

# **VR1 DC STEP-DOWN STABILIZATOR**

## **USER MANUAL**

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## 1. Introduction

In marine DC supply system, VR1 DC step-down stabilizer stabilizes the power (Battery charger) voltage by putting the diode in series or by-pass. See block diagram of VR1-21 below.

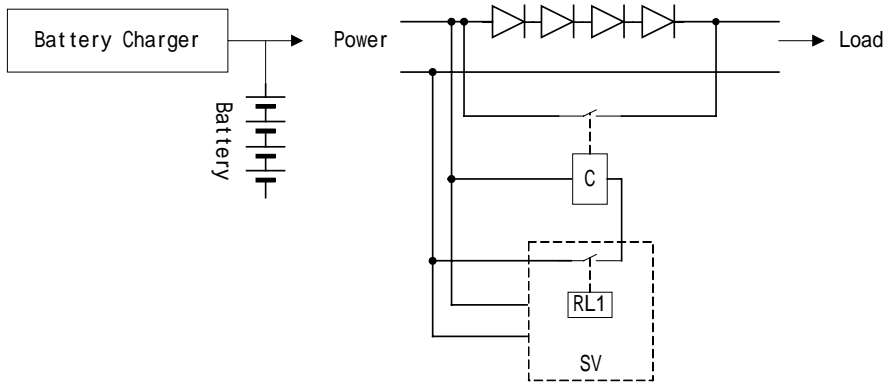


Diagram 1. Block diagram of VR1-21

## 2. Specifications

(1) Naming:

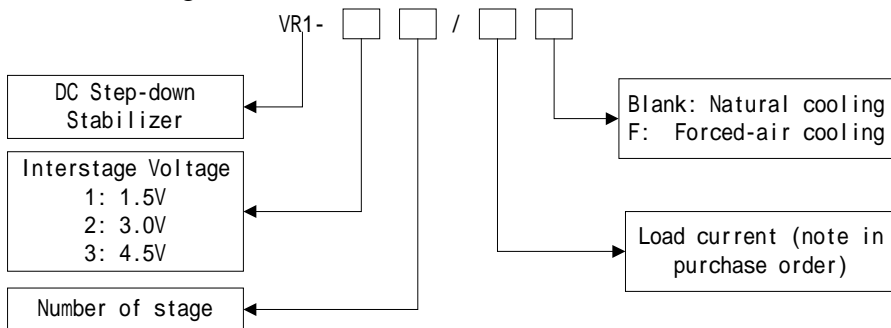


Diagram 2. Naming regulation.

(2) How to choose VR1:

Choose type and the number of stage by the maximum constant charge voltage and the allowable maximum deviation range of the load.

Allowable deviation range (V)	Type, Interstage voltage (V)	Number of stage by the max constant charge voltage			Real deviation range (V)
		28.5V	31V	33V	
± 1	VR1-1, 1.5V	2	4	6	± 0.85
± 2	VR1-2, 3.0V	1	2	3	± 1.6
± 3	VR1-3, 4.5V	×	1	2	± 2.35

(3) Dimensions:

TYPE	Dimensions (L x W x H)	Load Current
VR1-21	Bench mount, 270 × 160 × 85 mm	100A-120A
VR1-21	Bench mount, 320 × 160 × 85 mm	200A

(4) Connection:

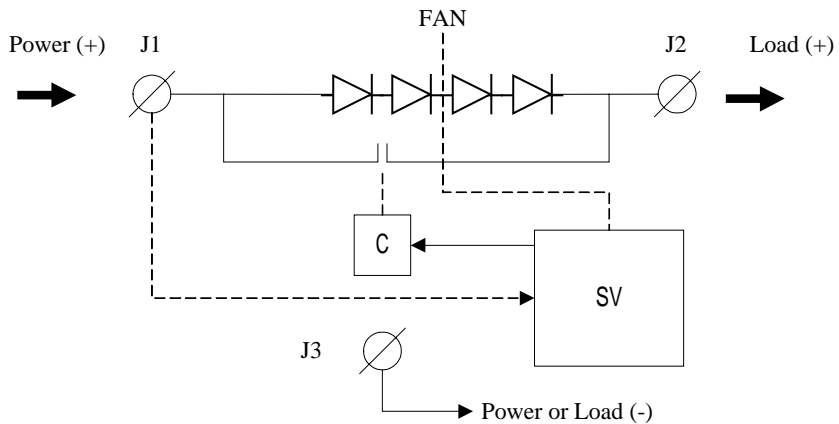


Diagram 3. Line connection.

(5) SV two-position voltage relay adjustment:

The operating values of the relay have been adjusted accurately according as the user's requirement. Adjustment regulation as follows (see diagram 4):

	Counter-clockwise	Clockwise
<b>W1</b>	Decrease the pick-up voltage of the relay	Increase the pick-up voltage of the relay
<b>W2</b>	Decrease the release voltage of the relay	Increase the release voltage of the relay

Pick-up: set the diode by-pass (LED light on)  
 Release: put diode in series (LED light off)

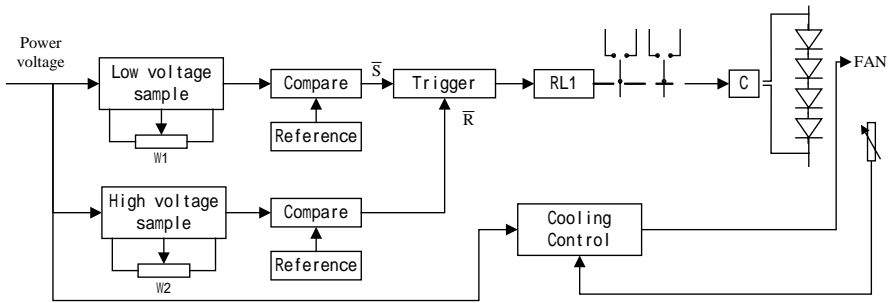


Diagram 4. Block diagram of SV two-position voltage relay

(6) Temperature control cooling:

While the current in the diodes becomes larger, the radiator temperature is going to be higher. If it is over about 45 degrees centigrade, the cooling fan will run. If the temperature is not high enough (e.g. 35 degrees centigrade), the fan will not work.

Test the fan:

Plug the test resistance (attachment) to TP3 connector on the PCB to replace the thermistor. The fan will run.

*Note: Specifications subject to change without notice.*