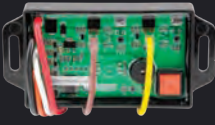

Switching Systems



Switching Systems

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Switching Systems



Actual size

12V
24V

- Developed to control lighting and other electronic automotive accessories.
- Incorporates the latest in onboard circuit protection and monitoring technology.
- Each output surge protected to 6A.
- 3 user-configurable master switches.
- All switches can be set to latching or momentary.
- Mounting point on back of switch panel – use with common 1/4" thread adjustable mounts.
- Epoxy-encapsulated receiver module for enhanced moisture and vibration protection.
- Includes 4 decals.
- 8 outputs (6A each).
- Multiple outputs can be combined to allow switching of high current loads.
- Eliminates excess wiring.
- Multi-voltage.
- Compact design.

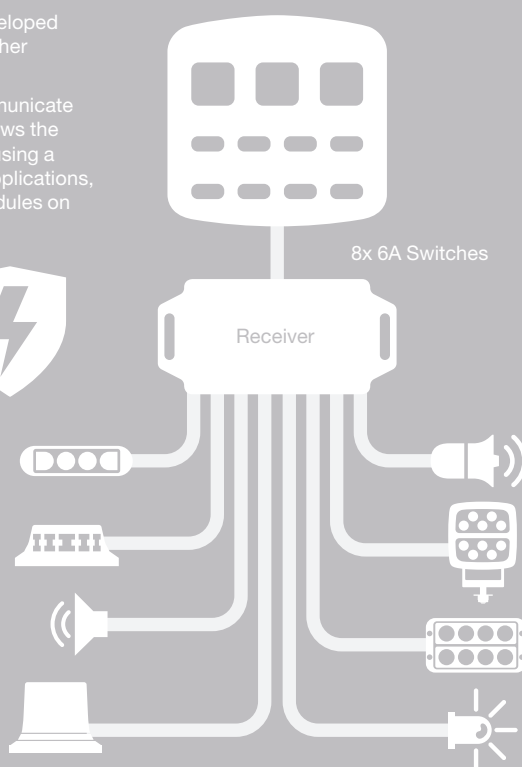
Voltage :	12–24V
Outputs :	8
Max. Output Current Rating (per output) :	6A
Max. Output Current Rating (total) :	40A
Cable Length :	4.5m
Housing :	ABS
Operating Temperature :	-40°C to 85°C

The ICS Switch Panel has been developed to control all types of lighting and other electronic automotive accessories.

The switch panel and receiver communicate using a proprietary signal which allows the switching system to be configured using a single receiver module for typical applications, or with additional slave receiver modules on larger systems or vehicles.

The ICS Switch Panel incorporates the latest in onboard circuit protection technology.

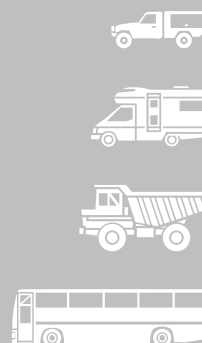
In the event of a short circuit the system immediately turns off the affected output preventing damage to the switch panel and devices controlled by it. The panel provides real-time feedback to the operator via LED's on both the panel and receiver module as to the state of each output.



In the event of an intermittent short circuit the output of the affected circuit will turn off and remain off for 4 seconds.

After this period of time the ICS will check the circuit, if no short is present, it will automatically turn the output back on.

All circuits are monitored and controlled independently. In the case of a short circuit, only the affected output is isolated while all others remain operational.

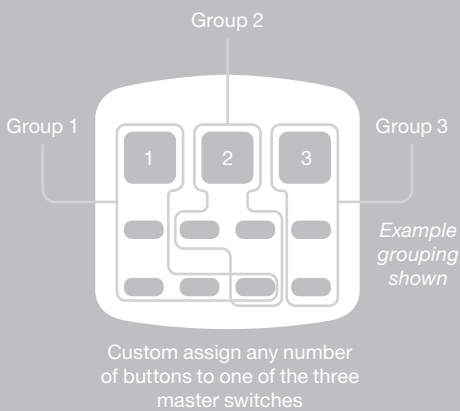


Master Switches

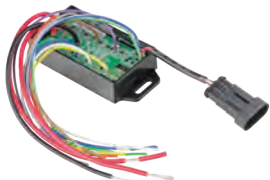
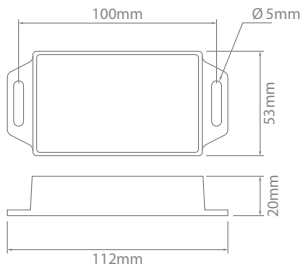
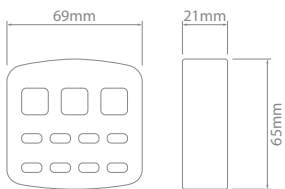
The ICS switch panel features 3 user-configurable master switches.

These switches can be used to link any combination of the 8 individual switches together to allow activation of multiple circuits via the switching of a single button.

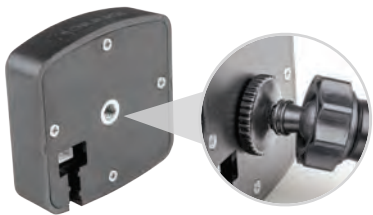
Note that individual switches can be associated with more than one master switch.



Watch video



Receiver Module



Mounting point on back of switch panel – use with common 1/4" thread adjustable mounts. Mount not supplied



ICS Switch Panel Kit

Part No.	Voltage	Kit Contents
ICS-01	12–24	1 x Switch Panel 1 x Receiver Module 1 x 4.5m Cable (Switch Panel to Receiver)
		4 x Overlay Function Decals 1 x Mounting Screws & Washers 1 x Double-sided Mounting Tape



ICS-01S



50127



50128



HT-4301

ICS Switch Panel – Accessories & Related Products

Part No.	Description
ICS-01S	Receiver module
50127	Superseal kit – 3 circuits – Receptacle. Includes contacts and seals
50128	Superseal kit – 3 circuits – Plug. Includes contacts and seals
HT-4301	Parallel crimping tool. Crimp range – 0.35–0.5, 0.75, 1.0, 1.5mm ²



Switching Systems

ESM Mini



12V
24V

- Electronically controlled switch module with inbuilt circuit monitoring and protection.
- Each output surge protected to 8A.
- 6 inputs, 6 outputs – 12V.
- 5 inputs, 5 outputs – 24V.
- Compact design.
- Save space and installation time.
- Eliminates excess wiring.
- Multi-voltage.
- Epoxy filled for enhanced moisture and vibration protection.

Voltage : 12-24V
Inputs : 6 x 12V, 5 x 24V
Outputs : 6 x 12V, 5 x 24V
Max. Output Current Rating (per output) : 7A
Max. Output Current Rating (total) : 20A
Body : ABS
Cable Length : 120mm
Operating Temperature : -40°C to 85°C

The ESM Mini is a compact, electronically controlled switch module with inbuilt circuit monitoring and protection.

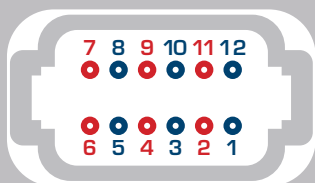
The unit can be used in any application where conventional circuit protection may have been used in the past.

The ESM Mini can be used for any application, from connecting auxiliary lighting off original vehicle tails lights, e.g. Minebar hook up, to monitoring and protecting a range of

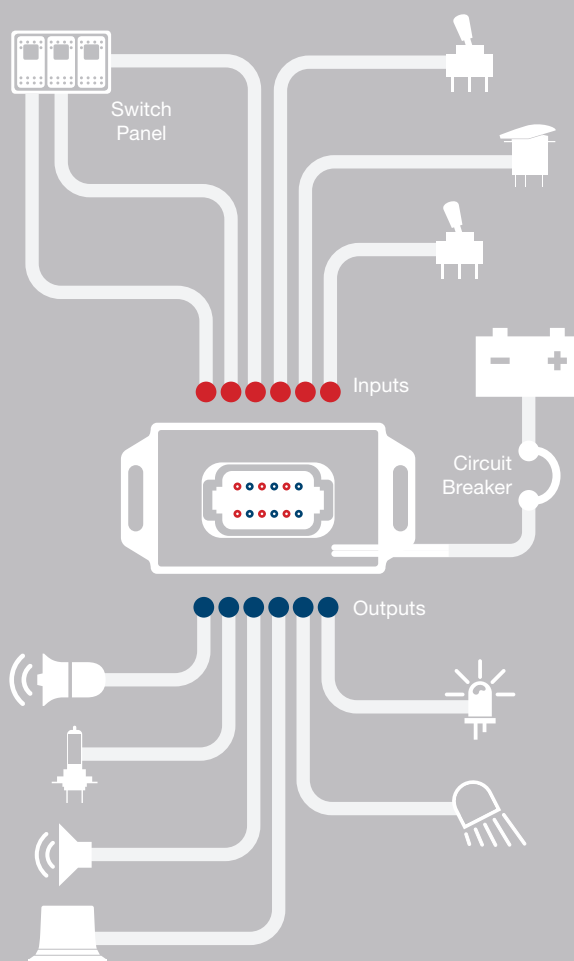
auxiliary equipment switched off the original vehicle inputs or from after market toggle, rocker switches etc.

If a short circuit or over current condition presents on any of the outputs then the affected output will shut down. This circuit will then cycle 3 times (on/off) and if the over current situation is still present the output will then be locked in the off state until the fault is rectified and the input is reset.

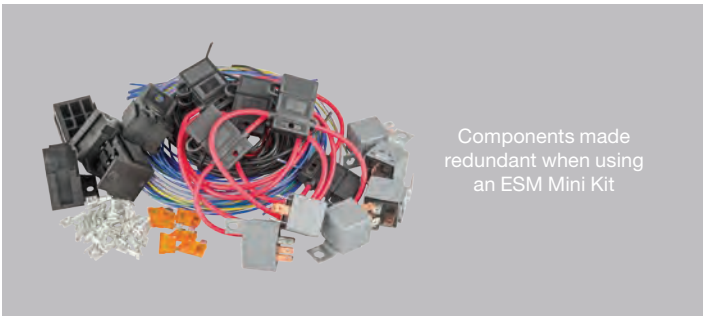
Circuit 1 Input – 4 Output – 3	Circuit 2 Input – 2 Output – 1	Circuit 3 Input – 6 Output – 5
Circuit 4 Input – 11 Output – 12	Circuit 5 Input – 9 Output – 10	Circuit 6 Input – 7 Output – 8



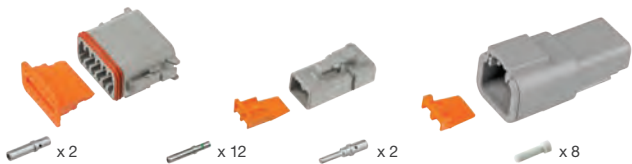
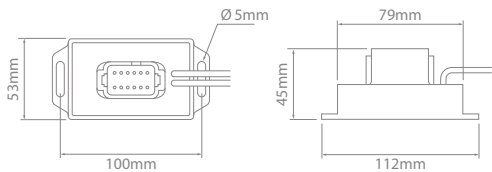
Inductive loads must not be used on the input or output circuits without additional external protection. Failure to do so may result in damage to the unit and will void warranty.



Switching Systems



Components made redundant when using an ESM Mini Kit



ESM Mini Kit

Part No.	Voltage	Switching
ESM006	12–24	Positive

Kit Contents:	
1 x ESM006 Control Module	1 x Wedgelock – DT Series (W12S)
1 x Connector – DT Series (DT06-12SA)	1 x Wedgelock – DTP Series (WP2P)
1 x Connector – DTP Series (DTP04-2P)	1 x Wedgelock – DTP Series (WP2S)
1 x Connector – DTP Series (DTP06-2S)	2 x Pin – Solid (0460-204-12141)
8 x Cavity Plug (114017)	2 x Socket – Solid (0462-203-12141)
	12 x Socket – Solid Green Band (0462-209-16141)



DET12, DET16



HDT48-00



DET-RT



CB255-XX



P-WSBFH/5



BFXX/10

ESM Mini – Accessories & Related Products

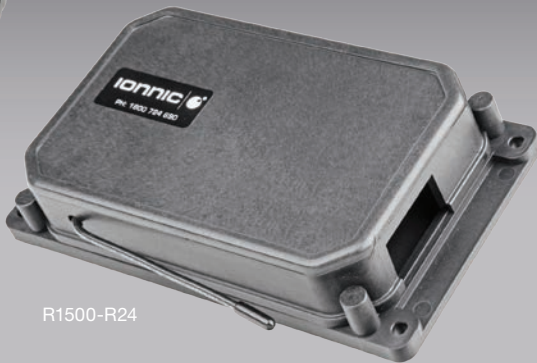
Part No.	Description
DET12	Crimping tool. Size 12
DET16	Crimping tool. Size 16
HDT48-00	Crimping tool. Size 12, 16, 20 & 22
DET-RT	Multi-use hook tool
CB255-XX	Circuit breaker – Panel Mount Series Replace 'XX' with desired amperage: 10, 15, 20, 25, 30, 35, 40, 50
P-WSBFH/5	ATC fuse holder kit – 30A Kit contents: 5 x Housing, 5 x Plugs, 10 x Terminals
BFXX/10	ATC/ATO blade fuses, pack of 10 Replace 'XX' with desired amperage: 1, 2, 3, 4, 5, 7.5, 10, 15, 20, 25, 30, 40



Switching Systems



R1000-TF4



R1500-R24

- 4 output, user programmable remote switching system.
- Up to 90 metre range.
- Rolling codes, secure encryption.
- Multiple transmitters able to be paired with single receiver.
- All 4 outputs can be momentary or latching.
- Hard-wired interlock feature on 2 outputs.

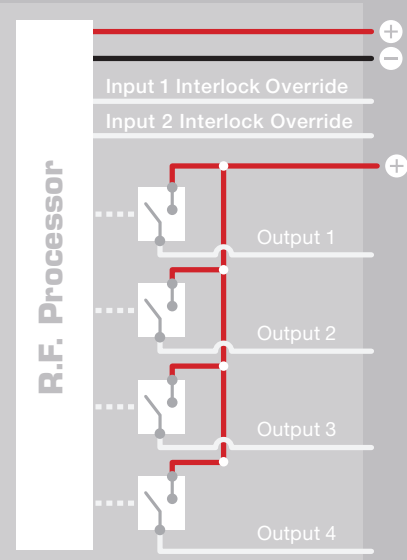
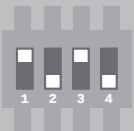
Typical Range :	90m
Frequency :	433 MHz
Current Rating :	5A max. per output
Fob Battery :	1 x CR2032
Transmitter Battery Life :	100,000 activations
Receiver Cable Length :	300mm
Encryption :	Rolling Codes



R15-R12-F, R15-R24-F

DIP Switches

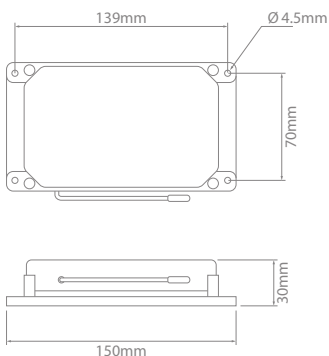
DIP switches found inside receiver enclosure can be set to achieve either latching or momentary for each output respectively.



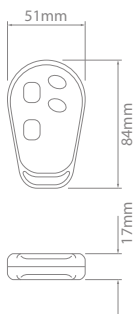
Interlock Override inputs can be used to manually override outputs 1 and 2 only.

Radio Remote Control – Kits

Part No.	Voltage	Kit contents
R15-R12-F	12	1 x Receiver (R1500-R12), 1 x Transmitter (R1000-TF4)
R15-R24-F	24	1 x Receiver (R1500-R24), 1 x Transmitter (R1000-TF4)



R1500-R12, R1500-R24



R1000-TF4



R1500-ADP-HNS

Radio Remote Control – Components

Part No.	Voltage	Description
R1500-R12	12	Receiver
R1500-R24	24	Receiver
R1000-TF4	—	Transmitter – Fob style. Suits 12V or 24V
R1500-ADP-HNS	—	10 Pin to 8 Pin harness. May be required if replacing older R1500-R12 models



Switching Systems

Rollover

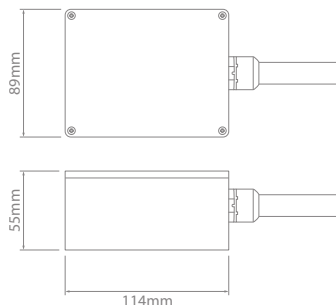


10V
30V

- AS2809 compliant rollover switch.
- Solid state electronics.
- Microprocessor controlled.
- Multi-voltage.
- Senses vertical & horizontal axis through an accelerometer (angle and G-force sensing device).
- Conducts system self-tests without shutdown.
- EMF spike suppression.

Voltage :
Housing :
Compliance :

10–30V
Die-cast
AS2809

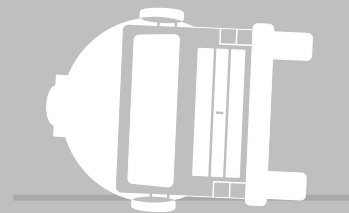


Intelligent Rollover Switch

The iROS uses a 2 axis accelerometer to determine angle and G-force. The output will only be switched if all of the criteria for angle and motion are met and held for a set period.

The iROS has an input for a 'System Test' button that when pushed and held will activate the sensor to the rollover point, making testing a simple task.

Compliant to AS2809, the iROS will activate any of the remotely switched battery isolation switches commonly used on the Australian market.



Rollover

Part No.	Description
IROS	AS2809 compliant rollover switch

Switching Systems

- Determines when there's an unsafe lean on a raised tipper body.
- Solid state electronics.
- Microprocessor controlled.
- Multi-voltage.
- Data logs the last 15 activations.
- Conducts system self-tests.



Tipper

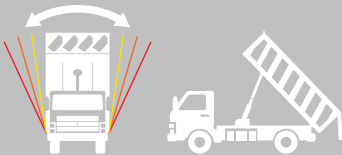
Voltage : 10–30V
 Housing : Die-cast
 Connector Ingress Protection : IP65

10V 30V IP65

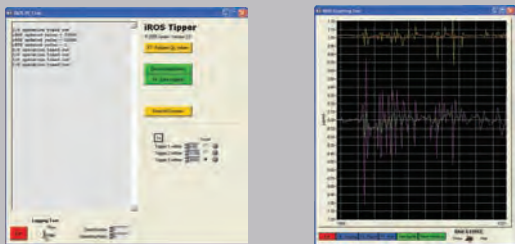
Tipper Safety

The iROS-T (intelligent roll over switch – tipper) warns the driver of a potentially unsafe lean on a tipper body as it is being raised.

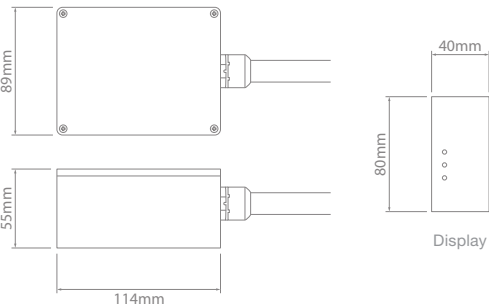
The supplied dash mounted display indicates system status and angle warnings with the 3rd (and highest) level activating an output for an external alarm or control.



Each iROS-T requires the three warning angles to be programmed into the unit once installed. This requires the iROS-T cable and PC compatible software (supplied).



This software also allows access to the data logs of the last 15 activations.

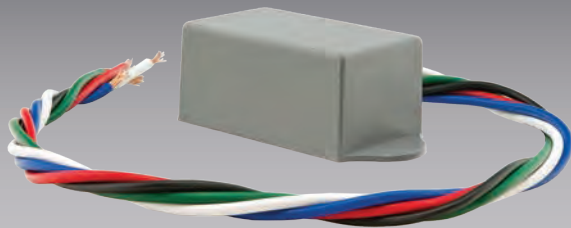


Tipper

Part No.	Description
IROS-T	Kit includes sensor unit & connector, display and 1.8m harness
IROS-T-USB	Proprietary cable required to program iROS-T



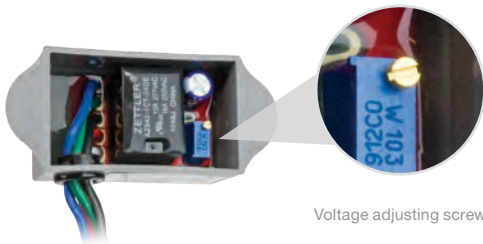
Switching Systems



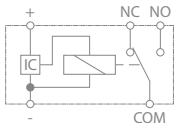
- Internal change-over relay activates when the voltage falls below or rises above the preset level.
- Adjustable sensing range.
- Example uses:
 - Helps prevent the over-discharging of a battery.
 - Triggering an alert when a battery discharges to a preset level.
 - Automatic activation of a battery charger.
- Made in Australia.
- 2-year warranty.



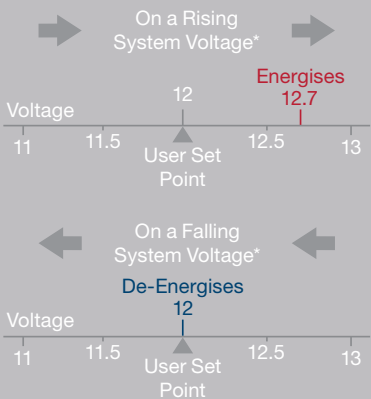
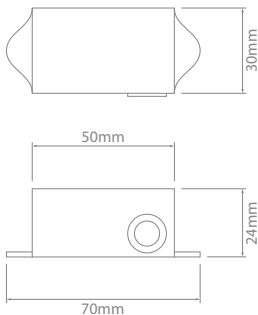
Body : ABS
Wire Length : 300mm
Operating Temperature : 0°C to 50°C



Voltage adjusting screw



5 Terminal – Change Over (C/O)



*VS12 operation illustrated with default User Set Point.

Used to switch a circuit relative to system voltage.

The user only sets the minimum voltage level (User Set Point).

The VS12 maximum voltage level is approximately +0.7 volts higher than the User Set Point.

The VS24 maximum voltage level is approximately +1.5 volts higher than the User Set Point.

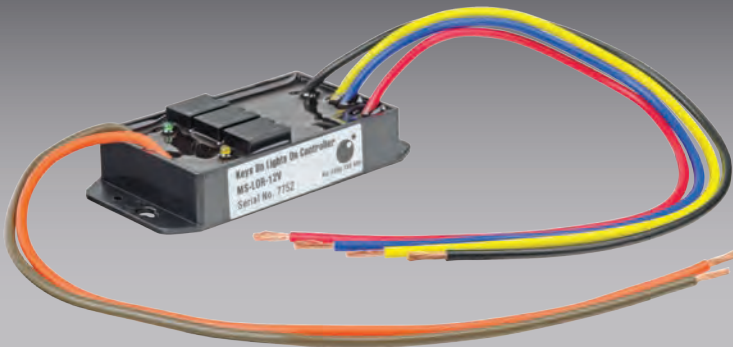
When the system voltage reaches the maximum voltage level the internal change-over relay energises switching the COM from NC to NO.

When the system voltage falls below the minimum voltage level the internal relay de-energises switching the COM back to NC.

Voltage Sensor

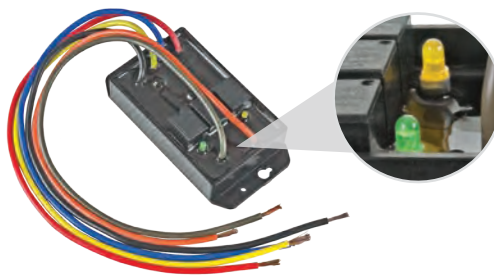
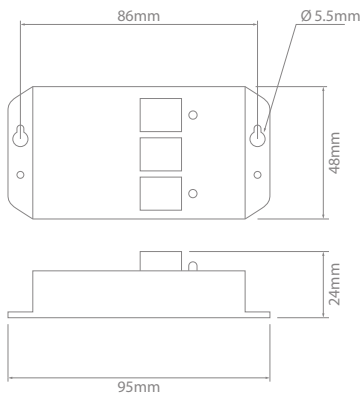
Part No.	Voltage	Current Rating (A)	Adjustable Sensing Range (V)	Factory Trigger Setting	
				Minimum Voltage	Maximum Voltage
VS12	12	10	9.0 – 16.0	12.0 ± 0.2	12.7
VS24	24	10	18.0 – 35.0	24.0 ± 0.2	25.2

- Designed to operate park & low beam lights any time vehicle ignition is on.
- Can be wired to disable control unit eg. hand brake switch, door switch.
- 10 seconds start up delay.
- Compact easy installation.
- Diagnostic LEDs.
- Available in positively and negatively switching models.
- Epoxy filled for enhanced moisture and vibration protection.
- 2-year warranty.



Body : ABS
Wire Length : 200mm
Operating Temperature : -40°C to 70°C

2Yrs



Headlights On Units

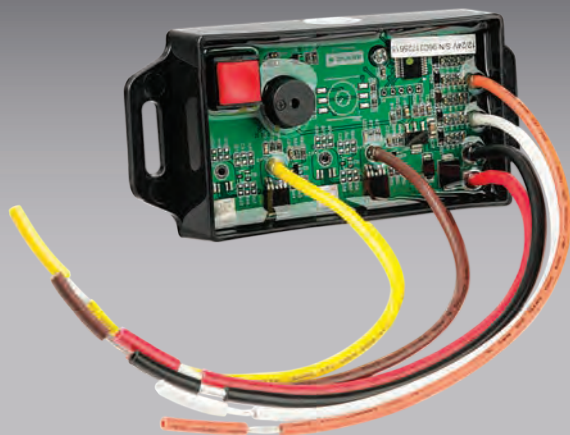
Part No.	Description
MS-LOR-12V	Suits any negatively switched headlight
MS-LOP-12V	Suits any positively switched headlight

Installation on late model multiplexed vehicles must be performed by a qualified technician.



Switching Systems

Hand Brake Alarm Module



12V
24V

2Yrs

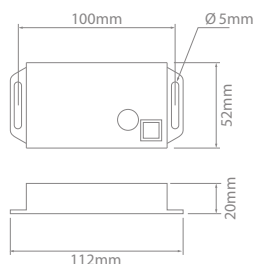
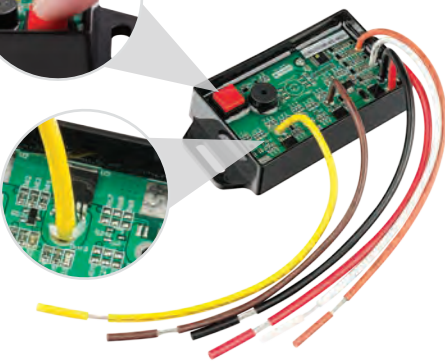
- Can be adapted to any vehicle.
- Self learning function automatically detects vehicle triggers for quick and easy installation.
- Designed to signal when hand brake is not engaged and vehicle door opens.
- Satisfies mine site requirements.
- 2 stage outputs.
- Compact easy installation.
- Suitable for positive and negatively switched vehicles/applications.
- Epoxy filled for enhanced moisture and vibration protection.
- Can be used as a general 2 stage alarm module.
- 2-year warranty.

Voltage : 12–24V
Current Rating : 2 x 4A @ 12V
Body : ABS
Wire Length : 150mm
Operating Temperature : -40°C to 70°C

Self learning function automatically detects vehicle triggers for quick and easy installation



Epoxy filled for enhanced moisture and vibration protection

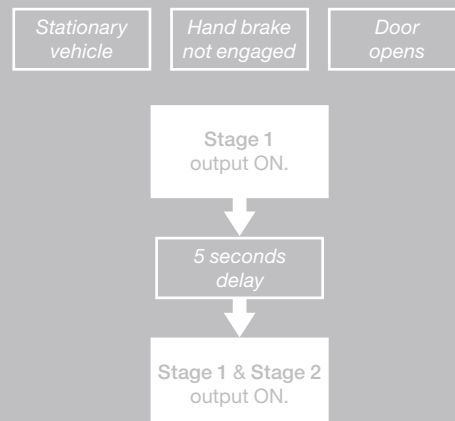


Hand Brake Alarm Operation

The MS-HB01 Hand Brake Alarm Module is designed to satisfy the mine site requirement where all stationary vehicles must have the hand brake engaged.

The MS-HB01 does this by triggering alarms when a vehicle operator attempts to leave the vehicle by opening one or more of the doors without applying the hand brake.

The MS-HB01 unit is a 2 stage device.



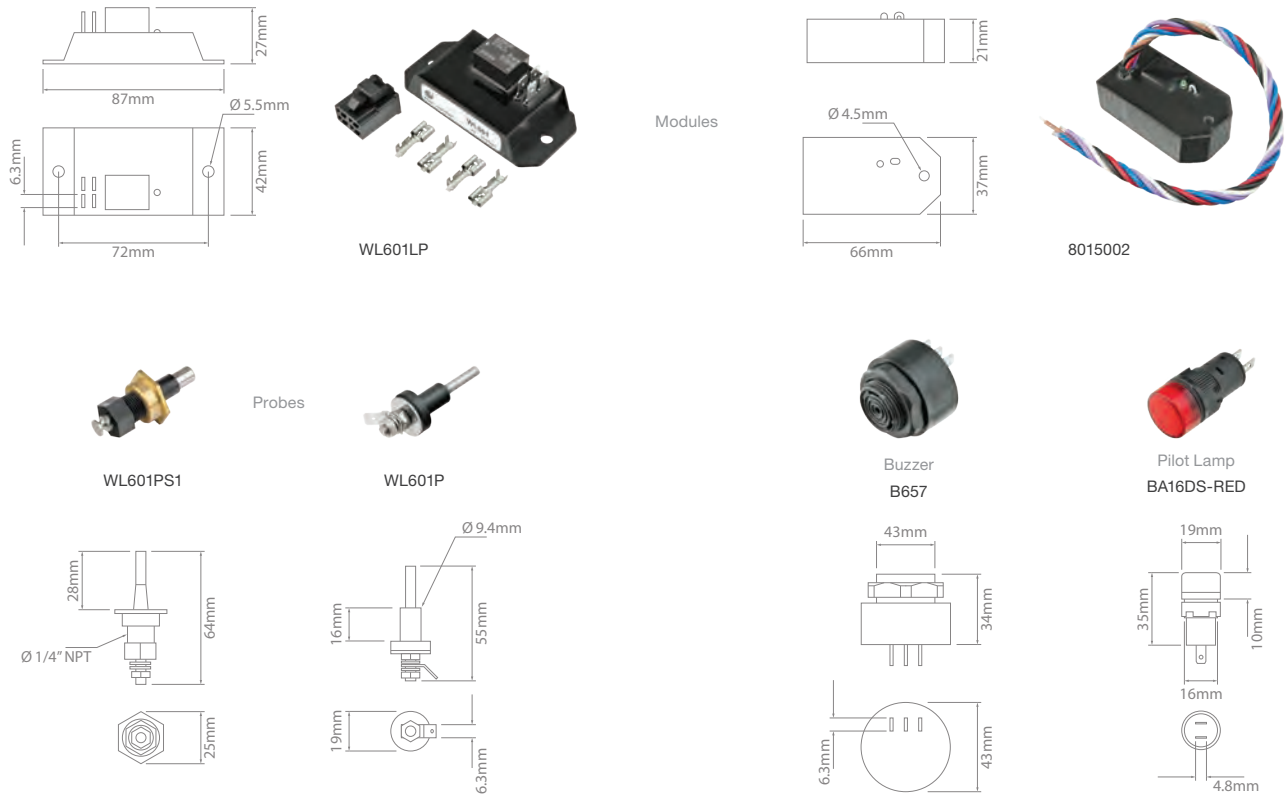
Device deactivation will only occur when the hand brake is applied. Closing the door alone will not deactivate the unit.

Hand Brake Alarm Module

Part No.	Description
MS-HB01	Suits any positive or negatively switched vehicle

- Visual & audible warning device for water/ coolant level monitoring.
- LED indicator on modules.
- 7 second “slosh” delay preventing false triggering.
- Epoxy encapsulated modules.
- Brass sleeve or rubber multi-fit style probes available.

Voltage :	WL601P	12–24V
Sensing Depth :	WL601PS1	35mm
	8015002	25mm
Current Rating :	WL601LP	3A @ 12V
		10A



Low Coolant Alarm – Kits

Part No.	Description	Module		Probe		Buzzer	Pilot Lamp
		WL601LP	8015002	WL601PS1	WL601P	B657	BA16DS-RED
WL-1	10A Module with Threaded Probe	•	—	•	—	•	•
WL-2	10A Module with Multi-fit Probe	•	—	—	•	•	•
WL-3	3A Module with Threaded Probe	—	•	•	—	•	•
WL-4	3A Module with Multi-fit Probe	—	•	—	•	•	•

All components available separately.



Switching Systems



12V
24V

- Selectable idle time cycle.
- LED indicators for visual warning.
- Multi-voltage.
- Environmentally sealed – IP65.
- Push & toggle switch kits available.
- Suitable for Energised To Run (ETR) systems. Energised To Stop (ETS) model available on request.

Voltage :	12–24V
Enclosure :	ABS
Ignition Output :	10A
Auxiliary Output :	0.7A
Ingress Protection :	IP65
Approvals :	CE, C-Tick
Operating Temperature :	–40°C to 85°C

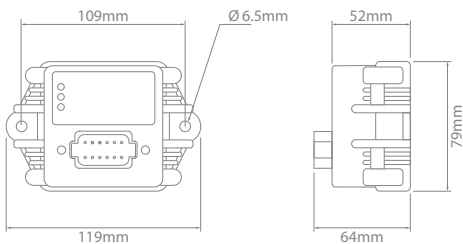


IT11450

ITBKT



B657



Illuminated push button switch (Red)



IT10451



Engraved label



IT11451



Illuminated pilot light (Amber)



IONNIC Idle Timer

Part No.	Description	
IT11450	Idle timer controller unit	
ITBKT	Optional mounting bracket. Powder-coated aluminium	
B657	Optional warning buzzer	
IT10451	Harness with stainless steel push button switch & engraved label – 1.8m	
IT11451	Harness with toggle switch, boot & pilot light – 1.8m	
IT10452	Idle timer kit – push button switch	Kit contents: 1 x Controller Unit (IT11450), 1 x Harness (IT10451)
IT11452	Idle timer kit – toggle switch	Kit contents: 1 x Controller Unit (IT11450), 1 x Harness (IT11451)

- Three-minute engine idle timer.
- Positive and negative shut-down output.
- Integrated hand brake alarm function.
- Hand brake input self-learn function.
- Multi-voltage.
- LED indicators for visual warning.
- Supplied with TE DEUTSCH connector kit.

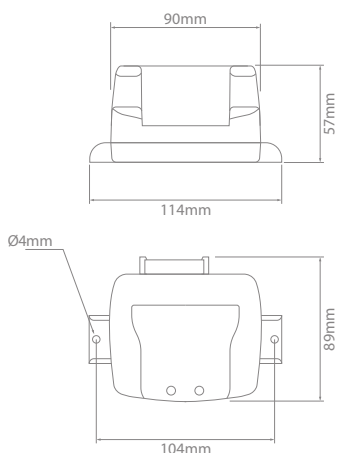
NEW



IONNIC Idle Timer SE

Voltage : 12-24V
Enclosure : Polycarbonate
Ignition Output : 8A
Auxiliary Output : 1A
Approvals : C-Tick
Operating Temperature : -40°C to 85°C

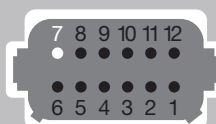
12V
24V



Genuine TE DEUTSCH
connector encapsulated
in body

Integrated Hand Brake Alarm Function

The IONNIC Idle Timer SE has an integrated handbrake alarm function. If the ignition is turned off and the handbrake is not engaged, power will be output to pin 7, allowing the user to activate an alarm, buzzer, or light.



IONNIC Idle Timer SE **NEW**

Part No.

IT2001

Description

Idle timer controller unit with connector kit

Kit contents:

1 x Idle Timer Controller Unit
1 x DEUTSCH DT Series 12 Pin Connector
1 x Wedgelock
6 x Cavity Plug
10 x Size 16 Green Band Contact

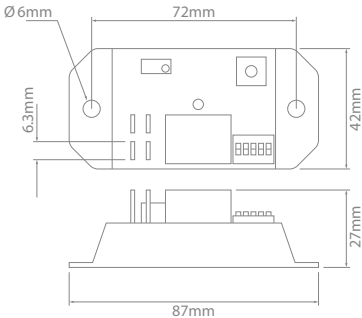


Switching Systems



- Selectable frequency via DIP switches.
- Designed to work with all standard signal inputs e.g. magnetic pick up, computer signal, ignition coil, sensor.
- Ground signal sent once predetermined frequency has been reached.
- Adjustable hysteresis to help prevent chattering at the switch point.
- LED indicates activation.
- Epoxy filled for enhanced moisture & vibration protection.
- 12 or 24 volt operation, selectable via DIP switch.

Voltage :	12V or 24V (selectable)
Current Rating :	3A @ 12V
Hysteresis :	Adjustable
Input Frequency :	10–12,000 Hz
Input Signal :	Sine, square wave
Input Voltage :	1.5–50VAC



Speed/Frequency Switch

Part No.	Description
SS301	Multi-adjustable frequency switch

- Protects batteries being completely discharged from non-essential loads potentially denying engine cranking power.
- Protects from overvoltage – shuts down over 16V (12V mode), 32V (24V mode).
- Microprocessor controlled with 10 different selectable under-voltage thresholds on 12 and 24 Volt.
- LED for output status (on/off) and programming.
- Programmable delayed alarm output.
- Programmable delayed load disconnect.
- 5-year warranty.
- Made in Europe.



Voltage : 12V/24V
Cable Diameter : 50mm² (min.)
Weight : 730g
Ingress Protection : IP66
Approvals : CE, C-Tick

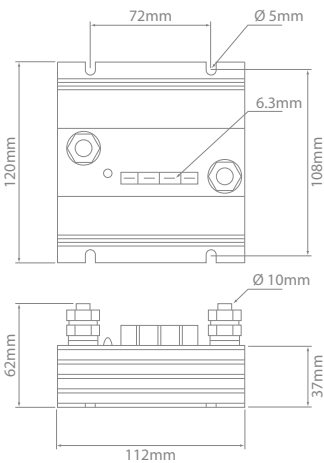


Don't Let Your Battery Run Flat

Utilising the Low Battery Cutout you can be assured your battery won't be drained while in action.



Program the Low Battery Cutout to trigger an alarm when your charge is getting low.



Low Battery Cutout

Part No.	Max. Load (A)	Peak Current (A)	Under Voltage Disconnect Voltage		Over Voltage Disconnect Voltage	
			12V Mode	24V Mode	12V Mode	24V Mode
ED-LBC1224-200	200-210	480	10-12V*	20-24V*	16V	32V

*10 different selectable under-voltage thresholds for 12 and 24 Volt.

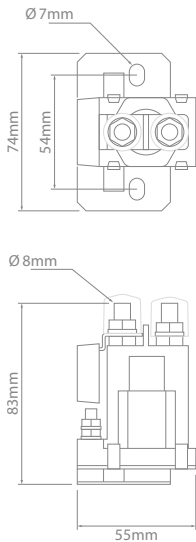
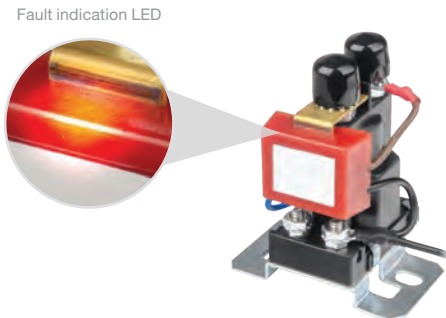


Switching Systems



- Microprocessor-controlled battery isolator designed for use in multi-battery applications.
- Cost-effective protection against a flat battery.
- Cooler operating temperature compared to standard solenoid.
- Silver alloy contacts for longer life.
- Power saving technology.
- Fault indication LED.
- Surge protected.
- Designed and manufactured in Australia.
- 2-year warranty.

Body : Polymer
Contacts : Silver Alloy
Operating Temperature : 0°C to 50°C
Approvals : CE, C-Tick, AS/NZS CISPR11:2004



Smart Battery Isolator

Part No.	Voltage	Current Rating (A)		Off Volts	On Volts	Current Draw (A)
		Inrush	Continuous			
SBI-12	12	400	100	12.7	13.2	0.15
SBI-24	24	400	100	25.4	26.4	0.15

- Microprocessor-controlled battery isolators designed for use in multi-battery applications.
- Cost-effective protection against flat battery.
- Intelligent battery monitoring to prevent unwanted switching.
- Starter battery priority.
- No voltage loss.
- Surge-protected.
- 5-year warranty.
- Ideal for service vehicles, solar power systems, caravans, RVs, trailer homes, industrial systems and maritime applications.

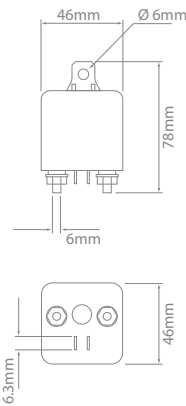
Voltage : 12/24V
Approvals : C-Tick
Operating Temperature : -10°C to 40°C



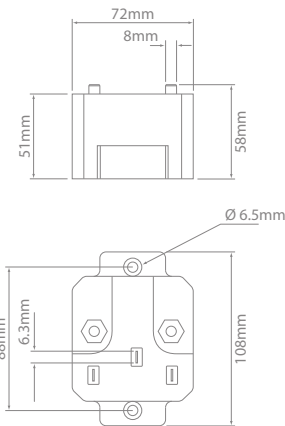
ED-VSR1224-160



ED-VSR1224-140



ED-VSR1224-140



ED-VSR1224-160

Battery Separators

Part No.	Current Rating (A)		Off Voltage		On Voltage		Weight (kg)
	Inrush	Continuous	@12V	@24V	@12V	@24V	
ED-VSR1224-140	—	140	12.8	25.6	13.2	26.4	0.1
ED-VSR1224-160	480	160	12.8	25.6	13.2	26.4	0.5

