

ME-4145 and ME-4345 Retrofit non-spring-return Syncube Actuators



Description

There are two different actuator models available.

ME-4145 three point floating,

ME-4345 modulating 0-10 or 2-10Vdc

Spartan designed for high force and long travel applications, these actuators can drive 2-, 3- and 4-port control valves with a unique, patented, non-spring-return movement having five robust moving parts.

Without small toothed, high pitched gears to wear out or whine, the compact movement has a life expectancy in excess of 500,000 cycles (1,000,000 strokes) or 1,500,000 corrections. The reversible, brushless, synchronous, electric motor maintains accurate positioning and provides creep-free control with extreme accuracy.

All of the actuators ride high and clear of pipes, insulation (lagging) and heat, yet the overall height above the actuator remains low.

General Features:

The maximum stem output is force-balance controlled in floating ME-4145 types and electronically controlled in modulating ME-4345 types. A blue/semi-clear case or an opaque cream white case are both available, the former allowing viewing of the moving parts, the latter not. (check with your distributor to ascertain which is kept in local stock). In both cases, a top mounted position indicator is available for viewing or for feeling its rise and fall (useful in dark, cramped places such as ceiling spaces and/or inside fan coil cabinets, etc.).

General Actuator Specifications

Both versions of these actuators share a common rail mechanical design with specific electronic variations for floating and modulating with end of travel shut off.

Mounting yoke: glass filled nylon based, high temperature composite to brass fixing ring. M30 x 1.5

Ambient temperature: 5°C to +50°C; 40°F to 120°F non-condensing

Cover: clear-blue 'K' resin or optional off white ABS

Motor: synchronous reversible brushless

Output cable: PVC coated copper 20ga wire or optional 18ga Plenum cable
Standard length 39" (1m) - other lengths available to order

Stroke: 0.275" (7.0mm)

Enclosure: IP51 (IP54 optional in vertical installation)

Input voltage: 24 Vac, 60/50 Hz, +10% -5% all versions

Consumption: 45mA, 1 Va

Position indication: top mounted stem position height both visual and touch sensitive. Clear case unit gearing is also visible through the cover.

Approvals: meets CE and ROHS requirements, low voltage, Class II 24Vac device



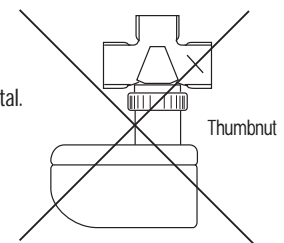
Interchangeable with Honeywell actuators

Look at the chart for our easy compatibility guide.

ME4145 compatible with Honeywell M6410 series	ME4345 compatible with Honeywell M7410 series
These actuators can be installed on Honeywell valve bodies V5852 and V5862, V5853 and V5863, V5822 and V5823, V5832 and V5833,	

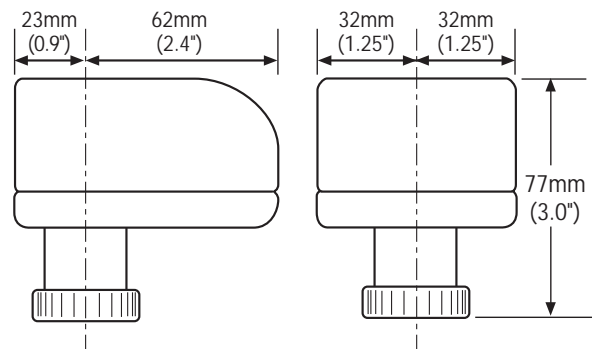
Installation Instructions

The actuator can be installed vertically, or at any angle not exceeding the horizontal. The Actuator mounting thumbnut is to be hand-tightened only, using tools may result in over-tightening.

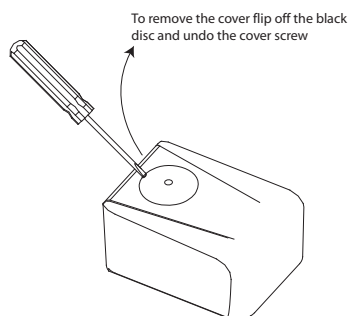


Take note that the actuator should never be attached to the valve if its stem has been electrically driven down for fear of damaging the operating mechanism inside. Actuators shipped separately from the factory are always delivered stem up.

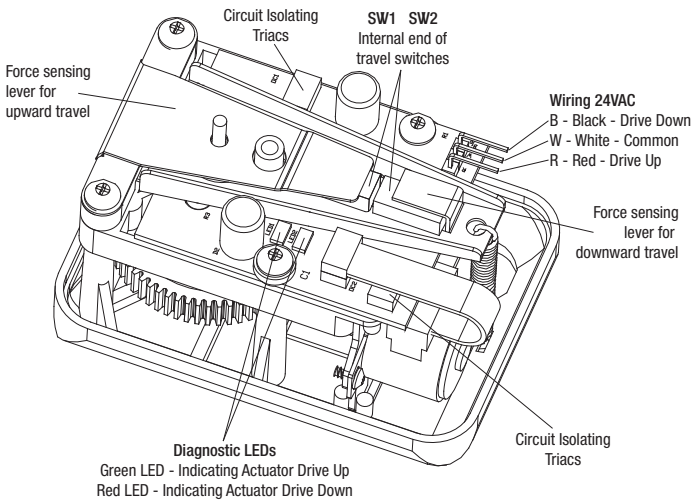
Dimensions



Releasing the Cover:



ME4145 Syncube Non Spring Return Floating (tri-state: increase-decrease) Valve Actuators



The ME4145 3 point (raise lower) floating actuator utilizes a brushless, reversible synchronous A/C motor with constant torque and constant speed for accurate positioning over the full span of the travel. The ME4145 can be controlled by a triac or dry contact relays.

Stroke: 0.275" (7.0mm)

Force: ME4145L - 48LBF (214N)
 ME4145H - 68LBF (300N)

Travel time:

From fully open to fully closed position, 160 seconds on 60Hz and 170 seconds on 50Hz. The same applies for the reverse.

End of travel shut off:

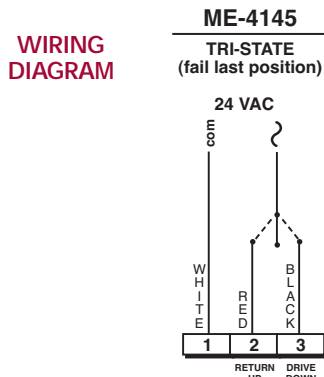
ME4145, floating actuator has a controlled force balanced output and an end of the travel shut off for long life expectancy. The unit can be left powered by the controller indefinitely without damaging or wearing out the base motor.

Parallel connection:

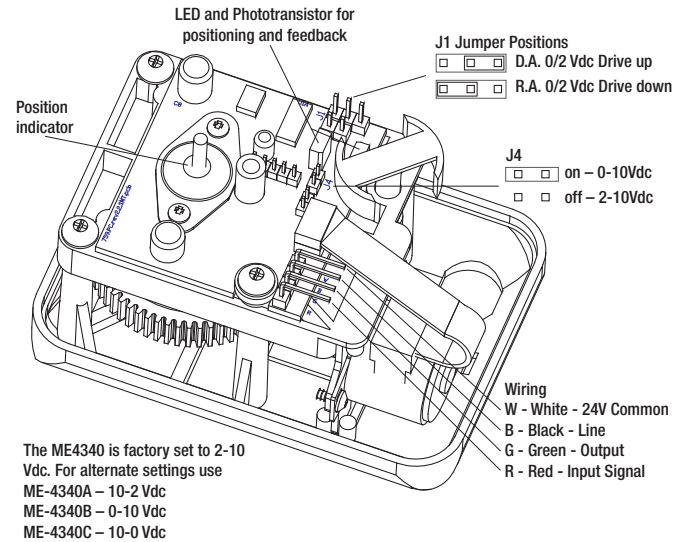
Isolating triacs will allow the units to be connected in parallel from the same output point without electrical interference.

Diagnostics:

Diagnostic LED's, green for up travel and red for down travel will be lit while the signal is on in their particular direction. When the unit achieves its end position or when there is no signal, the LED's will turn off.



ME4345 Syncube Non Spring Return Modulating Valve Actuator



The ME4345, 0/2-10Vdc microprocessor based modulating actuator uses a LED and photo transistor pick up for precise positioning and for end travel automatic shut off. On start up an automatic calibration sequence takes place with the unit running from open to closed position during which the two ends of travel are programmed. The microprocessor also transmits a 1 to 5Vdc signal (0 volts indicates loss of power) on the fourth (green) wire for position transmission to remote BAS system. There is a two second delay before the actuators direction change is implemented.

Input Signal: 0-10Vdc or 2-10Vdc, 100 Kohms impedance.

Selected by jumper J4

* If 4-20 mA input is used, select 2-10Vdc with 500 Ohm 1% resistor. See wiring diagram

* If 0-20 mA input is used, select 0-10Vdc with 500 Ohm 1% resistor. See wiring diagram

Output Signal: 1-5 Vdc, 33 Kohms impedance.

- 0 Vdc = no power to the unit,
- 1 Vdc = actuator stem up,
- 5 Vdc = actuator stem down

Output Force: ME4345L - 48LBF (214N)
 ME4345H - 68LBF (300N)

Stroke: 0.275" (7.0mm)

Travel Time: From fully open to fully closed 180 seconds

Direct/Reverse Acting: Jumper J1 positions - see diagram above

Input Polarity: Input to common (white wire)

