

Fisher™ easy-Drive™ 200R

The Fisher easy-Drive 200R is a rugged electric actuator designed for use on rotary-shaft valve bodies in throttling or on/off applications. The actuator can be controlled via Modbus RTU, 4-20mA, or dry contact signals. Set up and calibration is performed with the Fisher easy-Drive Configurator software, which provides one button calibration. The actuator is designed to provide dependable on-off or throttling operation of control valves.



Fisher easy-Drive 200R

Features

- **Low Temperature**— The easy-Drive 200R design allows use in ambient temperatures as low as -40°C (-40°F) without use of a heater.
- **Easy Calibration**—Fisher easy-Drive 200R calibrates by simply opening and closing the valve.
- **Application Flexibility**— Choice of control method including 4-20 mA Positioning and 4-20 mA Level along with configurable Loss of Signal Position and Deadband suits this actuator to many applications.
- **Low Power Consumption**— The Fisher easy-Drive 200R operates with 11 to 30 VDC and consumes less than 0.4 watts when holding position, using Modbus, 4-20 mA, or dry contact control signals.
- **Optional Loss of Power Positioning**— With the reserve power unit, RPU-100, loss of power position is programmable over Modbus.
- **Remote Monitoring and Configuration**— Real time monitoring of position, movements, cycles, travel time to position, and power losses over Modbus.
- **Advanced Configuration**— Advanced control options for process improvements to support complex tank leveling, and other advanced control applications.

Installation

Fisher easy-Drive 200R may be oriented in a variety of positions. Reference the easy-Drive 200R Instruction Manual ([D104742X012](#)).

Table 1. Specifications

<p>Material Temperature Capabilities⁽¹⁾ Electric Actuator Assembly: -40 to 70°C (-40 to 158°F)</p> <p>Available Actuator Configurations⁽⁴⁾ Positioning</p> <p>Power Requirements 11-30 VDC, minimum 2.7 amp power supply required (fuse to 5 amps)</p> <p>Power Requirements 11-30 VDC, minimum 2.7 amp power supply required (fuse to 5 amps)</p> <p>Compatible Fisher Valve Types and Sizes See tables 5 and 6</p> <p>Idle Current Draw ■ 15 mA at 24 VDC ■ 25 mA at 12 VDC</p> <p>Conduit Connections Two 3/4 NPT connections</p> <p>Travel⁽³⁾ Rated: 1/4 turn, 90°</p>	<p>Torque⁽⁵⁾ Rated: 124 N • m (1100 in • lbf)</p> <p>Nominal Stroke Speed⁽²⁾ 9° per second at 24 VDC</p> <p>Hazardous Area Approvals CSA (C/US): Explosion-Proof Class I, Division 1, Groups C and D, T6, Ex db IIB T6, Class I, Zone 1, AEx db IIB T6 ATEX Flameproof - Gas: Ⓔ II 2 G, Ex db IIB T6 Gb IECEx Flameproof - Gas: Ex db IIB T6 Gb</p> <p>Enclosure Rating Type 4X and IP66</p> <p>Duty Cycle 50% maximum</p> <p>Enclosure Material Cast aluminum alloy with powder coat paint</p> <p>Mounting Type ISO 5211 F10 (Shaft adapter type/size as ordered)</p> <p>Approximate Weight: 17.7 kg (39 lbs)</p>
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1. The temperature limits in the referenced tables and any applicable code or standard limitations should not be exceeded.
2. Variation can be expected, based on temperature and pressure of application.
3. Actuator is capable of 14° of over-travel (104° of total travel) for travel stop adjustment and valve zeroing.
4. Not compatible for use with valve assemblies that include a handwheel or manual actuator.
5. Not intended for applications where process conditions could produce torque beyond the rated torque.

Table 1. Hazardous Area Classifications - CSA (Canada and United States)

Certification Body	Certification Obtained	Entity Rating	Temperature Code	Conduit Connections	Enclosure Rating
CSA	Class I, Division 1, GPC, D T6	---	T6 (Tamb ≤ 70°C)	Two 3/4 NPT Connections	CSA Type 4X Enclosure

Table 2. EMC Summary Results - Immunity

Port	Phenomenon	Basic Standard	Test Level	Performance Criteria ⁽¹⁾
Enclosure	Electrostatic discharge (ESD)	IEC 61000-4-2	4kV Contact 8kV Air	A
	Radiated EM field	IEC 61000-4-3	80 to 1000 MHz @ 10V/m 1kHz AM at 80% 1400 to 2000 MHz @ 3V/m 1kHz AM at 80% 2000 to 2700 MHz @ 1V/m 1kHz AM at 80%	A
	Rated power frequency magnetic field	IEC 61000-4-8	30 A/m @ 50 and 60 Hz	A
I/O signal/ control	Burst	IEC 61000-4-4	1kV	B
	Surge	IEC 61000-4-5	1kV cable shield, and line to ground	B
	Conducted RF	IEC 61000-4-6	3V 150 kHz to 80 MHz at 3 Vrms	A

Performance criteria is +/- 5% stem position
1. A= No degradation during testing. B = Temporary degradation during testing, but is self recovering.

Table 3. Square Shaft Connection Size

SQUARE SHAFT SIZE (mm)	SHAFT DIAMETER (Inch)
9	0.50
11	0.62
14	0.75
19	1.00

Table 4. Splined Shaft Connection Size⁽¹⁾

SPLINED SHAFT SIZE (Inch)
5/8
3/4

1. Splined Shaft configuration is available for retrofit only.

Table 5. Compatible Fisher Valve Types and Sizes for Square Shaft Connection

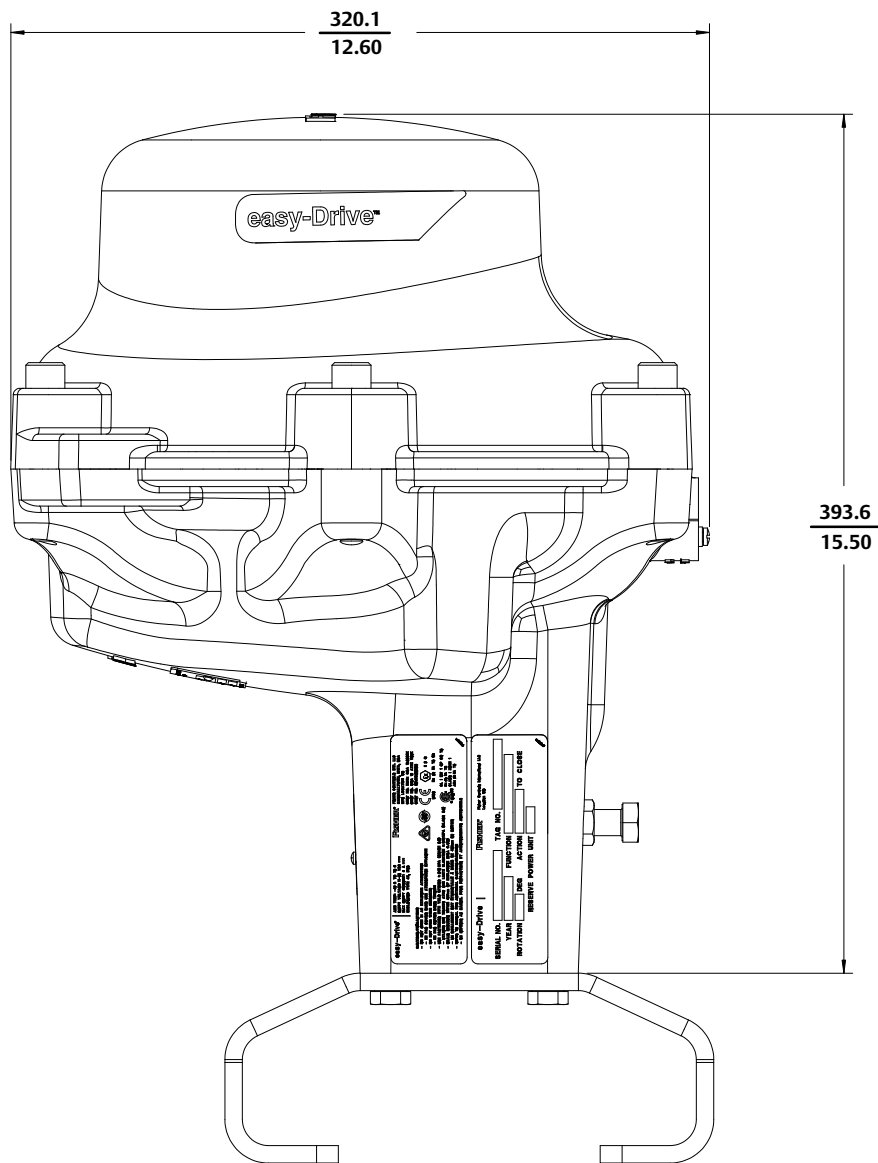
VALVE TYPE	VALVE SIZE, NPS	SQUARE SHAFT CONNECTION SIZE (mm)
V150, V150E, V200, and V300	1	9
	1-1/2 and 2	11
	3 and 4	14
	6	19
8580	2	9
	6	19
8580 and 8590	3	11
	4	14

Table 6. Compatible Fisher Valve Types and Sizes for Splined Shaft Connection (Retro-fit Only)⁽¹⁾

VALVE TYPE	VALVE SIZE, NPS	SPLINE SHAFT CONNECTION SIZE (Inch)
V150, V150E, V200, and V300	1-1/2 and 2	5/8
	3 and 4	3/4
8580 and 8590	3	5/8
	4	3/4

1. Mounting bracket not supplied with splined shaft adaptor.

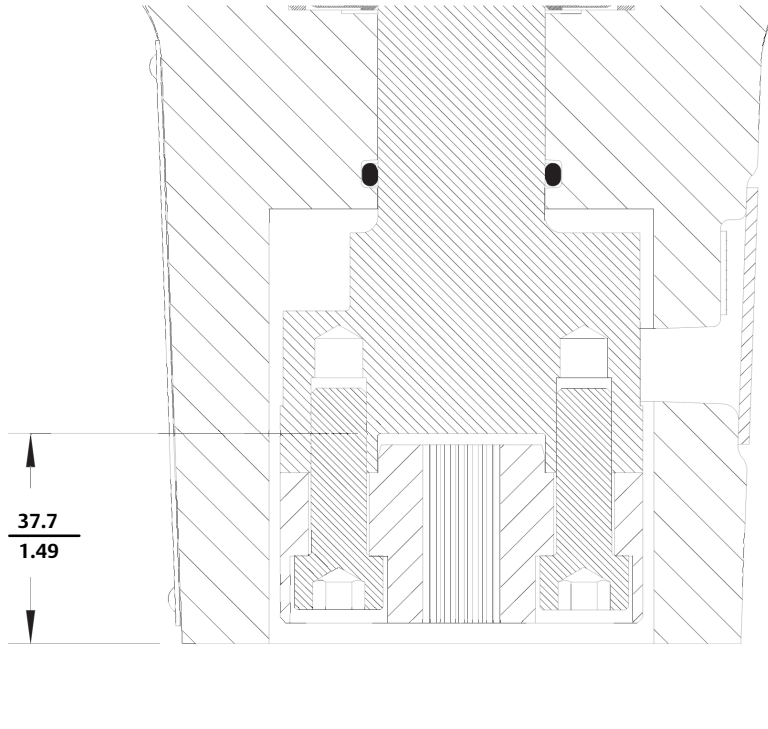
Figure 1. Fisher easy-Drive 200R Actuator Dimensions



mm
inch

GE69539

Figure 2. Fisher easy-Drive 200R Spline Shaft Mounting



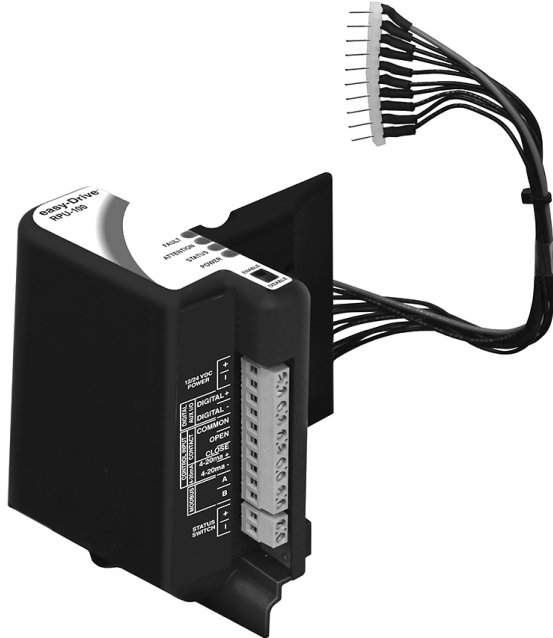
When designing mounting for spline shaft bodies, refer to figure 2 for maximum engagement length into the 200R output shaft adapter. Mounting yoke should

be designed with ISO 5211 F10 bolt pattern. Refer to the body documentation for spline shaft projection length and mating bolt pattern.

easy-Drive RPU-100

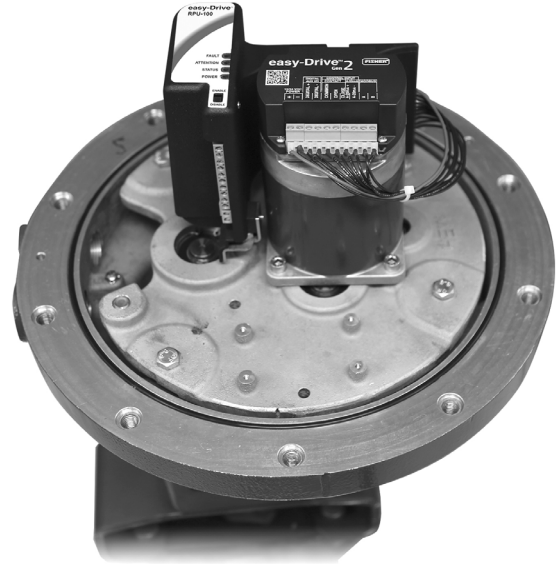
Designed for use in Fisher easy-Drive actuators, the RPU-100 provides energy for positioning the actuator to the user-defined location on loss of incoming power. Reference the easy-Drive RPU-100 Instruction Manual ([D104551X012](#)).

Figure 3. Fisher RPU-100 with Wiring Harness



X1718

Figure 4. Fisher easy-Drive 200R Actuator with RPU-100



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