

The logo for C-Bus WIRELESS, with "C-Bus" in a large, bold, blue font and "WIRELESS" in a smaller, white font inside a blue rectangular box with a white border. Three curved lines to the right of "C-Bus" suggest wireless signals.

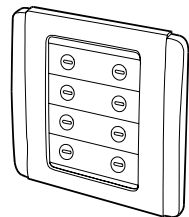
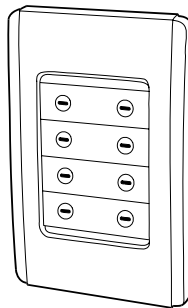
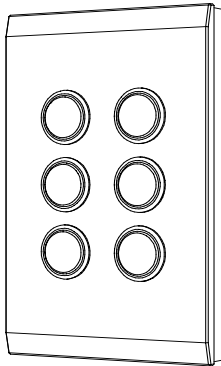
## C-Bus Wireless Wall Switch Series (433.92 MHz)

### Installation Instructions

x585xA Series

x588xA Series

Australia  
New Zealand  
Singapore  
South Africa  
UK



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## 1.0 Product Range

This manual applies to the C-Bus Wireless units listed below. All units are rated at 220 to 240 V AC @ 50 Hz.

### 1.1 Wall Switch Dimmer Units

Channels	Type	Current	Catalogue Number		
<b>Neo</b>			<b>2 Button</b>	<b>4 Button</b>	<b>8 Button</b>
1	Leading Edge	2 A	5852D2L1AA	5854D2L1AA	5858D2L1AA
2	Leading Edge	1 A	-	5854D1L2AA	5858D1L2AA
1	Trailing Edge	2 A	5852D2T1AA	5854D2T1AA	5858D2T1AA
2	Trailing Edge	1 A	-	5854D1T2AA	5858D1T2AA
1*	Leading Edge	2 A	E5852D2L1AA	E5854D2L1AA	E5858D2L1AA
2*	Leading Edge	1 A	-	E5854D1L2AA	E5858D1L2AA
1*	Trailing Edge	2 A	E5852D2T1AA	E5854D2T1AA	E5858D2T1AA
2*	Trailing Edge	1 A	-	E5854D1T2AA	E5858D1T2AA
<b>Ulti Saturn</b>			<b>2 Button</b>	<b>4 Button</b>	<b>6 Button</b>
1	Leading Edge	2 A	5882D2L1AA	5884D2L1AA	5886D2L1AA
2	Leading Edge	1 A	-	5884D1L2AA	5886D1L2AA
1	Trailing Edge	2 A	5882D2T1AA	5884D2T1AA	5886D2T1AA
2	Trailing Edge	1 A	-	5884D1T2AA	5886D1T2AA
1*	Leading Edge	2 A	E5882D2L1AA	E5884D2L1AA	E5886D2L1AA
2*	Leading Edge	1 A	-	E5884D1L2AA	E5886D1L2AA
1*	Trailing Edge	2 A	E5882D2T1AA	E5884D2T1AA	E5886D2T1AA
2*	Trailing Edge	1 A	-	E5884D1T2AA	E5886D1T2AA

### 1.2 Wall Switch Relay Units

Channels	Current	Catalogue Number		
<b>Neo</b>		<b>2 Button</b>	<b>4 Button</b>	<b>8 Button</b>
1	8 A	5852R8F1AA	5854R8F1AA	5858R8F1AA
2	4 A	-	5854R4F2AA	5858R4F2AA
1*	8 A	E5852R8F1AA	E5854R8F1AA	E5858R8F1AA
2*	4 A	-	E5854R4F2AA	E5858R4F2AA
<b>Ulti Saturn</b>		<b>2 Button</b>	<b>4 Button</b>	<b>6 Button</b>
1	8 A	5882R8F1AA	5884R8F1AA	5886R8F1AA
2	4 A	-	5884R4F2AA	5886R4F2AA
1*	8 A	E5882R8F1AA	E5884R8F1AA	E5886R8F1AA
2*	4 A	-	E5884R4F2AA	E5886R4F2AA

\* 'E' Series square facia

## 2.0 Important Notes

- C-Bus Wireless wall switches must be installed by appropriately qualified personnel.
- Wall switches must be connected to circuits that incorporate 10 A rated circuit breaker protection.
- C-Bus Wireless wall switch dimmers cannot replace standard wall switches which are wired as part of a two-way or three-way switch group (without modification). C-Bus Wireless wall switch relays can replace such switch groups if their Group Addresses are programmed using C-Bus Toolkit.
- All two channel relay units require both channels to have loads connected for proper unit operation.
- Caps must be fitted over screws on 'E' Series products during the installation process to comply with relevant standards.
- The use of any software not provided by Clipsal Integrated Systems (CIS) in conjunction with the installation of this product, may void any warranties applicable to the hardware.

### Fluorescent and Compact Fluorescent (CF) Lamps

- Some load types such as most CF lamps, (also known as energy saver lamps), are incompatible with dimmer units and electronic relays. Do not use these with C-Bus Wireless dimmer units. Either an incandescent lamp or a mains rated 1  $\mu$ F capacitor must be wired in parallel with a CF lamp, when used with Wireless wall switch relay units (this is not necessary with plug adapter relay units).
- When using fluorescent lamps with C-Bus Wireless relay units, ensure they meet the unit's minimum load rating. Such lamps must include a Power Factor Correction (PFC) capacitor for the relay unit to function correctly.



**No isolation is provided by wall switches. Hazardous voltage exists at the load terminals and lamp sockets in the unit's "off" state. Ensure that the circuit breaker is switched off before changing light bulbs, etc.**

### 3.0 Description

C-Bus Wireless wall switches are a two-wire retrofit range of C-Bus radio frequency (RF) devices. They are designed to replace most standard wall switches with little or no modification to the mounting enclosure. The units can be switched by remote control, and have learn and scene capability.

### 4.0 Definitions

The definitions in Table 1 are used in discussing C-Bus Wireless units.

Term	Definition
load	A light or other electrical appliance connected to a C-Bus dimmer, relay or other output unit. Examples include lights, heaters and electric motors.
scene	A series of actions across multiple C-Bus units, triggered by a single button. For example, on arrival home you could use a scene to switch on lights in the hallway, kitchen and lounge, and switch on a heater.
local control button	A button on a C-Bus Wireless unit that is permanently linked to an output channel of the same unit. C-Bus Wireless devices have one pair of local control buttons for each of their output channels.
free button	Any button on a C-Bus Wireless unit that is NOT a local control button. Plug adapters do not have any free buttons.

Table 1 - Definitions

## 5.0 Installation Procedure

It is important to select the right location to install a C-Bus Wireless wall switch. Some considerations are listed below:

- Provide easy access to the unit for switching lights and selecting scenes.
- Choose a location free of water, humidity, direct sunlight and heavy dust.
- Allow adequate ventilation.
- Do not cover the unit.
- C-Bus Wireless wall switches are designed for indoor use only.
- Avoid mounting behind large metal objects such as filing cabinets and refrigerators, as this may reduce the radio frequency range.
- Units may be mounted vertically or horizontally.



no wet  
hands



no cleaner  
spray



no  
coverage



no direct  
sunshine



no  
dust

## 6.0 Mounting Instructions

Wireless 'A' Series wall switches suit standard 84 mm centre mounting accessories, such as the Clipsal 155, 155VH and 157/1.

Wireless 'E' Series wall switches suit standard 60.3 mm centre mounting accessories, such as the Clipsal E157.

There are four options for mounting a C-Bus Wireless wall switch:

- plasterboard with C-Clip mounting flange
- brick with wall box
- timber with wall box
- direct screwing into plugs.

Spacer blocks are available which allow wall switches to be raise-mounted if insufficient wall clearance is an issue. Clipsal catalogue numbers for these spacer blocks are provided in Table 2.

Wall Switch Type	Catalogue Number
Ulti Saturn 'A' Series	5080SD
Ulti Saturn 'E' Series	E5080SD
Neo 'A' Series	5050SD
Neo 'E' Series	E5050SD

Table 2 – Spacer blocks for C-Bus Wireless wall switches

### 6.1 C-Clip Mounting

For a plasterboard installation, a C-Bus Wireless Neo or Ulti Saturn unit can be mounted using a C-Clip mounting flange. It is very important that the C-Clip is fitted to the plasterboard in the orientation shown in Figure 1. This is necessary to achieve the best performance from the C-Bus Wireless unit. Failure to orientate the C-Clip on the left hand side of the mounting hole will reduce the ability of the unit to communicate with other C-Bus Wireless units.

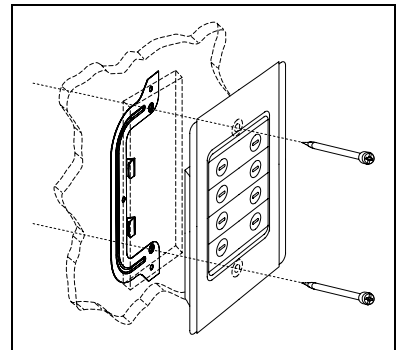


Figure 1 – C-Clip mounting

### 6.2 Wall Box Mounting

A C-Bus Wireless Neo or Ulti Saturn unit can be fitted to a wall box. This allows it to be easily mounted in a new or existing installation. A wall box may be fitted into suitably prepared masonry, or attached to a noggin fitted between studs in timber stud construction. Refer to the illustrations in Figures 2 and 3.



To meet the safety requirements of EN/IEC 60669-2-1, E157 wall boxes must be earthed.

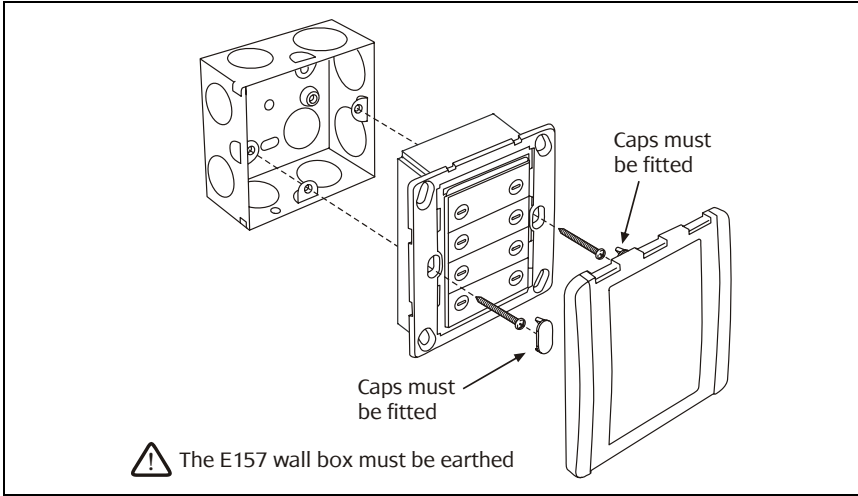


Figure 2 – Mounting an 'E' Series Neo using an E157 Series wall box

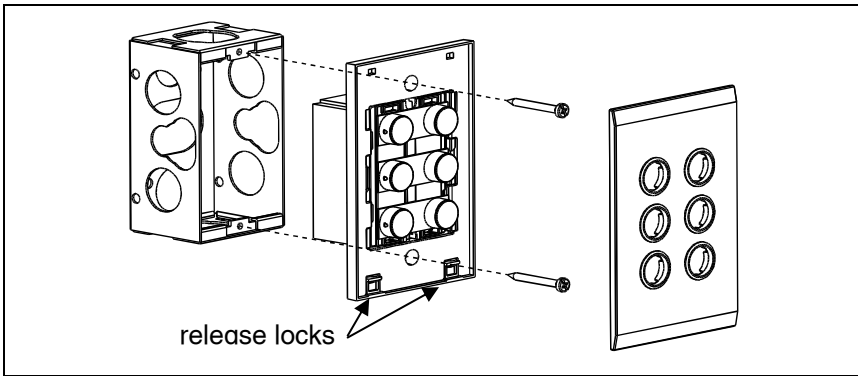


Figure 3 – Mounting an 'A' Series Ulti Saturn using a 157 Series wall box



These installation methods are suggestions only and units must be installed within the local electrical authority guidelines.

Mounting accessories must be fitted a minimum distance of 10 mm back from the finished surface of the wall. When mounting vertically, fit the grid plate to the wall with the release locks at the bottom.

### 6.3 Installation of Ulti Saturn Facia

- 1) Align the directional arrows on the back of the facia to match the grid plate.
- 2) Fit upper clips into the apertures at the top of the grid plate (upper clips are longer than lower clips).
- 3) Lower the bottom of the cover to the grid, until the clips engage.

### 6.4 Removal of Ulti Saturn Facia

#### 'A' Series Ulti Saturn Facia

To remove an 'A' Series Ulti Saturn facia:

- 1) Use a small flat head screwdriver to push the release locks inward, to disengage the clips. Release locks are located at the base of 'A' Series units.
- 2) Swing the lower end of the facia about 5 mm away from the grid, until it is free (refer to Figure 4).
- 3) Push the facia upward and pull gently to release the upper clips.

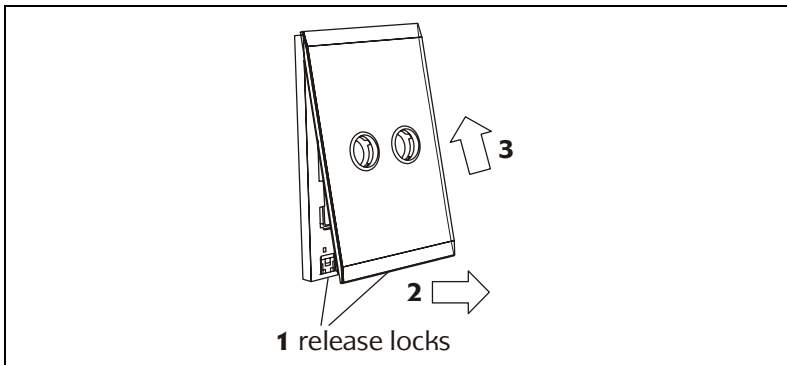


Figure 4 – Removing the facia on an 'A' Series Ulti Saturn unit

'E' Series Ulti Saturn Facia

To remove an 'E' Series Ulti Saturn facia:

- 1) Use a small flat head screwdriver to push the release locks inward, to disengage the clips. Release locks are located at the sides of 'E' Series units.
- 2) Gently pull the facia off the grid plate (refer to Figure 5).

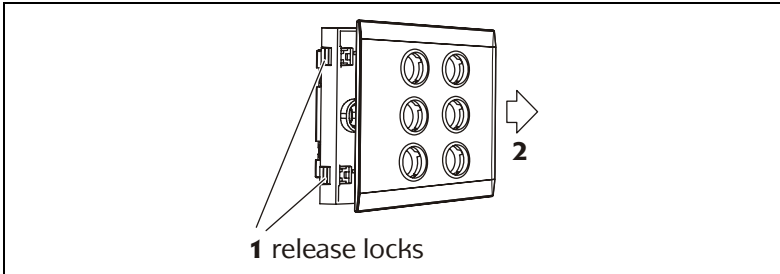


Figure 5 – Removing the facia on an 'E' Series Ulti Saturn unit

**7.0 Switch Orientation**

Figure 6 shows the rear and front orientations of a 2 channel 6 button Ulti Saturn unit.

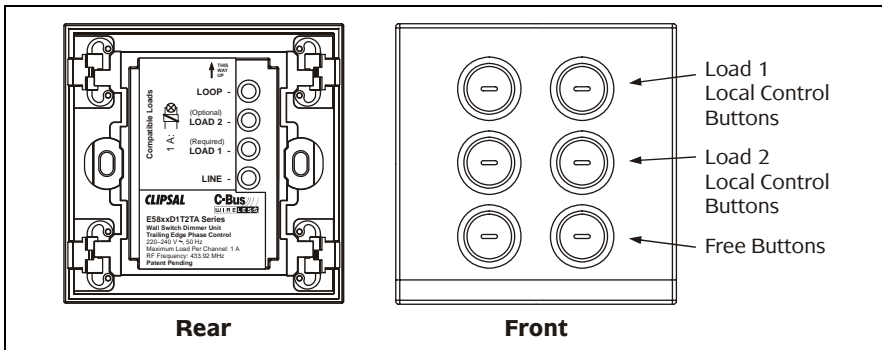


Figure 6 – Rear and front views of a 2 channel 6 button Ulti Saturn unit

## 8.0 Wiring Instructions

Figure 7 below provides wiring diagrams for the dimmer and relay units.

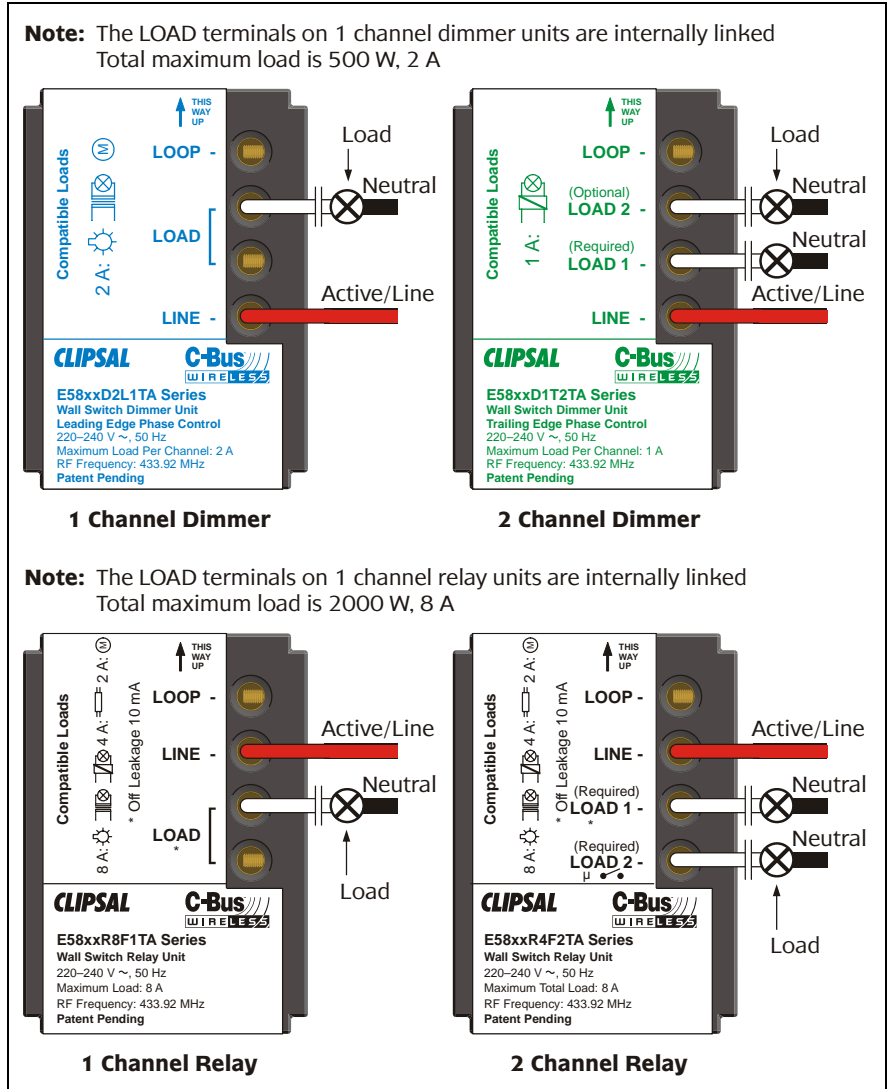


Figure 7 – Wiring diagrams for dimmer and relay units

After tightening the terminal screws, ensure the protective flap is closed (refer to Figure 8). This provides extra clearance when mounting in a metal wall box.

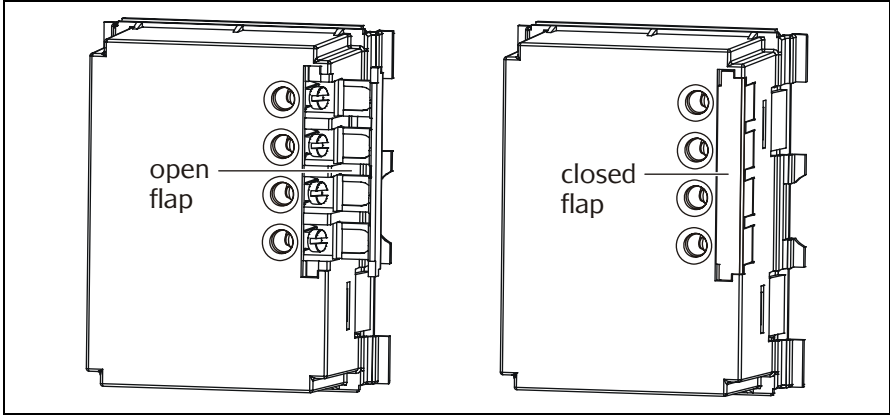


Figure 8 – Close the protective flap after tightening the terminal screws

## **9.0 Power Surges and Short Circuit Conditions**

The mains voltage must be limited to the range specified for any C-Bus unit which is mains powered. Each unit incorporates transient protection circuitry. However, external power surge protection devices should be used to enhance system immunity to power surges. It is strongly recommended that overvoltage equipment (such as the Clipsal 970) is installed at the switchboard.

## **10.0 Megger Testing**

Megger testing of a mains electrical installation that has C-Bus units connected will not damage the units. Since C-Bus units contain electronic components, this should be taken into account when interpreting megger readings.

## 11.0 Programming Requirements

C-Bus Wireless wall switches are learn enabled devices. Learn enabled is the latest generation of Clipsal C-Bus, which allows you to create relationships between units without a computer.

Learn mode allows you to link multiple units into a common network. You can create associations between buttons on multiple units, so that a button press on one unit will operate a button on another. Refer to the C-Bus Wireless Series (433.92 MHz) User's Guide for more information.

In a sophisticated installation, some of the basic settings created by learn mode may need to be overridden to create a particular effect. The latest C-Bus Toolkit software may be downloaded from the Clipsal Integrated Systems website ([www.clipsal.com/cis](http://www.clipsal.com/cis)).



Clipsal Integrated Systems recommends that programming by software should only be carried out by trained C-Bus installers.

## 12.0 Electrical Specifications

### 12.1 All Units

Parameter	Description
Supply voltage	220 to 240 V AC @ 50 Hz
Radio frequency	433.92 MHz
Transmitting power	Remote Control: 10 mW; Other units: 1 mW
Typical range (Range depends on building construction and the proximity to dense or metallic objects)	15 to 20 m (in buildings with timber frame/brick veneer construction) 10 to 15 m (in buildings with brick, stone or steel frame construction) 5 to 10 m (in buildings with steel reinforced concrete construction)
Maximum range	50 m (open air)
Control functions	Load switching, dimming (LE/TE only), timer, relay
Status indicator colour	Orange
Warm-up time	5 seconds
Operating temperature range	0 to 40 °C
Operating humidity range	10 to 95% RH

### 12.2 Wall Switch Relay

Parameter	Description	
Min. load per channel	25 W, 0.1 A	
Max. total load*	2000 W, 8 A	
<b>Compatible loads/rating<sup>†</sup></b> Incandescent/halogen Fluorescent <sup>†</sup> Iron core trans. LV lighting <sup>§</sup> Electronic LV Lighting Fan motors <sup>#</sup>	<b>IEC</b> 8A 4AX 8A 8A 2A	<b>Australia/NZ</b> 8A 4AX 8A 8A 3M
Off state power consumption	0.25 W	
Off state leakage current	10 mA (channel 1)	0 mA (channel 2)

### 12.3 Wall Switch Leading Edge Dimmer

Parameter	Description	
Min. load per channel	25 W lamp or 0.25 A fan motor <sup>#</sup>	
Max. load per channel	500 W, 2 A (one channel unit) 250 W, 1 A (two channel unit)	
<b>Compatible loads/rating<sup>†</sup></b> Incandescent/halogen Iron core trans. LV lighting <sup>§</sup> Fan motors <sup>#</sup>	<b>IEC</b> 2 A 2 A 2 A	<b>Australia/NZ</b> 2 A 2 A 3 M
Off state power consumption	0.5 W	
Off state leakage current	12 mA (channel 1)    5 mA (channel 2)	

### 12.4 Wall Switch Trailing Edge Dimmer

Parameter	Description	
Min. load per channel	25 W lamp	
Max. load per channel	500 W, 2 A (one channel unit) 250 W, 1 A (two channel unit)	
<b>Compatible loads/rating<sup>†</sup></b> Electronic LV lighting	<b>IEC</b> 2 A	<b>Australia/NZ</b> 2 A
Off state power consumption	0.5 W	
Off state leakage current	15 mA (channel 1)    10 mA (channel 2)	

\* Total loading connected to 2 channel model is the sum of load 1 and load 2. Refer to Compatible loads / ratings for individual channel switch ratings for each load type.

<sup>†</sup> Fluorescent luminare must include a Power Factor Correction (PFC) capacitor in order for a relay unit to function correctly.

<sup>‡</sup> See Important Notes (page 6).

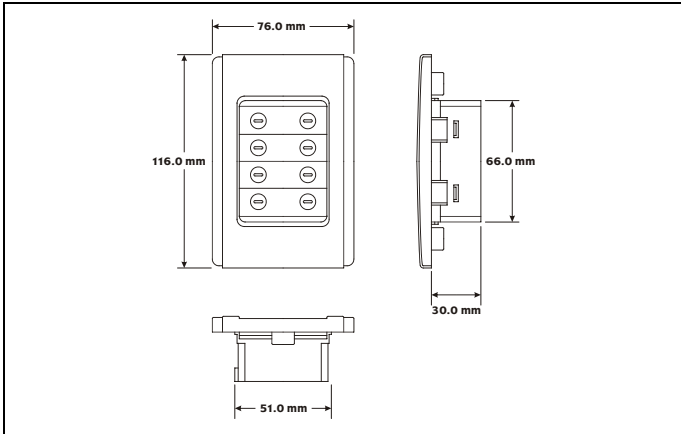
<sup>§</sup> Only iron core transformers compatible with electronic switches may be used to ensure compliance to IEC 60669-2-1.

<sup>#</sup> Exhaust and ceiling fans with shaded pole or permanent-split-capacitor motors.

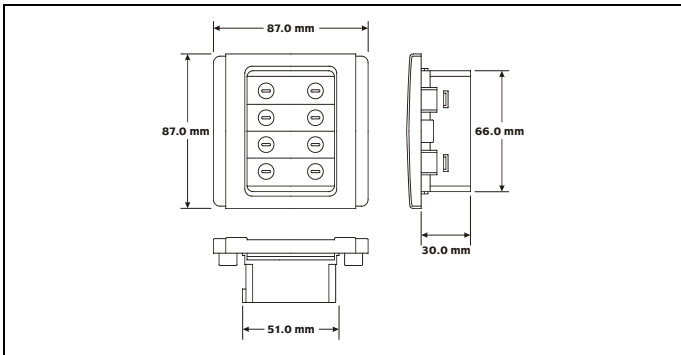
### 13.0 Mechanical Specifications

Parameter	Description	
	'A' Series	'E' Series
Mounting Centres	84 mm	60.3 mm
Weight (Neo)	133 g	128 g
Weight (Ulti Saturn)	186 g	174 g

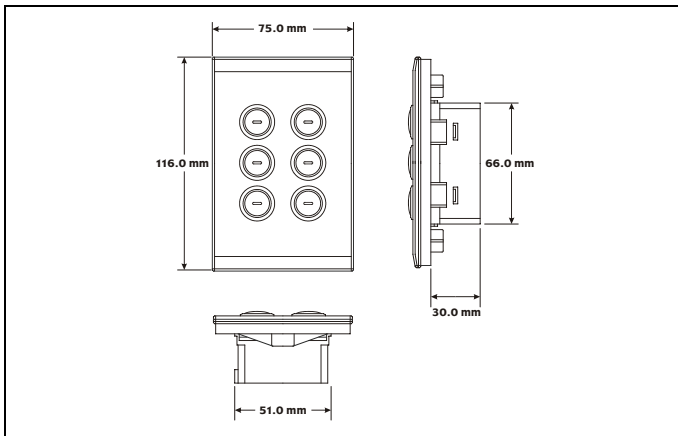
#### 13.1 Neo 'A' Series Wall Switch



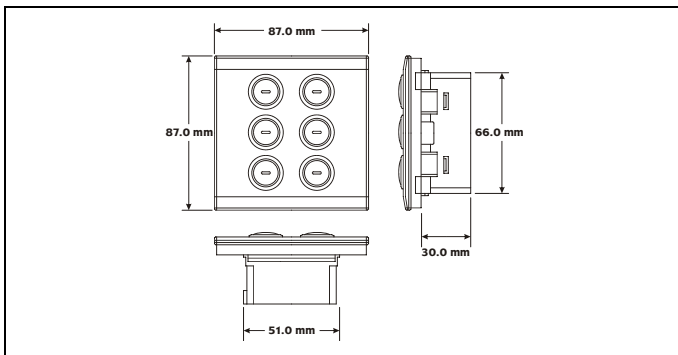
#### 13.2 Neo 'E' Series Wall Switch



### 13.3 Ulti Saturn 'A' Series Wall Switch



### 13.4 Ulti Saturn 'E' Series Wall Switch



## 14.0 Standards Complied

### DECLARATIONS OF CONFORMITY

#### Australian/New Zealand EMC & Electrical Safety Frameworks and Standards

The x585xA and x588xA Series C-Bus Wireless products comply with the following:



Regulation	Standard	Title
Electrical Safety	AS/NZS 3100	General Requirements for Electrical Equipment
	AS/NZS 3133	Air Break Switches (For relay units only)
EMC (C-Tick)	AS/NZS CISPR 14-1	RFI Emissions for General Equipment (For relay and LE dimmer units only)
	AS/NZS CISPR 15	RFI Emissions for Lighting Equipment
Radio Communications	AS/NZS 4268	Radio Equipment and Systems – Short Range Devices

#### European Directives and Standards


All 585x Series & 588x Series models comply with the following:



European Council Directive	Standard	Title
73/23/EEC LV Directive	EN 60669-2-1	Switches for household and similar fixed electrical installations – Electronic switches (Safety)
EMC Directive	EN 60669-2-1 CL. 26.1 & 26.2	Switches for household and similar fixed electrical installations – Electronic switches (Immunity & LF/RF emissions)
	EN 301-489-1	EMC standard for radio equipment and services - Common technical requirements
	EN 301-489-3	EMC standard for radio equipment and services - Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz
1999/5/EC R&TTE Directive	ETSI EN 300 220-1	EMC and ERM; Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1000 MHz frequency range with power levels ranging up to 500 mW; Part 1: Technical characteristics and test methods
	ETSI EN 300 220-3	EMC and ERM; Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1000 MHz frequency range with power levels ranging up to 500 mW; Part 3: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive
	EN 50385	Product standard to demonstrate the compliances of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to RF electromagnetic fields (110 MHz to 40 GHz)


**Singaporean Standards\***

The x585xA and x588xA Series C-Bus Wireless products comply with the following:

 <p>Note: Singaporean marking and standards compliance to be advised by CIS China</p>	Standard	Title
	SS 227 Part 2:1:2000	Switches for household and similar fixed electrical installations – Electronic switches (Safety and EMC) Identical to IEC 60669-2-1:2000-04
	TBA	EMC and ERM for short range devices

**South African Standards†**

The x585xA and x588xA Series C-Bus Wireless products comply with the following:

 <p>Note: South African marking and standards compliance to be advised by Clipsal South Africa</p>	Standard	Title
	SANS 60669-2-1:2003/IEC 60669-2-1:2002 (SABS IEC 60669-2-1:2003)	Switches for household and similar fixed electrical installations Part 2-1: Particular requirements - Electronic switches (Safety and EMC)

\* Singapore marking and standards requirements to be advised by CIS China

† South Africa marking and standards requirements to be advised by Clipsal South Africa

## **15.0 Warranty**

C-Bus Wireless wall switches carry a two year warranty against manufacturing defects (refer to the Warranty Statement).





## Technical Support and Troubleshooting

For further assistance in using this product, consult your nearest Clipsal Integrated Systems (CIS) Sales Representative or Technical Support Officer.

Technical Support Contact Numbers	
Australia	1300 722 247 (CIS Technical Support Hotline)
New Zealand	0800 888 219 (CIS Technical Support Hotline)
South Africa	(011) 314 5200 (C-Bus Technical Support)
Southern Asia	603 7665 3555 Ext. 236 or 242 (CIS Malaysia)
United Kingdom	0870 608 8 608 (Schneider Electric Support)

Technical Support email: [techsupport.cis@clipsal.com.au](mailto:techsupport.cis@clipsal.com.au)

Sales support email: [sales.cis@clipsal.com.au](mailto:sales.cis@clipsal.com.au)

A list of worldwide contacts, additional product information and technical resources is provided at <http://www.clipsal.com/cis/>

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