

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.

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Valves

Rack and Pinion Specifications

Power Supply

Operating Voltage24 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 RatingClass 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 Resistance100K Ohms
 Current Input..... 4 to 20 mA
 Input Resistance500 Ohms

Position Output Feedback Signal0 to 10 Vdc, ±1 mA maximum

Mounting

Nominal Angle of Rotation90°
 Maximum Angular Rotation95°
 Noise Level <45 dBA (running)
 EnclosureNEMA 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 Humidity95% RH, non-condensing

Agency CertificationUL873
 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.

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Valves

Dimensions

Normal Duty Application as Shipped from Factory

