

Valvcon™ I-Series network auxiliary limit switch kit

Installation, maintenance and
operating instructions

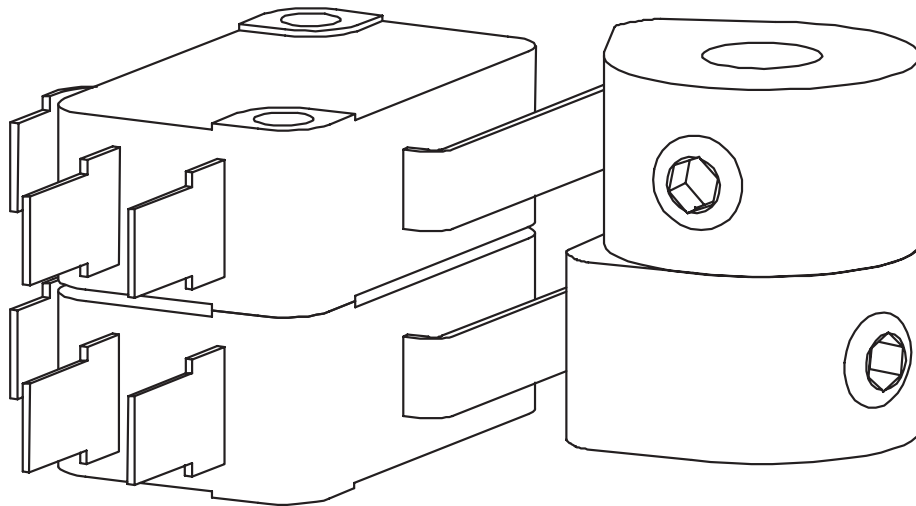


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READ THESE INSTRUCTIONS FIRST!

These instructions provide information about safe handling and operation of the valve.

If you require additional assistance, please contact the manufacturer or manufacturer's representative.

SAVE THESE INSTRUCTIONS!

Addresses and phone numbers are printed on the back cover.

1. GENERAL

This instruction manual contains important information regarding the installation, operation, and troubleshooting of the Valvcon™ I-Series Network Auxiliary Limit Switch Kit. Please read these instructions carefully and save them for future reference.

1.1 DESCRIPTION

The I-Series options for additional limit switches provide two dry contacts for the Network module, and are fully adjustable to trip at any position throughout the cycle of the actuator. Each switch is operated by a stainless steel cam that is mounted directly onto the output drive shaft.

The switches are single pole, double throw switches rated for 0.1 amps @ 125 VAC, with gold alloy contacts, CSA certified. Auxiliary switch kit P/N VC099400 is universal to all standard I-Series actuators. The Switches connect to the Network Module to provide position feedback to the network

1.2 SAFETY PRECAUTIONS

Additional switches provide position feedback to the network module.

WARNING:

DO NOT EXCEED THE ACTUATOR PERFORMANCE LIMITATIONS!

EXCEEDING THE TORQUE LIMITATIONS MARKED ON THE ACTUATOR IDENTIFICATION NAMEPLATE LABEL MAY CAUSE DAMAGE TO THE ACTUATOR AND/OR FINAL DRIVE ELEMENT.

WARNING:

DO NOT EXCEED THE ACTUATOR ELECTRICAL LIMITATIONS!

EXCEEDING THE ELECTRICAL LIMITATIONS MARKED ON THE ACTUATOR IDENTIFICATION NAMEPLATE LABEL MAY CAUSE DAMAGE TO THE ACTUATOR AND/OR PERSONAL INJURY.

WARNING:

BEWARE OF MOVEMENT OF THE FINAL DRIVE ELEMENT AND ANY LINKAGE BETWEEN IT AND THE ACTUATOR!

KEEP HANDS, OTHER PARTS OF THE BODY, TOOLS AND OTHER OBJECTS OUT OF THE WAY OF MOVING PARTS. FAILURE TO DO THIS MAY RESULT IN DAMAGE OR PERSONAL INJURY!

WARNING:

ACTUATORS SHOULD BE PROPERLY GROUNDED AND WIRED IN ACCORDANCE WITH LOCAL ELECTRICAL CODE; SEE IDENTIFICATION NAMEPLATE LABEL FOR MAXIMUM CURRENT DRAW.

This option will fit I-Series actuators.

2. INSTALLATION

2.1 TOOLS REQUIRED

- Hex Wrench – 5mm (Small Enclosure)
- Hex Wrench – 6mm (Large Enclosure)
- Philips Screw Driver #1
- Torx Driver #T20
- Hex Wrench – 1/16" (supplied with kit P/N VC099400)

2.2 PARTS VERIFICATION

Verify that the kit contains all parts listed in Table 1 below:

Table 1	
Parts List for I-Series Auxiliary Switches	
Part Name	Qty
Wrench, Cam 1/16"	1
Wire Tie, Nylon	4
Screw, #4-40x2" Rd Hd, Phillips	2
Cam, V-Series, Stainless	2
Screw, Set, Cam, #6-32x3/16"	2
Limit Switch, SPDT, Gold Contacts	1
Wire, 9 inches 18 AWG Hookup, White	2
Wire, 9 inches 18 AWG Hookup, Black	2
Terminal, ins., 0.187" Female	4
Instruction Sheet	1

WARNING:

WHENEVER WORKING INSIDE THE ACTUATOR BE SURE TO FOLLOW ALL GUIDELINES, AND HEED ALL WARNINGS IN THIS OPTION KIT INSTALLATION MANUAL. BE SURE TO READ AND FOLLOW THE INSTRUCTIONS SUPPLIED WITH THE ACTUATOR CAREFULLY, AND HEED ANY ADDITIONAL WARNINGS

WARNING:

DANGEROUS VOLTAGES ARE PRESENT INSIDE THE ACTUATOR COVER UNLESS THE POWER SUPPLY TO THE ACTUATOR HAS BEEN SHUT OFF OR DISCONNECTED. USE EXTREME CAUTION WHENEVER WORKING ON THE ACTUATOR WITH THE COVER REMOVED.

WARNING:

WHENEVER WORKING INSIDE THE ACTUATOR, CARE MUST BE TAKEN TO AVOID DAMAGE TO THE MACHINED FLANGE SURFACES ON THE COVER AND BASE CASTINGS. FAILURE TO DO SO CAN VOID THE ACTUATOR'S ENVIRONMENTAL CERTIFICATION

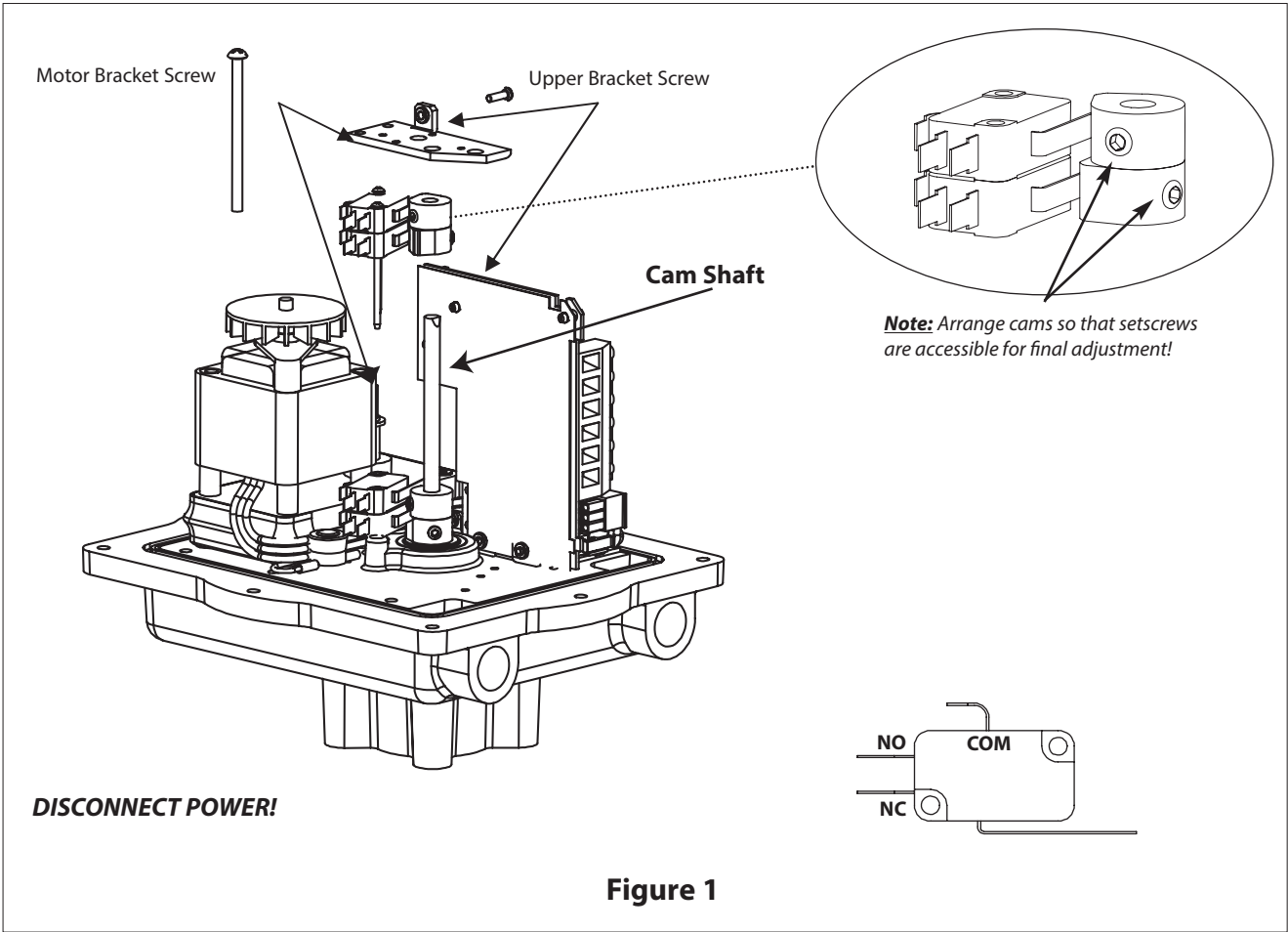
WARNING:

USE CARE WHENEVER WORKING WITH THE ACTUATOR COVER REMOVED, DAMAGE, SCRATCHES, OR DENTS ON THE MACHINED FLANGE SURFACES OF THE ENCLOSURE MAY VOID COMPLIANCE WITH NEMA, CSA, UL, AND/OR IEC SPECIFICATIONS.

2.3 INSTALLATION INSTRUCTIONS

- 1. Remove cover.
- 2. Remove upper support bracket by removing the motor bracket screw and the board to bracket screw. Loosen setscrew and remove gear on camshaft, if installed. Refer to Figure 1, below.
- 3. Connect the White wires to the "Common terminals" of the Switches. Connect the Black wires to the "Normally Open terminals" of the switches.
- 4. Remove and discard the two screws that secure existing switches in place. Place additional switches on top of existing switches. Replace original screws with 2", 4-40 screws. Secure all four switches in the original mounting location.
- 5. Slide additional cams onto camshaft on top of existing cams. Rotate cam to desired position and tighten setscrew.
- 6. Replace upper support bracket and any optional hardware.
- 7. Cut wires to proper length to avoid interference with any other components. Secure switch wires to the terminal block on the appropriate network module as indicated in Table 2 right. (Switches are counted from the bottom up)

Table 2	
Device Net	
IN1 +	White Wire from Switch 3 (CW)
IN1 –	Black Wire from Switch 3 (CW)
IN2 +	White Wire from Switch 4 (CCW)
IN2 –	Black Wire from Switch 4 (CCW)
Foundation Fieldbus	
PWR	White Wire from Switch 3 (CW)
DI1RED	Black Wire from Switch 3 (CW)
PWR	White Wire from Switch 4 (CCW)
DI2GRN	Black Wire from Switch 4 (CCW)



2.4 PROPER ACTUATOR COVER REPLACEMENT

NOTE: For actuators including hazardous location certification. Prior to installing cover, inspect machined flange surfaces for any damage, scratches, or dents. Damage, scratches, or dents that will not fit completely in a circle having a diameter of 1/64" will void hazardous location certifications. If such imperfections are present the damaged enclosure parts(s) must be replaced. See product series IMO for captive cover screw specifications. Consult the factory for replacement parts.

1. Remove the override shaft from the actuator cover bushing; if the actuator is equipped with a handwheel, remove the handwheel before removing the top piece of the "two-piece" shaft from the cover bushing.
2. Install the override shaft on the square motor shaft; if the actuator is equipped with a handwheel, install the bottom piece of the "two-piece" shaft on the motor shaft and then install the top piece of the shaft onto the bottom piece of the shaft.
3. Align cover so that the override shaft will pass through the override bushing and carefully push it down so that the cover flange contacts the base flange.
4. Once the cover is properly seated, tighten the screws to secure the cover; a cross pattern is recommended for uniform distribution of load.
5. If the position indicator is not seated to the output/cam shaft, turn until it drops into place in order to ensure accurate visual position indication.

3. OPERATION

Additional switches provide end-of-travel position feedback to the network module.

Valmet Flow Control Oy

Vanha Porvoontie 229, 01380 Vantaa, Finland.

flowcontrol@valmet.com

Tel. +358 10 417 5000.

www.valmet.com/flowcontrol

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