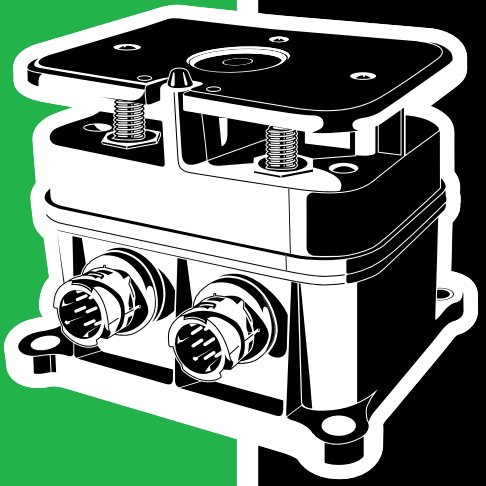
® TSWITCH e



500 Amp
Continuously Rated
Isolation Switch

BATTERY MASTER SWITCH

TSWITCH® OVERVIEW

The TSWITCH® ADR Battery Master Switch has been designed to comply with Australian Standards AS 2809.2, European ADR 2005. The TSWITCH® is a 2 pole bi-stable electronic switch.

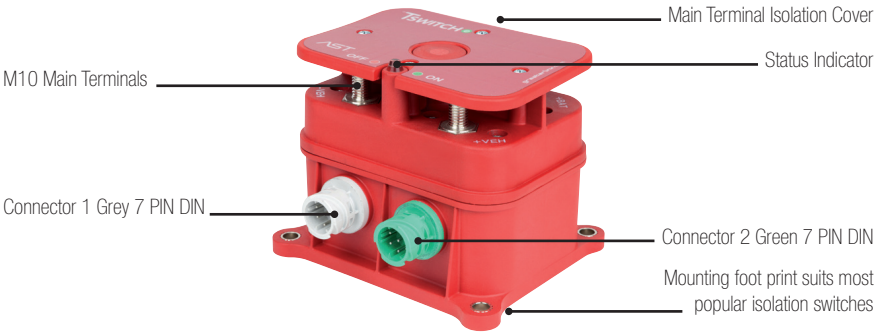
Each switch incorporates two auxiliary circuits; one auxiliary circuit (SW 1) to control a circuit of the user's preference and a second (SW 2) used for alternator field isolation.

The primary function of the TSWITCH® is to disconnect and isolate the main battery from the vehicle and the alternator. The TSWITCH® can also be integrated with fire suppression systems.

In an EMERGENCY SHUT DOWN the TSWITCH® disconnects the alternator prior to disconnecting the main battery, preventing damage to the alternator or vehicle electronics. When this occurs the TSWITCH® will need to be reset once the appropriate safety personnel have designated the vehicle safe to operate.

In NON EMERGENCY situations, the operator can isolate the batteries and alternator manually and lock the vehicle out by incorporating a lockable E-Stop device.

Features



TSWITCH® Part Number:
TSW24VEC

Accessories:

BMS-PKIT	- DIN connector kit
HRN1.5X2RW	- 1.5M Harness kit
RS400	- Rollover device
VRD12-24	- Rollover device
SW-K174	- Remote mounted switch
SW-K174G	- Remote mounted switch with lockout guard
SW-K174M	- Remote mounted switch metal enclosure

Features Include:

- Ex & CE Certified
- Complies with ADR2005
- Complies with AS 2809
- Field Isolation for all alternator and vehicle types
- Compatible with all rollover devices
- Two colour LED status indicator
- Remote ON and OFF function

FITTING ACCORDING TO ADR REGULATION 9.2.2.3

Note: It is highly recommended that the installation is performed by a qualified auto electrician or Electrical Engineer.

The TSWITCH® should be fitted in accordance with state and federal laws relevant to the application it is required to meet. Please refer to the appropriate governing authority for specific fitting requirements.

Note:

9.2.2.3.1 - A switch for breaking the electrical circuits shall be placed as close to the battery as practicable. If a single pole switch is used it shall be placed in the supply lead and not in the earth lead.

9.2.2.3.2 - A control device (not supplied see Optional Equipment 2.) to facilitate the disconnecting and reconnecting functions of the switch shall be installed in the driver's cab. It shall be readily accessible to the driver and be distinctively marked. It shall be protected against inadvertent operation by either adding a protective cover, by using a dual movement control device or by other suitable means. Additional control devices may be installed provided they are distinctively marked and protected against inadvertent operation. If the control device(s) are electrically operated, the circuits of the control device(s) are subject to the requirements of 9.2.2.5.

9.2.2.3.3 - The switch shall have a casing with protection degree IP65 in accordance with IEC Standard 529.

9.2.2.3.4 - The cable connections on the switch shall have protection degree IP54. However, this does not apply if these connections are contained in a housing which may be the battery box. In this case it is sufficient to insulate the connections against short circuits, for example with a rubber cap.

9.2.2.4 - The battery terminals shall be electrically insulated or covered by the insulating battery box cover. If the batteries are not located under the engine bonnet, they shall be fitted in a vented box.

STOP!

If you intend to install this switch onto a vehicle equipped with another brand of Battery Isolation Switch be aware. Although the harness will connect; the PIN functions are not identical and DAMAGE to TSWITCH® and vehicle can occur.
The PIN configuration of each attaching harness will need to be re-configured. Please follow the enclosed wiring instructions. Damage caused by improper installation is not warrantable

MOUNTING

The mounting base offers the same interface as the Lucas 196A (SSB) and DPS Master switches. Use 4 x M8 bolts for mounting. It is strongly recommended that thread locking nuts or locking adhesive be utilised to prevent loss of torque due to vibration.

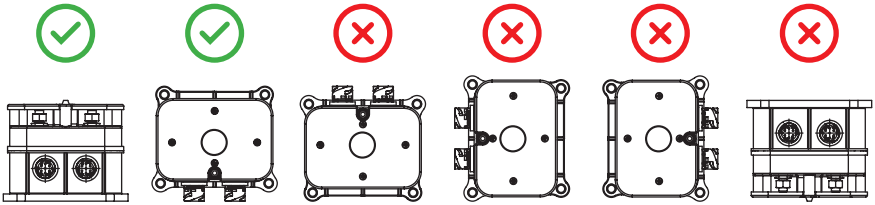
Maximum Tightening torque: 14 Nm

The TSWITCH® must always be mounted in a location where the manual control handle can be accessed with no obstructions. It is also recommended that it be mounted near the battery location or within view of the battery box. Never install inside the same compartment of the batteries.

The TSWITCH® is an electric device. Ensure it is NOT installed in areas that are prone to direct wheel splash i.e. area with excessive water ingress from moving vehicles (such as low to the ground, between wheels etc.)

Never install TSWITCH® near the exhaust converter or inside of the engine compartment.

The TSWITCH® should always me mounted sitting upright or in a horizontal direction with DIN connectors facing down. See below illustrations.



ELECTRICAL

WARNING: Damage may occur if connected incorrectly.

WARNING: Never disconnect DIN connectors with switch in ON position.

WARNING: Do not conduct welding to a vehicle while TSWITCH® is fitted. Disconnect prior to proceeding

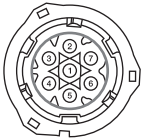
Main Terminals: 4 x M10 Studs. Torque to 14Nm. Always ensure polarity is correct when connecting battery and vehicle leads. Refer to markings adjacent to each terminal prior to connection. Cables should be secured so not to put pressure on the battery studs.

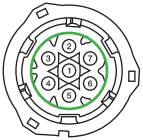
Remote Enable: Provide instruction to all technicians when the vehicle/machine is undergoing repair to always ensure the E-stop is OFF and locked out. This will override the remote turn ON function.

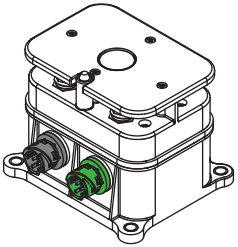
ELECTRICAL

DIN Connections: The harness should be wired into the vehicle prior to connecting to the TSWITCH®

Optional Connector Part Numbers:
BMS-PKIT - 2 plug DIN connector kit
HRN1.5X2RW - Harness Pair 1.5M 7 Pin Circular Din Connectors



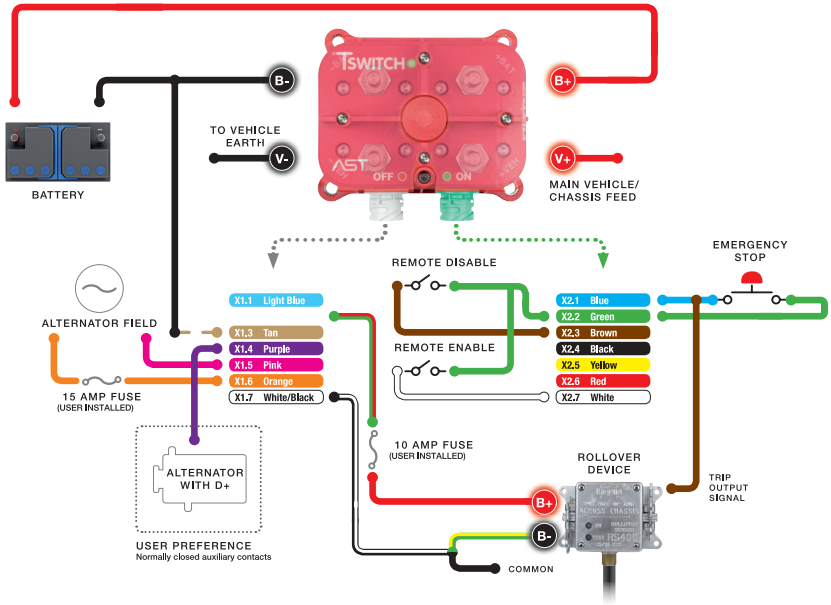




Grey Connector		
PIN ID	Wire Colour	Function
①	Light Blue	Not Used
②	Red/Green	V+ Output
③	Tan	SW 1 Auxiliary Contact N/C
④	Purple	SW 1 Auxiliary Contact N/C
⑤	Pink	*SW 2 Alternator Field N/O
⑥	Orange	*SW 2 Alternator Field N/O
⑦	White/Black	Battery Negative
*Install 10 Amp fuse within external circuit		

Green Connector		
PIN ID	Wire Colour	Function
①	Blue	Negative (-) input Emergency Stop
②	Green	Remote Switch Negative
③	Brown	Negative (-) input OFF trigger
④	Black	Not Used
⑤	Yellow	Not Used
⑥	Red	Not Used
⑦	White	Negative (-) Input ON trigger

EXAMPLE BASIC WIRING DIAGRAM



ASSEMBLY

With all electrical connections complete, install the top isolation cover. Attach to switch with 4 – 4mm x 12mm Phillip head screws (supplied).

ACCESSORIES

RS400

VRD12-24

SW-K174

SW-K174G

SW-K174M

BMS-PKIT
2 plug DIN connector kit

HRN1.5X2RW
Harness Pair 1.5M 7 Pin Circular Din Connectors

ELECTRICAL CHARACTERISTICS

Operating Voltage	18 to 30 volts
Current Rating	500A continuous
Max Current 5 seconds	3000A
Max Current 30 seconds	2250A
Auxiliary 1 Circuit	10A
Auxiliary 2 Circuit	10A
External Trigger	100mA
Current Draw OFF Mode	15mA
IP Rating	IP67

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