

Electro-Mechanical Rack and Pinion Actuator

24 Vac, Proportional or On/Off Control

0 to 10 Vdc or 2-position

Spring Return



Flowrite Electro-Mechanical
Rack and Pinion.

Description

The Flowrite Electronic Rack and Pinion is designed for use with 1/2- to 2-inch Flowrite two- and three-way valves with a 3/4-inch stroke. A linkage fastens the actuator and the valve body together and transforms the rotary movement of the actuator output shaft to the linear motion required to position the valve.

Features

- Brushless DC motor technology with stall protection
- Bi-directional fail-safe spring return
- All metal housing
- UL and C-UL listed
- Spring return to fail-safe position

Applications

The Flowrite Valves and Valve Actuators are used to control water and glycol solutions to 50 percent in small to large air handling units and central plant applications.

A-185

Valves

Rack and Pinion Specifications

Power Supply	
Operating Voltage	24 Vac, +20%, -15%
Frequency	50/60 Hz
Power Consumption	
599-03609 assembly (with GCA161.1U actuator)	9 VA running, 5 VA holding
599-03611 assembly (with GCA121.1U actuator)	8 VA running, 3 VA holding
Equipment Rating	Class 2, in accordance with UL/CSA
Control Signal	
(599-03609 assembly with GCA161.1U actuator)	
Input Signal	
Voltage Input	0 to 10 Vdc (max. 35 Vdc)
Input Resistance	100K Ohms
Current Input	4 to 20 mA
Input Resistance	500 Ohms
Position Output Feedback Signal	0 to 10 Vdc, ±1 mA maximum

Mounting	
Nominal Angle of Rotation	90°
Maximum Angular Rotation	95°
Noise Level	<45 dBA (running)
Enclosure	NEMA 2 in vertical to horizontal 90
Ambient Operating Temperature	-25 to +130° F (-32 to +55°C)
Storage and Transport Temperature	-25 to +158° F (-32 to +70°C)
Ambient Humidity	95% RH, non-condensing
Agency Certification	
UL873	
C-UL certified to Canadian Standard C22.2 No. 24-93	
Pre-connected Cable	18 AWG, 3 ft. (0.9 m)

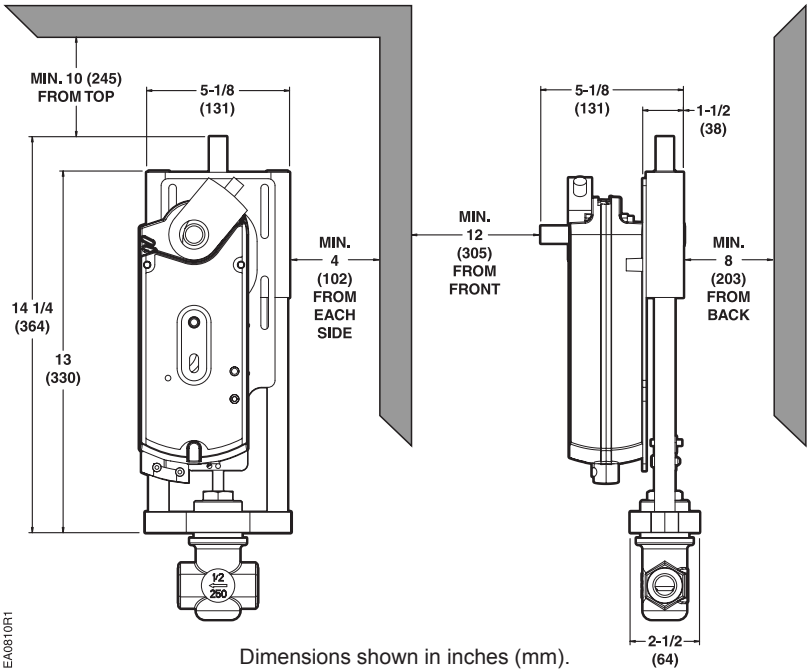
Rack and Pinion Product Ordering

Description	Part No.	Actuator Prefix Code
0 to 10 Vdc, Spring Return	599-03609	298
2-position, Spring Return	599-03611	299
Bracket Only	599-03610	—

Table Note
The linkage, OpenAir Actuator, and Flowrite Valve are available as an assembly. Refer to: *TB 249, Flowrite Valve and Actuator Assembly Selection Technical Bulletin*, 155-304P25 for details and product numbers.

Dimensions

Normal Duty Application as Shipped from Factory



Dimensions shown in inches (mm).