



Battery Isolator

Installation / user manual 1.3

The ASMoto Battery Isolator is a fully electronic battery disconnect system specifically designed for motorsport applications. With no moving parts, it is highly resistant to vibrations, impacts, and contaminants such as water and dust. Additionally, its disconnection process is entirely spark-free, ensuring maximum safety in case of an accident.



1.1: Parameters:

	<i>Value:</i>	<i>Unit:</i>
Size:	67 x 42	mm
Weight:	130	g
Operating Voltage:	7 – 18 *	V
Current consumption Off state:	< 0.5	mA
Current consumption On state:	< 10	mA
Max. continue current 10s (25°C)	400	A
Max. continue current 5s (25°C)	750	A
Max pulsed current (25°C)	2000	A
Operating temperature:	-40 – 85	°C
Storage temperature:	-40 – 125	°C
Battery negative connector:	M8	

* The operating range of the already activated Battery Isolator: If the battery voltage drops below 10V or exceeds 15V, activation is disabled.

1.2: Overview:

The ASMoto Battery Isolator disconnects the connection between the negative terminal of the battery and the chassis.

The ASMoto Battery Isolator is capable of performing three functions:

- Disconnects all electrical systems from the battery.
- Stops the engine (engine kill function, disabling the PDM or ECU).
- Dissipates overvoltage caused by the still-spinning alternator after disconnection, protecting the car's electronic devices.

The Battery Isolator is equipped with several internal protections, including overcurrent and high-temperature monitoring. It continuously monitors the state of the control buttons, and in the event of a wire break, it immediately disconnects—for example, in case of an accident.

Two LEDs indicate the status and error codes: one on the main switch and one on the isolator.

2.1: Warnings:

Please read the following instructions carefully before installation:

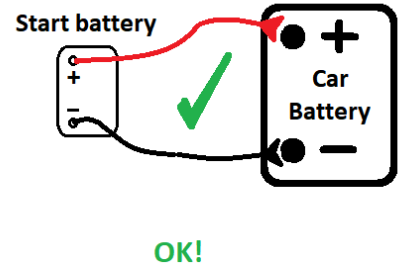
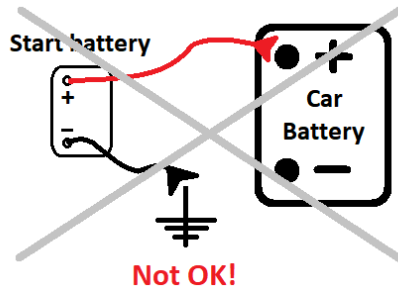
Both battery connections (positive and negative) must be disconnected before performing any electrical welding on the car.

When using the engine kill output, ensure that the engine of the deactivated vehicle cannot continue running.

If a battery charger or external jump starter is used, it is essential to connect both terminals directly to the vehicle's battery.

DO NOT UNDER ANY CIRCUMSTANCES CONNECT THE NEGATIVE TERMINAL OF THE CHARGER OR EXTERNAL BATTERY TO THE CAR CHASSIS!

To ensure this is maintained long-term, a dedicated connection point must be established for attaching the battery charger or external battery.



Motorsport is dangerous! This product is intended for motorsport use only, on closed tracks.

Warranty is valid only with documented, professional installation.

3.1: State indications:

	<i>Blue LED on the Battery Isolator</i>	<i>Red LED on the internal switch</i>	<i>State</i>
Normal condition	Not lit	Dimly lit	Off
	Lit	Lit	On
Fault	2 flashes	2 flashes	Switched off with external kill button
	3 flashes	3 flashes	Switched off due to overcurrent
	4 flashes	4 flashes	Switched off due to too high reverse current
	5 flashes	5 flashes	Switched off due to too high temperature
	6 flashes	6 flashes	Switched off due to low voltage
	7 flashes	7 flashes	Switched off due to high voltage
	8 flashes	8 flashes	Switched off due to overcurrent (short circuit)

4: Installation:

4.1: Mechanical Setup:

The ASMoto BatteryIsolator must be mounted directly to the car's metal chassis on a flat surface, close to the vehicle's battery but away from any heat sources. For optimal electrical contact, use unpainted bolts and surfaces whenever possible. The housing is prepared with holes for two bolts with a 6mm diameter and one bolt with an 8mm diameter.

4.2: Electrical Connections:

The ASMoto BatteryIsolator can be installed with an internal switch and any number of external switches.

4.2.1: The internal switch features a red LED to indicate the isolator's status.
 Connect the red wire from the internal switch to the grey wire coming from the BatteryIsolator.
 Connect the green wire from the internal switch to the yellow wire coming from the BatteryIsolator.

- 4.2.2: The external switch must be a non-latching and normally closed (NC) type. One pole of this switch should be connected to the vehicle chassis (ground), and the other pole to the white wire coming from the BatteryIsolator. If necessary, multiple external switches can be connected in series. If no external switch is used, the white wire must be connected to the chassis (ground). If this circuit is broken for any reason (e.g., in an accident), the isolator will disconnect.
- 4.2.3: The BatteryIsolator has an *engine kill* output, represented by the green wire. This output can send a signal to the ECU or PDM, or control an ignition cutoff relay. The maximum load capacity of this output is 200mA. During normal operation, with the isolator turned on, this wire is at a negative potential. When the isolator is off, the connection is open.
- 4.2.4: The BatteryIsolator receives its positive power supply through the pink wire. This wire should be connected to the positive terminal of the battery via a fuse, or to pin 15 of Connector B (small) in the ASMoto PowerModule. Negative power is provided via the M8 bolt.
- 4.2.5: The BatteryIsolator can communicate via LIN bus with the ASMoto PowerModule (from PowerModule 01.04 hardware version onward). For this connection, the brown wire should be connected to pin 7 of Connector B (small). The LIN connection enables several functionalities:
- Diagnostic information, such as supply voltage, temperature, current, and status, can be displayed on the AREM PowerModule interface.
 - These details can be transferred to the CAN bus via the PowerModule, making them loggable.
 - Depending on the PowerModule's configuration, it can trigger the BatteryIsolator to disconnect.

7 pin connector: (wire side, starting from the marking, clockwise)	Wire color:	Function:
1	Pink	+ 12 V
2	Grey	Internal switch (Switch red wire)
3	Yellow	Internal switch (Switch green wire)
4	Green	Engine kill
5	Brown	Lin (for ASMoto PDM)
6	White	External switch
7 middle pin	-	Not connected

