

Solid State Over-Voltage Disconnect

Operating Instructions
Please read these instructions before use



MIHV Series

The MIHV module provides an additional layer of independent Over-Voltage protection for Lithium based batteries. To provide enhanced protection for both loads and lithium batteries the MIHV must be used with a suitable BMS. The MIHV can also be used in Lead Acid based systems where a BMS is not used. The unit provides local and remote system status indications.

Features:

- Automatic Over Voltage Disconnect to protect batteries and loads during a Over Voltage Event or BMS Tripping
- Auto-detection of 12V / 24V / 48V Nominal Battery Voltages.
- Self resetting Over Temperature Protection (OTP)
- 30% surge capability for short periods
- Remote Status Wire

Specifications:

Model	MIHV160	MIHV240
Input Voltage(DC)	15V-95V	15V-180V
Peak Current	80A	55A
Constant Current	60A	40A
Over Voltage Protection Above ($\pm 3\%$)	16.5V / 33V / 66V**	
Reconnection Below ($\pm 3\%$)	15.5V / 31V / 32V**	
Low Battery Indication ($\pm 3\%$)	11.5V / 23V / 24V	
Dimensions	135mm x 70mm x 50mm	

**** Other voltages are possible MOQ applies.**

Warranty Conditions: Our products come with guarantees that cannot be excluded under the Australian Consumer Law.

The customer is entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage.

The customer is also entitled to have the products repaired or replaced if the products fail to be of acceptable quality and the failure does not amount to a major failure.

GSL Electronics (GSL) warrants that its products will, under normal use and service, be free of defects in material and workmanship for a period of two (2) years from the date of the original purchase by the customer as marked on the customer's original invoice.

Please refer to our website for full warranty and return information which can be found at <http://www.gsl.com.au/faq.html>

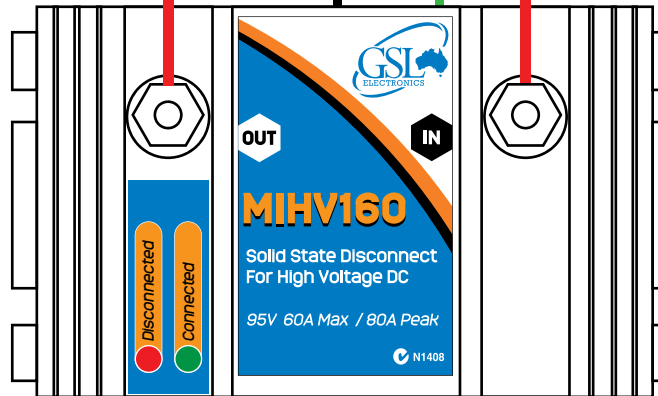
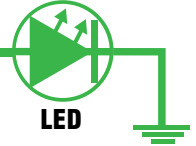
Wiring Diagram:

BLACK - Common Negative

Positive Output to Battery or Device Positive

GREEN - Remote Status

Positive Input from MPPT



Installation:

- 1) This equipment must be installed by qualified personnel only and incorrect wiring can cause fire, injury or death – GSL will accept no responsibility for MIHV misconnection or misuse.
- 2) Disconnect all live connections and ensure that all live terminals are in no danger of shorting.
- 3) Mount unit in a clean, dry area preferably to a grounded metal plane.
- 4) Make sure that the chassis of the MIHV is grounded. Not doing so is hazardous.
- 5) Connect BLACK wire to common negative MPPT and battery that you wish to protect.
- 6) Connect "OUT" brass terminal to the Positive terminal of the Battery and wait a few seconds for the GREEN LED to be SOLID On.
- 7) Connect "IN" brass terminal to the output of the MPPT.

Notes: MPPT to be De-Energised during connection. The unit will only connect and reconnect following a battery detection. **Do Not connect loads to the unprotected IN terminal. Loads must only be connected to the protected OUT Terminal.**

Remote LED:

Connect the green wire to the Positive Side of a grounded LED.

Disconnected	Connected	Remote	
			No Battery Detected
			Normal Operation
			Over Voltage Detected
			Over Temperature or Battery Low
			MIHV Fault

LED Indications and Alarms:

The chart to the left indicates the situations that the unit will indicate on the three LED indicators. Those marked with a S or a A indicate that the LED is flashing.

"S" is for Symmetrical Flashing : • _ • _ •

"A" is for Asymmetrical Flashing : •• _ • _ ••

After each Alarm condition please perform the following tests:

Following No Battery Detected : Perform MPPT Test as described below, check Battery BMS (Where Applicable), Check Battery and Fuses and Reset MIHV.

Following a Over Voltage Detection: Perform a MPPT Test as described below and check Battery.

Following a Over Temperature or Low Battery: No need for immediate action, the system may self recover. Check after a short period to see if alarm is cleared.

MPPT Test - Disconnect all loads and batteries, energize MPPT and check that input is 5V above the output. If not then MPPT may be faulty contact GSL for further information.

Reset MIHV- Disconnect MPPT and then Battery. Then follow steps 5-7 of "Installation"

LED Indication Guide