Bear SSR3

Solid-State Actuator Controller

www.calscan.net

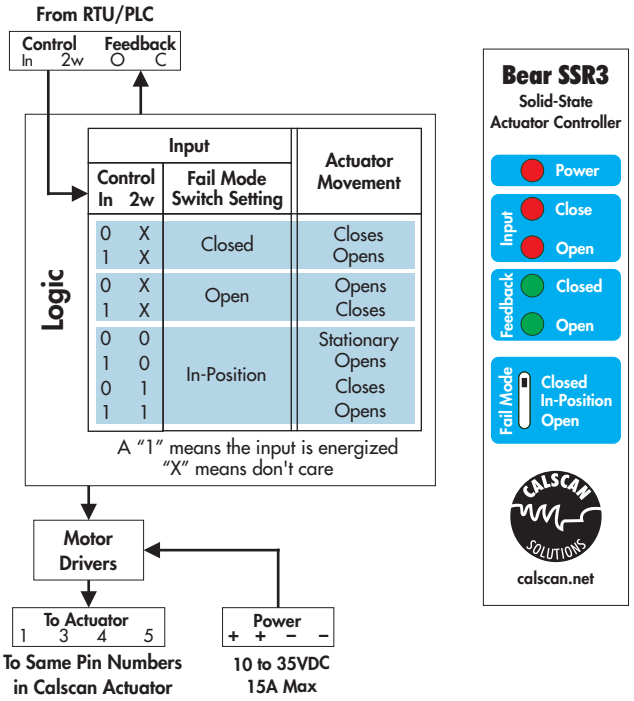
The Bear SSR3 is a solid state ¼ turn actuator controller that is designed to used with Bear Actuators. Capable of driving 12 or 24 volts DC motors at 15 amps continuous with position feedback, it optimizes interfacing and control for your RTU.

Features:

- Class I Div2 Certified
- Up to 15 Amps continuous drive capability
- Switchable Fail Position
- Actuator Fully Open and Close feedback
- Designed to work with the Bear FSC and UPS to provide true power fail safe operation
- Optional Close current limit for linear applications
- Low quiescent current for solar powered operation
- Wide 10 to 35 VDC Operating Range
- Positive or negative logic inputs and outputs
- Mounts on a 35mm DIN-rail

Typical Applications

- Separator Dump Valve control
- Pipeline



Function Diagram

Pin Function Description

Power Pins

Actuator 1,3,4,5
Connect these pins to the same numbers inside the Bear Actuator. They provide power for the motor as well as feedback to the SSR3.

Power (+ & -)
This is 12 to 24 AWG power supply connection. Each pin can handle up the full 15amps. Two connections are provided for both the positive and negative pins. This can be used to reduce the wire resistance in the cases where there is excessive voltage drop from a long wire run.

Reverse voltage connection on the Power terminals without installing a external fuse will permanently damage the Bear SSR3

SSR Control Lines Pins

In
A non-energized connection will move the actuator to the Fail position as indicated on the front switch

2w
The second control line "2w" is used in conjunction with "In" to control valve opening in a throttling application when front switch is set to fail "In-Position"

Feedback O & C
These two pins provide a feedback connection to the RTU/PLC when the valve is fully open or closed. Combined with a timeout in the RTU enables the detection of failures like the valve being seized

Nominal Ratings

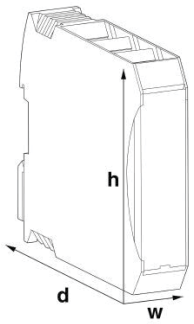
Recommended Operating Conditions	Min	Max	Unit
DC Supply Voltage	10	35	V
Operating and Storage Temperature	-40	50	°C

Module		Min	Max	Unit
Motor Drive Current			15	A
Quicent Current	Supply = 12 V Supply = 24 V		12 8	mA

Output Signal	Min	Max	Unit
Voltage Range	0	35	V
Sinking or Sourcing Current	0	50	mA

Input Signal		Min	Max	Unit
Voltage Range Energized		10	35	V
Voltage Range Off		-0.5	0.5	V
Input Drive Current	Supply = 12 V Supply = 24 V	1 2	2 3	mA mA

Mechanical



22mm wide x 99mm high x 115mm deep
35mm DIN-rail Connection
Wire Size 12 to 24 AWG and 90°C Minimum

Maintenance and Service

No serviceable parts inside the module or any module within the Bear Fail Safe System. Consult Calscan

Configuration Jumpers

Inside the Bear SSR3 are configuration jumpers for features and to set the SSR3's input and output pins to either positive or negative logic. These jumpers facilitate interfacing to a separator control system.

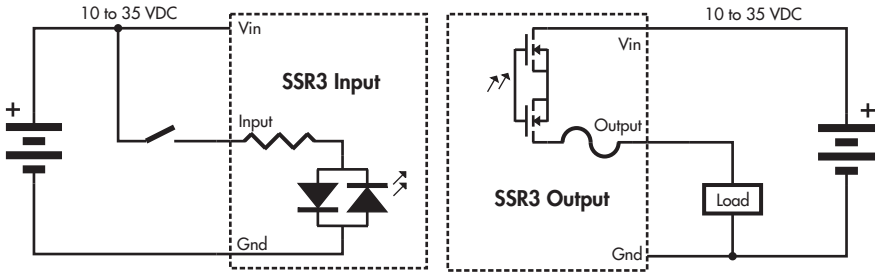
Inputs

Logic In - Neg/Pos
Set the input "In" and "2w" to negative or positive logic

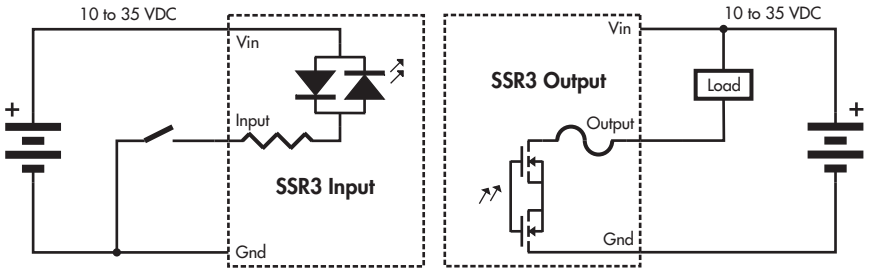
Outputs

Logic Out - Neg/Pos
Set the two feedback outputs to negative or positive logic

Positive Logic

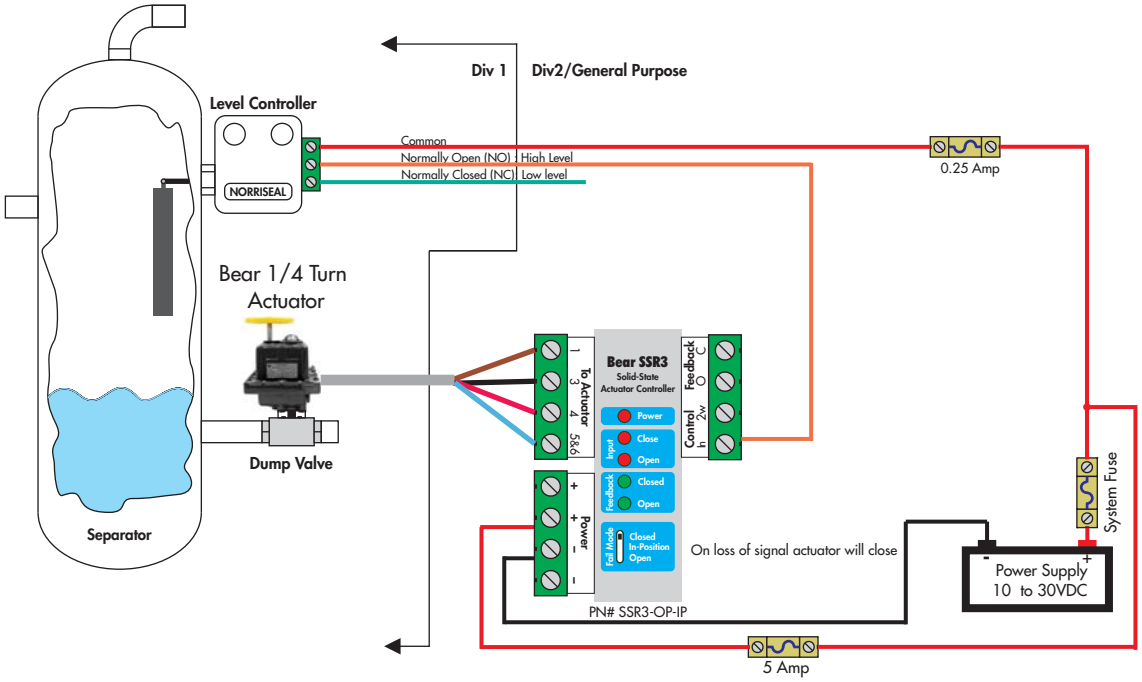


Negative Logic

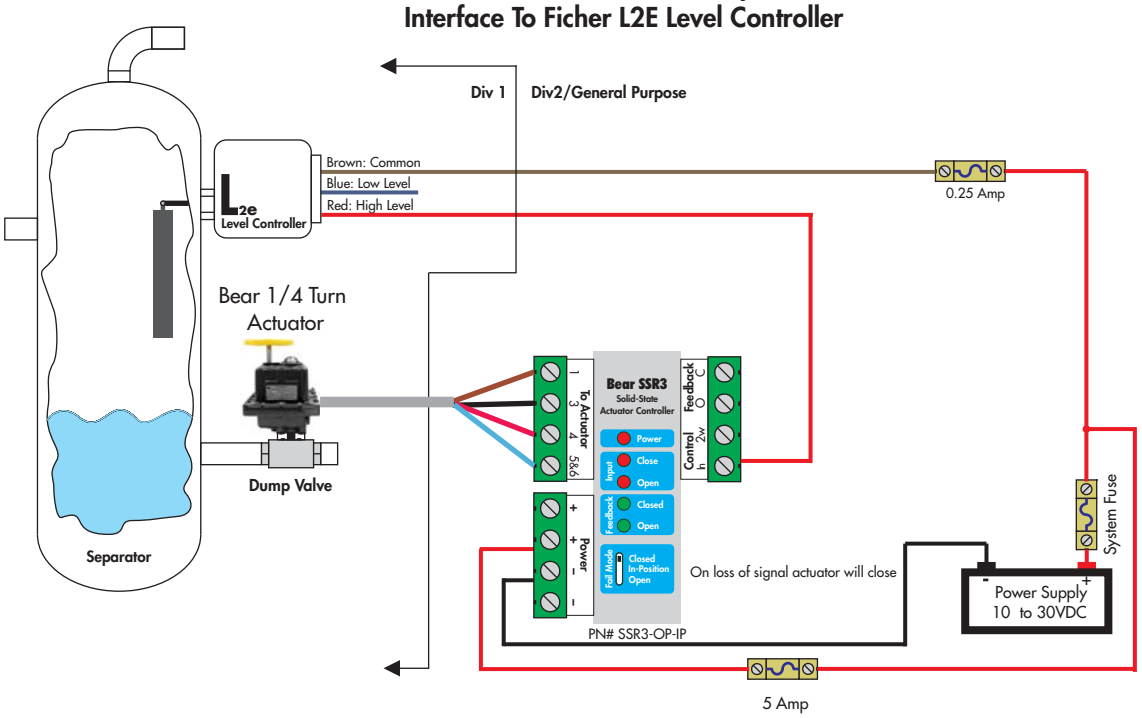


Wiring Examples

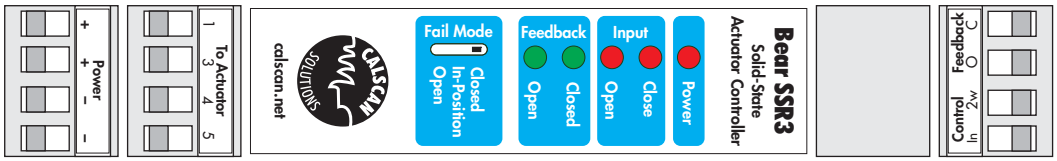
Bear SSR3 Electrical Example #1
Interface To Norriseal Level Controller



Bear SSR3 Electrical Example #2
Interface To Ficher L2E Level Controller



Terminal Block Placement



Certification

Class I, Division 2 , Groups C&D T3C
Class I Zone 2 Group IIB T3C
Ambient Temperature: -40°C ≤ Ta ≤ 50°C

Intertek
5019396

Certified to CAN/CSA Std. C22.2 No. 213, 61010-1 and 61010-2-201
Conforms to UL Std. 121201, 61010-1 and 61010-2-201
This module shall be installed and DIN railed inside an approved outdoor rated enclosure

Ordering Information

SSR3 –	INPUT LOGIC	–	OUTPUT LOGIC	–	CLOSE CURRENT LIMIT
	-IN = Input Negative Logic **-IP** = Input Positive Logic		**-ON** = Output Negative Logic **-OP** = Output Positive Logic		**- "XX"** 00 = None xx = Current in Deciamps Factory Set Option

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