

# VALVCON® LCU-SERIES ELECTRIC VALVE ACTUATORS

## FEATURES

Metso's *Valvcon* LCU-Series electric actuator is a proven performer for on/off (open/close) valve and damper control. Combining low cost with an extremely high cycle life, LCU-Series actuators are a truly cost-effective, reliable solution to your simple valve actuation needs. Easy to install, with no ongoing maintenance required, LCU-Series actuators are ideally suited for OEM applications. They are designed to supply years of trouble-free actuation.

### Efficient, Consistent Performance

LCU actuators are designed for valve applications that require single direction actuation – usually small ball valves two inches and under. A shaded-pole motor is used in 24, 115 or 230 volt AC applications.

The design of the LCU actuator makes it one of the most cost-effective units on the market today. Three units produce breakaway torque from 150 to 600 in-lbs. And because Metso's *Valvcon* electric actuators are reliable and inherently low maintenance units (compared with pneumatic alternatives), you'll realize long-term efficiencies beyond the initial low price.

### Strength in Design and Engineering

Inside the LCU actuator, the simplicity of design provides greater accessibility and actually makes wiring installation easier. The hardened steel spur gear drive train is remarkably efficient, resulting in consistent performance and long life in on/off applications.

The LCU cover is manufactured from an extremely strong PVC composite material that is resistant to damage and ultraviolet radiation. The enclosure is weatherproof and features a standard ISO-5211 mounting configuration. The low-profile design and direct drive male output make the LCU perfect for applications within limited space environments. Metso also provides a full two year warranty on all mechanical components.



### The Future of Valve Actuation

Find out why Metso is looking toward the future by setting new performance standard in the electric valve actuator industry. Metso would like to become a part of your future. For more details, contact your local representative.

## LCU OPTIONS

### Order Code H – Tropical Heater/Thermostat

The tropical heater and thermostat option is a chassis-mount resistance heater which contacts the motor support plate. It is wired into the existing 12-position terminal block and is recommended in humid environments and those that experience wide temperature swings in order to evaporate any condensation. The thermostat is pre-set to activate at 90°F, (33°C) and deactivate at 110°F, (44°C). The heaters draw approximately 15 watts at all voltages.

### Order Code L – Female Output

LCU-Series actuators with the L option are equipped with a 14mm female square output drive instead of the standard male square output drive. The female drive option allows for direct mounting to some valves (see dimensions for further information).

### Order Code S2 – Auxiliary Limit Switches

Two extra switches and cams may be added to LCU-Series actuators to provide dry contacts. The switches are fully adjustable to trip at any position. They are often used for position indication or to interlock other devices (such as in sequencing operations). The switches are single pole, double throw switches rated for 1/2 HP, 11 amps @ 250VAC, CSA certified. Auxiliary switch kit P/N VC09000U is universal to all LCU-Series.

### Order Code T – Heater/Thermostat

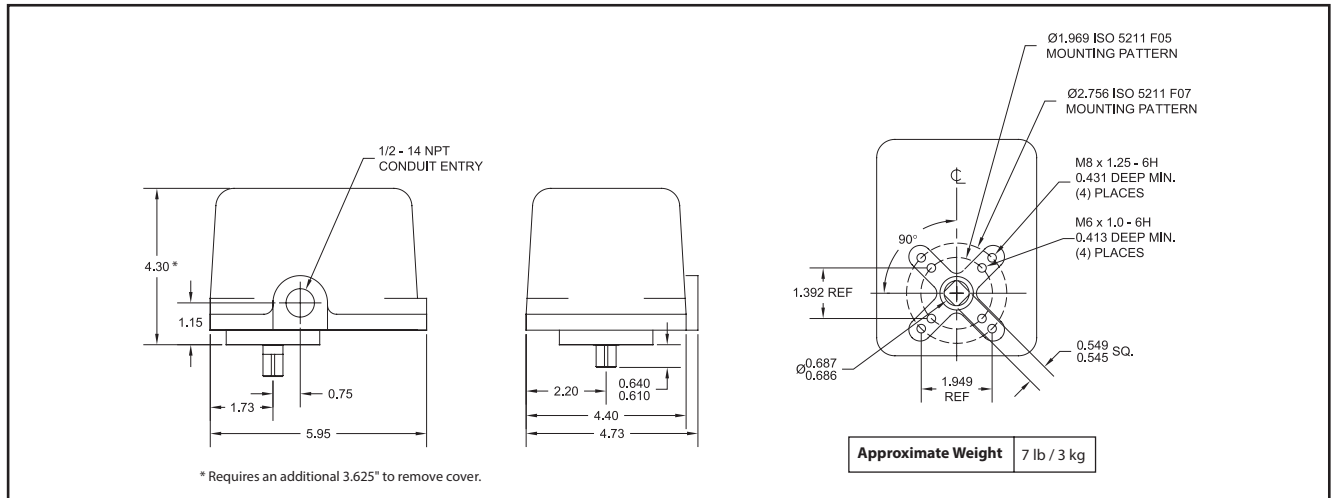
The heater and thermostat option is a chassis-mount resistance heater which contacts the motor support plate. It is wired into the existing 12-position terminal block and is required in installations where the ambient temperatures drop below 32°F, (0°C). The thermostat is pre-set to activate at 40°F, (5°C) and deactivate at 60°F, (16°C). The heaters draw approximately 15 watts at all voltages.

## SPECIFICATIONS

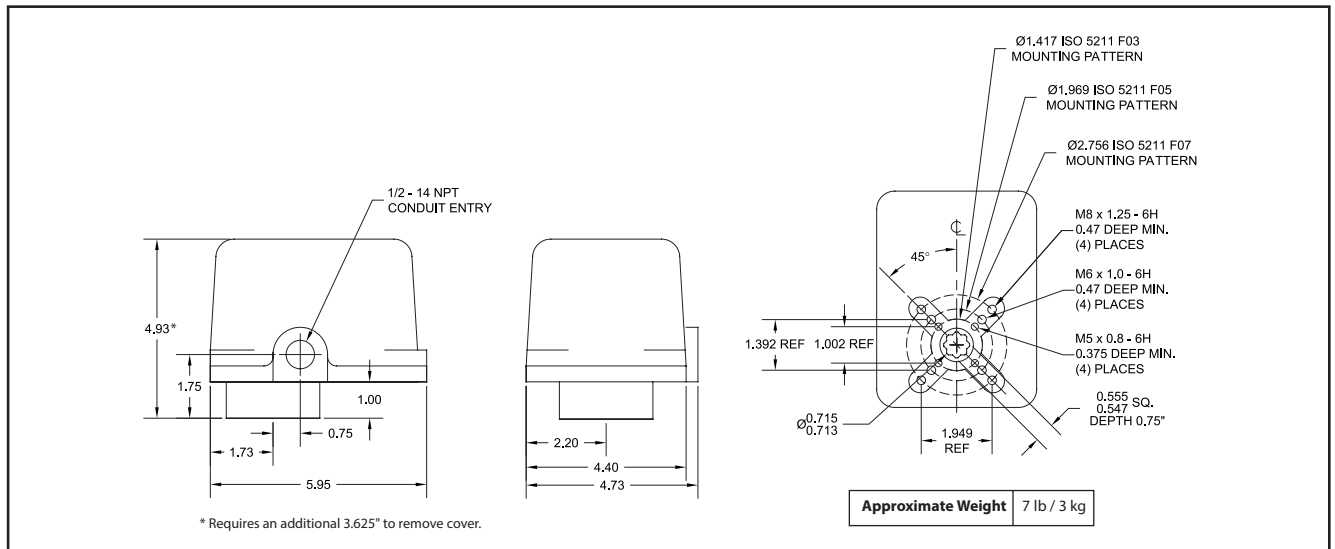
Actuator Model	Breakaway Torque	Voltage	Duty Cycle	Speed Seconds (90°)	AMPS - Running			Approx. Weight
					24VAC	115VAC	230VAC	
LCU150	150 lb-in; 12 lb-ft; 17 Nm	24VAC	25%	5	6.5	1.5	0.9	7 lb / 3 kg
LCU300	300 lb-in; 25 lb-ft; 34 Nm	115VAC		10	6	1.5	0.9	
LCU600	600 lb-in; 50 lb-ft; 68 Nm	or 230VAC		21	5.5	1.5	0.9	
					AMPS - Running			
					12VDC		24VDC	
LCU150	150 lb-in; 12 lb-ft; 17 Nm	12VDC or 24VDC	80%	6	2.0	1.0		
LCU300	300 lb-in; 25 lb-ft; 34 Nm			6	2.0	1.0		
LCU600	600 lb-in; 50 lb-ft; 68 Nm			15	2.0	1.9		

<b>LCU Options:</b> H - Tropical Heater/Thermostat; L - Female Output; S2 - Two Additional Limit Switches; T - Heater and Thermostat	<b>Temperature Limits:</b> (all models)		Output Shaft: Male, Zinc plated steel Female (optional)
	Lubrication:	Permanently lubricated gear train and bearings	
	Conduit Connection:	1/2" - 14 NPT	Cover: Composite, PVC
	Declutchable Override:	Standard	Base: Diecast Zinc alloy
			Enclosure: Designed for NEMA 4/4X
			Finish: Powder coated epoxy

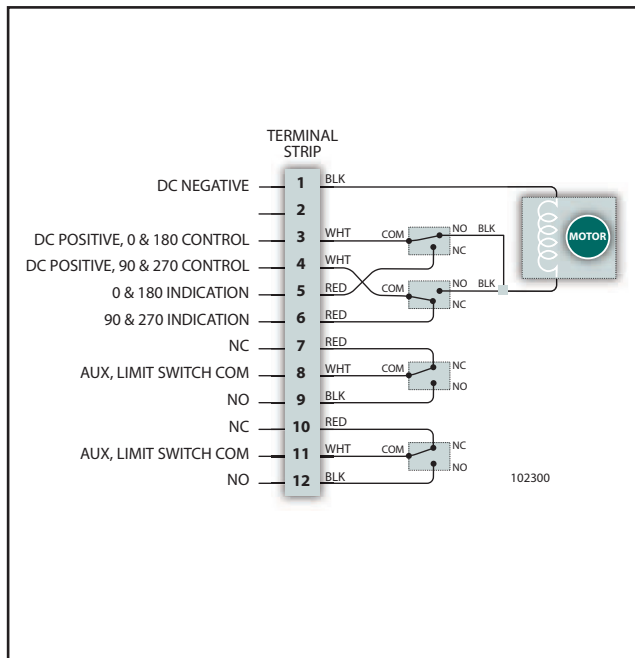
## LCU DIMENSIONS – MALE



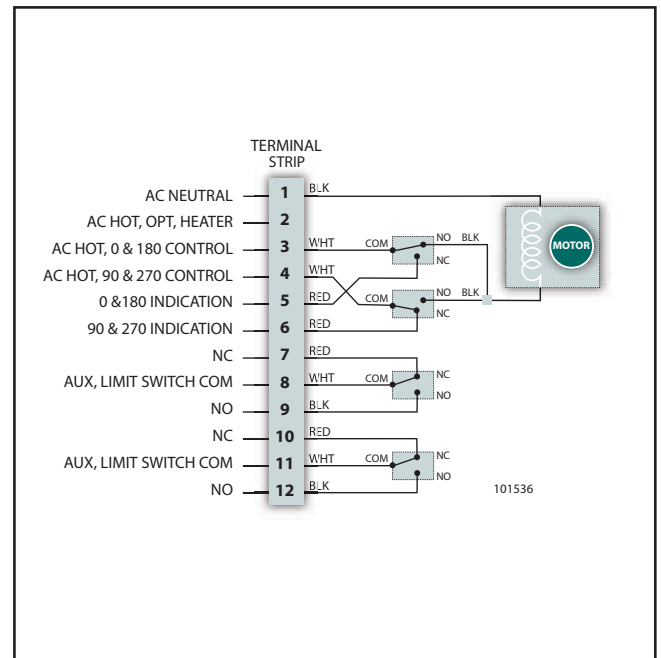
## LCU DIMENSIONS – FEMALE



## LCU WIRING – DC



## LCU WIRING – AC



**WARNING:** As the use of the actuator is application specific, a number of factors should be taken into account when selecting an actuator for a given application. Therefore, some of the applications in which the actuators are used are outside the scope of this document. If you have questions concerning the use, application or compatibility of the actuator with the intended service, contact Metso Flow Control for more information.

## HOW TO ORDER - LCU-SERIES ELECTRIC ACTUATORS

### Example:

Sample model code: LCU600S2TS230AC

1	2	3	4
LCU	600	S2T	S230AC

1	Series
LCU	LCU

2	Torque
150	150 lb-in 12 lb-ft; 17 Nm
300	300 lb-in 25 lb-ft; 34 Nm
600	600 lb-in 50 lb-ft; 68 Nm

3	Options
—	No entry if standard
H <sup>1</sup>	Tropical Heater/Thermostat
L <sup>2</sup>	Female Output
S2	Two Auxiliary Limit Switches
T <sup>3</sup>	Heater/Thermostat

4	Operating Voltage
S115AC	115VAC
S230AC	230VAC
S24AC	24VAC
S12DC	12VDC
S24DC	24VDC

### Notes:

1. This heater option activates at or below 90°F and deactivates at 110°F; it is recommended in high-humidity applications.
2. LCU-Series actuators with L option are supplied with a 14mm female double square output (note that the standard output is a 14mm male square).
3. This heater option activates at or below 40°F and deactivates at 60°F; it is recommended in applications where the temperature may drop below 32°F.

## COMMITTED TO CUSTOMER SERVICE, QUALITY & SUPPORT

### Committed to Customer Service

Metso worldwide web site: [www.metso.com/electricactuators](http://www.metso.com/electricactuators), provides 24 hour a day access to all technical support material-from sales brochures to instruction manuals to installation and troubleshooting tips. For local support, our network of trained stocking distributors/representatives are industry leading experts in valve automation. Contact the Metso, *Valvcon* product web site to locate the nearest stocking distributor/ representative.

### Timely Technical Support

Metso Product Support is on call to answer your engineering or application questions, and to quickly repair or upgrade your actuators. These highly trained support engineers offer a broad range of expertise, with the combined experience to assist specifying engineers and contractors with information on feasibility and special applications.

### A Tradition of Quality

Metso is dedicated to producing superior-quality products that are second to none. Our development laboratory and manufacturing facilities exemplify our total commitment to producing quality products.

Subject to change without prior notice.

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