

LEDsmart⁺

Push Button Minute Timer

Programmable between 1 minute and 30 minutes with built in multi-way control



- Programmable between 1 minute and 30 minutes, in 1 minute steps
- Suitable for one-way, two-way, three-way and multi-way control
- MultiMate™ technology allows multi-way control with no extra wires
- Suitable for both retrofit and new installations
- Active only 'two wire' connection - no neutral required
- Override feature to stop the lights turning off automatically
- Advanced warning feature to dim lighting to 50% level for 5 minutes after time out
- Mode to convert from Short Interval timer to Long Interval timer
- Programmable maximum level and off state indicator
- Simple 3-step timer interval setting
- Flush and rocker style button options
- Quiet, soft press button – no harsh click
- 1W minimum load

Patent Pending

Registered Design



Designed in Australia to meet
Australian Standards and
installation conditions



Product Item

This guide provides installation, setup and specification information for the LEDsmart⁺ Push Button Minute Timer, item number **MMTM/PB**.

Product summary and capabilities

Designed in Australia, this electronic timer will automatically switch lighting off after the timeout period programmed by the installer.

This high quality, two-wire timer can be connected in parallel to other LEDsmart⁺ devices to provide a simple solution to multi-way control.

Programmable setup functions

Setup functions	Description
Timeout period	The timer allows a duration of 1 to 30 minutes in increments of 1 minute. <i>Default: Timeout period is set to 15 minutes.</i>
Maximum Brightness	The maximum brightness level provided by the timer can be set to suit customer requirements
Advanced Timer	The advanced timer mode provides an optional advanced warning to the user that the lights will shortly turn off automatically When the advance timer is enabled, at timeout the lights are dimmed to 50% over a 4 second period and are held at this 50% level for 5 minutes. After this 5 minutes, the lights are turned off automatically <i>Default: Advanced Timer Mode is disabled</i>
LED indicators	The timer's white LED indicators can be set to glow on or turn off when the timer is off <i>Default: The white LED indicators are set to glow on when the timer is turned off</i>
Converting from minute to hour timer	If required, this minute timer can be converted to an hour timer, with a timeout settable between ¼ hour and 7½ hours, in ¼ hour increments
MultiMate™ ON/OFF	MultiMate™ functions can be switched ON or OFF <i>Default: MultiMate™ features are switched on</i>



There are a wide range of LED and CFL lamps 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

It is recommended to install a Diginet 'Load by-pass' device (Diginet item number **MMBP**) across Load and Neutral terminals to provide improved performance of these lamps.

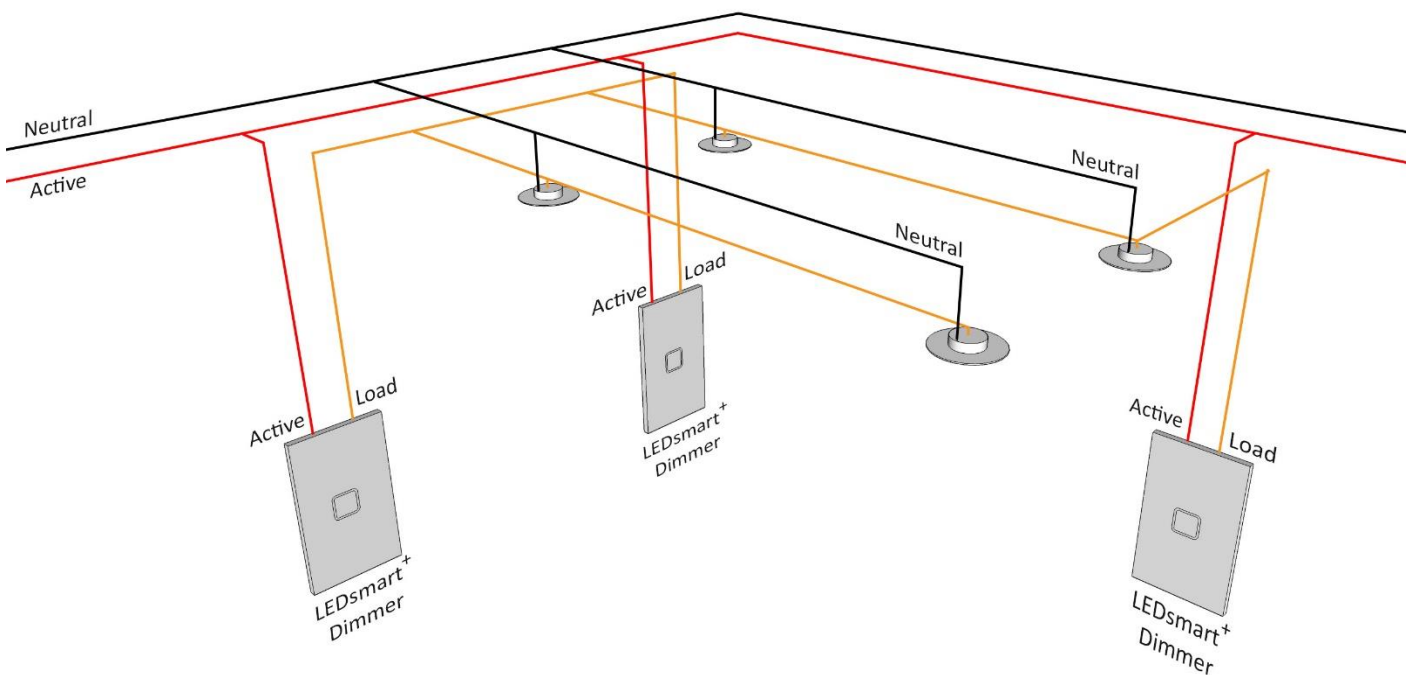
Multimate™ technology

MultiMate™ is a technology inside Diginet’s range of high quality LEDsmart⁺ dimmers, 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 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 Gerard Lighting.

The wiring example below shows three LEDsmart⁺ dimmers connected in parallel to provide three way dimming and switching of four downlights without any additional wiring.



Products with MultiMate™ technology included

The following products all include MultiMate™ technology and can therefore be connected in parallel to allow multi-way control. Note that different types of MultiMate™ products can be connected in parallel. For example, timers and dimmers can be connected in parallel to control the same group of lights from different locations and/or provide additional functionality.

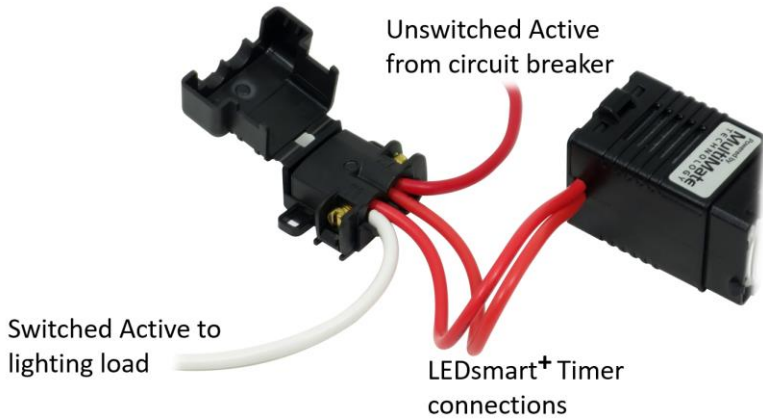
Product Range	Item Number	Type	Description
LEDsmart ⁺	MMDM/RT	Dimmer	Rotary Dimmer with built in on / off switch and multi-way control
LEDsmart ⁺	MMDM/PB	Dimmer	Push Button Dimmer with built in on / off switch and multi-way control
LEDsmart ⁺	MMSW/PB	Switch	Push Button Switch for LED lighting with built in multi-way control
LEDsmart ⁺	MMTM/PB	Timer	Push Button Minute Timer programmable between 1 minute and 30 minutes with built in multi-way control
LEDsmart ⁺	MMTH/PB	Timer	Push Button Hour Timer programmable between ¼ hour and 7½ hours with built in multi-way control

Timer installation



WARNING – This product must be installed by a suitably qualified installer
 Electric shock may result in serious injury or death. Follow all warnings in this guide and on the product while working in accordance with the latest electrical safety practices for mains-powered electrical equipment.

The terminal block included with the timer 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.

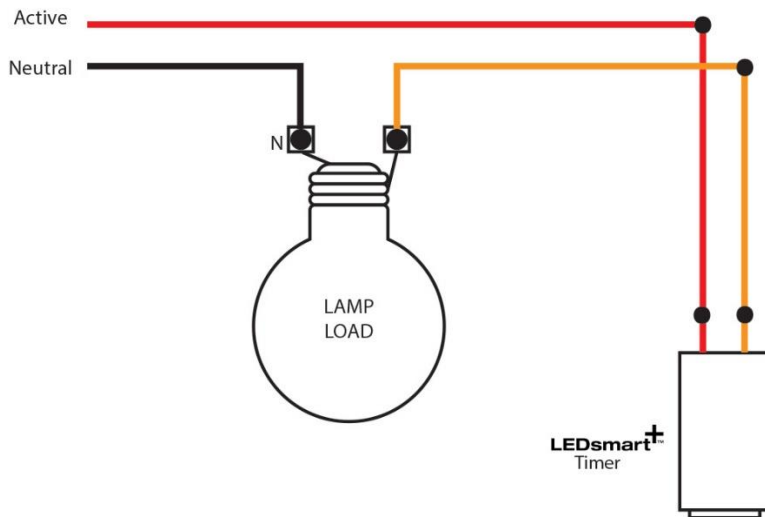


The terminal block can then be cable-tied to the rear of the timer housing utilising the two loop holes.



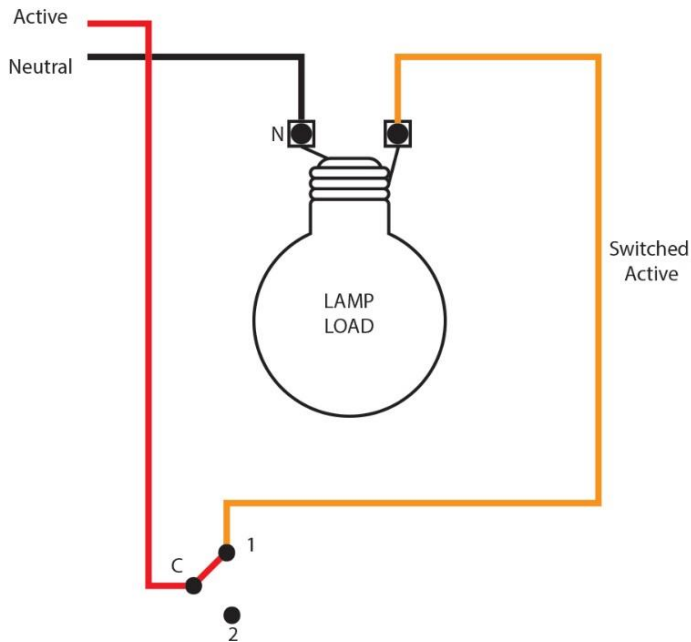
Wiring for one-way timer

New Installation – one-way timer

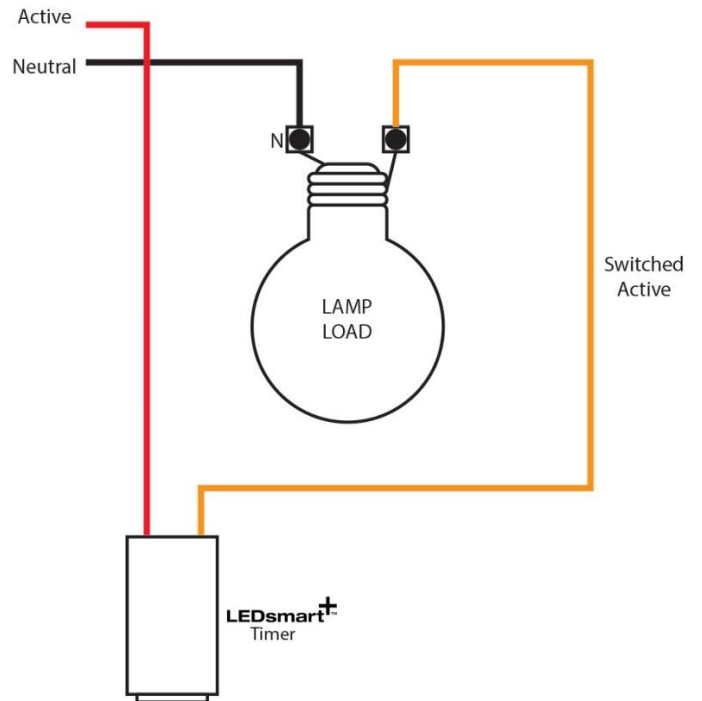


Replacing existing standard one-way switch with an LEDsmart⁺ Timer

Existing one-way switching



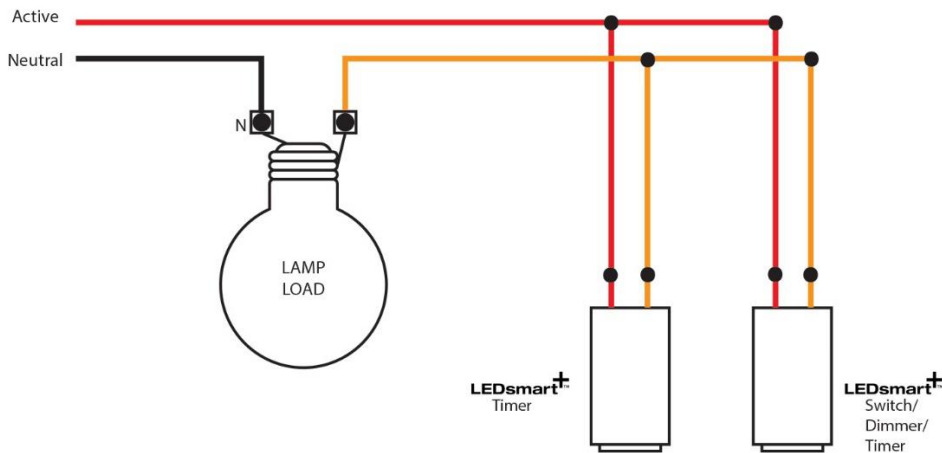
Replacement LEDsmart⁺ Timer



Wiring for two-way LEDsmart⁺ device control

To achieve two-way control using LEDsmart⁺ products, they are connected in parallel. Note any LEDsmart⁺ products can be connected in parallel. For example an LEDsmart⁺ push button timer and dimmer can be connected in parallel to provide two-way control.

New Installation – two-way LEDsmart⁺ device control

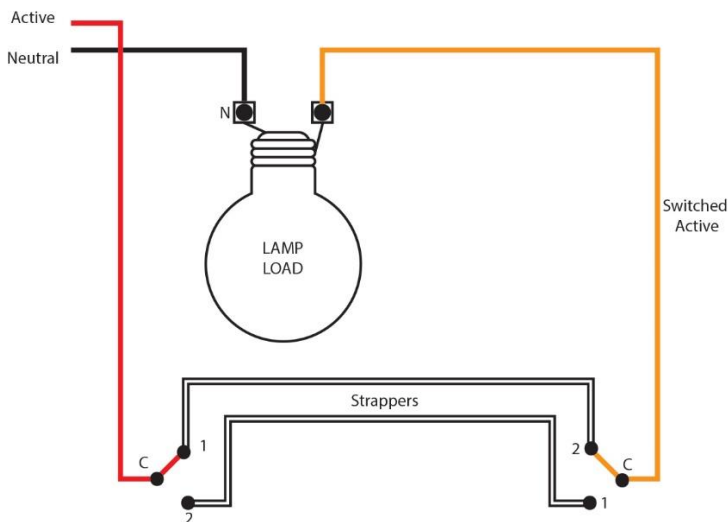


Two-way control using a LEDsmart⁺ timer and a dimmer, switch or another timer. Note these two-wire devices are simply connected in parallel.

Replacing existing two-way switching with two-way LEDsmart⁺ control

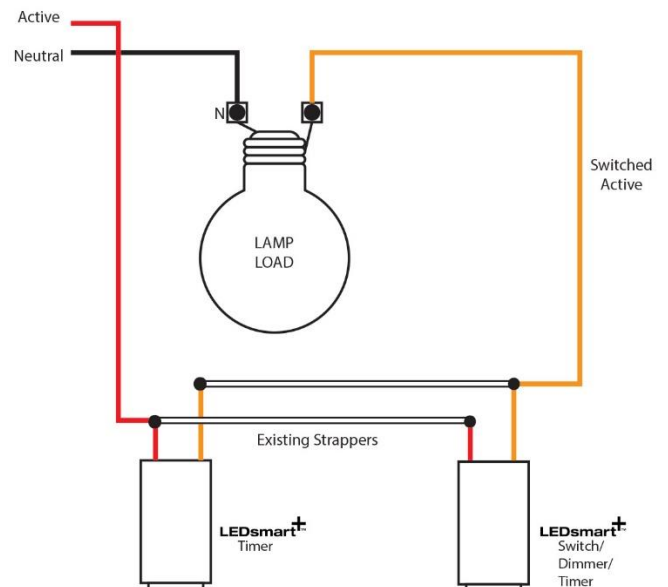
When replacing existing two-way switching with two-way control using LEDsmart⁺, the existing two-way 'strapper' wires can be re-used. No new wiring is required. See the wiring diagrams below.

Existing two-way switching



Traditional two-way switching using standard rocker switch mechanisms and strappers between the switches.

Replacement two-way LEDsmart⁺ control



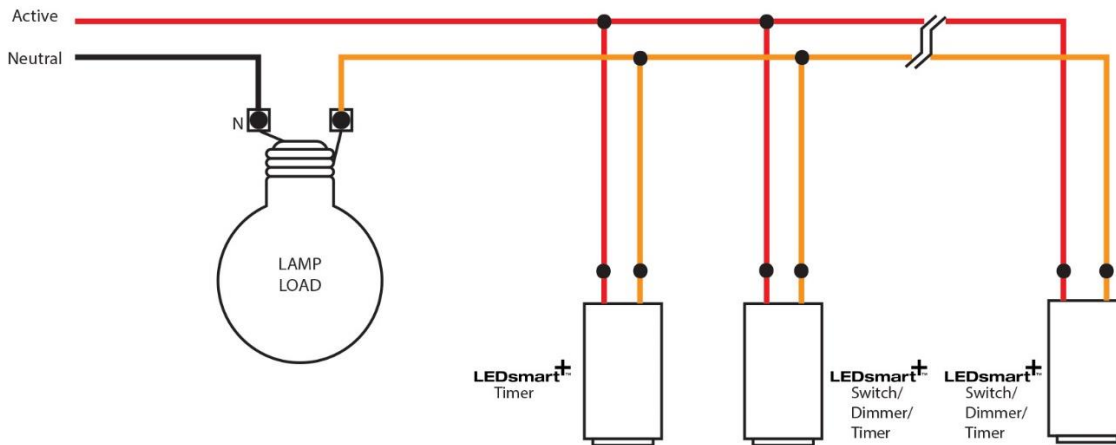
Rocker switches replaced with LEDsmart⁺ devices using the existing strapper wires. No new wiring required.

Wiring for multi-way LEDsmart⁺ device control

To achieve multi-way control using LEDsmart⁺ products, the required LEDsmart⁺ products are connected in parallel.

The diagram below shows the required wiring for three-way control using LEDsmart⁺ devices. If more than three-way control is required, further LEDsmart⁺ devices are simply wired in parallel.

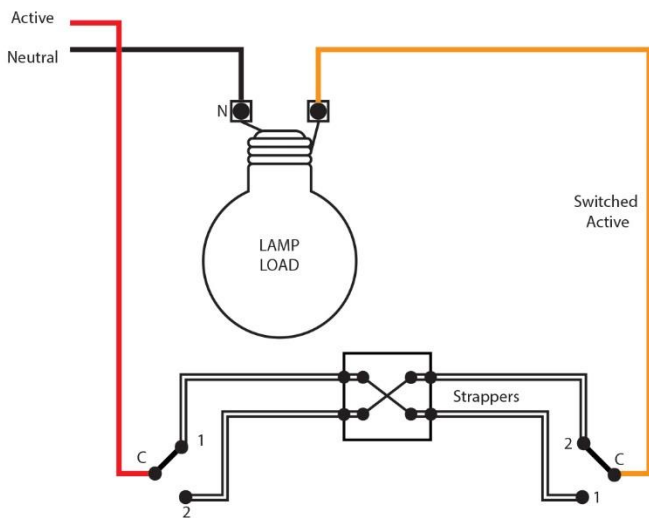
New Installation – LEDsmart⁺ multi-way device control



Three-way control using LEDsmart⁺ devices. Note that each two-wire LEDsmart⁺ device is simply connected in parallel.

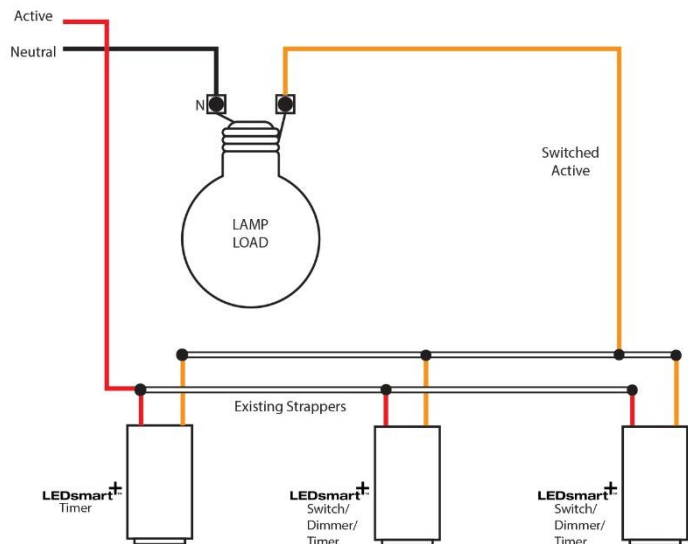
Replacing existing multi-way switching with LEDsmart⁺ multi-way control

Existing three-way switching



Traditional three-way switching using two rocker switches and one intermediate switch, with strappers between the switches.

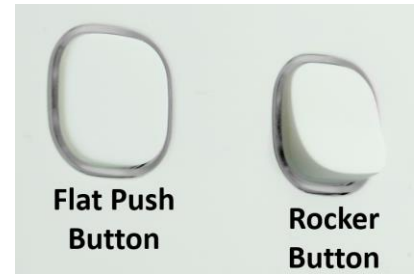
Replacement three-way LEDsmart⁺ control



Rocker switches and intermediate switch replaced with LEDsmart⁺ devices. The existing strappers are used to connect the devices in parallel. No new wiring is required.

Rocker and flat push buttons

Two different styles of push buttons are included in the timer packaging, rocker and flat push button styles. These are interchangeable, depending on customer preferences.



Coloured Bezels

The timer's LED indicators are white and the pre-fitted bezel provides a white glow around the timer button. Interchangeable blue, green and orange bezels rings are also included with the timer. 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

Timer Setup

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

The TIMEOUT PERIOD should always be setup. The other settings are optional, depending on the application. To set the timeout period now, go to the next page.

Timer Setup Functions

Function	See Part
Setting the Timeout period	See page 9
Setting Maximum Brightness	See online guide
Setting Advanced Timer Features	See online guide
Setting Off State LED Feature	See online guide
Converting from minute to hour timer	See online guide
Setting MultiMate™ Mode	See online guide
Factory Defaults Reset	See online guide

Online Guide

Full details on setting all the available LEDsmart⁺ functions can be found at the Diginet website here www.diginet.net.au/diginet-ledsmart-plus-timer-installation-information

or simply scan the QR code below with your smart device to go to this page



A: Entering Setup Mode

If the timer has been powered up for **LESS THAN 30 MINUTES** see **A1** below.

If the timer has been powered up for **MORE THAN 30 MINUTES** see **A2** below.



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

A1: Timer has been powered up via mains 240Vac for LESS THAN 30 MINUTES

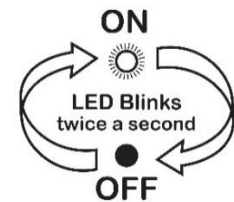
Step 1 Press and hold the button for 10 seconds
 Note: Connected lights will dim up or down, this is normal

Press & Hold!



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

Note: If more than one LEDsmart⁺ minute timer is connected in parallel (see pages 5-7), all these timers will now enter setup mode. The blink ON/OFF will also be seen on all other LEDsmart⁺ minute timers connected in parallel



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

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



A2: Timer has been powered up via mains 240Vac for MORE THAN 30 MINUTES

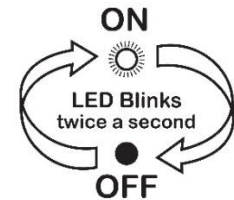
Step 1 Press and hold the button for 30 seconds
 Note: This resets the Setup Entry time back to 10 seconds (for the next 30 minutes)
 Note: Connected lights will dim up or down, this is normal

Press & Hold!



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

Note: If more than one LEDsmart⁺ minute timer is connected in parallel (see pages 5-7), all these timers will now enter setup mode. The blink ON/OFF will also be seen on all other LEDsmart⁺ minute timers connected in parallel



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

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



B: Setting the Timeout Interval

The Minutes timer allows a timeout duration of between 1 to 30 minutes in increments of 1 minute.

Out of the box (factory defaults), the time out interval is set to 15 minutes.

To change the time out interval from the default 15 minutes, follow the steps below.

Step 1 Enter into the timer **Setup Mode - See PART A**

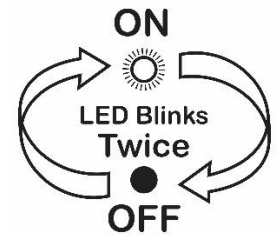
Setup Mode!



Step 2 Click the push button **2 times**
 Note: To cancel/exit do nothing for 30 seconds

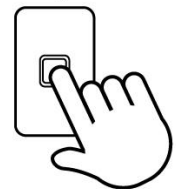


Step 3 The LED Indicator will **blink 2 times**



Step 4 To set the time out interval, push and hold the button and count the number of blinks. **Each blink of the indicator adds 1 minute to the minute timer**

Adjust!



Step 5 When the number of blinks counted equals the number of minutes required, release the button

Release!



The time out interval is saved and setup will exit automatically

Note

- During normal use the indicator will blink when the timer is turned on to indicate it is in time out mode
- Trying to select a time interval of 0 will result in setting 1 minute timeout
- The timeout period on Minute Timers connected in parallel need to be set individually. The same timeout is not automatically set across units

Specifications

Nominal Line Voltage Amplitude Range	220-240Vac
Line Voltage 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 from any LEDsmart ⁺ device to the parallel junction point	50m (for example, two dimmers could be separated by up to 100m provided that the maximum distance from the furthest dimmer to the parallel junction point is no more than 50m)



** Some LED lights do not turn off completely when used with two wire devices such as LEDsmart⁺. This is due to the small amount of current which flows through the device to the load when switched off. The result with some LED light sources can be a small amount of light output when the LEDsmart⁺ is in the off position. If this occurs, it is recommended that a Dignet 'Load by-pass' device (Item **MMBP**) is added to the lights / LEDsmart⁺ installation.

Compatible Load Types

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 dimmer.
	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-break type switch.

Multi-Gang De-Rating

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

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

De-rating Example

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



Warranty

This product is covered by a two-year warranty against manufacturing defects. This warranty is provided in addition to consumer guarantees covered by Australian Consumer Law.

Trademarks

The identified trademarks and copyrights are the property of Gerard Lighting unless otherwise noted.

Clipsal Saturn™ and Clipsal Saturn Zen™ are trademarks of Schneider Electric (Australia) Pty Ltd.

© Copyright

This installation guide is copyright to Gerard Lighting. Except as permitted under relevant law, no part of this user and installation guide may be reproduced by any process without written permission of and acknowledgement to Gerard Lighting.

Gerard Lighting Pty Ltd (Gerard Lighting) reserves the right to alter the specifications, designs or other features of any items and to discontinue any items at any time without notice and without liability. While every effort is made to ensure that all information in this user and installation guide is correct, no warranty of accuracy is given and Gerard Lighting shall not be liable for any error.

DIGINET.NET.AU

Product of Gerard Lighting Pty Ltd

ABN 94 122 520 307
96-112 Gow Street
Padstow NSW 2211

Contact

General Enquiries: 1300 95 DALI (3254) or sales@dignet.net.au
Technical Services: 1300 95 3244 or support@dignet.net.au
Fax: 1300 95 3257

Dignet is a brand of the Gerard Lighting Group