

CLIPSAL®

by Schneider Electric

c-thru®
The Clear Choice

Universal Dimmer
Integrally Switched
Push-Button

31E2PUD
Series



Installation Instructions

REGISTERED DESIGN • REGISTERED PATENT

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1.0 Product Range

| | |
|--------------------|---|
| 31E2PUDM | Universal Dimmer, ISPB, 220-240V~, 50Hz, 350W (30 Series Mechanism) |
| 2031E2PUD | Universal Dimmer, ISPB, 220-240V~, 50Hz, 350W (2000 Series) |
| C2031E2PUD | Universal Dimmer, ISPB, 220-240V~, 50Hz, 350W (Classic Series) |
| SC2031E2PUD | Universal Dimmer, ISPB, 220-240V~, 50Hz, 350W (Slimline Series) |
| SL2031E2PUD | Universal Dimmer, ISPB, 220-240V~, 50Hz, 350W (Eclipse Series) |
| 4061E2PUDM | Universal Dimmer, ISPB, 220-240V~, 50Hz, 350W (Saturn Mechanism) |
| 4061E2PUDN | Universal Dimmer, ISPB, 220-240V~, 50Hz, 350W (Saturn Series) |

*Please note that these products are also available in other configurations and in a wide range of colours. For further information, please contact your nearest Clipsal Sales Representative.

2.0 Description

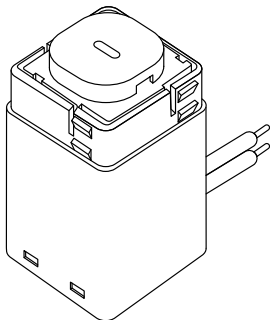
The Clipsal 31E2PUDM Series Universal Dimmer is an Integrally Switched, Push-Button (ISPB), modular universal dimmer mechanism rated at 350W.

Incorporating a built-in (integral) switch, up to six dimmer mechanisms can be installed in a plate.

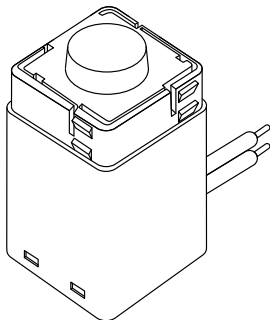
Designed for universal load compatibility, the unit utilises powerful and sophisticated dimming technology to provide full control of almost any type of load, whether it be incandescent lighting, mains voltage halogen or dichroic lamps, iron-core or electronic low voltage lighting transformers as used in downlight applications. Even small motor loads such as ceiling sweep and exhaust fans can be controlled.

The Universal Dimmer also incorporates over-current and over-temperature protection devices and is capable of withstanding persistent short circuit conditions, making it the most rugged, robust and reliable dimmer mechanism ever produced.

C-Thru[®]: The Clear Choice – helping you select the right dimmer, first time every time.



30 Series
Standard Mechanism
31E2PUDM



60 Series
Saturn Mechanism
4061E2PUDM

3.0 Features

- Integrally switched modular dimming mechanism.
- Built using Clipsal Universal Dimming Technology.
- 350W power rating.
- Suitable for a wide range of load types:
 - Incandescent (tungsten filament) lamps.
 - 240V Halogen/Dichroic Lamps.
 - Low voltage downlights using electronic transformers.
 - Low voltage downlights using iron-core transformers.
 - Small motor loads.
- Compatible with selected dimmable LED loads*.
- User selectable soft-start/kick-start operation.
- User adjustable minimum brightness.
- Multi-gang capacity up to six (6) dimmer mechanisms per plate.
- Wall or architrave mounting options.
- Wide range of plate styles and colour variants available.
- Suitable for new installations or retrofit applications.
- Inbuilt over-current and over-temperature protection.
- Full short circuit protection (!).
- Fitted with suppressors to minimise radio frequency interference.
- Complies with Australian and International EMC Standards.

*Please visit clipsal.com/load for recommended loads.

4.0 Dimmer Unit Operation

4.1 Push-Button Operation

| | |
|---------------------|--|
| SHORT PRESS | <ul style="list-style-type: none"> • Tap the push-button to turn the dimmer ON or OFF. • The dimmer has memory and will remember the previous dim setting. When you tap the button to turn the light OFF, the unit will store the current setting in the memory. When you tap the button to turn the light ON, the dimmer will restore the previous dim setting. |
| LONG PRESS | <ul style="list-style-type: none"> • Press and hold the button to dim up and down. Release the button to stop dimming. • The dimmer will cycle up and down alternately. When the light is ON, the dimmer will dim down by default. When the dimmer is OFF, it will dim upwards (increase brightness) by default. Subsequent long press will dim in the opposite direction. • While dimming, if the dimmer reaches its maximum or minimum brightness level, the unit will pause for 1 second, then start dimming in the opposite direction. • A single ramp cycle takes about 6 seconds to complete. • If the button is not pressed for 15 seconds, the dimming is set to fade out by default again. |
| DOUBLE-CLICK | <ul style="list-style-type: none"> • Tap the button twice to turn the dimmer ON to maximum brightness. The dimmer will reach maximum brightness in approximately 1 second. |

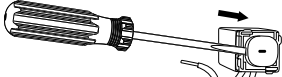


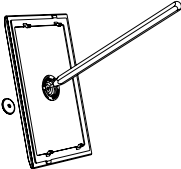

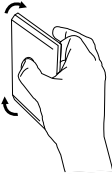
4.2 LED Indicator

The unit incorporates an LED indicator to display the status of the load.

| LOAD STATUS | INDICATOR STATUS |
|-------------|------------------|
| ON | ON |
| OFF | OFF |

4.3 Button Cap

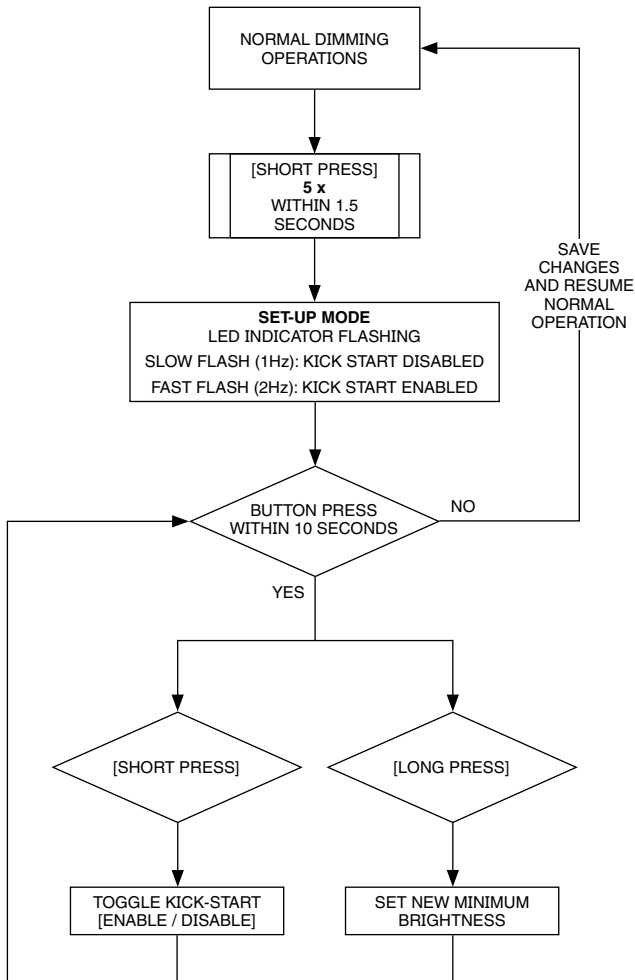
The push-button dimmer units incorporate a replaceable button cap.

| TYPE | BUTTON CAP |
|-------------------------|---|
| 30 Series 31E2PUDM | <p>1. Insert flathead screwdriver into recess on the side of the button cap.</p>  <p>2. Lever off the button cap leaving the light guide in place.</p>  <p>3. Press new button cap onto mechanism until it clicks into place.</p>  <p>The Clipsal 30 Series Push-Button Dimmer mechanisms features installer interchangeable button caps. Coloured button faces (sold separately) can be used to match the colour of the grid plate being used. Simply pop the existing button cap off using a screwdriver and snap the new button cap in place.</p> |
| 60 Series 4061E2PUDM |    <p>1. Remove encapsulated button with narrow object i.e. pen.</p> <p>2. Replace button with a label button cap.</p> <p>3. Vertical and horizontal orientation.</p> <p>The Clipsal Saturn™ Series features encapsulated buttons (selected models). Button orientation can be changed to suit horizontal or vertical mounting. Simply clasp the button front and back, and rotate it into the appropriate locking position. Interchangeable labelled ID button faces are also available (sold separately).</p> |

5.0 Set-Up Mode







The Push-Button Dimmer allows the user to select various operating characteristics to suit the application and to ensure compatibility with the connected load type.

| | |
|--|--|
| Start-Up Feature | <p>Soft-Start/Kick-Start (default Soft-Start)</p> <p>The user can select a "Soft-Start" or a "Kick-Start" to occur at start-up, depending on the connected load type.</p> <p>Soft-Start Used for normal light dimming applications providing a noticeably smooth lamp illumination at turn on. This feature also minimises lamp filament start-up stress, which may increase lamp life.</p> <p>Kick-Start When the dimmer is turned on, the output will briefly set to around 75%, before ramping back down to the set brightness level. Used with Dimmable CFL Loads to maximise the probability of lamp strike at turn-on. Also can be used with small motor loads to overcome initial inertia.</p> |
| Minimum Brightness Adjustment Feature | <p>Minimum Brightness (default setting at minimum)</p> <p>The user can configure the minimum output brightness to provide optimum performance with the connected load.</p> <p>Decrease the minimum brightness to maximise the available dimming range.</p> <p>Increase the minimum brightness to minimise flickering effects when connected to dimmable CFL and other sensitive lighting loads.</p> <p>When connecting to motor loads, you can also increase the minimum brightness to ensure that the motor starts reliably and does not stall at low speeds.</p> |



6.0 Load Compatibility

The Clipsal 31E2PUDM Series Dimmer is a part of the C-Thru Dimmer range. Each dimmer mechanism is colour coded to indicate load compatibility.

| LOAD SYMBOL | COMPATIBLE LOADS | C-THRU COLOUR | |
|--|---|---|--|
| | | 31E2PUDM | |
| | | TRANSPARENT | |
| | | INTEGRALLY SWITCHED, PUSH BUTTON UNIVERSAL DIMMER "ISPB Series" | |
|  | Incandescent Lighting MV Halogen/Dichroic Lamps | 350W | |
|  | Low Voltage Halogen/Dichroic Lighting with Iron-Core Transformers | 350W | |
|  | Low Voltage Halogen/Dichroic Lighting with Electronic Transformers | 350W | |
|  | Dimmable Compact Fluorescent Lamps (Selected makes/models only. Please contact CFL supplier for compatibility advice) | 150W | |
|  | Dimmable LED Lighting (Please visit clipsal.com/load for recommended loads. For other loads, contact the LED supplier for compatibility advice.) | 150W | |
|  | Small Motor Loads - Exhaust fans (shaded pole induction motors) - Ceiling fans (split-phase induction motors) | 350W | |

IMPORTANT NOTES

- Dimming performance may vary between lamp manufacturers.
- Use only "dimmable" CFL/PL/LED lamp types, compatible with phase angle control dimming techniques.
- Due to the nature of dimmable CFL loads, lamp strike cannot be guaranteed upon start-up. To maximise the probability of successful lamp strike, the "kick-start" feature may be enabled.
- Some lamps may exhibit unexpected performance characteristics when cold. Dimming performance should improve once the lamp warms up.
- It is recommended that when using electronic transformers, each be loaded to at least 75% of its maximum rated load. This reduces the possibility of lamp flicker when dimming which is common with some transformers. Refer to the manufacturer's specifications for the transformer being used.
- Use only iron-core transformers compatible with electronic switches/phase controlled dimmers as recommended by the manufacturer.
- Any number of low voltage lighting transformers can be used, providing the total lamp wattage does not exceed the maximum load rating of the dimmer.
- Mixed load types are permitted, though not recommended. Test thoroughly to ensure normal operation throughout the dimming range. Use at own risk.
- When controlling small motor loads, occasionally audible noise (hum) may be heard as a characteristic of normal operation. This is largely a function of the motor construction, and is consequently excluded from the warranty conditions provided with this product.
- This product is rated for indoor use only. It is not suitable for outdoor use or installation in a roof space.
- Operation from elevated voltages or temperatures may cause the thermal protection circuitry to operate. In the case of significant overload, the thermal fuse may be blown, rendering the dimmer inoperable. This may occur if abnormal operating conditions are detected by the dimmer, even in the case where the lamp wattage does not exceed the dimmer rating. Reduce the size of the connected load or use a different brand of lamp to prevent reoccurrence.

7.0 Incompatible Loads

This dimmer is not compatible for use with non-dimmable linear/compact fluorescent lamps. Exercise care when using dimmable CFL/PL/LED load types. Use only lamps/ballasts that are compatible with phase angle control. Refer to the manufacturer's specifications for recommendations. Dimmer warranty is void when controlling incompatible load types as determined by Clipsal by Schneider Electric Australia.

8.0 Installation Instructions

CAUTION:

- Electronic switches such as push-button dimmers do not provide a 'full off-state'. Therefore, the circuit on the load side should be considered to be live.
 - Turn off power at the switchboard before proper installation of the unit.
 - Turn off power at the switchboard when changing the light source.
- It is illegal for persons other than an appropriately licenced electrical contractor or other persons authorised by legislation to work on the fixed wiring of any electrical installation. Penalties for conviction are severe!

8.1 Wiring Details

1. Disconnect power to the relevant circuit at the main switchboard.
2. Remove existing switch from wall.
3. Connect the dimmer in accordance with the wiring diagram shown on page 10.
4. Refit switch plate to wall.
5. Reconnect power.
6. Operate the dimmer and ensure satisfactory performance throughout the full control range. If necessary, adjust minimum brightness and enable/disable "kick-start" feature to suit the connected load.

8.2 Multi-Gang Derating

For applications, where 31E2PUDM Series Dimmers are multi-ganged, derate the maximum load rating of the unit according to the table shown below.

| Number of Dimmers per Grid Plate | Maximum Incandescent Load per Dimmer | |
|--|--------------------------------------|--------------------------|
| | Nominal Voltage 240V~ | Nominal Voltage 220V~ |
| 1 | 350W | 300W |
| 2 | 240W | 200W |
| 3 | 200W | 175W |
| 4 | 150W | 150W |
| 5 | 125W | 100W |
| 6 | 100W | 90W |

Multi-Gang Dimmer Derating Table

8.3 Thermal Overload Protection Circuitry

The 31E2PUDM Series Dimmers incorporate two levels of thermal overload protection:

Thermal Overload Compensation

Automatically reduces lamp brightness should the dimmer be inadvertently overloaded. Primary defence against overload or short circuit. Resets automatically once overload conditions are corrected.

Thermal Cut-Out

The unit contains a non-resettable thermal fuse device, designed to blow in case of catastrophic circuit failure. This is a secondary protection measure, intended to operate as a backup in case of persistent or prolonged overload conditions. If the thermal cut-out fuse blows, then the dimmer will be rendered permanently inoperable and must be replaced.

Any significant overload should be avoided in order to prevent damage to the load, fixed wiring of the installation or other hardware connected to the affected circuit.

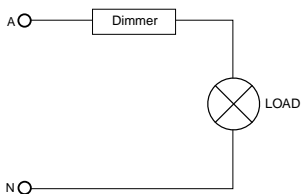
8.4 Short Circuit Protection

The 31E2PUDM Series Dimmers feature short circuit protection, designed to protect the dimmer under most abnormal operating conditions and ensure the dimmer can survive in case of wiring fault or catastrophic failure of the load.

8.5 Power-Up Status

In the event of a power failure, the dimmer will shut down. Upon restoration of power, the dimmer will always power-up in the OFF state.

9.0 Wiring Diagram










NOTE

- The 31E2PUDM Series Dimmers incorporate an integral switch and are designed for one-way operation only. If two-way switching is required, then a separately switched dimmer mechanism must be used (32E450UDM).
- Two or more dimmers cannot be connected in parallel or series to control the same load from two different locations.
- Dimmer should be wired using the terminal block supplied.
- Dimmer mechanism wiring is NOT polarity sensitive.

It is illegal for persons other than an appropriately licensed electrical contractor or other persons authorised by legislation to work on the fixed wiring of any electrical installation. Penalties for conviction are severe!

10.0 Electrical Specifications

| Parameter | Value | |
|-------------------------------------|---|---|
| Nominal Operating Voltage | 220 – 240V~ | |
| Nominal Operating Frequency | 50Hz | |
| Maximum Load | 350W @ 240V~ 300W @ 220V~ | Derate for multi-gang applications (refer to table on page 9) |
| Minimum Load | 10W | |
| Dimming Technique | Leading Edge/Trailing Edge Phase Control (dynamically auto-selected) | |
| Compatible Loads |  | Incandescent Lighting Halogen 240V lamps |
| |  | Low Voltage Lighting with Iron-Core Transformers |
| |  | Low Voltage Lighting with Electronic Transformers |
| |  | Dimmable Compact Fluorescent Lamps (selected makes/models only, 150W max.) |
| |  | Dimmable LED Lighting (selected makes/models only, 150W max.) |
| |  | Small Motor Loads |
| Incompatible Loads |  | Non-Dimmable Fluorescent/Compact Fluorescent Lighting |
| Mounting Centres | 84mm Australian Pattern Plate | |
| Shipping Weight | 25g Dimmer Mechanism Only | |
| Safety Compliance | AS/NZS3100, AS/NZS3133, IEC60669 Series | |
| EMC Compliance | AS/NZS CISPR15, IEC60669-2-1 (26.1,26.2), IEC61000-3-2 (except when used in conjunction with electronic loads, e.g. dimmable CFL loads) | |
| Specifications Typical @ 240V~ 25°C | | |
| Suitable for Indoor Use Only | | |
| No User Serviceable Parts Inside | | |

11.0 Warranty Statement

1. This Clipsal by Schneider Electric product is guaranteed against faulty workmanship and materials for a period of two (2) years from the date of installation.
2. This warranty is expressly subject to the Clipsal by Schneider Electric product being installed, wired, tested, operated and used in accordance with the manufacturer's instructions.
3. The warrantor is Schneider Electric (Australia) Pty Ltd of 33-37 Port Wakefield Road, Gepps Cross, South Australia 5094. With registered offices in all Australian states.
4. Schneider Electric (Australia) Pty Ltd reserves the right, at its discretion, to either repair free of parts and labour charges, replace or offer refund in respect to any article found to be faulty due to materials, parts or workmanship.
5. All costs of a claim shall be met by Schneider Electric (Australia) Pty Ltd, however should the product that is the subject of the claim be found to be in good working order all such costs shall be met by the claimant.
6. When making a claim the consumer shall forward the Clipsal by Schneider Electric product to the nearest office of Schneider Electric (Australia) Pty Ltd with adequate particulars of the defect within 28 days of the fault occurring. The product should be returned securely packed, complete with details of the date and place of purchase, description of load and circumstances of malfunction.
7. The benefits conferred herein are in addition to, and in no way shall be deemed to derogate; either expressly or by implication, any or all other rights and remedies in respect to the Clipsal by Schneider Electric product, which the consumer has under the Commonwealth Competition and Consumer Act or any other similar State or Territory Laws.

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