



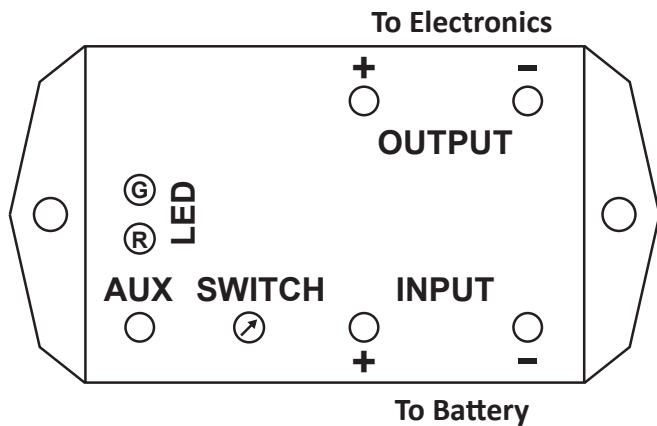
DC Timer/LVD Battery Guard

Operation

The voltage sensing ITS-12 is an automatic switch designed for 12 volt vehicle electrical systems with negative ground. The model ITS-12 is rated at 35 amps continuous duty. Using the 10 position rotary switch, you can select one of the following timer settings of: 2, 15 or 30 minutes and 1, 2, 3, 4, 5, 8 & 12 hours. In addition, each setting also includes a LVD (Low Voltage Disconnect) threshold as well. See table on right.

Two built-in LED lights show the current status. When the engine is running, a solid GREEN LED light means the timer is passing power through the unit (13.0~14.5V). When the vehicles engine is shut off, a voltage drop will occur and a slow FLASHING GREEN LED light is displayed and turns ON the timer (below 12.8V). A red flashing LED light will display when its output power to your electronics reaches the users preset timer setting (2 minutes to 12 hours). No ignition connection is required.

ITS-12 includes an Over Voltage Protection System which will automatically shut off your electronics if the voltage reaches over 16 volts. A solid RED LED light will display until the over voltage condition is corrected.



Hook-up & Installation

The ITS-12 should be installed in between the vehicle battery and the DC load. Typically, the load is a two-way mobile radio, mobile computer and other vehicle DC electronics. Standard installation involves installing the ITS-12 in between the battery and the DC feed side of the radio using the supplied ring terminals. When installing the ITS-12, you need to connect (positive and negative DC power IN & positive and negative DC power OUT). No ignition connection is required. This model can be installed inside of the vehicle or engine compartment as these units are waterproof.

CAUTION: Make sure you connect the + / – leads to the correct polarity on both input and output. Make sure you also use the supplied star washers and do not over tighten the ring terminal screws.

Rotary Switch Settings

Set the Rotary Selector to the desired setting.

Use a small flat screwdriver to change the rotary switch position.

Detailed settings are also located on the side of your unit.

0:	2 m	11.4 LVD
1:	15 m	11.4 LVD
2:	30 m	11.0 LVD
3:	1 hr	11.4 LVD
4:	2 hr	11.4 LVD
5:	3 hr	11.0 LVD
6:	6 hr	11.4 LVD
7:	7 hr	11.4 LVD
8:	8 hr	11.0 LVD
9:	12 hr	11.0 LVD

Emergency Override Switch

An extra ring terminal position (AUX) is located next to the LED lights. By momentary applying 12V to this terminal (with a user supplied switch) it will automatically override and energize the timed out timer and/or LVD condition and give you 15 minutes of emergency operation time.

**Specifications**

- **Amperage Rating:** 35 Amps max @ 12V continuous duty
- **Low Standby Current Draw:** 5mA in standby mode, 100 mA normal operation mode
- **Compact Size:** 3½" L x 2" W x 1½" H
- **Weight:** 0.5 lbs. (229 grams)
- **Construction:** Potted water proof design. Can be mounted inside an engine compartment.
- **LED Status Indicators:**
 - Solid Green LED light = Timer OFF power passing through
 - Flashing Green LED light = Timer ON
 - Flashing Red LED light = Timer has expired, load is OFF
 - Slow Flashing Red LED = LVD Condition
 - Solid Red LED light = Overvoltage Condition
- **Connections:** +/- Power IN from Battery. +Power OUT to electronics, negative is optional on OUT (no ignition wire required). Emergency Override Switch.

Troubleshooting*Unit will not turn ON:*

- Check for reverse polarity on Input and Output connections
- Check that Battery power is connected to the Input connection

LED Lights Not Working:

- Check (-) Negative input connection for good ground to battery
- Check Input (+) positive connection

Red LED Light Solid ON:

- Alternator is defective putting out over 16V, reduce output below 15V, unit will auto-reset

Warranty:

Powerwerx support policy is simple; we want you to be happy! If you have a problem, please feel free to contact us and we will do our best to get you up and running as soon as possible.

The Powerwerx ITS-12 has a one-year limited warranty. We will repair or replace your ITS-12 if you encounter any problems within one year of purchase. We reserve the right to charge a reasonable fee for repairing units with user-inflicted damage. It is your responsibility to ship the defective unit back to Powerwerx. We will pay for shipping the replacement to you within the warrantee period.

Also Look at our Other Models:**LVD-35 – DC Low Voltage Disconnect**

- Heavy Duty design rated at 35A continuous duty
- LVD includes user selectable disconnect settings of: 10.6, 10.8, 11.0, 11.2, 11.4, 11.6, 11.8, 12.0, 12.1, 12.2 VDC
- Auto Reconnects when Voltage returns to safe level

APS-12 – DC Automatic Power Switch/Timer

- No ignition connection required: Automatic On/Off Operation
- Ideal for all 2-way radios, computers and DC electronics – 25A current rating
- User selectable timer positions (2, 15, 30 minutes, 1, 2, 3, 4, 5, 8, 12 hours)

More information at: www.powerwerx.com