

# ML6984, ML7984 Series 4000 Direct Coupled Valve Actuators

## PRODUCT DATA



## FEATURES

- Self-contained, motorized globe valve linkage.
- Microprocessor-based digital position sensing and motor control for accurate positioning.
- Compact size for easy installation in confined spaces.
- NEMA 3R rain-proof cover for outdoor installation.
- Self-calibrating for valve stroke from 1/2 in. (13 mm) to 1 in. (25 mm).
- DIP switch input configuration selection.
- LED (light-emitting diode) status indication.
- Configurable to 3-wire mode for floating models.
- 710 N 160 lbf (712 N) valve closing force.
- Usable with common transformer power supply for multiple actuators and controllers.
- 24 Vac or 28 Vdc power supply.
- Field-addable position feedback/auxiliary switch module available for 5-wire models.

## APPLICATION

The ML6984 and ML7984 are self-contained, self-adjusting, motorized valve actuators that mount directly onto V5011 two-way and V5013 three-way globe valves, providing linear stem operation between 1/2 in. (13 mm) and 1 in. (25 mm).

ML6984 is for use with low voltage SPDT Series 20, Series 60 (on-off), or SP3T Series 60 (floating) electro-mechanical and electronic controllers.

ML7984 is for use with Series 70 0-10 Vdc, 2-10 Vdc, 4-20 mA; electronic Series 90 "SuperMod"; and 135 ohm modulating controllers.

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# SPECIFICATIONS

## IMPORTANT

The specifications given in this publication do not include normal manufacturing tolerances. Therefore, an individual unit may not exactly match the listed specifications. Also, this product is tested and calibrated under closely controlled conditions and some minor differences in performance can be expected if those conditions are changed.

### Operating Environment:

Operating Ambient Temperature: 32° to 130° F (0° to 54° C) measured at the actuator.

Shipping Temperature: -40° to 150° F (-40° to +65° C).

Relative Humidity: 15% to 95% up to 104° F (40° C), non-condensing atmosphere NEMA-3R/IP54 cover for outdoor installation.

**Acoustic Noise:** 55 dBA maximum Sound Pressure Level at 39 in. (991.0 mm) distance.

**Electrical Ratings:** Power supply/consumption: 24 V (+10%, -15%), 50/60 Hz or 28 Vdc +/- 10%, 6 VA (Running), 12 VA (Valve seating).

**Specifications/CE Declaration:** ML6984 and ML7984 actuators conform to the essential requirements of the **Low Voltage Directive 73/23/EEC** based on the standards **EN 60730-1:2000** and **EN 60730-2-14:1995+A1:2001**

### Inputs:

ML6984

- 25 mA 24 Vac (5-wire mode only)
- 500 mA (valve seating 3-wire mode)
- Minimum Signal Input Duration: 100 ms

ML7984\*

- 2 -10 Vdc (1 mA); 4-20 mAdc

\*May be used with 0-10 Vdc input but valve will be closed at 2 Vdc.

Input Impedance for the ML7984:

Voltage Source - 20 KW ohm

Current Source - 237 ohm

**Shipping Weight:** Approx. 2.2 lb (1 kg).

### Accessories/Parts:

272629A - Mounting adapter for V5045 valves.

272630D - Electronic position feedback low voltage auxiliary switch.

272822 - Resistor kit for multiple actuator Series 90 application and for ML7984 to replace the old ML784 (4-20 mA).

40003793-005 - Mounting hardware bag assembly.

### Mechanical Ratings:

Stroke - Between 1/2 in. (13 mm) and 1 in. (25 mm), self-adjusting.

Bonnet - 1 3/8 in. (35 mm) for V5011/13 valves up to 3 in. (76 mm)(DN80).

Stem Coupling - 1/4-28 UNF thread.

Stroke Timing - Nominal 63 seconds for 3/4 in. (19 mm) stroke.

- Proportional to stroke length at 24 Vac.

Closing Force - 710 N (160 lbf) minimum at 24 Vac.

- Force varies 22 N/V (5 lbf/volt).

### Performance Specifications:

Life Expectancy - (at rated load and power conditions) 50,000 full stroke cycles plus 1,000,000 repositions of 10% stem travel or 10 years, whichever occurs first.

Hysteresis - 5%

**Table 1. Close-off pressure ratings of ML6984/7984 Series 4000 with Honeywell valves, psid**

Type	Valve Family	1/2 in.	3/4 in.	1 in.	1-1/4 in.	1-1/2 in.	2 in.	2-1/2 in.	3 in.
Flare	V5011A	150	150	150	150	91	58	77	53
	V3350/51/60/61; V3450/51/60/61	—	—	—	—	—	—	63	45
NPT	V5011F, G	150	150	150	150	91	58	33	19
	V5011H, J	150	150	150	150	—	—	—	—
	V5011N, V5013N	230	230	193	123	79	44	—	—
	V5011N2xxx, V5011G Steam	100	100	100	100	79	44	—	—
	V5013F	150	150	150	149	91	58	—	—

\*Do not exceed 100 psid with valves used in steam applications.

# ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number. If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Honeywell Environmental and Combustion Controls Sales Office (check white pages of your phone directory).
2. Honeywell Customer Care  
1885 Douglas Drive North  
Minneapolis, Minnesota 55422-4386
3. <http://customer.honeywell.com> or <http://customer.honeywell.ca>

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