



INSTALLATION GUIDE

LEDsmart™ Xpert™
Digital Rotary Dimmer/Switch
Part Number: MEDM/DGRT

INTRODUCTION

Designed in Australia to provide optimised dimming of LED based lamps and drivers, this high quality, two-wire phase control wall plate dimmer and switch has a minimum load rating of 1W. Although optimised for LED lighting loads, the dimmer also provides excellent compatibility with other common lamps types such as incandescent lamps, 12V halogen (dichroic) lamps/transformers and dimmable CFL's.

FEATURES

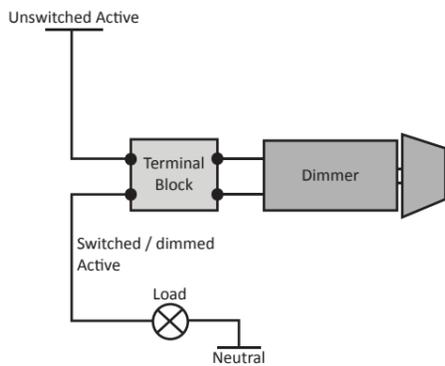
- Active only 'two wire' connection—no neutral required
- No separate switch required - built in switch
- 'Quick flick' dim to Maximum or Minimum
- Illuminated halo with interchangeable coloured rings (blue/green/orange/clear)
- Dim to OFF with most LED light sources
- Kid's bedroom mode – double tap when on to dim down over 30 minutes
- Wake up mode – double tap when off to dim up over 30 minutes
- Programmable minimum level, maximum level, kick start and off state indicator
- Fall back LED Indicator level
- 1W minimum load
- Optional separate switch mode (if required)
- Enclosed terminal block included (for AS3000 compliance)

WIRING DIAGRAMS

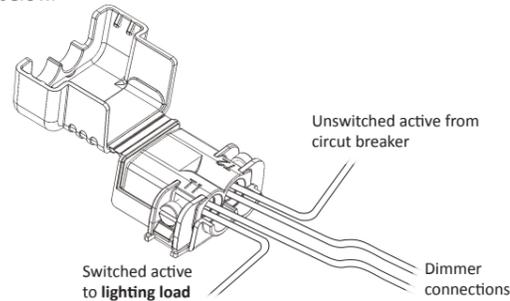
STOP This product must be installed by a suitably qualified installer who must work in accordance with standard safety procedures for mains-powered electrical equipment.

Standard wiring using built-in push on / push off switch

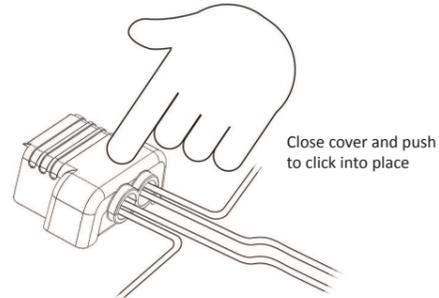
The dimmer has a built in push on, push off switch as well as rotary dimming. Therefore no separate switch is required for on/off control.



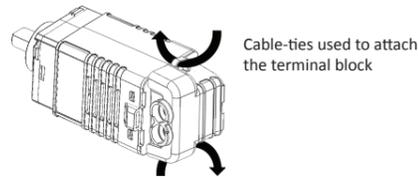
The terminal block included with the dimmer should be used to carry out the dimmer connections, as shown below.



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

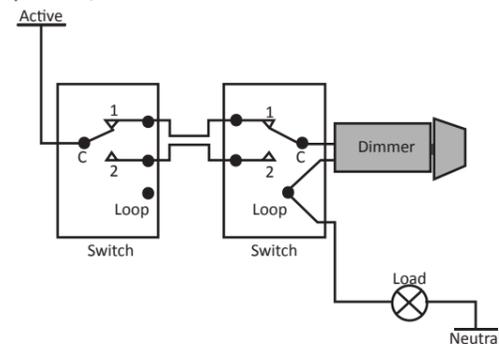


The terminal block can then be cable-tied to the rear of the dimmer housing utilising the loop holes on the case and terminal block.



Two way switching operation

The dimmer can be installed for two-way switched operation, as shown below.



Notes on two-way switching operation

- The dimmer must be setup in Separate Switch Mode when used with a separate switch. See **PART F** for how to setup the dimmer in separate switch operation.
- In this configuration, the lighting can be dimmed from one location and switched from two separate locations.

ROTARY / PUSH DIALS

Two different sizes of rotary/push dials are included. Either can be used depending on customer preferences. In general, the dials are used as follows.

Type	Best suits
Smaller rotary /push dial	Wall plates with 2 or more gangs
Larger rotary /push dial	1-gang wall plates

COLOURED INDICATOR RINGS

Out of the box, the large and small rotary/push dials are fitted with a clear silicon indicator ring. As the dimmer LED indicator is white, the clear silicon indicator ring provides a soft white glow when on.

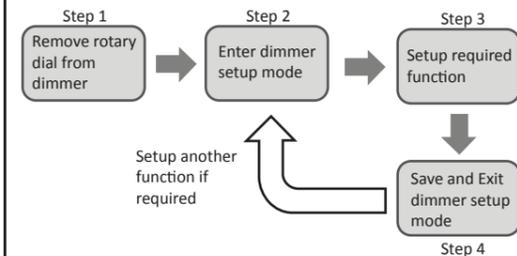
Blue, green and orange silicon rings are also included with the dimmer. These can be used to match customer colour preferences, or to more easily identify different dimmers on the same grid plate.

DIMMER SETUP

The digital rotary dimmer has a number of useful functions which can easily be set up by entering setup mode and following the easy steps in this guide.

It is recommended that the MINIMUM AND MAXIMUM BRIGHTNESS are always setup. The other settings are optional, depending on the dimmer application.

All setup functions follow the same simple 4-step procedure, as shown in the diagram below.



DIMMER SETUP FUNCTIONS

All setup functions are covered in this Installation Guide. See below for the relevant part of the guide, as shown in the table below.

Function	See Part
Entering Setup Mode	A
Setting Minimum Brightness	B
Setting Maximum Brightness	C
Setting the Kick Start feature	D
Setting Off State LED Indication	E
Setting Separate Switch Mode	F
Factory Defaults Reset	G



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

A ENTERING SETUP MODE

Remove Rotary Dial

Before starting to setup the dimmer, the rotary dial should be removed by pulling it off the shaft. This allows the white LED indicator to be easily seen during Setup.



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

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

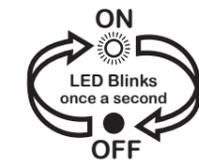
A-1 Dimmer has been powered up via mains 240Vac for LESS THAN 30 MINUTES

1. Press and hold the dimmer rotary shaft for **10 seconds**
Note: connected lights will dim up or down, this is normal

Press & Hold!



2. The white LED Indicators will blink ON/OFF with 1 second intervals. This indicates that **the dimmer is now in Setup Mode**



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

Dimmer Setup!



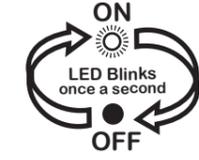
A-2 Dimmer has been powered up via mains 240Vac for MORE THAN 30 MINUTES

1. Press and hold the dimmer rotary shaft 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!



2. The white LED Indicators will blink ON/OFF with 1 second intervals. This indicates that **the dimmer is now in Setup Mode**



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

Dimmer Setup!



B SETTING MINIMUM BRIGHTNESS

The minimum brightness level provided by the dimmer can be set to suit specific lamps and/or customer requirements.

For the majority of lamps a minimum level as low as 0% can be set if required. However, some lamps can become unstable at low dimming levels, in particular CFL's.

If lamps become unstable at low dimming levels, they typically flicker or pulse on/off. The dimmer allows the minimum brightness to be set to a level above the point at which the lamp flickers/pulses.

1. Enter into the dimmer **Setup Mode** - See **PART A**

Setup Mode!

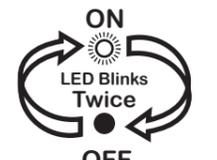


2. Click the dimmer rotary shaft **twice**



3. LED will **blink 2 times**

Note: To cancel/exit do nothing for 10 seconds



4. **Adjust dial** to required MINIMUM brightness level

Note: To cancel/exit do nothing for 10 seconds



5. Click **once** to save & exit



Please turn over for **Setup PARTS C to G and Dimmer Specifications**

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.



Product of Gerard Lighting Pty Ltd
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V1.0 April 2015

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14-14-031-001-02

C SETTING MAXIMUM BRIGHTNESS

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

Note that when lamps are dimmed near to full brightness, it is difficult to see changes in dimming level. Therefore, when setting up 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 into the dimmer **Setup Mode** - See **PART A**

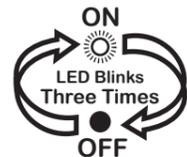


2. Click the dimmer rotary shaft **three times**



3. LED will **blink 3 times**

Note: To cancel/exit do nothing for 10 seconds



4. Adjust dial to required maximum brightness level

Note: To cancel/exit do nothing for 10 seconds



5. Click once to save & exit



D SETTING THE KICK START FEATURE

The 'kick-start' feature is only required to be enabled when dimming loads such as compact fluorescent lamps. These lamps require the dimmer output to be set to 50% for 0.2 of a second when the lamp is turned on. This ensures the lamp strikes successfully. The result is a short bright 'blink' when a compact fluorescent lamp turns on.

As the bright blink caused by the kick start feature can be undesirable for the user, it is highly recommended that this feature remains disabled (the default) when using LED's and other light sources which do not require the kick-start to operate.

By Default Kick Start is **Disabled**. To Enable Kick Start Mode, follow the steps below.

1. Enter into the dimmer **Setup Mode** - See **PART A**



2. Click the dimmer rotary shaft **four times**



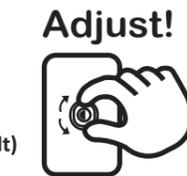
3. LED will **blink 4 times**

If Kick start is currently **Disabled**, lamp(s) connected to the dimmer will now turn OFF

If Kick start is currently **Enabled**, lamp(s) connected to the dimmer will now turn ON



4. **To Enable Kick Start Mode**
Adjust the dial Clockwise until lamp(s) turn ON



To Disable Kick Start Mode (Default)
Adjust dial Anti-Clockwise until lamp(s) turn OFF

5. Click once to save & exit



E SETTING OFF STATE INDICATION

When the dimmer is switched off, the white LED indicators in the dimmer can be set to glow on or turn off.

By Default, the white LED indicators are set to glow on when the dimmer is turned off.

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

1. Enter into the dimmer **Setup Mode** - See **PART A**



2. Click the dimmer rotary shaft **five times**



3. LED will **blink 5 times**

Note: To cancel/exit do nothing for 10 seconds



4. **To set Indicator to glow on when dimmer is off**
Adjust the dial Clockwise until the lamp(s) turns ON



To set Indicator to turn off when dimmer is off
Adjust the dial Anti-Clockwise until the lamp(s) turns OFF

5. Click once to save & exit



F SETTING SEPARATE SWITCH MODE

The dimmer is designed to operate as a combined switch and dimmer, taking up only one gang in a wall plate.

However, some lamps (for example, non-dimmable CFL's) can flicker when switched OFF by pressing the rotary dial. In these cases it is recommended that the dimmer is used in 'Separate Switch Mode' and combined with a standard mechanical switch. Note this also applies where two way switching operation is required.

When used in the Separate Switch Mode, the dimmer turn-on level needs to be set. This is covered in step 4 below.

1. Enter into the dimmer **Setup Mode** - See **PART A**



2. Click the dimmer rotary shaft **six times**



3. LED will **blink 6 times**

Note: To cancel/exit do nothing for 10 seconds



4. **To Enable Separate Switch Mode**
Adjust the dial Clockwise until the lamp(s) turn ON
Note the level the lamp(s) are adjusted to during this step will be the turn on level when the separate switch is used during normal operation



To Disable Separate Switch Mode
Adjust the dial Anti-clockwise until the lamp(s) turn OFF (or pulses ON/OFF)

5. Click once to save & exit



Note for Separate Switch Mode

- Clicking the rotary dial will toggle between the minimum level and the previous level
- 'Wake up' mode cannot be used
- LED indicators are always off when the separate switch is off
- The dimmer does not recall the previously set dimming level when switched back on. It turns back on to level set in step 4 above.

G RESETTING TO FACTORY DEFAULTS

1. Enter into the dimmer **Setup Mode** - See **PART A**



2. Click the dimmer rotary shaft **ten times**



3. The dimmer will automatically exit Setup Mode once reset

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
Minimum Load	1W

COMPATIBLE LOAD TYPES

Load Symbol	Load Type	Max. Load	Notes
	Dimmable LED Lamps	400W	The LED driver must be dimmable. Maximum permitted number of drivers is 400W divided by 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

Ceiling Sweep Fans and Exhaust fans

MULTI-GANG DE-RATING

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

Number of dimmers 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 dimmers (and associated switches) installed in a wall plate. The maximum LED load which can be connected to each dimmer = 400W x 0.85 = 340W per dimmer