

CONTROL VALVES

DIRECT-MOUNT GLOBE VALVE ACTUATORS

ML SERIES



Honeywell

DESCRIPTION

The **Honeywell ML6420, ML6421, ML6984, ML7420, ML7421, and ML7984 Series** are direct-mount, electric, non-spring return actuators designed for use on Honeywell V5011N/13N and VGF Series globe valves.

The **ML6425** and **ML7425** are direct-mount, electric spring return. The actuators can be ordered pre-assembled with a valve, or they may be easily installed in the field; separate linkages are not required.



**ML7421,
ML6421**



**ML7425,
ML6425**



**ML7984,
ML6984**



**ML7420,
ML6420**



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CONTROL VALVES

DIRECT-MOUNT ACTUATOR SELECTION CHART / CLOSE-OFF RATINGS

			Non-spring return (NSR) actuator			Spring return (SR) actuator		
Size	Two-way valve	Three-way valve	Floating	Proportional	Closeoff psid	Floating	Proportional	Closeoff psid
1/2"	V5011N1008 - N1040	V5013N1030, N1048	ML6984, ML6420	ML7984, ML7420	273, 230	ML6425	ML7425	230
3/4"	V5011N1057	V5013N1055	ML6984, ML6420	ML7984, ML7420	273, 230	ML6425	ML7425	230
1"	V5011N1065	V5013N1063	ML6984, ML6420	ML7984, ML7420	193, 163	ML6425	ML7425	163
1-1/4"	V5011N1073	V5013N1071	ML6984, ML6420	ML7984, ML7420	123, 104	ML6425	ML7425	104
1-1/2"	V5011N1081	V5013N1089	ML6984, ML6420	ML7984, ML7420	79, 67	ML6425	ML7425	67
2"	V5011N1099	V5013N1097	ML6984, ML6420	ML7984, ML7420	44, 37	ML6425	ML7425	37
2-1/2"		VGF31EM25	ML6421A	ML7421A	87	ML6425	ML7425	29
3"		VGF31EM30	ML6421A	ML7421A	58	ML6425	ML7425	19
2-1/2"	VGF21ES25, LS25	VGF31LD25	ML6421A	ML7421A	69	ML6425	ML7425	23
3"	VGF21ES30, LS30	VGF31LD30	ML6421A	ML7421A	34	ML6425	ML7425	11
4"	VGF21ES40, LS40	VGF31LD40, EM40	ML6421B	ML7421B	34	N/A	N/A	N/A
5"	VGF21ES50, LS50	VGF31LD50, EM50	ML6421B	ML7421B	13	N/A	N/A	N/A
6"	VGF21ES60, LS60	VGF31LD60, EM60	ML6421B	ML7421B	13	N/A	N/A	N/A
2-1/2"	VGF21EP25		ML6421A	ML7421A	175	N/A	N/A	N/A
3"	VGF21EP30		ML6421A	ML7421A	175	N/A	N/A	N/A
4"	VGF21EP40		ML6421B	ML7421B	175	N/A	N/A	N/A
5"	VGF21EP50		ML6421B	ML7421B	175	N/A	N/A	N/A
6"	VGF21EP60		ML6421B	ML7421B	175	N/A	N/A	N/A

COMMON SPECIFICATIONS

Life Expectancy	50,000 full stroke cycles or 1,000,000 repetitions (ML6984, ML7984)	Operating Temperature	14° to 122°F (-10° to 50°C) for ML64xx, ML74xx; 32° to 132°F (0° to 55°C) for ML6984, ML7984
Input Impedance	100 kΩ for 2-10 VDC input, 500Ω for 4-20 mA input (ML74xx); 20 kΩ for 2-10 VDC input, 237Ω for 4-20 mA input (ML7984)	Operating Humidity	5% to 95% RH non-condensing for ML64xx, ML74xx; 15% to 95% RH non-condensing for ML6984, ML7984
Noise	55 dBA @ 3.3' (1m) for ML6984, ML7984 only, others not rated	Approvals	UL File #E4436 (except ML7984/ML6984 not UL), CE
Spring Return Time	12 seconds, for ML6425, ML7425 only	Warranty	1 year
Manual Override	Yes, on ML6420, ML7420, ML6421, ML7421 only		



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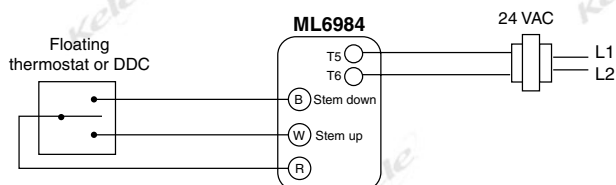
ML SERIES

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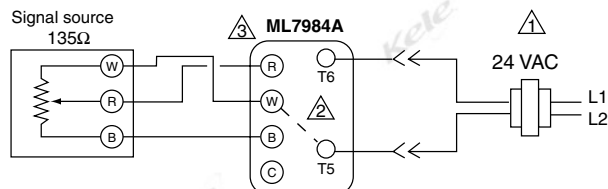
CONTROL VALVES

WIRING

CAUTION: Install actuator on valve before energizing.

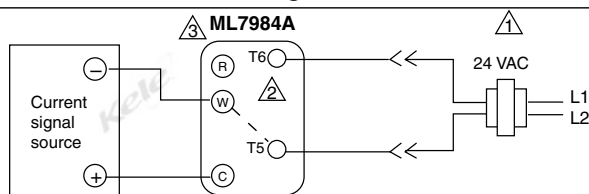


ML6984 Floating Control



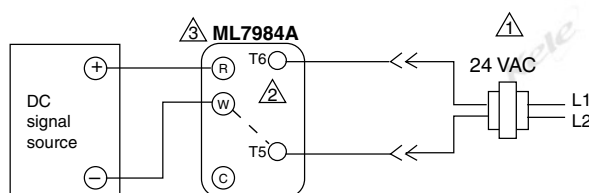
FUNCTION	DIP SWITCH CONFIGURATION
Mechanical 135Ω input	1 On 2 Off 3 On 4 Off

ML7984A Resistance Control



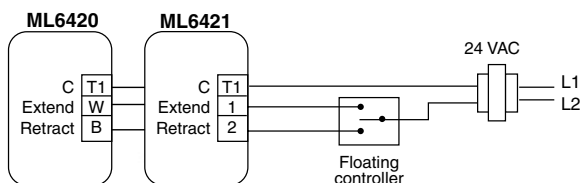
FUNCTION	DIP SWITCH CONFIGURATION
4-20 mA direct acting	1 Master actuator → Slave actuator 2 On 3 Off 4 On
20-4 mA reverse acting	1 Master actuator → Slave actuator 2 On 3 Off 4 On

ML7984A mA Proportional Control

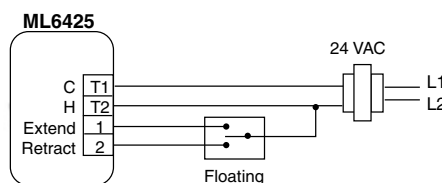


FUNCTION	DIP SWITCH CONFIGURATION
2-10 VDC direct acting	1 On 2 Off 3 On 4 Off
10-2 VDC reverse acting	1 On 2 Off 3 On 4 Off

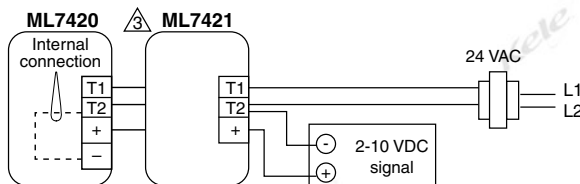
ML7984A VDC Proportional Control



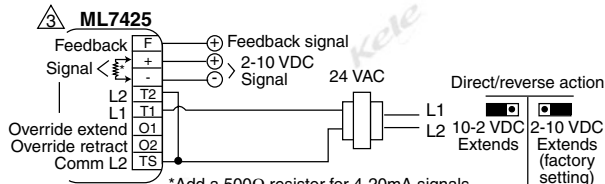
ML6420, ML6421 Floating Control



ML6425 Floating Control



ML7420, ML7421 mA Proportional Control



ML7425 VDC Proportional Control

- 1 Allow 0.5 amps maximum for each device. Actuators and controller can share the same transformer providing proper phasing is observed, except as noted.
- 2 "T5" and "W" terminal are connected internally. Device is compatible with the three-wire control system.
- 3 Use configuration DIP switches to select device functions. See installation instructions.

FUNCTION	DIP SWITCH CONFIGURATION
Direct Acting	1 On 2 Off 3 On 4 Off
Reverse Acting	1 On 2 Off 3 On 4 Off

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INDIVIDUAL SPECIFICATIONS							
Model	Force	Supply Voltage	Supply VA	Control Signal	Action	Stroke	Stroke Time
ML6420A3049	135 lbf (600 N)	24 VAC 50/60 Hz	6 VA	Two-position/floating	NSR, DA/RA by wiring	3/4" (1.9 cm)	60 seconds
ML7420A3055	135 lbf (600 N)	24 VAC 50/60 Hz	7 VA	Prop. 2-10 VDC, 4-20 mA	NSR, DA/RA by jumpers	3/4" (1.9 cm)	60 seconds
ML6984A4000	160 lbf (710 N)	24 VAC 50/60 Hz, 24 VDC	12 VA	Two-position/floating	NSR, DA/RA by wiring	3/4" (1.9 cm)	63 seconds
ML7984A4009	160 lbf (710 N)	24 VAC 50/60 Hz, 24 VDC	12 VA	Prop. 2-10 VDC, 4-20 mA, 0-135Ω	NSR, DA/RA by DIP switches	3/4" (1.9 cm)	63 seconds
ML6421A1017	405 lbf (1800 N)	24 VAC 60 Hz	11 VA	Two-position/floating	NSR, DA/RA by wiring	3/4" (1.9 cm)	95 seconds
ML7421A1032	405 lbf (1800 N)	24 VAC 60 Hz	12 VA	Prop. 2-10 VDC, 4-20 mA	NSR, DA/RA by jumpers	3/4" (1.9 cm)	95 seconds
ML6421B1040	405 lbf (1800 N)	24 VAC 60 Hz	11 VA	Two-position/floating	NSR, DA/RA by wiring	1-1/2" (3.8 cm)	175 seconds
ML7421B1023	405 lbf (1800 N)	24 VAC 60 Hz	12 VA	Prop. 2-10 VDC, 4-20 mA	NSR, DA/RA by jumpers	1-1/2" (3.8 cm)	175 seconds
ML6425A3022	135 lbf (600 N)	24 VAC 50/60 Hz	11 VA	Two-position/floating	SR stem down, DA/RA by wiring	3/4" (1.9 cm)	90 seconds
ML6425B3013	135 lbf (600 N)	24 VAC 50/60 Hz	11 VA	Two-position/floating	SR stem up, DA/RA by wiring	3/4" (1.9 cm)	90 seconds
ML7425A3013	135 lbf (600 N)	24 VAC 50/60 Hz	12 VA	Prop. 2-10 VDC, 4-20 mA	SR stem down, DA/RA by jumpers	3/4" (1.9 cm)	90 seconds
ML7425B3012	135 lbf (600 N)	24 VAC 50/60 Hz	12 VA	Prop. 2-10 VDC, 4-20 mA	SR stem up, DA/RA by jumpers	3/4" (1.9 cm)	90 seconds

ORDERING INFORMATION

MODEL

ML6420A3049

ML7420A3055

ML6984A4000

ML7984A4009

ML6421A1017

ML6421B1040

ML7421A1032

ML7421B1023

ML6425A3022

ML6425B3013

ML7425A3013

ML7425B3012

DESCRIPTION

135 lbf, non-spring return, floating control for 1/2" to 2" valves

135 lbf, non-spring return, proportional control (2-10V, 4-20 mA) for 1/2" to 2" valves

160 lbf, non-spring return, floating control for 1/2" to 2" valves

160 lbf, non-spring return, proportional input (2-10V, 4-20 mA, 135Ω) for 1/2" to 2" valves

405 lbf, non-spring return, floating control for 2-1/2" to 3" valves

405 lbf, non-spring return, floating control for 4" to 6" valves

405 lbf, non-spring return, proportional control (2-10V, 4-20 mA) for 2-1/2" to 3" valves

405 lbf, non-spring return, proportional control (2-10V, 4-20 mA) for 4" to 6" valves

135 lbf, spring return stem down, 2 position/floating control for 1/2" to 3" valves

135 lbf, spring return stem up, 2 position/floating control for 1/2" to 3" valves

135 lbf, spring return stem down, proportional (2-10 VDC, 4-20 mA) for 1/2" to 3" valves

135 lbf, spring return stem up, proportional (2-10V, 4-20 mA) for 1/2" to 3" valves

SSTAG

KOV Series

RELATED PRODUCTS

Stainless steel tag on bead chain, 1" x 2" dogtag, custom engraved per order

Fabric Weatherproof cover for globe actuators