

Fisher™ 3610J and 3620J Positioners and 3622 Electro-Pneumatic Converter

Introduction

Scope of Manual This instruction manual includes installation, operation, calibration, maintenance, and parts ordering information for Fisher 3610J and 3620J positioners. (i.e. 3610J, 3610JP, 3611JP, 3620J, 3620JP, and 3621JP). This manual also provides field installation information for the Fisher 3622 electro-pneumatic converter. Refer to separate instruction manuals for information on the actuator and control valve. Contact your Emerson sales office if assistance is needed in obtaining actuator or control valve instruction manuals.

Do not install, operate or maintain a 3610J or 3620J positioner without being fully trained and qualified in valve, actuator and accessory installation, operation and maintenance. To avoid personal injury or property damage it is important to carefully read, understand, and follow all of the contents of this manual, including all safety cautions and warnings. If you have any questions about these instructions, contact your Emerson sales office before proceeding

Description

3610J or 3610JP pneumatic positioners and 3620J or 3620JP electro-pneumatic positioners are used with diaphragm rotary actuators and piston rotary actuators as shown in figure 1. 3611JP and 3621JP positioners are used with Fisher 585, 585R, 585C, or 585CR sliding stem actuators as shown in figure 2. The positioner mounts integrally to the actuator housing and provides a valve ball, disk, or plug position for a specific input signal. The positioner accepts either a pneumatic or milliampere input signal. Refer to the Type Number Description for a detailed explanation of type numbers.

Available Configurations

Refer to the type number description on page 5

Input Signal

3610J, 3610JP, and 3611JP: Standard: 0.2 to 1.0 bar (3 to 15 psig), 0.4 to 2.0 bar (6 to 30 psig), or split range, see table 8 Adjustable: Zero is adjustable from 0.07 to 1.5 bar (1 to 22 psig) for standard valve rotations or valve travels. Span is adjustable from 0.2 to 2.0 bar (3.2 to 28.8 psi) for standard valve rotations or valve travels. Adjustment locations are shown in figure 13. 3620J, 3620JP, and 3621JP: 4

to 20 mA DC constant current with 30 VDC maximum compliance voltage. Minimum terminal voltage is 2.4 VDC at 20 mA. Split range is also available, see table 8.

Equivalent Circuit

3620J, 3620JP, and 3621JP: 120 ohms shunted by three 5.6 V zener diodes

Output Signal

Pneumatic pressure as required by the actuator up to full supply pressure Action(1): Field-reversible between direct and reverse within the pneumatic positioner

Typical Performance

for 3610J, 3610JP, 3620J, and 3620JP Positioners with 1051, 1052, and 1061 Actuators Independent Linearity Direct-Acting 3610J and 3620J: $\pm 1.5\%$ of output span Reverse-Acting 3610J and 3620J: $\pm 0.75\%$ of output span Direct-Acting 3610JP and 3620JP: $\pm 1.25\%$ of output span Reverse-Acting 3610JP and 3620JP: $\pm 0.5\%$ of output span Hysteresis 3610J: 1.0% of output span 3620J: 0.75% of output span 3610JP: 0.5% of output span 3620JP: 0.6% of output span Deadband: 0.1% of input span Refer to table 3 for typical performance for 3611JP and 3621JP positioners