

# Bear SVC

## Stabilizing Voltage Converter

Solar/battery powered systems voltages are not very stable and can have quite high voltages especially in winter. The Bear SVC will give a constant 12 or 24V for equipment that cannot tolerate varying voltages

Rated to -40°C Div2 this power supply is typically used for 12V equipment in a 24 volt solar system or a 24V supply in a 12V solar system.

### Features:

- Class I Div2 Certified
- Max Current: 12A@12VDC and 6A@24VDC
- Low quiescent current for solar powered operation
- Enable On/Off input
- 95% Efficient

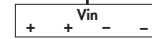
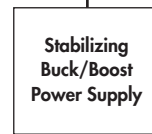
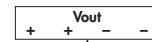
### Typical Applications

- Separator Control Systems
- SCADA power supply



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Max Current  
12A@12VDC 6A@24VDC



Power in  
10 to 35VDC

**Bear SVC**  
Stabilizing  
Voltage Converter

- Power
- External Shutdown



Function Diagram

## Principles of Operation

The Bear SVC is a buck/boost high current power supply that can take in voltages above and below the setpoint and give a stabilized voltage out.

## Pin Function Description

### Power Pins

Both connections below there are two pins for + and -, Each pin is rated for 16amps but two are provided to reduce voltage drop from the connection wires on long runs.

#### Vin (+ & -)

This input is connected to your to main power typically solar or AC powered. This input needs to be externally fused with a maximum value of 12A at 12VDC out and 6 Amps at 24VDC out.

#### Vout (+ & -)

The SCV is preconfigured to either 12 or 24VDC on the Vout connection. If this has been mis-configured internally there is a switch that you to choose either voltage.



**Reverse voltage connection on the Vin terminals without installing the external fuse will permanently damage the Bear SVC**

## SVC Control Lines Pins

### Shut Down

Energizing this input will turn off the SVC, effectively turning it into a solid state switch

## Nominal Module Ratings

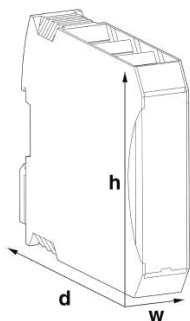
Parameter		Min	Nominal	Max	Unit
DC Supply Voltage		10		35	V
Output Voltage	12 V to 24V Mode 24 V to 12V Mode	11.7 23.7	12.05 24.05	12.3 24.3	V V
Operating and Storage Temperature		-40		+50	°C
Quiescent Current				20	mA
Shutdown Current				1	mA
Supply Current	12 V to 24V Mode 24 V to 12V Mode			6 12	A A

SVC Control Lines	Min	Max	Unit
Shut Down Activation Voltage	10	35	V

## Maintenance and Service

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

## Mechanical



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

## Terminal Block Placement



## Certification

Class I, Division 2 , Groups C&D T3C  
Class I Zone 2 Group IIB T3C  
Ambient Temperature:  $-40^{\circ}\text{C} \leq T_a \leq 50^{\circ}\text{C}$



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

**BSVC —**

**VOLTAGE  
OUTPUT**

**-12**

= 12 VDC System

**-24**

= 24 VDC System

### **Calscan Solutions**

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# Bear Fail Safe System: 12VDC Solar System with 24VDC actuator

