



Type A - PICV Actuator Series

EN90 Series, 24 VAC, Floating or 0 to 10 VDC Control,
Non-Spring Return for 1-1/2" and 2" PICV Control Valves.....AC-A-PICV-1-3

EN56 / ES67 Series, 24 VAC, Floating or 0 to 10 VDC Control,
Non-Spring and Spring Return for 1/2" to 1-1/4" PICV
Control Valves.....AC-A-PICV-4-6

ESL5M2 Series, 24 VAC/DC, Floating or Proportional Control,
0-10 V or 4-20 mA , Spring Return for 2-1/2" and 3"
PICV Control Valves.....AC-A-PICV-7-9

ENL4 Series, 24 VAC, Floating or Proportional Control,
0 to 10VDC or 4 to 20 mA, Non-Spring Return
for 2-1/2" and 3" PICV Control Valves.....AC-A-PICV-10-12



EN90 Series
24 VAC, Floating or 0 to 10 VDC Control
Non-Spring Return
For 1-1/2" and 2" PICV Control Valves

Description

Pressure Independent Control Series EN90 Electronic Valve Actuators require a 24 VAC power supply and receive a floating control signal (EN90C2) or a proportional 0 to 10 VDC signal (EN90B2) to control a valve.

These actuators are designed to work with 1-1/2 inch and 2-inch Pressure Independent Control Series Valves with a 1/4-inch (6.5 mm) stroke and a threaded valve bonnet that fits the actuator.

Features

- Floating or 0 to 10 VDC control
- Non-spring return
- Reversible synchronous motor
- Antilocking gear train
- UL listed for plenum installation
- Direct mounting on valves; no adjustments required
- Visual position indication
- Manual override
- Electromotoric actuator, maintenance-free
- Load-dependent switch-off in stroke limit positions reduces power



EN90 Series Electronic Valve Actuator

Applications

For use in heating and cooling HVAC applications with Pressure Independent Control valves that require up to 90 lbs. (400N) actuator force.



Specifications

Operating Voltage..... 24 VAC $\pm$ 20%

Frequency..... 60 Hz

Fusing of Supply Lines..... Max. 10A Slow

Power Consumption

EN90B2..... 4.5 VA

EN90C2..... 2 VA

Signal Inputs

Terminals Y1, Y2 (EN90C2)..... 3-Position (Floating)

Terminal Y (EN90B2)..... 0-10 VDC, 0.1 mA Maximum

Terminal R (EN90B2)..... 0 to 1,000 Ohms

Signal Output

Terminal U (EN90B2)..... 0 to 10 VDC, 0.5 mA Maximum

Operating Data Run time..... 43 Seconds

Positioning force..... >90 lbs (400 N)

Nominal stroke..... 6.5 mm

Admissible temperature of medium in the valve..... 34°F to 248°F

(1°C to 120°C)

Parallel operation of actuators..... 10 Maximum

Cable Entries..... 2 Entries for 1/2" Conduit Connection

Agency Approvals

UL..... UL873

cUL..... Certified to Canadian Standard C22.2 No. 24-93

Ambient Temperature

Operation..... 23°F to 122°F (-5°C to 50°C)

Transport..... -13°F to 158°F (-25°C to 70°C)

Storage..... 23°F to 122°F (-5°C to 50°C)

Humidity

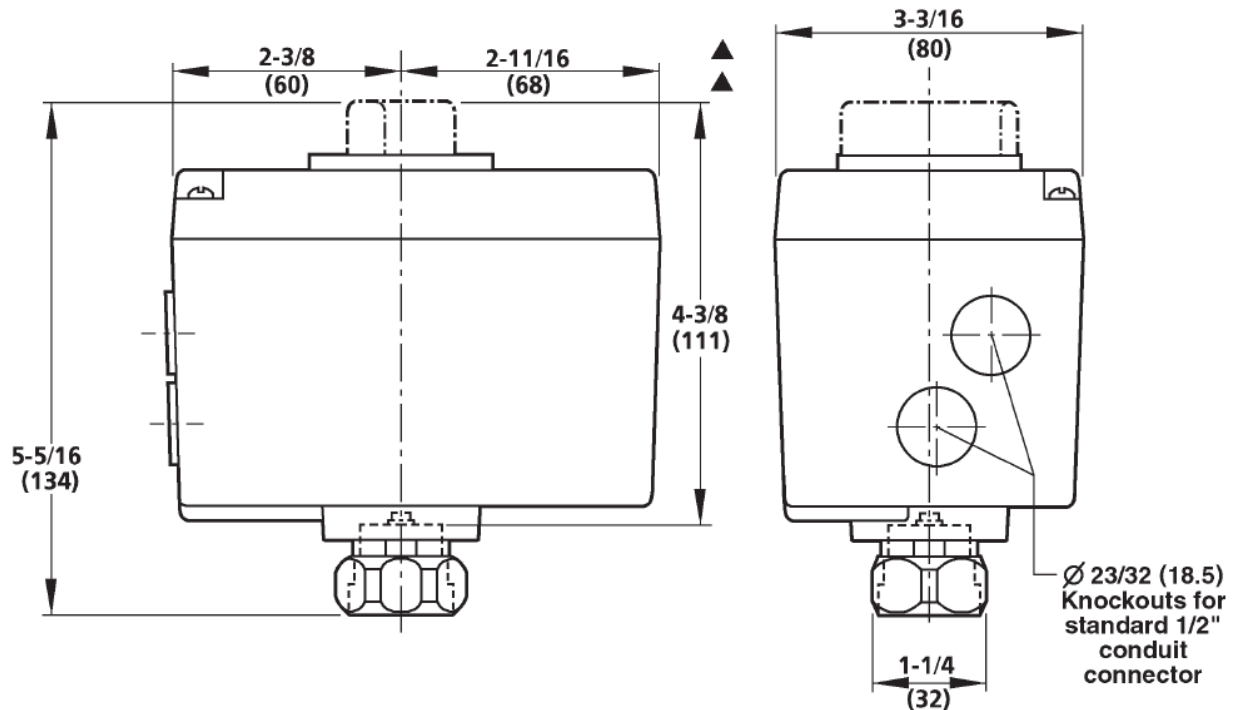
Operation..... 5 to 95% rh

Transport..... <95% rh

Storage..... 5% to 95% rh



Dimensions—inches (mm)



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EN56 / ES67 Series
24 VAC, Floating or 0 to 10 VDC Control
Non-Spring and Spring Return
For 1/2" to 1-1/4" PICV Control Valves

Description

Pressure Independent Control Series ES67 / EN56 Electronic Valve Actuators require a 24 VAC power supply and receive a floating control signal (EN56C2) or a proportional 0 to 10 VDC signal (EN56B2) to control a valve. The 0 to 10V EN56B2 actuator also accepts a 24 VDC power supply.

These actuators are designed to work with 1/2- to 1-1/4 inch normally open and normally closed Pressure Independent Control Series Valves with a 2.5 mm or 5 mm stroke and a threaded valve bonnet that fits the actuator.

Features

- Floating or 0 to 10 VDC control
- Spring return and non-spring return variants
- Automatic stroke calibration on the ES67B2 / EN56B2
- Reduced power consumption in holding position
- Direct coupled installation; actuators mount on valves without tools or any adjustments required
- Manual override
- Visual position indication
- UL listed for plenum installation
- Maintenance-free, electromotoric actuator
- Plenum cable or 3/8" flex conduit connections



ES67 Series Electronic Valve Actuator



EN56 Series Electronic Valve Actuator

Applications

For use in heating and cooling HVAC applications with Pressure Independent Control valves that require >56 lbs. (250N) actuator force.



Specifications

Operating Voltage

VAC..... 24 VAC $\pm$ 20%
VDC (EN56B2 only)..... 24 VDC $\pm$ 25%

Frequency..... 50/60 Hz

Power Consumption (Normal Operation)

EN56C2..... 0.8 VA max.
EN56B2..... 2.5 VA max.
ES67C2 / ES67B2..... 2 VA

Control signal

EN56C2 or ES67C2..... Floating
EN56B2 or ES67B2..... 0 to 10 VDC

Run Time	5 mm Stroke	2.5 mm Stroke
EN56C2	150 Seconds	75 Seconds
EN56B2	90 Seconds	45 Seconds
ES67C2	125 Seconds	70 Seconds
ES67B2	30 Seconds	15 Seconds

Spring Return	5 mm Stroke	2.5 mm Stroke
ES67C2	30 Seconds	15 Seconds
ES67B2	30 Seconds	15 Seconds

Nominal Stroke..... 5 mm

Nominal Force

EN56C2, EN56B2 >56 lbs. (250N)
ES67C2, ES67B2 >67 lbs. (300N)

Agency Approvals

UL..... UL873
cUL..... Certified to Canadian Standard C22.2 No. 24-93

Ambient Temperature

Operation..... 41°F to 122°F (5°C to 50°C)
Transport/Storage..... -13°F to 158°F (-25°C to 70°C)

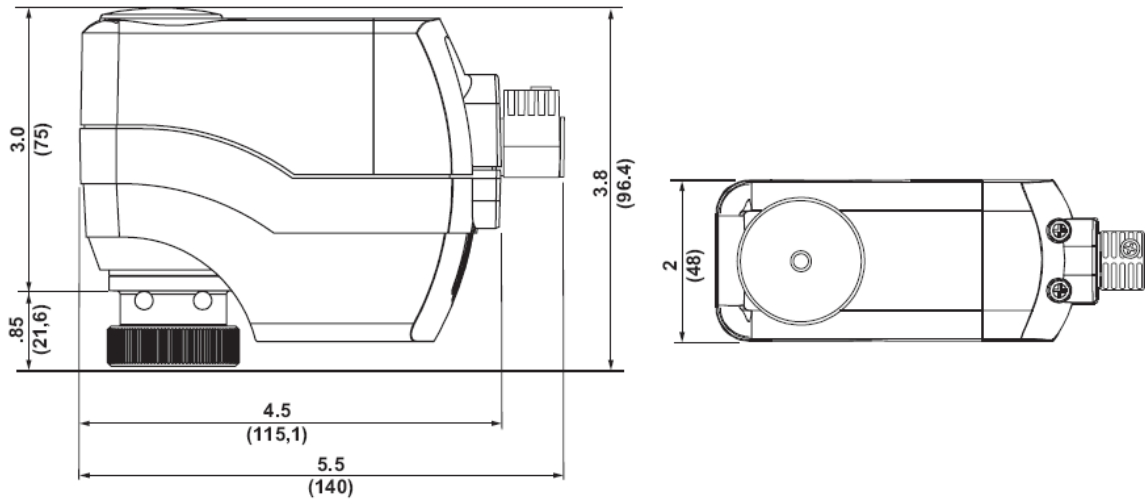
Humidity

Operation..... 5 to 85% rh
Transport..... <95% rh
Storage..... 5% to 95% rh

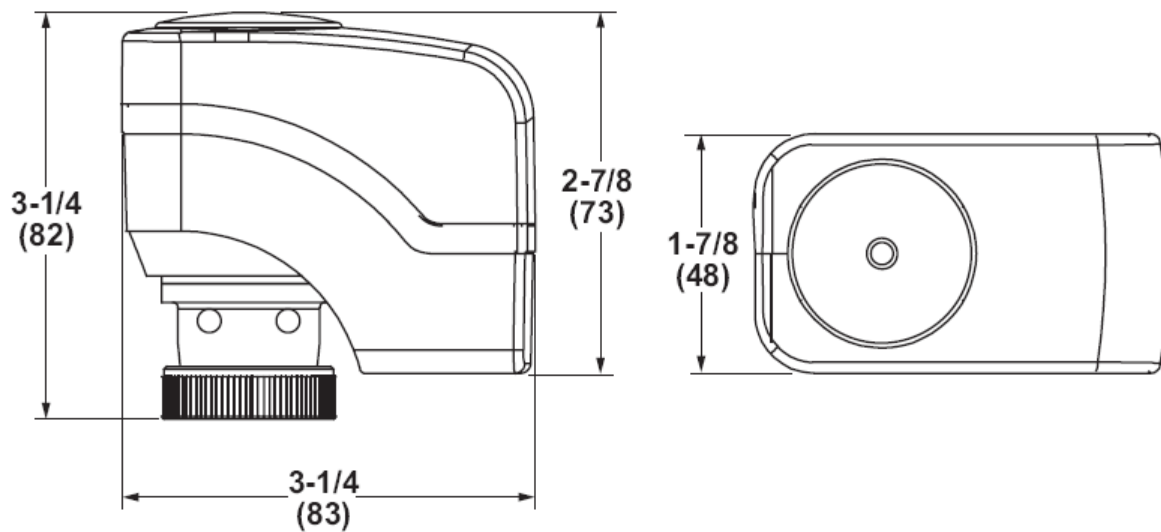


Dimensions—inches (mm)

ES67 Series Electronic Valve Actuator



EN56 Series Electronic Valve Actuator



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ESL5M2 Series

24 VAC/DC, Floating or Proportional Control,
0-10 V or 4-20 mA , Spring Return
for 2-1/2" and 3" PICV Control Valves

Description

Pressure Independent Control Series ESL5M2 Electro-Motoric Valve Actuators require a 24 VAC or DC power supply and receive a floating, 0-10 V or 4-20 mA signal to control a valve. The ESL5M2 Actuators are available as either fail open or fail closed when used with the Dodge Flanged Pressure Independent Control Valves.

These actuators are designed to work the 2-1/2 and 3 inch Pressure Independent Control Series Valves with a 3/4-inch (20 mm) stroke and the standard Dodge bonnet connection.

Features

- Operating voltage: AC/DC 24V
- Control signals: 3-position, DC 0 to 10V, DC 4 to 20 mA
- Fail-safe function
- Position feedback
- Manual adjuster
- Position and status indication (LED)
- Selectable positioning times from 40 to 120 seconds for 3/4 inch (20 mm) Stroke
- Selection of acting direction and flow characteristic
- Direct mounting on Pressure Independent Control Valves
- UL Listed



ESL5M2 Series Electronic Valve Actuator

Applications

Electro-Motoric actuators to operate Dodge Pressure Independent Control Valves with 20 mm stroke as control valves for large air handling units and distribution of hot and chilled water.



Specifications

Operating Voltage..... 24 VAC $\pm 20\%$ 24 VDC $\pm 15\%$

Frequency..... 50 to 60 Hz

Fusing of Supply Lines Maximum 10 Amp slow

Power Consumption 20 VA/7.5 W

Operating Data

Positioning time open/close..... 40 seconds

(default for 20 mm stroke) Positioning time depends on the DIP switch setting.

Positioning force..... ≥ 1100 N

Nominal stroke..... 20 mm to 40 mm

Admissible temperature of medium in the valve 34°F to 248°F (1°C to 120°C)

Signal Inputs

Terminals G1, G2..... 3-position

Voltage..... 24 VAC $\pm 20\%$

24 VDC $\pm 15\%$

Terminal Yu

Voltage..... 0 to 10 VDC

Input impedance..... $\geq 100K \Omega$

Terminal Yi

Power..... DC 4 to 20 mA

Input impedance..... 50 Ω

Fail-safe Function

Terminal G

ESL5M2-FO..... Loss of operating voltage

Actuator stem retracted, pressure independent valve fully open (100%)

ESL5M2-FC..... Loss of operating voltage

Actuator stem extended, pressure independent valve fully closed (0%)

Spring return time..... 15 seconds

Position Feedback

Position feedback U..... DC 0 to 10V + 1%

Load impedance..... $>2.5K \Omega$ resistive

Load Maximum 4 mA

Electrical Connections

Wire cross-sectional areas..... 14 to 30 AWG

Cable entries (1/2" conduit adapter included)..... 2 openings M20 x 1

1 opening M16 x 1.5

Degree of Protection

Housing from vertical to horizontal..... NEMA 4/4X (IP 66)

Insulating class, AC/DC 24V..... III

Environmental Conditions

Operation

Mounting location..... Indoors (weather-protected)

Temperature..... 32°F to 122°F (0°C to 50°C)

Humidity (non-condensing)..... $<95\%$ rh

Transport

Temperature..... -22°F to 158°F (-30°C to 70°C)

Humidity..... $<95\%$ rh

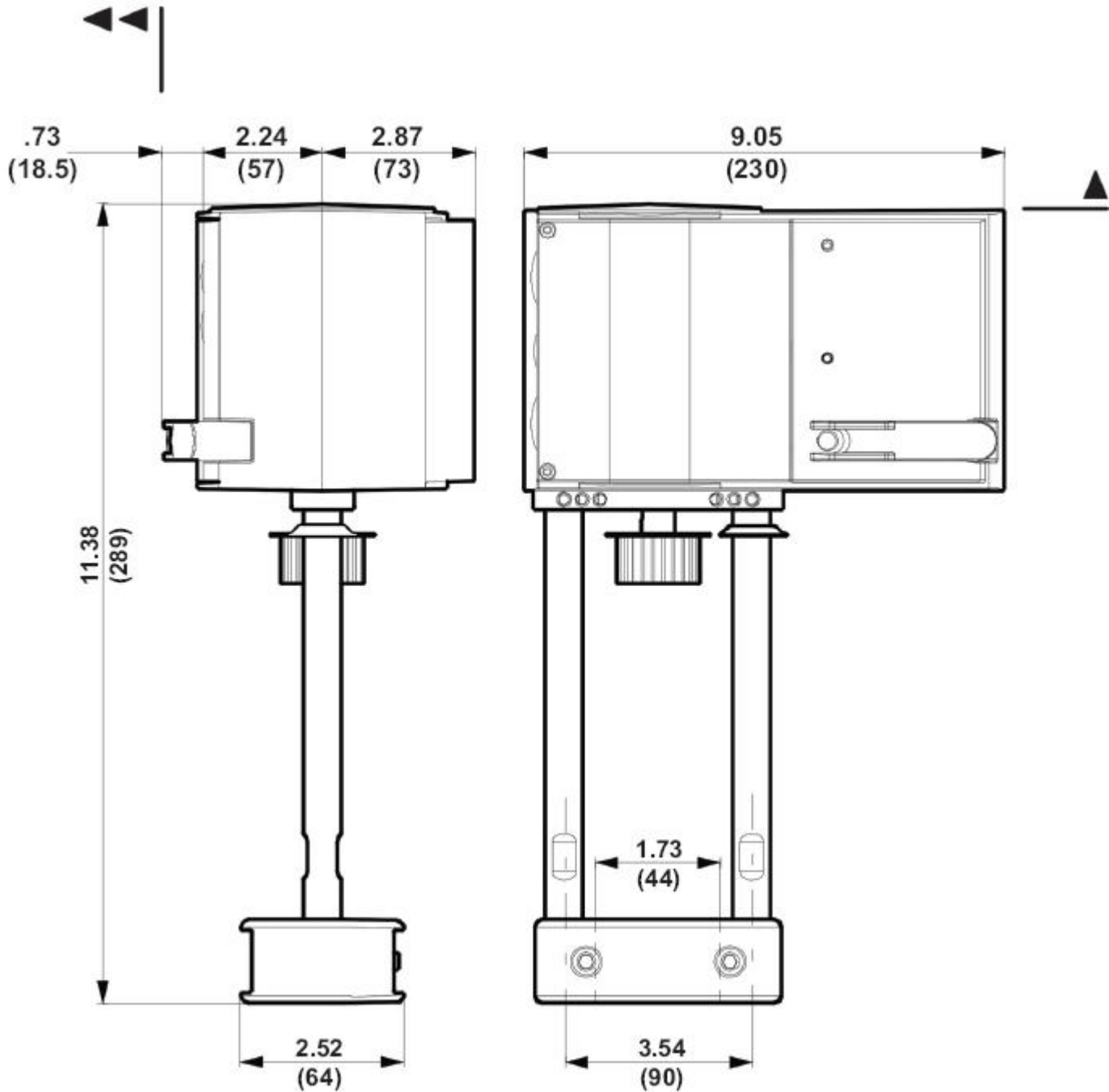
Storage

Temperature..... -22°F to 149°F (-30°C to 65°C)

Humidity..... 5 to 95% rh



Dimensions—inches (mm)



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ENL4 Series

24 VAC, Floating or Proportional Control,
0 to 10VDC or 4 to 20 mA
Non-Spring Return
for 2-1/2" and 3" PICV Control Valves

Description

Designed for use with Pressure Independent Control Valves with a 3/4-inch (20 mm) stroke. The ENL4 Electronic Actuator requires either a 24 VAC or 24 VDC supply, and receives a 0 to 10 VDC or 4 to 20 mA control signal to proportionally control the valve or a floating control signal to provide floating control of the valve.

Features

- Proportional or floating (3P) control
- Direct-coupled installation
- Visual and electronic stroke indication
- Manual override
- Non-spring return
- 180 lb. (800 N) nominal force
- Automatic calibration (ENL4B2 only)
- Electro-mechanical switches protect components from overload and stall condition
- Maintenance-free



ENL4 Series Electronic Valve Actuator

Applications

The ENL4 Electronic Valve Actuator is designed to be used with the Pressure Independent Control Valves in liquid service applications. They are ideal for installations requiring quick response and excellent resolution.



Specifications

Operating Voltage 24 VAC $\pm 20\%$, 24 VDC $+20\%/-15\%$

Frequency 45-65 Hz

Power Consumption (ENL4B2) 8 VA

Power Consumption (ENL4C2) 5 VA

Control Signals (ENL4B2)

Control Input (Y)

Voltage..... 0 to 10 VDC

Current..... 4-20 mA

Control Input (Z)

Resistance..... 0-1000 Ohm

Position Feedback Output (U)..... 0 to 10 VDC

Control Signal (ENL4C2) 3-Position (Floating)

Function

Nominal Stroke 3/4" (20 mm)

Run Time 30 sec.

Nominal Force 180 lb. (800 N)

Agency Approvals UL873 CSA C22.2 No. 24-93

Operating and Storage Temperature

Operating Temperature 23 to 131°F (-5 to 55°C)

Storage Temperature 5 to 131°F (-15 to 55°C)

Transport Temperature -13 to 158°F (-25 to 70°C)

Ambient Humidity 5 to 90% RH, Non-condensing

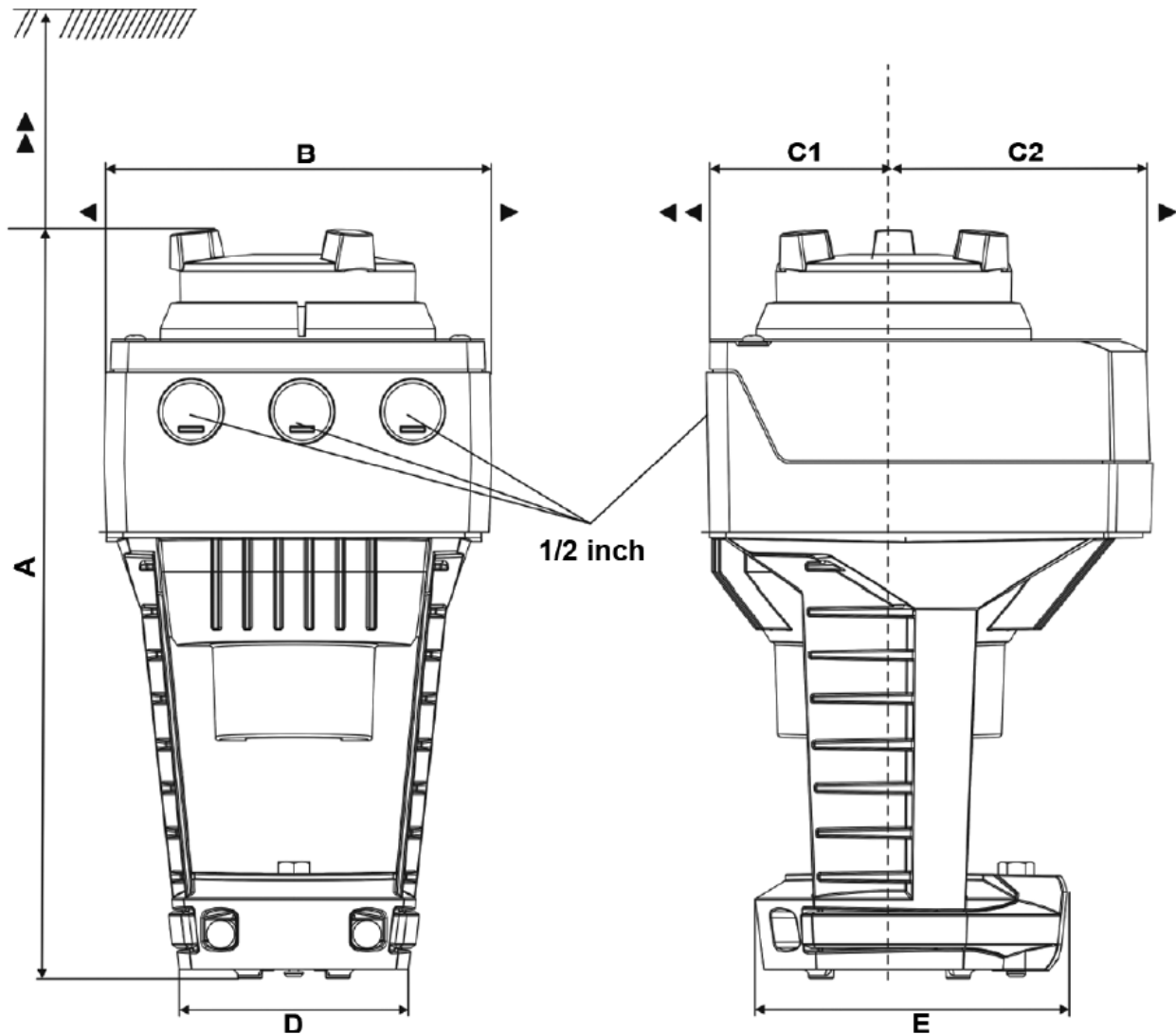
Media Temperature Up to 266°F (130°C)

Conduit Opening 1/2" NPSM

Mounting Location..... NEMA 1 (Interior Only)



Dimensions—inches (mm)



A	B	C	C1	C2	D	E	▶	▶▶
9.5 (242)	5 (125)	6 (150)	2.7 (68)	3.3 (82)	3 (80)	4 (100)	4 (100)	8 (200)

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