber reinforced plastic
	3	Yoke	aluminum diecast

Transportation and Storage

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	-40 °C
Max. ambient temperature:	70 °C
Min. ambient relative humidity:	5 % *
Max. ambient relative humidity:	95 % *

*non condensing

Method of Operation

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 micro switches switch off the actuator precisely when the specified stem force is reached.

Manual Operation

Actuators without spring return (ML6420) 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 ML6425 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.

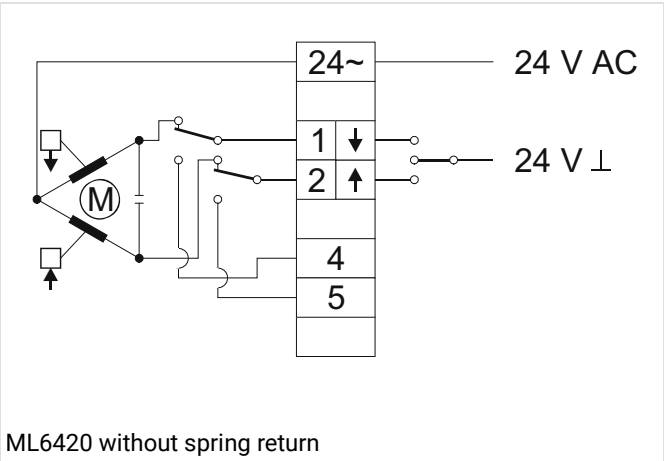
Installation Guidelines

Electrical Installation

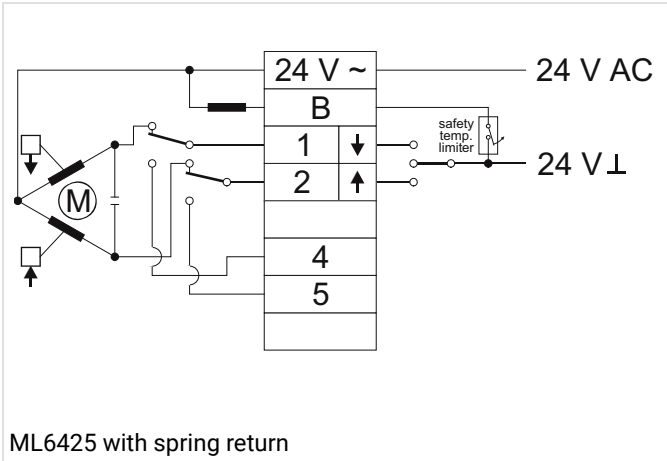
The actuators are delivered with a pre-installed cable gland M20x1.5 and two additional knock-outs for M16x1.5 and M20x1.5.

Wiring

Wiring 24 V~ models

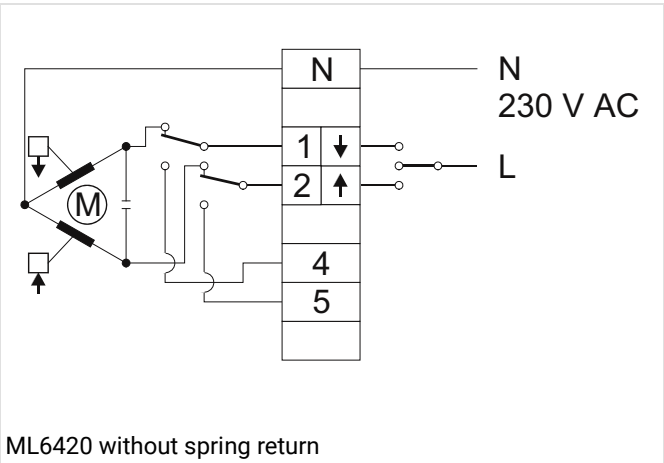


ML6420 without spring return

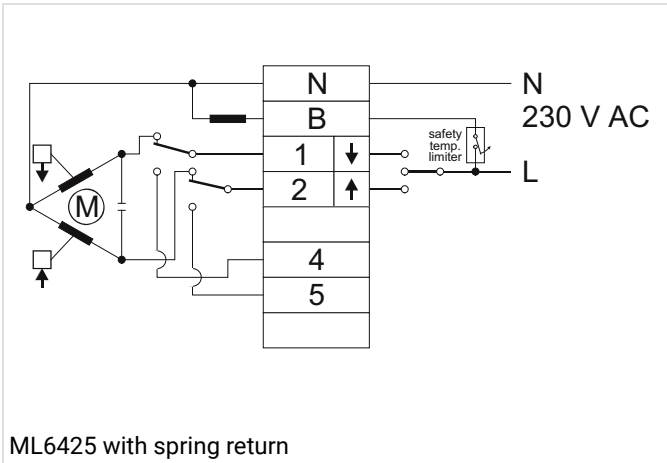


ML6425 with spring return

Wiring 230 V~ models



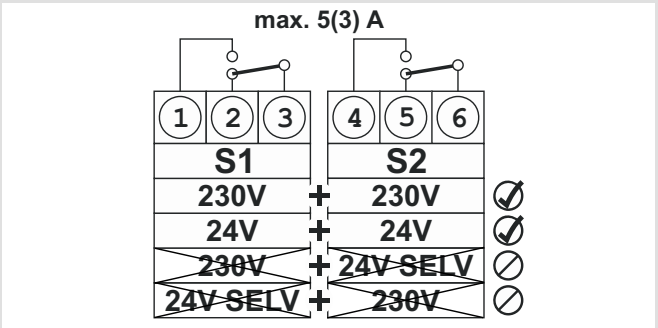
ML6420 without spring return



ML6425 with spring return

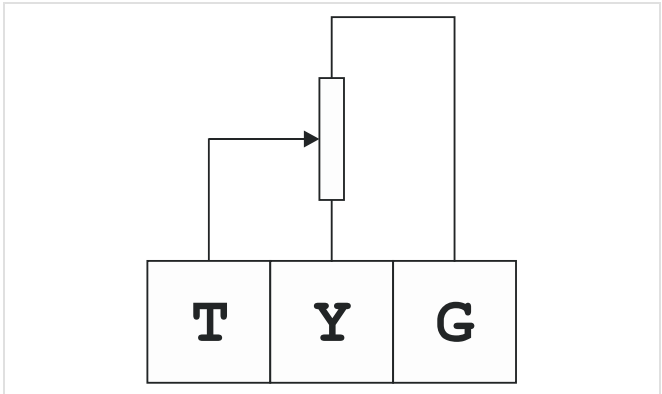
Auxiliary switches

The actuators can be equipped on site with an auxiliary switch unit consisting of 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. A cable gland M20x1.5 is delivered with the unit.



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. A cable gland M20x1.5 is delivered with the unit.



Technical Characteristics

Operation mode

	ML6420 A3007	ML6420 A3023	ML6425 A3006	ML6425 B3005	ML6420 A3015	ML6420 A3031	ML6425 A3014	ML6425 B3021
Voltage	24 V AC ±15 %, 50/60 Hz				230 V AC +10/-15 %, 50/60 Hz			
Signal input 1	Supply voltage between terminals 1 and 24 V AC				Supply voltage between terminals N and Ph 1			
	Stem extended 2-way valve: “closed“ 3-way valve port A-AB: “open“							
Signal input 2	Supply voltage between terminals 2 and 24 V AC				Supply voltage between terminals N and Ph 2			
	Stem extended 2-way valve: “open" 3-way valve port A-AB: “closed“							

Safety Valve/Actuator combination with CE approval

Valve	Dimensions	Actuator
CE0035 certified up to 130 °C		
DF-B-NI-SV, V5016A (PN16)	DN15 - DN80	ML6425A3006 ML6425A3014
DF-C-SV, V5025A (PN25)		
V5328A (PN16)	DN15 - DN50	
DF-D-SV, V5049A (PN40)		

Close off pressure ratings in kPa

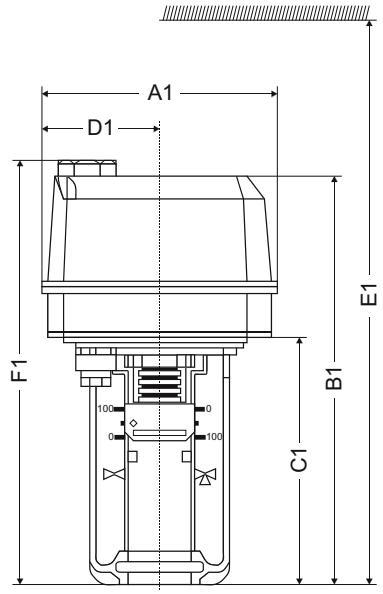
Valves	Valve size							
	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80
DE/DI/V5011E/V5011R	1600	1600	1000	700	460	260	-	-
DF-B-CI/V5328A	1600/1000	1000	1000	600	350	200	120	50
DF-B-NI/V5016A	1600	1600	1600	1600	1600	1600	1600	1600
DF-C/V5025A	2500	2500	2500	2500	2500	2500	2500	2500
DF-D/V5049	1600/1000	1000	1000	600	350	200	-	-
XE/XI/V5013E/V5013R	1600	1600	1000	700	460	260	-	-
XF-A/V5329C/V5015 (DN100+)	600	600	600	600	480	260	160	100
XF-B/V5329A/V5050 (DN100+)	1000	1000	1000	1000	480	260	160	100
XF-D/V5050A (- DN80)	1000	1000	1000	1000	350	200	120	50

For details on the valves, see following data sheets:

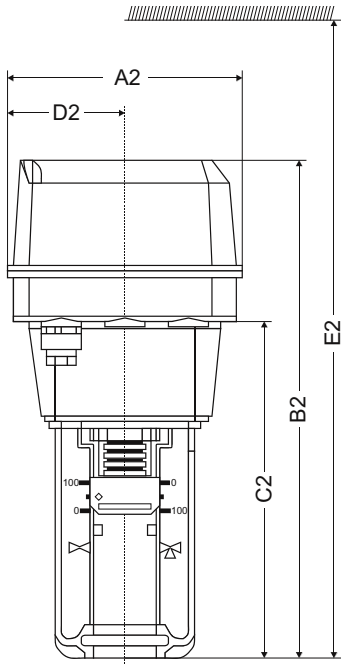
DE/DI	EN0H-1773GE23	XE/XI	EN0H-1771GE23
DF-B-CI	EN0H-1769GE23	XF-A	EN0H-1778GE23
DF-B-NI	EN0H-1776GE23	XF-B	EN0H-1780GE23
DF-C	EN0H-1783GE23		
DF-D	EN0H-1775GE23		

Dimensions

Overview



ML6420



ML6425

A1	B1	C1	D1	E1	F1	A2	B2	C2	D2	E2
135 x 161	233	141	67.4	322 *	242	135 x 161	284	192	67.4	364 **

Note: All dimensions in mm unless stated otherwise.

* with High-Temperature Kit 402 mm

** with High-Temperature Kit 444 mm

Ordering Information

The following tables contain all the information you need to make an order of an item of your choice.
When ordering, please always state the type, the ordering or the part number.

Options

Supply voltage	Power consumption	Run time at 50 Hz	Spring return direction (at power failure)	Spring return time	Item No.
24 V AC	4 VA	1 min	-	-	ML6420A3007
	6 VA	0.5 min	-	-	ML6420A3023
	11 VA	1.8 min	actuator stem extends	≈ 12 s	ML6425A3006
	11 VA	1.8 min	actuator stem retracts	≈ 12 s	ML6425B3005
230 V AC	6.5 VA	1 min	-	-	ML6420A3015
	6.5 VA	0.5 min	-	-	ML6420A3031
	12 VA	1.8 min	actuator stem extends	≈ 12 s	ML6425A3014
	12 VA	1.8 min	actuator stem retracts	≈ 12 s	ML6425B3021

Accessories

	Description	Dimension	Item No.
	Auxiliary switches adjustable over the full length of the actuator stroke		
	Auxiliary switch with 2 change-over switches, 230 V, 10 A, adjustable as desired via the stroke		43191680-005
	Auxiliary Potentiometers to provide remote indication of the valve position		
	Feedback potentiometer - operating range: 10 kOhm	10 kΩ	43191679-011
	High-Temperature Kit Note: For applications >150 °C and < 220 °C medium temperature		
	DF-B-CI/XF-B/V5328A/V5329A	DN15 - DN32	43196000-001
	DE/DI/V5011E/V5011R	DN15 - DN50	43196000-002
	XE/XI/V5013E/V5013R	DN15 - DN50	
	DF-B-CI/XF-B/V5328A/V5329A	DN40 - DN80	
	DF-D/V5049A	DN15 - DN65	
	DF-B-NI/DF-C/XF-D/V5016A/V5025A/V5050A	DN15 - DN80	

resideo

Ademco 1 GmbH, Hardhofweg 40,
74821 MOSBACH, GERMANY
Phone: +49 6261 810

Manufactured for and on behalf of
Pittway Sàrl, Z.A., La Pièce 6,
1180 Rolle, Switzerland

Subject to change. EN0H-1784GE23 R0724
© 2024 Resideo Technologies, Inc.
All rights reserved.

For more information
resideo.com

This document contains proprietary information of Pittway Sàrl and its affiliated companies and is protected by copyright and other international laws. Reproduction or improper use without specific written authorization of Pittway Sàrl is strictly forbidden.