

BATTERY ISOLATORS

CARTEK electronic Battery Isolators are a very small and highly reliable alternative to the traditional mechanical master-switch. They have been designed to overcome all the problems and restrictions associated with mechanical and electro/mechanical master-switches to maximise reliability, enhance safety, save weight and simplify installation.



- Fully electronic with no moving parts.
- Totally sealed against water and dirt.
- Completely resistant to shock and vibration.
- Fully integrated with built in alternator run-down circuitry
- **No extra components required.**
- Driver operation by a single internal ON-OFF button/switch.
- External operation by single or multiple 'strike' button(s).
- Buttons / switches connected to Isolator using light weight wiring.
- Mounts close to battery for reduced cabling.
- Very small and weight is only 70g - 100g.
- Designed and manufactured in UK using the latest and best quality components available.
- **Meets FIA Safety Regulations.**

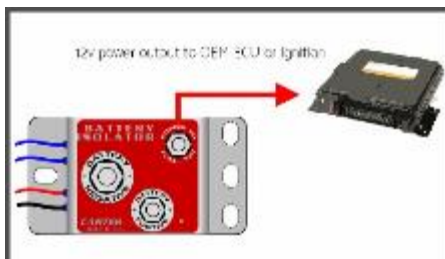
How it works

Our Cartek Battery Isolators provide two functions. The first is to disconnect the Battery from all Electrical Circuits. The second is to stop the engine.

The Battery Isolators work by being connected in between the negative side of the battery and the chassis (see picture opposite). When the external kill button has been activated, or the internal button been switched to the off state, then the Battery Isolator will disconnect the negative side of the battery from the chassis. This means that power is removed from all electrical circuits as they all obtain their negative power connection via the chassis.



To stop the Engine there are two options of Battery Isolator:



GT BATTERY ISOLATOR

The GT Battery Isolator disconnects the negative side of the battery from chassis, as described above, and stops the engine by providing a switched 12v power output which can be used as the main power input to the Ignition or ECU. When the Battery Isolator is switched off and the negative side of the battery has been disconnected it will also cut the 12v output powering your Ignition or ECU thereby stopping the engine. The GT Battery Isolator is designed for cars with no ECU or standard OE ECU.



XR BATTERY ISOLATOR

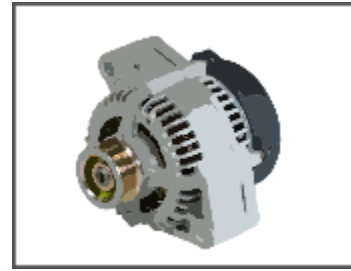
The XR Battery Isolator disconnects the negative side of the battery from chassis, as described above, and stops the engine by outputting an 'engine stop' signal which is recognised by most programmable motorsport ECUs and Power Distribution Modules. The ECU or PDM will then shut down when it acknowledges this signal - which then stops the engine. The latest XR Battery Isolator also features a 0.5 sec time delay between transmitting the engine stop signal and disconnecting the battery allowing ECUs time to perform a shutdown sequence before electrical power is lost.

BUILT IN PROTECTION

Both the **GT** Battery Isolator and the **XR** Battery Isolator incorporate alternator run down protection which means no extra components are required.

How Is It Controlled?

The two electronic isolation circuits are controlled by microprocessors and incorporate various safety systems including over-temperature and over-current monitoring. These microprocessors also monitor the kill switches/buttons for instant activation without false triggering.



Solid-State means no moving parts, all power switching is fully electronic.

Early types of battery isolation utilised large mechanical master-switches while more modern systems have utilised electro-mechanical solenoids. Both types of systems contain mechanical electrical contacts which, due to the combination of high electrical current and the shocks and vibration of the race car environment, sparking between the contacts occurs which results in contact erosion and eventual unreliability.

Our Solid-State Battery Isolators are also filled with a hard setting resin which keeps them fully sealed against dust, dirt and water while also making them resistant to shock and vibration. This further increases their strength and reliability.

Advanced safety features

As Cartek Battery Isolators use normally-closed, push-to-break, external kill buttons it allows multiple external buttons to be connected in series. This was implemented by Ford for the Formula Ford Ecoboost cars which were fitted with an external kill button on each side. This safety feature means a marshal will always have quick access to a kill button even if the car is on its side or upside down.



These Battery Isolators will instantly trigger into isolation mode when any of the kill buttons are struck or on detection of any fault or break in the switch wiring circuits for added safety.






Cartek also manufacture a unique Fire Extinguisher button which can also be connected to the Battery Isolator Circuit. This means that if the Fire Extinguisher system has been activated the Battery Isolator will simultaneously stop the engine and disconnect the battery.

Technical Specifications

	GT	XR
Size:	93x50mm	60x45mm
Weight:	120g	70g
Operational Voltage:	7v-18v	7v-18v
Battery Consumption when off:	6mA	1mA
Battery negative switching current:	600A, 2000A Surge	600A, 2000A Surge
Engine Kill output:	30A Protected	ECU/PDM signal
Operating Temperature	-10°C - +85°C	-10°C - +85°C

Part Numbers

	<p>CK-BT-02</p>	<p>BATTERY ISOLATOR GT UNIT ONLY</p>
	<p>CK-BG-06-B</p>	<p>BATTERY ISOLATOR GT KIT WITH: BLUE EXTERNAL BUTTON INTERNAL ON/OFF BUTTON SAFETY STICKERS</p>
	<p>CK-BG-06-R</p>	<p>BATTERY ISOLATOR GT KIT WITH: RED EXTERNAL BUTTON INTERNAL ON/OFF BUTTON SAFETY STICKERS</p>
	<p>CK-BR-06</p>	<p>BATTERY ISOLATOR XR UNIT ONLY -CONNECTION CABLE INCLUDED</p>
	<p>CK-BR-08-B</p>	<p>BATTERY ISOLATOR XR KIT WITH: CONNECTION CABLE BLUE EXTERNAL BUTTON INTERNAL ON/OFF BUTTON SAFETY STICKERS</p>
	<p>CK-BR-08-R</p>	<p>BATTERY ISOLATOR XR KIT WITH: CONNECTION CABLE RED EXTERNAL BUTTON INTERNAL ON/OFF BUTTON SAFETY STICKERS</p>
	<p>CK-EP-02</p>	<p>EXTERNAL 'KILL' BUTTON RED</p>
	<p>CK-LP-03</p>	<p>EXTERNAL 'KILL' BUTTON BLUE</p>
	<p>CK-YP-04</p>	<p>EXTERNAL 'KILL' BUTTON YELLOW</p>

	<p>CK-FP-04</p>	<p>FIRE EXTINGUISHER BUTTON COMBINED WITH EXTERNAL 'KILL' BUTTON</p>
	<p>CK-LT-01</p>	<p>INTERNAL ON/OFF BUTTON</p> <p>- <i>ONLY TO BE USED WITH CARTEK BATTERY ISOLATORS</i></p>
	<p>CK-SS-03</p>	<p>SAFETY STICKERS</p>