

SR 2020

SR2020

Switches & Relays

ionnic | 

Auto Electrical Imports
30th
ANNIVERSARY
1987-2017



Auto Electrical Imports



1987 - 2017

Mission Statement

To become the preferred supplier of electrical, lighting and safety solutions for mobile plant and equipment in the mining and services industry.

We will continue to improve and expand our range of products that meet and exceed OEM standards, maintaining the latest technology and innovation available backed by technical support and supply.

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12 ESM Mini



NEW in Battery Master Switches

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What's new in SR2020

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NEW in Relays & Solenoids

Micro - 280 Series

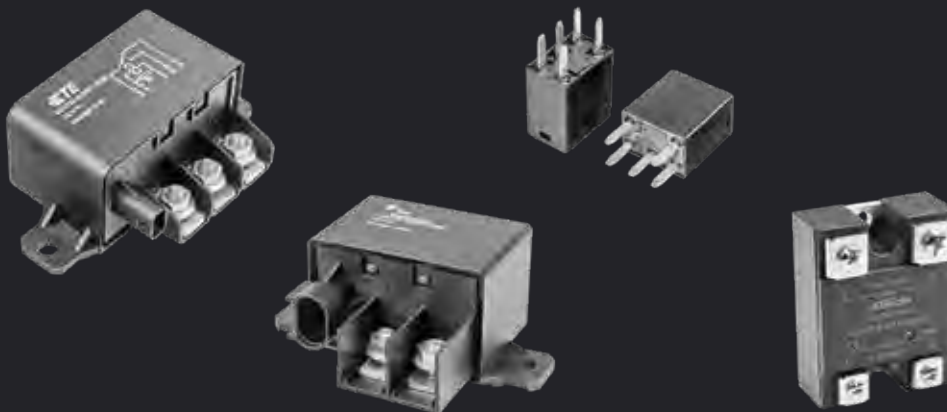
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NEW in Miscellanies

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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.





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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





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.

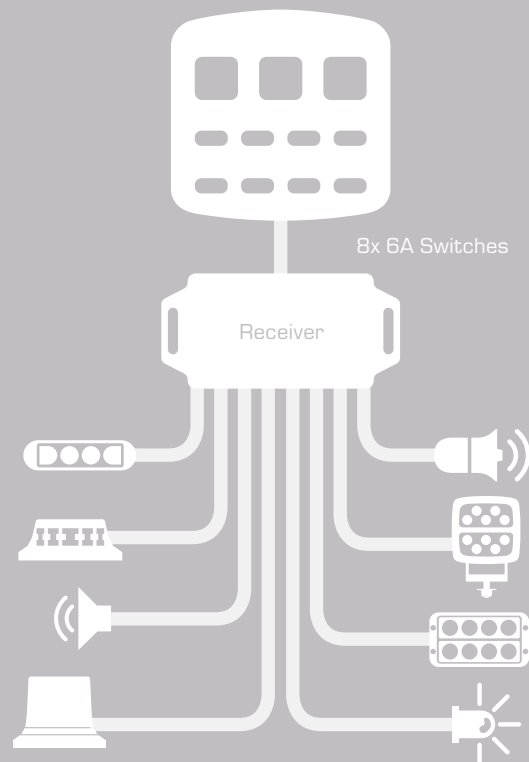


The panel provides real time feedback to the operator via LED's on both the panel and receiver module as to the state of each output.

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.

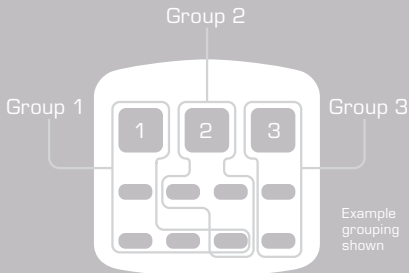
All circuits are monitored and controlled independently. In the case of a short circuit only the affected output is isolated while all others remain operational.



Switching Systems

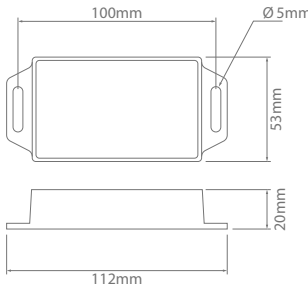
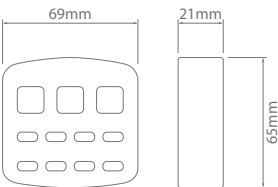
Master Switches

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.

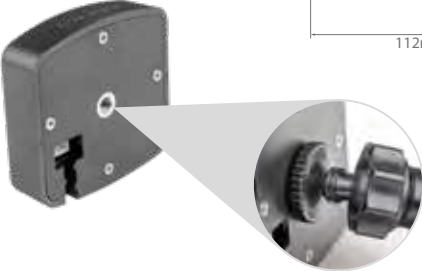


Custom assign any number of buttons to one of the three master switches.

Example grouping shown



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	4 x Overlay Function Decals
		1 x Receiver Module	1 x Mounting Screws & Washers
		1 x 4.5m Cable (Switch Panel to Receiver)	1 x Double-sided Mounting Tape



ICS-01S



50127



50128



HT-4301

ICS Switch Panel – Accessories & Related Products

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



Switching Systems

NEW

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

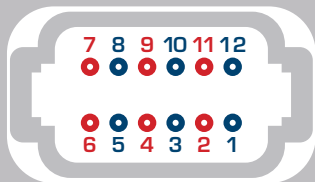
The ESM Mini is a compact, electronically controlled switch module with inbuilt circuit monitoring and protection.

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

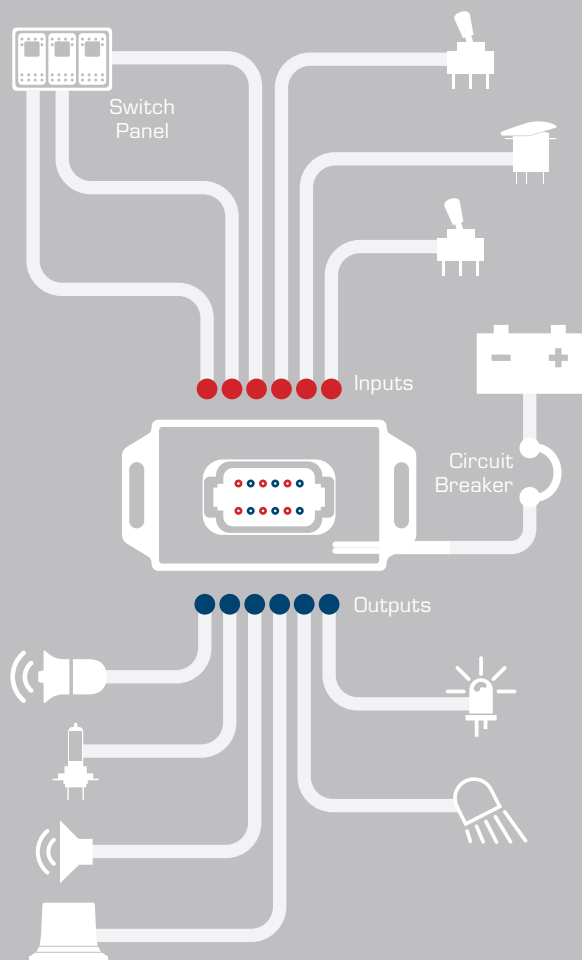
The ESM Mini can be used for any application, from connecting auxiliary lighting off original vehicle tails lights, e.g. Minebar hook up, to monitoring and protecting a range of auxiliary equipment switched off the original vehicle inputs or from after market toggle, rocker switches etc.

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.

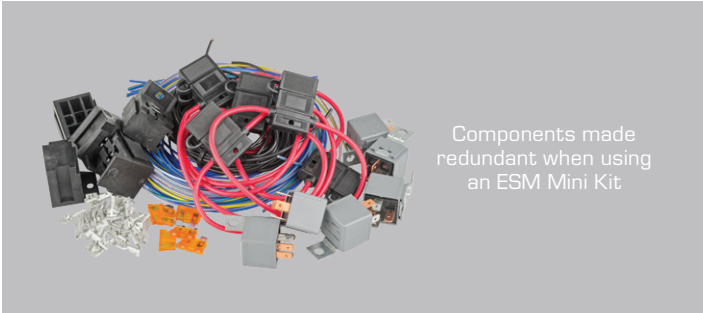
Circuit 1	Circuit 2	Circuit 3
Input - 4	Input - 2	Input - 6
Output - 3	Output - 1	Output - 5
Circuit 4	Circuit 5	Circuit 6
Input - 11	Input - 9	Input - 7
Output - 12	Output - 10	Output - 8



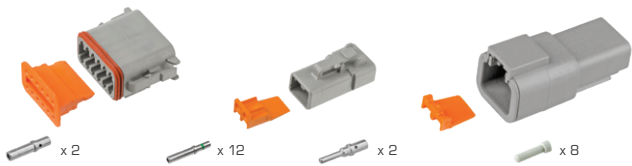
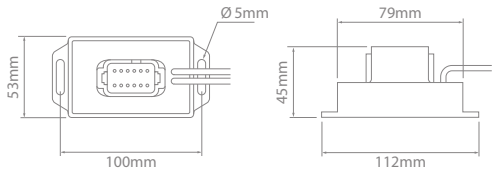
Inductive loads must not be used on the input or output circuits without additional external protection. Failure to do so may result in damage to the unit and will void warranty.



Switching Systems



Components made redundant when using an ESM Mini Kit



ESM Mini Kit 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



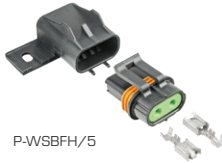
HDT48-00



DET-RT



CB255-XX



P-WSBFH/5



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

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.

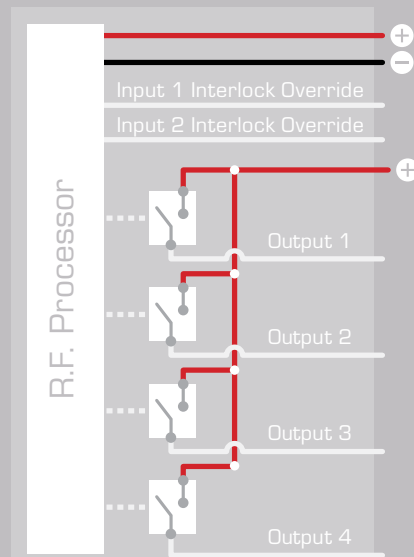
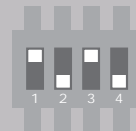
Typical Range : 90m
Frequency : 433 MHz
Current Rating : 5A max. per output
Fob Battery : 1 x CR2032
Transmitter Battery Life : 100,000 activations
Receiver Cable Length : 300mm
Encryption : Rolling Codes



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.

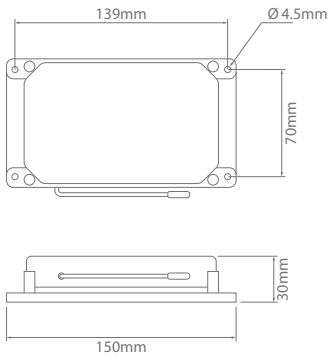


The Interlock Override inputs can be used to manually override outputs 1 and 2 only.

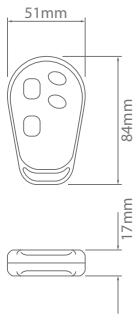
Radio Remote Control – Kits

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

Switching Systems



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

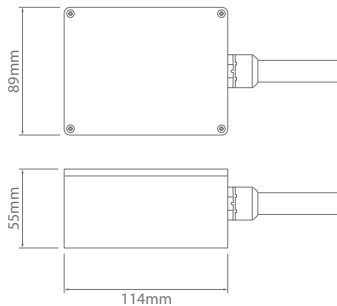


- AS2809 compliant rollover switch.
- Solid state electronics.
- Microprocessor controlled.
- Multi-voltage.
- Senses vertical & horizontal axis through an accelerometer (angle and G-force sensing device).
- Conducts system self-tests without shutdown.
- EMF spike suppression.

10V
30V

Voltage :
Housing :
Compliance :

10-30V
Die-cast
AS2809

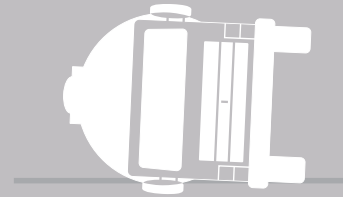


Intelligent Rollover Switch

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

- 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.



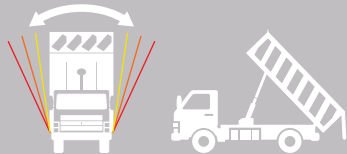
Voltage : 10-30V
Housing : Die-cast
Connector Ingress Protection : IP65



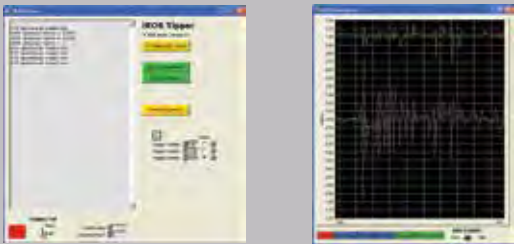
Tipper Safety

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.

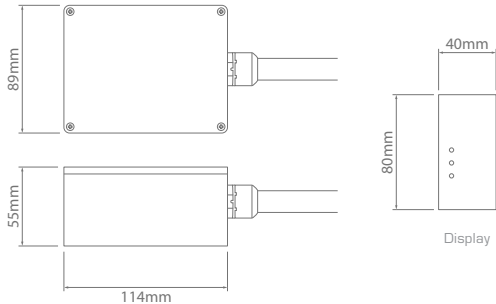
The supplied dash mounted display indicates system status and angle warnings with the 3rd (and highest) level activating an output for an external alarm or control.



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. Includes software disc



Switching Systems

Voltage Sensor

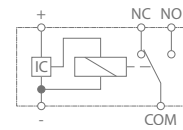


- Internal change-over relay activates when the voltage falls below or rises above the preset level.
- Adjustable sensing range.
- Example uses:
 - Helps prevent the over-discharging of a battery.
 - Triggering an alert when a battery discharges to a preset level.
 - Automatic activation of a battery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

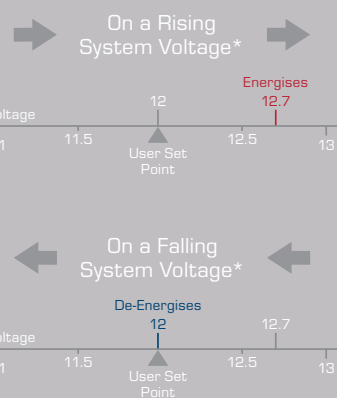
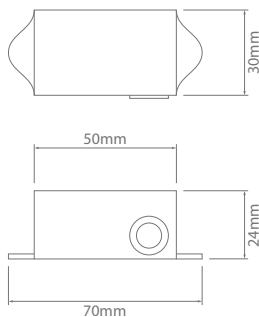


Body :
Wire Length :
Operating Temperature :

ABS
300mm
0°C to 50°C



5 Terminal - Change Over (C/O)



*VS12 operation illustrated with default User Set Point.

Used to switch a circuit relative to system voltage.

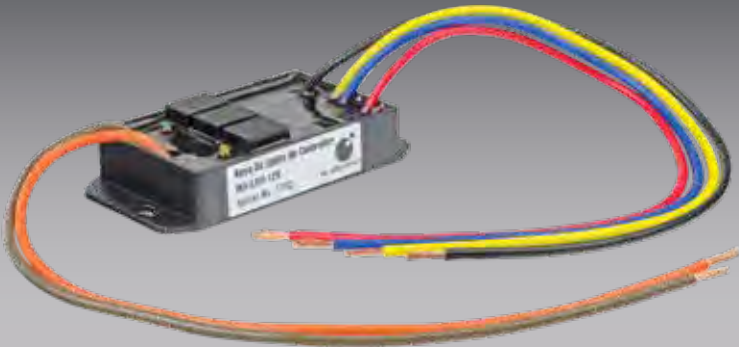
The user only sets the minimum voltage level (User Set Point). The VS12 maximum voltage level is approximately +0.7 volts higher than the User Set Point. The VS24 maximum voltage level is approximately +1.5 volts higher than the User Set Point.

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.



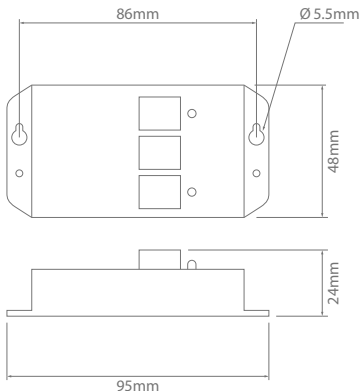
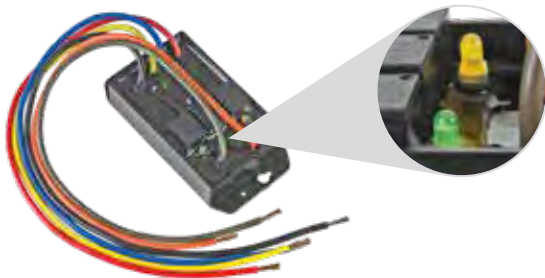
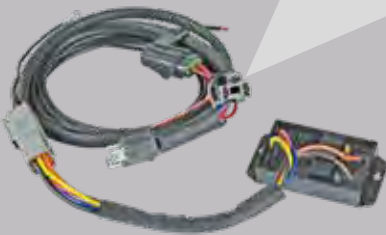
Body : ABS
 Wire Length : 200mm
 Operating Temperature : -40°C to 70°C

2Yrs

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

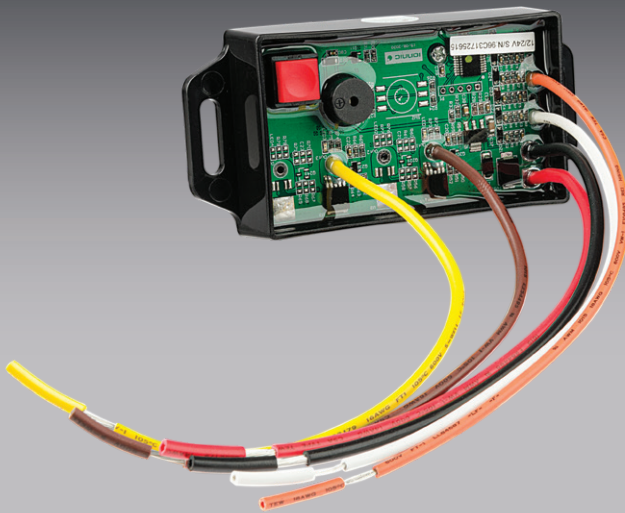
Part No.	Description
MS-LOR-12V	Suits any negatively switched headlight
MS-LOP-12V	Suits any positively switched headlight
MS-LOR-12V-KIT	Suits Toyota Hi-Lux up to 2011 model. Supplied complete with plug-in harness

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



Switching Systems

Hand Brake Alarm Module



12V
24V

2Yrs

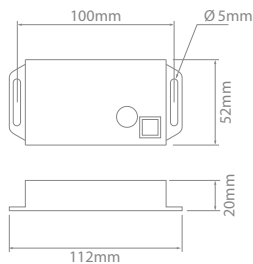
- Can be adapted to any vehicle.
- Self learning function automatically detects vehicle triggers for quick and easy installation.
- Designed to signal when hand brake is not engaged and vehicle door opens.
- Satisfies mine site requirements.
- 2 stage outputs.
- Compact easy installation.
- Suitable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

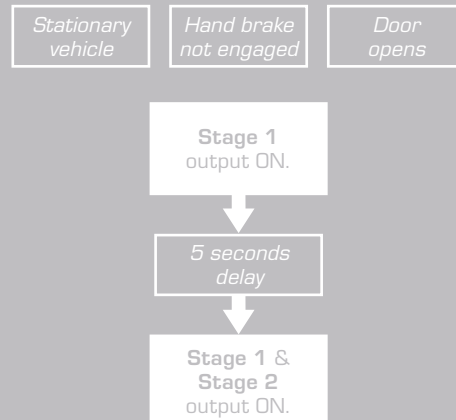


Hand Brake Alarm Operation

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.

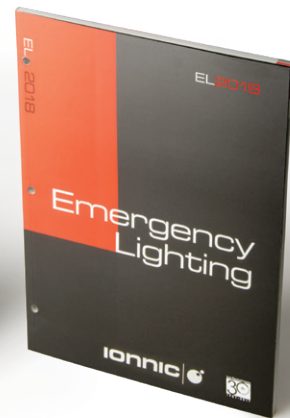
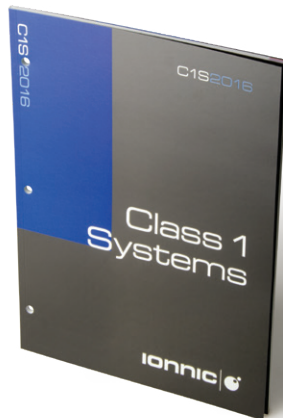


Device deactivation will only occur when the hand brake is applied. Closing the door alone will not deactivate the unit.

Hand Brake Alarm Module

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

Catalogue Catalogues



Switching Systems

Idle Timers



IT11450



CST500

12V
24V

IONNIC Idle Timer:

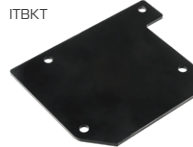
- Selectable idle time cycle.
- LED indicators for visual warning.
- Multi-voltage.
- Environmentally sealed – IP65.
- Push & toggle switch kits available.
- Suitable for Energised To Run (ETR) systems. Energised To Stop (ETS) model available on request.

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



IT11450



ITBKT



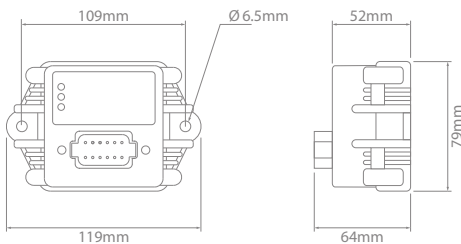
B657

Illuminated push button switch (Red)



IT10451

Engraved label



IT11451



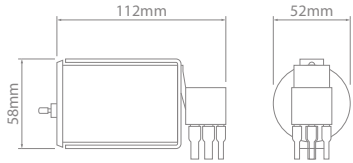
Illuminated pilot light (Amber)



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

Switching Systems



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



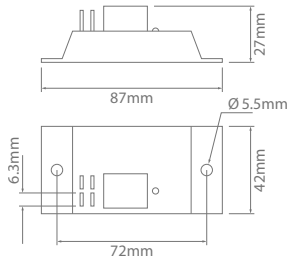
Switching Systems

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



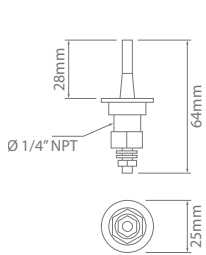
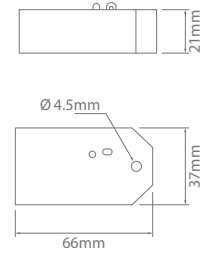
WL601LP



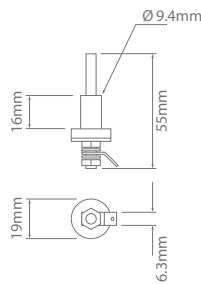
Modules



8015002

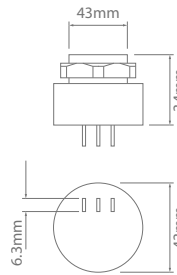


WL601PS1

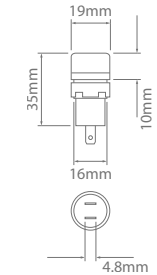


WL601P

Probes



Buzzer
B657



Pilot Lamp
BA16DS-RED

Low Coolant Alarm – Kits

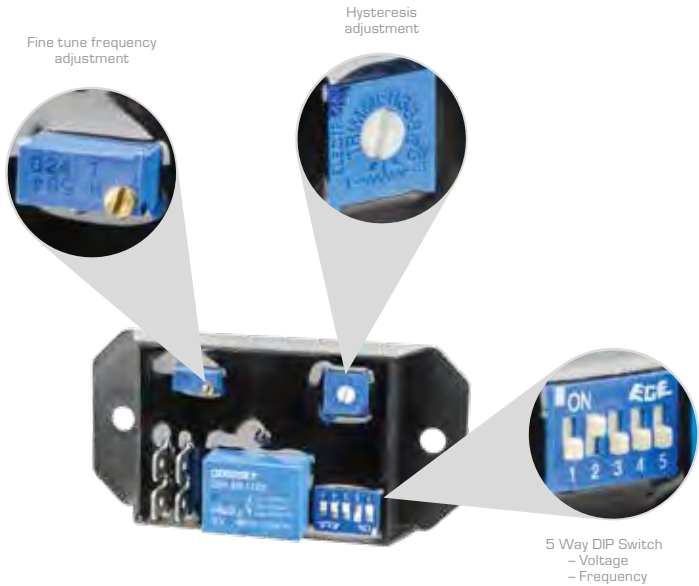
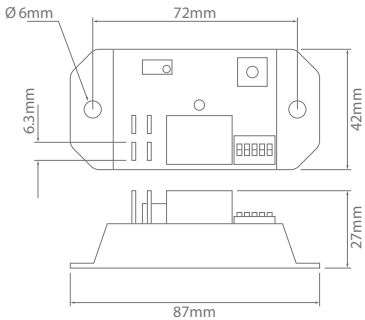
Part No.	Description	Module		Probe		Buzzer B657	Pilot Lamp BA16DS-RED
		WL601LP	8015002	WL601PS1	WL601P		
WL-1	10A Module with Threaded Probe	•	—	•	—	•	•
WL-2	10A Module with Multi-fit Probe	•	—	—	•	•	•
WL-3	3A Module with Threaded Probe	—	•	•	—	•	•
WL-4	3A Module with Multi-fit Probe	—	•	—	•	•	•

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





Lockouts

Designed to enable Battery Master Switches to be securely locked.

Different colours and styles of lockout brackets are available for a selection of Battery Master Switches.



Remote Switching

Remote Switching (page 39) Battery Master Switches are switched electrically rather than manually, allowing them to be integrated anywhere within a vehicles system. These switches can be triggered remotely from anywhere on the vehicle.

Rated to IP65 and housed in robust polymer allows safe mounting internally or externally.

12V & 24V models are available in single and double pole.



Double Pole

Double Pole Battery Master Switches can control two independent circuits or be used to isolate both positive and or negative simultaneously.

Double Pole units are available in both the manual and remote switching ranges.





Battery Master Switches

Fixed Handle	28
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Battery Lockout Kits	40
Universal Lockout Kits	42
BMS – Accessories	44

BMS - Manual Switching

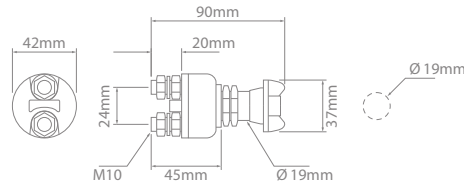
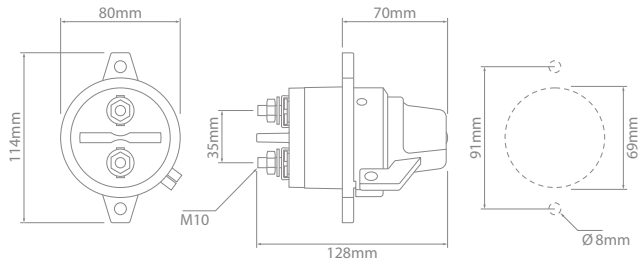
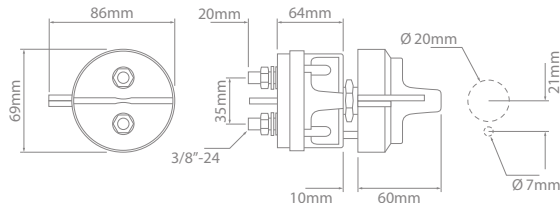
Fixed Handle



- Silver alloy contacts on most models.
- Weather resistant.
- Most switches able to be locked with optional lockout bracket where available.
- Integrated lockout with 75920 series and BMS-001 & BMS-002.
- 75920, BMS-001 & BMS-002 environmentally sealed – IP67.
- Auxiliary contacts on selected models.
- 75912B Double Pole model.

6V
36V

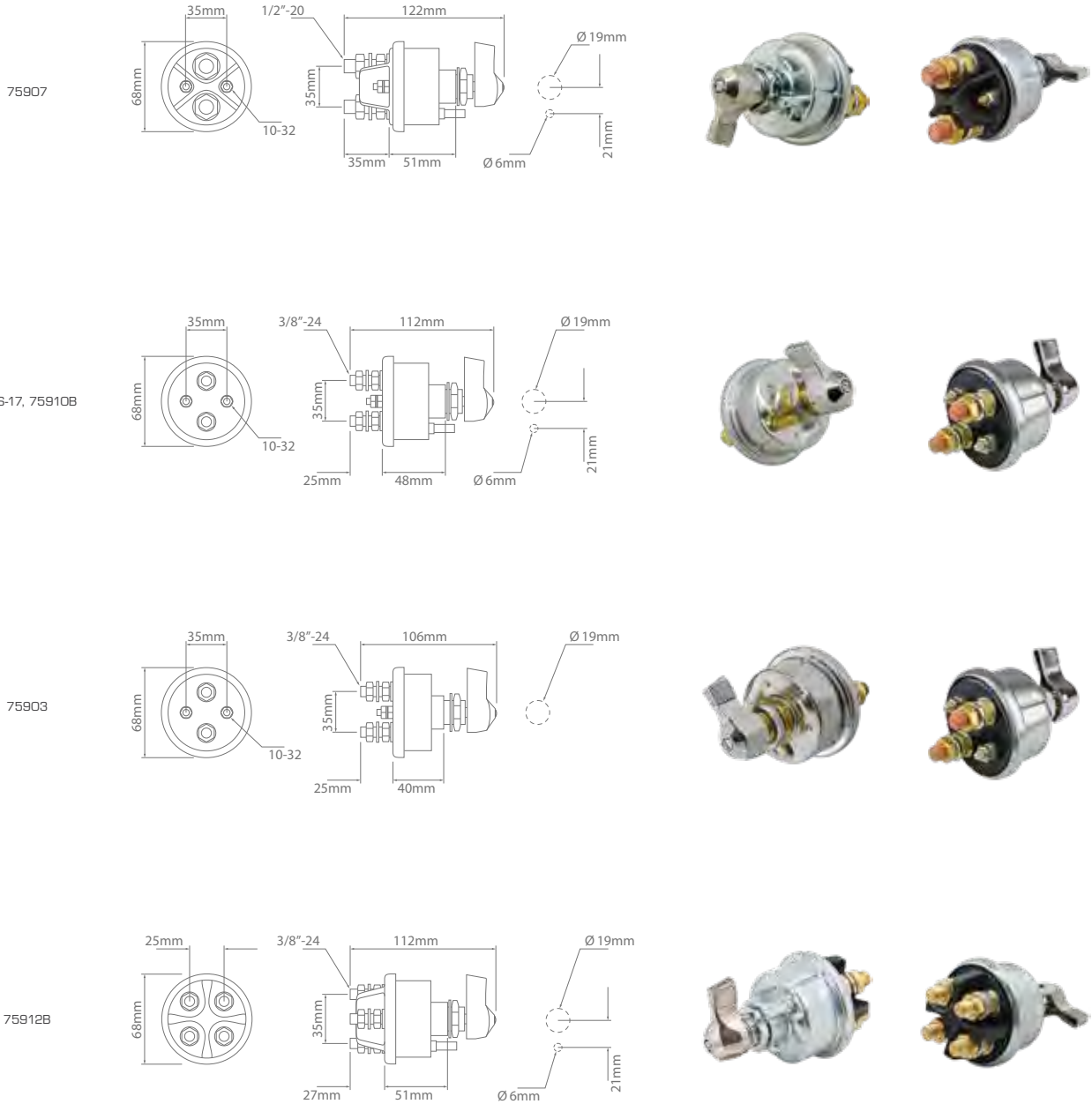
Voltage : 6-36V
Contacts : Silver Alloy
Ingress Protection : 75903 Copper
 BMS-20 IP53
 BMS-001 & BMS-002, 75920 Series IP67



Fixed Handle – Polymer

Part No.	Description	Main Contacts (A)		Fits Panel Thickness (mm)
		Intermittent	Continuous	
75920	Single Pole – Red handle	3000	300	12
75920-01B	Single Pole – Yellow handle	3000	300	12
BMS-001 NEW	Single Pole – Red handle	2000	250	—
BMS-002 NEW	Single Pole – Yellow handle	2000	250	—
BMS-20	Single Pole	1000	125	8.8

BMS - Manual Switching



Fixed Handle – Metal

Part No.	Description	Main Contacts (A)		Auxiliary Contacts (A)	Fits Panel Thickness (mm)
		Intermittent	Continuous	Continuous	
75907	Single Pole with Auxiliary	2000	300	20	6.4
BMS-17	Single Pole with Auxiliary	1000	300	20	6.4
75910B	Single Pole with Auxiliary	1000	125	20	6.4
75903	Single Pole with Auxiliary	1000	125	20	4.8
75912B	Double Pole	750	125	—	6.5



BMS - Manual Switching



BMS-001BKT



BMS-18



BMS-18R



BMS-18Y



LS11004-01



LS11004-02



BMS-3R

Padlock not supplied with lockout brackets



BMS-3Y



Padlock not supplied with lockout brackets



BMS-ES, BMS-IMP

Fixed Handle - Accessories

Part No.	Description	Suits
BMS-001BKT NEW	Mounting bracket - powder coated Black	BMS-001, BMS-002
BMS-18	Lockout - 2 piece metal	75907, BMS-17, 75910B, 75903, 75912B
BMS-18R	Lockout - 2 piece metal - powder coated Red	75907, BMS-17, 75910B, 75903, 75912B
BMS-18Y	Lockout - 2 piece metal - powder coated Yellow	75907, BMS-17, 75910B, 75903, 75912B
LS11004-01	Lockout - Hinged stainless steel - powder coated Red	75907, BMS-17, 75910B, 75903, 75912B
LS11004-02	Lockout - Hinged stainless steel - powder coated Yellow	75907, BMS-17, 75910B, 75903, 75912B
BMS-3R	Lockout - 2 piece nylon - Red	BMS-20
BMS-3Y	Lockout - 2 piece nylon - Yellow	BMS-20
BMS-ES	60mm Brass extension stud - M10	BMS-001, BMS-002, BMS-20
BMS-IMP NEW	60mm Brass extension stud - 3/8"-24	75920, 75920-01B, BMS-17, 75910B, 75903, 75912B

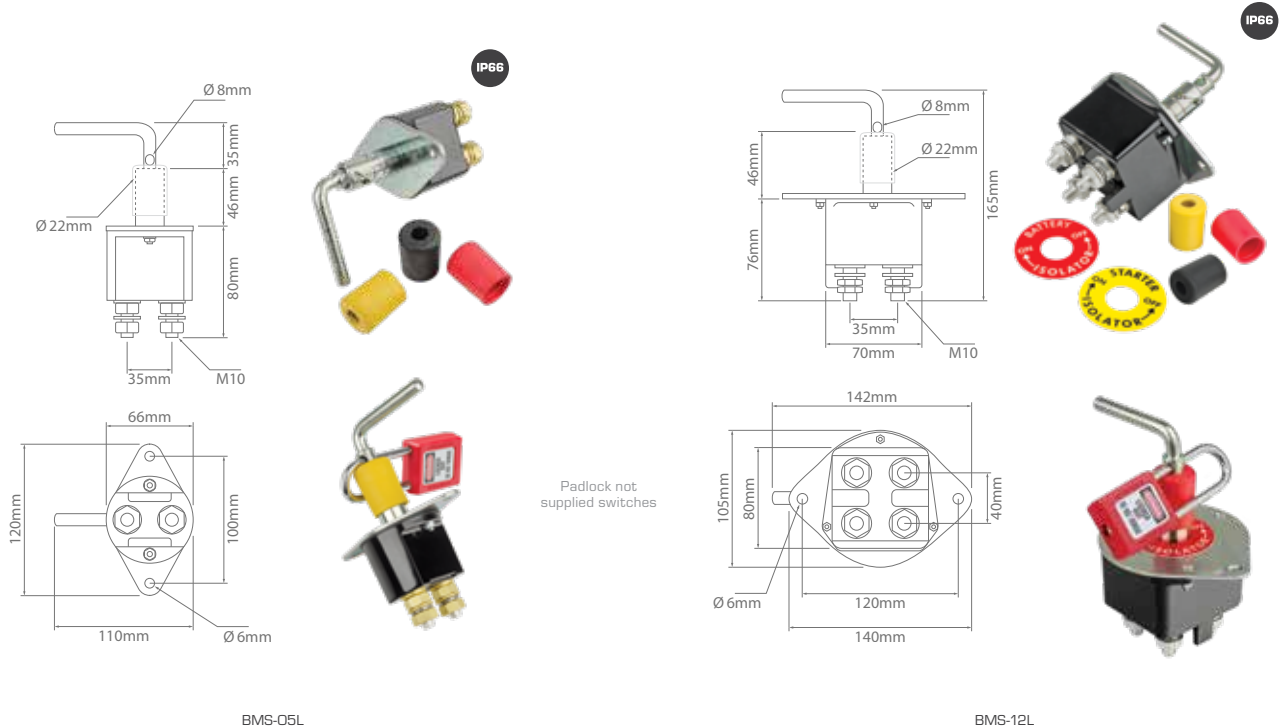
BMS - Manual Switching

L Handle

- BMS-05L & BMS-12L feature an integrated locking facility.
- BMS-05/L & BMS-12/L environmentally sealed – IP66.
- Single and double pole models.
- Lockout brackets available for BMS-05 & BMS-12.
- BMS-12/L features silver plated contacts.
- BMS-ES extension stud available. See BMS Accessories – page 33.
- Weather resistant.



Voltage : 6–36V
Contacts : Copper
Handle : BMS-12/L Silver plated Copper
Body : BMS-07 Zinc plated
 BMS-05/L, BMS-12/L Zinc plated
Ingress Protection : BMS-07 IP43
 BMS-05/L, BMS-12/L IP66



L Handle – Lockable

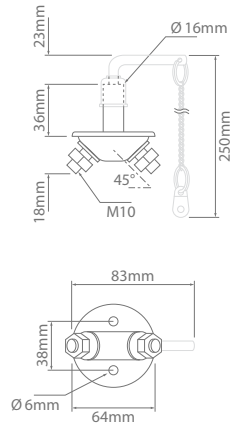
Part No.	Description	Contacts (A)	
		Intermittent	Continuous
BMS-05L	Single Pole	2500	250
BMS-12L	Double Pole. Supplied with Starter & Battery decals	2500	250



BMS - Manual Switching



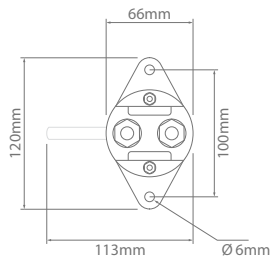
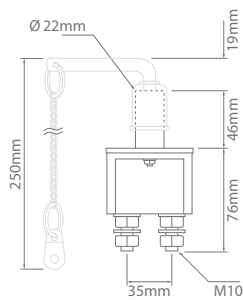
IP43



BMS-07



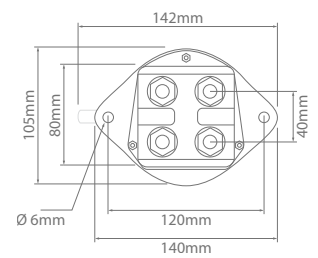
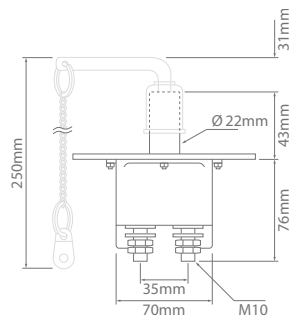
IP66



BMS-05



IP66



BMS-12

L Handle - Removable

Part No.	Description	Contacts (A)	
		Intermittent	Continuous
BMS-07	Single Pole	500	100
BMS-05	Single Pole. Supplied with Starter & Battery decals	2500	250
BMS-12	Double Pole. Supplied with Starter & Battery decals	2500	250

BMS - Manual Switching



L Handle – Accessories

Part No.	Description	Suits
BMS-2R	Metal lockout bracket for use with a padlock. Powder coated Red	BMS-05
BMS-2Y	Metal lockout bracket for use with a padlock. Powder coated Yellow	BMS-05
BMS-05K	Spare lever handle key with rubber boot and chain	BMS-05, BMS-12
BMS-05BKT	Metal mounting bracket. Powder coated Black	BMS-05, BMS-05L
BMS-1R	Metal lockout bracket for use with a padlock. Powder coated Red	BMS-12
BMS-1Y	Metal lockout bracket for use with a padlock. Powder coated Yellow	BMS-12
LS11003-01	Metal lockout bracket for use with a padlock – Stainless steel. Powder coated Red	BMS-05, BMS-12
LS11003-02	Metal lockout bracket for use with a padlock – Stainless steel. Powder coated Yellow	BMS-05, BMS-12
BMS-4R NEW	Metal lockout bracket for use with a padlock. Powder coated Red	BMS-05, BMS-12
BMS-4Y NEW	Metal lockout bracket for use with a padlock. Powder coated Yellow	BMS-05, BMS-12
BMS-12K	Spare lever handle key with rubber boot	BMS-05, BMS-12
BMS-12BKT	Metal mounting bracket. Powder coated Black	BMS-12, BMS-12L
BMS-ES	60mm Brass extension stud – M10	All L Handle



BMS - Manual Switching

Removable Key

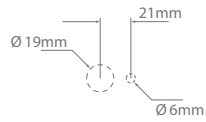
6V
36V



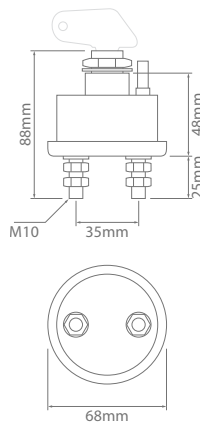
- Weather resistant.
- Removable keys.
- Silver alloy contacts.

Voltage :
Contacts :
Key :
Body :

6-36V
Silver Alloy
Zinc plated
Zinc plated



Mounting Dimensions



Removable Key

Part No.	Description	Contacts (A)		Fits Panel Thickness (mm)
		Intermittent	Continuous	
BMS-10	Single Pole	1000	125	4.8

BMS - Manual Switching

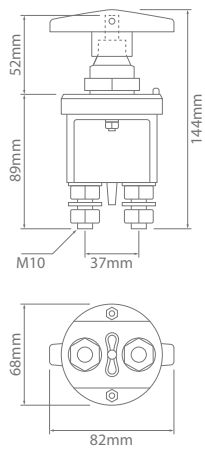
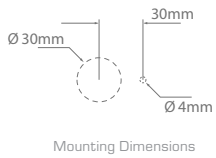
- Fixed T handles.
- Marine model (BMS-15) with polyester coating.
- Environmentally sealed.
- BMS-09 silver alloy contacts.



T Handle

Voltage :		6-36V
Contacts :	BMS-09	Silver Alloy
	BMS-15	Copper
Handle :	BMS-09	Die-cast
	BMS-15	Polymer
Body :		Bakelite
Ingress Protection :	BMS-09	IP65
	BMS-15	IP64

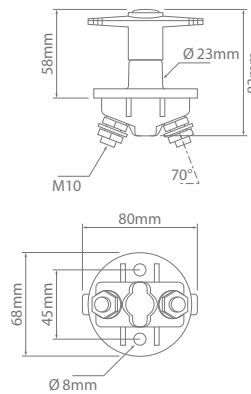
6V
36V



BMS-09



IP65



BMS-15



IP64

T Handle

Part No.	Description	Contacts (A)		Fits Panel Thickness (mm)
		Intermittent	Continuous	
BMS-09	Single Pole	2500	250	11
BMS-15	Single Pole Marine	1000	150	—



BMS - Manual Switching

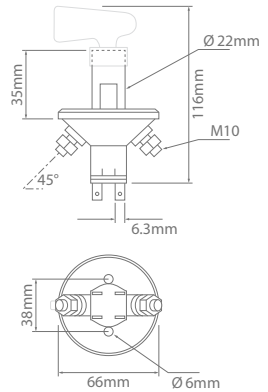
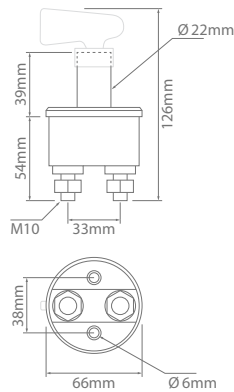
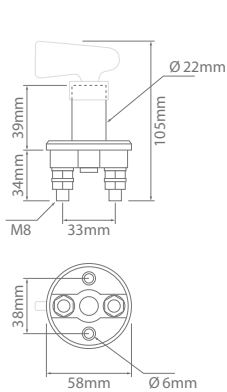
General



- Removable key.
- Dust cover.
- Corrosion resistant construction.
- BMS-16 features auxiliary contacts.

12V
24V

Voltage : 12–24V
Contacts : Copper
Handle: Polymer PA6
Body : Polymer PA6
Ingress Protection : BMS-08 IP53
 BMS-06, BMS-16 IP43



IP43



BMS-06

IP53



BMS-08

IP43



BMS-16

General

Part No.	Description	Main Contacts (A)		Auxiliary Contacts (A)
		Intermittent	Continuous	Continuous
BMS-06	Single Pole	500	100	—
BMS-08	Single Pole	500	100	—
BMS-16	Single Pole with Auxiliary	500	100	5
BMS-06K	Replacement key			

BMS-16 Auxiliary Contacts : NO & NC.

BMS - Manual Switching

NEW

- 2 & 4 position models.
- Removable panels for easy cable entry/access.
- BMS-21 features removable actuator.
- Single and dual battery applications.
- BMS-22 allows for switching between two batteries without power interruption.

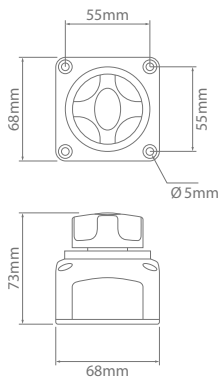


BMS-22



BMS-21

Voltage : 12-24V
Contacts : Tinned Copper
Handle: PBT
Body : Thermoplastic



Marine Series **NEW**

Part No.	Positions	Current Rating (A)		Terminals
		Intermittent	Continuous	
BMS-21	Off - On	1000	200	2 x 10mm Studs
BMS-22	Off - 1 - 1+2 - 2	1000	100 + 100	3 x 8mm Studs



BMS - Remote / Manual Switching

Big Red



- Fully sealed, heavy duty, double pole.
- Designed for commercial, marine and industrial applications, specifically those carrying flammable loads.
- Anti-crack outer case material.
- Highly resistant to impact, fuel oils, petroleum etc.
- Self extinguishing during fire.
- Manual and remote switching capabilities.
- LED display indicates switched position.
- Environmentally sealed – IP66.
- 2 year warranty.

Contacts :	Silver Alloy
Current Rating :	200A @ 5 Min
Current Rating – Intermittent :	500A
Handle :	Zinc Alloy
Body :	Thermoset Polyester
Weight :	3.8kg
Approvals :	AS3947.3.2001, C-Tick
Ingress Protection :	IP66

Delayed Switching – Manual vs Electrical

A unique feature of the Big Red battery isolator is delayed switching of the auxiliary contacts. The delay is different when being electrically switched vs manually switched.

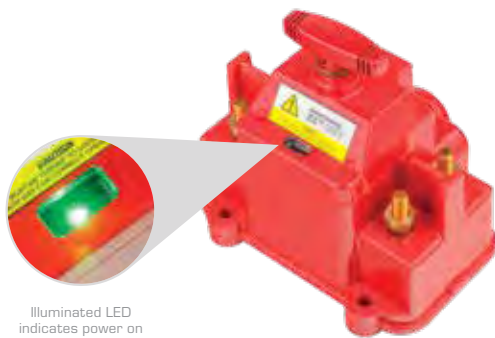
Electrically Switched:

Approximately 2-3 milliseconds prior to the main contacts opening.

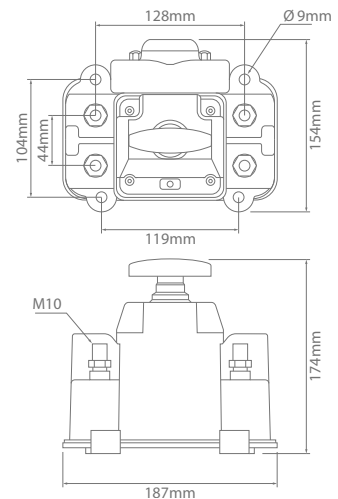
Manually Switched:

100-150 millisecond prior to the main contacts opening.

For full details on the iROS Rollover Switch see page 16.



Illuminated LED indicates power on



Big Red

Part No.	Voltage	Description
SSB100	24	Battery Isolator for use with AS2809.2 compliant rollover switch
SSB102	12	Battery Isolator for use with AS2809.2 compliant rollover switch

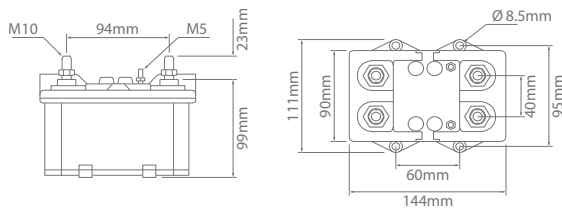
For full details of the iROS Rollover Switch see page 16.

BMS - Remote Switching

- Remotely activated battery master switch.
- Silver alloy contacts.
- Environmentally sealed – IP65.
- Double Pole models supplied with terminal insulators.
- Single Pole models supplied with DIN connector.
- Auxiliary output with Single Pole models.



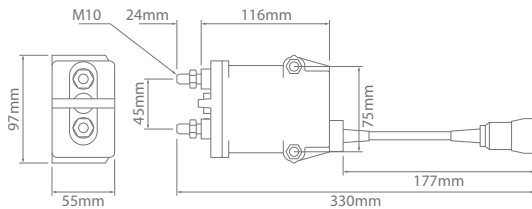
Contacts : Silver Alloy
 Body : Polymer
 Ingress Protection : IP65



Remote Switching – Double Pole

Part No.	Voltage	Description	Contacts (A)		Coil (A)	
			Intermittent	Continuous	Inrush	Continuous
BMS-14	24	Double Pole	2500	250	3.4	0.3

Supplied with terminal insulators.



Remote Switching – Single Pole

Part No.	Voltage	Description	Main Contacts (A)		Auxiliary Contacts (A)	Coil (A)	
			Intermittent	Continuous	Continuous	Inrush	Continuous
BMS-32	12	Single Pole with Auxiliary	2500	250	2	13.5	0.025
BMS-34	24	Single Pole with Auxiliary	2500	250	2	8.5	0.025

Supplied with DIN connector.



BMS - Kits

Battery Lockout Kits

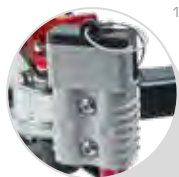
NEW



MS-HL03/16

- Kits to suit popular mine site vehicles.
- Install with minimal engine bay modification.
- Models incorporate both a battery isolator and starter isolator.
- 175A 'Jump Start Receptacle'.
- Pre-assembled.
- Switches clearly labelled.
- Powder coated brackets.
- Manufactured in Australia.

Brackets :	Powder Coated Aluminium
Wire Size :	35mm ²
Main Contacts :	Intermittent 1000A
	Continuous 125A
Auxiliary Contacts :	Continuous 20A



175A 'Jump Start Receptacle'



MS-PD03/18



MS-LC03/18

Easy Installation

Manufactured in Australia the IONNIC range of battery lockout kits are pre-assembled and designed to be installed with minimal need for drilling or other engine bay modifications. Kits to suit the popular vehicles used on mine sites are available in multiple configurations all with jump start receptacles.

High quality components are used in their construction and the attention to detail extends to the use of terminal insulators and conduit clips to ensure the harness protection will always remain in place.





MS-HL03/16



MS-LC03/18



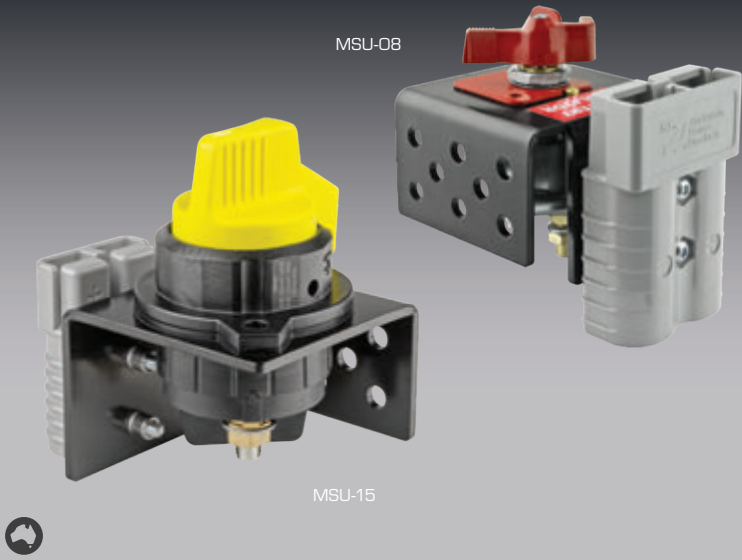
MS-PD03/18

Battery Lockout Kits – Toyota NEW

Part No.	Suits
MS-HL03/16	Hi-Lux – Mid 2016 on (diesel)
MS-LC03/18	Landcruiser – 70 Series V8 2018 On (diesel)
MS-PD03/18	Prado 2018 On



BMS - Kits



- Now available with BMS-001/BMS-002.
- BMS-17 features auxiliary contacts.
- Compact size.
- Suitable for use on any vehicle.
- Kits to suit battery or starter isolation.
- Available with either a 175A or 350A 'Jump Start Receptacle'.
- Powder coated brackets.
- Manufactured in Australia.

Bracket : Powder Coated Aluminium
 For specs on the BMS-001, BMS-002 and BMS-17 see page 28-29.



Universal Lockout Kits – 175A Jump Start – BMS-17

Part No.	Label	Kits Contain:
MSU-04	"BATTERY ISOLATOR"	1 x Universal mounting bracket 1 x 175A High current connector
MSU-05	"STARTER ISOLATOR"	1 x Single Pole fixed handle battery master switch BMS-17 1 x Two piece metal lockout bracket Red or Yellow 1 x Label "BATTERY ISOLATOR" or "STARTER ISOLATOR" 2 x 30mm button-head M6 bolt

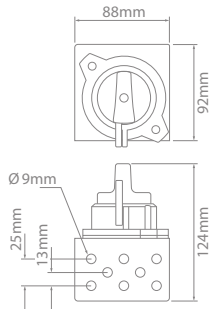
Supplied in component form.



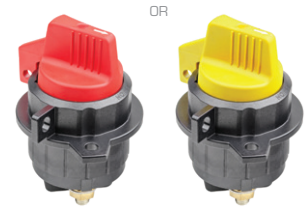
Universal Lockout Kits – 350A Jump Start – BMS-17

Part No.	Label	Kits Contain:
MSU-08	"BATTERY ISOLATOR"	1 x Universal mounting bracket 1 x 350A High current connector
MSU-09	"STARTER ISOLATOR"	1 x Single Pole fixed handle battery master switch BMS-17 1 x Two piece metal lockout bracket Red or Yellow 1 x Label "BATTERY ISOLATOR" or "STARTER ISOLATOR" 2 x 40mm button-head M6 bolt

Supplied in component form.



STARTER ISOLATOR
OR
BATTERY ISOLATOR



BMS-001

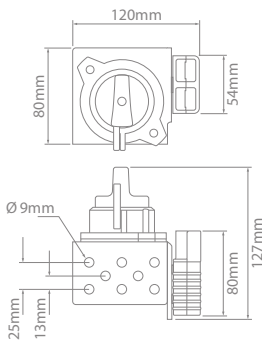
BMS-002

Universal Lockout Kits – BMS-001/BMS-002 NEW

Part No.	Label
MSU-01	"BATTERY ISOLATOR"
MSU-02	"STARTER ISOLATOR"

Kits Contain:
 1 x Universal mounting bracket
 1 x Single pole fixed handle battery master switch **BMS-001** or **BMS-002**
 1 x Label "BATTERY ISOLATOR" or "STARTER ISOLATOR"
 1 x Gasket

Supplied in component form.



STARTER ISOLATOR
OR
BATTERY ISOLATOR



BMS-001

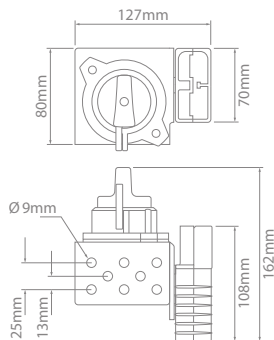
BMS-002

Universal Lockout Kits – 175A Jump Start – BMS-001/BMS-002 NEW

Part No.	Label
MSU-14	"BATTERY ISOLATOR"
MSU-15	"STARTER ISOLATOR"

Kits Contain:
 1 x Universal mounting bracket
 1 x 175A High current connector
 1 x Single pole fixed handle battery master switch **BMS-001** or **BMS-002**
 1 x Label "BATTERY ISOLATOR" or "STARTER ISOLATOR"
 2 x 30mm button-head M6 bolt
 1 x Gasket

Supplied in component form.



STARTER ISOLATOR
OR
BATTERY ISOLATOR



BMS-001

BMS-002

Universal Lockout Kits – 350A Jump Start – BMS-001/BMS-002 NEW

Part No.	Label
MSU-18	"BATTERY ISOLATOR"
MSU-19	"STARTER ISOLATOR"

Kits Contain:
 1 x Universal mounting bracket
 1 x 350A High current connector
 1 x Single pole fixed handle battery master switch **BMS-001** or **BMS-002**
 1 x Label "BATTERY ISOLATOR" or "STARTER ISOLATOR"
 2 x 40mm button-head M6 bolt
 1 x Gasket

Supplied in component form.



BMS - Accessories

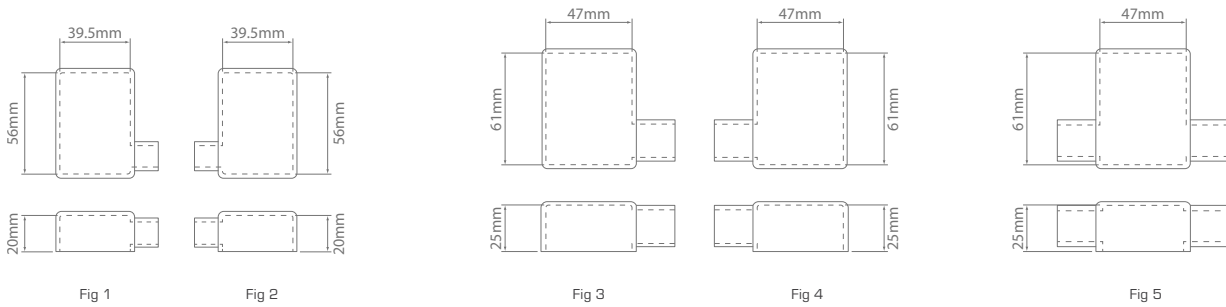
Terminal Insulators



- Protects terminals from electrical shorts and shocks.
- Colour coded for easy identification.
- Wide range of sizes & styles available.
- 200 Series feature finger tab for easy removal.
- Bulk packs available.

Material :
Max. Operating Temperature :
Burning Behaviour :

Flexible PVC
 105°C
 UL94V2



SY2906-RED
(Right hand)



SY2914-BLK
(Left hand)

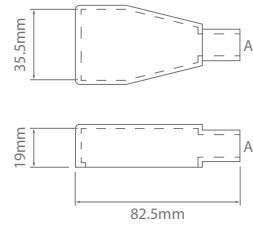


SY2915-RED
(Double)

Battery Terminal Insulators

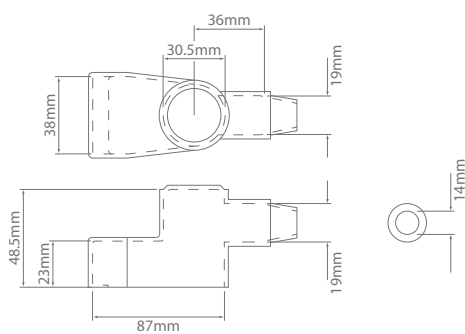
Red	Black	Pack Qty	Post Height (mm)	Cable Ø (mm)	Cable Entry	Material Thickness (mm)	Fig
SY2906-RED	SY2906-BLK	1	20	12.5	Right Hand	1.5	1
SY2906R/100	SY2906B/100	100					
SY2910-RED	SY2910-BLK	1	20	12.5	Left Hand	1.5	2
SY2910R/100	SY2910B/100	100					
SY2912-RED	SY2912-BLK	1	25	17.5	Right Hand	2.3	3
SY2912R/100	SY2912B/100	100					
SY2914-RED	SY2914-BLK	1	25	17.5	Left Hand	2.3	4
SY2914R/100	SY2914B/100	100					
SY2915-RED	SY2915-BLK	1	25	17.5	Double	2.3	5
SY2915R/100	SY2915B/100	100					

BMS - Accessories



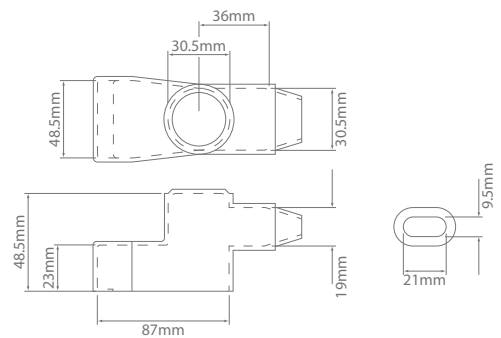
Battery Terminal Insulators – Straight Leads

Red	Black	Pack Qty	Post Height (mm)	Cable Ø A (mm)	Material Thickness (mm)
SY2917-RED	SY2917-BLK	1	19	12.5	2.3
SY2917R/100	SY2917B/100	100			
SY2919-RED	SY2919-BLK	1	19	16	2.3
SY2919R/100	SY2919B/100	100			



SY2990

Fig 1



SY2995

Fig 2

Battery Terminal Insulators

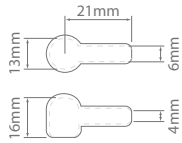
Red	Black	Pack Qty	Terminal Ø (mm)	Post Height (mm)	Material Thickness (mm)	Fig
SY2990-RED	SY2990-BLK	1	30.5	23	2	1
SY2990R/100	SY2990B/100	100				
SY2995-RED	SY2995-BLK	1	30.5	23	2	2
SY2995R/100	SY2995B/100	100				



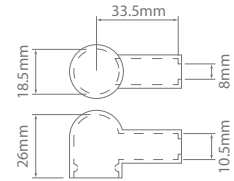
BMS - Accessories



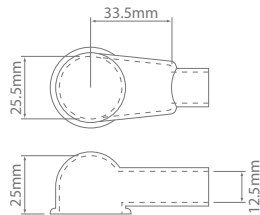
SY2900



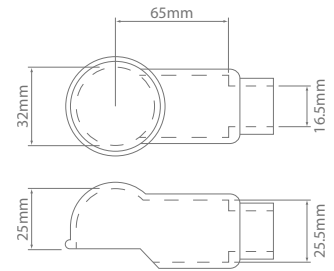
SY2980



SY2982

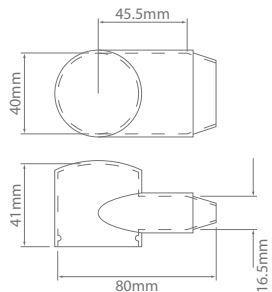


SY2984



Terminal Insulators – Lug & Ring

Red	Black	Pack Qty	Terminal Ø (mm)	Post Height (mm)	Terminal Length (mm)	Inside Grip (mm)	Cable Ø (mm)	Material Thickness (mm)
SY2900-RED	SY2900-BLK	1	13	16	21	6	4-6	1
SY2900R/100	SY2900B/100	100						
SY2980-RED	SY2980-BLK	1	18.5	26	33.5	10.5	8	1.5
SY2980R/100	SY2980B/100	100						
SY2982-RED	SY2982-BLK	1	25.5	25	33.5	12.5	12.5	1.5
SY2982R/100	SY2982B/100	100						
SY2984-RED	SY2984-BLK	1	32	25	65	25.5	16.5	2.5
SY2984R/100	SY2984B/100	100						



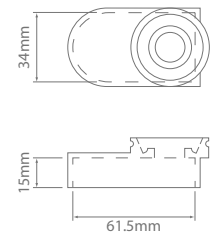
SY2999-RED



SY2998-RED

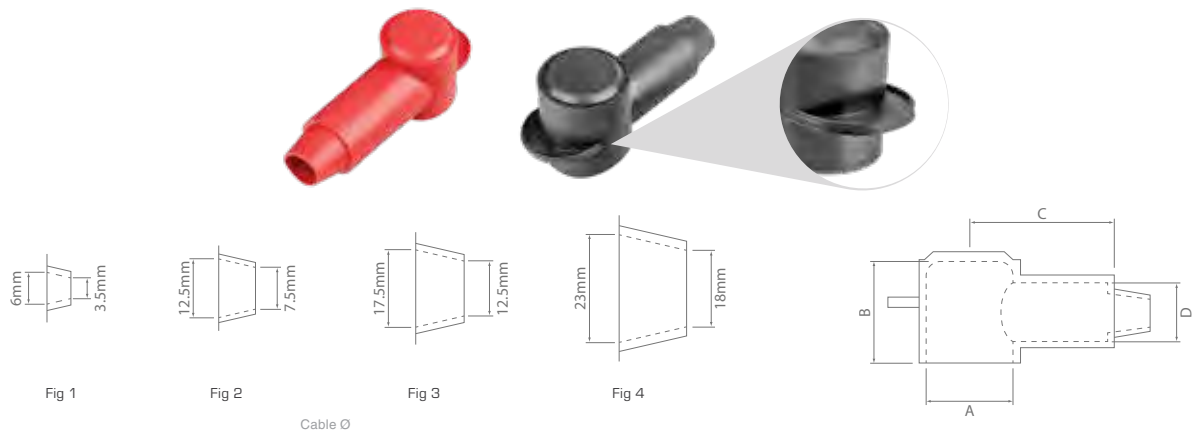


SY2998-RED



Terminal Insulators – Lug & Ring – Marine

Red	Black	Pack Qty	Terminal Ø (mm)	Post Height (mm)	Terminal Length (mm)	Material Thickness (mm)
SY2999-RED	SY2999-BLK	1	40	41	58.5	1.5
SY2999R/100	SY2999B/100	100				
SY2998-RED	SY2998-BLK	1	Base for use with SY2999			2.5




Terminal Insulators – Lug & Ring – 200 Series

Red	Black	Pack Qty	Terminal Ø A (mm)	Post Height B (mm)	Terminal Length C (mm)	Inside Grip D (mm)	Cable Ø Fig	Material Thickness (mm)
SY2959-RED	SY2959-BLK	1	12	18	25.5	12.5	1	1.5
SY2959R/100	SY2959B/100	100						
SY2960-RED	SY2960-BLK	1	14	19	25.5	12.5	1	1.5
SY2960R/100	SY2960B/100	100						
SY2963-RED	SY2963-BLK	1	16	20.5	25.5	12.5	2	1.5
SY2963R/100	SY2963B/100	100						
SY2965-RED	SY2965-BLK	1	18	22	25.5	12.5	2	1.5
SY2965R/100	SY2965B/100	100						
SY2966-RED	SY2966-BLK	1	20	24	33.5	18	3	1.8
SY2966R/100	SY2966B/100	100						
SY2968-RED	SY2968-BLK	1	22	26.5	44.5	19	3	1.8
SY2968R/100	SY2968B/100	100						
SY2971-RED	SY2971-BLK	1	26	32	52.5	18	3	2
SY2971R/100	SY2971B/100	100						
SY2970-RED	SY2970-BLK	1	28	33.5	44.5	19	3	2.3
SY2970R/100	SY2970B/100	100						
SY2973-RED	SY2973-BLK	1	32	38	44.5	23	3	2.5
SY2973R/100	SY2973B/100	100						
SY2974-RED	SY2974-BLK	1	32	38	60.5	23	3	2.5
SY2974R/100	SY2974B/100	100						
SY2975-RED	SY2975-BLK	1	32	38	44.5	23	4	2.5
SY2975R/100	SY2975B/100	100						



Extension Stud

Part No.	Description
BMS-ES	M10 brass extension stud – 60mm
BMS-IMP 	3/8"-24 brass extension stud – 60mm





Contact Blocks

Both N/O & N/C contact blocks and combinations of each are available for the Standard and Heavy Duty ranges of Emergency Stop Switches.



Standard Series

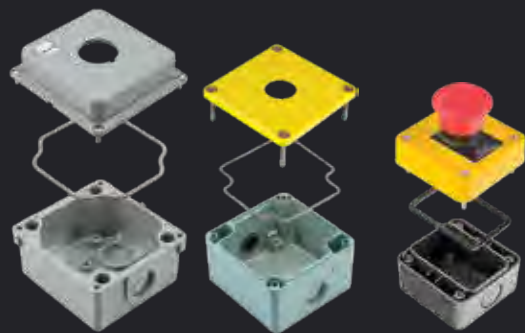


Heavy Duty Series

Sealed Enclosures

IP65

All enclosures utilise a sealing gasket between the lid and the base providing an ingress protection rating of IP65.



Multiple Actuators

A variety of button types and sizes are available in both ranges of Emergency Stop Switches; momentary, latching, and lockable actuators.

The Standard range has the additional option of a booted momentary version available in 4 colours.





Emergency Stop Switches

Heavy Duty

50

Standard Duty

52

BA Series

54

Emergency Stop

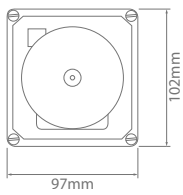
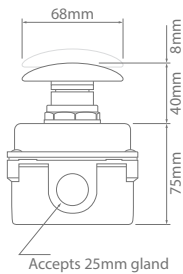
Heavy Duty



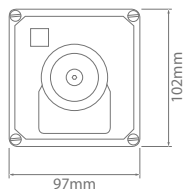
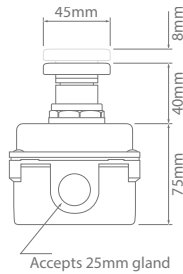
IP65 6V 36V

- Available in kit and component form.
- Solid metal housings.
- Multiple actuator types available including locking version.
- Multiple contact blocks available.
- Environmentally sealed – IP65.
- Multi-voltage.

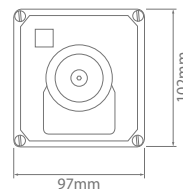
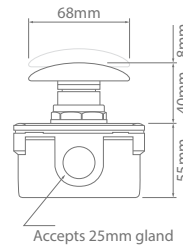
Voltage : 6–36V
Contacts : Silver Alloy
Button : Die-cast
Housing : Die-cast
Ingress Protection : IP65
Operating Temperature : -17°C to 65°C



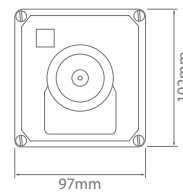
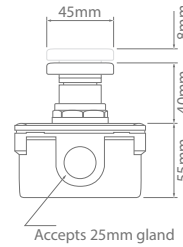
CHS2, CHS3, CHS4



CHS6



CHS1



CHS5

Heavy Duty – Kits

Part No.	Enclosure Type	Button Type	Legend	Contact Blocks
CHS2	75mm – TN11	68mm Lockable – T176P	“STOP PULL TO RESET” – D2179-53CP	N/O & N/C – T1P
CHS3	75mm – TN11	68mm Momentary – T172	“STOP” – TJ34	N/O & N/C – T1P
CHS4	75mm – TN11	68mm Push/Pull – T176M	“STOP PULL TO RESET” – D2179-53CP	N/O & N/C – T1P, N/O & N/O – T2P
CHS6	75mm – TN11	45mm Push/Pull – T129M	“STOP PULL TO RESET” – D2179-53CP	N/O & N/C – T1P
CHS1	55mm – TN01	68mm Push/Pull – T176M	“STOP PULL TO RESET” – D2179-53CP	N/O & N/C – T1P
CHS5	55mm – TN01	45mm Push/Pull – T129M	“STOP PULL TO RESET” – D2179-53CP	N/O & N/C – T1P

Assembly required.

Emergency Stop



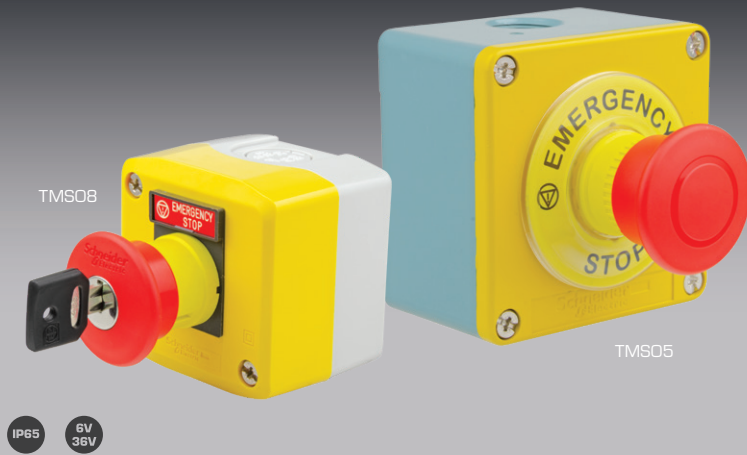
Heavy Duty – Components

Part No.	Description
TNO1	Enclosure – Die-cast 55mm
TN11	Enclosure – Die-cast 75mm
T129M	Button – 45mm Push/Pull. Used in CHS6, CHS5 kits
T172	Button – 68mm Momentary. Used in CHS3 kit
T176P	Button – 68mm Lockable Push/Pull. Used in CHS2 kit
T176M	Button – 68mm Push/Pull. Used in CHS1, CHS4 kits
T1P	Contact block – N/O & N/C
T2P	Contact block – N/O & N/O
T3P	Contact block – N/C & N/C
D2179-53CP	Legend – “STOP PULL TO RESET”
TJ34	Legend – “STOP”
TA88	Protective button insulator. Suits all heavy duty buttons



Emergency Stop

Standard Duty



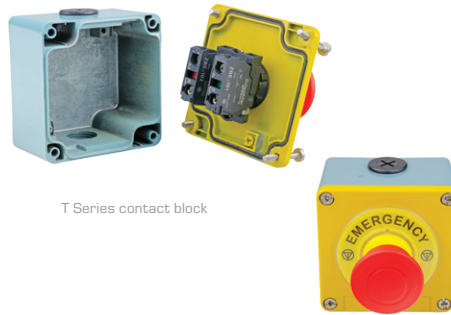
- Available in kit and component form.
- Metal & polymer housings.
- Multiple actuator types available including locking version.
- Multiple contact blocks available.
- Custom legends available.
- Environmentally sealed – IP65.
- Multi-voltage.

Voltage : 6–36V
Contacts : Silver Alloy
Button : Polymer
Body : Die-cast Polycarbonate
Ingress Protection : IP65 *excludes TMS39*
Operating Temperature : -25°C to 70°C

IP65 6V 36V



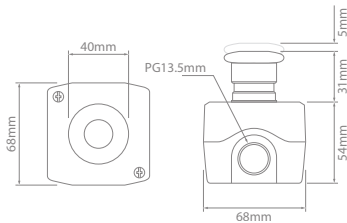
Z Series contact block



T Series contact block

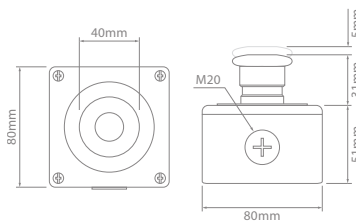


Ideal for panel mounting



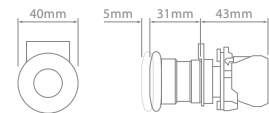
TMS01, TMS02, TMS03, TMS08

Fig 1



TMS04, TMS05, TMS06, TMS31, TMS32

Fig 2



Mounting Dimensions

TMS39

Fig 3

Standard – Kits

Part No.	Enclosure Type	Button Type	Legend	Contact Blocks	Fig
TMS01	Polymer – TMS15	Momentary – TMS11	Rectangle – TMS17	N/O & N/C – TMS10	1
TMS02	Polymer – TMS15	Latching – TMS12	Round – TMS18	N/O – ZEN-L1111, N/C – ZEN-L1121	1
TMS03	Polymer – TMS15	Push/Pull – TMS13	Rectangle – TMS17	N/O & N/C – TMS10	1
TMS08	Polymer – TMS15	Lockable – TMS21	Rectangle – TMS17	N/O & N/C – TMS10	1
TMS04	Metal – TMS14	Momentary – TMS11	Round – TMS18	N/O & N/C – TMS10	2
TMS05	Metal – TMS14	Latching – TMS12	Round – TMS18	N/O & N/C – TMS10	2
TMS06	Metal – TMS14	Push/Pull – TMS13	Round – TMS18	N/O & N/C – TMS10	2
TMS31	Metal – TMS14	Latching – TMS12	Round – TMS18	N/C & N/C – TMS26	2
TMS32	Metal – TMS14	Push/Pull – TMS13	Round – TMS18	N/C & N/C – TMS26	2
TMS39	NA (panel mount)	Latching – TMS12	Rectangle – TMS17	N/O & N/C – TMS10	3

Assembly required.

Emergency Stop



*Not compatible with TMS-15 when used with T Series contact blocks

Standard – Components

Part No.	Description
TMS14	Enclosure – Metal. (T Series contact blocks only)
TMS15	Enclosure – Polymer
TMS11	Mushroom button – 40mm Momentary. Used in TMS01, TMS04 kits
TMS12	Mushroom button – 40mm Latching, turn to release. Used in TMS02, TMS05 kits
TMS13	Mushroom button – 40mm Push/Pull. Used in TMS03, TMS06 kits
TMS21	Mushroom button – 40mm Lockable, unlock to release. Used in TMS08 kit
TMS27*	Booted button – 30mm Momentary Black
TMS28*	Booted button – 30mm Momentary Green
TMS29*	Booted button – 30mm Momentary Red
TMS30*	Booted button – 30mm Momentary Yellow
TMS16	Legend Rectangle – “STOP”
TMS17	Legend Rectangle – “EMERGENCY STOP”
TMS18	Legend Round – “EMERGENCY STOP” – Yellow
TMS23	Contact block – T Series – Single – N/O. Mounts to switch
TMS24	Contact block – T Series – Single – N/C. Mounts to switch
TMS10	Contact block – T Series – Dual – N/O & N/C. Mounts to switch. Used in all TMS kits
TMS25	Contact block – T Series – Dual – 2 x N/O. Mounts to switch
TMS26	Contact block – T Series – Dual – 2 x N/C. Mounts to switch
ZEN-L1111	Contact block – Z Series – Single – N/O. Mounts to enclosure base. (Not compatible with TMS14)
ZEN-L1121	Contact block – Z Series – Single – N/C. Mounts to enclosure base. (Not compatible with TMS14)
220S20	Plug for TMS14 Metal enclosure. Not a Tellemecanique product

*Not compatible with TMS-15 when used with T Series contact blocks.



Emergency Stop

BA Series



- Multiple actuator types available including locking version.
- Supplied with 1 x N/O and 1 x N/C contact block.
- Environmentally sealed – IP65.
- Multi-voltage.

IP65 6V 36V

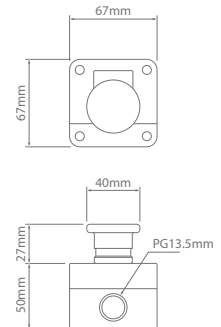
Voltage : 6–36V
 Current Rating : 10A
 Contact Type : 1 x N/O & 1 x N/C
 Contacts : Silver Alloy
 Button : Polymer
 Body : Polycarbonate
 Ingress Protection : IP65
 Operating Temperature : -25°C to 70°C



BA-J164, BA-J174



BA-J184, BA-J194



BA Series – Kits

Part No.	Button Type	Contact Blocks
BA-J164	Push/Pull	Mounts to Lid
BA-J174	Latching (Turn to Release)	Mounts to Lid
BA-J184	Lockable	Mounts to Base
BA-J194	Momentary	Mounts to Base



BA-Z11



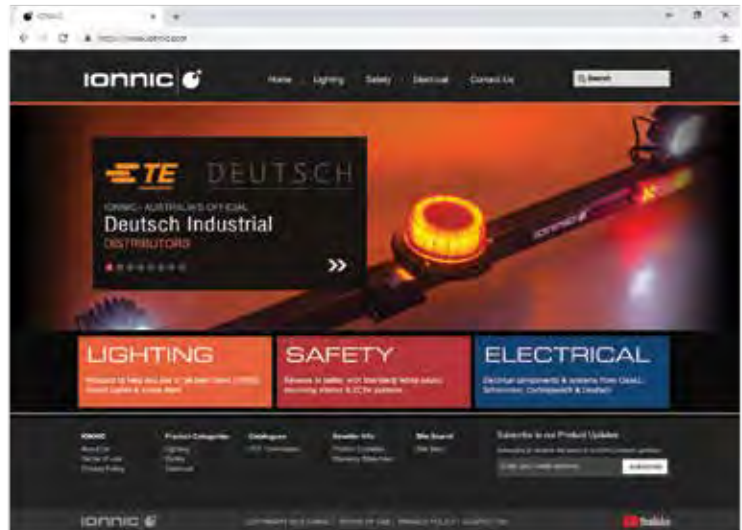
BA-Z21

BA Series – Components

Part No.	Description	Suits	Colour
BA-Z11	Contact block – Single – N/O. Mounts to enclosure lid	BA-J164, BA-J174	Green
BA-Z21	Contact block – Single – N/C. Mounts to enclosure lid	BA-J164, BA-J174	Red

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- Download catalogues or technical information.



ionnic.com



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Lighting | Safety | Electrical



SWF™ Compatible

The 444 & 777 Series can be used as direct replacements for the SWF™ range of switches and accessories.



Illumination

Function (when the circuit is activated) and Location (when dash board lights are on) illumination options are available for the 444, 777, RS and Round Rocker series.

The Contura series has integrated LED illumination that is wired independently allowing the installer to determine which option is best suited to their application.



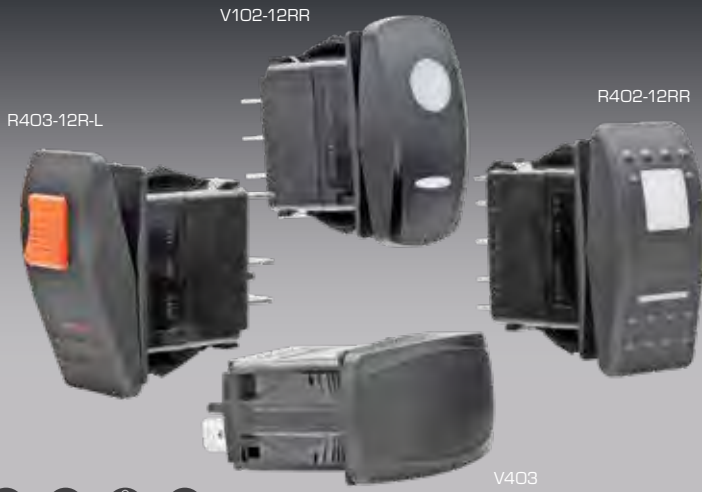


Rocker Switches

Contura Series	58
G Series	64
RS Series	66
Round Rocker	67
444 & 777 Series	69

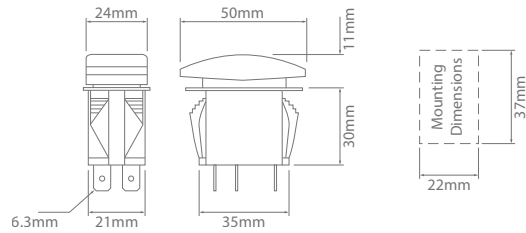
Rocker

Contura Series



- 2 actuator series available.
- LED illumination, rated to 100,000 hours.
- Illumination wired independent of switching circuit.
- Ideal for marine applications.
- Custom symbols for R Series.
- Environmentally sealed – IP66 (face only).

Current Rating : 20A @ 4–14V, 15A @ 15–28V
Actuator : Nylon 66
Contacts : Silver Alloy
Body : Polyester
Ingress Protection : IP66 (face only)
Approvals : UL, CSA, VDE



Specifying Actuator Symbol

Printed actuator symbols are only available with the R Series rocker switches.

The 'XX' at the end of the part number specifies the symbol, if required, on the actuator. **R404-24A-XX**

All illuminated Contura Series rocker switches are supplied with a plain window actuator if unspecified. Actuator symbols are found on page 61.



Printed actuator symbols are **not available for the V Series** rocker switches.

R Series



V Series



Default at Rest Position (off)



LED Illumination

Illumination provided by LEDs. LEDs determine colour of illumination.



Normally Open Contact

Action	Wiring Diagram	Notes	Illumination	Voltage	R Series	V Series
OFF ON		Single Pole	Nil	12-24	R403	V403
			Amber	12 24	R403-12A-XX R403-24A-XX	V403-12A V403-24A
			Green	12 24	R403-12G-XX R403-24G-XX	V403-12G V403-24G
			Red	12 24	R403-12R-XX R403-24R-XX	V403-12R V403-24R
			Blue	12 24	R403-12B-XX R403-24B-XX	— —
For dual illumination, use R402-12RR / V402-12RR.						
OFF ON		Single Pole Lock Out (I)	Red	12 24	R403-12R-L R403-24R-L	—
OFF ON		Double Pole	Nil	12-24	R404	V404
			Amber	12 24	R404-12A-XX R404-24A-XX	V404-12A V404-24A
			Red	12 24	R404-12R-XX R404-24R-XX	V404-12R V404-24R
For dual illumination, use R402-12RR / V402-12RR.						
OFF Mom.ON		Single Pole	Red	12 24	R508-12R-XX R508-24R-XX	V508-12R V508-24R
OFF ON Collective ON		Double Pole	Nil	12-24	R511	V511
			Red	12	R511-12R-XX	V511-12R

Normally Closed Contact

Action	Wiring Diagram	Notes	Illumination	Voltage	R Series	V Series
ON Mom.OFF		Single Pole	Nil	12-24	R509	V509

Change-over Contact

Action	Wiring Diagram	Notes	Illumination	Voltage	R Series	V Series
ON ON		Double Pole	Nil	12-24	R402	V402
ON ON		Double Pole	Red	12 24	R402-12RR-XX R402-24RR-XX	V402-12RR V402-24RR



Rocker

Change-over Contact II – O – I

Action	Wiring Diagram	Notes	Illumination	Voltage	R Series	V Series
ON OFF ON		Single Pole	Nil	12-24	R101	V101
			Red	24	—	V101-24RR
ON OFF ON		Double Pole	Nil	12-24	R102	V102
			Green	12	R102-12GG-XX	V102-12GG
			Green	24	R102-24GG-XX	—
			Red	12	R102-12RR-XX	V102-12RR
Red	24	R102-24RR-XX	V102-24RR			
Mom.ON OFF Mom.ON		Double Pole	Nil	12-24	R302	V302
			Red	12	R302-12RR-XX	V302-12RR
			Red	24	R302-24RR-XX	V302-24RR

Contura Series – Accessories

Description	Illumination	Voltage	Part No.
 Warning Lamp Panel 2 Window	Red	12	R001
		24	R002
 Socket Housing Suits R403-12R-L & R403-24R-L			VCH
 AMP™ Terminal to suit			42282-2/100
 Socket Housing Suits all Contura Series switches excluding R403-12R-L & R403-24R-L			VCH-2
 AMP™ Terminal to suit			42282-2/100
 Mounting Panels	Middle Section		VMM
	End Section		VME
	1 Switch		VMS
	3 Switch		VMS-3
	Blanking Plate		VHP

Panel cutouts 28mm x 48mm Panel cutouts 24mm x 48mm 77mm x 48mm



Once both removal tools are firmly in place, the switch can be expelled from panel as shown.

Removal Tool

Releases switch body from mounting panel and for removing actuator from switch body

VRT

Removing Actuator From Switch

Firmly insert forked end of the removal tool (VRT), flat side down, in between the bottom of the actuator and the top of the switch body as shown.



The forks of the removal tool should disengage the 2 prongs allowing the actuator to separate from switch body.



To attach new actuator simply insert centre post into switch body as shown and push on firmly.



Specifying Actuator with Symbol

Printed actuator symbols are only available with the R Series rocker switches.

R404-24A-XX



The 'XX' at the end of the part number specifies the symbol, if required, on the actuator.

Only a select number of symbols are available for double window actuators. See product description.

All illuminated Contura Series rockers switches are supplied with a plain window actuator if unspecified.






























Actuators
















Colour	Description	Part No.
	R Series Actuator – Black No Window	R2-0
	R Series Actuator – Grey No Window	R2-OG
	R Series Actuator – Red No Window	R2-OR
	R Series Actuator – White No Window	R2-OW
	R Series Actuator – Black Single Window	R2-1
	R Series Actuator – Red Single Window	R2-1-R NEW
	R Series Actuator – Black Double Window	R2-2
	V Series Actuator – Black No Window	V2-0 NEW
	V Series Actuator – Black Single Window	V2-1 NEW
	V Series Actuator – Black Double Window	V2-2 NEW

Actuators with Symbol

Symbol	Description	Part No.
	Windscreen Wipers	R2-X-21
	Windscreen Washer	R2-X-08
	Power	R2-X-49
	Spot Light	R2-X-09
	High Beam	R2-X-10
	Headlamps Available for single or double window actuators	R2-X-15
	Side Marker Lamps	R2-X-14
	Fog Lights	R2-X-13
	Fog Warning Lamp	R2-X-05
	Front Lamps	R2-X-31
	Rear Lamps	R2-X-32


Rocker

Actuators with Symbol cont.		
Symbol	Description	
	Service Lamps	R2-X-03
	Search Lamp	R2-X-01
	Worklamps Available for single or double window actuators	 R2-X-22
	Worklamp Left Available for single or double window actuators	 R2-X-25
	Worklamp Right Available for single or double window actuators	 R2-X-26
	Interior Light	R2-X-18
	Reverse Light	R2-X-34
	Rotating Beacon Available for single or double window actuators	 R2-X-19
	Strobe Lights	R2-X-24
	Hazard Lights Available for single or double window actuators	 R2-X-17
	Fan	R2-X-07
	Air Conditioning Available for single or double window actuators	 R2-X-11
	Demister	R2-X-28
	Differential Lock	R2-X-06
	Dolly Lock	R2-X-45
	Left Arrow	R2-X-23
	Raise	R2-X-33
	Raise/Lower Available for single or double window actuators	 R2-X-38
	Increase Speed	R2-X-16

Actuators with Symbol cont.		
Symbol	Description	
	Air Filter	R2-X-04
	Transmission Oil Temperature	R2-X-12
	Water Temperature	R2-X-20
	Engine Oil Pressure	R2-X-27
	Auxiliary Fuel	R2-X-29
	Traction Control System	R2-X-42
	Horn	R2-X-02
	Window Lifter	R2-X-41
	Tail Gate	R2-X-37
	Stairs Down/Up	R2-X-46
	Bilge Pump	R2-X-43
	Bilge Blower	R2-X-44
AUX	Auxiliary Available for single or double window actuators	 R2-X-30
YARD	Yard	R2-X-35
PTO	Power Take Off	R2-X-36
SYS	System	R2-X-39
ABS	Anti-Lock Brakes	R2-X-40
SIREN	Siren Available for single or double window actuators	 R2-X-47
UP	Up	R2-X-53

Actuators with Symbol cont.



Symbol	Description	
DOWN	Down	R2-X-54
LEFT	Left	R2-X-55
RIGHT	Right	R2-X-56
OPEN	Open	R2-X-57
CLOSE	Close	R2-X-58
START	Start	R2-X-59
STOP	Stop	R2-X-60
PAUSE	Pause	R2-X-61
	Bell	R2-X-62
PUMP IGN	Pump IGN	R2-X-63
PUMP START	Pump Start	R2-X-64
DECK LIGHTS	Deck Lights	R2-X-65
COMP	Comp	R2-X-66
240V INV	240V INV	R2-X-67
FUEL PUMP	Fuel Pump	R2-X-68
AUX HYD	Aux Hyd	R2-X-69
CRANE	Crane	R2-X-70
TIP BODY	Tip Body	R2-X-71
SCENE	Scene	R2-X-72

Actuators with Symbol cont.



Symbol	Description	
LOWER	Lower	R2-X-73
ALLEY LEFT	Alley Left	R2-X-74
ALLEY RIGHT	Alley Right	R2-X-75
LED	LED	R2-X-76
RAISE	Raise	R2-X-77
3% FOAM	3% Foam	R2-X-48
BIN EMPTY	Bin Empty	R2-X-50
TAILGATE OPEN	Tailgate Open	R2-X-51
HOPPER EMPTY	Hopper Empty	R2-X-52



Rocker

G Series



- Textured non-slip actuators.
- Push on blade terminals.
- Compatible with Contura mounting panels.

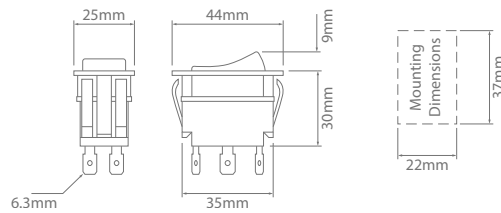


Voltage : 12-24V
Current Rating : 20A @ 4-14V, 15A @ 15-28V
Contacts : Silver Alloy
Actuator : Nylon 66
Body : Phenolic
Approvals : UL, CSA, VDE



G Series rocker switches are compatible with mounting panels, see page 60

With TSH Terminal block



Normally Open Contact

Action	Wiring Diagram	Notes	Illumination	Voltage	Part No.
OFF ON		Single Pole	Nil	12-24	G403
OFF ON		Double Pole	Nil	12-24	G404

Change-over Contact II – O – I

Action	Wiring Diagram	Notes	Illumination	Voltage	Part No.
ON OFF ON		Single Pole	Nil	12–24	G101
ON OFF ON		Double Pole	Nil	12–24	G102

G Series – Accessories

	Description	Part No.
	6 Contact Terminal Block. Suits all G Series switches	TSH
	AMP™ Terminal to suit	605001BL2



Rocker

RS Series

NEW



RS12A

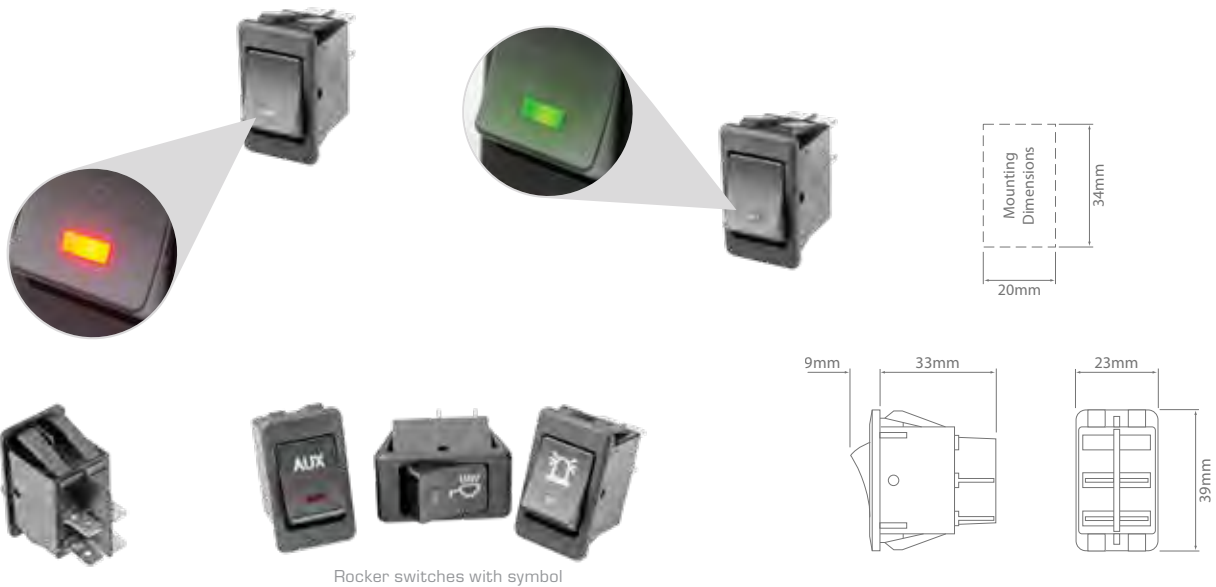


RS12G-22

- Compact design.
- LED illumination.
- Double Pole circuitry.
- Custom symbols.
- Blade terminals.

Voltage :
Current Rating :
Contacts :
Housing :

12V
35A
Copper
PA6

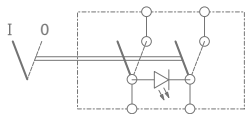


Rocker switches with symbol

Normally Open Contact **NEW**

Action	Wiring Diagram	Notes	Illumination	Part No.		Symbol	Symbol Description
				Plain	With Symbol		
			Amber	RS12A	RS12A-19		Rotating Beacon
			Blue	RS12B	RS12B-22		Worklamp
			Green	RS12G	RS12G-22		Worklamp
			Red	RS12R	RS12R-30	AUX	Auxiliary

OFF
ON



Double Pole

- Compact design.
- Coloured actuator for illumination models.
- LED illumination except RR12.
- Blade terminals.
- Multi-voltage.



RR12R

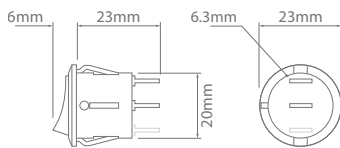


RR12

12V
24V

Voltage :
Current Rating :
Housing :

12-24V
10A @ 12V
PA6



Non-illuminated

Illuminated



Non-illuminated

Normally Open Contact

Action	Wiring Diagram	Notes	Illumination	Voltage	Part No.
OFF ON		Single Pole	Nil	12-24	RR12
OFF ON		Single Pole	Amber Blue Green Red	12-24	RR12A RR12B RR12G RR12R



ICS Switch Panel



Actual size

Save time, save money and produce consistent professional installations every time with the new IONNIC ICS Switch Panel.

Featuring 8 programmable switches, 3 user configurable master switches and built-in circuit protection, eliminating the need for fuses or circuit breakers.

For more information see page 10.

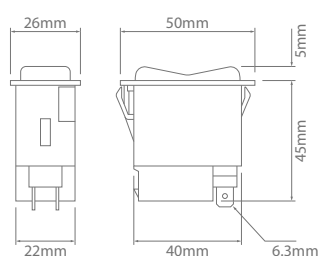
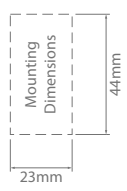
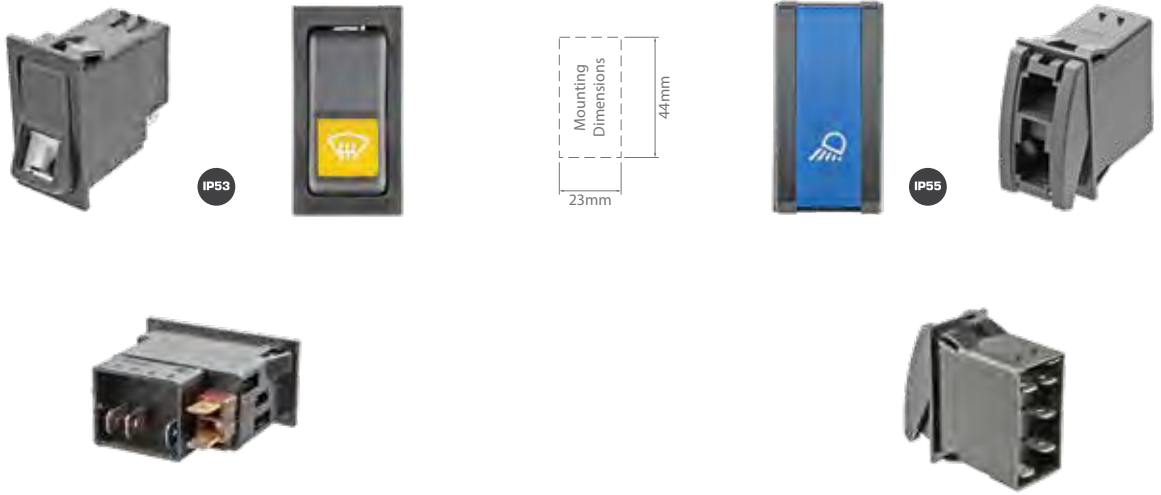


- SWF™ compatible.
- Integrated LED illumination in 777 Series.
- Replaceable LED or incandescent lamps for 444 Series.
- Hundreds of switch configurations.
- Hundreds of symbol options.

Current Rating : 16A @ 12V, 8A @ 24V
Actuator : PA6
Contacts : Silver alloy
Body : Polyacetal
Ingress Protection : 444 Series IP53
 777 Series IP55

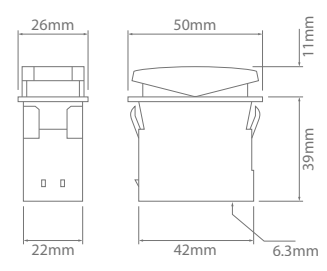


Switches not supplied with inserts.



444 Series

Default at Rest Position (off)



777 Series



Illumination

Nil	No lighting option.
Function	Illuminates when switch is activated.
Location	Illuminates constantly while the park/head lights are active.
Function + Location	Illuminates constantly while the park/head lights are active. When switch is activated the illumination becomes brighter indicating the circuit is active.

Lamp circuit is wired independent of switch circuit.



All the 444 Series featuring illumination come standard with incandescent lamps. Replacement LEDs are available for the 444 Series and can be found on page 79.

All the 777 Series featuring illumination use integrated **green** LEDs.

Availability

Due to the extensive range of combinations manufactured not all of the listed switches are available from local stock holdings.

Part No.	Part No.
444109	777109
↑ in-stock item	↑ non-stock item

Italic part numbers are available by special order only and a lead time will apply.

We are constantly adding to the locally held stock. To confirm which part numbers are currently held as local stock lines please visit ionnic.com to download the current list.

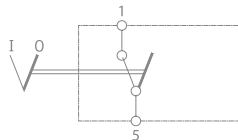
Normally Open Contact

Action

Wiring Diagram

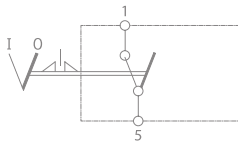
Notes

OFF
ON



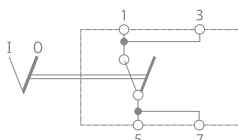
Single Pole

OFF
ON



Single Pole
Lock Out (O) & (I)


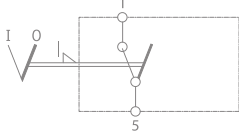
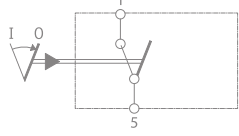

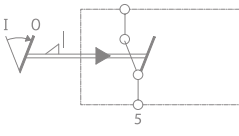
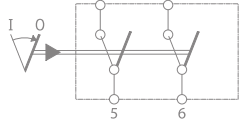
OFF
ON



Single Pole
Dual Terminal



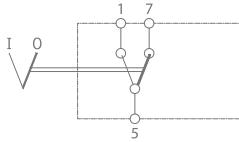
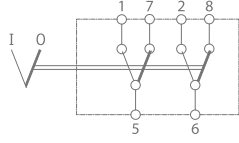

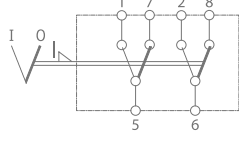


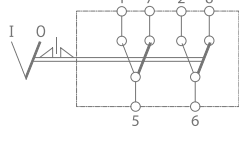
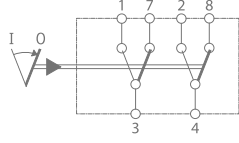
Illumination	Voltage		
		444 Series	777 Series
Nil	12-24	444000	777000
Function	12	444001	—
	24	444002	—
Location	12	444003	777003
	24	444004	777004
Function + Location	12	444005	777005
	24	444006	777006
Nil	12-24	<i>444174</i>	<i>777174</i>
Function	12	444175	—
	24	444176	—
Location	12	<i>444177</i>	<i>777177</i>
	24	<i>444178</i>	<i>777178</i>
Function + Location	12	<i>444179</i>	—
	24	<i>444180</i>	—
Nil	12-24	<i>444012</i>	<i>777012</i>
Function	12	444013	—
	24	<i>444014</i>	—
Location	12	444015	<i>777015</i>
	24	444016	<i>777016</i>
Function + Location	12	<i>444017</i>	<i>777017</i>
	24	<i>444018</i>	<i>777018</i>

Normally Open Contact cont.

Action	Wiring Diagram	Notes	Illumination	Voltage	444 Series	777 Series
OFF ON 		Single Pole Lock Out (I)	Nil	12-24	444167	777167
			Function	12	444168	—
				24	444169	—
			Location	12	444170	777170
				24	444171	777171
			Function + Location	12	444172	—
	24	444173	—			
OFF Mom.ON		Single Pole	Nil	12-24	444007	777007
			Function	12	444008	—
				24	444009	—
			Location	12	444010	777010
				24	444011	777011
			Function + Location	12	—	777800
	24	—	777801			
OFF  Mom.ON		Single Pole Lock Out (O)	Nil	12-24	444160	777160
			Function	12	444161	—
				24	444162	—
			Location	12	444163	777163
				24	444164	777164
			Function + Location	12	444165	—
	24	444166	—			
OFF Mom.ON		Double Pole	Nil	12-24	444127	777127
			Function	12	444128	—
				24	444129	—
			Location	12	444130	777130
				24	444131	777131
			Function + Location	12	—	777802
	24	—	777803			



Change-over Contact

Action	Wiring Diagram	Notes	 444 Series  777 Series
ON ON		Single Pole	Illumination Nil Voltage 12-24 444019 777019
			Function 12 444020 24 444021
			Location 12 444022 24 444023 777022 777023
			Function + Location 12 444024 24 444025 777024 777025
			Nil 12-24 444105 777105
ON ON		Double Pole	Function 12 444106 24 444107
			Location 12 444108 24 444109 777108 777109
			Function + Location 12 444110 24 444111 777110 777111
			Nil 12-24 444233 777233
			Function 12 444234 24 444235
ON ON 		Double Pole Lock Out (I)	Location 12 444236 24 444237 777236 777237
			Function + Location 12 444238 24 444239
			Nil 12-24 444181 777181
			Function 12 444182 24 444183
			Location 12 444184 24 444185 777184 777185
ON  ON 		Double Pole Lock Out (O & I)	Function + Location 12 444186 24 444187
			Nil 12-24 444197 777197
			Function 12 444198 24 444199
			Location 12 444200 24 444201 777200 777201
			Function + Location 12 777804 24 777805
ON Mom.ON		Double Pole	Nil 12-24 444197 777197
			Function 12 444198 24 444199
			Location 12 444200 24 444201 777200 777201
			Function + Location 12 777804 24 777805
			Nil 12-24 444197 777197

No Contact / Change-over Contact

Action	Wiring Diagram	Notes	Illumination	Voltage	444 Series	777 Series		
OFF ON ON		Single Pole	Nil	12-24	444026	777026		
Refer to Comments		Single Pole Used for one speed wiper motor and washer. Includes park circuit. Lock Out (I) 31b = Park Circuit 53 = Motor 53a = Positive P = Pump	Nil	12-24	444202	777202		
		ON ON ON		Double Pole	Nil	12-24	444095	777095
		OFF ON ON		Double Pole Special Headlamp	Function	12	444096	—
		OFF ON Mom.ON		Double Pole Special Wiper/Washer Lock Out (I)	Function	24	444097	—
					Location	12	444098	777098
					Location	24	444099	777099
					Function + Location	12	—	777814
					Function + Location	24	—	777815
					Nil	12-24	444085	777085
					Function	12	444086	—
Function	24				444087	—		
Location	12				444088	777088		
Location	24				444089	777089		
OFF ON ON		Double Pole Special	Function + Location	12	444138	777138		
			Function + Location	24	444137	777137		
			Nil	12-24	444264	777264		
			Function	12	444265	—		
			Function	24	444266	—		
			Location	12	444267	777267		
			Location	24	444268	777268		
			Function + Location	12	444269	—		
			Function + Location	24	444270	—		
			Nil	12-24	444139	777139		
OFF ON ON		Double Pole Special	Function	12	444265	—		
			Function	24	444266	—		
			Location	12	444267	777267		
			Location	24	444268	777268		
			Function + Location	12	444269	—		
			Function + Location	24	444270	—		
			Nil	12-24	444139	777139		
			Function	12	444140	—		
			Function	24	444141	—		
			Location	12	444142	777142		
Location	24	444143	777143					
ON ON Mom.ON		Double Pole Special	Function + Location	12	444144	777144		
			Function + Location	24	444145	777145		
			Nil	12-24	444240	777240		
			Function	12	444241	—		
			Function	24	444242	—		
			Location	12	444243	777243		
			Location	24	444244	777244		
			Function + Location	12	444245	777245		
			Function + Location	24	444246	777246		



Change-over Contact I – O – II

Action	Wiring Diagram	Notes	444 Series	777 Series
Mom.ON OFF Mom.ON		Single Pole	444065	777065
			12 24	— —
			444066 444067	— —
			12 24	777068 777069
			Function Location	— —
			12 24	777818 777819
			Nil	777286
			12 24	— —
			444286 444287 444288	777286 — —
			12 24	777289 777290
			Function Location	— —
			12 24	— —
			444289 444290	777289 777290
			Function Location	— —
			12 24	— —
			Nil	777050
			12 24	— —
			444050 444051 444052	777050 — —
			12 24	777053 777054
			Function Location	— —
			12 24	777822 777823
			Nil	777060
			12 24	— —
			444060 444061 444062	777060 — —
			12 24	777063 777064
			Function Location	— —
			12 24	777824 777825
			Nil	777055
			12 24	— —
			444055 444056 444057	777055 — —
			12 24	777058 777059
			Function Location	— —
			12 24	777826 777827
			Nil	777070
			12 24	— —
			444055 444056 444057	777055 — —
			12 24	777058 777059
			Function Location	— —
			12 24	777826 777827
			Nil	777070
			12 24	— —
			444070 444071 444072	777070 — —
			12 24	777073 777074
			Function Location	— —
			12 24	777828 777829
			Nil	777211
			12 24	— —
			444211 444212 444213	777211 — —
			12 24	777214 777215
			Function Location	— —
			12 24	777216 777217
			Nil	777211
			12 24	— —
			444211 444212 444213	777211 — —
			12 24	777214 777215
			Function Location	— —
			12 24	777216 777217

Change-over Contact II - O - I

Action	Wiring Diagram	Notes	444 Series	777 Series
ON OFF ON		Single Pole	444 Series 444146	777 Series 777146
			12 444147	—
			24 444148	—
			12 444149	777149
			24 444150	777150
			Function + Location 12 — 777816	
			24 — 777817	
			Nil 12-24 444151	777151
			12 444152	—
			24 444153	—
			12 444154	777154
			24 444155	777155
			Function + Location 12 — 777820	
			24 — 777821	
Mom.ON ON ON		Double Pole Special		

Double Change-over II - I - O

Action	Wiring Diagram	Notes	444 Series	777 Series
Refer to Comments		Single Pole Used for two speed wiper motor. Includes park circuit. 31b = Park Circuit 53 = Low Speed 53a = Positive 53b = High Speed	444 Series 444045	777 Series 777045
			12 444046	—
			24 444047	—
			12 444048	777048
			24 444049	777049
			Function + Location 12 — 777830	
			24 — 777831	
			Nil 12-24 444090	777090
			12 444091	—
			24 444092	—
			12 444093	777093
			24 444094	777094
			Function + Location 12 — 777834	
			24 — 777835	
Refer to Comments		Double Pole Special		



Double Change-over I – O – II

Action	Wiring Diagram	Notes	444 Series	777 Series
Refer to Comments		Double Pole Special	444 Series 444100	777 Series 777100
			12 444101	—
			24 444102	—
			12 444103	777103
			24 444104	777104
			12 —	777840
			24 —	777841



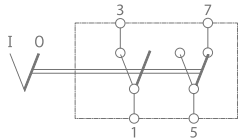
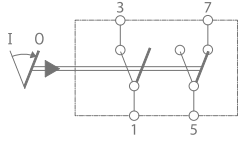
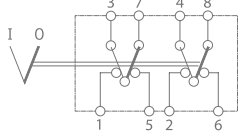
Change-over / Contact Momentary

Action	Wiring Diagram	Notes	444 Series	777 Series
ON ON Mom.ON		Double Pole Special 31b = Park Circuit 53 = Motor 53a = Positive P = Pump	444 Series 444112	777 Series 777112
			12 444113	—
			24 444114	—
			12 444115	777115
			24 444116	777116
			12 —	777832
			24 —	777833
			Nil 12–24	— 777117
			12 —	777120
			24 —	777121
			12 —	—
			24 —	—
			12 —	777836
			24 —	777837
OFF ON Mom.ON		Double Pole Special		

2 Contacts in Series

Action	Wiring Diagram	Notes	444 Series	777 Series
OFF ON ON		Double Pole For use with Headlights	444 Series 444080	777 Series 777080
			12 444081	—
			24 444082	—
			12 444083	777083
			24 444084	777084
			12 444209	777209
			24 444210	777210
			Nil 12–24	444075 777075
			12 444076	—
			24 444077	—
			12 444078	777078
			24 444079	777079
			12 —	777838
			24 —	777839
OFF ON ON		Double Pole		

Selector

Action	Wiring Diagram	Notes	 444 Series  777 Series
Refer to Comments		Double Pole One Pole N/O One Pole N/C	Illumination Nil Voltage 12-24 444 Series 444033 777 Series 777033
			Function 12 444034 —
			Function 24 444035 —
			Location 12 444036 777036
			Location 24 444037 777037
			Function + Location 12 444038 777038
			Function + Location 24 444039 777039
			Nil 12-24 444040 777040
			Function 12 444041 —
			Function 24 444042 —
Refer to Comments		Double Pole Momentary One Pole N/O One Pole N/C	Illumination Nil Voltage 12-24 444 Series 444040 777 Series 777040
			Function 12 444041 —
			Function 24 444042 —
			Location 12 444043 777043
			Location 24 444044 777044
			Function + Location 12 — 777810
			Function + Location 24 — 777811
			Nil 12-24 444271 777271
			Function 12 444272 —
			Function 24 444273 —
ON ON		Double Pole	Illumination Nil Voltage 12-24 444 Series 444271 777 Series 777271
			Function 12 444272 —
			Function 24 444273 —
			Location 12 444274 777274
			Location 24 444275 777275
			Function + Location 12 444276 777276
			Function + Location 24 444277 777277



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Hazard Warning Only

Action	Wiring Diagram	Notes	Illumination	Voltage	444 Series	777 Series
OFF ON		Single Pole Special 10A	Function	24	444218	—
OFF Mom.ON		Single Pole Special 10A	Function	24	444220	—
OFF ON		Single Pole Special 10A Lock Position (O)	Function	12 24	444219-12V 444219	— —
ON ON		Single Pole Special 10A	Function	12	444247	—
ON ON		Double Pole Special 10A	Function	12 24	444262 444263	— —
Refer to Diagram		Double Pole Special Contact 6-2 & 6-8= 10A Remainder = 5A	Function	12 24	444190 444191	— —
Refer to Diagram		Double Pole Special Contact 6-2 & 6-8= 10A Remainder = 5A	Function	12 24	444192 444193	— —
Refer to Diagram		Double Pole Special Contact 4-2 & 6-8= 10A Remainder = 5A	Function	12 24	444194 444195	— —
Refer to Diagram		Double Pole Special Lock Position (I) Contact 4-2 & 6-8= 10A Remainder = 5A	Function	24	444278	—

444 & 777 Series – Accessories

Image		Description	Illumination	Voltage	444 Series	777 Series
		444 Series Warning Lamp Panel	Incandescent	12	611502	—
		2 Lamps		24	611503	—
		777 Series Warning Lamp Panel	LED	12	—	633500
		1 Green Lamp		24	—	633501
		777 Series Warning Lamp Panel	LED	12	—	633502
		2 Green Lamps		24	—	633503
		444 Series Replacement Lamp Incorporating Holder	Incandescent	12	696956	—
				24	696710	—
			LED	12	627081	—
				24	627082	—
		444 Series Socket Housing			696289	—
		8 Contact				
		AMP™ Terminal to suit			42282-2	—
		444 Series Lamp Holder Connector Housing			613328	—
		AMP™ Terminal to suit			42282-2	—
		777 Series Socket Housing			—	689790
		12 Contact				
		AMP™ Terminal to suit			—	925575-1/100
		444 & 777 Series Mounting Panel	Middle Section		694801	
			End Section		694802	
			Blanking Plate		696273	
			3 Switch		695502	
			6 Switch		695902	

Panel cutout 28mm x 48mm



Panel cutout 77mm x 48mm



Panel cutout 156mm x 48mm



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Insert Availability

Due to the extensive range of combinations manufactured not all of the listed inserts are available from local stock holdings.

Italic part numbers are available by special order only and a lead time will apply.

Minimum order quantities may apply.

We are constantly adding to the locally held stock. To confirm which part numbers are currently held as local stock lines please visit ionnic.com to download the PDF list.

Green **896627** *894720*

Yellow **896609** *895180*

↑ in-stock item ↑ non-stock item

	Yellow Black	892348	
	Black	894746	
COMMS BATTERY LOW	Orange	896320-CBL	

444 Series Inserts

Switches not supplied with inserts.

Symbol inserts available in categories such as lighting, heating & ventilation and drives.

Many inserts are available in 4 orientations for situations when switch mounting needs to be horizontal or even upside down. Multiple colours available.



Insert Rotations



No Symbol

Symbol	Description	Colour	0°	90°	180°	270°
	Blank	Black	896620			
	Blank	Blue	895620			
	Blank	Green	896650			
	Blank	Dk Green	894645			
	Blank	Orange	896320			
	Blank	Red	896615			
	Blank	Dk Red	894646			
	Blank	White	896100			
	Blank	Yellow	896610			















Wiper Washer

	Windscreen Wiper	Black	896611	<i>896401</i>		
		Green	896625	<i>894719</i>	<i>896416</i>	<i>895116</i>
	Intermittent Wiper	Green	896394	<i>896718</i>	<i>896409</i>	
	Windscreen Wiper Washer	Black	<i>896801</i>	<i>892787</i>		<i>894763</i>
		Green	896603			<i>895117</i>
		Yellow	895107			













Wiper Washer cont.

Symbol	Description	Colour	0°	90°	180°	270°
		Black	<i>894706</i>		<i>894703</i>	
	Windscreen Washer	Green	896627	<i>894720</i>		<i>895118</i>
		Yellow	<i>895109</i>			
	Rear Window Wiper	Green	<i>896307</i>	<i>894400</i>	<i>896136</i>	<i>893306</i>
	Rear Window Washer	Green	896305			
		Black				892776
	Rear Window Wiper Washer	Green	894769			
		Orange				<i>893063</i>
		White	<i>892704</i>			
	Rear Window Interval Wiper	Green		<i>896109</i>		
	Headlamp Wiper Washer	Green	<i>896647</i>			<i>896408</i>
	Headlamp Washer	Green	<i>895112</i>			

Lighting

Symbol	Description	Colour	0°	90°	180°	270°
	Light	Black	896619			
		Green	896648	893304	896400	894782
		Blue	896169	895195		
	High Beam	Dk Blue	894788	894770		894787
		Green	896189			
	Dipped Beam	Green	896303	892480 893303		
	Masked Headlamp	Green	896655			
	Side Marker Lamps	Green	896654	891879	896336	
	Side Marker Lamps	Green	895105			
		Yellow	894493			
	Position Lamp	Green	896424			
	Position Lamp	Blue	896484			
	Fog Lamp	Green	896649	895181	896414	894799
		Yellow	896148			
	Fog Lamp	Green	895433			
	Fog Warning Lamp	Green	896626	896417		
		Yellow	896609	895180	896404	894798
	Fog Warning Lamp	Yellow	896146			
	Service Lamp	Yellow	893631			
	General Service Lamp	Black	896601			
		Green	896473	894401	896134	

Lighting cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Rear General Service Lamp	Black	896600			
		Green	896472			
		Red	895106			
	Worklamp	Black	896312	896192		
		Green	896313	894738		
		Orange	896151	894433 893070		
		Yellow	895402 891978			
		Yellow Black	894474			
	Worklamp	Black	895426			
		Green	894767	894768 894428		
		Orange	896137	894705		
		Yellow	895401 894714			
		Yellow Black	894475			
	Service Lamp Up-Down	Yellow	892896			
	General Service Lamp Adjustable	Green	894708			
		Orange	892889			
	Cargo Area Lighting	Orange	892870			
		Yellow	894485			
	Loading Floor Lamp	Black	895847	894746		
		Green	896629	894721	894779	894749
	Lamp Indicator	Orange	895143	893315	893629	
	Main Light	Black	896621	895418		
		Green	896651	895182	895102	894800
	Interior Light	Black	896175			
		Green	896641	893305	893678	
	Interior Light Medium	Green	896640	896799		
	Interior Light Dim	Green	896639			

















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

Lighting cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Instrument Lighting	Green	896636	892860	896418	894751
	Instrument Lighting	Green	895439			
	Instrument Lighting	Green	895100			
	Driving Seat Lighting	Green	896637			893311
	Reading Light	Green	896638			
	Trunk Light	Green	895965			
		Green	896628	895188	896406	
	Rotary Beacon	Orange		892373	892916	893067
		Yellow	896426		894715	
		Yellow Black	894480			
		Green	892876			
	Rotary Beacon	Orange	895113			
		Yellow Black	892348			
	Light Reduction	White	894416			
TEST 	Lamp Test	Green	896123			894781
	Lamp Test	Green	896110			
	Tester	Green	896184			893308
	Hazard Warning	Orange	896170			
		Red	896191	894739	895417	894408
	Hazard Warning	Red	896614	895191		

Lighting cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Attention	Dk Red	894665			
Heating & Ventilation						
	Thermometer	Green	895133			
	Temperature	Red	895101			
OUTER 	Outside Temperature	Green	894464			
INNER 		Yellow	895344			
	Heating	Green	896622			
	Auxiliary Heating	Black				892119
		Green	896395	896410		
	Warm Air Blower	Black	896180			
		Green	896632			896407
	Pre-warm Fuel	Green	893289			
		Green				896631
	Pre-heating Glow Plug	Orange				893068
		Yellow	896120	896402	894796	
	Pre-heating	Yellow	896117			894742
		Yellow Black	894479			
	Engine Heating	Green	895146			
	Additional Heating	Green	896121			
	Heating Passenger Room	Black	893606			
		Green	895132	893316		

Heating & Ventilation cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Heating Front	Green	895142	893318		
	Heating Driver's Seat	Green	895141	893317		
	Defroster	Green	896422			
	Fresh Air	Green	896630	892594		
	Air Cleaner	Red	894423			
		Yellow	896140		895192	
		Yellow	894470			
	Blower	Green	896195			
	Fan	Black	894702			
		Green	894700			
	Blower Slow	Black			896388	
		Green	896604			
		Yellow	894486			
	Blower Fast	Black	896612			
		Green	896642			
		Yellow	895108			
	Speed Adjustment Fan	Green	895127			
	Speed Adjustment Fan	Green	894458			
	Fan Speed	Green	893279		892898	
		Green	894466			
	Ventilation Motor	Green	895138			


Heating & Ventilation cont.

Symbol	Description	Colour	0°	90°	180°	270°
		Green	894466			
	Ventilation Motor	Green	895138			
	Duct	Green	895139			
	Ceiling Fan	Green	895140			
	Roof Ventilator	Green	896633			
		Green	894438			
	Cooling	Black	895159			
		Green	896101			
	Seat Heating	Green	895437			
		Yellow	896139			
	Seat Heating	Green	895135			
	Heating & Ventilation	Green	892022			
		Yellow	894465			
	Rear Window Defroster	Green	896390			
		Red	896172			
		Yellow	893307	896190		
	Rear Window Heating	Green	894462			
		Yellow	894496			
	Exterior Mirror Defroster	Green	896645	896646	894795	896411
	Exterior Mirror Defroster	Green	895137			















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









Heating & Ventilation cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Exterior Mirror Defroster	Green	895440			
		Yellow	895149	894451		
		Yellow Black	894455			

Drives

		Black	896606			
	Differential Lock Longitudinal	Green	896471			
		Red	891691			
		Yellow	891733			
	Differential Lock Longitudinal	Green	896219			
		Yellow		896420		
	Differential Lock Transversal	Green		896791		
		Yellow		896166		
	Differential Lock Front	Green	894483		896803	
		Red	894410			
		Yellow	893310		896165	
	Differential Lock Rear	Black	896378			
		Green	896220		896405	
		Red	894409			
	Differential Lock Rear	Yellow	892593		896164	
		Red	892521			
	Differential Lock	Green	896623			
		Red	894777			
	Differential Lock	Yellow	894794			
	Differential Lock	Yellow	896116			
		Yellow Black	894473			
	Differential Lock Longitudinal	Yellow	896111			
		Yellow Black	894472			
	Rear Differential Lock	Green	896199			

Drives cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Front Differential Lock	Green	896200			
	Rear Differential Lock	Green	897034			
	Front Differential Lock	Green	897033			
		Black			892716	893633
	Differential Lock	Green	894426		896181	
		Orange	893625	893065	895413	892766
		Yellow	892856		892411	
	Differential Lock 4th Axle	Green	896218			
	Transversal Lock 2nd-3rd Axle	Green	896131			
	Transversal Lock 1st Axle	Green	896130			
	Longitudinal Lock 1st-2nd Axle	Green	896132			
	Engage 2nd Axle	Green	896133			
	Disengage 1st Axle	Red	896129			
	All Wheel Drive	Green			896802	
		Red	892519			
	All Wheel Drive	Green	896183		895427	
		Orange	891508	893057		
	Front Wheel Drive	Yellow Black			896163	
	All Wheel Drive	Black	896605			
		Green	896470			

Drives cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	All Wheel Drive 6WD	Green	896201			
		Green		894736		894783
	Auxiliary Drive	Green	896624			
		Red	892026		896413	
		Yellow	895155	895185	896168	
		Green				894786
		Green				894785
		Yellow				892857
	One Axle Locked	Red				893045
		Green				894784
		Black	896616			
	Power Take Off	Green	896392			
		Orange		893066		
		Dk Red	894402			
	Power Take Off	Red	895349			
	Power Take Off Fast	Orange	894404			
		Yellow	892318		892881	
	Power Take Off Slow	Orange	894403			
		Yellow	892317		892882	
		Orange	894740			
		Green	894735			
	Break Power Take Off Shaft	Orange		893071		

Drives cont.						
Symbol	Description	Colour	0°	90°	180°	270°
		Green	894424		893634	
		Green	896236			
		Green			895175	
		Green		895177		
	Trailing Axle	Green	896396		896412	892859
		Orange	894776	894748		
		Yellow	894443			
		Green	893043			
		Yellow	892671	894747	894712	892858
		Yellow	894435			
	Front Axle - Front & Rear Axle	Green	894406			
	Disengage Rear Axle	Green	891994			
		Red	892487			
		Red			893409	
	Axle Raise-Lower	Yellow	893415			
	3rd Axle Raise-Lower	Yellow	893400			
	Axle 3&4 Raise	Yellow	892575			
	Rear Axle	Red	893406			



Rocker

Drives cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Axle Load Distribution	Red				
	Axle 1,2,3 Load Distribution	Green				
	Cross-shaft Axle Lock	Yellow Black				
	Cross-shaft Axle Off	Red				
	Cross-shaft Axle	Orange Red				
	Cross-shaft Axle Lock	Orange				
	Slewing Damper	Red				
	Anti-slewing Break	Red				
	Axle Suspension 1-3	Yellow				
		Orange				
	Pneumatic Suspension	Yellow				
		Red				
	Level Control	Red				
	Level Control	Green				
	Centre of Gravity	Yellow				

Drives cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Level Control	Green Red				
	Normal Level	Green				
	Level Control	Yellow				
		Red Yellow				
	Raise	Green				
	Lower	Green				
		Green				
		Green				
		Yellow				
	Raise Lower	Green Orange				
	Slope Compensation	Green				
	Steep Slope	Green				
	Maximum Slope Compensation	Green				
Miscellaneous						
	Throttle Valve	Yellow Yellow Black				

Miscellaneous cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Working Speed	Green	896198			
		Black	894764			
	Ether Injection	Black	894425		893632	
		Red	895443			
		Yellow	894463		894760	893313
ETHER	Ether Injection	Black	893641		892180	
	Engine Stop	Green	895434			
		Red			895152	
	Hydraulic Fan Off	Yellow Black	893290			
	Motor Start	Green	893445			
	Motor Stop	Green			895103	
		Red	895429			
	Increase Speed	Green	895432			
		Green	894436		894716	
	Hydraulic Motor	Red	896142			
	Engine Overheat	Red	895436			
	Fire Alarm	Red	894468			
	Control Pump	Red	896150			

Miscellaneous cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Auxiliary Control Pump	Red	896149			
		Green				893666
	Out of Gear	Red	895410			
		Yellow	896118			
		Green	896182			
		Green			894756	
		Red	892481			
		Red	894482			
	Hold Gear Position	Dk Green	893774			894773
		White	894729			
TEST	Test Gear	Green	892878			
		Green	892522			
	Transmission Oil Pressure	Red	896114			894422
	Transmission Oil Pressure & Temperature	Red	896141		895197	
	Transmission Oil Pressure & Temperature	Red	893355			
		Yellow	893425			
		Red	894420			
	Temperature of Oil Pressure	Red	894476			
		Yellow Black	894447			



Rocker

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Increase Oil Pressure	Yellow	895120			
		Yellow Black	894450			
	Reduce Oil Pressure	Yellow	895119			
		Yellow Black	894449			
		White	894733			
		White	894734			
	Reverse Gear Release	Green	895853			
	Release Brakes	Red	894499			
		Black	896602			
	Retarder	Green	896391			
		Green	896338			
	Deceleration Brake	Green	896338			
		Orange	893642			
	Retarder	Green	894417			
	Electric Brake System	Green	895419			
	Retarder	Green	894429			
		Yellow	891844			
	Retarder Out	Yellow	893496			
	Parking Brake	Green	896309			
		Red	896173	895193	894752	
	Parking Brake	Dk Red	894648			

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Stop Brake	Red	895111	895183		
	Retarder Fault	Red	894754			
		Green	895164			
	Auxiliary Brake	Red	892031			
		Yellow	892592			
	Engine Brake	Green	894440			
	Engine Brake	Yellow	893676			
	Exhaust Brake	Black	894414			
		Green	894761			
	Brake System Trouble	Green	895148			
		Red	896144	895194		
	Brake Lining Check	Black	895494		894594	
		Red	894707			
	Brake Fluid Pressure	Green	895158			
		Red	896113			
	Test ABS Unit	Red	893301	893293		
		Orange	897040			
	ASR	Green	897039			
		Red	897005			
	Fault Trailer ABS	Red	893295	893296		
		Yellow	893194	893297		
	Trailer Without ABS	Yellow	893594			
		Yellow Black	893594			
	LUFT					
	Compressed Air Supply	Orange	895154			
		AIR				
	Compressed Air Tank 1	Red	893401			

Miscellaneous cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Compressed Air Tank 2	Red	893402			
	Compressed Air Tank 3	Red	893403			
	Automatic Steering Device	Green	895121			
	Automatic Steering Device	Green	893281			
	Steering Lock	Black	896311			
	Steering Lock	Green	896381			
	Steering Lock	Yellow	894492			
	Emergency Steering	Red	895404			
	Emergency Steering	Yellow	895403			
	Emergency Steering	Yellow	894456			
	Emergency Steering	Black	894456			
	Converter Clutch Unit	Green	893405			
	Converter Clutch Open	Yellow	893404			
	Automatic Lubricant	Green	896103			
	Automatic Lubricant	Green	896652			
	Lubricant Oil	Red	896171	895199		
	Lubricant Oil	Yellow	895110			
	Automatic Lubricant	White	894437			
	Air Horn	Green	896463			

Miscellaneous cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Horn	Black	896176			
	Horn	Green	896196			
	Horn Backwards	Black	891628			
	Horn Backwards	Yellow	895400			
	Horn Backwards	Yellow	894478			
	Bell	Green	895134			893314
	Bell	Red	895129			
	Stop Request	Green	894430			
	Direction Indicator	Green	894460	892371		
	Direction Indicator	Yellow	894497			
	Direction Indicator	Green	894461	892368		
	Direction Indicator	Yellow	894498			
	Direction Indicator	Dk Green	894789			
	Direction Indicator	Green	893345			
	1st Trailer	Green	895441	894737		
	1st Trailer	Dk Green	894650	894791		
	2nd Trailer	Green	895442			
	2nd Trailer	Dk Green	894649	894790		
	2nd Trailer	Black	896064			
	Window Lifter	Green	896393			
	Window Lifter	Dk Green	893772			893773
	Window Lifter	Yellow	896238			892765
	Window Lifter	Green	896301	895200		
	Window Lifter	Dk Green	894792			
	Speed	Green	894731			893283

Rocker

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Speed Limit	Yellow	894495			
		Orange	893665			
		Green	892912			
		Green	892911			
	Speed Controller	Yellow	894709			
	Cruise Control	Yellow	895350			
	El. Speed Limiter	Yellow	891731 895190			
		Green	895104			
	Fuel	Orange	895425			
		Red	895157			
		Dk Red	894647			
	Tank Selector Switch	Green	896298 896296			
	Tank 2	Black	896112			
		Red	894775			
	Tank Filling Level	Green	896222			
		Red	896174 895196			
	Refrigerator	Blue	895160			
		Green	896613			
	Hostess Call	Green	896635			
	Perambulator	Blue	895115			

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
		Orange	895431			
		Black	894415			
		Orange	894762			
	Weighted to Side	Red	895340			
	Double Command	Green	896108			
	School Bus	Yellow	895144			
	Wheel Chair	Red	895338			
	Seat Belt	Red	895339			
		Black	896178			
	Door Opener	Green	895967			
		Red	896152			
	Door Opener Door 1	Green	895851			
		Red	894445			
	Door Opener Door 2	Green	895852			
		Red	894444			
	Door Opener	Green	896194			
	Window Lifter	Green	896122			
	Exterior Mirror	Green	895136			
	Lifting Roof	Green	896634			
	Radio	Green	895153			
		Yellow	894448			

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Radio Music	Green	896186			
	Camera	Green	895421			
	Monitor	Green	894442			
	TV	Green	894441			
	Control Lever	Green	896653			
	Gear Selector 1	Green	893413			
	Gear Selector	Yellow	893414			
	Stabilisation Centre	Green	896197			
	Tipped to Right	Yellow	893420			
	Tipped to Left	Yellow	893419			
	Support Right Hand	Green	896156	894710	893050	
	Support Left Hand	Green	896157	894755	893051	
	Lock Support Right	Green	892852			
	Lock Support Left	Green	892851			
	Unlock Support	Yellow	893437	892582		

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Support 1 Up-Down	Yellow	893416			
	Support 2 Up-Down	Yellow	893407			
	Support 3 Up-Down	Yellow	893417			
	Support 3 Up-Down	Yellow	893408			
	Left Front Support	Yellow	893441			
	Right Front Support	Yellow	893439			
	Left Rear Support	Yellow	893442			
	Right Rear Support	Yellow	893438			
	Support Left Extend-Retract	Yellow		893440		
	Support Right Extend-Retract	Yellow			893443	
	Support 1+2 Extend-Retract	Yellow		893410		
	Support 3+4 Extend-Retract	Yellow		893411		
		Red	895162			
		Yellow	892989			
	Tipper	Green	896469			
		Red			895184	



Rocker

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Tipper to Horizontal	Green			892906	
		Red			892095	
	Lower Trailer	Yellow			895346	
	Crane Operation	Green	896202		894711	
	Grab	Green	896092			
	Excavator Arm	Green	895114			
	Lock Rotating Platform	Yellow	892637			
	Boom Lock	Yellow	893424			
	Hitch	Green	893622			
	Ejector H+S	Green	893620			
	On Tow	Yellow	893422			
	Tip to Stop	Yellow	896119			
		White	895409			
	Lift Against Stop	White	895408			
	Tip	White	895406			
	Up-Down	White	895405			
	Quick Damp	White	895407			

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Appliance Holder	Green	892874			
	Open Accessory Unit	Red	894411			
		White	893664			
		White	892995			
		White	895489			
	Shovel Horizontally	Green	895428			
	Heading Floating Program	Green			892905	
	Float Position	Green	895438			
		White	892703			
	HEIGHT	Green			894758	
	Ret. Travel	Green			894757	
	Ret. Dig	Green			894759	
		Yellow			894412	
		Green			894446	
	Fifth Wheel	Black	892688			

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
		Green	894454			
		Green	894453			
		Green	894452			
	Slope Compensation	Green	895549			
	Auxiliary Step	Green Red	895145 895131			
	Boot Lid	Red	895130			
	Regulator for Press	Green	895123			
	Cutting Tool	Green	895122			
	Cutting Tool Reversing	Green	895124			
	Cutters Locked	Red	893278			
	Cutter Tool Up-Down	Red	895495			
	Hasp Horizontal	Green	895125		892477	
	Hasp Horizontal	Green	894459			
	Hasp H+S	Green	893621			
	Hasp Backward Forward	Green	892875			

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Hasp Speed Adjustment	Green	892877			
	Auxiliary Brake	Green	895126	894457		892897
		White	895165			
		White	895166			
		White	895167			
	Threshing Drive	Green	895128			
	Adjust Rotation Direction	Green		892910		
	Screen	Green	896205			
	Ladder	Green	896204			
	Run-out Step	Green	894439			
		Green	896203			
	Trencher	Yellow	896160			
		Red	896155			
		Orange	896154			
	Overload Warning	Red White	896091		895150	



Rocker

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	High Lifting	Yellow				
	Ballast Locked	Red				
	Ballast Up-Down	Green				893447
	Ballast Unlock-Lock	Green				893446
	Hammer	Green				896093
	Circular Broom	Green				896126
	Spray Water Circular Broom	Green				893322
	Broom Up-Down	Green				896127
	Broom Up-Down	Green				895368
	Sweeping Roller	Green				894487
	Spray Water Rolling Boom	Green				893324
	Dirt Scraper	Green				893323
	Garbage Pick Up	Green				896125

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Large Item Garbage Pick Up	Green				893320
	Operate Garbage Pick Up	Green				894488
	Spray Water Suction	Green				893321
	Water	Green				896128
	Spray Water	Green				893302
	Grit Spreader	Green				893319
	Stop	Orange				892900
	Change Size	Green				896124
	Filling Safety Device	Yellow				894494
	Separator Drum	Green				893282
		Green				893346
		Black				893627
	Heater	Green				895424
		Green				893644
	Main Switch	Black				896179
		Green				896397
						896398 894780

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	On	Green	<i>893042</i>			
		White	<i>895151</i>			
	Off-On	Green	894500			
	Socket	Green	896106		<i>894741</i>	
		Red	894421			
	Carbon Brushes Worn	Red	<i>892919</i>			
		Green	<i>892032</i>			
	Battery	Red	896153	895198		
		Yellow	<i>896138</i>			
	Battery 1 + 2	Green	895331			
		Red	<i>893329</i>			
	Unlock Battery	Red	<i>893635</i>			
	Cable Winch	Yellow	<i>893616</i>			
	Cable Winch	Green	896187		<i>894713</i>	
	Peeling Knife	Green	<i>896188</i>			
	Hydr Connection	Green	896105			
	Idle Automatic	Red	<i>896162</i>			

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Metal Detector On	Red	<i>895499</i>			
	Metal Detector Off	Green	<i>895498</i>			
	Blade Grinder	Green	<i>895497</i>			
		Black	894793			
		Black	<i>892996</i>			
		Orange	<i>893628</i>	<i>893064</i>		
		Green	<i>894490</i>	<i>895176</i>		
	Main Drive	Green	<i>895496</i>			
		Red	895337			
		Green			<i>893040</i>	
	Slow	Orange	<i>893619</i>			
		Yellow	<i>893309</i>	<i>893327</i>		
	Slow	Green	895969	<i>895186</i>		
		Orange	<i>896185</i>	<i>895501</i>		
TEST	Test	Green	<i>892879</i>			
EXTRA	Extra	Yellow	<i>896147</i>			
		Red			<i>893044</i>	
START	Start	White	<i>894418</i>			
		Green			<i>896340</i>	
STOP	Stop	Red	894434			<i>894419</i>
WC	Water Closet	Green	<i>895420</i>			



Rocker

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	FRESH AIR	Fresh Air	Green	894467		
	BLACKOUT OVERRIDE	Blackout Override	Yellow	893292		
	EL	EL	Black	896226		
	ACC	Accessories	Black	894704		
	VS	VS	Green	894413		
	123	123	Black	895189		
	STOP ENGINE	Stop Engine	Red	896615-SE-1 896615-SE		
	CHECK ENGINE	Check Engine	Blue	895620-CE		
	CHECK ENGINE	Check Engine	Orange	896320-CE-1 896320-CE		
	FRIDGE	Fridge	Blue	895620-F 895620-F-1		
	Fast	Fast	Green	895971 893312		
	Fast	Fast	Black	894765		
	Warning	Warning	Red	892520		
	WC	WC	Green	895359		
	WAIT	Wait	Yellow	895335		





Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	I	I	Green	892855		
	II	II	Green	892854		
	H	H	White	894730		
	H	H	Yellow	894427		
	L	L	Green	896107		
	L	L	Yellow	891732		
	R	R	Green	895163		
	R	R	Orange	894766		
	R	R	White	893639		
	r/s	Speed	Green	896115		
	r/min	Speed	Green	896102		
	ROAD MODE	Road Mode	Blue	895620-RM		
	COMMS BATTERY LOW	Comms Battery Low	Orange	896320-CBL		
	CHARGER CONNECT	Connect Charger	Orange	896320-CH		
	MAINS CONNECT	Mains Connect	Orange	896320-MC		
	T/GATE BATTERY LOW	Tailgate Battery Low	Orange	896320-TBL		
	VEHICLE BATTERY LOW	Vehicle Battery Low	Orange	896320-VBL		
	240 VOLT ON	240 Volt On	Red	896615-240V		

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
AIR SYSTEM FAULT	Air System Fault	Red		896615-AS		
CLASS1 SYSTEM FAULT	Class1 System Fault	Red		896615-C1		
COMPRESSOR ENGAGED	Compressor Engaged	Red		896615-CE		
LOCKER OPEN	Locker Open	Red		896615-LO		
LOW WATER	Low Water	Red	<i>896615-LW-1</i>	896615-LW		
MAST MONITOR UNHOUSED	Mast Monitor Unhoused	Red		896615-MMU		
MAST UNHOUSED	Mast Unhoused	Red		896615-MU		
PTO ENGAGED	PTO Engaged	Red		896615-PE		
POLE LIGHT RAISED	Pole Light Raised	Red		<i>896615-PLR</i>		
PLATFORM UNSTOWED	Platform Unstowed	Red		896615-PU		
STEP UNSTOWED	Step Unstowed	Red		<i>896615-SU</i>		
WORK LIGHTS	Work Lights	Red		896615-WL		
BEACON LIGHTS	Beacon Lights	Green		896650-BL		
HAZARD LIGHTS	Hazard Lights	Green		896650-HL		
HP PUMP	HP Pump	Green		896650-HP		

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
NP PUMP	NP Pump	Green		896650-NP		
OK TO PUMP	OK to Pump	Green		896650-OK		
SPRAY BAR	Spray Bar	Green	896650-SB-1	896650-SB		
AIR HORN	Air Horn	Green		896650-AH		
CRUISE	Cruise	Orange	<i>896320-CRUISE-1</i>	<i>896320-CRUISE</i>		
LOW	Low	Orange	<i>896320-LOW-1</i>	<i>896320-LOW</i>		
ATB OVERRIDE	ATB Override	Red		<i>896615-ATBO/RIDE</i>		
POLE LIGHT RAISED	Pole Light Raised	Red		<i>896615-PLR-1</i>		
LOW WATER OVERRIDE	Low Water Override	Orange		896320-LWO		
CHECK VEHICLE BODY	Check Vehicle Body	Orange		896320-CVB		
CREW PROTECTION	Crew Protection	Red		896615-CP		
CHECK TRANS	Check Trans	Red		896615-CT		
DO NOT SHIFT	Do Not Shift	Red		896615-DNS		
FOAM PUMP	Foam Pump	Red		896615-FP		
LMI OVERRIDE	LMI Override	Red		<i>896615-LMIQ/RIDE</i>		



Rocker

Miscellaneous cont.			
Symbol	Description	Colour	
			 0°  90°  180°  270°
MONITOR UNHOUSED	Monitor Unhoused	Red	896615-MON/UN
MAIN PUMP	Main Pump	Red	896615-MP
INSERT OVER RIDE	Insert Over Ride	Red	896615-O/RIDE
PUMP ENGAGE	Pump Engage	Red	896615-PENG
PUMP FAULT	Pump Fault	Red	896615-PF
PUMP & ROLL	Pump & Roll	Red	896615-PR
AIR HORN	Air Horn	Green	896650-AH-1
BEACON LIGHTS	Beacon Lights	Green	896650-BL-1
CAMERA	Camera	Green	896650-CAM-1
DEPLOY	Deploy	Green	896650-DEPLOY
HAZARD LIGHTS	Hazard Lights	Green	896650-HL-1
PUMP RUNNING	Pump Running	Green	896650-PR
EDC	EDC	Yellow	897004

Availability

Due to the extensive range of combinations manufactured not all of the listed inserts are available from local stock holdings.

Blue	788622	<i>788613</i>
Grey	788583	<i>784738</i>
		
	in-stock item	non-stock item

Italic part numbers are available by special order only and a lead time will apply.

Minimum order quantities may apply.

We are constantly adding to the locally held stock. To confirm which part numbers are currently held as local stock lines please visit ionnic.com to download the latest PDF list.

777 Series Inserts

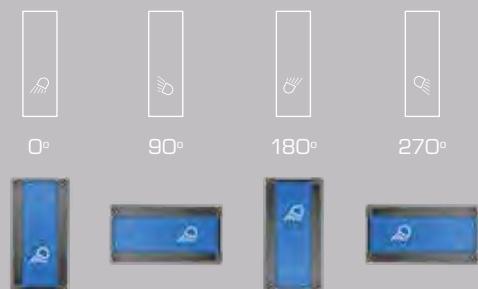
Switches not supplied with inserts.

Symbol inserts available in categories such as lighting, heating & ventilation and drives.





Many inserts are available in 4 orientations for situations when switch mounting needs to be horizontal or even upside down. Multiple colours available.



Insert Rotations










No Symbol

Symbol	Description	Colour	0°	90°	180°	270°
	Blank	Black	788409			
	Blank	Blue	788402			
	Blank	Grey	788401			
	Blank	Red	788400			


Wiper Washer

	Rear Window Wiper	Grey	788095			
	Rear Window Wiper	Grey	788577	<i>784400</i>	<i>786136</i>	<i>783306</i>
	Rear Window Wiper/Washer	Blue	788071			
	Rear Window Wiper/Washer	Grey	788303			
	Rear Window Wiper/Washer	Blue	788718			
	Rear Window Wiper/Washer	Grey	788710	<i>787007</i>		

Wiper Washer cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Rear Window Wiper/Washer	Grey	788548			
	Intermittent Wiper	Grey	788312	<i>786718</i>	<i>786409</i>	
	Windscreen Wiper	Grey	788627	<i>784719</i>	<i>786416</i>	<i>785116</i>
	Windscreen Wiper/Washer	Grey	788042			
	Windscreen Wiper/Washer	Grey	788626	<i>787010</i>	<i>786415</i>	<i>785117</i>
	Window Wiper/Washer	Grey	788056			
	Headlamp Wiper/Washer	Grey	788398			<i>786408</i>

Lighting

	Light	Grey	788097			
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Rocker

Lighting cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Light	Grey	788586	783304	786400	784782
	High Beam	Blue	798099			
	High Beam	Grey	788573			
	Dipped Beam	Blue	788060			
	Dipped Beam	Grey			782480	783303
	Side Marker Lamps	Blue	788088			
	Side Marker Lamps	Blue	788111			
	Position Lamp	Blue	788087			
	Fog Lamp	Grey	788394	785181	786414	784799
	Fog Warning Lamp	Grey	788175			
	Fog Warning Lamp	Grey	788310	787102	786417	
	General Service Lamp Front	Blue	788090			
	General Service Lamp Front	Grey	788142			
	General Service Lamp Front	Blue	788621			
	General Service Lamp Front	Grey	788585			
	General Service Lamp Rear	Blue	788089			
	Worklamp	Blue	788719			
	Worklamp	Grey	788711			
	Worklamp	Blue	788622			
	Worklamp	Grey	788583	784738		787008
	Worklamp	Blue	788135			
	Worklamp	Grey	788233			
	Worklamp	Grey	788576		784768	784428

Lighting cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Loading Floor Lamp	Blue	788137			
	Light Indicator	Grey	788322			
	Main Light	Blue	788074			
	Main Light	Grey	788234			
	Main Light	Grey	788584	785182	785102	784800
	Interior Light	Blue	788715			
	Interior Light	Grey	788688	783305	783678	
	Interior Light Medium	Grey	788581		786799	
	Interior Light Dim	Grey	788336			
	Driving Seat Light	Grey	788335			783311
	Reading Light	Grey	788334			
	Night Light	Grey	787187			
	Rotary Beacon	Blue	788020			
	Rotary Beacon	Grey	788712			
	Rotary Beacon	Grey	788628	785188	786406	
	Rotary Beacon	Blue	788136			
	Rotary Beacon	Grey	788049			
	Test	Grey	788213			
	Lamp Test	Grey	788550			784781
	Hazard Warning	Red	788231			

Lighting cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Hazard Warning	Grey	<i>788587</i>			
		Red	<i>788435</i>	<i>784739</i>	<i>785417</i>	
	Hazard Warning	Grey	788551			
		Red	<i>786614</i>			

Heating & Ventilation

	Pre-Warm Fuel	Grey	<i>783289</i>			
	Additional Heating	Grey	<i>788317</i>			
	Heating Passenger Room	Grey	<i>788324</i>	<i>783316</i>		
	Heating Front	Grey	<i>788338</i>	<i>782318</i>		
	Defroster	Grey	<i>786422</i>			
	Fresh Air	Grey	<i>782594</i>			<i>788333</i>
	Blower	Blue	<i>788716</i>			
		Grey	788708			
	Blower Slow	Grey	<i>788094</i>			
	Blower Fast	Grey	<i>788396</i>			
	Blower Speed Adjustment	Grey	<i>787982</i>			
	Ventilation Motor	Grey	<i>788323</i>			
	Cooling	Grey	788138			
	Cooling	Grey	788625			

Heating & Ventilation cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Seat Heating	Grey	<i>787987</i>			
	Heating & Ventilation	Grey	787977			
	Rear Window Defroster	Grey	<i>788084</i>			
	Rear Window Defroster	Grey	<i>788337</i>			
	Rear Window Heating	Grey	<i>784496</i>			
	Exterior Mirror Defroster	Blue	<i>787969</i>			
		Grey	788143			
	Exterior Mirror Defroster	Grey	<i>788575</i>			

Drives

	Differential Lock	Grey	<i>788307</i>			
	Differential Lock	Grey	<i>788549</i>			
	Axle Lock	Grey	788128			
	All Wheel Drive	Blue	<i>788076</i>			
		Grey	<i>788228</i>			
	Wheel Drive Behind	Grey	<i>788108</i>			
	Slewing Damper	Red	<i>787964</i>			
	Slewing Damper	Red	<i>788040</i>			
	Level Control	Grey	<i>787225</i>			

Rocker

Drives cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Level Control	Grey				
	Level Control	Grey				
	Raise	Grey				
	Level Control	Grey				
	Raise Lower	Grey				
	Raise Lower	Blue				
	Raise Lower	Grey				

Miscellaneous

	Working Speed	Grey				
	Working Speed	Grey				
	Speed Automatic	Grey				
	Engine Liquid Indicator	Grey				
	Engine	Grey				
	Engine Grade 3	Grey				
	Stop Engine	Grey				
	Fire Alarm	Grey				
	Control Pump	Red				
	Control Pump	Red				
	Control Pump	Red				

Miscellaneous cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Out of Gear	Grey				
	Gear Trouble	Grey				
	Forward Gear/Reverse Gear	Blue				
	Forward Gear/Reverse Gear	Grey				
	Electric Brake System	Grey				
	Retarder	Grey				
	Retarder	Grey				
	Retarder Out	Grey				
	Retarder Out	Grey				
	Exhaust Brake	Grey				
	Engine Brake	Grey				
	Engine Brake	Grey				
	Exhaust Brake Retarder	Grey				
	Engine Brake Retarder	Grey				
	Brake System Trouble	Grey				
	Parking Brake	Red				

Miscellaneous cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Parking Brake	Grey				
		Red				
	ABS	Grey				
	Test ABS Unit	Grey				
	ASR	Blue				
		Grey				
	Steering Lock	Grey				
	Automatic Lubricant	Blue				
		Grey				
	Automatic Lubricant	Grey				
	Oil Level Control	Grey				
	Horn	Blue				
		Grey				
	Horn Backwards	Grey				
	Horn Backwards	Grey				
	Horn Out	Red				
	Stop Request	Grey				
	Sounder Out	Grey				
	Turn Signals	Blue				
	Turn Signals	Grey				

Miscellaneous cont.

Symbol	Description	Colour	0°	90°	180°	270°
	Cruise On	Grey				
	CR.+ CR.-	Grey				
		Grey				
	Fuel	Grey				
	Tank Filling Level	Grey				
	Hostess Call	Grey				
	Level & Kneeling	Grey				
		Grey				
	Kneeling	Grey				
	School Bus	Grey				
	Wheel Chair	Grey				
	Door Opener	Grey				
		Red				
	Door Opener	Grey				
	Door Opener	Grey				
	Door Opener	Grey				
	Door Opener	Grey				
	Window Lifter	Grey				
	Radio Music	Grey				
	Camera	Grey				










Rocker

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Monitor	Grey	<i>784422</i>			
	DVD	Grey	787166			
	Position Open	Grey	788189			
	Hydraulic Lever Locked	Grey	<i>788222</i>			
		Red	<i>788070</i>			
	Tipper to Horizontal	Grey	788157			
	Overload	Grey	<i>788224</i>			
		Red	<i>788067</i>			
	Lift Against Stop	Grey	<i>787967</i>			
	Lift Against Stop	Grey	<i>788038</i>			
	Bucket Loader Unlocked	Grey	<i>788218</i>			
	Bucket Loader Unlocked	Grey	<i>788115</i>			
	Bucket Loader Unlocked	Grey	<i>788230</i>			
		Red	<i>788068</i>			
	Side Shift	Grey	<i>788226</i>			
		Red	<i>788069</i>			
	Bucket Loader Locked	Red	<i>787917</i>			
	Bucket Loader Locked	Red	788034			
	Bucket Loader Suspension	Blue	<i>788075</i>			
		Grey	<i>788220</i>			
	Bucket Loader LSM	Grey	<i>788124</i>			

Miscellaneous cont.						
Symbol	Description	Colour	0°	90°	180°	270°
	Float Position	Grey	<i>788126</i>			
	Bucket Loader Horizontal	Grey	<i>788131</i>			
	Bucket Loader Unlocked	Grey	<i>788014</i>			
	Bucket Loader Float	Grey	<i>788012</i>			
	Auxiliary Step	Grey	<i>785145</i>			
	Boot Lid	Grey	788330			
	Regulator for Press	Red	<i>787984</i>			
		Grey	<i>787795</i>			
	Spray Water Rolling Broom	Grey	<i>787979</i>			
	Water	Grey	788316			
	Heater	Grey	<i>785424</i>			
	Main Switch	Grey	<i>788311</i>	<i>788096</i>	<i>786398</i>	<i>784780</i>
	Battery	Blue	788714			
		Grey	788687	<i>788320</i>		
		Red	798086			
	Peeling Knife	Grey	<i>788315</i>			
	Locked	Grey	787186			

Miscellaneous cont.

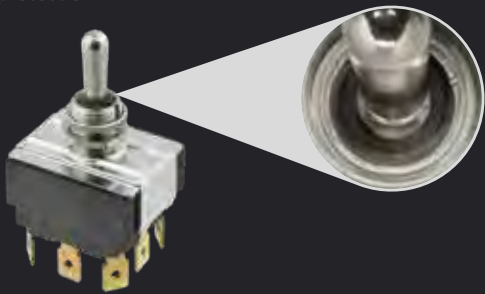
Symbol	Description	Colour	0°	90°	180°	270°
	Fast Slow	Grey	788046			
ECO PWR	Economy Power	Grey	787185			
Mode	Mode	Grey	788036			
	Warning	Grey	787130			
WC	Water Closet	Grey	788332			
i	Information	Grey	788623			
R	Reset	Grey	788110			
123	123	Grey	788299			
		Grey	785361			
	Press Out	Grey	788122			
		Blue	787685			
		Blue	787686			
		Blue	787687 787688			





'O' Ring Seal

The Heavy & Standard Duty range of Toggle Switches feature an 'O' ring seal at the base of the actuator shaft providing increased environmental protection.



Combo Breaker/Switch

The Combo Breaker/Switch have an integrated circuit breaker eliminating the need for extra circuit protection.

Available in 5, 10, 15, 20 Amperages the Combo Breaker/Switch functions as a normal switch but will 'trip' in an overload or short circuit situation.

Page 113.



Environmentally Sealed

The Environmentally Sealed range of Toggle Switches are built to withstand the harshest of environments and are sealed to NEMA 3, 3R, 4, 13 and ingress rated to IP68.

Environmentally Sealed toggles are ideal for controlling critical switching functions ensuring reliable operation in even the most challenging of applications.

Page 108.



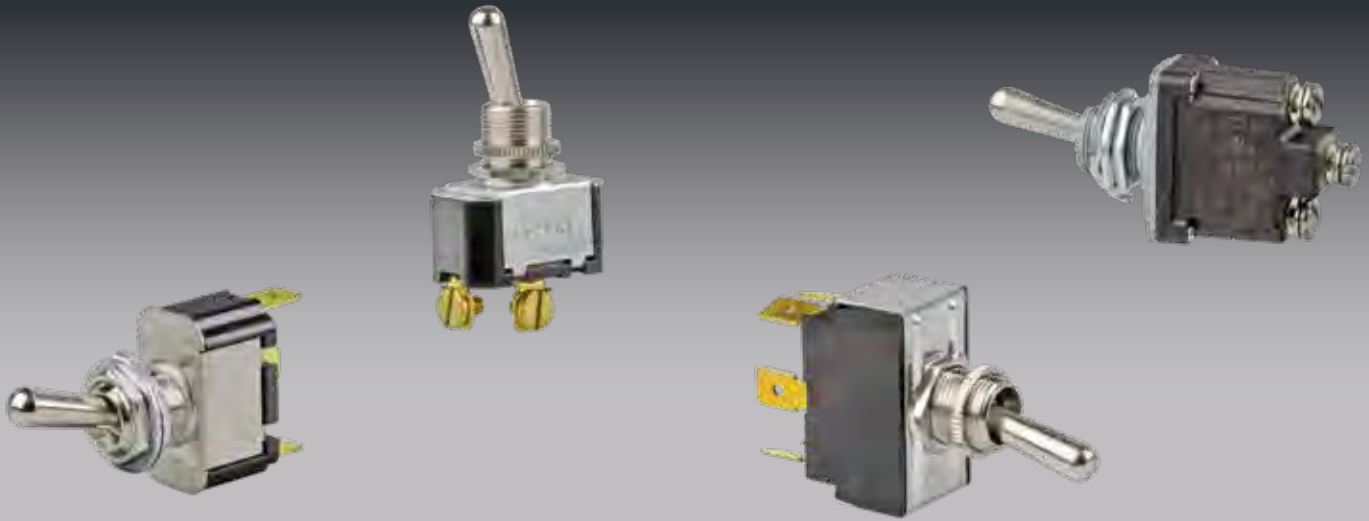
Accessories

A range of accessories including connectors, switch guards, half and full silicone protective boots, and a name plate are available to suit the Standard Duty, Heavy Duty and Environmentally Sealed toggle switches.

Both the switch guards and toggle boots are available in a various colour options with some models conforming to Military-specification for those applications requiring the highest quality.

Page 117.





Toggle Switches

Environmentally Sealed	108
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Combo Breaker/Switch	113
Standard Duty	114
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Accessories	117

Toggle

Environmentally Sealed

MTS-404



MTS-403



MTS-402

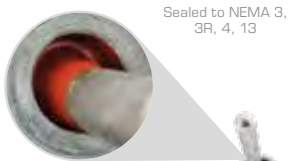


MTS-111



- Sealed to NEMA 3, 3R, 4, 13 and IP68.
- Single & double pole circuitry.
- 2 & 3 position maintained, & momentary toggle action.
- UL recognised. CSA certified.
- Up to 250V AC operation.
- High impact strength thermoplastic case.
- Flexible elastomer interface between frame and lever.
- For accessories including switch guards and boots see page 117.

Voltage : 12–24V
Current Rating @ 28V (Resistive Load) : 20A
 Momentary 15A
Contacts : Silver Alloy
Ingress Protection : IP68
Operating Temperature : -40°C to 71°C
Approvals : CE, UL, CSA
 Seal NEMA 3, 3R, 4, 13



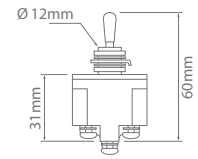
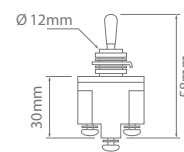
Sealed to NEMA 3, 3R, 4, 13



MTS-402



With 8497K1 switch guard fitted

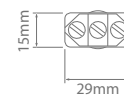


MTS-402

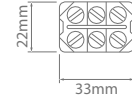


MTS-111

With TSO01-BLU boot fitted



Single Pole



Double Pole

Normally Open Contact

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
OFF ON		Single Pole	12–24	Screw	MTS403
OFF ON		Double Pole	12–24	Screw	MTS404
OFF Mom.ON		Single Pole	12–24	Screw	MTS508

Change-over Contact

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
ON ON		Single Pole	12-24	Screw	MTS401
ON ON		Double Pole	12-24	Screw	MTS402
ON Mom.ON		Single Pole	12-24	Screw	MTS501

Change-over Contact II - O - I

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
ON OFF ON		Single Pole	12-24	Screw	MTS101
ON OFF ON		Double Pole	12-24	Screw	MTS102
ON OFF Mom.ON		Single Pole	12-24	Screw	MTS111
Mom.ON OFF Mom.ON		Single Pole	12-24	Screw	MTS301
Mom.ON OFF Mom.ON		Double Pole	12-24	Screw	MTS302



Toggle

Heavy Duty

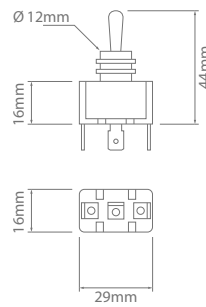


- Single, Double & Triple Pole models available.
- Multi-voltage.
- Blade & screw terminals.
- Shaft sealed by 'O' ring.
- Wide variety of switching configurations.
- Slow-make, slow-break contact mechanism.

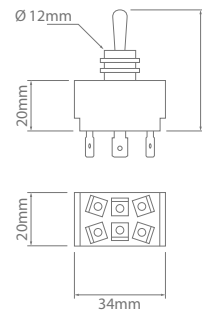
Voltage : 12-24V
Current Rating : 20A @ 4-14V, 15A @ 15-28V
Contacts : Silver Alloy
Body : Phenolic
Actuator & Bushing : Nickel Plated Brass
Approvals : UL, CSA



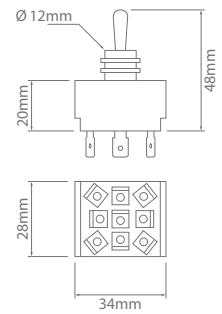
TS101A



Single Pole



Double Pole



Triple Pole



TS402A



ST325EF

With TS002 half boot



With ST0579 switch guard



Normally Closed Contact

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
ON Mom.OFF		Double Pole	12-24	Blade	TS509E

Normally Open Contact

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
OFF ON		Single Pole	12-24	Screw Blade	TS403A TS403E
OFF ON		Double Pole	12-24	Screw Blade	TS404A TS404E
OFF Mom.ON		Single Pole	12-24	Screw	TS508A
OFF Mom.ON		Double Pole	12-24	Solder	TS510S

Change-over Contact

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
ON ON		Single Pole	12-24	Screw Blade	TS401A TS401E
ON ON		Double Pole	12-24	Screw Blade	TS402A TS402E
ON Mom.ON		Single Pole	12-24	Blade	TS501E
ON Mom.ON		Double Pole	12-24	Blade	TS502E



Toggle

Change-over Contact II - 0 - I

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
ON OFF ON		Single Pole	12-24	Screw Blade	TS101A TS101E
ON OFF ON		Double Pole	12-24	Screw Blade	TS102A TS102E
ON OFF ON		Triple Pole	12-24	Blade	ST325EF
Mom.ON OFF Mom.ON		Single Pole	12-24	Screw Blade	TS301A TS301E
Mom.ON OFF Mom.ON		Double Pole	12-24	Screw Blade	TS302A TS302E

- Integrated circuit breaker. Will 'trip' in an overload or short circuit situation.
- Compact size.
- Broad operating temperature.
- Ideal for passenger cars, trucks, buses, RV's, portable generators.



Operating Temperature : -20°C to 65°C
 Material : Thermoplastic
 Approvals : UL1077, CSA

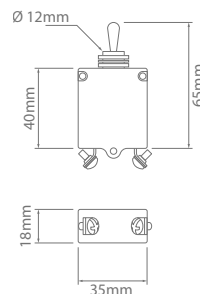
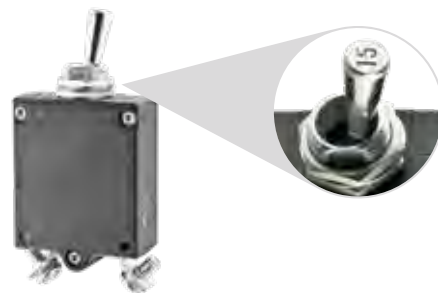
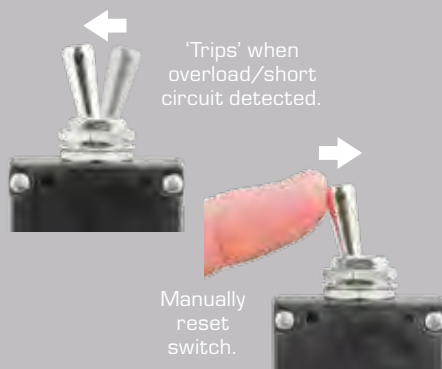


Switch & Circuit Breaker Combined

The Combo Breaker/Switch has an integrated circuit breaker eliminating the need for extra circuit protection.

The Combo Breaker/Switch functions as a normal toggle switch but will 'trip' in an overload or short circuit situation.

To reset the switch simply flick the toggle back to it's closed (on) position.

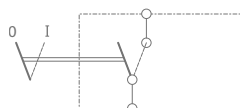


Normally Open Contact

Action

Wiring Diagram

OFF
ON



Notes

Voltage

Terminal

Circuit Breaker Rating (A)

Part No.

Single Pole	12-24	Screw	5	CBW31-5
			10	CBW31-10
			15	CBW31-15
			20	CBW31-20



Toggle

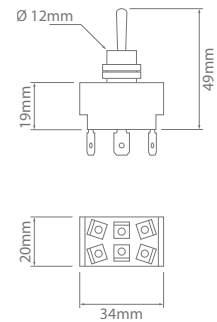
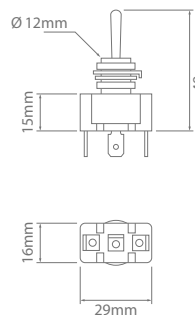
Standard Duty



- Single & Double Pole models available.
- Multi-voltage.
- Shaft sealed by 'O' ring.
- Wide variety of switching options.

12V
24V

Voltage : 12–24V
Current Rating : 20A @ 4–14V, 15A @ 15–28V
Contacts : Silver Alloy
Body : PBT +15% Glass Fibre
Actuator & Bushing : Nickel Plated Brass



Single Pole

Double Pole

Change-over Contact

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
ON ON		Single Pole	12–24	Blade	TB401E
ON ON		Double Pole	12–24	Blade	TB402E

Normally Open Contact

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
<p>OFF</p> <p>ON</p>		Single Pole	12-24	Blade	TB403E
<p>OFF</p> <p>ON</p>		Double Pole	12-24	Blade	TB404E
<p>OFF</p> <p>Mom.ON</p>		Single Pole	12-24	Blade	TB508E

Change-over Contact II - 0 - I

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
<p>ON</p> <p>OFF</p> <p>ON</p>		Single Pole	12-24	Blade	TB101E
<p>ON</p> <p>OFF</p> <p>ON</p>		Double Pole	12-24	Blade	TB102E
<p>Mom.ON</p> <p>OFF</p> <p>Mom.ON</p>		Single Pole	12-24	Blade	TB301E
<p>Mom.ON</p> <p>OFF</p> <p>Mom.ON</p>		Double Pole	12-24	Blade	TB302E



Toggle

Specials

55065-02



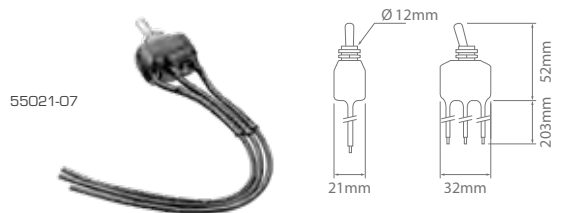
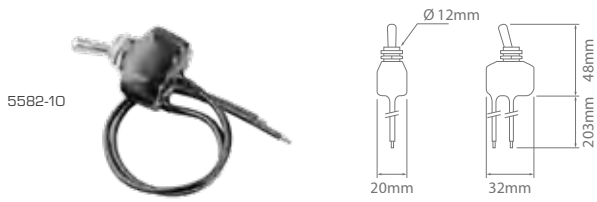
55021-07



- Single & Double Pole models.
- Multi-voltage.
- Shaft sealed by 'O' ring.
- PVC coating for enhanced sealing and protection from the elements.

12V
24V

Voltage : 12-24V
Current Rating : 25A @ 12V, 15A @ 24V
Contacts : Silver Alloy
Body : Phenolic
Actuator & Bushing : Nickel Plated Brass



PVC Coated

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
OFF ON		Single Pole	12-24	Lead 200mm	5582-10
Mom.ON OFF Mom.ON		Single Pole	12-24	Lead 200mm	55021-07
















Extended Lever

Action	Wiring Diagram	Notes	Voltage	Terminal	Part No.
Mom.ON OFF Mom.ON		Double Pole 38mm Lever	12-24	Blade	55065-02

Toggle - Accessories

Toggle - Accessories

	Description	Part No.
	Switch Guard - Red - Cutler Hammer  For use with two position switches only	8497K1
	Switch Guard - Carbon Fibre Switch Guard - Blue Switch Guard - Green Switch Guard - Black Switch Guard - Red Switch Guard - Yellow	ST0574 ST0575 ST0576 ST0577 ST0578 ST0579
	Name Plate - OFF/ON	P23
	Name Plate - ON/OFF	P23U
	Full Toggle Boot - Grey Silicone Full Toggle Boot - Blue Silicone  Full Toggle Boot - Red Silicone  Full Toggle Boot - Yellow Silicone	TS001 TS001-BLU TS001-RED TS001-YEL
	Half Toggle Boot - Grey Silicone  	TS002
	Full Toggle Boot - Black Silicone	TB001-BLK
	6 Contact Terminal Block Suits Blade Terminal, Double Pole Heavy Duty & Standard Duty Toggle Switches AMP™ Terminal to suit	TSH 42282-2



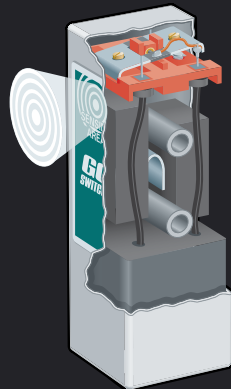


Proximity Limit Switch

The Proximity Limit Switch utilises magnetic switching to sense and trigger off ferrous metals.

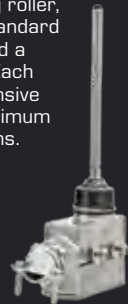
All components are sealed and protected within the rugged brass housing eliminating instances of mechanical failure.

The single sensing area which extends from one side of the enclosure detects ferrous materials within a range of 10mm. Using the Target Magnet this sensing range can be further extended to 90mm.



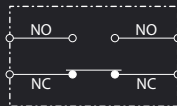
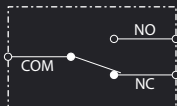
Multiple Lever Types

A wide selection of lever types are available in the Micro & Limit ranges including roller, double pivot roller, standard lever, spring lever, and a variety of plungers. Each actuator has an extensive service life with a minimum of 500,000 operations.



Circuitry

Single Pole Change Over, Double Make Double Break as well as Normally Open / Normally Closed circuitry is offered within the Micro & Limit ranges.





Micro & Limit Switches

Micro – TM Series 120

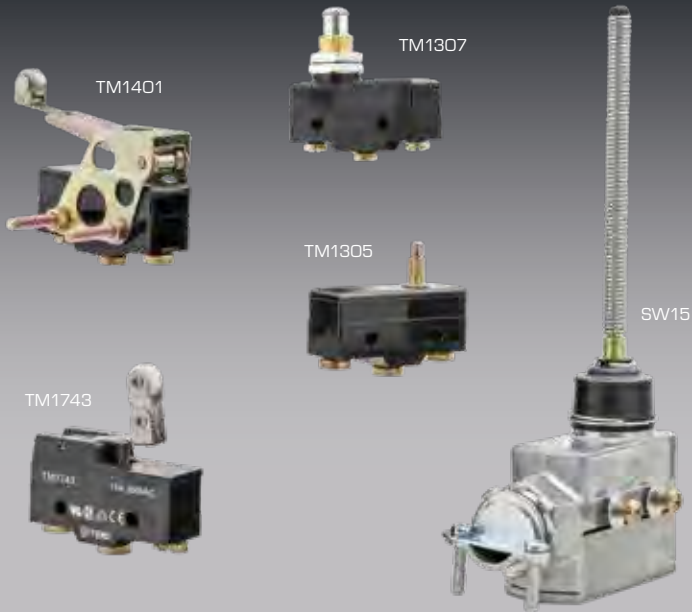
Limit – TZ-7 Series 124

Limit – TZ-9 Series 126

Limit – Proximity 127

Micro & Limit

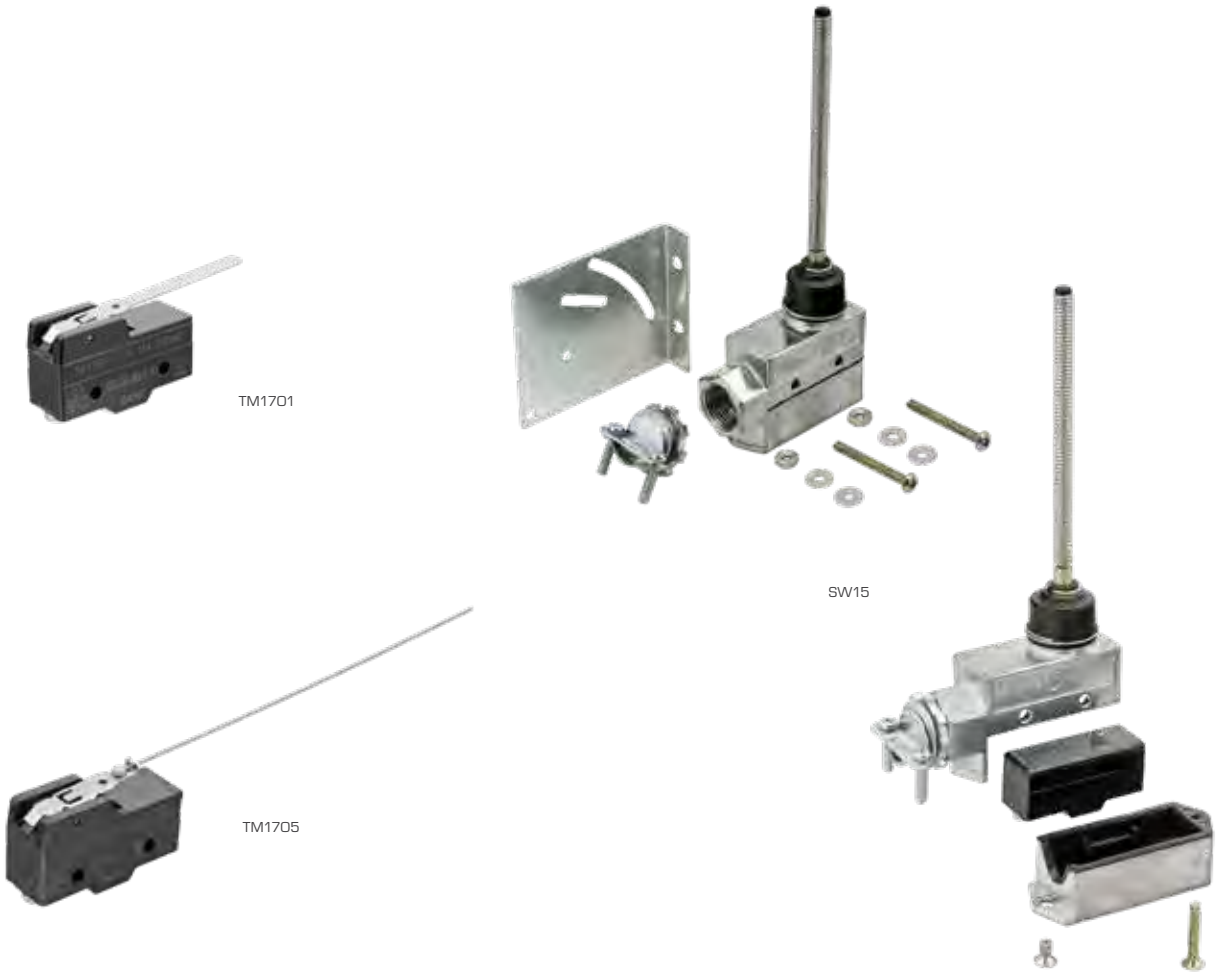
Micro – TM Series

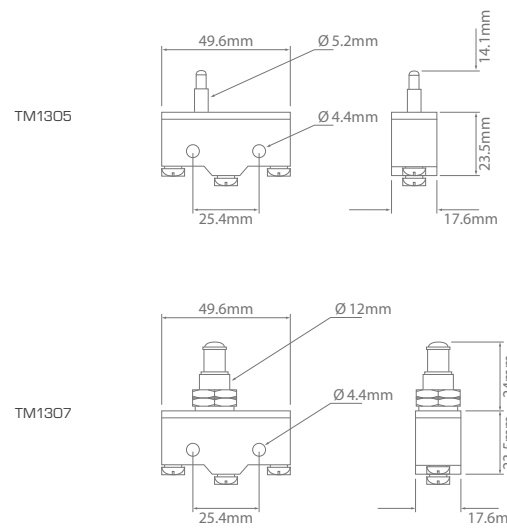
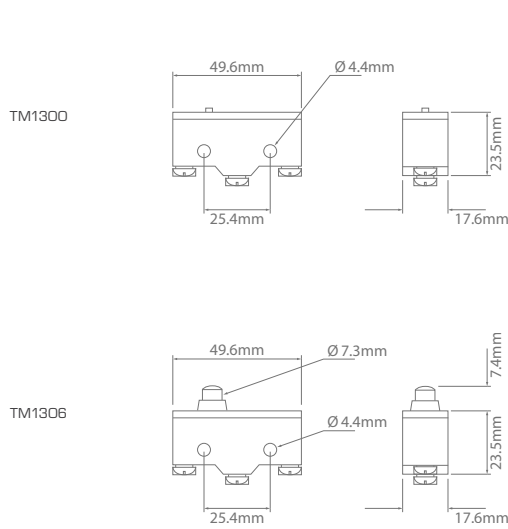


- Wide variety of actuators.
- High breaking capacity – 15A.
- Single Pole Change Over.
- Long life – 500,000 operations.



Voltage : 12-24V
Circuitry : SPCO (Single Pole Change Over)
Current Rating : 10A @ 12V, 5A @ 24V
Service Life : Min. 500,000 operations
Approvals : CE, CSA, UL, VDE

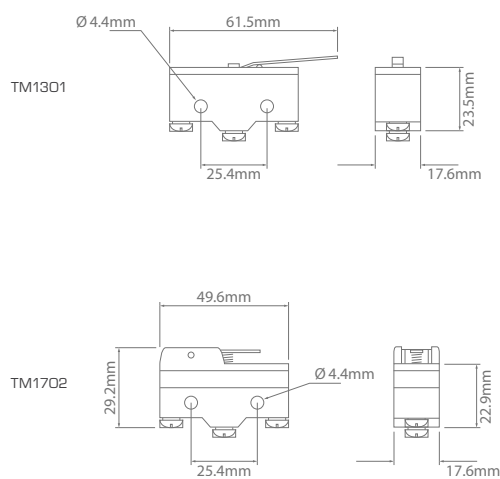




Micro – TM Series – Plunger

Part No.	Description
TM1300	Pin head plunger
TM1306	Short button plunger

Part No.	Description
TM1305	Slim plunger
TM1307	Long button plunger



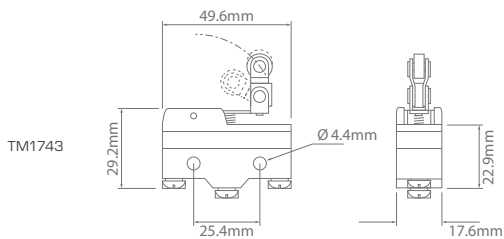
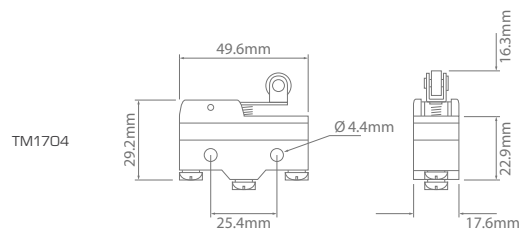
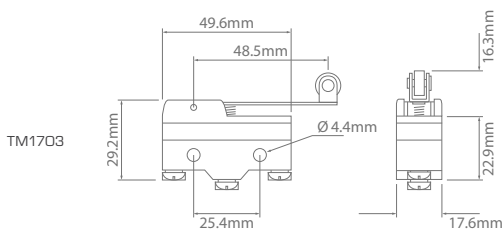
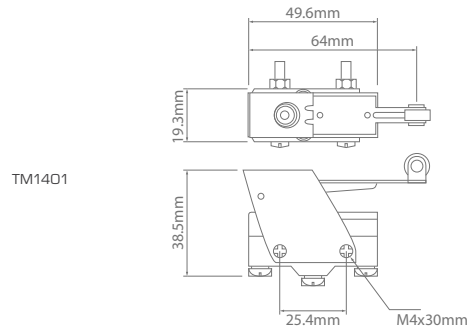
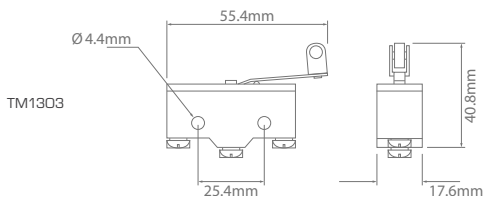
Micro – TM Series – Lever

Part No.	Description
TM1301	Pin head plunger with lever
TM1702	28mm lever

Part No.	Description
TM1701	63mm lever
TM1705	110mm wire lever



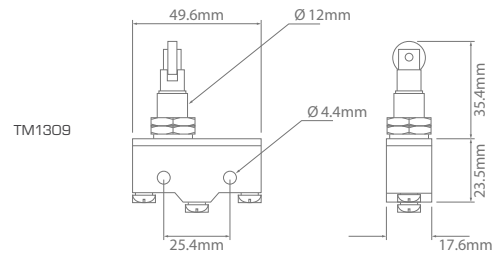
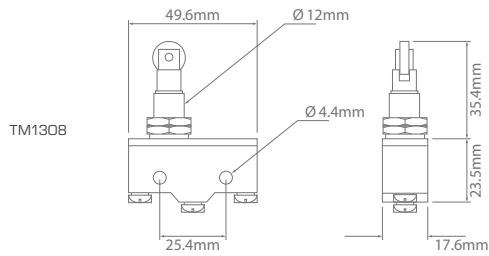
Micro & Limit



Micro – TM Series – Lever with Roller

Part No.	Description
TM1303	Pin head plunger with roller lever
TM1703	48mm lever with roller
TM1743	32mm double pivot roller lever

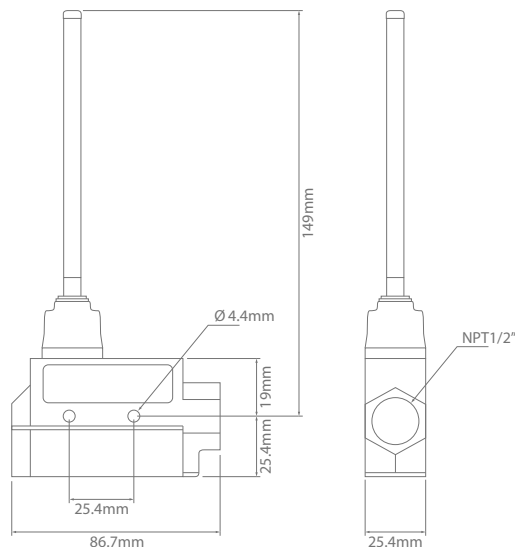
Part No.	Description
TM1401	60mm roller lever
TM1704	27mm lever with roller



Micro – TM Series – Plunger with Roller

Part No.	Description
TM1308	Button plunger with roller

Part No.	Description
TM1309	Button plunger with cross roller



Micro – TM Series – Heavy Duty Spring Lever

Part No.	Description
SW15	TM1300 with heavy duty spring lever casing



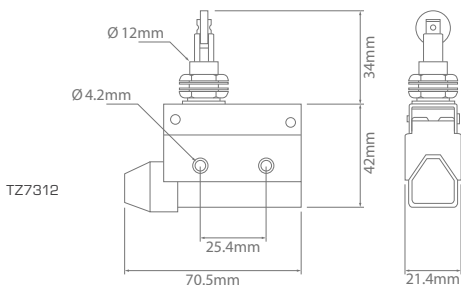
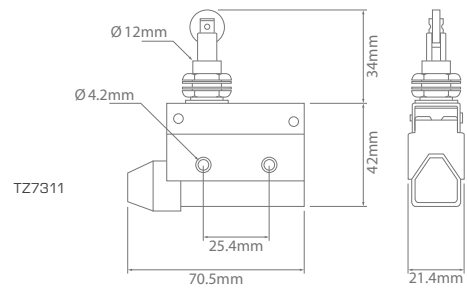
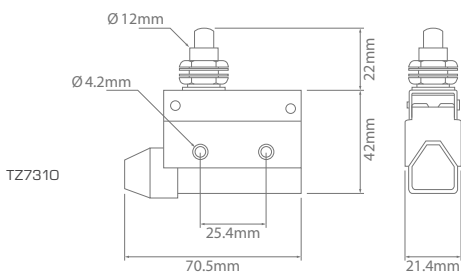
Micro & Limit

Limit – TZ-7 Series



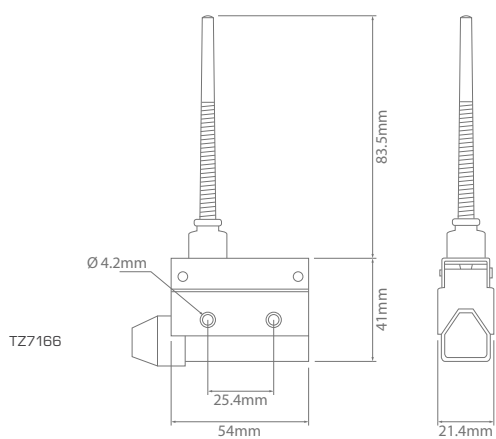
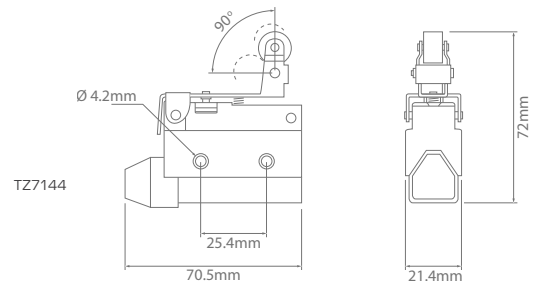
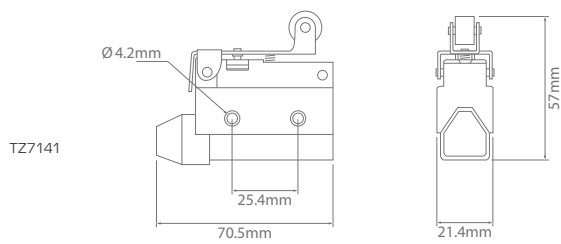
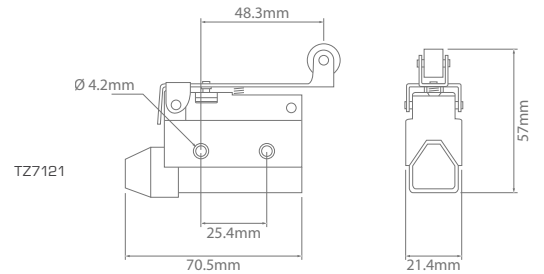
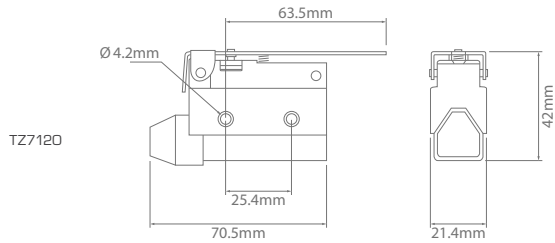
- Environmentally sealed – IP65.
- High precision.
- Long life – 500,000 operations.
- Sealed with gasket diaphragm.
- Single Pole Change Over.

Voltage : 12–24V
Circuitry : SPCO (Single Pole Change Over)
Ingress Protection : IP65
Current Rating : 10A @ 12V, 5A @ 24V
Service Life : Min. 500,000 operations
Approvals : CE, UL



Limit – TZ-7 Series – Plunger

Part No.	Description	Part No.	Description
TZ7310	Long button plunger	TZ7311	Button plunger with roller
TZ7312	Cross roller plunger		



Limit – TZ-7 Series – Lever

Part No.	Description
TZ7120	63.5mm lever
TZ7141	30mm roller lever
TZ7166	Polymer rod lever

Part No.	Description
TZ7121	48mm roller lever
TZ7144	30mm double pivot roller lever



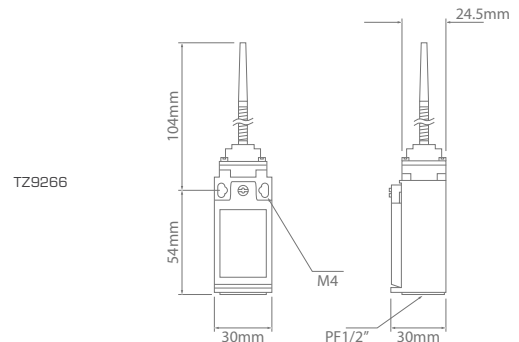
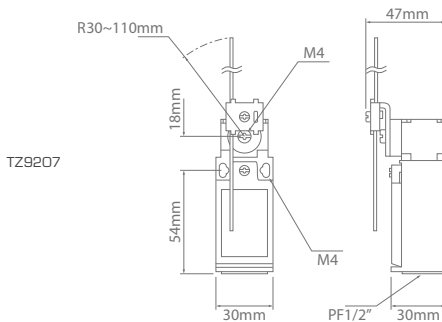
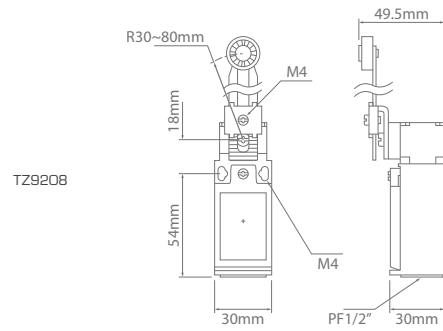
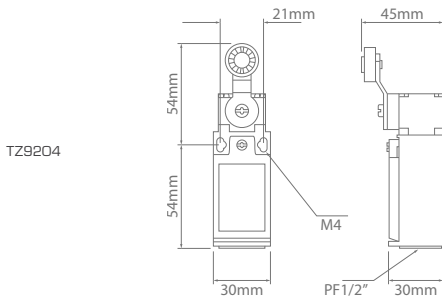
Micro & Limit

Limit – TZ-9 Series



- Environmentally sealed – IP65.
- Long life – 500,000 operations.
- Robust glass reinforced polymer.
- Smooth operation with greater over travel.
- Easy-to-wire design.
- Normally Open, Normally Closed.

Voltage : 12–24V
Circuitry : DMDB (Double Make Double Break)
Ingress Protection : IP65
Current Rating : 5A
Service Life : Min. 500,000 operations
Approvals : CE, UL



Limit – TZ-9 Series

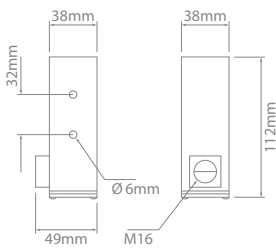
Part No.	Description
TZ9204	Angle adjustable roller lever
TZ9207	Height adjustable rod lever

Part No.	Description
TZ9208	Height adjustable roller lever
TZ9266	Polymer spring lever

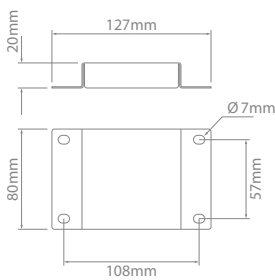
- Simple, rugged brass body design.
- Long sensing ranges – up to 90mm using target magnet.
- Single Pole Double Throw or Double Pole Change Over models.
- Environmentally sealed to IP68, when used with similar rated conduit and fittings.



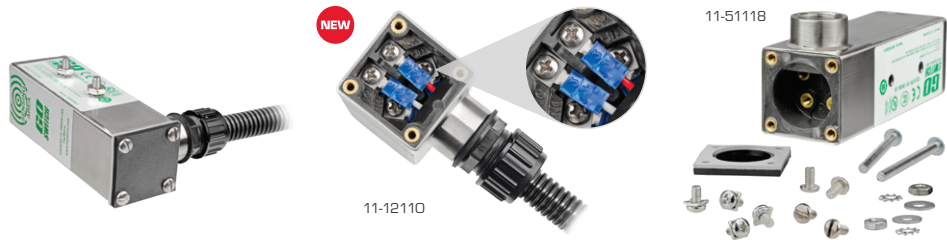
Voltage : 12–24V
Current Rating : 3A @ 24VDC
Contacts : Silver cadmium oxide, gold flashed
Body : Stainless Steel
Operating Temperature : -40°C to 105°C



11-12110, 11-51118



AMC5



- Seesaw armature provides snap action and solid contact pressure, eliminating 'contact teasing' and 'contact chatter' in high vibration applications.
- Sensing range can be extended to 90mm using external target magnet.
- Permanent magnets never lose their strength.
- Rugged brass housing withstands physical abuse, moisture, and corrosives.
- Versatile gold flashed contact are suitable for high and low electrical loads, and can be wired AC or DC, N/O or N/C.
- Sealed contact chamber prevents moisture or dust from reaching the contacts
- Consumes no power to operate and has no current leakage or voltage drop.
- Potting fills the entire switch cavity, forming a barrier against moisture.

Limit – Proximity

Part No.	Circuitry	Sensing Range (mm)	Approvals	Circuitry
11-12110 NEW	SPDT (Single Pole Double Throw)	14	CSA General Purpose	
11-51118	DMDB (Double Make Double Break)	10	UL General Purpose	
AMC5	Mountable magnet – Extends sensing range to 90mm			





Solid State

Solid State relays are suitable across all applications where reliability is paramount.

Unlike conventional relays, Solid State relays use electronics in place of traditional contacts, allowing them to be multi-voltage and eliminating failures associated with mechanical components. This guarantees extremely quick switching times and outstanding service life.

Manufactured with standard housing and terminal configurations ensures compatibility with standard mini relay accessories.



Standard Coil Relay

Weatherproof Relays

Weatherproof relays seal to IP67. This protection rating is achieved by utilising a shrouded relay housing with an accompanying sealed connector. Offered individually or in kit form in normally-open or change-over configuration.



IP67



Timer Relays – Fixed & Adjustable



Timer relays are microprocessor controlled change-over relay units incorporating a time delay. Depending on the model, the time delay can trigger in either a "delay on" or "delay off" configuration.

User adjustable models are available ex-stock. 'Made to order' factory preset units available by special order. (Minimum order quantities apply.)





Relays & Solenoids

Micro	130
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High Current	140
Specials	144
Smart Battery Isolator	145
Solenoids	146

Relays & Solenoids

Micro

PM1424R



PB1412RMC



- All models resistor protected.
- Full range of accessories available.
- Broad operating temperature.

IP54

Protection :
 Contacts :
 Body :
 Ingress Protection :
 Operating Temperature :

Resistor
 Silver Alloy
 Polymer
 IP54
 -40°C to 125°C



PM2512R

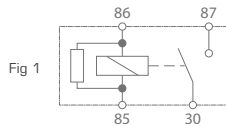


Fig 1 4 Terminal – Normally Open (N/O)

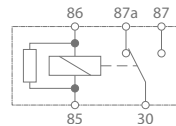
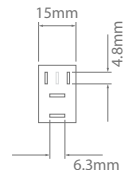
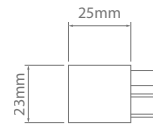


Fig 2 5 Terminal – Change Over (C/O)



Micro

Part No.	Voltage	Current Rating (A)	Contact Type	Terminals	Fig
PM1412R	12	20	N/O	4	1
PM1424R	24	10	N/O	4	1
PM2512R	12	10/20	C/O	5	2
PM2524R	24	5/10	C/O	5	2

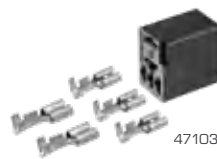


47002, 47002/100

47102/10



47003



47103/10



42282-2

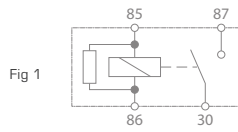


281197-2

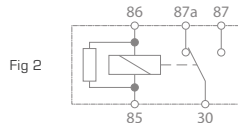
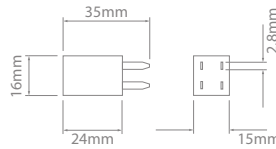
Micro – Accessories

Part No.	Description	Cable Size (mm ²)	Pack Qty
47002	Micro relay base. Interlocking base with mounting bracket	—	1
47002/100	Micro relay base. Interlocking base with mounting bracket	—	100
47102/10	Micro relay base kit. Interlocking base with mounting bracket Kit contains: 10 x Bases (47002), 20 x AMP™ Terminals (42282-2), 30 x AMP™ Terminals (281197-2)	1 – 2.5	10
47003	Micro relay base	—	1
47103/10	Micro relay base kit Kit contains: 10 x Bases (47003), 20 x AMP™ Terminals (42282-2), 30 x AMP™ Terminals (281197-2)	1 – 2.5	10
42282-2	AMP™ Terminal – 6.3mm	1 – 2.5	100
281197-2	AMP™ Terminal – 4.8mm	1 – 2.5	100

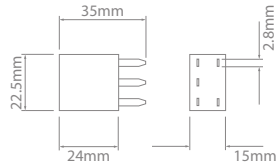
Relays & Solenoids



4 Terminal – Normally Open (N/O)



5 Terminal – Change Over (C/O)



Micro – 280 Series

Part No.	Voltage	Current Rating (A)	Contact Type	Terminals	Fig
PB1412RMC	12	20	N/O	4	1
PB1424RMC	24	10	N/O	4	1
PB2512RMC NEW	12	35/20	C/O	5	2
PB2524RMC NEW	24	15/10	C/O	5	2

Mini Electrical Centre

Mini Electrical Centres are a compact, convenient tool for safely housing a combination of relays, fuses and circuit breakers.

- Designed to accept up to 2 IONNIC Micro 280 Series Relays, 4 mini blade fuses/circuit breakers or a combination of both relay & fuses/circuit breakers.
- Compact size.
- Easy mounting.
- Eliminates excess wiring.
- High quality Packard™ terminals.
- Clear polycarbonate cover provides protection & easy visual inspection.
- Environmentally sealed – IP66.



FH09 shown with various relays, fuses fitted.



FH09



P-12077411/100



P-15324982/100



P-12129493/100



P-15324980/100



P-12010300/100

Micro – 280 Series – Accessories

Part No.	Description	Colour	Cable Size (mm ²)	Pack Qty
FH09	Mini Electrical Centre kit Kit contains: 1 x Base & Cover (FH002), 8 x Terminals (12077411), 8 x Terminal Seals (15324982)	—	0.8 – 1	1
P-12077411/100	Terminal – 2.8mm	—	0.8 – 1	100
P-15324982/100	Terminal Seal	Green	0.8 – 1	100
P-12129493/100	Terminal – 2.8mm	—	1 – 2	100
P-15324980/100	Terminal Seal	Grey	1 – 2	100
P-12010300/100	Blanking Seal	Green	—	100

Terminal and Seals are products of Packard™.



Relays & Solenoids

Solid State



- Solid state reliability.
- Multi-voltage.
- Fast switching speed.
- Silent operation.
- No moving parts.
- Replacement to mechanical relays.
- SY4086 high current model.

12V
24V

Voltage : 12–24V
Contacts : Brass
Body : Polymer
Ingress Protection : PE Series IP5K4



No Moving Parts, No Contacts

Solid State Relays

Solid state relays have no moving parts, eliminating failures normally associated with conventional mechanical switching relays.

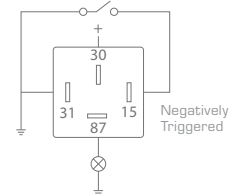
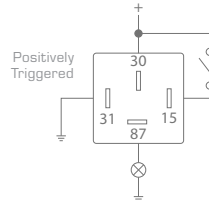
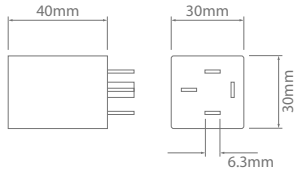
Rated up to 100A solid state relays provide faster switching time, improved reliability and the convenience of 12–24V operation.



PE Series

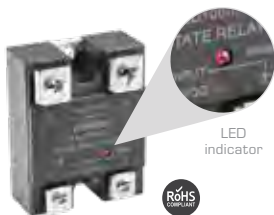


IP5K4



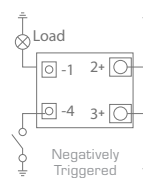
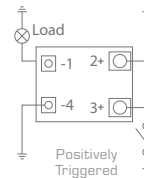
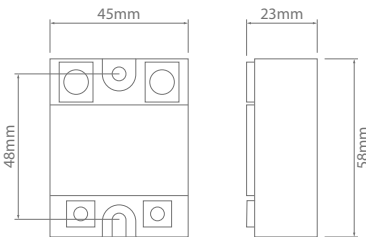
NEW

SY4086



LED indicator

ROHS



Solid State

Part No.	Voltage	Switching	Current Rating (A)		Supply Current (mA)	
			Continuous	Max. Switching	Off State	On State
PE14-10P	12–24	Positive	10	35	0.5	5
PE14-25P	12–24	Positive	25	100	0.5	5
PE14-10N	12–24	Negative	10	35	0.5	5
PE14-25N	12–24	Negative	25	100	0.5	5
SY4086 NEW	12–24	Positive/Negative	100	260	0.1	28

For accessories see page 139.

Relays & Solenoids

Mini

- Weatherproof Mini relays are environmentally sealed – IP67.
- Most models resistor protected.
- Full range of accessories available, found on page 139.
- Models available with mounting bracket.



Contacts : Silver Alloy
 Body : Polymer
 Operating Temperature : -40°C to 125°C



P1424R

P1524R



P2512R



P3512R

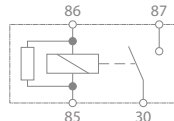
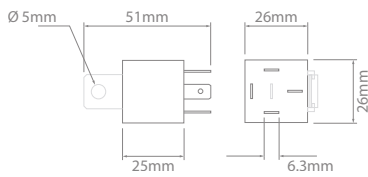


Fig 1

4 Terminal – Normally Open (N/O)

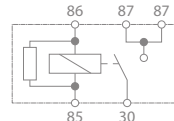


Fig 2

5 Terminal – Normally Open (N/O)

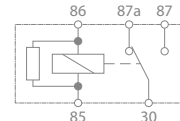


Fig 3

5 Terminal – Change Over (C/O)

Mini – General

Part No.	Pack Qty – 200	Voltage	Current Rating (A)	Contact Type	Terminals	Mounting Bracket	Fig
P1424R	P1424R/200	24	40	N/O	4	Removable	1
P1512R	P1512R/200	12	40	N/O	5	Removable	2
P1524R	P1524R/200	24	20	N/O	5	Fixed	2
P2512R	P2512R/200	12	40/30	C/O	5	Removable	3
P2524R	P2524R/200	24	40/30	C/O	5	Removable	3
P3512R	—	12	40/30	C/O	5	—	3

For accessories see page 139.



Relays & Solenoids



P1512RWP



P1512RWP-KIT

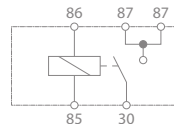
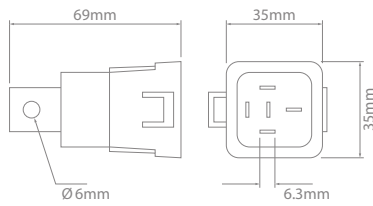


Fig 1
5 Terminal - Normally Open (N/O)

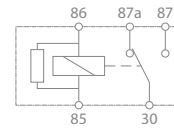


Fig 2
5 Terminal - Change Over (C/O)

Mini - Weatherproof

Part No.	Voltage	Current Rating (A)	Contact Type	Terminals	Mounting Bracket	Fig
P1512RWP	12	40	N/O	5	Removable	1
P1524RWP	24	20	N/O	5	Removable	1
P2512RWP	12	40/30	C/O	5	Removable	2
P2524RWP	24	20/15	C/O	5	Removable	2
P1512RWP-KIT	12V N/O Weatherproof Relay Kit			Kits contain: 1 x Mini Weatherproof Relay 1 x Base Connector (12065685) 1 x Sealing Blank (114017) 2 x Terminals 1-2mm ² (12066614L) 3 x Terminals 2-3mm ² (12033997L)		
P1524RWP-KIT	24V N/O Weatherproof Relay Kit					
P2512RWP-KIT	12V C/O Weatherproof Relay Kit					
P2524RWP-KIT	24V C/O Weatherproof Relay Kit					



P-12065685



P-12066614/100

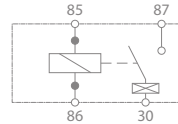
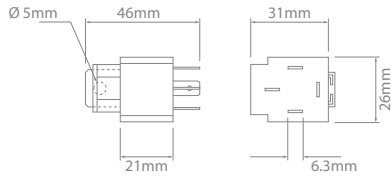


P-12033997/100

Mini - Weatherproof - Accessories

Part No.	Description	Cable Size (mm ²)	Pack Qty
P-12065685	Relay base connector	—	—
P-12066614/100	Packard™ Terminal with pull to seat locking tab - 6.3mm	1 - 2	100
P-12033997/100	Packard™ Terminal with pull to seat locking tab - 6.3mm	3.0	100

Relays & Solenoids



4 Terminal – Normally Open (N/O)



P141230



P142415

Mini – Fused

Part No.	Voltage	Current Rating (A)	Contact Type	Terminals	Mounting Bracket
P141230	12	30	N/O	4	Removable
P142415	24	15	N/O	4	Removable

For accessories see page 139.

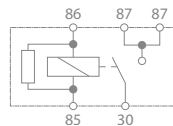
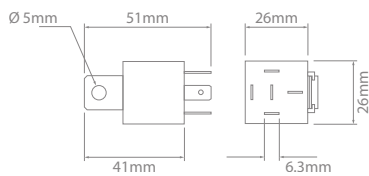


Fig 1

5 Terminal – Normally Open (N/O)

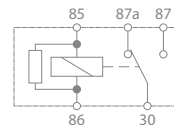


Fig 2

5 Terminal – Change Over (C/O)

PB2512R



IP54

RoHS



PB2524R

Mini – PB Series

Part No.	Voltage	Current Rating (A)	Contact Type	Terminals	Mounting Bracket	Fig
PB1512R	12	30	N/O	5	Removable	1
PB1524R	24	20	N/O	5	Removable	1
PB2512R	12	50/30	C/O	5	Removable	2
PB2524R	24	20/15	C/O	5	Removable	2

For accessories see page 139.



Relays & Solenoids

Timer



- Programmable time periods.
- Compact design.
- 10A switching current on most units.

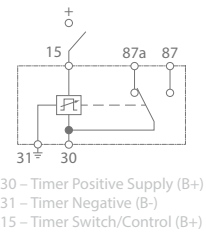
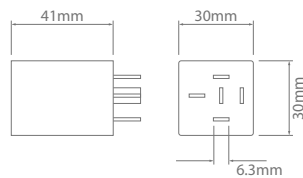
Protection :
Body :

Resistor
Polymer

Adjustable Timer

Delay Type

- 0: OFF - 0.5sec - 10 sec
- 1: OFF - 5 sec - 60 sec
- 2: OFF - 30 sec - 10 min
- 3: OFF - 5 min - 60 min
- 4: OFF - 30 min - 6 hrs
- 5: ON - 30 min - 6 hrs
- 6: ON - 5 min - 60 min
- 7: ON - 30 sec - 10 min
- 8: ON - 5 sec - 60 sec
- 9: ON - 0.5sec - 10 sec



30 - Timer Positive Supply (B+)
31 - Timer Negative (B-)
15 - Timer Switch/Control (B+)

5 Terminal - Change Over (C/O)

Timer - Adjustable

Part No.	Function	Voltage	Current Rating (A)	Time Delay
PT40-205	Delayed turn OFF or Delayed turn ON	12	10	0.5 sec to 6 hrs
PT40-405	Delayed turn OFF or Delayed turn ON	24	10	0.5 sec to 6 hrs

For accessories see page 139.

Relays & Solenoids

Multifunction TIMO1

Red LED indicates when relay is energised.

Increase Time

Decrease Time

Switch

1: OFF = Delay ON	ON = Instant ON - Delay OFF
2: OFF = Once only	ON = Cycle ON-OFF-ON-etc
3: OFF = Seconds	ON = Minutes
4: OFF = 1-30 Time	ON = 2-60 Time
5: OFF = 24V	ON = 12V

ON 1 2 3 4 5

Adjustable Time

Temporary activation at Turn ON

ON 1 2 3 4 5

Adjustable Time

Delayed Activation at Turn On

ON 1 2 3 4 5

Adjustable Time

Cycle activation at Turn ON

Delay On/Off

Increase Time

Decrease Time

Switch 1: Specifies when timer activates.

Switch 2: ON: Minutes OFF: Seconds

TIMO5

ON 1 2

Adjustable Time

Temporary activation at Turn ON

ON 1 2

Adjustable Time

Delayed Off

TIMO6

ON 1 2

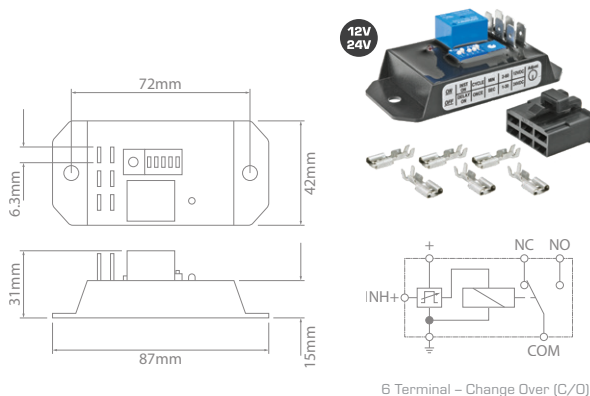
Adjustable Time

Delayed Activation at Turn On

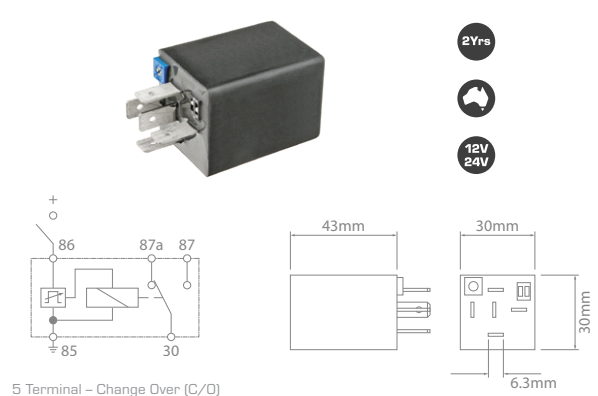
ON 1 2

Adjustable Time

Temporary activation at Turn OFF



TIMO1



TIMO5, TIMO6

Timer - Multifunction

Part No.	Function	Voltage	Max. Current Rating (A)	Time Delay
TIMO1	Multi	12-24	3 @ 12V	1 sec to 60 min
TIMO5	Delayed turn OFF	12-24	10 @ 12V	1 sec to 60 min
TIMO6	Delayed turn ON	12-24	10 @ 12V	1 sec to 60 min

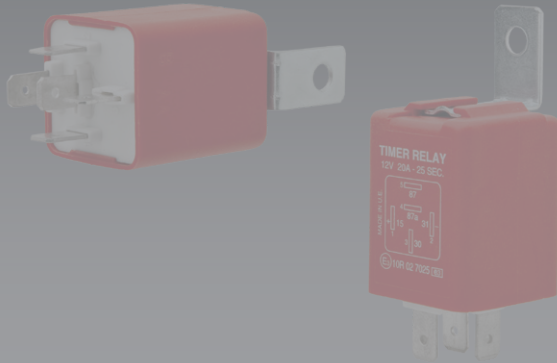
Protected microprocessor timer control circuit.

TIMO1: Incorporates timer reset terminal.



Relays & Solenoids

Timer – Factory Preset

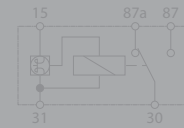
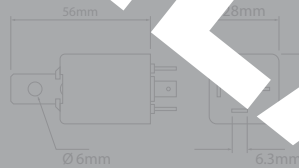
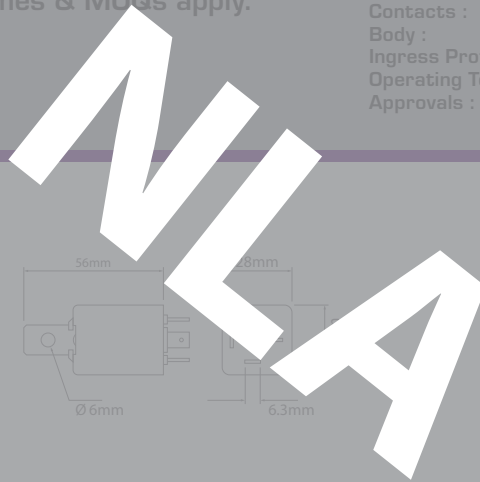


- User defined factory preset time.
- Flexible time periods.
- Compact design.
- Clean contacts.
- Removable mounting bracket.
- Non-stocked item – lead times & MOQs apply.

Non-stocked item – lead times & MOQs apply.



Protection : Resistor
 Current Rating : 20A @ 12V, 10A @ 24V
 Contacts : Copper-Zinc Alloy
 Body : Nylon PA6.6
 Ingress Protection : IP5K4
 Operating Temperature : -40°C to 80°C
 Approvals : CE, RoHS



30 – Timer Positive Input (B+)
 31 – Timer Negative (B-)
 15 – Timer Switch/Control (B+)

5 Terminal – Change Over (C/O)

Ordering System

The fixed range of Timer Relays are programmed at the point of manufacture hence are a non-stocked item – **lead times & MOQs apply.**

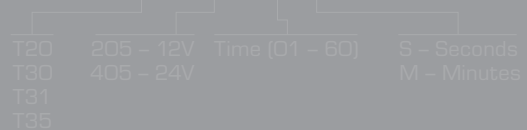
When ordering specify:

- Type
- Voltage
- Time
- Seconds or Minutes

Minimum order quantity of 50 pieces.

Part Number

T20-205-37 S



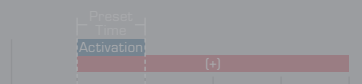
T20

Delay ON
 With constant positive feed to terminal 15



T30

Delay OFF
 With constant positive feed to terminal 15



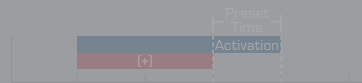
T31

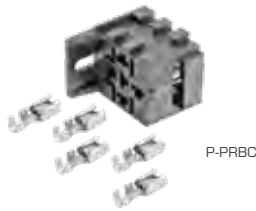
Delay OFF
 With positive trigger to terminal 15



T35

Delay OFF
 With loss of positive to terminal 15





P-PRBC



47000, 47000/100



47100/10



47001



47101/10



47004



42282-2

Solid State, Mini & Timer – Accessories

Part No.	Description	Cable Size (mm ²)	Pack Qty
P-PRBC	Mini relay base kit. Interlocking base with mounting bracket Kit contains: 1 x Packard™ Base (12033871), 5 x Packard™ Terminals (12015870)	1 – 2	1
47000	Mini relay base. Interlocking base with mounting bracket	—	1
47000/100	Mini relay base. Interlocking base with mounting bracket	—	100
47100/10	Mini relay base kit. Interlocking base with mounting bracket Kit contains: 10 x Bases (47000), 50 x AMP™ Terminals (42282-2)	1 – 2.5	10
47001	Mini relay base	—	1
47101/10	Mini relay base kit Kit contains: 10 x Bases (47001), 50 x AMP™ Terminals (42282-2)	1 – 2.5	10
47004	Mini relay base. For mounting to PC boards	—	—
42282-2	AMP™ Terminal – 6.3mm	1 – 2.5	100



Relays & Solenoids

High Current

P141275HD



P141270



PB1412RHD



PR12V200

- High current power relays.
- Models available up to 200A.
- Various mounting styles.
- Most models resistor protected.

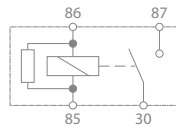
Contacts :

Body :

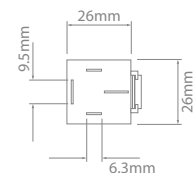
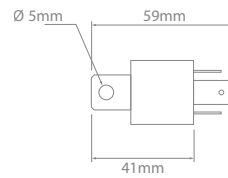
Mount :

Operating Temperature :

Silver Alloy
Polymer
Stainless Steel
-40°C to 85°C



4 Terminal – Normally Open (N/O)



High Current – Mini – PB Series

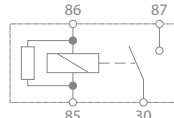
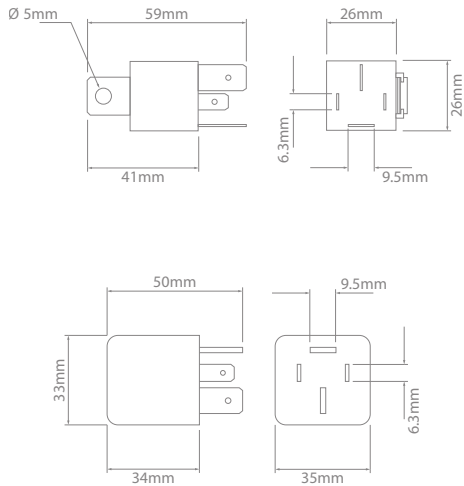
Part No.	Voltage	Current Rating (A)	Contact Type	Terminals	Mounting Bracket
PB1412RHD	12	70	N/O	4	Removable
PB1424RHD	24	25	N/O	4	Removable



High Current – Mini & PB Series – Accessories

Part No.	Description	Kit contains:
47105/1	Relay base kit with mounting bracket	1 x Base 3 x AMP™ 9.5mm Terminals (280756-4) 2 x AMP™ 6.3mm Terminals (42282-2)

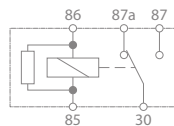
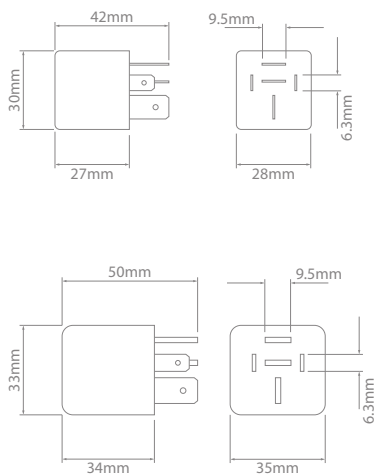
Relays & Solenoids



4 Terminal – Normally Open (N/O)



Fig 1



5 Terminal – Change Over (C/O)



Fig 2

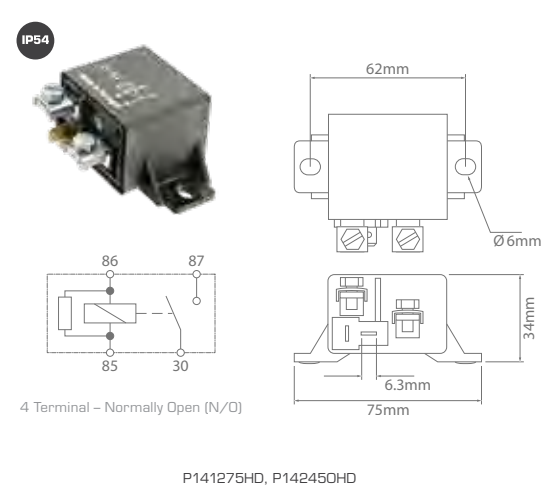
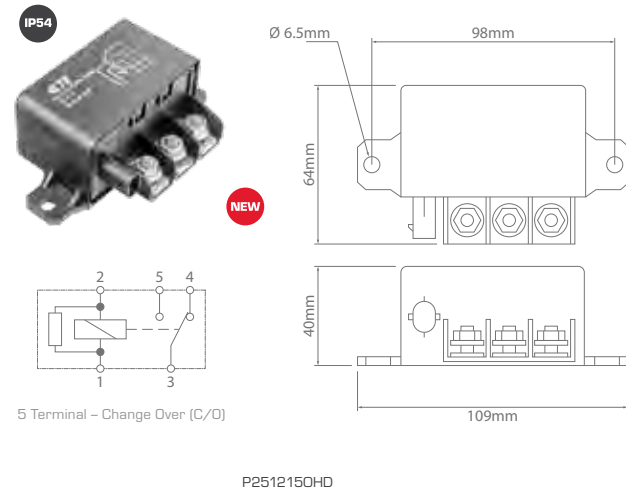
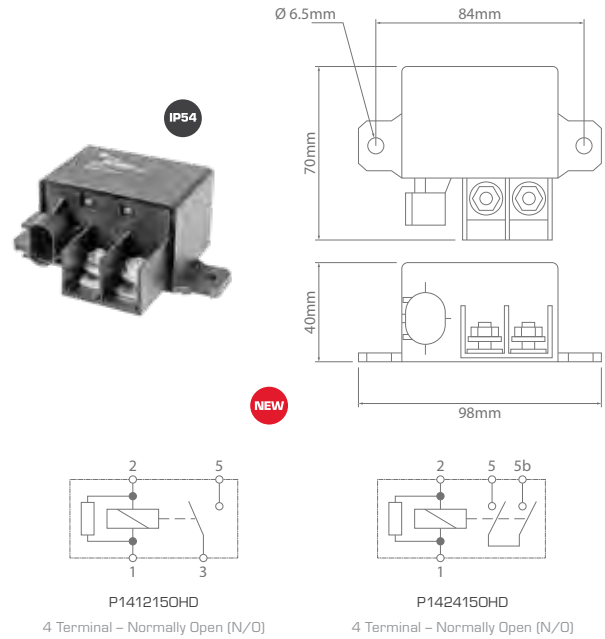
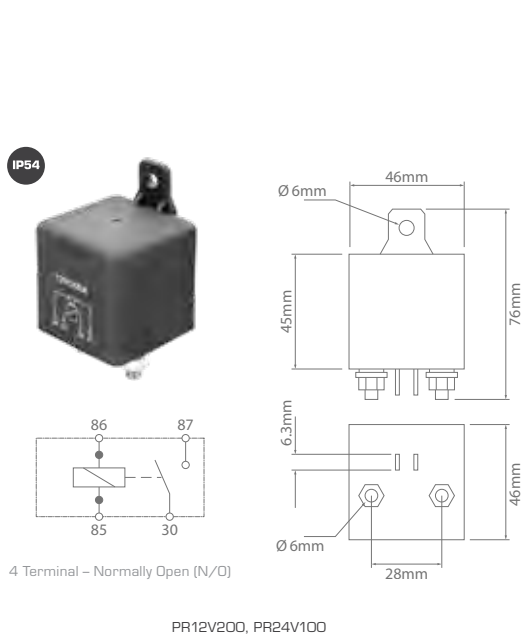


High Current – Mini

Part No.	Voltage	Current Rating (A)	Contact Type	Terminals	Mounting Bracket	Fig
P141270	12	70	N/O	4	Removable	1
P142450	24	50	N/O	4	—	1
P251270	12	70/60	C/O	5	—	2
P252450	24	60/50	C/O	5	—	2



Relays & Solenoids



High Current

Part No.	Voltage	Current Rating (A)	Contact Type	Terminals	Mounting Bracket	Connector Kit
PR12V200	12	200	N/O	4	Fixed	
PR24V100	24	100	N/O	4	Fixed	
P1412150HD	12	130	N/O	4	Fixed	50126
P1424150HD	24	130	N/O	4	Fixed	50126
P2512150HD	12	130	C/O	5	Fixed	1670916-KIT
P141275HD	12	75	N/O	4	Fixed	
P142450HD	24	50	N/O	4	Fixed	





50126



1670916-KIT

High Current – Accessories

Part No.	Description	Suits
50126 	Connector Kit	P141215OHD, P142415OHD
1670916-KIT 	Connector Kit	P251215OHD



Relays & Solenoids

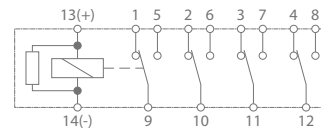
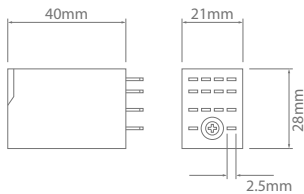
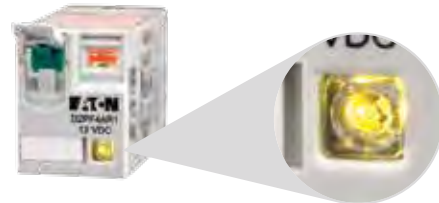
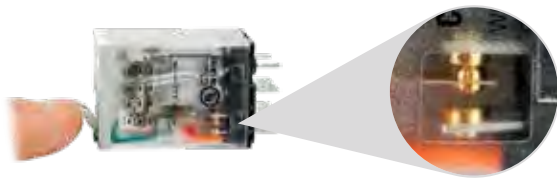
Specials



- Flag indicator shows relay status in manual or powered condition.
- Bipolar LED status lamp allows for reverse polarity applications – ideal in low light conditions.
- Colour-coded push button with lock-up door – allows for manual operation of relay without the need for coil power.
- White polymer ID tag for labelling in multi relay circuits.



Protection : Resistor
Contacts : Silver Alloy
Body : Polymer
Ingress Protection : IP40
Operating Temperature : -40°C to 55°C
Approvals : UL, CSA, CE, RoHS



14 Terminal – Change Over (C/O)

4 Pole Change Over

Part No.	Coil Voltage	Current Rating per Contact (A)	Contact Type	Terminals
P4512	12	4	C/O	14
P4524	24	4	C/O	14



Shown with P4512 mounted

Specials – Accessories

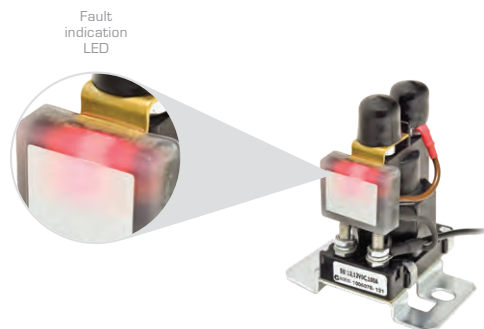
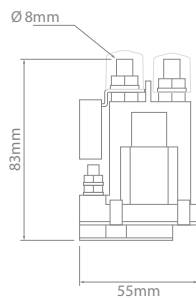
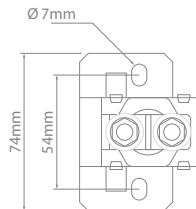
Part No.	Description	Current Rating (A)	Terminal	No. of Poles	Receptacle
47006	Relay base	7	M3 Screw	4	14 Blade

- 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.
- 2 Year warranty.



2Yrs

Body : Polymer
 Contacts : Silver Alloy
 Operating Temperature : 0°C to 50°C



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



Relays & Solenoids

Solenoids

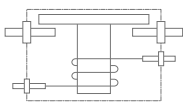
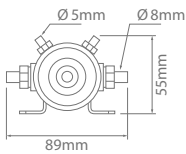
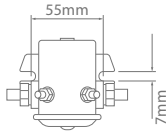
15-323



15-3F

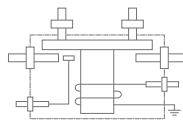
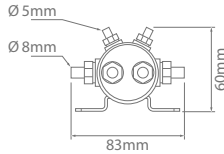
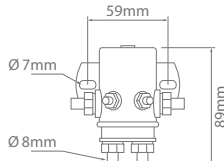
- Range of normally open & change over style contacts.
- Integrated mounting brackets.
- 12 & 24 volt models available.
- PVC dipped marine model available.

24063-08



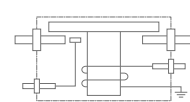
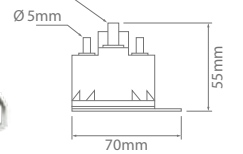
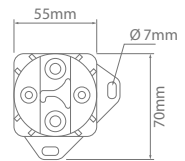
4 Terminal – Normally Open (N/O)

Fig 1



6 Terminal – Change Over (C/O)

Fig 2



4 Terminal – Normally Open
Includes Auxiliary Output (N/O)

Fig 3

Solenoids

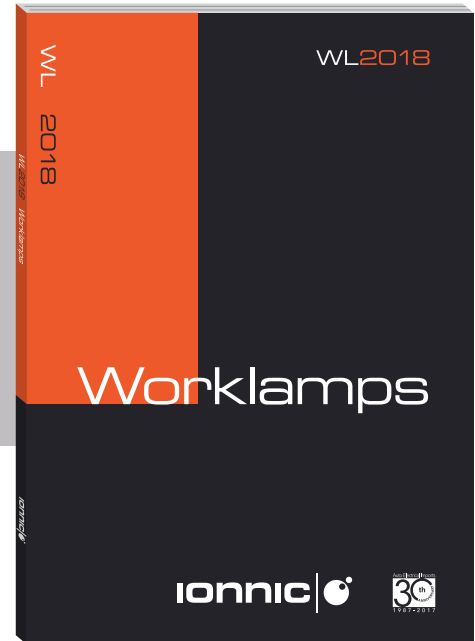
Part No.	Voltage	Current Rating (A)	Duty	Contact Type	Fig	Description
24063-08	24	65	Continuous	N/O	1	PVC dipped. ISO 8846 Marine
ST85	12	80	Continuous	N/O	1	
ST88	24	80	Continuous	N/O	1	
15-132	12	100	Continuous	N/O	1	
15-269	24	100	Continuous	N/O	1	
15-133	12	200	Continuous	N/O	1	
15-141	24	200	Continuous	N/O	1	
15-323	12	100/100	Continuous	C/O	2	
15-326	24	100/100	Continuous	C/O	2	
15-3F	12	200	Intermittent	N/O	3	

Catalogues

Lighting

- Nordic Heavy Duty LED
- Nordic General Purpose LED
- Nordic Heavy Duty HID
- Nordic Heavy Duty Halogen
- IONNIC LED
- LED Interior Lighting
- LED Workshop Lighting

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- DTHD Series
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- HD30/HDP20 Series
- DRC Series
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Vandal Resistant

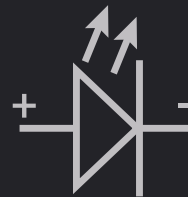
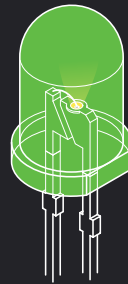
Manufactured from solid stainless steel the vandal resistant range of push button switches and pilot lamps can withstand severe abuse.

The IP65 rated units are available in several sizes and lighting options, with the integrated LED illumination in a variety of colours.



LED Illumination

Low power consumption and long life make LED's the ideal light source for Pilot Lamps and switches. All IONNIC pilot lamps are available in several colours and are multi-voltage 12-24V.





Miscellanies

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Miscellanies

LED Pilot Lamps



12V
24V

- LED illumination.
- Flashing models available in Dome series.
- Multi-voltage.
- Ring and centre style illumination.
- Epoxy filled electronics for enhanced moisture & vibration protection.
- Reverse polarity protected.
- Dome models environmentally sealed – IP67.
- Variety of colours.

Voltage :	12–24V
Body :	Polymer
	Vandal Resistant
Light Source :	Stainless Steel
Ingress Protection :	LED
	IP65 (face only)
	Dome
Operating Temperature :	IP67
	Dome
Approvals :	–24°C to 50°C
	Vandal Resistant
	CE, RoHS



Wide View – Dome

Voltage	Size (mm)	Max. Panel Thickness (mm)	Type	Red	Green	Amber	Blue
12–24	17	29	Continuous	PL109	PL110	PL111	PL112
12–24	17	29	Flashing	PL393	PL403	PL394	—

LRO1 Load resistor maybe required when used as an alternator warning light.



Wide View

Voltage	Size (mm)	Max. Panel Thickness (mm)	Red	Green	Amber	Blue	White
12–24	16	9	BA16DS-RED	BA16DS-GRN	BA16DS-AMB	BA16DS-BLU	BA16DS-WHT

LRO1 Load resistor maybe required when used as an alternator warning light.



Vandal Resistant

Voltage	Size (mm)	Max. Panel Thickness (mm)	Red		Green		Amber		Blue	
			Ring	Centre	Ring	Centre	Ring	Centre	Ring	Centre
12-24	12	7	—	P12-CR	—	P12-CG	—	P12-CA	—	P12-CB
12-24	19	7	P19-RR	P19-CR	P19-RG	P19-CG	P19-RA	P19-CA	P19-RB	P19-CB

LRO1 Load resistor maybe required when used as an alternator warning light.



Accessories – Load Resistor

Part No.	Description
LR01	Pre-wired 5W load resistor



Miscellanies

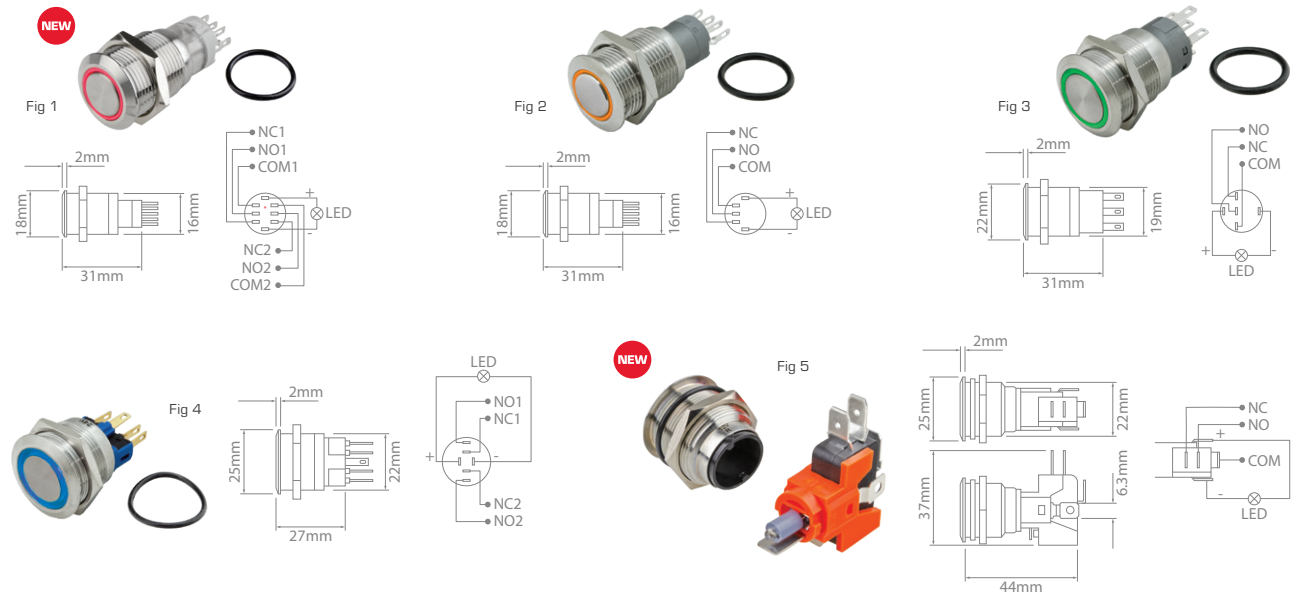
Vandal Resistant



- Vandal resistant momentary or latching switches.
- LED illumination.
- Highly impact resistant.
- Illuminates in a variety of colours.
- Environmentally sealed – IP65 (face only).

Contacts :
 Body :
 Ingress Protection :
 Approvals :

Silver Alloy
 Stainless Steel
 IP65 (face only)
 CE, RoHS



Vandal Resistant Switches

Size (mm)	Voltage	Current Rating (A)	Max. Panel Thickness (mm)	Function	Contact Type	Fig	Red	Green	Amber	Blue
16	12-24	2	10	Momentary	N/O & N/C*	1	L16-RR-DC NEW	—	—	—
16	12-24	2	10	Momentary	N/O & N/C	2	L16-RR	L16-RG	L16-RA	L16-RB
19	12-24	2	10	Momentary	N/O & N/C	3	L19-RR	L19-RG	L19-RA	L19-RB
22	12-24	2	8	Momentary	D/M & D/B	4	L22-RR	L22-RG	L22-RA	L22-RB
22	12	20	13	Latching	N/O & N/C	5	L22HD-RL12V NEW	—	—	—
22	24	20	13	Latching	N/O & N/C	5	L22HD-RL24V NEW	—	—	—
22	12	20	13	Momentary	N/O & N/C	5	L22HD-RM12V NEW	—	—	—
22	24	20	13	Momentary	N/O & N/C	5	L22HD-RM24V NEW	—	—	—

*L16-RR-DC is double pole.

Vandal Resistant – Accessory

Part No.	Description	Suit
L16-PLUG	Push on plug with 15cm fly leads	16mm

- Suits 2016 on (N80 models) Toyota Hi-Lux switch cut-outs.
- Connector supplied.
- LED Function & Location illumination.



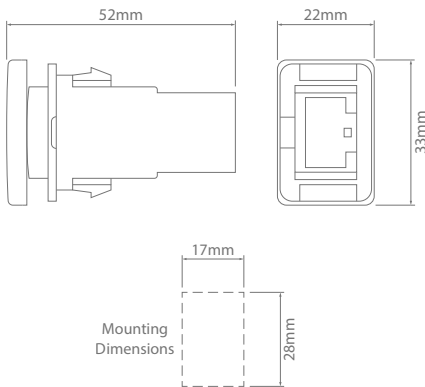
RHL163-19



RHL163-00

Push Button – Hi-Lux

Voltage : 12V
Current Rating : 3A
Actuation : Single Pole
Illumination : Function + Location



RHL163-19



RHL163-09

Hi-Lux Series – Normally Open Contact NEW

Action	Wiring Diagram	Illumination	Part No.	Symbol	Text
		Blue	RHL163-00	—	—
OFF		Blue	RHL163-09		DRIVING LIGHT
ON		Blue	RHL163-19		BEACON
		Blue	RHL163-22		WORK LAMP
		Blue	RHL163-79		LIGHTBAR
OFF Mom.ON			Blue	RHL168-78	



Miscellanies

Push Button

12V
24V

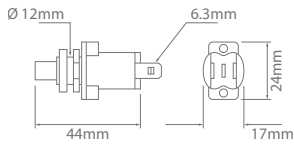
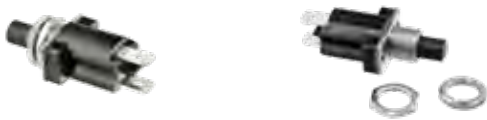


- Heavy & standard duty models available.
- Multi-voltage.
- Blade and screw terminal types available.
- Protective boot on 90030 model.

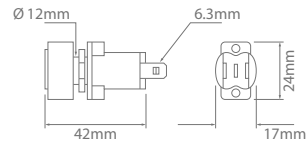
Voltage :
Circuitry :
Contacts :
Body :

12-24V
SPST
Silver Alloy
Polymer
Die-cast

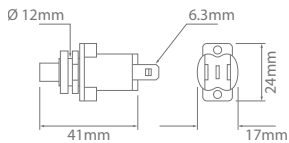
90030



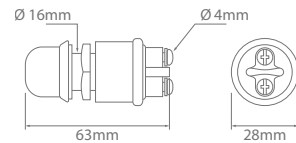
C936



C936/K



C936/D1



90030

Push Button

Part No.	Current Rating (A) @ 12V	Contact Type	Action	Max. Panel Thickness (mm)	Terminal Type
C936	10	N/O	Off - Mom.On	5	Blade
C936/K	10	N/O	Off - Mom.On	5	Blade
C936/D1	10	N/O	Off - Mom.On	3.5	Blade
90030	35	N/O	Off - Mom.On	8	Screw

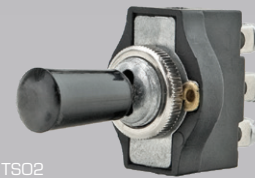
- Heavy & standard duty push-pull switches available.
- PPS-02 supplied with 4 coloured caps.
- PPS-02 can be illuminated, bulb not supplied.



PPS-02



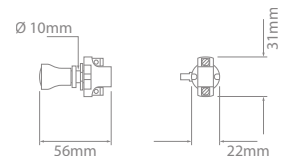
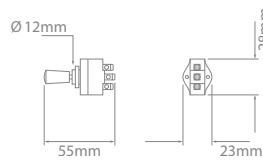
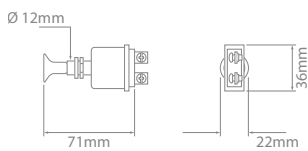
PPS-01



TS02

12V
24V

Voltage : 12–24V
 Contacts : Silver Alloy
 Body : Polymer Die-cast
 PPS-01



PPS-01



TS02



PPS-02

General

Part No.	Description	Voltage	Current Rating (A)	Action	Max. Panel Thickness (mm)
PPS-01	Heavy duty push-pull	12–24	75	Off – On	10
PPS-02	Standard duty push-pull	12–24*	20	Off – On	2.5
TS02	Toggle	12–24	10	On – Off – On	2.5

*Bulb not included with PPS-02. Bulb type – BA7S.



Miscellanies

Ignition



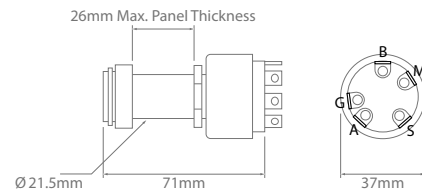
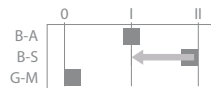
- Bosch™ & Lucas™ style heat start switches.
- Die-cast & polymer models available.
- Marine version available – IGS-03.
- Multi-voltage.
- IGS-08 environmentally sealed – IP67.

6V
36V

Voltage : 6–36V
Ingress Protection : IGS-08 IP65
IP67



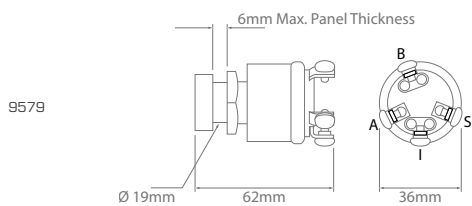
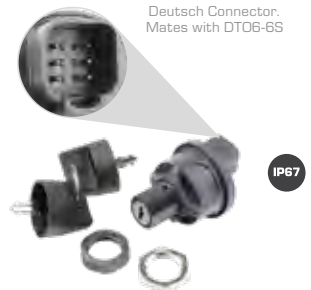
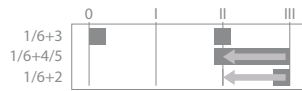
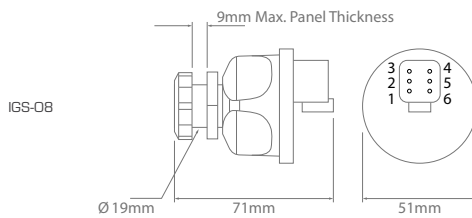
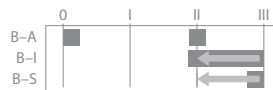
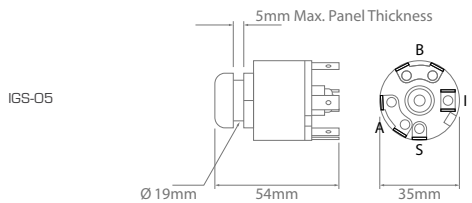
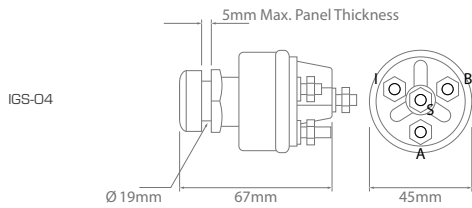
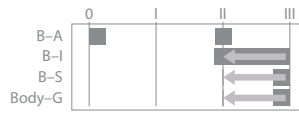
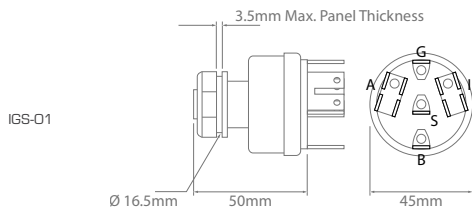
IP65



Ignition – Marine

Part No.	Key Positions	Terminal Size (mm)	Terminal Type	Ground	Battery	Terminal ID Magneto	Start	Ignition
IGS-03	Off – Ignition – Start	4	Screw	G	B	M	S	A

Terminals G and M are bridged when key is in "Off" position.



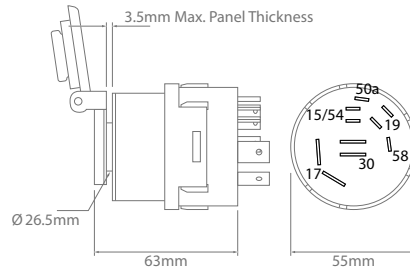
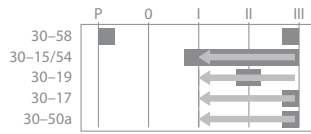
Ignition – Universal

Part No.	Key Positions	Terminal Size (mm)	Terminal Type	Ground	Terminal ID			
					Ignition	Start	Battery	Accessory
IGS-01	Accessory – Off – Ignition – Start	6.3	Blade	G	I	S	B	A
IGS-04	Accessory – Off – Ignition – Start	5	Stud	—	I	S	B	A
IGS-05	Accessory – Off – Ignition – Start	6.3	Blade	—	I	S	B	A
IGS-08	Accessory – Off – Ignition – Start*	NA	Deutsch	—	4/5	2	1/6	3
9579	Accessory – Off – Ignition – Start	4	Screw	—	I	S	B	A

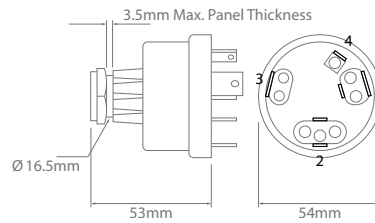
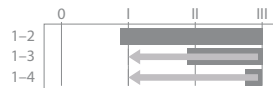
*To re-engage "Start" position, key must be cycled through off first. This feature prevents the starter motor clashing with running engine.



Miscellanies



IGS-02



IGS-07

Ignition – Preheat

Part No.	Key Positions	Terminal Size (mm)	Terminal Type	Terminal ID				
				Start	Preheat	Ignition	Battery	Park
IGS-02	Park – Off – Ignition – Preheat – Start	6.3 & 9.4	Blade	50a, 17	19	15/54	30	58
IGS-07	Off – Ignition – Preheat – Start	6.3 & 9.4	Blade	4	3	2	1	—

"Park" – this key position provides power for use on auxiliary circuits while vehicle is not operating. i.e. external park lights etc.



IGS-02/KEY



IGS-02/BOOT



IGS-07/KEY

Ignition – Preheat – Accessories

Part No.	Description	Suits
IGS-02/KEY	2 x spare key	IGS-02
IGS-02/BOOT	Protective boot	IGS-02
IGS-07/KEY	2 x spare key	IGS-07

- Die-cast alloy heavy duty.
- Universal mount.
- 900 model features pilot lamp for turn and hazard indication.
- 900 model can be used for 24V applications by changing the pilot bulb.
- 905 features indicator, hazard and dimmer functions.
- 905 includes a 12V change over relay.



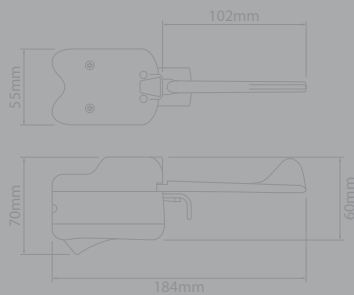
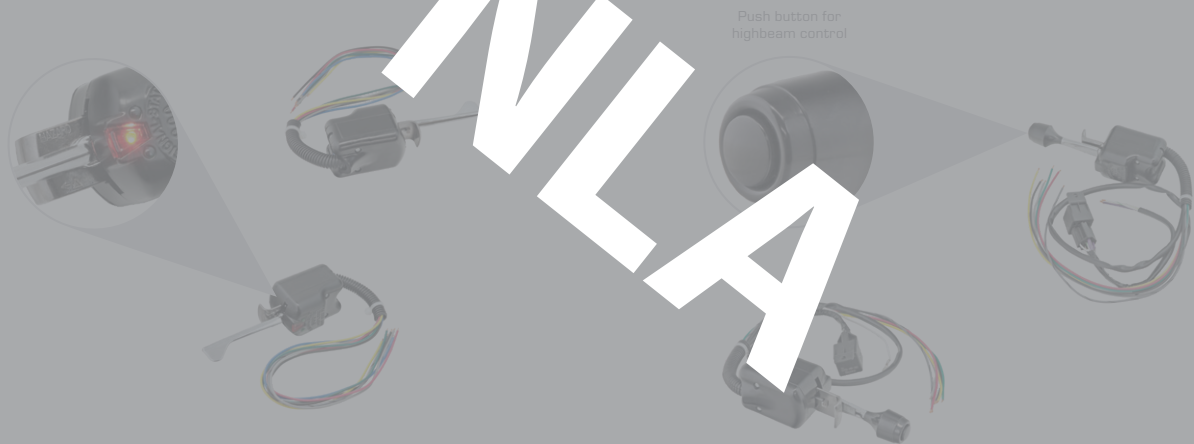
905



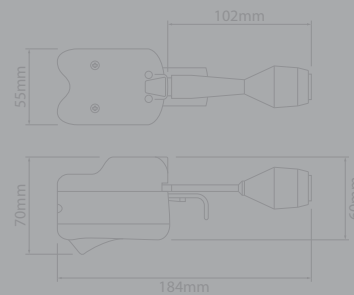
900

Voltage :
Body :

12-24V
Die-cast



900



905

Trafficator

Part No.	Description	Harness Length (mm)
900	Heavy duty. Indicator, Hazard Lights	450
905	Heavy duty. Indicator, Hazard Lights, Dimmer. Includes 12V C/O relay	800

Supplied with adjustable column mounting strap.



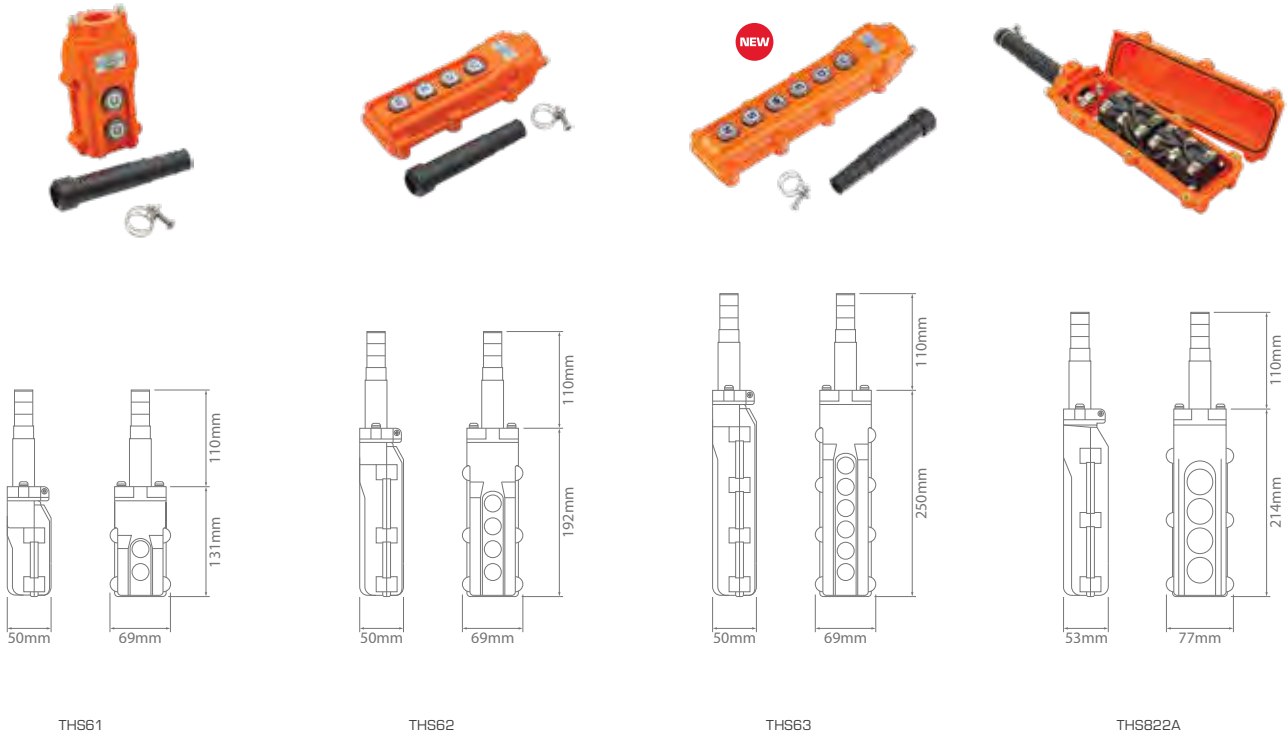
Miscellanies

Pendant



- Waterproof model available – THS822A.
- HC1 Pendant Control configurable to personal requirements.
- Engraved face plate for the HC1 Pendant Control on request.
- Hoist Push Button series used for indirect switching.

Voltage : 12–24V
 Body : Hoist ABS
 HC1 Polyurethane



Hoist Push Button

Part No.	Description	Current Rating [A]
THS61	2 button hoist control – Single Speed. Only for relay solenoid control	5 @ 250V
THS62	4 button hoist control – Single Speed. Only for relay solenoid control	5 @ 250V
THS63 NEW	6 button hoist control – Single Speed. Only for relay solenoid control	5 @ 250V
THS822A	Waterproof 4 button hoist control – Single Speed	10 @ 250V



HC1



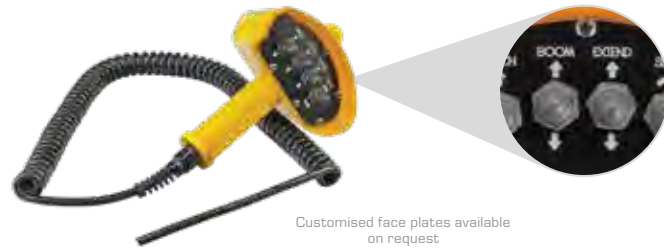
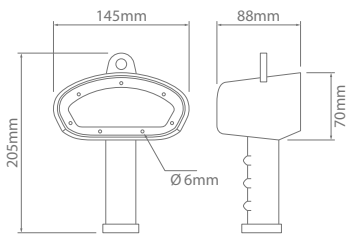
FP

FP2

FP3



CG16SR

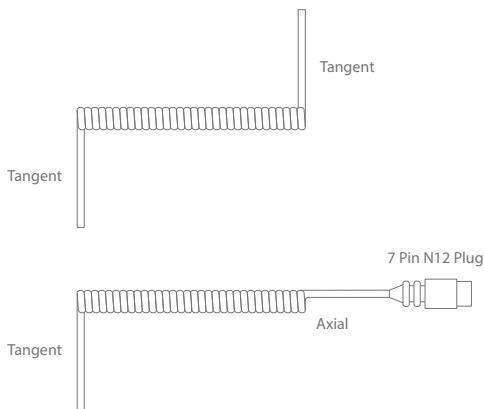


Customised face plates available on request

Pendant Control

Part No.	Description
HC1	Hand controller body
FP	Face plate – blank
FP2	Face plate – 2 hole. 8mm switch hole
FP3	Face plate – 3 hole. 8mm switch hole
CG16SR	Strain relief adaptor – 5mm to 10mm. IP68

Requires 7 x 8mm screws for face plate.
Engraved face plates available on request.



RC022



RC013, RC014



RC031



RC032



RC022



N12 Plug

Suzi Coils – Without Plugs

Part No.	No. of Cores	Cores x mm ²	Working Length (m)	Closed Coil Ø (mm)	Tails Type	Tail Lengths (mm)	Sheathing
RC013	7	7 x 0.5	3	20	2 x Tangent	2 x 200	Polyurethane
RC014	7	7 x 0.5	2	20	2 x Tangent	2 x 200	Polyurethane
RC031	7	7 x 1.5	8	25	2 x Tangent	2 x 200	Polyurethane
RC032	7	1 x 2, 6 x 1	3	28	2 x Tangent	2 x 200	Polyurethane
RC022	7	1 x 6, 6 x 2.5	3	90	Axial & Tangent	1 x 200, 1 x 1000	Hytrek



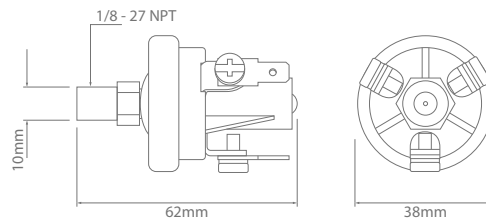


- Compatible with a wide range of substances including air, motor oils, transmission oils, fuels and other similar petroleum based liquids and gases.
- Water compatible model on request.
- Single pole change over.
- Robust, compact design suitable for harsh environments.
- Tolerates high pressure spikes.
- Supplied with 6.3mm blade terminals.

Voltage : 6-24V
Circuitry : SPCO
Proof Pressure : 500 psi
Current Rating : 8A @ 12V
Terminals : #8-32 screws & 6.3mm blade
Connection : 1/8 - 27 NPT Male
Base : Brass
Body : Glass Reinforced Polyester
Diaphragm : Polyimide Film
Contact : Silver Alloy, Gold Plated
Operating Temperature : -40°C to 120°C
Approvals : CE, UL



Shown with optional protective boot



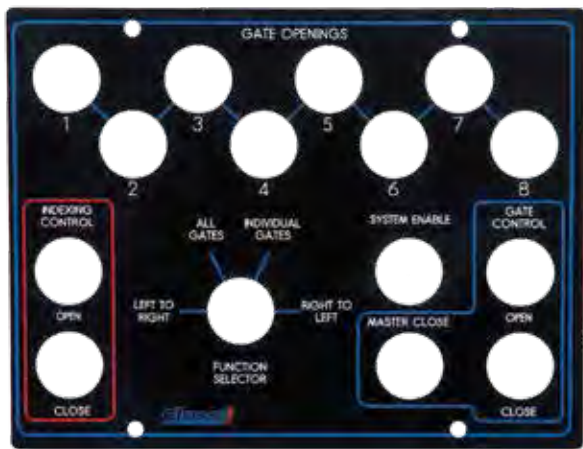
Pressure

Part No.	Switching Pressure		Maximum Operating Pressure		Burst Pressure	
	psi	kPa	psi	kPa	psi	kPa
PS3-4	4	27	150	1034	750	5171
PS3-10	10	69	150	1034	750	5171
PS3-15	15	103	150	1034	750	5171
PS3-20	20	137	150	1034	750	5171
PS3-30	30	206	250	1723	1250	8618
PS3-40	40	275	250	1723	1250	8618
PS3-50	50	344	250	1723	1250	8618
PS3-60	60	413	250	1723	1250	8618
PS3-BOOT	Protective Boot					

- Front or rear engraving.
- Large range of colour combinations including metallic finishes.
- Materials available for use with backlighting.
- UV Stabilised.
- Ideal for:
 - Safety signage
 - Control panels
 - Product tags
 - Name plates



Engraver Type : Rotary Flat Bed
 Maximum Size : 500mm x 380mm
 Materials : Laminated Impact Acrylic
 UV Stabilised



Custom Engraving

Custom engraving is available for the creation of control panels and name plates up to a maximum size of 500mm x 380mm.

Choose from a large range of colours with some materials suitable for use with backlighting.

For further information ask your local reseller or enquire on-line at ionnic.com.



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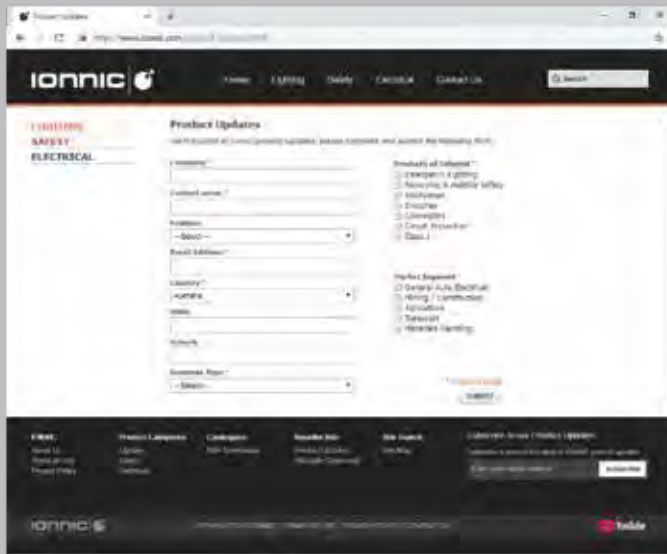
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SR2020 Version 4.0 – 08/2019

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