ICS Switch Panel

The ICS Switch Panel has been developed specifically to control lighting and other electronic automotive accessories and incorporates the latest in onboard circuit protection technology.

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.

R.F. Remote Control

Radio Frequency (RF) remote control (Radio Remote Control page 14) utilises radio frequency transmission to instantly pass data from one point to another without the restriction of physical wiring or cables.

RF does not require line of sight and does not have to be aimed at a specific point in order to be detected. RF is emitted in all directions from the transmitter and can pass through physical structures making it an extremely useful communication method.

Tipping Point

All fuel tankers are required to shutdown their electrical systems in the event of a roll over. Accuracy and reliability is paramount in this circumstance as a faulty or poorly designed sensor can lead to all truck electricals being turned off mid corner with disastrous results.

iROS (Rollover page 16) uses a 2-axis accelerometer along with sophisticated software to monitor both angle and G-forces to determine if a rollover has really occurred before sending out the signal to turn off the power.

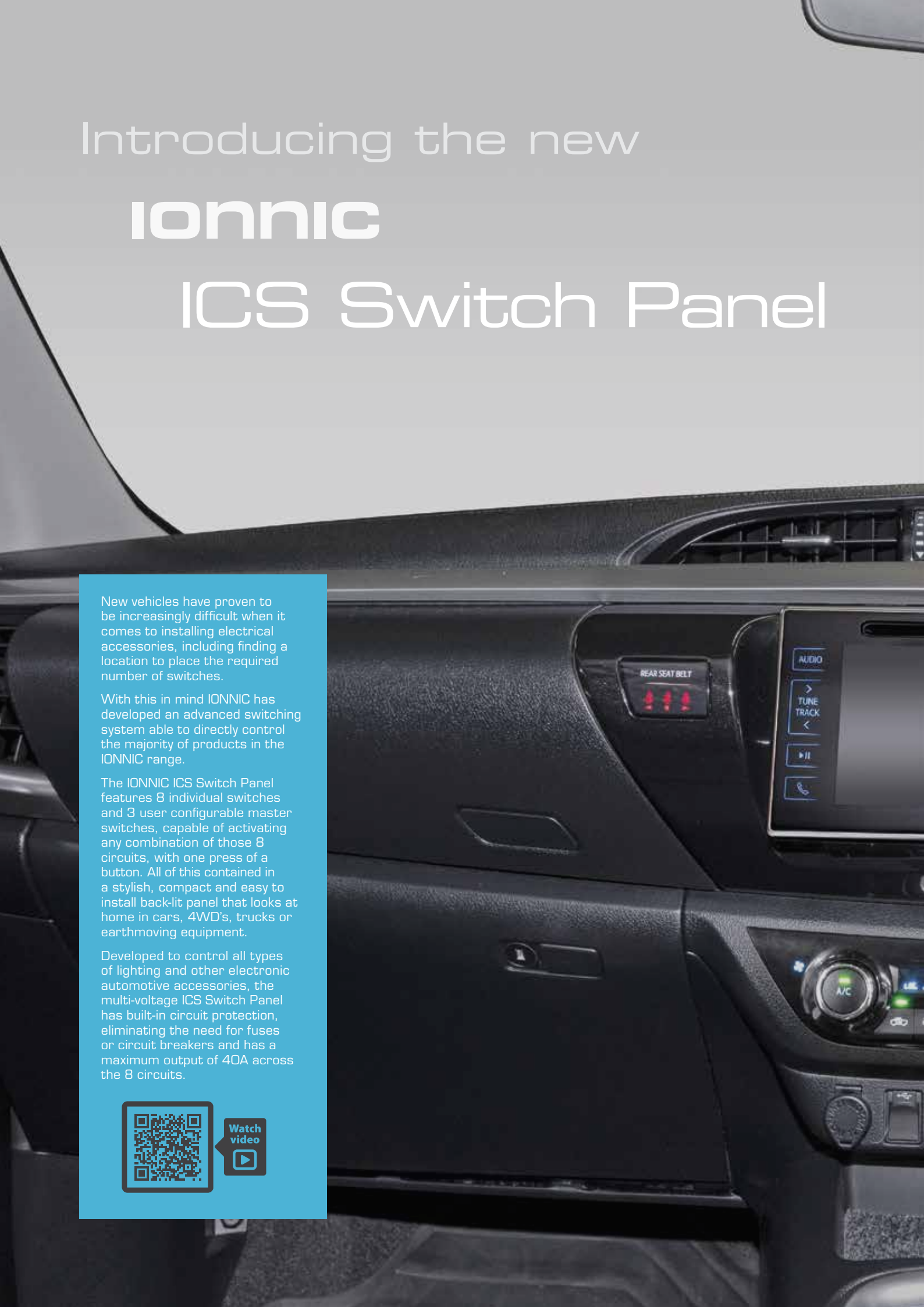
This same detection technology is also used in the iROS-T (Tipper page 17) to help alert drivers to dangerous lean angles while raising their tipper bodies. A three staged warning gives the operator ample time to stop the body raising, potentially saving lives and equipment damage.

Switching Systems

Introducing the new

IONNIC

ICS Switch Panel



New vehicles have proven to be increasingly difficult when it comes to installing electrical accessories, including finding a location to place the required number of switches.

With this in mind IONNIC has developed an advanced switching system able to directly control the majority of products in the IONNIC range.

The IONNIC ICS Switch Panel features 8 individual switches and 3 user configurable master switches, capable of activating any combination of those 8 circuits, with one press of a button. All of this contained in a stylish, compact and easy to install back-lit panel that looks at home in cars, 4WD's, trucks or earthmoving equipment.

Developed to control all types of lighting and other electronic automotive accessories, the multi-voltage ICS Switch Panel has built-in circuit protection, eliminating the need for fuses or circuit breakers and has a maximum output of 40A across the 8 circuits.

Watch video


PWR
VOL
APPS
HOME
AUTO
TEMP
AIRBAG

Switching Systems

ICS Switch Panel

NEW

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
Construction :	ABS
Operating Temperature :	-40°C to 85°C

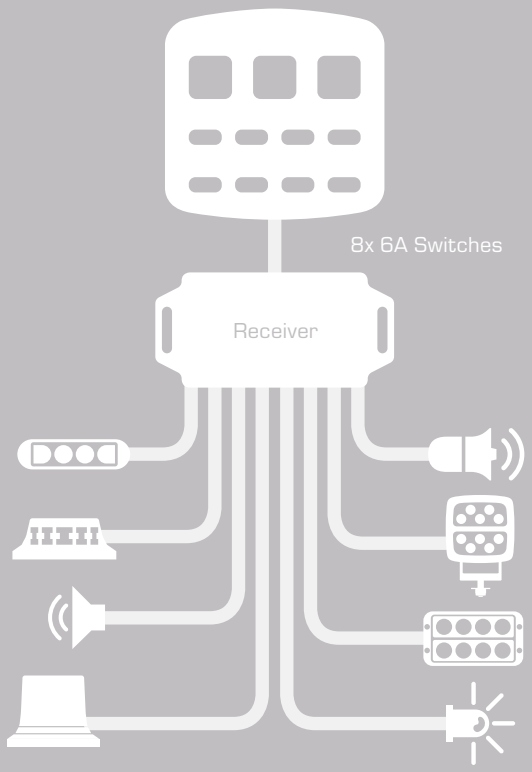
The ICS Switch Panel has been developed to control all types of lighting and other electronic automotive accessories.

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.

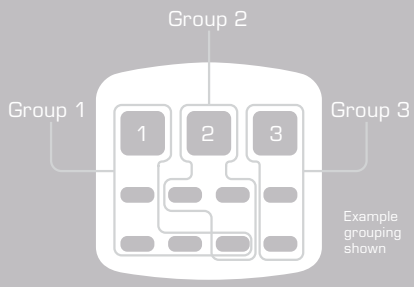


IONNIC

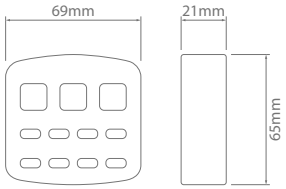
Master Switches

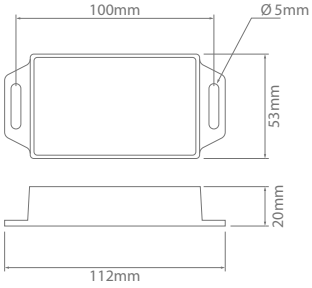
The ICS switch panel features 3 user configurable master switches.
These switches can be used to link any combination of the 8 individual switches together to allow activation of multiple circuits via the switching of a single button.

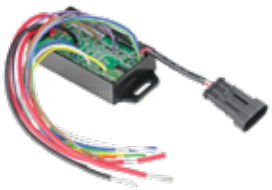
Note individual switches can be associated to more than one master switch.



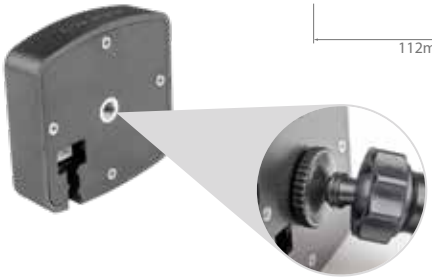
Custom assign any number of buttons to one of the three master switches.







Receiver Module

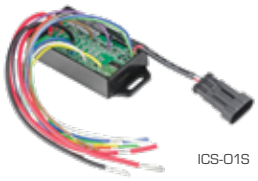


Mounting point on back of switch panel – use with common 1/4" thread adjustable mounts. Not supplied with mount.

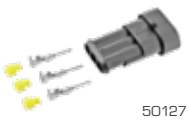
Watch video

ICS Switch Panel – Kit NEW

Part No.	Voltage	Kit Contains:
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

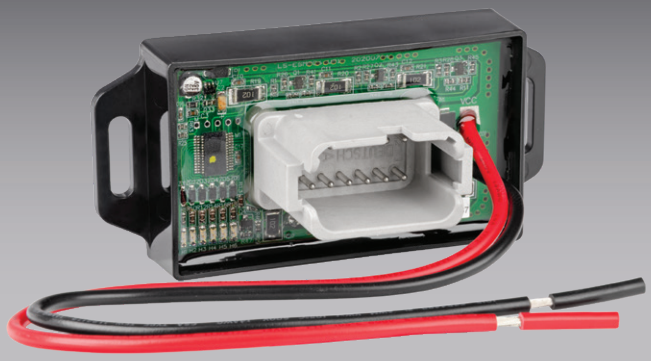
ICS Switch Panel – Accessories & Related Products

Part No.	Description
ICS-01**S**	Slave Receiver Module
50127	AMP Superseal kit – 3 circuits – Receptacle
50128	AMP Superseal kit – 3 circuits – Plug
HT-4301	Parallel Crimping tool

Switching Systems

ESM Mini

NEW



- 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.

12V 24V

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

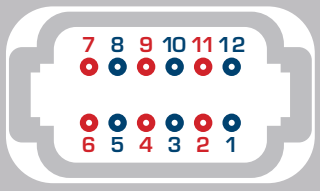
The ESM Mini is a compact, electronically controlled switch module with inbuilt circuit monitoring and protection.

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

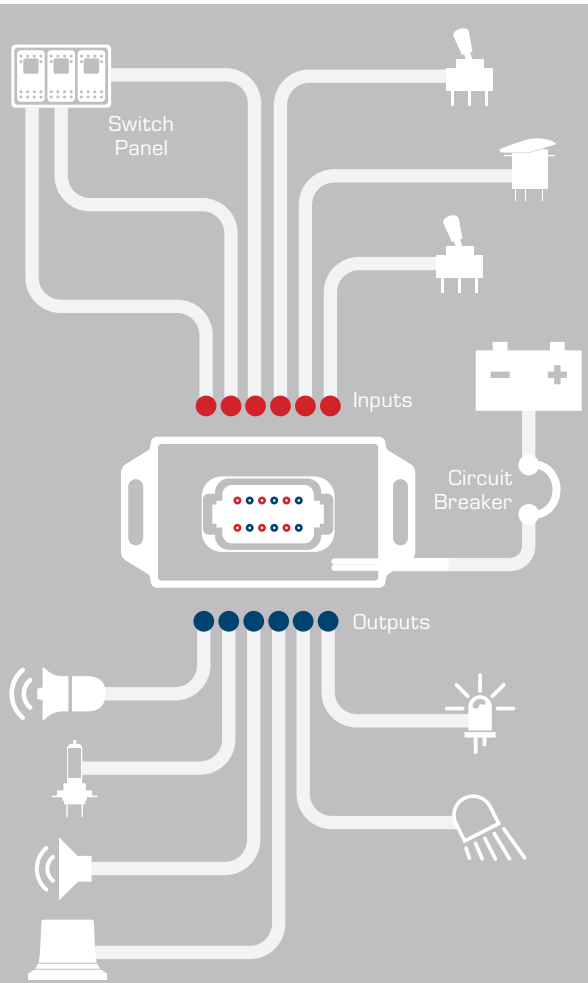
The ESM Mini can be used for any application, from connecting auxiliary lighting off original vehicle tails lights, e.g. Minebar hook up, to monitoring and protecting a range of auxiliary equipment switched off the original vehicle inputs or from after market toggle, rocker switches etc.

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.

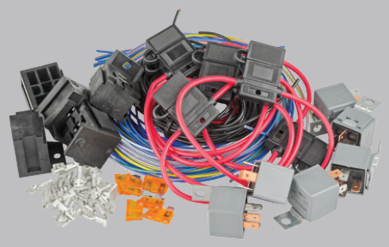
Circuit 1 Input – 4 Output – 3	Circuit 2 Input – 2 Output – 1	Circuit 3 Input – 6 Output – 5
Circuit 4 Input – 11 Output – 12	Circuit 5 Input – 9 Output – 10	Circuit 6 Input – 7 Output – 8



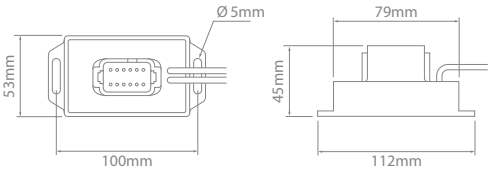
Inductive loads must not be used on the input or output circuits without additional external protection. Failure to do so may result in damage to the unit and will void warranty.

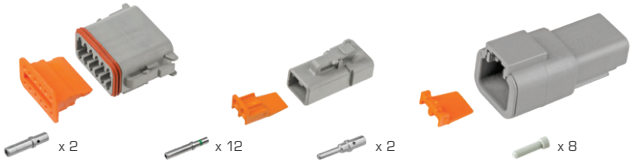


IONNIC



Components made redundant when using an ESM Mini Kit





ESM Mini Kit NEW

Part No.	Voltage	Switching
ESM006	12–24	Positive

Kit Contents:

1 x ESM006 Control Module
1 x Connector – DT Series (DT06-12SA)
1 x Connector – DTP Series (DTP04-2P)
1 x Connector – DTP Series (DTP06-2S)
8 x Cavity Plug (114017)
1 x Wedgelock – DT Series (W12S)
1 x Wedgelock – DTP Series (WP2P)
1 x Wedgelock – DTP Series (WP2S)
2 x Pin – Solid (0460-204-12141)
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

BF*XX*/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
BF*XX***/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

Radio Remote Control

R1000-TF4

R1500-R24

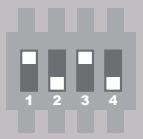
- 4 output, user programmable remote switching system.
- Up to 90 metre range.
- Rolling codes, secure encryption.
- Multiple transmitters able to be paired with single receiver.
- All 4 outputs can be momentary or latching.
- Hard-wired interlock feature on 2 outputs.

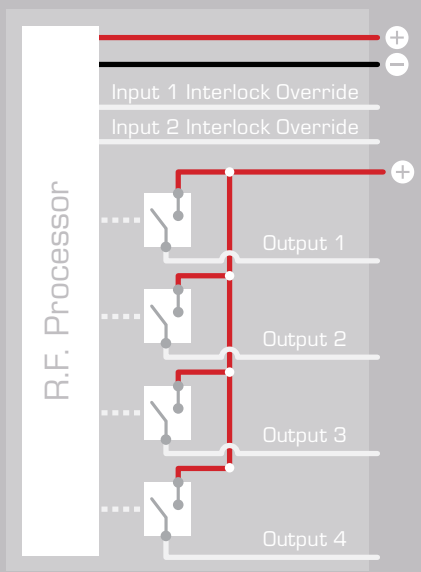
Typical Range :	90m
Frequency :	433 MHz
Current Rating :	5A max. per output
Fob Battery :	1 x CR2032
Transmitter Battery Life :	100,000 activations
Receiver Cable Length :	300mm
Encryption :	Rolling Codes

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.

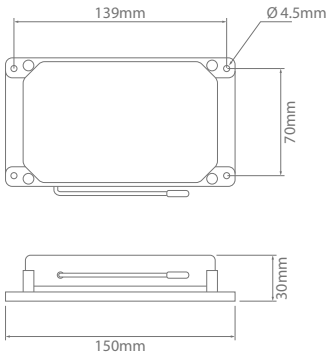




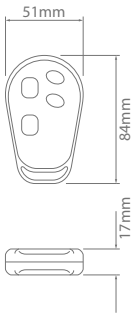
The Interlock Override inputs can be used to manually override outputs 1 and 2 only.

Radio Remote Control – Kits

Part No.	Voltage	Contents
R15-R12-**F**	12	1 x R1500-R12, 1 x R1000-TF4
R15-R24-**F**	24	1 x R1500-R24, 1 x R1000-TF4



R1500-R12, R1500-R24



R1000-TF4

R1500-ADP-HNS

Radio Remote Control – Components

Part No.	Voltage	Description
R1500-**R**12	12	Receiver
R1500-**R**24	24	Receiver
R1000-**TF**4	—	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

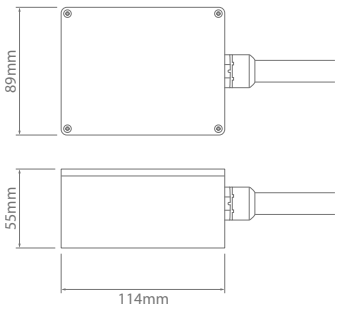
Switching Systems

Rollover

- 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.

10V 30V

Voltage :	10–30V
Housing :	Die-cast
Compliance :	AS2809

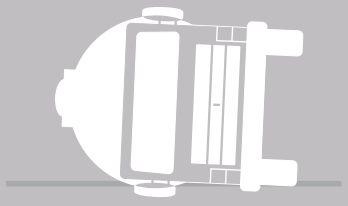


Intelligent Rollover Switch

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

- 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.

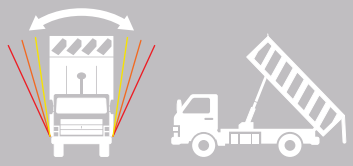
Voltage : 10–30V
Housing : Die-cast
Connector Ingress Protection : IP65

IP65 10V 30V

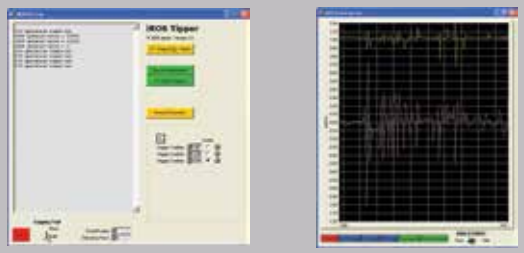
Tipper Safety

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.

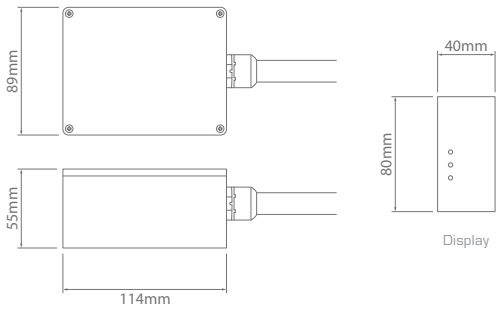


Each iROS-T requires the three warning angles to be programmed into the unit once installed. This requires the iROS-T cable and PC compatible software (supplied).



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

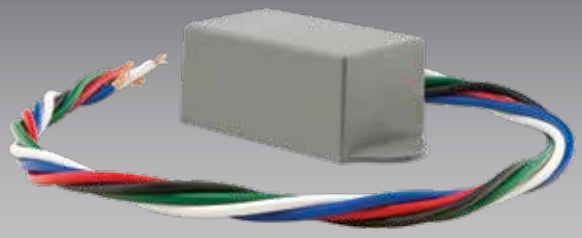
IROS-T IROS-T-USB



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. Includes software disc

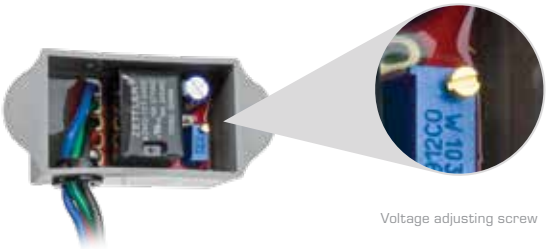
Voltage Sensor



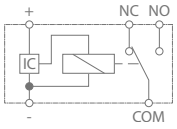
- Internal change-over relay activates when the voltage falls below or rises above the preset level.
- Adjustable sensing range.
- Example uses:
  – Helps prevent the over-discharging of a battery.
  – Triggering an alert when a battery discharges to a preset level.
  – Automatic activation of a battery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

2Yrs

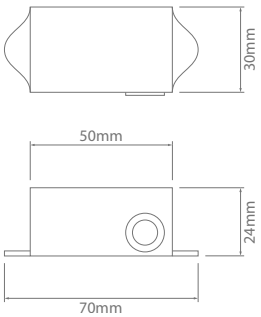
Body :	ABS
Wire Length :	300mm
Operating Temperature :	0°C to 50°C

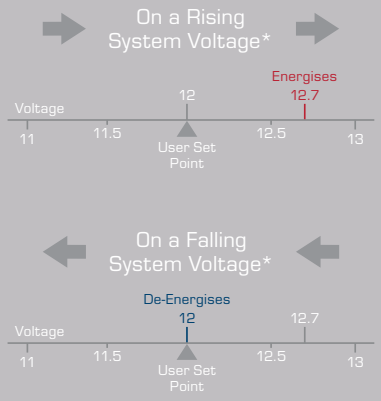


Voltage adjusting screw



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.

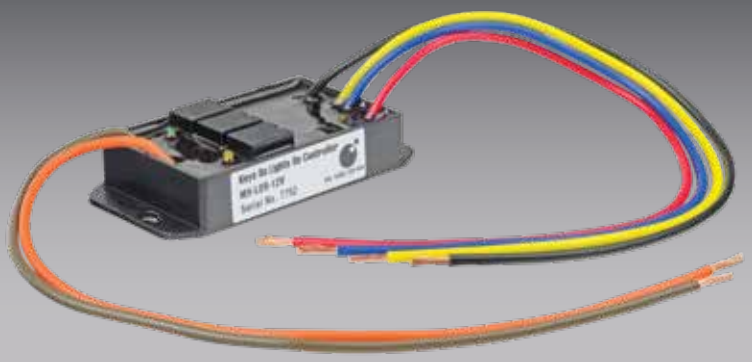
When the system voltage reaches the maximum voltage level the internal change-over relay energises switching the COM from NC to NO. When the system voltage falls below the minimum voltage level the internal relay de-energises switching the COM back to NC.

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

IONNIC

- 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.



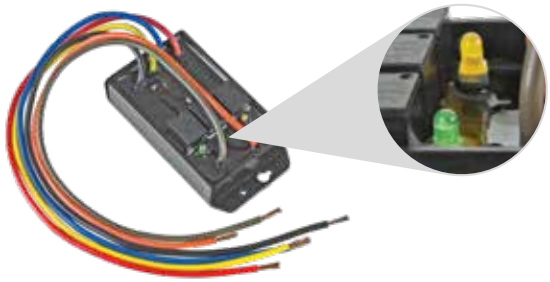
Body :	ABS
Wire Length :	200mm
Operating Temperature :	-40°C to 70°C

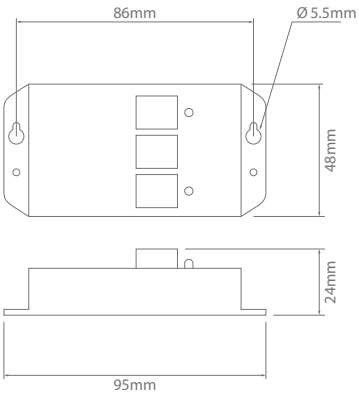
2Yrs

MS-LOR-12V-KIT – Easy Installation

MS-LOR-12V-KIT Headlights On Units are exceptionally easy to install.
The kit is supplied with plug-in harness to suit Toyota Hi-Lux.

Plugs directly into headlight harness



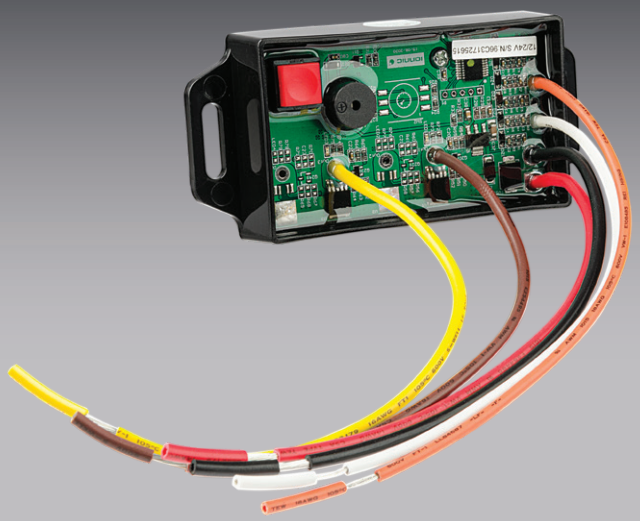


Headlights On Units

Part No.	Description
MS-LOR-**12V**	Suits any negatively switched headlight
MS-LOP-**12V**	Suits any positively switched headlight
MS-LOR-**12V**-KIT	Suits Toyota Hi-Lux up to 2011 model. Supplied complete with plug-in harness

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

Hand Brake Alarm Module

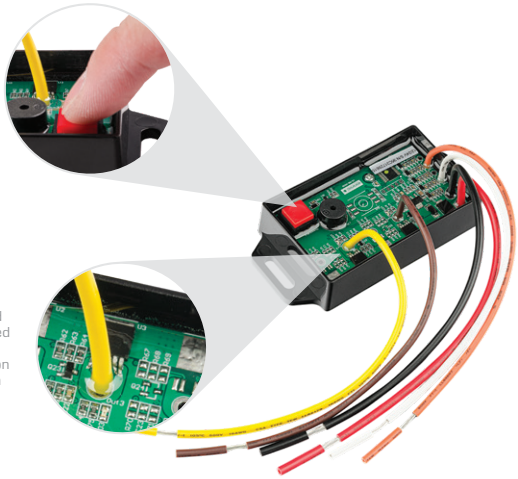


12V 24V 2Yrs

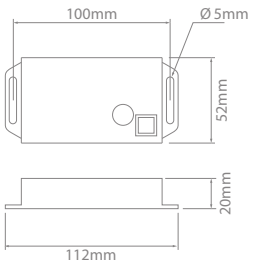
- Can be adapted to any vehicle.
- Self learning function automatically detects vehicle triggers for quick and easy installation.
- Designed to signal when hand brake is not engaged and vehicle door opens.
- Satisfies mine site requirements.
- 2 stage outputs.
- Compact easy installation.
- Suitable 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.

Stationary vehicle → *Hand brake not engaged* → *Door opens*

Stage 1 output ON.

↓

5 seconds delay

↓

Stage 1 & **Stage 2** output ON.

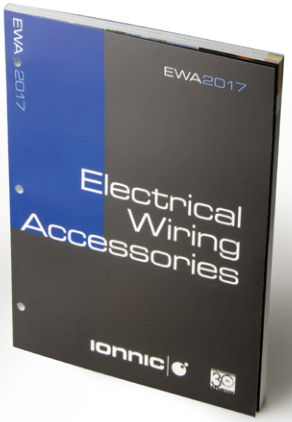
Device deactivation will only occur when the hand brake is applied. Closing the door alone will not deactivate the unit.

Hand Brake Alarm Module

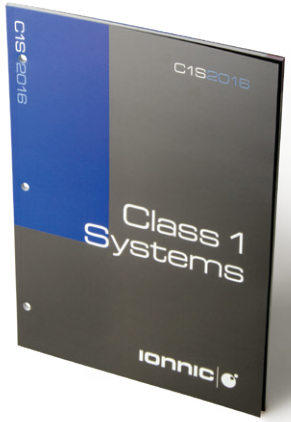
Part No.	Description
MS-HB01	Suits any positive or negatively switched vehicle

Catalogues

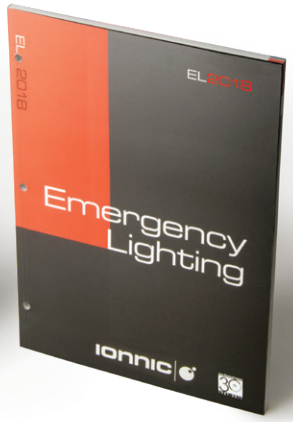

CON2017
Connectors
IONNIC


EWA2017
Electrical Wiring Accessories
IONNIC


RAS2020
Reversing & Audible Safety
IONNIC


C1S2016
Class 1 Systems
IONNIC


D2020
DEUTSCH
IONNIC


EL2018
Emergency Lighting
IONNIC


WL2018
Worklamps
IONNIC


SR2020
Switches & Relays
IONNIC

Switching Systems

IT11450

CST500

12V 24V

IONNIC Idle Timer:

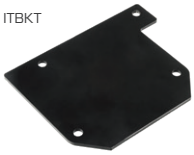
- Selectable idle time cycle.
- LED indicators for visual warning.
- Multi-voltage.
- Environmentally sealed – IP65.
- Push & toggle switch kits available.
- Suitable for Energised To Run (ETR) systems. Energised To Stop (ETS) model available on request.

IONNIC Idle Timer (IT11450)

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

IP65

IT11450



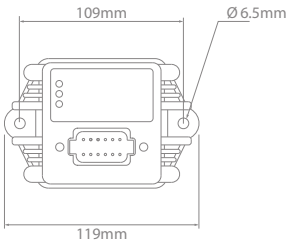
ITBKT

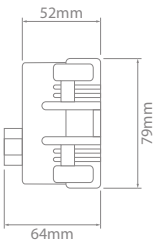
B657

Illuminated push button switch (Red)

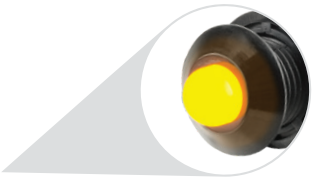
IT10451

Engraved label





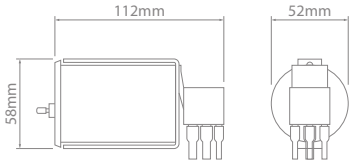
IT11451



Illuminated pilot light (Amber)

Idle Timer – IONNIC

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 contains: 1 x IT11450, 1 x IT10451
IT11452	Idle Timer Kit – toggle switch	Kit contains: 1 x IT11450, 1 x IT11451



30A switching capacity via serviceable external relay

Idle Timer – Gauge Mount

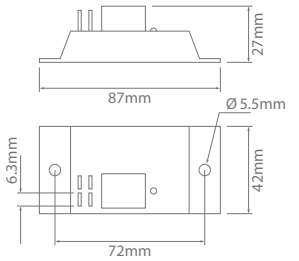
Part No.	Voltage	Current Rating (A)	Outputs	Energise to	Time Intervals (min)	Park Brake Override	Description
CST500	12–24V	10A max.	1	Run	Fixed @ 5	No	Relay driven output

Switching Systems

Low Coolant Alarm

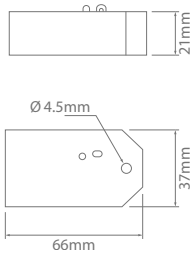
- Visual & audible warning device for water/ coolant level monitoring.
- LED indicator on modules.
- 7 second "slosh" delay preventing false triggering.
- Epoxy encapsulated modules.
- Brass sleeve or rubber multi-fit style probes available.

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

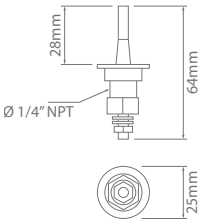


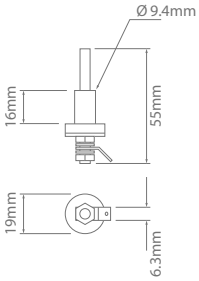
WL601LP

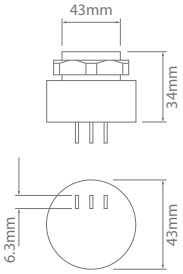
Modules

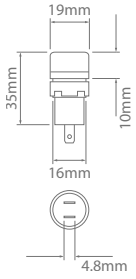


8015002









Probes

WL601PS1 WL601P

Buzzer
B657

Pilot Lamp
BA16DS-RED

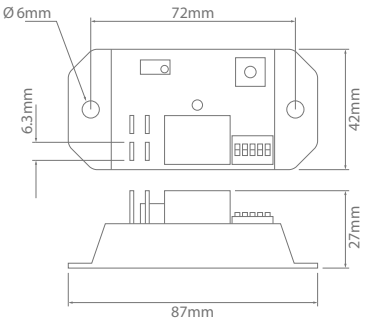
Low Coolant Alarm – Kits

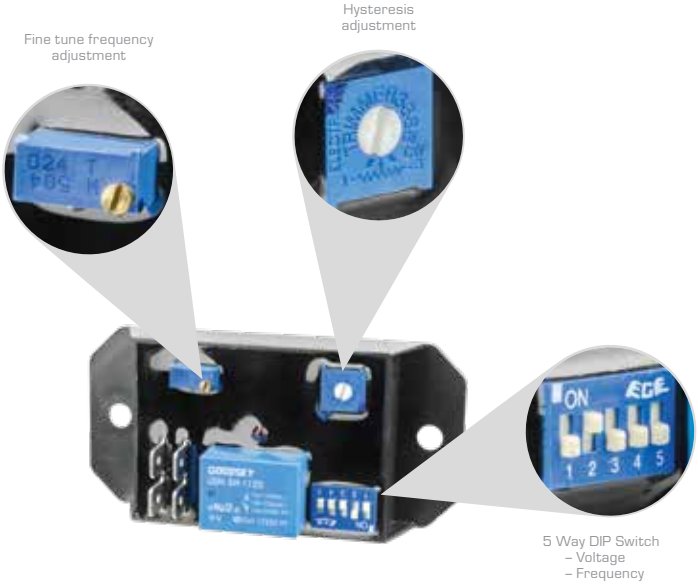
Part No.	Description	Module WL601LP	Module 8015002	Probe WL601PS1	Probe WL601P	Buzzer B657	Pilot Lamp BA16DS-RED
WL-1	10A Module with Threaded Probe	•	—	•	—	•	•
WL-2	10A Module with Multi-fit Probe	•	—	—	•	•	•
WL-3	3A Module with Threaded Probe	—	•	•	—	•	•
WL-4	3A Module with Multi-fit Probe	—	•	—	•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

All components available separately.

- 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 :	1.5VAC – 50VAC





Speed/Frequency Switch

Part No.	Description
SS301	Multi adjustable frequency switch