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DC 30 to 60V 80Amp

Automatic Low Voltage Disconnect Module

Model: F-1089

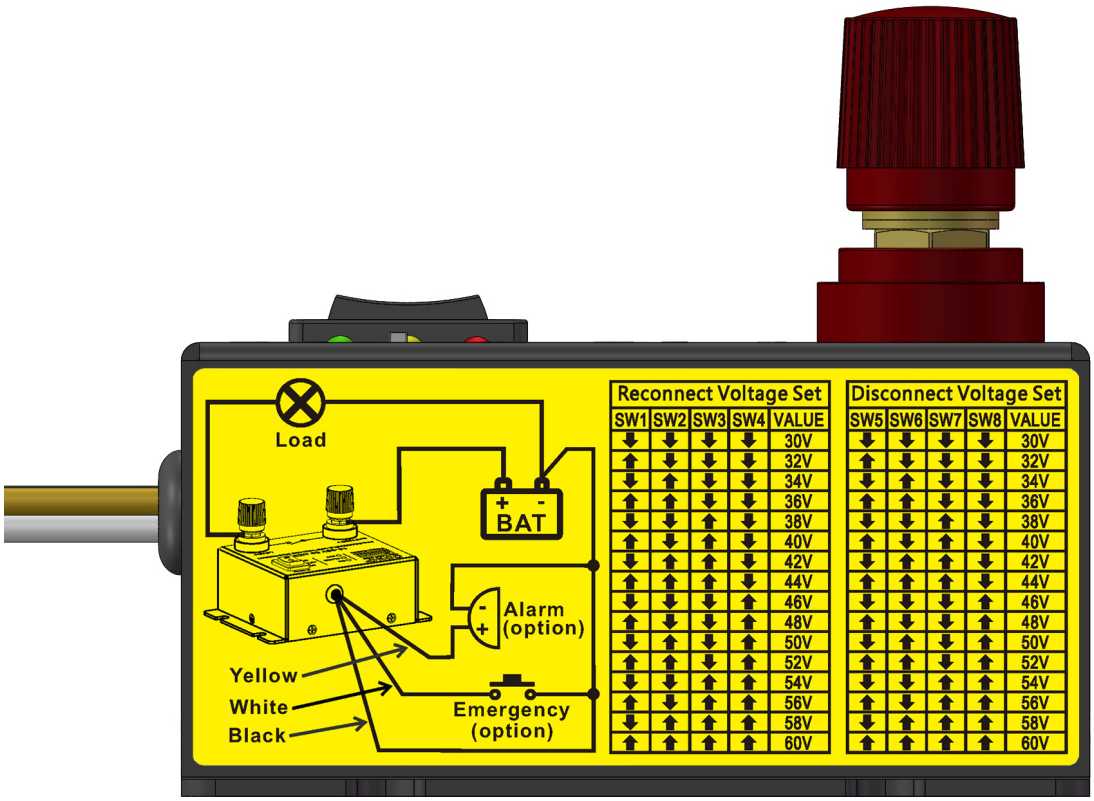


Features：

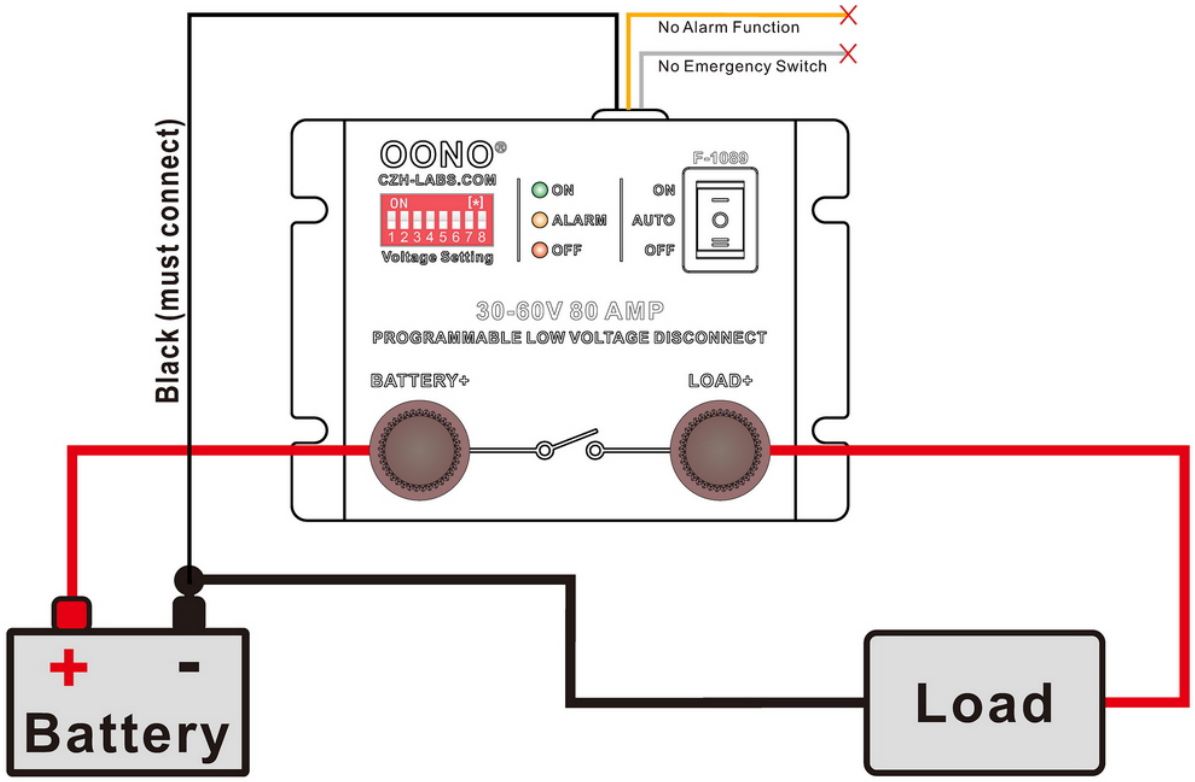
- To protect electronics from damaging low voltages and prevent a deep discharge of a battery during an extended power outage, the LVD module will automatically disconnect the battery when the voltage falls below the user adjustable cutoff voltage. When power is restored the Smart Switch will automatically reconnect the battery. thereby protecting the battery from total discharge (helping to prolong the life of the battery). Applications for Solar systems, Alarm systems, UPS systems, Mobile systems, or any application where you need to protect the battery from total discharge.
- Operating voltage DC 30 to 60V, maximum support current up to 80 Amp. Can support 36V or 48V battery system. Reconnect and disconnect voltage 30 ~ 60V you can set it arbitrarily (NOTE: reconnect voltage must be greater than the disconnect voltage). Quiescent current consumption is less than 1mA (It's the same whether it's ON or OFF), So you almost never have to worry about your battery being drained by the product, unless you don't charge it for months on end.
- With a rocker switch for override, can set to ON / AUTO / OFF function, if you want switch output to be immediate and remain ON or OFF. (Note: When the battery voltage is lower than 25V, set the switch to ON state, the battery will not be forced on, this is to protect the battery and the module).
- Red DIP switch, programmable voltage setting for Disconnect and Reconnect (rocker switch state must set to AUTO, otherwise the automatic function is invalid). For the setting value of the voltage, you can refer to the label on the side of the module. Please note that when setting the red DIP switch, the reconnect voltage must be greater than the disconnect voltage, otherwise the function will not work.
- With three module output status led, ON / ALARM / OFF, to help you intuitively understand the output status.
- After power-on, the action will be delayed for 1 second to accurately judge the battery voltage and reduce the instantaneous discharge current of the battery. When the battery drops to the disconnect voltage value, there will be a delay of 120 seconds. During this period, the ALARM function will be used to remind you that if the battery voltage does not return to the normal voltage during this period, the output will be turned off. When the battery voltage returns to the reconnect voltage value for 5 seconds, the output will be reconnected.
- Support external wiring connect emergency switch, the switch must be a momentary-on type switch. When the output is in a protected low-voltage disconnected state, and rocker switch setting to AUTO status, and battery voltage >=26V, Trigger external emergency switch, the module will be forced ON for 120 seconds for you to complete the emergency. If the battery voltage is lower than 26V, the emergency switch will not produce any action. If you do not use this function, please seal the white wire with insulating tape to prevent malfunction.
- Support external wiring connect active-buzzer or indicator light for alarm function (must use DC12V active-buzzer or indicator). When the battery voltage drops to the disconnect voltage value set by the red DIP switch, the output will act synchronously with the ALARM led, on for 0.5 seconds and off for 0.5 seconds, alternating output. After flashing for 120 seconds, if the voltage of the battery still does not rise at this time, the module will automatically turn off the output. The yellow ALARM-led will be off and the red OFF-led will be on. The source current capacity of this yellow wire is 500mA, please make sure that the active buzzer or indicator light you connect does not work more than 500mA. Please make sure that the active buzzer or indicator operating voltage is DC12V (please do not connect pure led directly, because the working voltage of led is only 2~3V). If you do not use this function, please seal the yellow wire with insulating tape to prevent malfunction.
- The product design is based on microcontroller and high-power latching relay, especially optimized anti-interference ability to better support inverter load, and make the quiescent working current very small.

Specifications:

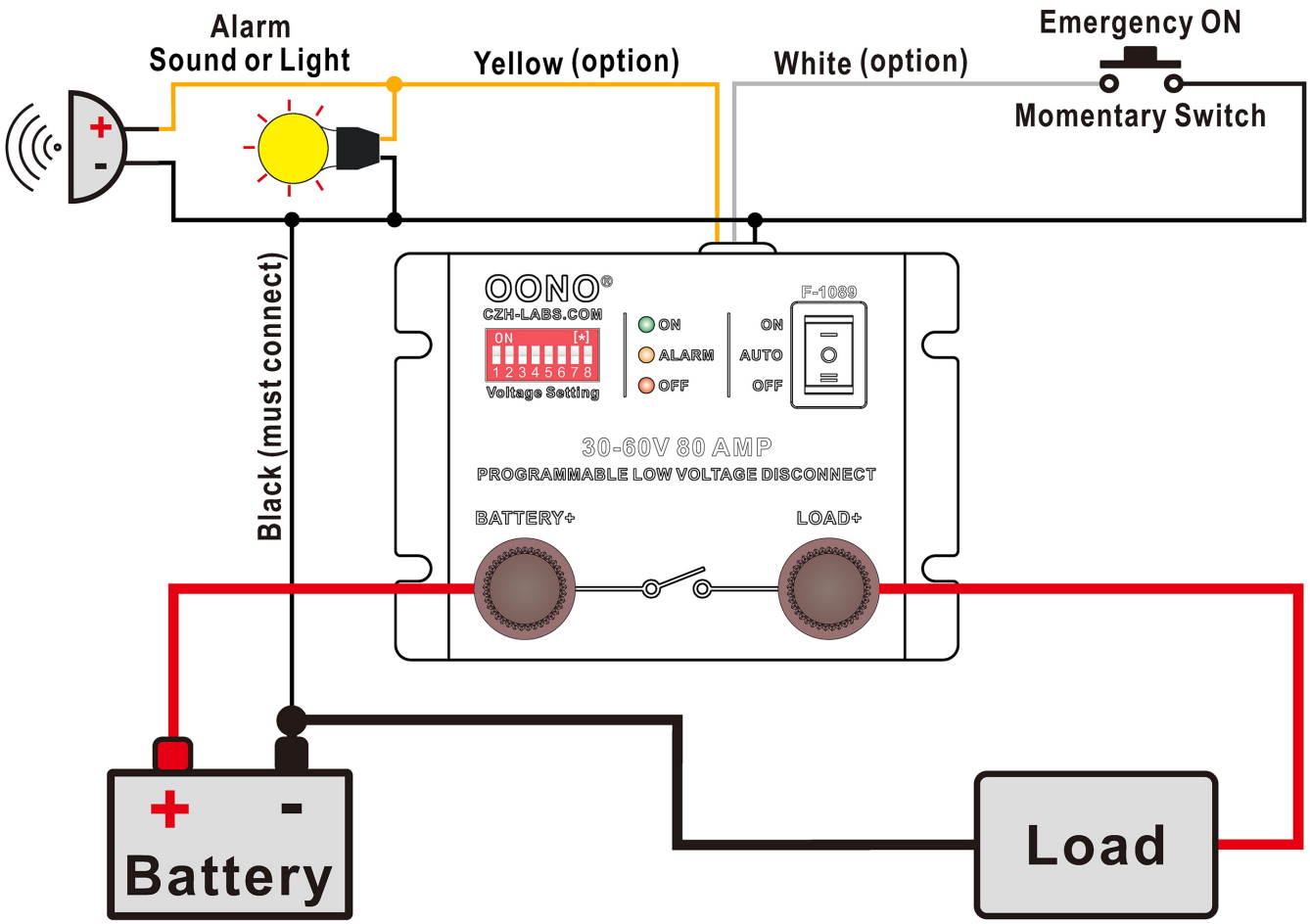
Operating Voltage: DC 6 to 60V
Rated Current: 80 Amp
Quiescent Consumption: 0.9mA/36V, 0.8mA/48V (Output OFF)
0.9mA/36V, 0.8mA/48V (Output ON)
Disconnect Setting Voltage: 30 to 60V, per step 2V
Reconnect Setting Voltage: 30 to 60V, per step 2V
Disconnect/Reconnect Voltage Tolerance: +/- 0.1Vdc (max.)
Disconnect/Reconnect LED: Red / Green
Alarm LED: Yellow, on for 0.5 seconds and off for 0.5 seconds alternating output
Power-ON Delay Time: 1 Second
Disconnect Delay Time: 120 Seconds
Reconnect Delay Time: 5 Seconds.
Emergency State ON Condition: Battery Voltage Must >= 26V
System Forcibly Disconnects Voltage: <= 25V
Support Wire Extension Length: Yellow alarm wire 10 meters / 32.8 feet maximum
White emergency switch wire 10 meters / 32.8 feet maximum
Black 0V/GND wire 1 meter / 3.28 feet maximum
External Wire Size: AWM1007 16AWG, Length 270mm/10.8 inch
Terminal Size: Diameter M6 / 6mm threaded copper terminals for battery and load positive.



Wiring diagram for basic applications:



Wiring diagram for full-function applications.

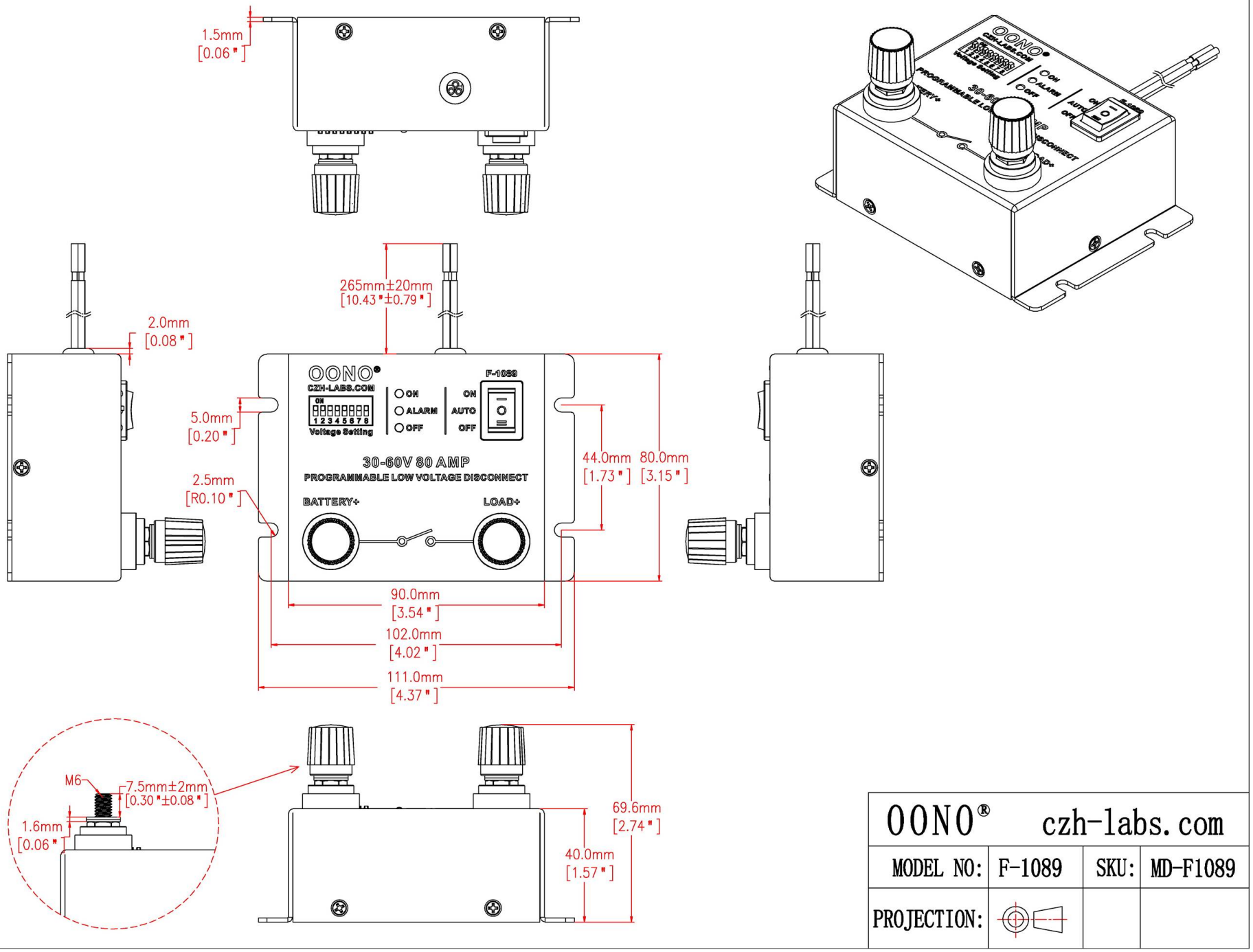


Initial Installation Steps and Conditions:

1, Be sure to read the Use Manual before installation. It is recommended to be installed by professional technicians. If you cannot understand the above connect diagram, please do not try to install.
2, Set the rocker switch to OFF
3, Set red DIP switch disconnect and reconnect voltage
4, Connect black 0V wire to battery negative
5, Connect white wire to emergency switch, emergency switch other end connect battery negative. This is an optional function, if you don't use this function, please insulate the white wire with electrical tape.
6, Connect yellow wire to active-buzzer or indicator light positive, active-buzzer or indicator light negative connect to battery negative. This is an optional function, if you don't use this function, please insulate the yellow wire with electrical tape.
7, Connect battery positive to module terminal BATTERY +
8, Connect module terminal LOAD + to load positive
9, Connect load 0V/GND to battery negative
10, Set the rocker switch to AUTO

NOTE:

1, Setting disconnect and reconnect values, reconnect value must more than disconnect value.
2, Do not reverse connect battery polarity, otherwise it will damage battery or the module.
3, The source current capacity of this yellow wire is 500mA, please make sure that the active buzzer or indicator light you connect does not work more than 500mA. Please make sure that the active buzzer or indicator operating voltage is DC12V (please do not connect pure led directly, because the working voltage of led is only 2~3V). If you do not use this function, please seal the yellow wire with insulating tape to prevent malfunction.
4, External emergency switch, if you do not use this function, please seal the white wire with insulating tape to prevent malfunction.
5, Black 0V/GND wire Extension connect must < 1 meter / 3.28 feet.



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MODEL NO:	F-1089	SKU:	MD-F1089
PROJECTION:			