# **Final Control Elements**

# SERVO-TOP II ELECTRONIC ACTUATOR

(rotary type; max. torque 200 N·m, Lloyd's Register type approved)

General Functions

- Control valve actuator drive
- I to I positioner incorporated



# MODEL: PRP-[1][2]-[3]/LR

For detailed information, refer to the general specification sheet.

### **ORDERING INFORMATION**

Code number: PRP-[1][2]-[3]/LR

Specify a code from below for each [1] through [3]. (e.g. PRP-01A-L3/LR)

Use Ordering Information Sheet (No. ESU-4823). Factory setting will be used if not otherwise specified.

# [1] TORQUE, OPERATION TIME

- **01**: 100 N·m, 12 sec./90° (factory setting; changeable within 8.5 to 125 sec.)
- **03**: 100 N·m, 24 sec./90° (factory setting; changeable within 8.5 to 125 sec.)
- **00**: Specify factory setting operation time (within 8.5 to 125 sec.; refer to the speed and torque chart)
- 11: 200 N·m, 16 sec./90° (factory setting; changeable within 16 to 125 sec.)
- **13**: 200 N·m, 24 sec./90° (factory setting; changeable within 16 to 125 sec.)
- **10**: Specify factory setting operation time (within 16 to 125 sec.: refer to the speed and torque chart.)

# [2] INPUT

#### Current

 $\textbf{A}{:}$  4 – 20 mA DC (Input resistance 250  $\Omega)$  Voltage

6: 1 – 5 V DC (Input resistance 1 M $\Omega$  min.)

### [3] POWER INPUT

AC Power

**K3**: 100 - 120 V AC **L3**: 200 - 240 V AC

### **OPTIONS**

Standards & Approvals

/LR: Lloyd's Register type approved

# GENERAL SPECIFICATIONS

#### Degree of protection: IP66

(Cable gland is not included. Provide adequate ones to comply with the necessary protection level.) Action: Direct or reverse (In "reverse" action, the output stem turns counterclockwise (seen from the indicator) with an input signal increase.) Field selectable with DIP switches Operational duty time ratio: 10% max. @ -20 to +70°C (-4 to +158°F) e.g. Set PID controller's parameters so that on average PRP stops 45 sec. for 5 sec. operation. Wiring conduits: G 1/2 female thread (two) Terminal block: 7.62 mm pitch; M3 screw terminals (torque 0.8 N·m) Housing material: Diecast aluminum Coating: Baked acrylic resin Drive: Stepping motor Insulation class: E Full-open and full-closed positions: -5 to +95°; minimum span 45°; field adjustable with control buttons Deadband adjustment: 0.1 - 5.0 % (Deadband width affects the resolution. See Resolution in Performance section.) Isolation: Signals to power to sequential signals to metallic housing Fuse: 3 A (replaceable) Manual operation: Available (10 turns/90°)

### **INPUT SPECIFICATIONS**

**DC Current**: Input resistor incorporated

■ Forced Operation: External contact signal input terminals provided for compulsory opening or closing operation Rating: 5 V DC @ 2.5 mA

■ Split Range: Specify split range type and split point. Split range type: LO or HI Split point: 30 – 70 %

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**Dielectric strength**: 2000 V AC @ 1 minute (signal or metallic housing to power to sequential signals) 500 V AC @ 1 minute (signal to metallic housing)

### **STANDARDS & APPROVALS**

Approval: Lloyd's Register Type Approval System, Test Specification number 1, 2002 Environmental categories ENV 3

### **OUTPUT SPECIFICATIONS**

- Position Signal: 4 20 mA DC
- Load resistance:  $\leq 300 \Omega$
- Sequential Control Signal: "Full-open", "full-closed" and "alarm"
- **Open collector**: 30 V DC @ 100 mA max.
- Speed & torque



### **INSTALLATION**

AC power: 100 - 120 V AC or 200 - 240 V AC, 50/60 Hz Power consumption: Approx. 180 VA Stand-by current: Approx. 18 VA Operating temperature: -20 to +70°C (-4 to +158°F) Operating humidity: 30 to 85 %RH (non-condensing) Vibration: 0.7 G (6.9 m/s<sup>2</sup>) max. Mounting position: All directions Do not mount the actuator with its output stem on the upside if the actuator is to be exposed to dripping water. Weight: Approx. 10.8 kg (23.8 lb)

### PERFORMANCE

**Resolution**: 1/200 with 0.5 % deadband (factory setting); 1/1000 with 0.1 % deadband **Insulation resistance**:  $\geq$  100 M $\Omega$  with 500 V DC (signal to power to sequential signals to metallic housing)

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### **DIMENSIONS** unit: mm (inch)





ø90 (3.54)



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PRP SPECIFICATIONS