

# ML71XCPA ACTUATORS

## Small Modulating Linear Valve Actuator

The Honeywell ML71XCPA valve actuators are compact, modulating linear valve actuators designed and engineered for precise control in HVAC systems. It offers reliable performance in regulating fluid flow, ensuring optimal temperature and pressure conditions in various industrial applications. The minimized footprint supports efficient performance and simplifies installation in space-constrained areas. This product's exceptional durability outstrips that of many competing models, thereby reducing maintenance costs and reducing downtime.



Honeywell ML71XCPA Series Actuator

## FEATURES AND BENEFITS



### ENGINEERED FOR UNIVERSAL VALVE COMPATIBILITY

- Supports over 250 Honeywell linear valve SKUs up to DN40/50.
- Features max 9 mm stroke with automatic valve calibration for diverse valve requirements
- Standard M30x1.5mm valve connection interface which is compatible with most of valves available in the market.



### PRECISE CONTROLS

- Precise hydronic valves throttling control on HVAC system at building's room/zone level and AHUs.
- Valve staying-in-place option when control signal gets lost for applications requiring uninterrupted heat/cooling delivery.



### EASY TO INSTALL

- 30% smaller footprint for easier installation in tight spaces such like above-ceiling areas.
- Physical valves position indicator, quick stroke position verification during commissioning.
- Valve position feedback enables easier diagnostics and fault detection
- Superior valves compatibility and integration for both Honeywell and third party valves. Highly suitable for OEM and retrofit applications.



### USER-FRIENDLY FEATURES

- Three-color RGY LED provides clear visual status of actuator and valve.
- Manual override possible without power cut or electrical handling.
- Unique manual knob holder prevents knob loss during maintenance.



### RELIABILITY AND DURABILITY

- Highly reliable and durable with a 10+ year design life.
- Energy-efficient device, averaging under 1 watt power consumption per actuator.
- Corrosion-resistant housing to ensure durability in harsh environment, suitable for humid or chemically corrosive conditions.



### SAFETY AND COMPLIANCE

- Halogen-free cables ensuring regulation compliance in the European Regulations.
- IP54 rated actuators - perfectly suitable for both indoor & outdoor applications.

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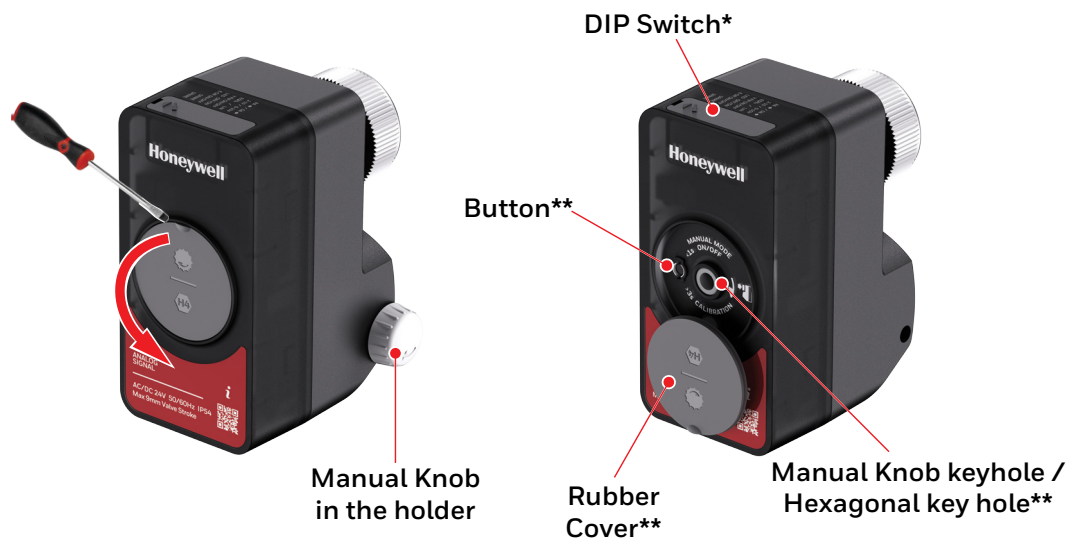
# ORDERING INFORMATION

ACTUATOR PART NUMBERS				
SKUs	MANUAL OPERATION	STEM FORCE	FEEDBACK	CABLE
ML711CPA	Mechanical and electronic manual override	100 N	Available	4-wire Halogen-free cables
ML712CPA		200 N		
ML713CPA		300 N		
ML711CPA-N	Electronic manual override	100 N	Not available	3- wire Halogen-free cables
ML712CPA-N		200 N		
ML713CPA-N		300 N		

# DIMENSIONS



# HARDWARE OVERVIEW



\* DIP Switch is below the DIP switch rubber cover.

\*\* Available with the Honeywell ML711CPA, ML712CPA, and ML713CPA valve actuator variants.

BUTTON SETTINGS	
ACTION TYPE	RESULTS
Short press (less than 1 seconds)	To switch On/Off the Manual Override mode.
Long press (more than 3 seconds)	To start the Self-calibration mode.

## DIP SWITCH

Use Flathead Screwdriver to open the rectangular rubber cover to access Dip Switch.



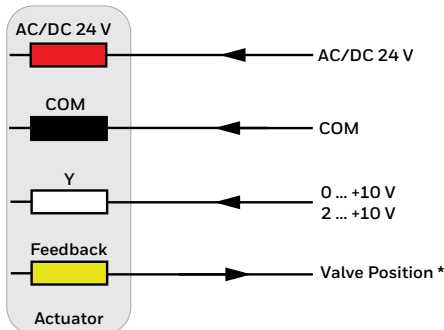
DIP SWITCH CONFIGURATION				
DIP	NAME	DESCRIPTION	ON	OFF (DEFAULT)
1	RA ← / DA →	To select the Reverse Action (RA) or Direct Action (DA) of the spindle travel direction	Spindle extends (RA) at 10 V	Spindle retracts (DA) at 10 V
2	2-10 / 0-10V	To select the control range from 2-10 or 0-10 V.	2-10 V	0-10 V
3	EQ% / LIN	To select between equal % or Linear characteristics.	Equal %	Linear
4	Y-FIP ON/OFF	To select behavior when Y signal is lost	Fail in place on	Fail in place off
5	LED OFF/ON	To enable/disable LED	Disabled	Enabled
6	E-OR ON/OFF	To select electronic override	Actuator spindle fully retracts (DA) or extends (RA)	Follow Y signal
7	SPARE			
8	SPARE			

## ELECTRICAL WIRING

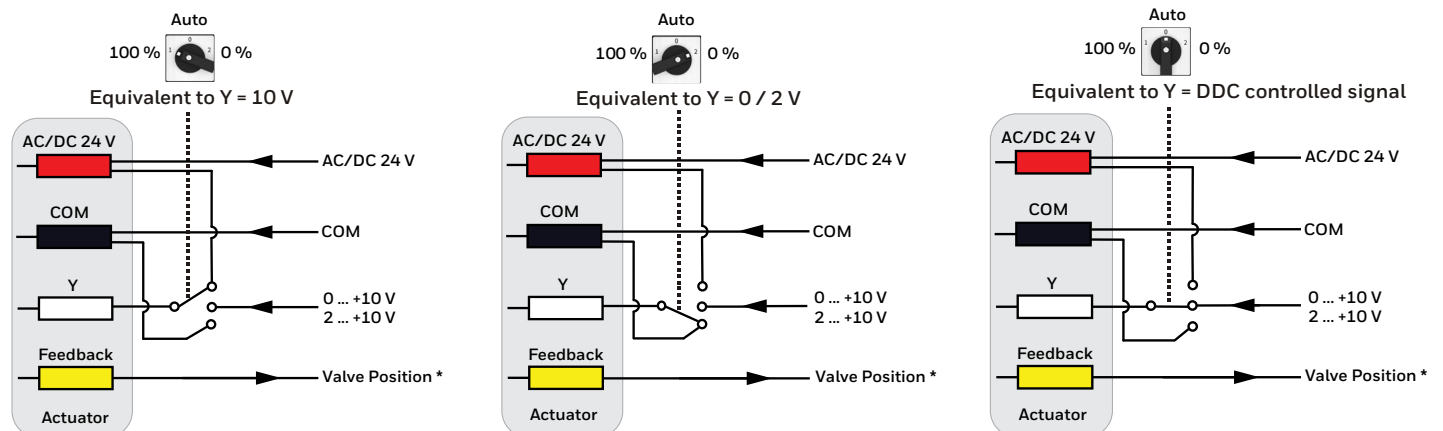
**NOTE:** The electrical installation must comply with input signal.

**NOTE:** To override the controller output signal, the input signal must be connected to COM or 24 V using an external switch.

### MODULATING CONTROL



### THREE POSITIONS MANUAL OVERRIDE INTERLOCK UNDER MODULATING CONTROL



\* Available with the Honeywell ML711CPA, ML712CPA, and ML713CPA valve actuator variants. The feedback signal follows the Y-signal, which is used to select between the 0 ... +10 V and 2 ... +10 V ranges.

# LED INDICATOR

The Honeywell ML71XCPA valve actuator is equipped with a LED indicating various actuator's and stem current position or status.

LED INDICATION			
LED STATUS	VISUAL	INDICATION	DESCRIPTION
LED is OFF		Off	No power supply or supplied voltage to actuator is low
Red blink		Service issue. Need immediate action	Motor failure (stem cannot move)
			Actuator cannot reach target position
			Control signal lost
			Self-calibration failed
Yellow blink		Pause Service	Self-calibration is ongoing
			Manual override mode, ignore the control signal
Green blink		Working	At valve stem's top position
			At valve stem's bottom position
			Stem is moving
Green steady on			Stem is reached to selected position

# COMMISSIONING ADVICE

A functional check of the valve actuator can be carried out by changing the Y input signal. The red position indicator indicates the movement of the actuator stem and whether the valve is opening or closing (see below figure). If the direction of travel is not correct, the direct / reverse-switch must be reset.



# TECHNICAL SPECIFICATION

ELECTRICAL SPECIFICATIONS		
PARAMETER	SPECIFICATION	
Input Voltage	24 V ± 20% AC/DC at 50/60 Hz	
Power consumption	Running mode	2 VA / 1 W
	Standby mode	1 VA / 0.5 W
Input signal	Modulating 0(2)-10 V DC (adjustable)	
Feedback signal	Following the input signal, 0(2)-10 V DC	
Parallel Operation	Maximum 10 actuators if the provided controller output is sufficient. Not applicable when Y-FIP (DIP4) is ON.	
Operation	Direct/reverse (adjustable)	
Position Accuracy	±0.1 mm	
Running speed	10 s/mm	
Stroke Range	9 mm max.	
Noise level	< 35 dBA	
Stem force	100 N, 200 N and 300 N (depending on SKUs)	
Stroke calibration	Adjustable with Input stroke self-calibration (9 mm Maximum)	
Connection cable	For ML71xCPA variants	4 x 0.3 mm <sup>2</sup> , copper, according to VDE LIHH, length 1.5 m
	For ML71xCPA-N variants	3 x 0.3 mm <sup>2</sup> , copper, according to VDE LIHH, length 1.5 m
Weight	280 grams	
Suitable valves	Select in accordance with stem force; see section "Ordering Information"	

CERTIFICATION AND COMPLIANCE	
PARAMETER	DESCRIPTION
CE Mark	EN IEC 60730-2-14
	EN 60730-1
	EN 60730-2-14
EAC	Certification
RoHS, REACH, and WEEE	Compliant
Insulation class	Class III in accordance with EN 60730-1
Ingress protection	IP54 Rating as per DIN EN 60530

ENVIRONMENTAL	
PARAMETER	SPECIFICATION
Ambient operating temperature limit	0 to 55 °C
Valve's medium temperature	Maximum 120 °C

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