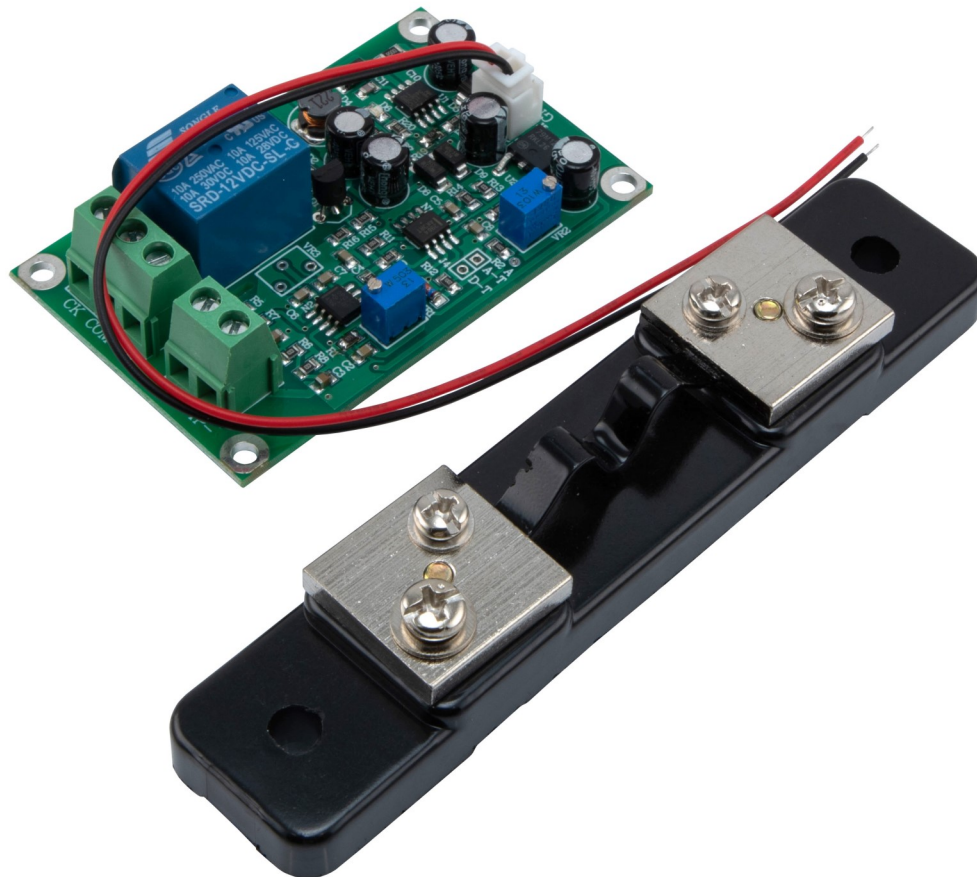# DC SHUNT CURRENT SENSOR & OVER-CURRENT PROTECTOR

User Guide for SRCN-C420-3

Product Description »

This module is used to measure and monitor current consumption by utilizing a external shunt resistor. If the current exceeds a preset value, the relay on the module is activated. Uses include building automation and facility management systems where acquiring information on energy usage can lead to increased efficiency. They can also detect equipment issues and help prevent damage by detecting over-current and/or short-circuit conditions.

Features »

- Low power consumption
- External shunt resistor
- Relay and analog output
- Panel mountable
- Includes 8in cable

Applications »

- Building and facilities management
- HVAC
- Battery management system
- Electric fans
- Electric pumps
- Devices requiring over-current & short-circuit protection

Thank you for choosing L-com product. To ensure safe, accurate performance and product longevity, please take a moment to familiarize yourself with this manual before powering the device. Please keep it handy for future reference. In case of any questions regarding the installation or use of product, please call us at 800.341.5266.

Reach out to us at customerservice@l-com.com and visit our website at www.l-com.com

Technical Parameters »

|	
Working voltage	24 VDC ± 0.5 VDC
Working current	≤ 50 mA
Working temperature	0 − 70 °C
Working humidity	10% − 90% (No condensation)
Detection range	0 − 20 A
Relay response time	300 − 500 ms
Output mode		Relay output
		Analog output 0 − 5 V
Working environment	Temperature	-10 − 65 °C
	Humidity	0 − 80% RH
Installation mode	Module	Mounting with screws

Output Correlation Table »

The corresponding relation table is of the output voltage and the detection current (0 − 5 V corresponds to 0 − 20 A).

| Vout	A	Vout	A	Vout	A	Vout	A	Vout	A
0.5	2	1.5	6	2.5	10	3.5	14	4.5	18
1	4	2	8	3	12	4	16	5	20

Electrical Diagram »

Note: On the PCBA, CK is the (NO) normally open terminal, COM is the open terminal, CB is the (NC) normally closed terminal.

A–T is the analog signal output terminal, D–T is the level signal output terminal (for factory debugging).
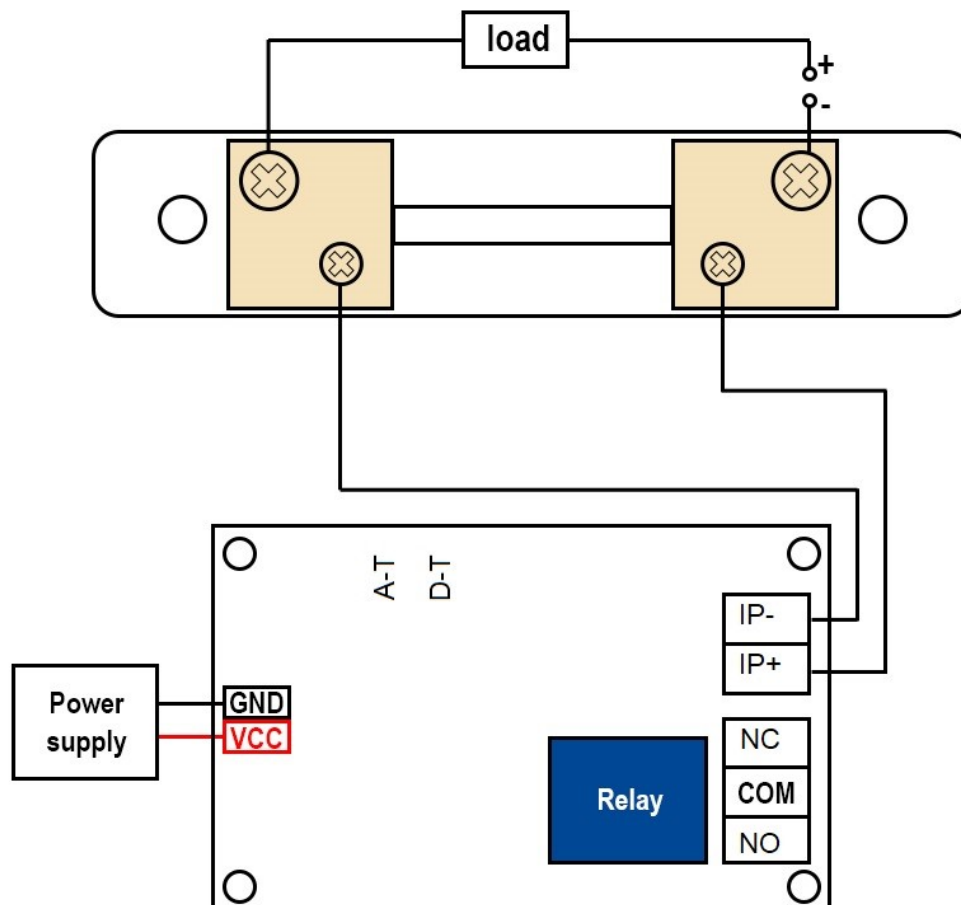
Board Mount »

Mount the PCB to the enclosure with screws. Mounting hole diameter is 3mm.
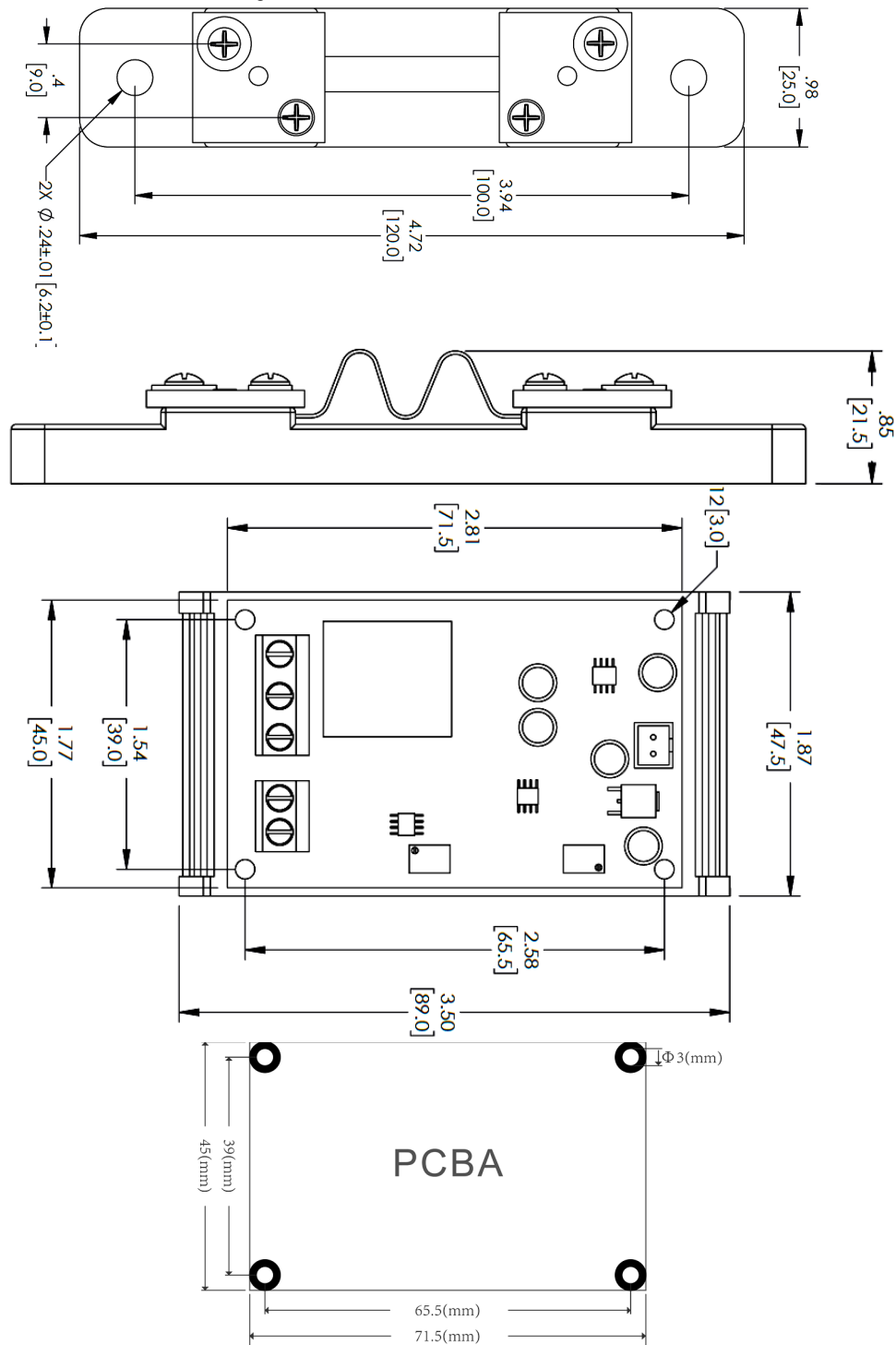
Notes »

1. The module can only be powered by 24VDC.
2. Make sure the shunt is connected in series with the negative pole of the detection loop in order to read the signal normally.
3. Pay attention to the direction when connecting the signal terminal. The negative end of the load is the signal positive, and the negative end of the power supply has the signal ground.
4. This module can only be connected to the shunt corresponding to 0 – 75mV output.
5. VR2 is the threshold potentiometer adjustment. Either end of the R2 resistor can be measured to determine this value. The adjustment range is 0 – 5V linearly corresponding to 0 – 75mV.
6. VR1 potentiometer is used for factory debugging, please do not adjust it by yourself.

Correction Method »

When determining the detection range of the shunt, pass the current of known magnitude. Measure the ground voltage of the A–T terminal. Adjust the VR1 potentiometer and use it to correspond to the current. For example: The detection range of the shunt is 0 – 20 A, then 0 – 20 A corresponds to 0 – 5 V, then the known current is connected to 4 A, then the measured voltage to ground at the A–T terminal should be 1V. If there is a deviation, adjust the VR1 potentiometer to make the voltage reach 1V).

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