

Push Button Switch for LED lighting with built in multi-way control

PRODUCT SUMMARY AND CAPABILITIES

Designed in Australia to provide optimised switching of LED based lamps and drivers, this high quality, two-wire electronic switch mechanism can be connected in parallel to other LEDsmart+ devices to provide a simple solution to multi-way control.

As part of the LEDsmart+ range, this electronic switch enables all LEDsmart+ dimmers, switches and timers to be combined onto the same wall plate, providing the user with a consistent look and feel.

PRODUCT FEATURES

- Mix switching, dimming and timing on the same circuit
- MultiMate™ technology allows multi-way switching with no extra wires
- Suitable for one-way, two-way, three-way and multi-way switching
- Suitable for both retrofit and new installations
- Active only ‘two wire’ connection - no neutral required
- Fully programmable with simple 3-step programming
- Optional soft start switch on
- Flush and rocker style button options
- White Illuminated halo with interchangeable coloured rings (blue / green / orange / clear)
- Quiet, soft press button - no harsh click
- 1W minimum load



Patented
Registered Design



Designed in Australia to meet Australian Standards and installation conditions



PROGRAMMABLE SETUP FUNCTIONS

Maximum Brightness	The maximum brightness level provided by the switch can be set to suit customer requirements. Default: The maximum brightness is set to the highest output.
LED indicators	The switch’s white LED indicators can be set to glow on or turn off when the switch is off Default: The white LED indicators are set to glow on when the switch is turned off.
Soft Start	Soft start switches the lighting on over a half second period. This can increase lamp life in some cases and can also produce a better switch on effect for the user. Default: Soft start is disabled.
MultiMate™ ON/OFF	MultiMate™ functions can be switched ON or OFF Default: MultiMate™ features are switched on.

A wide range of LED and CFL lamps are available from different manufacturers. The following issues are occasionally seen when used in conjunction with 2-wire dimmer/timer/switch products:



- When switched off, the LED/CFL lights flicker, pulse on/off or do not switch off completely.
 - When switched off, the LEDsmart+ LED indicators flicker.
 - When switching on, the LED/CFL lights have difficulty switch on and the dimmer indicators flicker or pulse.
- If these are experienced: Install a LEDsmart+ Load bypass device (item code **MMBP**) across the lamp Line and Neutral terminals to provide improved system performance.

MULTIMATE™ TECHNOLOGY

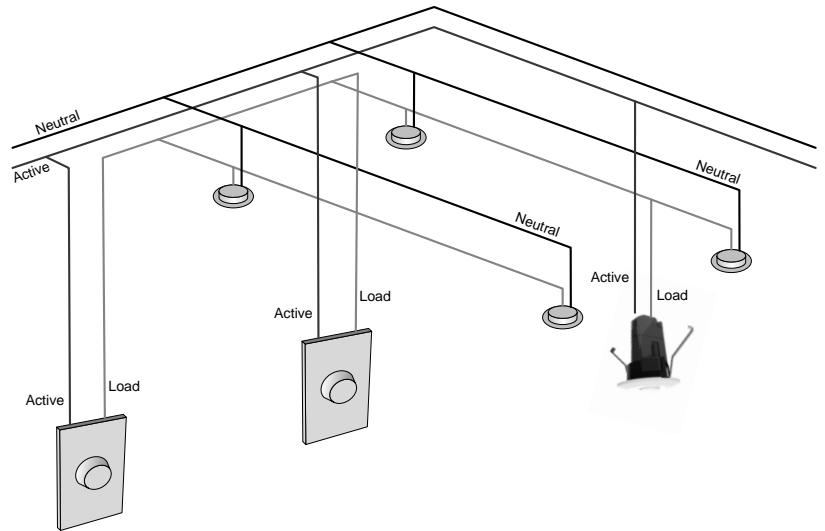
MultiMate™ is a technology inside the range of high quality LEDsmart+ dimmers, sensors, timers and electronic light switches. It allows multi-way control of lighting without the need for an expensive control system. MultiMate™ technology is suitable for both new and retrofit installations.

MultiMate™ technology enables multiple LEDsmart+ two-wire devices to be wired in parallel when two-way, three-way or multi-way dimming and switching is required.

When connected in parallel, LEDsmart+ dimmers, switches, timers and occupancy sensors allow dimming (and switching) of connected lighting loads from multiple locations without any additional wiring. No strapper wires, dedicated remote switch wiring or control bus is required.

MultiMate™ is a patented technology, developed in Australia by Pierlite and Ozuno.

The wiring example shows two LEDsmart+ dimmers connected in parallel with a LEDsmart+ Occupancy Sensor. Together these provide user-controlled two-way dimming with Occupancy Sensor ON or OFF functions on four downlights without any additional wiring.



PRODUCTS WITH MULTIMATE™ TECHNOLOGY INCLUDED

MultiMate™ technology is included in the following products. They can all be connected in parallel to allow multi-way control. *Note that different types of MultiMate™ products can be connected in parallel.*

For example: dimmers, motion sensors, switches and timers can be connected in parallel to control the same group of lights from different locations and/or provide additional functionality.

Item Code	Description	Features
MMDM/RT	LEDsmart+ Rotary Dimmer / Switch	Rotary Dimmer with built in on/off switch and multi-way control
MMDM/PB	LEDsmart+ Push Button Dimmer	Push Button Dimmer with built in on/off switch and multi-way control
MMSE/PR	LEDsmart+ 360° Occupancy Sensor	360° Occupancy Sensor programmable between 1 minute and 60 minutes with multi-way control
MMTM/PB	LEDsmart+ Push Button Minute Timer	Push Button Timer programmable between 1 minute and 30 minutes with multi-way control
MMTH/PB	LEDsmart+ Push Button Hour Timer	Push Button Timer programmable between ¼ hour and 7 ½ hours with multi-way control
MMSW/PB	LEDsmart+ Push Button Electronic Switch	Push Button Electronic Switch for LED lighting with built in on/off switch and multi-way control
MMDM/DD	LEDsmart+ Digital Level Display	Level Display for use with any dimmer
MMSR	LEDsmart+ Slave Relay	10A Relay for On/Off control from trailing edge dimming devices

ROCKER AND FLAT PUSH BUTTONS

Two different styles of push buttons are included. Either can be used depending on customer preferences. The Rocker Button is pre-fitted to the switch.



COLOURED BEZELS

The switch has white LED indicators and the pre-fitted bezel provides a white glow around the button. Interchangeable blue, green and orange bezel rings are also included with the switch. These can be used to change the colour of the LED indicators to match customer colour preferences and/or to more easily identify different LEDsmart+ devices on the same grid plate.

INSTALLING LEDSMART+ DEVICES INTO CLIPSAL SATURN™ OR CLIPSAL SATURN ZEN™ WALL PLATES

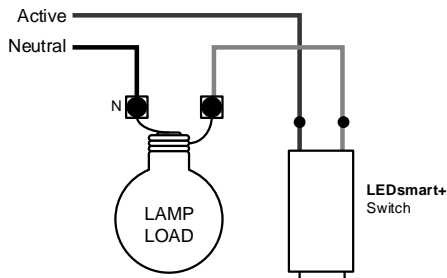
Adaptor kits are available separately to enable LEDsmart+ devices to be installed into Clipsal Saturn™ or Clipsal Saturn Zen™ wall plates. Order codes are as follows.

DGACCESSPK2	Adaptor kit for LEDsmart+ Push Button devices
DGACCESSPK3	Adaptor kit for LEDsmart+ Rotary dimmers

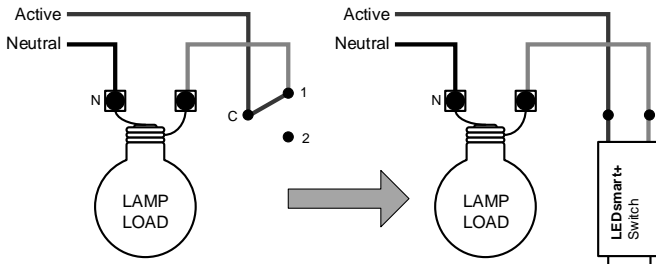
WIRING DIAGRAMS

ONE-WAY SWITCHING

New installation: Switching



Existing Installation: Convert to LEDSmart+ switch

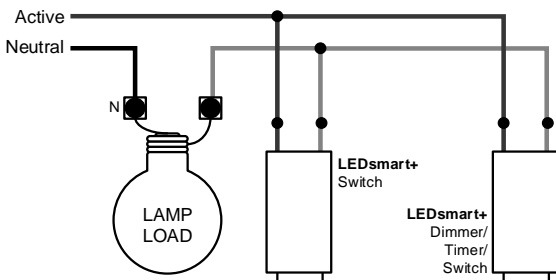


TWO-WAY SWITCHING

For two-way control using LEDSmart+ products, they are connected in parallel.

Any LEDSmart+ products can be connected in parallel. For example an LEDSmart+ push button switch and dimmer can be wired in parallel to provide two-way control.

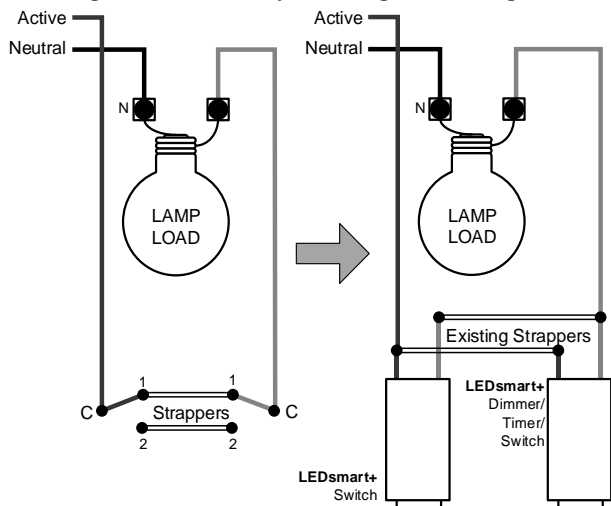
New installation: 2-way Dimming + Switching



Two-way control using an LEDSmart+ switch and an additional LEDSmart+ switch, dimmer or timer. Note these devices are simply wired in parallel.

When replacing existing two-way switching with two-way dimming/switching using LEDSmart+, the existing two-way strapper wires can be re-used. No new wiring is required.

Existing installation: 2-way switching to switching + dimming

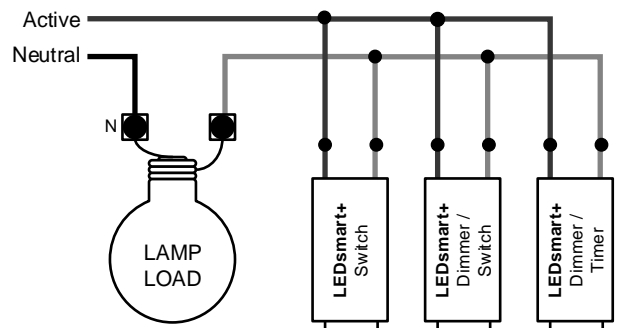


MULTI-WAY (THREE-WAY OR MORE) DIMMING AND SWITCHING

For multi-way dimming and switching using LEDSmart+ dimmers, all switches, dimmers, timers and sensors are connected in parallel.

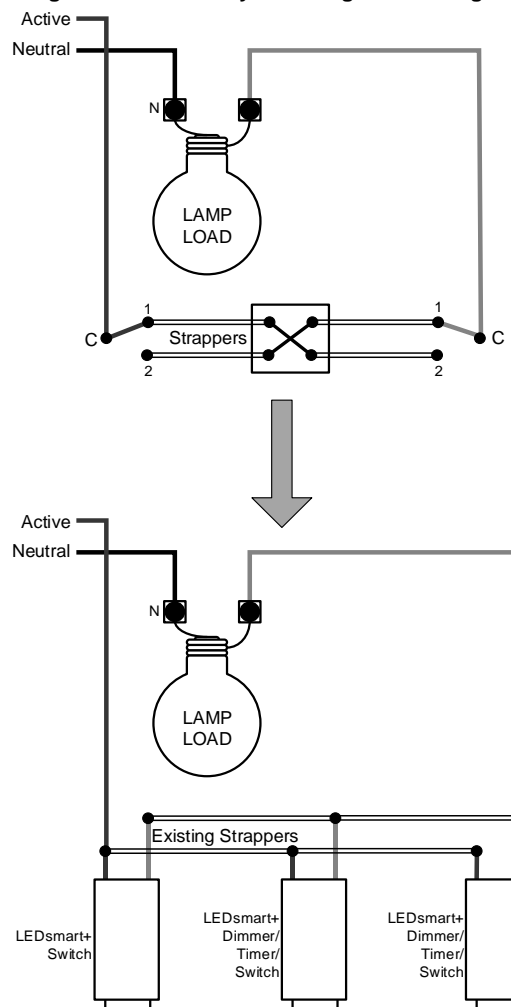
The diagrams show the wiring for three-way dimming and switching using LEDSmart+ switches, timers and dimmers. If more than three-way control is required, further LEDSmart+ devices are simply wired in parallel.

New installation: 3-way or more way Dimming + Switching



When replacing existing three or more way switching with multi-way dimming/switching using LEDSmart+, the existing strapper wires can be re-used. No new wiring is required.

Existing installation: 3-way switching to switching + dimming



SPECIFICATIONS







Nominal Line Voltage	220-240Vac
Line Frequency	50Hz Nominal (47 – 53Hz)
Load Brightness Control Range	0% to 100% (typical for LED loads)**
Rated Load	Refer Compatible Loads table (below)
Minimum Load	1W
Maximum cable distance between LEDsmart+ devices	50m (for example, two LEDsmart+ devices can be separated by up to 100m provided that the maximum distance from the furthest device to the parallel junction point is no more than 50m).

** Refer note on first page. An MMBP may be needed to prevent off-state LED glow in some cases.

COMPATIBLE LOAD TYPES

The LEDsmart+ range are compatible with lighting loads that are designed for use with Phase Angle / Phase Cut dimmers.

Lighting loads that have not been designed for use with non-separately switched dimmers typically require the use of the MMBP Load Bypass device to achieve compatibility.

Load Symbol	Load Types	Max Load	Notes
	Dimmable LED Lamps	400W	The LED driver must be dimmable. Maximum permitted number of drivers is 400W divided by the driver nameplate power rating. Due to variety of LED lamp designs, maximum number of LED lamps is also dependent on power-factor result when connected to the switch.
	Electronic Transformers	400W	
	Standard iron-core transformers	250W	Due to variety of transformer designs, max LV lighting load is also dependent on transformer efficiency.
	Toroidal iron-core transformers	300W	
	Incandescent	350W	
	Dimmable CFLs	400W	Due to the variety of CFL designs, the maximum number is make/model dependent.

INCOMPATIBLE LOAD TYPES

The switch is designed to **switch lighting loads only**. It is not suitable for switching ceiling sweep fans, exhaust fans or other non-lighting devices which require an air-gap type switch. If control of a non-lighting load is required, consider using the MMSR Slave Relay accessory.

MULTI-GANG DE-RATING

In applications where multiple switches or dimmers are installed in a multi-gang plate, a de-rating factor is applied to the maximum load as follows.

Number of times per plate	De-rating factor
1	No de-rating
2	0.85
3	0.7
4	0.55
5	0.4
6	0.25

De-rating Example

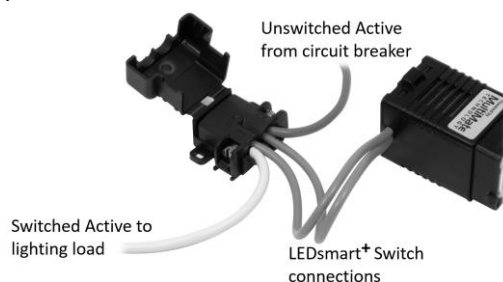
Two LEDsmart+ devices installed in a wall plate. The maximum LED load which can be connected to each device = $400W \times 0.85 = 340W$ per device.

SWITCH INSTALLATION

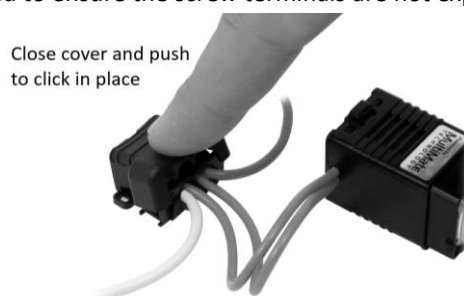


This product must be installed by a suitably qualified installer who must work in accordance with standard safety procedures for mains-powered electrical equipment.

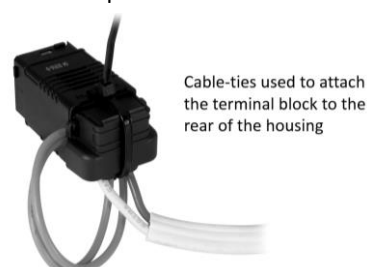
The terminal block included with the switch should be used to carry out the electrical connections, as shown below.



Once the connections have been made, the terminal cover is closed to ensure the screw terminals are not exposed.



The terminal block can then be cable-tied to the rear of the switch utilising the two loop holes.



SWITCH SETUP

The LEDsmart+ push button switch has a number of useful functions which can easily be set up by entering setup mode and following three easy steps.

All settings are optional, depending on the application.

SETTINGS ARE SHARED

When multiple LEDsmart+ switches are used on the same controlled circuit, some setup properties are communicated and shared between them. For specialised applications this can be disabled.

SWITCH SETUP FUNCTIONS

Function	See Part
Entering Setup Mode	A
Setting Maximum Brightness	B
Setting Soft Start Mode	C
Setting Off State LED Feature	D
Setting MultiMate™ Mode	E
Factory Defaults Reset	F



Once in Setup mode, options are selected by a series of clicks of the switch push button. Each click should be approximately 1 second after the previous click.

A: ENTERING SETUP MODE

If the switch has been powered up for **LESS THAN 15 MINUTES** see **A1**.

If the switch has been powered up for **MORE THAN 15 MINUTES** see **A2**.

A1: SWITCH HAS BEEN POWERED FROM MAINS FOR LESS THAN 15 MINUTES

1. Press and hold the switch push button for **10 seconds**.

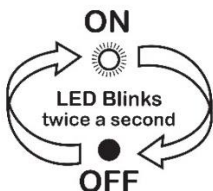
Connected lights will switch or dim, this is normal.


Press & Hold!



2. The white LED Indicators will blink ON/OFF twice per second. This indicates that the switch is now in Setup Mode.

If more than one LEDsmart+ device is connected in parallel, they all enter setup mode. The blink ON/OFF will also be seen on all other LEDsmart+ devices connected in parallel.



 In the unlikely event that other LEDsmart+ devices connected in parallel do not enter setup, exit and try again.

3. The switch is ready for the settings to be adjusted as required. Go to the relevant setup function instructions.



A2: SWITCH HAS BEEN POWERED FROM MAINS FOR MORE THAN 15 MINUTES

1. Press and hold the button for **30 seconds**.

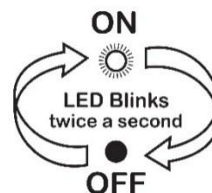
This resets the Setup Entry time back to 10 seconds (for the next 15 minutes) Connected lights will switch or dim, this is normal


Press & Hold!



2. The white LED Indicators will blink ON/OFF twice per second. This indicates that the switch is now in Setup Mode.

If more than one LEDsmart+ device is connected in parallel, they all enter setup mode. The blink ON/OFF will also be seen on all other LEDsmart+ devices connected in parallel.



 In the unlikely event that other LEDsmart+ devices connected in parallel do not enter setup, exit and try again.

3. The switch is ready for the settings to be adjusted as required. Go to the relevant setup function instructions.

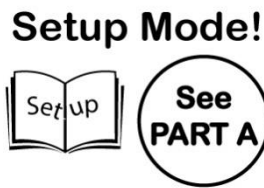


B: SETTING MAXIMUM BRIGHTNESS

The maximum brightness level provided by the switch can be set to suit customer requirements.

When lamps are near to full brightness, it is difficult to see changes in dimming level. Therefore, when setting maximum brightness, it is recommended that the lamp is slowly dimmed up to a point where no further changes in brightness can be seen, and the maximum level set at this point.

1. Enter the switch **Setup Mode** - See **PART A**.

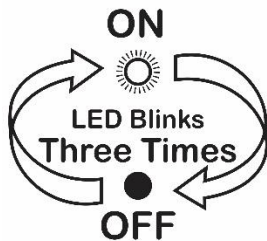


2. Click the push button **3 times**.



3. The LED will blink 3 times.

If more than one switch is connected to the same load, they will all now blink 3 times.



4. Press and hold the button to adjust to required maximum brightness level.

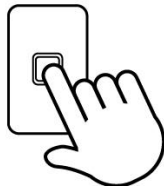
The direction of adjustment will alternate with each press-and-hold.

To cancel/exit do nothing for 30 seconds.

5. Click once to save & exit.

If there are multiple LEDsmart+ switches connected in parallel, the maximum brightness levels only needs to be set in one device. The setting is automatically saved to all other switches connected in parallel.

Adjust!



C: SETTING THE SOFT START FEATURE

The switch includes a 'soft start' option. This soft start switches the lighting on over a half second period. This can increase lamp life in some cases and can also produce a better switch on effect. By default, soft start is disabled.

To enable soft start, follow the steps below.

1. Enter the switch **Setup Mode** - See **PART A**.

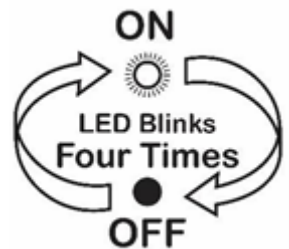


2. Click the push button **4 times**.



3. The LED will blink 4 times.

If more than one switch is connected to the same load, they will all now blink 4 times.



4. To enable the soft start feature - press and hold the button until the lamp(s) turn ON.

To disable the soft start feature – press and hold the button until the lamp(s) turn OFF.

To cancel/exit do nothing for 30 seconds.

5. Click once to save & exit.

If there are multiple LEDsmart+ switches connected in parallel, the soft-start settings only needs to be set in one device. The setting is automatically saved to all other switches connected in parallel.

Adjust!

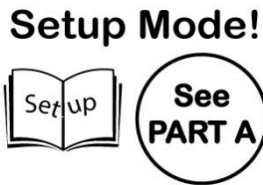


D: SETTING OFF STATE INDICATION

When the switch is off, the white LED indicators in the switch can be set to glow or turn off. By Default, the white LED indicators are set to glow when the switch is turned off.

To set the LED indicators to turn off when the switch is off, follow the steps below.

1. Enter the switch **Setup Mode** - See **PART A**.

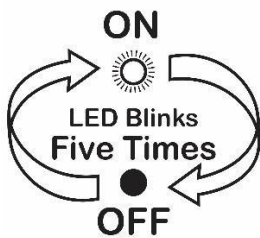


2. Click the push button **5 times**.



3. The LED will blink 5 times.

If more than one switch is connected to the same load, they will all now blink 5 times.



4. To enable indicator glow when the switch is OFF: press and hold the button until the lamp(s) turn ON.

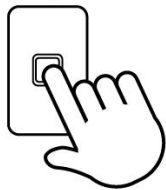
To disable indicator glow when the switch is OFF: press and hold the button until the lamp(s) turn OFF.

To cancel/exit do nothing for 30 seconds

5. Click once to save & exit.

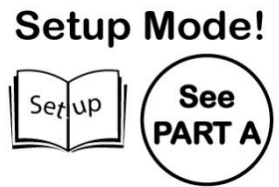
Indicator off-state setting for LEDsmart+ switches connected in parallel must be set individually. A change of mode is not automatically set across units.

Adjust!



E: SETTING MULTIMATE™ MODE

1. Enter the switch **Setup Mode** - See **PART A**.



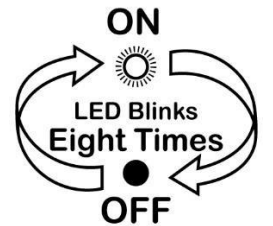
2. Click the push button **8 times**.



3. The LED will blink 8 times.

If the MultiMate™ function is currently Disabled, lamp(s) connected to the dimmer will now turn OFF.

If the MultiMate™ function is currently Enabled, lamps(s) connected to the dimmer will now turn ON.



4. To Enable MultiMate™ (Default) push-and-hold the button until the lamp(s) turns ON.

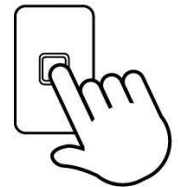
To Disable MultiMate™ push-and-hold the button until the lamp(s) turns OFF.

To cancel/exit do nothing for 30 seconds.

5. Click once to save & exit.

MultiMate™ mode for LEDsmart+ switches connected in parallel must be set individually. A change of mode is not automatically set across units.

Adjust!



F: RESETTING TO FACTORY DEFAULT

1. Enter the switch **Setup Mode** - See **PART A**.



2. Click the push button **10 times**.



3. The switch will automatically exit Setup Mode when it has reset.

This product has a TWO YEAR warranty against manufacturing defects in addition to relevant consumer law guarantees. Refer to pierlite.com for our full warranty conditions, or phone customer service.

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