LVD12 & LVD24

Low Voltage Disconnect relays

- **Monitors for battery low voltage / discharge**

- **For automatic disconnection of battery and load**

- **Prevents deep discharge and permanent battery damage**

- **Compact, 11-pin plug-in case**

Description

LVD modules provide automatic monitoring of battery low voltage or discharge state. The modules are typically used (with an isolating relay or contactor) to disconnect the load from a low voltage lead-acid battery before deep discharge can occur, preventing permanent battery sulphation and expensive replacement costs. The modules can also be used to signal a low battery voltage condition to alarm systems or controllers.

The LVD monitors its own battery DC supply, with only minimal internal power drain. The single pole changeover relay energizes during healthy battery conditions. The normally open relay contacts typically drive the coil of a contactor (or slave relay), with contact rating appropriate for the connection of battery and load.

If the battery voltage falls below the preset (under voltage) 'disconnect' level, for longer than a preset override delay, the LVD relay and contactor will de-energize, isolating the battery from its load. The override delay prevents battery disconnection during normal, temporary loading, e.g. due to standby engine cranking. If the voltage returns above the low volts level, the delay timer resets and the relay stays/becomes energized.

The LVD is housed in a compact case with industry-standard 11-pin plug-in connection, supplied complete with a DIN rail / surface mount base for use in an enclosed control panel.

This voltage monitor is offered with a two-year limited warranty on materials and workmanship.

Factory Set Low/High Voltages and Delays:

	Low volts		High volts
	V,DC	Seconds	V,DC
LVD12 Standard	10.5	120	12.5
LVD24 Standard	21.0	120	25.0
LVD12 Non-Standard	10.0-16.0	0-300	11.0-20.0
LVD24 Non-Standard	20.0-32.0	0-300	22.0-40.0

Product Specification

Power Supply:

Maximum Operating Voltages	LVD12: 20V,DC
	LVD24: 40V,DC
Minimum Operating Voltages (loss of control & time delay)	LVD12: 4V,DC
	LVD24: 8V,DC
Operating Current, Energized	20mA typical
Operating Current, De-Energized	<1mA (tripped)

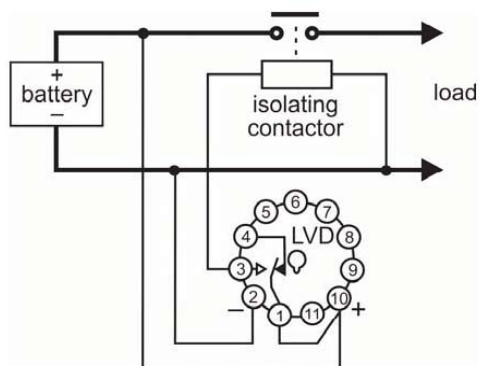### Relay Output:

Contact Type	2 x SPDT contacts, volt-free/dry
	Low volts: relay de-energized on fault
	High volts: relay energized on fault
Contact Rating	1A max. @ 30V,DC (resistive load)

Physical:

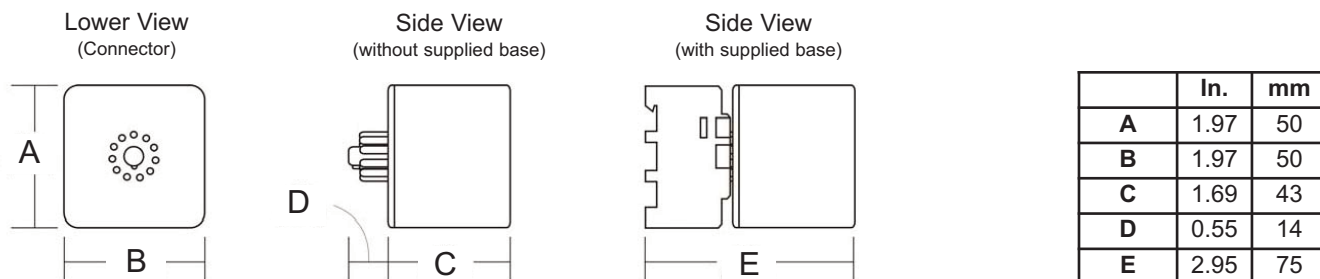|	
Operating Temperature	14 to +131°F (-10 to +55°C)
Overall Dimensions	1.97" x 1.97" x 1.69"
Weight	0.22 lbs.
EMC Emission / Immunity	EN58801-2 / EN50082-2

Electrical connection

NOTES:

1   Relays & contactor shown in de-energized (powered down / low battery voltage / disconnected battery) state.

2   LVD contact rating is 1A @ 30V,DC. The isolating contactor shown (or a slave relay) is recommended for all loads, and MUST be used for battery loads greater than 1A.

3   LVD pin 10 (positive DC) and 2 (negative DC) are used to power the LVD and monitor battery voltage.

Dimensions

Lower View
(Connector)

Side View
(without supplied base)

Side View
(with supplied base)

	In.	mm
A	1.97	50
B	1.97	50
C	1.69	43
D	0.55	14
E	2.95	75

How to Order   *When ordering, please specify --*

Standard Factory Settings:

Model	Low Volts (V,DC)	Low Volts Delay (sec.)	High Volts (V,DC)
LVD12	10.5	120	12.5
LVD24	21.0	120	25.0

Non-Standard Adjustment Ranges, please specify the factrory settings required:

Model	Low Volts (V,DC)	Low Volts Delay (sec.)	High Volts (V,DC)
LVD12-NS	10.0 - 16.0	0-300	11.0 - 20.0
LVD24-NS	20.0 - 32.0	0-300	22.0 - 40.0