Universal Voltage Sensing Relay with 0 - 15 hour Time Delay

Four Functions in One Flexible Device:
Time Delay Relay, Low Voltage Disconnect, Automatic Charging Relay/Battery Isolator, or a Simple Relay/Solenoid Switch.

Prevent auxiliary loads from draining batteries, maximize electrical system readiness by eliminating dead batteries and reduce long-term electrical system maintenance costs.

Ensure dual battery systems function safely and effectively by sharing charging power when available and isolating batteries when desired to ensure starting or communications ability.

Reduce voltage drop from battery to loads by eliminating need for long power cables runs to human access areas, also reducing costs.

Adjustable Time Delay: 0 sec - 15 hr
Adjustable On/Off Voltage Trigger
Adjustable Low Voltage Protection
Priority Override: Key Signal or UV/OV

Patent: 11,352,998

Ultra-Low Power Draw: Lowest off-state current draw in industry (1.3 mA).

Flexible Application Options: Install as a Time Delay Relay, Battery Management Relay, Low Voltage Disconnect, or Simple Relay. On/Off trigger via external Ignition signal and/or alternator voltage sense, Adjustable voltage trigger levels, Adjustable low voltage protection levels, and Ability to determine ignition input priority.

Simple & Robust Installation: Sealed plug/harness included. Combined timer & high-amp relay reduces install time/costs. Optional output bus bar connects RT or CT fuse blocks.

Adjustable Optional OFF Time Delay: 0 seconds to 15 hours.

Diagnostic Feedback via optional external led and on-board LEDs

Bullet-proof Construction: Sealed unit, high temperature materials allow mounting anywhere on vehicle. Integrated thermal overload protection

Kill Switch Input Option eliminates need for using thermal circuit breakers as service maintenance switches, reducing voltage drop to electrical loads.

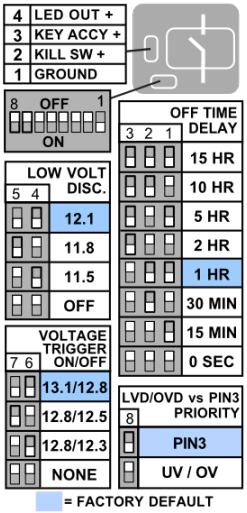
Meets Stringent OEM Standards for electrical transient self-protection

4 Year Industry Leading Warranty

Dip Switch Setting Options & Features

**** DISCONNECT BATTERY FROM POWER DISTRIBUTION SYSTEM BEFORE INSTALLING PRODUCT TO PREVENT ELECTRICAL SHOCK OR PRODUCT DAMAGE***

***** USE OF IGNITION SIGNAL STRONGLY RECOMMENDED FOR ALL FIRST RESPONDER INSTALLATIONS TO ENSURE RAPID ON & WITHSTAND ADVERSE ELECTRICAL SYSTEM CONDITIONS***



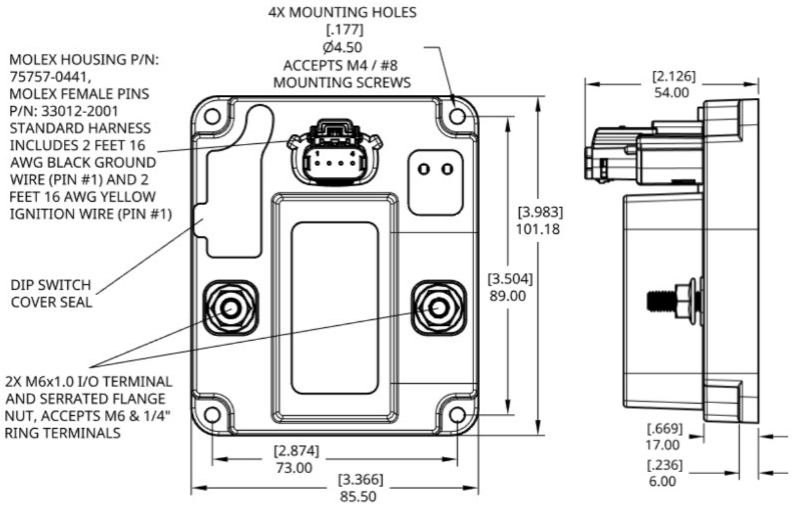
DS1-DS3 sets delay between Off Trigger and Relay OFF. 0 SEC is for install testing or pure relay functionality without time delay

DS4-DS5 defines LVD disconnect voltage (15 sec delay, overrides time delay)

DS6-DS7 determines if input stud Voltage Sense will trigger Relay ON/OFF events. If enabled the On voltage and Off voltage are determined by which switches are ON

DS8 determines if Key ON Pin #3 Signal has Priority over Under-Voltage and Over-Voltage Protection. If DS8=OFF, relay turns OFF during UV/OV situation regardless of Key Input. If DS8=ON and Pin #3 > 8 Vdc, Relay will NOT open if OU/OV condition is present.

Dimensions



Methods of Operation

Relay closes immediately if:

1) Key Ignition Input > 8 Vdc and DS8=ON (Key Priority) or
2) Key Ignition Input > 8 Vdc and DS8=OFF (LVD Priority) and Input Stud Voltage > DS4/DS5 LVD Setting or
3) V_sense = On and Input Stud Voltage > V_Trigger ON Setting

Relay opens after Time Delay setting if:

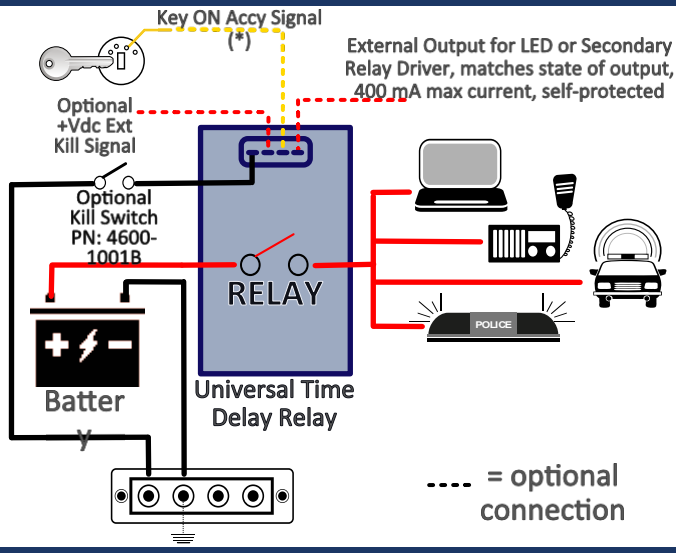
1) Key Ignition Input < 8 Vdc and V_sense = Off or
2) Key Ignition Input < 8 Vdc and V_sense = On and Input Stud Voltage < V_Trigger OFF Setting

UV / OV (Under-voltage / Over-voltage) Protection:

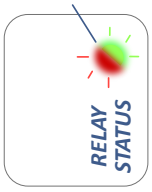
1) Relay opens if Input Stud Voltage < DS4/DS5 LVD Setting for 15 sec or > 17.5 Vdc. (turns OFF relay regardless of Key ON Accy Signal only if DS8 is set to OFF)

Kill Switch input > 8 Vdc turns OFF Relay immediately, will override all other relay ON triggers (V-sense & Key ON)

System Diagram



Status LED Indicator Functions



Red Solid / Green Flash	Relay Off, Pending Voltage Based On
Red Flash / Green Solid	Relay On, Pending Voltage Based Off
Single Red Flash /No Green	Under-Volt Lockout or Start Isolation Engaged
Single Green Flash	Start Assist Applied
No LED	Unit OFF/Open, voltage below turn ON threshold
Red Rapid Flash	High Current / Temperature OFF/Open

Specifications

Nominal Voltage (Vdc)	12	24
Input Voltage Range (Vdc)	8.0-18.0	16.0-36.0
Continuous Current (Amps)	160	
Operating Current (Amps)	0.340	0.170
Close Voltage Setting Options (Vdc)	12.8 / 13.1	25.6 / 26.2
Open Voltage Setting Options (Vdc)	12.8/12.5/12.3	25.6/25.0/24.6
Under Voltage Protect (Vdc) (15 sec)	11.5/11.8/12.1	23.0/23.6/24.2
Over Voltage Protection (Vdc) (5 sec)	17.5	35.0
Under-Voltage Lockout (Vdc) (If ON)	9.5	19.0
Min Source Current (Ignition/Kill Inputs)	10 micro-Amps	
Max 5 Min Current (Amps)	240	
Operating Current (mA) Standby / Open	1.3	
Cable Size to Meet Ratings	1/0 AWG	
Maximum Cable Size	2/0 AWG	
Hardware Material	Stainless Steel Self-Locking	
Terminal Stud Torque	80 in-lbs	
Aux Output Max Drive Current	400 milli-Amps	

Part Numbers	Resell Pack	Bulk Pack
12V U-VSR w/2' Gnd/Key Wires	7618	7618B
24V U-VSR w/2' Gnd/Key Wires	7618-24	7618-24B
Kill Switch Kit for (-) Control	4600-1001	4600-1001B
Full Harness, 2' Gnd/Kill/Key/Out	4603	4603B

* Custom product configurations available including stud sizes, control harness wires, time delays, voltage settings, dip switch functionality, and control input functionality. Low minimum quantities and short lead time for samples or production. Contact us at support@egismobile.com for more information

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