

## LVD12, LVD24

### Low Voltage Disconnect relays



#### Features

- 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

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 energises 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-energise, 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 energised.

Factory set disconnect/reconnect voltages and delays are:

	Disconnect		Reconnect
	(V DC)	(secs)	(V DC)
<b>LVD12 standard</b>	10.5	120	12.5
<b>LVD24 standard</b>	21.0	120	25.0
<b>LVD12 non-standard</b>	10.0 – 16.0	0 – 300	11.0 – 20.0
<b>LVD24 non-standard</b>	20.0 – 32.0	0 – 300	22.0 – 40.0

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.

#### Specifications

##### Power supply

##### Maximum operating voltage:

LVD12: 20 VDC  
LVD24: 40 VDC

##### Minimum operating voltage (loss of control & time delay):

LVD12: 4 VDC  
LVD24: 8 VDC

##### Operating current, energized: 20mA typ.

##### Operating current, de-energised (tripped): <1mA

##### Relay output

##### Operating voltages/delays: see 'how to order' section

##### Contact type: SPDT, volt-free/dry

##### Contact rating: 1A max. @ 30VDC (resistive load)

##### Physical

##### Operating temperature: -10 to +55°C / -4 to +140°F

##### Dimensions: see Dimensions section

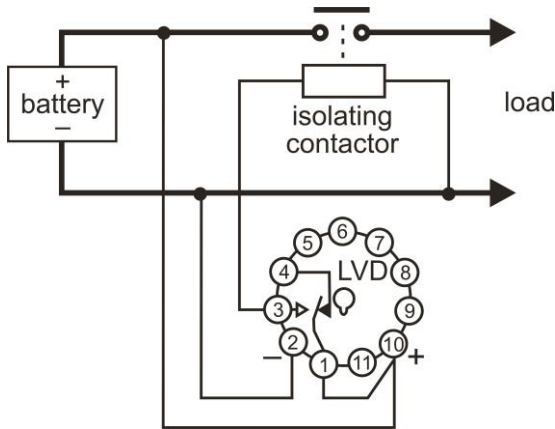
##### Weights: 0.1Kg/0.2 lb

##### Electromagnetic compatibility:

EN50081-2 / EN50082-2

**Warranty:** a two year limited warranty on materials and workmanship is given with this product, details available on request.

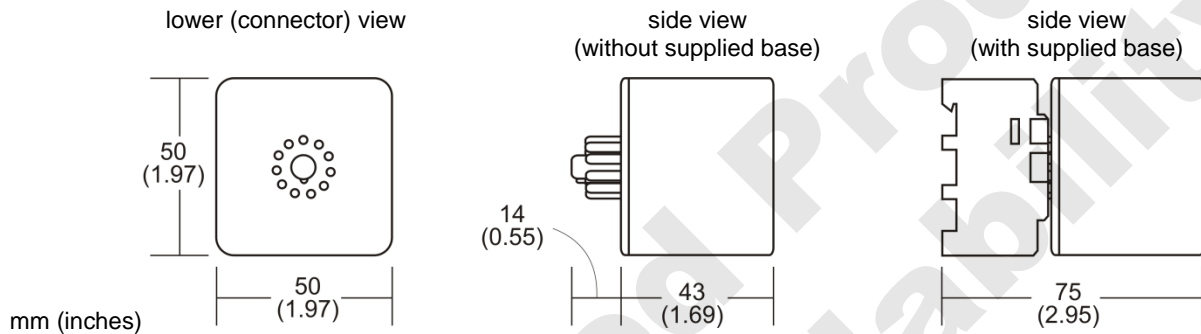
## Electrical connection



### Notes:

- 1) Relay & contactor shown in de-energised (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 pins 10 (positive DC) and 2 (negative DC) are used to both power the LVD and monitor battery voltage.

## Dimensions



## How to Order

When ordering, please specify:

Stock code	Model	Standard settings:		
		Disconnect volts, VDC	Disconnect delay, secs	Reconnect volts, VDC
42.70.6002	LVD12	10.5	120	12.5
42.70.6003	LVD24	21.0	120	25.0
Non-standard adjustment ranges, please specify the factory settings required:				
Stock code	Model	Disconnect volts, VDC	Disconnect delay, secs	Reconnect volts, VDC
		Disconnect volts, VDC	Disconnect delay, secs	Reconnect volts, VDC
42.70.6002-NS	LVD12-NS	10.0 – 16.0	0 – 300	11.0 – 20.0
42.70.6003-NS	LVD24-NS	20.0 – 32.0	0 – 300	22.0 – 40.0

Related products:

**CVR12, CVR24:** high and low voltage alarm / protection relay – see datasheet cd0035.

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