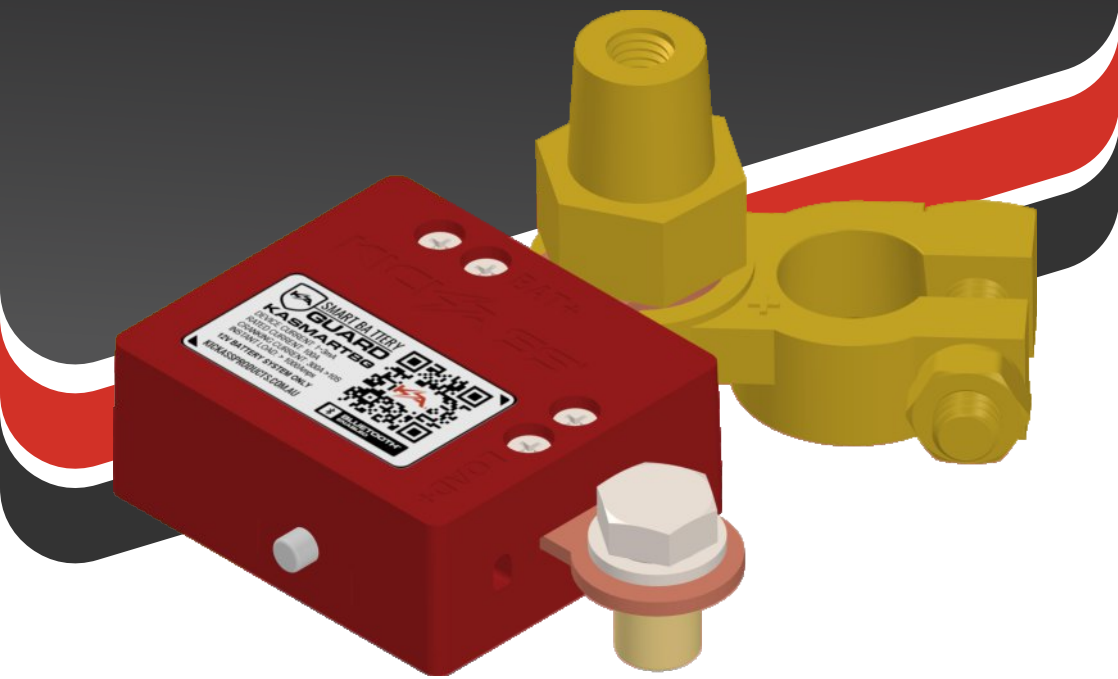
KICKASS®

SMART BATTERY GUARD

USER MANUAL



KASMARTBG

V0.9

WARNINGS

- To avoid injury or damage to your vehicle ensure instructions are read carefully.
- If you are unsure about the device installation, consult the supplier or an auto-electrician.
- The Smart Battery Gaurd is not IP rated so is therefore not suitable for use in areas where water ingress is possible

This manual will give you all of the essential information you need to own and operate your new KickAss Smart Battery Guard.

Features and benefits of KickAss Smart Battery Guard are:

Bluetooth connectivity - Fully programmable via IOS and Android Bluetooth Application, view live battery voltage and control the relay status ON/OFF from the Bluetooth Application.

Programmable Voltage Sense Relay (VSR) - Fully configurable VSR to isolate the starter battery from the auxiliary battery when no charge is detected from the isolator.

Programmable Low Voltage Disconnect (LVD) - Fully configurable LVD to protect your vehicles battery system from over-discharge when connected to auxiliary loads.

Remote Override Switch - Remote override switch with quick connect / disconnect connector to control the KickAss Battery Guard relay status. Fitted with a 2.8m cable for remote operation.

Heaps of Hardware - All the installation hardware required provided in the box

KickAss Battery Guard Functional Description

Automatic VSR Function overview: Voltage Sensing Relay

The VSR provides automatic protection of the starter battery from over discharge for a basic dual-battery system without a DCDC charger. The KickAss Smart Battery Guard (KASMARTBG) comes pre-configured with automatic cut-in and cut-out voltages to protect the vehicle starter battery from accidental over discharge. When configured as a VSR, the KASMARTBG will isolate the starter battery from the auxiliary battery to disable any charge transfer between the batteries after the engine has been switched off.

Automatic LVD Function overview: Low Voltage Disconnect

The LVD provides automatic protection for an auxiliary battery from over discharge when connected to system loads. The KASMARTBG pre-configured with recommended automatic cut-out and cut-in voltages to protect the auxillary battery from over discharge.

Note: The KA SBG can only be configured as an LVD device through the Bluetooth Application.

Manual Function overview:

The manual override function, controlled either through the LED Button on the KASMARTBG or the Bluetooth Application can be used to override the configured automatic cut-in and cut-out settings to either reconnect or disconnect the system batteries, regardless of the starter battery voltage.

Note: Jump starting from the auxiliary battery should only performed with suitable battery types.

Remote Override Switch overview:

With its own set of functions, the switch can also be used to override the automatic configurations. Easy to install using the peel off sticky backing and quick connect plug, remotely engage the KASMATBG to facilitate jump starting from the vehicle cab when needed.

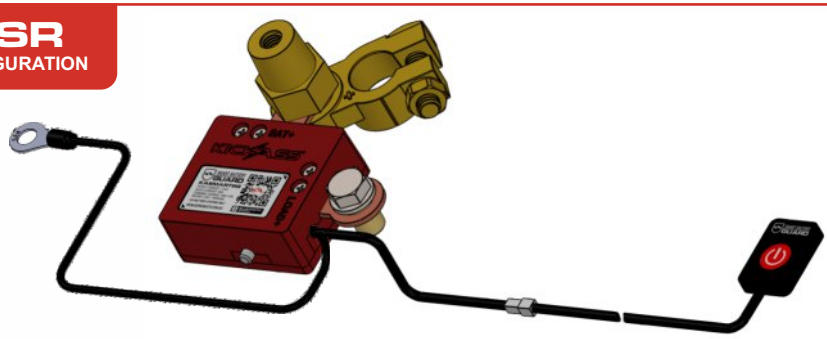
For more further technical details and specifications, please visit kickassproducts.com.au

SPECIFICATIONS

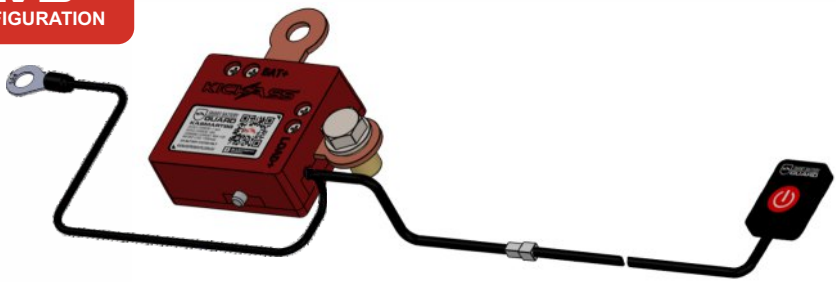
INPUT VOLTAGE:	8 -18V (12V BATTERY SYSTEM ONLY)
MIN STANDBY CURRENT:	1MA
MAX CONTINOUS CURRENT:	100A
CRANKING CURRENT:	250 - 300A FOR LESS THAN 10 SEC
OPERATING TEMP RANGE:	-20°C TO120°C
CONNECTION:	M8 PLUS POSITIVE TERMINAL POST CLAMP
BLUETOOTH:	BLE4.2
UNIT WEIGHT:	0.34KG
UNIT DIMENSIONS:	81 X 76 X 21MM
PACKAGE WEIGHT:	0.4 KG
PACKAGED DIMENSIONS:	200 X 140 X 40MM

SMART BATTERY GUARD CONFIGURATIONS

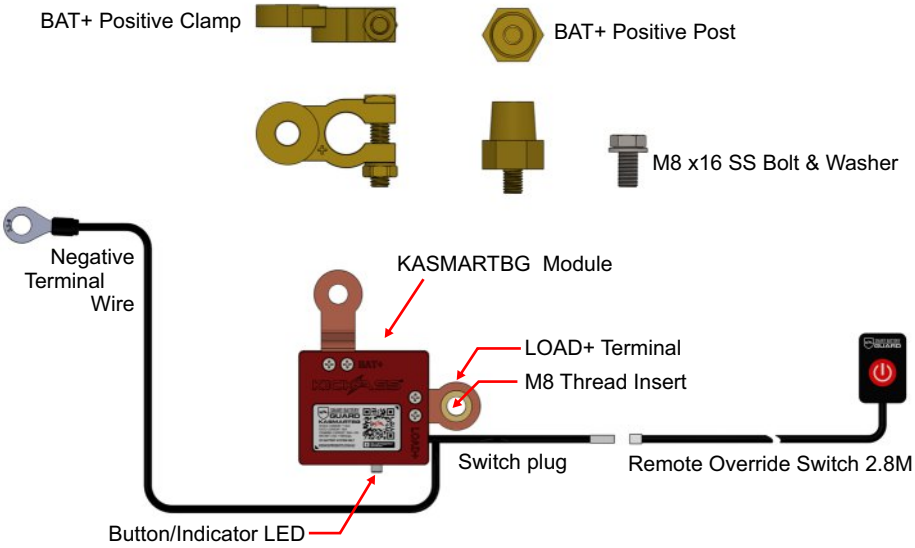
VSR
CONFIGURATION



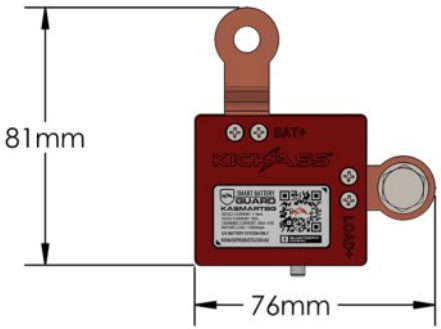
LVD
CONFIGURATION

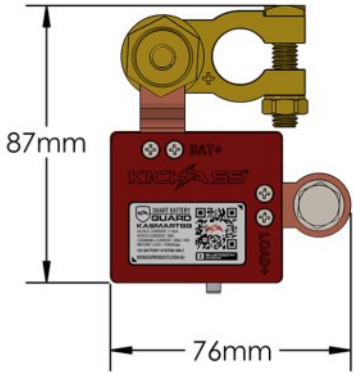


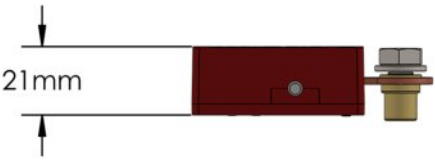
PRODUCT OVERVIEW

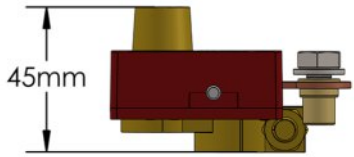


Note: **KASMARTGB** will be delivered with all hardware depicted above.









INSTALLATION GUIDE

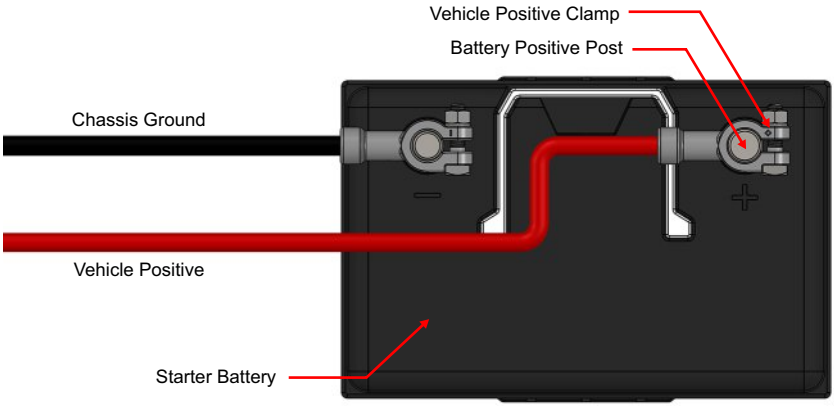
KickAss Smart Battery Guard VSR Installation with Auxiliary Battery.

VSR Function overview: Protection for starter battery over discharge with basic dual battery system. KASMARTBG will be delivered by default as a VSR.

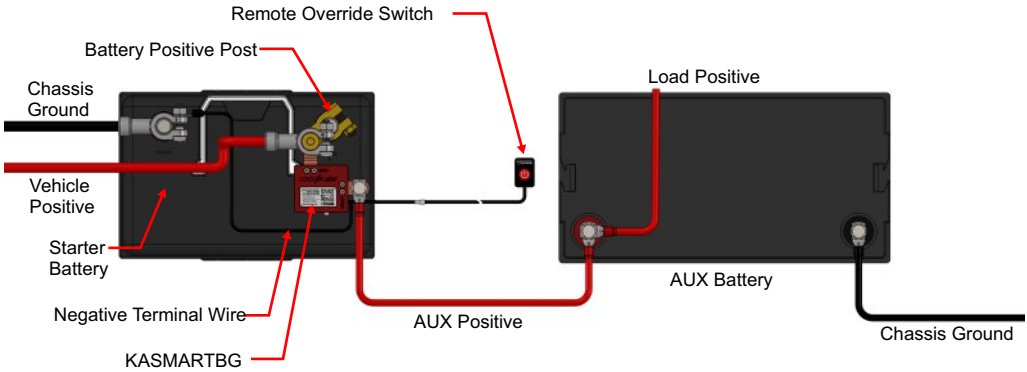
Default VSR Settings: Cut-in voltage - 13.2V | Cut-out voltage: 12.25V

Recommend VSR Settings (AGM/GEL/WET/CAL): Cut-in voltage - 13.2V | Cut-out voltage: 12.6V

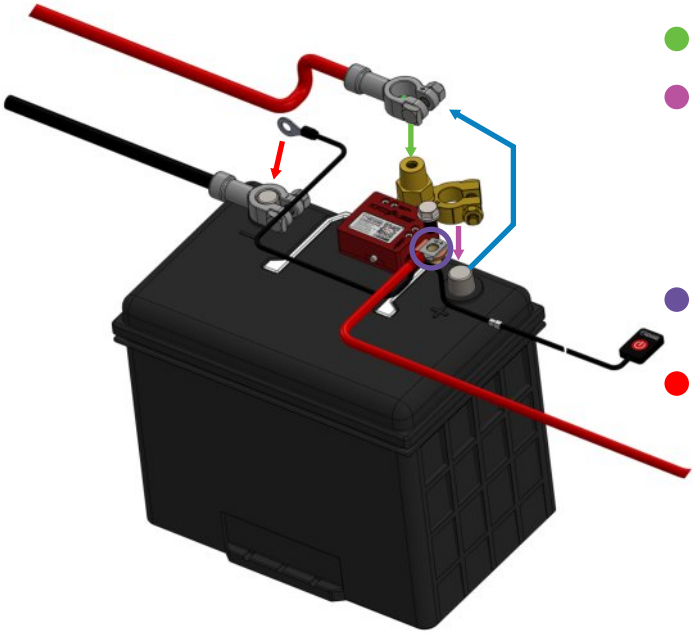
Typical Starter Battery Connections



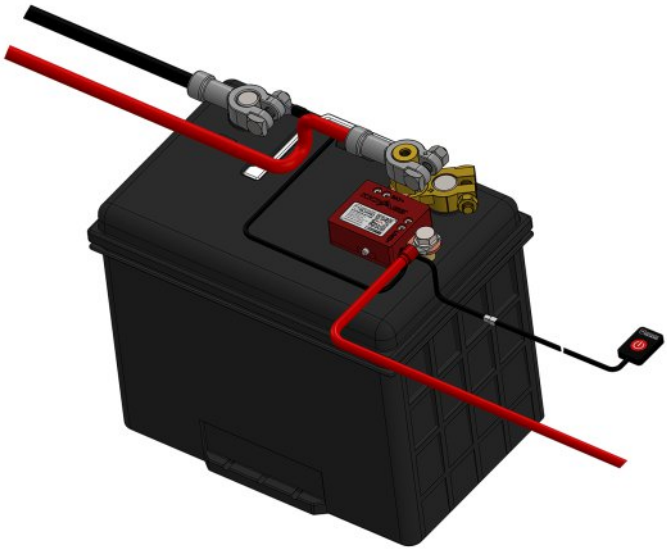
KASMARTBG VSR Connection with Aux Battery



KASMARTBG installed to Start Battery



1. Remove vehicle positive clamp from battery post.
2. Fit vehicle positive clamp to KASMARTBG positive post.
3. Fit KASMARTBG clamp to battery post.
4. Tighten both clamps carefully.
5. Connect remote override switch if needed and run to cab dash.
6. Remove M8 bolt from LOAD+ terminal and fit all load positive cables.
7. Secure KASMARTBG Negative Terminal wire to battery negative.

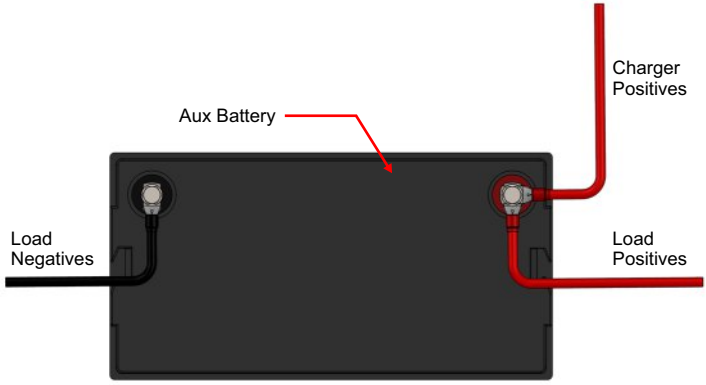


KickAss Smart Battery Guide LVD Installation with Auxiliary Battery

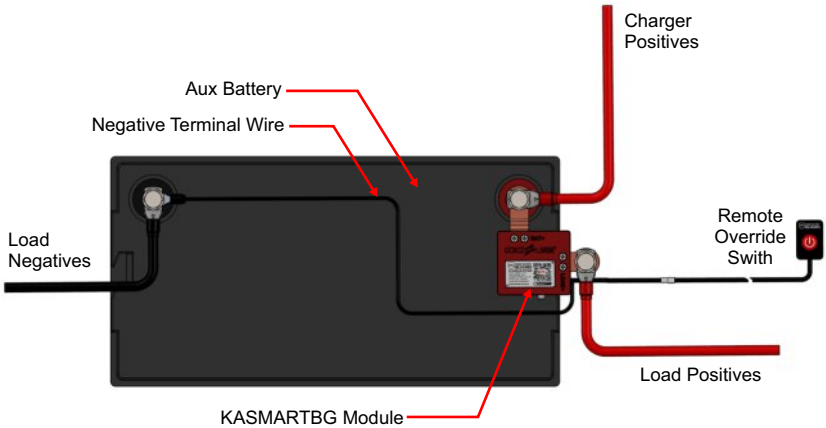
LVD Function Overview: Protection for Aux battery over discharge with system loads. To configure the KASMARTBG as a LVD, connect via the Bluetooth Application and configure Cut-in and Cut-out Voltage.

Recommend Settings (AGM/GEL/WET/CAL): Cut-out voltage: 10.5V | Cut-in voltage - 11.5V

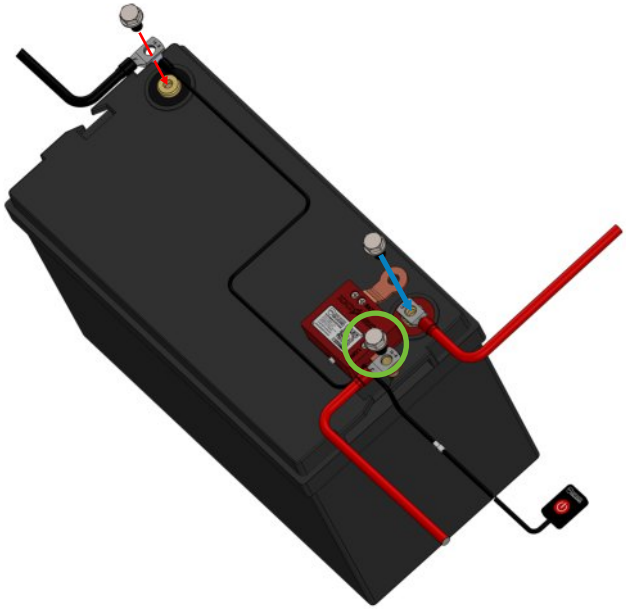
Typical Aux battery connections with NO LVD



KASMARTBG Installed with Aux battery loads



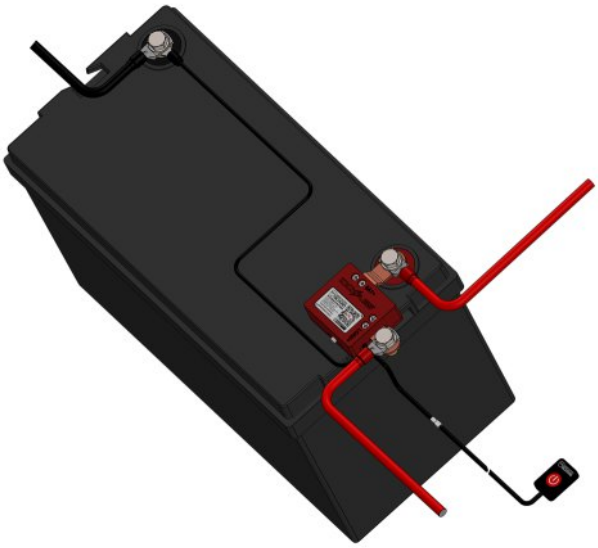
KASMARTBG install to Aux Battery



1.Remove M8 bolt from auxillary battery positive terminal, fit KASMARTBG BAT+ to auxillary battery positive terminal, add charging positive connections here also, then screw down bolt.

2.Remove M8 bolt from KASMARTBG LOAD+ terminal, fit auxillary load connections and screw down bolt.

3.Secure KASMARTBG Negative Terminal wire to battery negative.

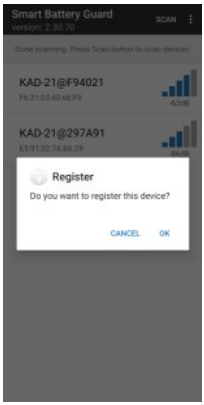


CONNECTING VIA THE BLUETOOTH APPLICATION

Use the QR codes to download the KA Smart Battery Guard Bluetooth application

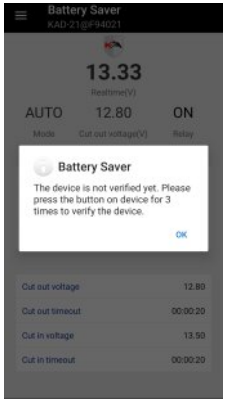
AVAILABLE ON THE APP STORE

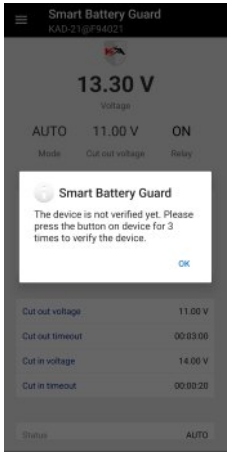
GET IT ON GOOGLE PLAY

	IOS	Android
Connecting to the KASMARTBG: • Ensure Bluetooth is enabled on the mobile device. • The Bluetooth application will begin to search for any available KASMARTBG devices when the application is started. • Once the Bluetooth application can see the KASMARTBG, the device and received signal strength will be displayed. • Click on the device icon to connect.		
Registering the KASMARTBG on the mobile device: • To register the KASMARTBG with the mobile device, select OK when prompted.		

Verifying the mobile device with the KASMARTBG:

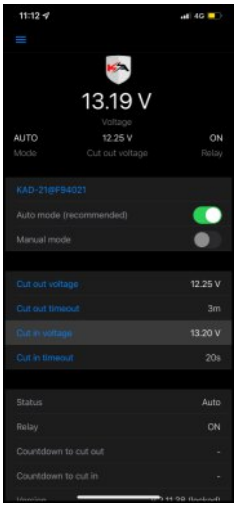
- To verify the mobile device with the KASMARTBG, press the LED Button on the KASMARTBG.





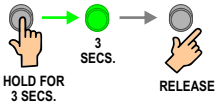
KASMARTBG parameters and date:

- **Current Starter Battery**- Voltage is displayed at he top of the application.
- **Mode** - Indicates the current operation mode, either automatic or manual.
- **Relay** - Indicates the current state of the relay.
- **Cut out voltage** - Configurable parameter at which the KASMARTBG will disengage the relay once the starter battery voltage drops the below set voltage.
- **Cut out timeout** - Configurable parameter of time which the KASMARTBG will wait before disengaging the relay once the starter battery voltage drops below the cut-out voltage
- **Cut in voltage** - Configurable parameter at which the KASMARTBG will engage the relay once the starter battery Voltage rises above the set voltage.
- **Cut in timeout** - Configurable parameter of time which the KASMARTBG will wait once the starter battery voltage rises above the cut-in voltage



KICKASS SMART BATTERY GUARD BEHAVIOUR

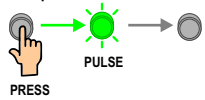
Mode	KickAss Smart Battery Guard Behaviour
Set Mode	Set mode can be used to change the configured cut-out voltage to five predefined values. Using Set mode will over-right the cut-out voltage parameter configured in the application. The pre-defined cut-out voltage values are as follows: To enter Set mode, hold the LED button down for 3 seconds. LED will hold GREEN during 3 seconds, after GREEN LED button turns off, release the button. The KA Smart Battery Guard is now in set mode.



The LED will now flash BLUE to indicate the current pre-defined cut-out voltage. The number of BLUE LED pulses indicates the current pre-configured cut-out voltage.

Number of LED Pulses	Pre-configured Cut-out Voltage
	11.50V
	11.75V
	12.00V
	12.25V
	12.50V

To change the pre-configured cut-out voltage, press the LED once. The LED will pulse GREEN momentarily to indicate the Cut-out voltage parameter has changed. The number of BLUE LED pulses should now have increased. The pre-configured cut-out voltage operates as a circular menu, i.e. if the current pre-configured cut-out voltage is set to 12.50V (5 LED pulses, pressing the LED button will return the setting to 11.50V (2 LED pulse.



To return to automatic operation mode, hold the LED button down for 3 seconds, LED will hold GREEN during 3 seconds, after GREEN LED turns off, release the button. The LED will now flash RED, BLUE then GREEN in 3 short pulses. The KASMARTBG will now perform a reset and restart in automatic mode with the updated cut-out voltage. Upon reset, the KASMARTBG will need to be reconnected to the Bluetooth Application.

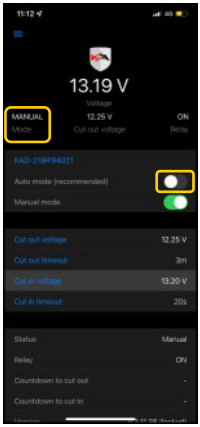
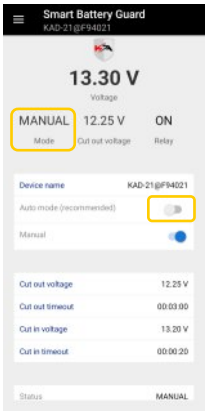
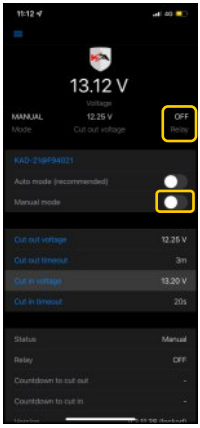
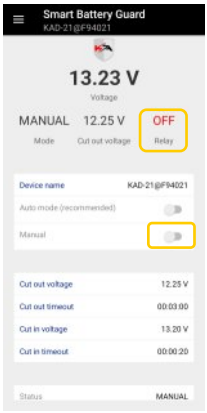
Manual mode

NOTE: In manual mode, all automatic connect and disconnect functionality of the KKASMARTBG will be disabled.

Manual mode can be used to override the automatic cut-out and cut-in functionality of the KASMARTBG. This feature may be useful to disconnect to starter battery from any auxiliary loads if the vehicle is in storage for an extended period of time, or to connect the auxiliary battery to the starter battery to jump start the vehicle.

Manual mode can be entered into from the Bluetooth application and the local LED button on the KASMARTBG device.

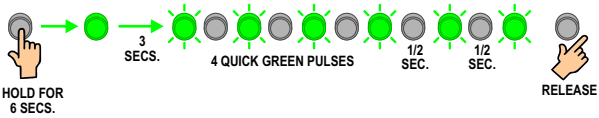
Using manual mode through the Bluetooth application:

	IOS	Android
Enable/disable manual mode, switch the Auto Mode selector on or o ff		
Engaged / Disengaged KASMARTBG switch the relay selector on or off		

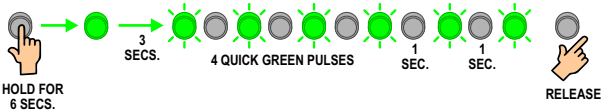
Manual mode

Using manual mode via the local KASMARTBG Application:

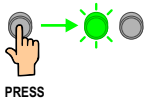
To enter manual mode, press and hold the LED button for 6+ seconds. The LED button will hold GREEN for 3 seconds, followed by 4 quick GREEN pulses, followed by one GREEN pulse every half a second. The LED button can now be released,



Press and hold the button for 6+ seconds. LED will hold green for 3 seconds, followed by 4 quick pulses, followed by 1 flash every second. The device is now in manual mode and can be operated via the Bluetooth application, or the LED button on the KASMARTBG.



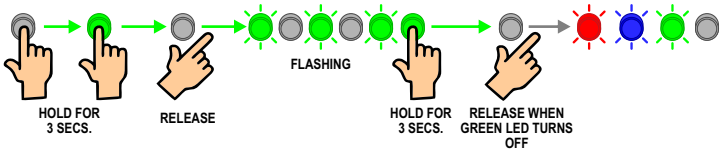
To engaged/disengaged the KASMARTBG relay, press the LED button on the device. The LED will pulse GREEN once when pushed.

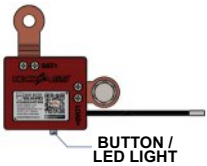
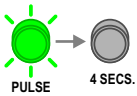
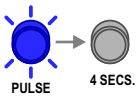
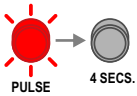


Disconnecting the Bluetooth Connection

To force close the Blutooth connection on the KickAss Smart Battery Guard, hold the LED button down for 3 seconds. LED will hold GREEN during 3 seconds, after GREEN LED button turns off, release the button.

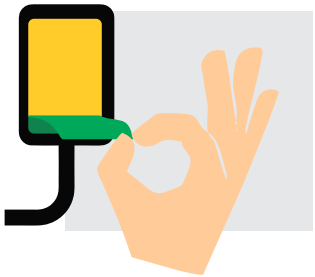
Once the GREEN LED Button starts to flash, hold the LED button down for 3 seconds, LED will hold GREEN during 3 seconds, after GREEN LED turns off, release the button. The LED will now flash RED, BLUE then GREEN in 3 short pulses. The KA Smart Battery Guard will now perform a reset and disconnect any Bluetooth connections.



Mode	LED Behaviour	KASMARTBG Behaviour	KASMARTBG Remote Switch Behaviour
			
Automatic	1 short GREEN LED pulse every 4 seconds 	Battery voltage is above cut-in voltage. KASMARTBG relay is engaged and the starter battery and load terminals are connected.	Using the Override switch when relay status is engaged and the starter battery voltage is above the cut-in setting: 
	1 short BLUE LED pulse every 4 seconds 	Battery voltage is below the cut-out voltage, waiting for cut-out delay preset timeout to expire before disengaging the KASMARTBG relay and disconnecting the starter battery and load terminals.	One press will reset the device, disconnecting the starter battery and Load terminal momentarily before reconnecting. Press 3 time to immediately disengage the relay while in this state.
	1 short RED LED pulse every 4 seconds 	Battery voltage is below the cut-out voltage, KASMARTBG relay is disengaged and starter battery and load terminals are disconnected.	Using Override Switch when battery voltage is below Cut-out setting and relay is disengaged:  One press will engage the relay for the time period set by the timeout delay setting, once count down is completed the relay will return to disengaged state and disconnect battery from the Load terminal. Press once again to override the timeout delay, while the relay is engaged. This will disengage the relay immediately and disconnect the starter battery and load terminals.

REMOTE OVERRIDE SWITCH INSTALLATION

Peel off backing tape to expose sticky pad. Prep surface by wiping clean to remove dust and grease. Then press firmly to desired mounting position



2.8m cable can be run from KASMARTBG to remotely mount switch where convent eg. In Vehicle cabin.

THANK YOU FOR CHOOSING

KICKASS®

For more information please visit us at:

kickassproducts.com.au