READ THESE INSTRUCTIONS CAREFULLY BEFORE MAKING ANY ADJUSTMENTS TO THE ACTUATOR. THE ACTUATOR MUST BE SERVICED BY QUALIFIED PERSONNEL - COMPLYING WITH ALL APPLICABLE CODES, STANDARDS AND SAFETY REGULATIONS.

INTRODUCTION

This document provides instructions on how to setup the optional BSR—Battery Spring Return kit used with Valworx 5610/5615/5616 series electric actuators. The BSR kit is a factory installed option, but the setup can be changed in the field, if necessary, to fail closed or fail open as required.

EXPLANATION OF BSR KIT

The BSR– Battery Spring Return kit is available as a factory installed option for Valworx 5610/5615/5616 series electric actuators. The BSR kit will work with both on-off models and actuators with DPS positioners. The battery spring return system provides an alternative source of power to drive the actuator to a preset fail position in the event of an external power failure. The industrial quality battery is constantly trickle charged during normal operation to assure maximum charge when required. The battery kit is installed under the actuator cover. No separate control modules or boxes are required.

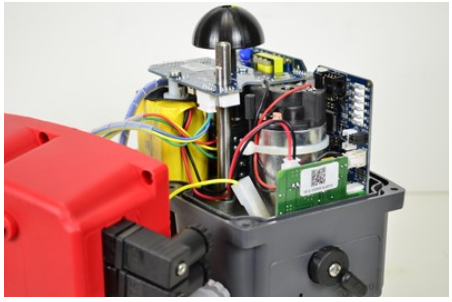
WARNING: *Remove all electrical power to actuator prior to setup. Do not touch any electrical components under the red cover. There is a risk of electrical shock.*

REMOVING THE ACTUATOR COVER

A. Disconnect all electric power to the actuator

B. Remove the black manual override knob

C. Loosen hex screws and carefully remove red cover as shown.



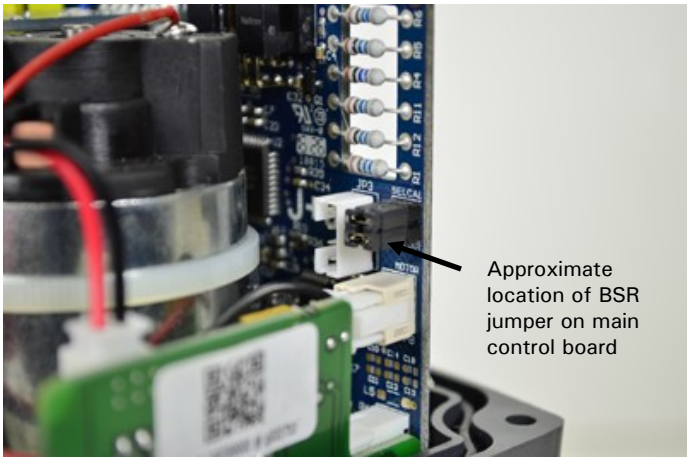
REINSTALLING ACTUATOR COVER

A. Reinstall the red cover being careful with the loose wires. DO NOT FORCE THE COVER, this may damage the wiring or other components. Tighten all cover screws securely.

B. Reinstall the black manual override knob and secure with the socket head cap screw.

C. Reinstall the manual override cover

WARNING: *KEEP HANDS AWAY FROM ACTUATOR (VALVE) when removing electrical power. Actuator will move to fail position with loss of external power.*



BSR JUMPER

On-off electric actuators with the BSR kit installed can be setup to fail closed or fail open with the BSR jumper as follows:

FAIL CLOSED: Jumper in place (see above), functions as normally closed/fail closed (NC). Actuator will move to the closed position with loss of external power.

FAIL OPEN: Remove lower jumper, functions as normally open/fail open (NO). Actuator will move to the open position with loss of external power.

SETUP OPTIONS FOR 5610/5615/5616 SERIES ACTUATORS WITH BOTH THE BSR - BATTERY SPRING RETURN KIT AND DPS - DIGITAL POSITIONER SYSTEM KIT INSTALLED

Function when external power supplied to actuator and ....

Option 1

BSR jumper in NC position, DPS dip switches set to NC

- Valve NC with 4mA or 0v signal
- Power failure, valve moves directly to NC position
- Resume power, valve moves directly to control signal position

Option 2

BSR jumper in NC position, DPS dip switches set to NO

- Valve NO with 4mA or 0v signal
- Power failure, valve moves directly to NC position
- Resume power, valve moves directly to control signal position

Option 3

BSR jumper in NO position, DPS dip switches set to NC

- Valve NC with 4mA or 0v signal
- Power failure, valve moves directly to NO position
- Resume power, valve moves to control signal position

Option 4

BSR jumper in NO position, DPS dip switches set to NO

- Valve NO with 4mA signal or 0V
- Power failure, valve moves directly to NO position
- Resume power, valve moves to control signal position

BATTERY REPLACEMENT

A. Disconnect all electric power to the actuator
B. Remove the actuator red cover as previously described
C. Remove the battery retaining screw and unplug the electrical connector from circuit board
D. Replace with new battery and plug into circuit board
E. Reinstall red cover as previously described
F. Connect power to actuator to charge battery (5610/5615 models reach full charge within 28 hours, 5616 series: 54 hours)

Definitions

NC — Normally Closed
NO — Normally Open
DPS — Digital Positioner System
BSR — Battery Spring Return
mA — Milliamp
V — Volts