Explosion Proof Electric Actuated Shut-Off/ Flow Regulating Needle Valve

Operation and Maintenance Manual

Catalog: 02-9342ME

January 2017

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker Autoclave Engineers

ENGINEERING YOUR SUCCESS.

Model # _____

Serial # _____

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Section 1.0
Introduction

The Parker Autoclave Engineers Electric Flow Control valves are designed to operate up to 60,000 psi depending on the model number. The valves are "fail-as-is" meaning the valve maintains its last position on signal or power failure.

Section 2.0
Meaning of Safety Words

A safety related message is identified by a safety alert symbol and a signal word to indicate the level of risk involved with a particular hazard. The definitions of the three signal words are as follows:

⚠ WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

⚠ CAUTION

Internal dip switches are factory set. Do not adjust switches unless directly advised in Section 6 (Service) of this manual.

⚠ CAUTION

Read this manual in its entirety prior to any attempt to install, operate, or perform maintenance on the Electric Flow Control Valve.

If you are unsure of how to proceed, please contact Parker Autoclave Engineers Service Department at (814) 860-5700 or fax us at (814) 860-5811.

Section 3.0
Technical Specification

Electrical Power

Power Required: 24 VDC/72 Watt Maximum

Input Impedance: 250 Ohms (4-20 mA input)

Environmental

Atmosphere: NEC CLASS I, DIV 1, GROUP B,C,D

Operating Tempertaure (Actuator): -40º to 85º C

Maximum Weight: See drawing.

Dimensions: See drawing.

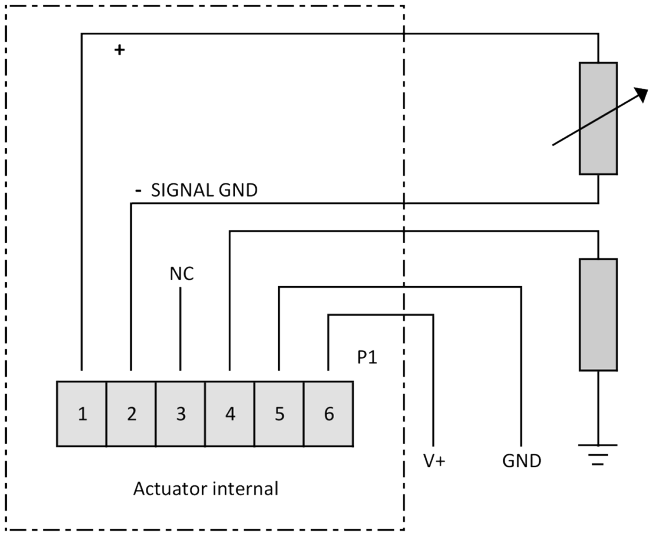
Personnel:

Installation must be carried out by qualified personnel familiar with all pertinent wiring practices, codes, and safety procedures.

Section 4.0
Drawings

VALVE SERIES	DRAWING
1/8" 10V	AE003953
1/4" 10V	AE003954
3/8" 10V	AE003955
1/2" 10V	AE003956
1/4" SW	AE003957
3/8" SW	AE003958
1/2" SW	AE003959
1/4" 20SM	AE003960
3/8" 20SM	AE003961
9/16" 20SM	AE003962
1/48" 30VM	AE003963
3/8" 30VM	AE003964
9/16" 30VM	AE003965
1/8" 60VM	AE003966
3/8" 60VM	AE003967
9/16" 60VM	AE003968

Wiring schematic:



4..20 mA Signal source, user powered

External 4..20 mA Sensing resistor

DO NOT CONNECT PIN 4 DIRECTLY OR THROUGH A MULTIMETER TO GROUND. A SENSING RESISTOR OF 50 OHMS OR MORE NEEDS TO BE PRESENT. NOT OBSERVING THIS WARNING WILL DAMAGE THE EQUIPMENT.

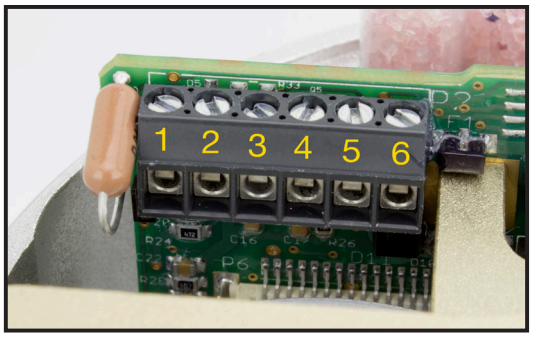
Terminal #	DC Power Supply only
6	+24 VDC
5	Power ground
4	Output signal (4..20mA)
3	Not Connected
2	Isolated input signal GND
1	Isolated input +signal (4..20mA)

The actuator 4..20 mA output is internally supplying the signal current and can drive sufficient voltage for any sensing resistor up to 250 ohms.

The potential of the external GND after the sensing resistor may not be more than +6 VDC/-2 VDC away from the power GND of the actuator.

Section 5.0
Installation

Electrical Wiring:
The actuator comes with a female 1/2" NPT connection for the user to connect their electrical piping. It is the responsibility of the user to connect to the actuator in a way that meets their hazardous location codes. The electrical wiring is connected at the terminal block as indicated on photo and schematic below.



Signal Positioning:
A 4-20mA signal corresponds to a 0-100% open position. A 4.0mA signal directs the valve to a fully closed position. When a 20mA signal is given the valve is fully opened a full 5 turns. The relationship between the signal and the valve position is linear.

High Pressure Plumbing:
Refer to the Tools and Installation section of the Parker Autoclave Engineers VFT product catalog.

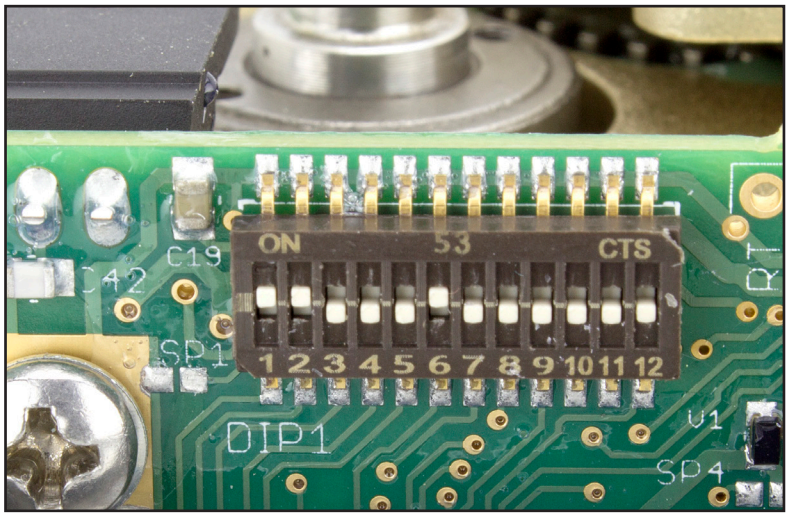
Section 6.0
Service

For valve maintenance or packing leaks refer to the Manual Valves Operation and Maintenance Manual (Catalog# 02-0024ME).

RE-ZERO THE VALVE AFTER MANUAL ADJUSTMENT. REMOVE THE TOP COVER AND APPLY POWER TO THE ACTUATOR AND CYCLE DIP SWITCH 12 FROM OFF TO ON AND BACK TO OFF. VERIFY THAT THE VALVE STARTS TO MOVE. THE VALVE WILL RUN UNTIL IT COMPLETELY CLOSES. IT IS NOW READY FOR OPERATION.

CAUTION

Switches 1 through 11 are factory set and will vary depending on the valve type.
Do not adjust switches 1 through 11.



For service, contact the Parker Autoclave Engineers' Representative in your area or phone Parker Autoclave Engineers' Support Services at 1-814-860-5703.

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