



MultiMate Rotary Dimmer
MMDM/RT



MultiMate Push Button Dimmer
MMDM/PB

Order Codes	MMDM/RT; MMDM/PB
Overview	<p>Provides optimised dimming of LED based lamps and drivers These high quality, two-wire phase control wall plate dimmer can be connected in parallel to other MultiMate devices, providing a simple solution to multi-way control.</p> <p>Although optimised for LED lighting loads, this dimmer also provides excellent compatibility with other common lamps types such as incandescent lamps, 12 V halogen (dichroic) lamps/transformers and dimmable CFL's.</p>
Features	<p>Suitable for one-way, two-way, three-way and multi-way dimming.</p> <p>MultiMate technology allows multi-way dimming / switching with no extra wires.</p> <p>Suitable for both retrofit and new installations.</p> <p>Programmable minimum level, maximum level, kick-start, off-state indicator and more.</p> <p>2-wire connection – no neutral required.</p> <p>Built-in switch, no separate mains power switch required.</p> <p>Dim to OFF with most LED light sources.</p> <p>Kid's bedroom mode – double tap when on to dim down over 30 minutes.</p> <p>Wake up mode – double tap when off to dim up over 30 minutes.</p> <p>Selectable fall-back LED indicator level.</p> <p>1 W minimum load.</p> <p>Fits common wall switch plate apertures.</p> <p>Protected against damage from connection to incompatible inductive load types (i.e. motor loads), via conduction angle wind-back.</p> <p>Stable operation with most non-dimmable lamps (to a limited dimming level, lamp dependent).</p> <p>Inherent immunity to installation wiring short circuit fault.</p> <p>Complies with relevant safety standards.</p>

Typical Applications Commercial Buildings, Hotels, Health Care facilities, Education facilities, Museums, Art Galleries, Shopping Centres, Domestic houses.

Compatible Load Types

Load Symbol	Load Type	Maximum Load	Notes
	Dimmable LED Drivers	400 W	The LED Driver must be dimmable. Please consult LED lamp manufacturers specifications. Maximum permitted number of drivers is 400 W divided by driver nameplate power rating. Due to variety of LED lamp designs, maximum number of LED lamps is further dependent on power-factor result when connected to dimmer.
	Electronic Transformers	400 W	
	Iron-Core Transformers (Standard)	250 W	Due to variety of transformer designs, maximum LV lighting load is further dependent on transformer efficiency.
	Iron-Core Transformers (Toroidal)	300 W	
	Incandescent / 240 V Halogen	350 W	
	Dimmable CFLs	400 W	Due to variety of CFL designs, maximum number of CFL lamps is dependent on particular CFL make / model.

Incompatible Load Types

Ceiling Sweep Fans and Exhaust Fans
Iron-Core Fluorescent Ballast

Multi-gang De-rating

Where multiple dimmers are installed in the same multi-gang plate, the following de-rating factors should be applied to the maximum load:

Number of dimmers per plate	De-rating Factor
1	No de-rating
2	0.85
3	0.70
4	0.55
5	0.40
6	0.25
De-rating Example	
Two dimmers installed in a wall plate	The maximum LED load which can be connected to each dimmer = 400 W x 0.85 = 340 W per dimmer
Three dimmers installed in a wall plate	The maximum Incandescent load which can be connected to each dimmer = 350 W x 0.70 = 245 W per dimmer



Some LED lights do not turn off completely when used with MultiMate two wire dimmers, timers or switches.

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 MultiMate devices is in the off position.

If this occurs, an **MMBP** Load by-pass device must be installed in parallel with the lighting load.

Dimmer Installation

The terminal block included with the dimmer should be used to carry out the electrical connections. Once the connections have been made, the terminal cover is closed to ensure the screw terminals are not exposed.

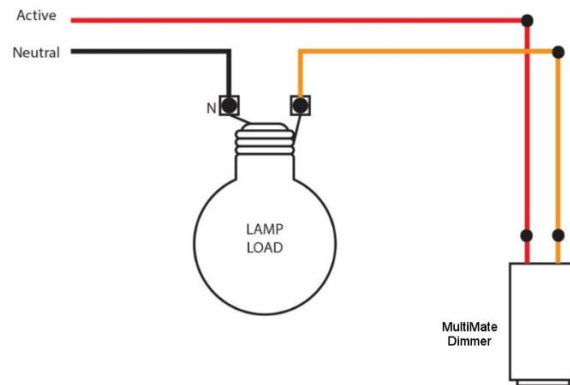
The terminal block can then be attached to the rear of the dimmer housing using the two loop holes and the supplied cable ties.



Wiring for one-way dimming and switching

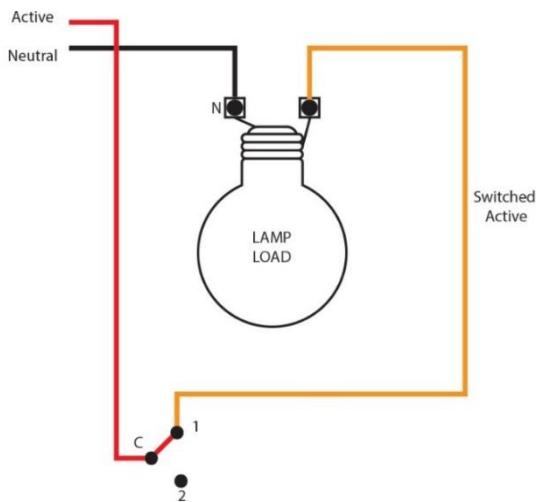
The dimmer has a built-in switch. Therefore, no separate switch is required.

New Installation – one-way dimming and switching

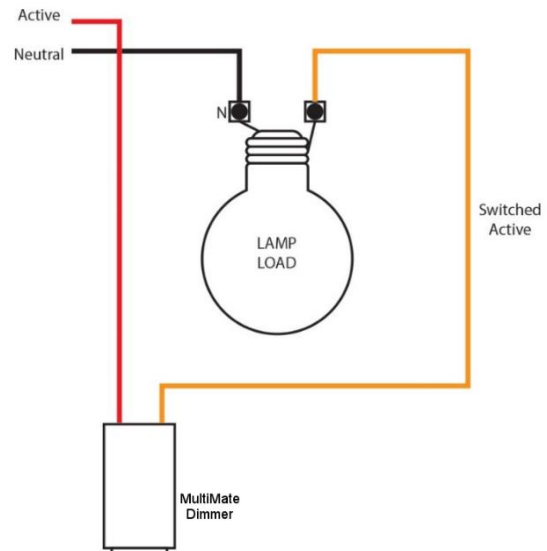


Replacing existing one-way switch with one-way switching / dimming

Existing one-way switching



Replacement one way dimming/switching

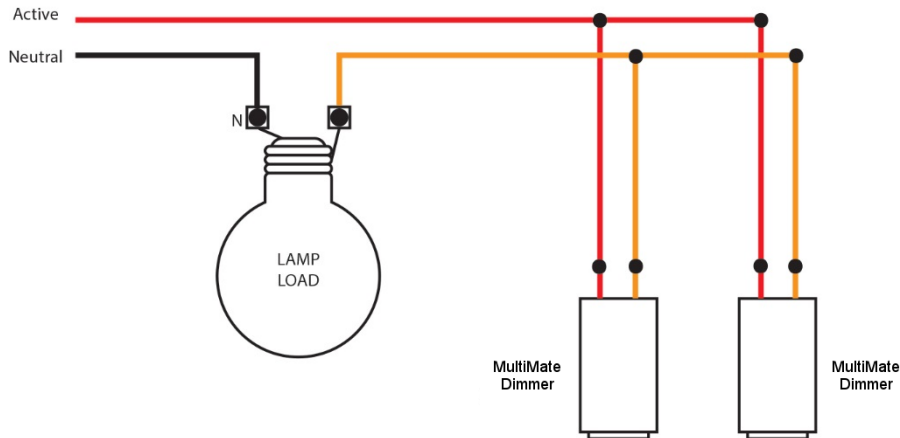


Wiring for two-way dimming and switching

Connect two MultiMate dimmers in parallel to achieve two-way dimming and switching.

Note that the dimmers have an integrated switch, therefore no separate switches or additional strappers are required for two-way on / off control.

New Installation – two-way dimming and switching

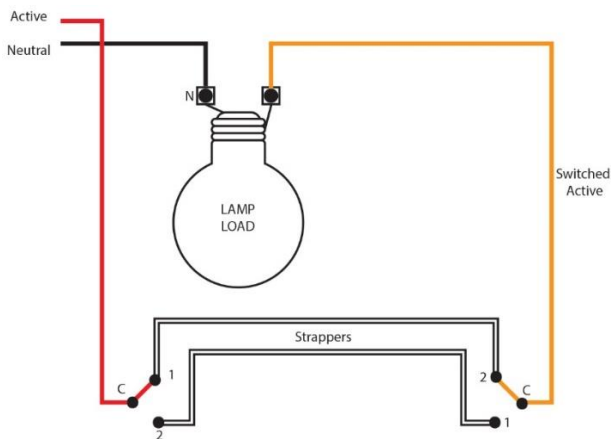


Two-way dimming and switching using MultiMate dimmers: the two-wire dimmers are simply wired in parallel.

Replacing existing two-way switching with two-way dimming / switching

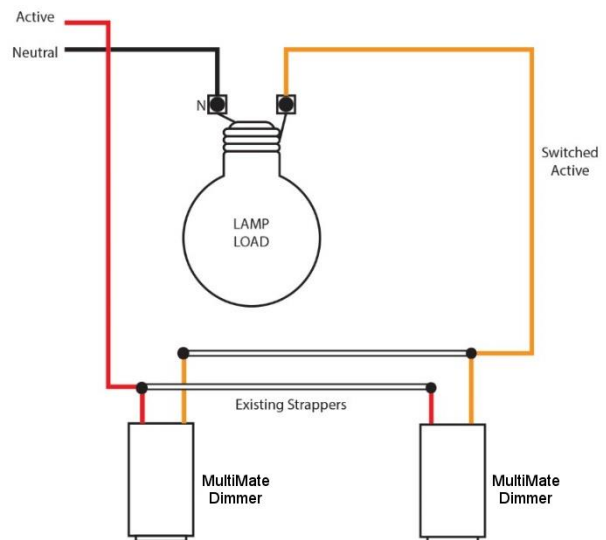
To change existing two-way switching to two-way dimming / switching using MultiMate, the existing two-way strapper wires are re-used. No new wiring is required.

Existing two-way switching



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

Replacement two-way dimming/switching



Switches replaced with MultiMate dimmers using the existing strapper wires. No new wiring required.

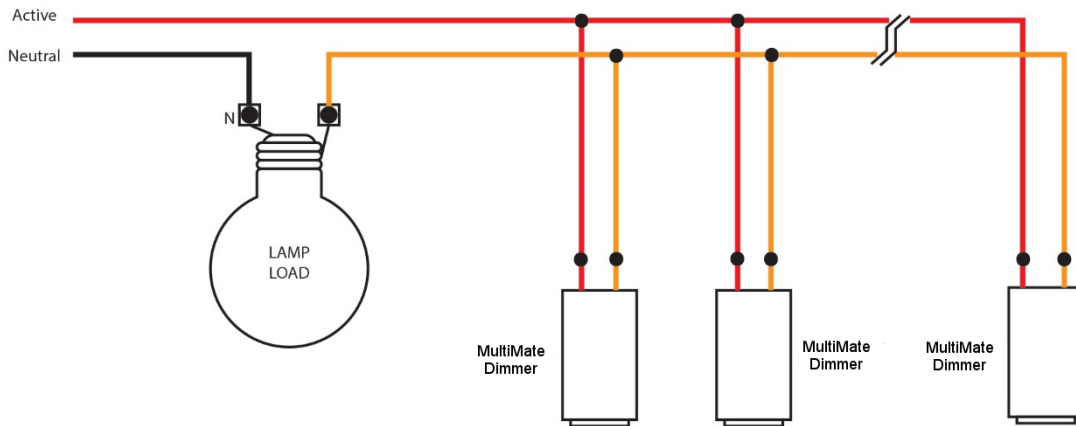
Wiring for multi-way (three-way or more) dimming and switching

For multi-way dimming and switching, simply wire the required number of MultiMate dimmers in parallel.

Each MultiMate dimmer has an integrated switch, so no separate switches or additional strapper wiring is needed to provide multi-way dimming and on / off control.

The diagram below shows the required wiring for three-way dimming and switching using MultiMate dimmers. If more than three-way control is required, further MultiMate devices are simply wired in parallel.

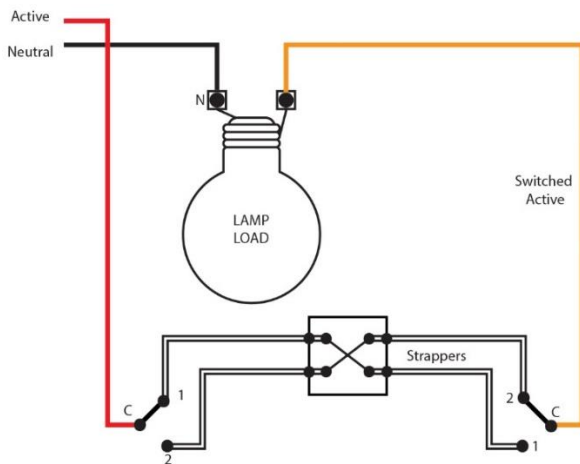
New Installation – multi-way (three-way or more) dimming / switching



Three-way dimming and switching using MultiMate dimmers, simply wired in parallel.

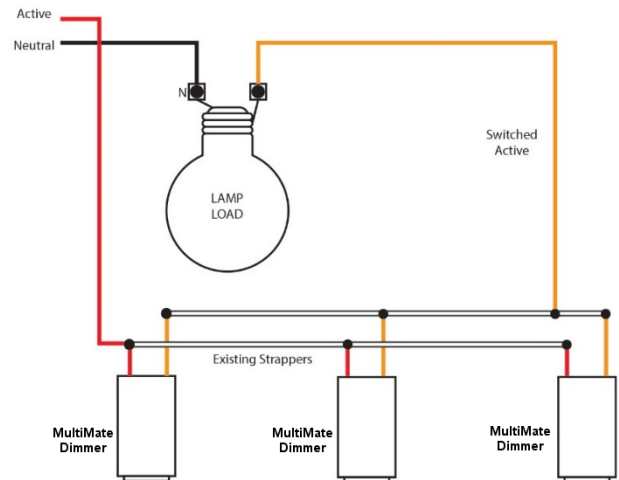
Replacing existing multi-way switching with multi-way dimming and switching

Existing three-way switching



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

Replacement three-way dimming/switching



Changeover switches and intermediate switch replaced with MultiMate dimmers. The existing strappers are used to connect the dimmers in parallel. No new wiring is required.

Programmable Dimmer Setup Functions

The MultiMate dimmer has several useful functions which can easily be configured by entering the setup mode and following three easy steps.

Function	Description
Minimum Brightness	If an LED or CFL lamp becomes unstable at low dimming levels, it can flicker or pulse on / off. The dimmer's minimum brightness can be set to a level above the point at which a lamp flickers or pulses. It is recommended that this level is always set.
Maximum Brightness	The maximum brightness level provided by the dimmer can be set to suit customer requirements.
Kick Start	This function is only required when dimming some LED and CFL lamps. To ensure these lamps switch on, they require the dimmer output to be set to 50% for 0.2 of a second when the lamp is turned on. Default: The Kick Start feature is switched OFF.
LED Indicators	The dimmer's white LED indicators can be set to glow on or turn off when the dimmer is switched off. Default: The white LED indicators are set to glow on when the dimmer is turned off
Separate Switch Mode	Some lamps, such as non-dimmable CFLs, can flicker when switched OFF using the dimmer's integrated switch. In these cases, the dimmer can be used in 'Separate Switch' mode and combined with a separate mechanical switch. This mode is only suitable for single MultiMate installations. Default: Separate Switch Mode is switched OFF
Toggle / Memory Dimmer	The dimmer has the option to turn on at the brightness level set when the lights were turned off (Memory Dimmer), or to turn on at the maximum brightness level (Toggle Dimmer) Default: The dimmer is set up as a Toggle Timmer
MultiMate Mode	MultiMate functions can be switched ON or OFF. Default: MultiMate features are switched ON.

Further details about these functions and how to configure them can be found in the MultiMate Dimmer Setup Guide on the Ozuno website (www.ozuno.com).

Accessories Included

Product	Accessory	
Rotary Dimmer (MMDM/RT)	Rotary / Push Dials Two different sizes of rotary / push dials are included. Either can be used depending on customer preferences. The smaller rotary dial is pre-fitted and suitable for wall plates with 2 or more gangs.	
	Coloured Indicator Rings Out of the box, 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 for each size of dial are also included with the dimmer. These can be used to match customer colour preferences and / or to easily identify different dimmers on the same grid plate.	
Push Button Dimmer (MMDM/PB)	Rocker, Flat and Labelled Push Buttons Three different styles of push buttons are included in the dimmer packaging: Rocker (pre-fitted), Flat push button and Labelled push button styles. The Labelled push button allows a custom label to be inserted behind a clear flat push button switch. The buttons are interchangeable depending on customer preference.	<p>Labelled Push Button Flat Push Button Rocker Button</p>
	Coloured Bezels The dimmer LED indicators are white, and the pre-fitted clear bezel provides a white glow around the dimmer button. Interchangeable blue, green and orange bezel rings are also included with the dimmer. These can be used to match customer colour preferences and / or to easily identify different dimmers on the same grid plate.	

General Specifications

Parameter	Specification
Nominal Line Voltage Amplitude Range	220 – 240 V ac
Line Voltage Frequency	50 Hz Nominal (47 – 53 Hz)
Load Brightness Control Range	0% to 100% (typical for LED loads)
Rated Load	Refer Compatible Loads table
Minimum Load	1 W
Maximum Cable Distance from any MultiMate Device to the Parallel Junction Point	50 m For Example, 2 dimmers can be separated by up to 100 m provided that the maximum distance from the furthest dimmer to the parallel junction point is no more than 50 m.
Weight	60 g
Ambient Operating Temp. Range	0 - 50° C
Ambient Storage Temp	85° C (@ Ta = 50° C)
Operating Humidity Range	0% to 95% RH non-condensing
Housing Material Type	Flame retardant polycarbonate, UL 94V-0
IP Rating	IP20

Standards & Compliance

Australian / New Zealand EMC and Electrical Safety Frameworks and Standards

Regulation	Standard	Title
EMC	AS/NZS CISPR 15:2011	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
Electrical Safety	IEC 60669-2-1:2002 (Fourth edition) + A1:2008 used in conjunction with IEC 60669-1:1998 (Third edition) + A1:1999 + A2:2006	Switches for household and similar fixed-electrical installations Part 2-1: Particular requirements – Electronic switches

EC Council Directives

EC Council Directive	Title
2006/95/EC	Low Voltage
2004/108/EC	Electromagnetic Compatibility (EMC)
2011/65/EU	Restriction of Hazardous Substances (RoHS) in Electrical and Electronic Equipment

IP20

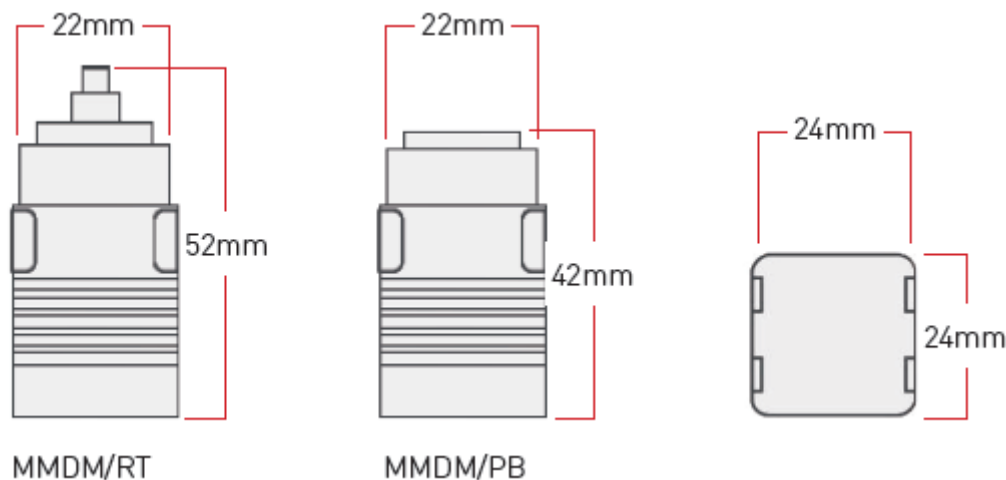
CE



RoHS
COMPLIANT



Dimensions



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