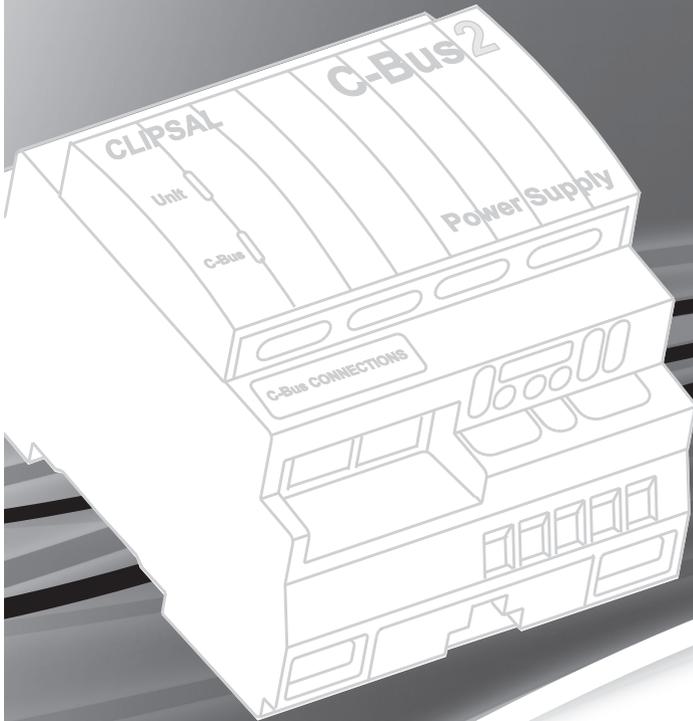


**CLIPSAL<sup>®</sup>**

by **Schneider Electric**



**C-Bus<sup>®</sup>**

**DIN Rail Power Supply, 350mA**

**5500PS**



**CE FC**

Installation Instructions

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## 1.0 Product Range

**5500PS** C-Bus DIN Rail Power Supply, 350mA (220 to 240V)

## 2.0 Description

The 5500PS Series C-Bus Power Supply provides up to 350mA to a C-Bus network, at up to 36V d.c. This is sufficient to power approximately 15 × 22mA C-Bus units such as Neo and Saturn switch plates. The unit is DIN rail mounted, measuring 4 modules wide (1 module = 17.5mm). C-Bus connection is achieved through the use of RJ45 connectors, allowing similar units to be quickly looped together.

### 2.1 Why Use a C-Bus Power Supply?

Standard off-the-shelf power supplies are not suitable for use with a C-Bus network. The 5500PS C-Bus Power Supply has a specific d.c. output resistance, and at the same time presents high a.c. impedance at C-Bus communication frequencies (500 to 5000 Hz).

## 3.0 Installation Considerations

Due to the power dissipation limitations of the network cable, a maximum total current of 2A (2000mA) may be supplied to a C-Bus network. A maximum of five 5500PS Series units may be connected to an individual C-Bus network, if no other C-Bus power supplies are connected. Some C-Bus units, such as the L5508D1A Dimmer and the L5508RVF Voltage Free Relay, have built-in power supplies. These must be taken into account when determining the total current available.

To minimise voltage drop due to cable resistance, power supplies should be distributed evenly along a C-Bus network. The d.c output resistance characteristic of the 5500PS Series ensures that the load is shared relatively evenly between multiple power supplies.

The minimum operating voltage of any C-Bus unit on the network is 15V d.c. To achieve the most efficient installation, it is recommended that the maximum voltage drop between a C-Bus unit and the closest power supply is limited to 10V. For simplicity, it can be assumed that the Cat. 5e C-Bus cable resistance is 1Ω per 10m.

## 4.0 Wiring Instructions

### WARNING: Electrical Shock Hazard

Electrical Shock can cause death or serious injury. Do not touch any exposed electrical connections inside the service enclosure. Only licenced electricians should access the circuits inside the enclosure.

A wiring diagram for the 5500PS Series Power Supply is provided in Figure 1. Consider the following points when installing the unit:

- An individual C-Bus network must not be supplied with more than 2A (2000mA) total current.
- Attach building power cables in the distribution board using cable ties or trunking, as required by local wiring rules. Take care not to allow copper strands to enter the DIN unit's apertures.
- Apply a maximum torque of 1.4Nm to the mains rated screw terminals.
- A rubber plug is supplied for any unused RJ45 connector to stop foreign bodies from entering the unit. Always install the plug when the unit is mounted inside an enclosure or where dust is present.
- Use copper wire only.

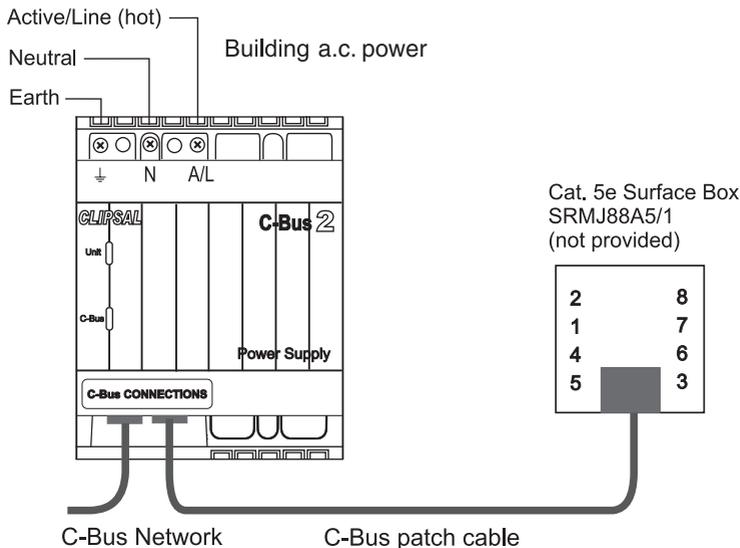


Figure 1. Wiring Diagram

## 5.0 C-Bus Network Connection

Connection to the C-Bus network is made via one of the RJ45 sockets. Use Cat. 5e Unshielded Twisted Pair (UTP) C-Bus cable, and an appropriately wired RJ45 plug. Pinouts and cable conductor assignments are provided in Figure 2.

The RJ45 sockets are internally connected. The Clipsal catalogue number for the C-Bus Cat. 5 UTP cable is 5005C305B (solid conductor) and 5005C305STB (stranded conductor).

It is recommended that the Remote Override (On/Off) connections be maintained for correct operation of these services across the C Bus network, even if they will not be used.

Clipsal RJ5CB300PL Cat. 5 UTP patch cord is included with the unit for easy interconnection. No more than 5 × 5500PS Series supplies should be connected to one physical C-Bus network.

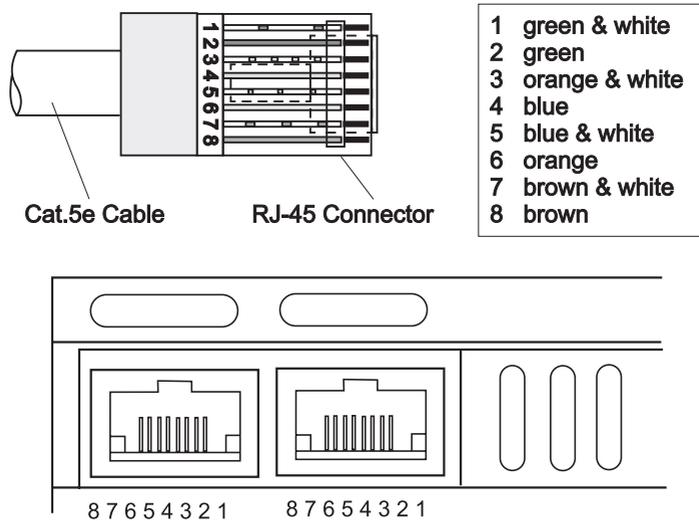


Figure 2. C-Bus network connection

## 6.0 Status Indicators

The two status indicators operate only when building power is applied to the inputs of the power supply.

### 6.1 C-Bus Indicator

The C-Bus indicator shows the status of the C-Bus network at the unit. If sufficient network voltage is present, the indicator illuminates (as a continuous green light). If a network is connected which has a higher current load than the power supplies support, the indicator flashes to show a marginal network voltage.

Indicator Status	Meaning
On	Power is on and the network is functional
Flashing	The network voltage is marginal (15V < voltage < 20V)
Off	Mains power is not connected or C-Bus voltage is below 15V

Table 2. C-Bus indicator

### 6.2 Unit Indicator

The Unit indicator shows the status of the individual unit. When mains power is supplied, the indicator illuminates (as a continuous green light).

Indicator Status	Meaning
On	Normal operation
Off	No mains power is connected

Table 3. Unit indicator

## 7.0 Output Current Limiting

You may connect units to an active C-Bus network. Should a short circuit occur, the power supply's output current limiting/overload circuitry protects it from damage for an indefinite period of time. The power supply's defined output resistance and current limiting characteristic is illustrated in Figure 3.

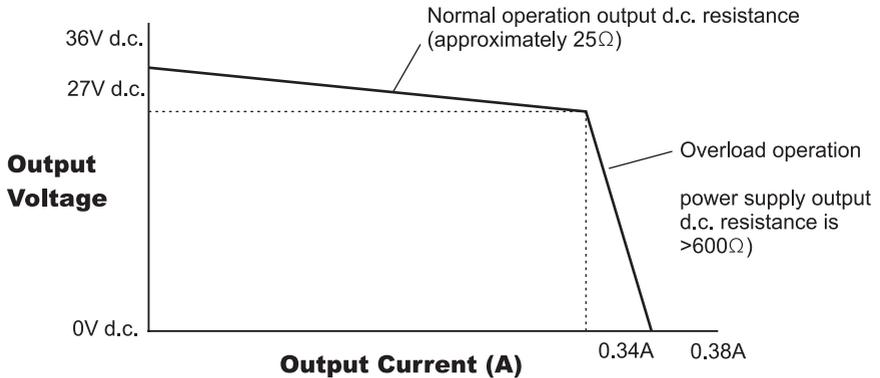


Table 3. Unit indicator

## 8.0 Power Surges and Short Circuit Conditions

External power surge protection devices should be used to enhance system immunity to mains voltage surges. It is recommended that over voltage equipment such as the Clipsal 970RMT be installed at the switchboard.

The C-Bus Power Supply output includes protection against short circuits and electrical overload. The unit electronically isolates mains power from the C-Bus network.

## 9.0 Megger Testing

Megger testing must never be performed on the C-Bus data cabling or terminals as it could degrade the performance of the network.

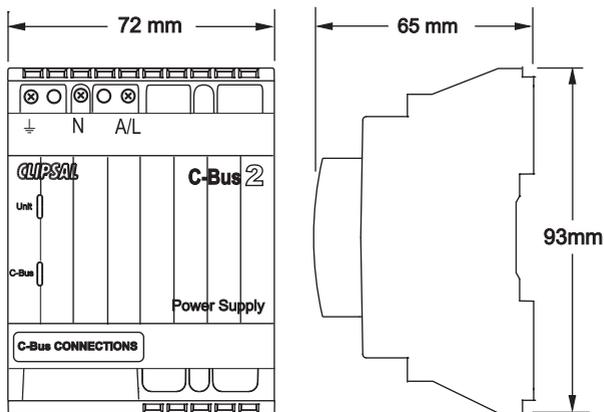
Megger testing of mains wiring at an installation that has C-Bus units connected will not damage the units. Since C-Bus units contain electronic components, this should be taken into account when interpreting megger readings.

## 10.0 Programming

Unlike other C-Bus units, the 5500PS Power Supply does not require programming.

## 11.0 Specifications

Parameter	Description
Nominal supply voltage	220 to 240V a.c.
Frequency range	50Hz nominal
C-Bus output voltage	36V d.c. maximum
C-Bus output current	≤ 350mA
Output short circuit current	< 400mA
DC output resistance	25Ω (approx.)
C-Bus AC output impedance	> 60kΩ @ 1kHz
Electrical isolation	3.75kV RMS from C-Bus to mains
Maximum units per C-Bus network	5 (The current provided by all power supplies connected to the network must not exceed 2000mA.)
Power supply type	Electronic transformer with high output impedance
Quiescent power	15W maximum
Warm up time	3 seconds
Operating temperature	0 to 45°C
Operating humidity	10 to 95% RH
Dimensions (W × H × D)	72 × 92 × 63mm
Weight	190g
Building power terminals	Accommodates 2 × 1.5mm <sup>2</sup> or 1 × 2.5mm <sup>2</sup>
C-Bus connections	2 × RJ45 sockets (in parallel)



## 12.0 Standards Complied

### Declarations of Conformity

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



Regulation	Standard	Title
Electrical Safety	AS/NZS 61558-1	Safety of transformers reactors, power supply units - general requirements and tests
	AS/NZS 61558-2-16	Safety for transformers power supply units - particular requirements for SMPS units
EMC	IEC61204-3	Information Technology Equipment - radio disturbance characteristics - limits and method of measurement

#### European Directives and Standards



Regulation	Standard	Title
EMC Directive 2004/108/EC	EN 61000-3-2	Limits for harmonic current emissions
	EN 61000-3-3	Limits of low voltage fluctuations and flicker
	EN 55022	Information technology equipment - radio disturbance characteristics
	EN 55024	Safety for transformers power supply units - immunity
Low Voltage Directive 2006/95/EC	EN 61558-1	Safety of transformers reactors, power supply units - general requirements and tests
	EN61558-2-16	Safety for transformers power supply units—particular requirements for SMPS units
RoHS Directive		Reduction of hazardous substances

## US and Canadian Product Safety Standards and US FCC Regulations



Regulation / Standard	Title
Tested to FCC Standards for Home or Office Use	FCC Part 15 ANSI C63.4

### Supplemental Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation.

### Class B Product

#### NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient or relocate the receiving antenna
- increase the separation between the equipment and receiver
- connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- consult the dealer or an experienced radio/TV technician for help.

**Warning:** Any changes or modifications not expressly approved by Clipsal Integrated Systems could void the user's authority to operate this equipment.

### Other International Directives and Standards

Regulation	Standard	Title
EMC	IEC 61000-3-2	Limits for harmonic current emissions
	IEC 61000-3-3	Limits of low voltage fluctuations and flicker
	IEC CISPR 22	Information Technology Equipment - radio disturbance characteristics - limits and method of measurement
	IEC CISPR 24	Information Technology Equipment - immunity
Electrical Safety	IEC 61558-1	Safety of transformers reactors, power supply units - general requirements and tests
	IEC 61558-2-16	Safety for transformers power supply units - particular requirements for SMPS units

## 13.0 Two Year Warranty

The C-Bus DIN RAIL Power Supply carries a two-year warranty against manufacturing defects.

### Warranty Statement

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 in the location where the product is sold.

The warrantor is Schneider Electric (Australia) Pty Ltd.

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.

Schneider Electric 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.

This warranty is expressly subject to the product being installed, wired, tested, operated and used in accordance with the manufacturer's instructions. Any alterations or modifications made to the product without permission of Clipsal or Schneider Electric might void the warranty.

Schneider Electric shall meet all costs of a claim. 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.

When making a claim, the consumer shall forward the Clipsal product to the nearest Clipsal by Schneider Electric office. Provide 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.

For all warranty enquiries, contact your local Clipsal or Schneider Electric sales representative.

The address and contact number of your nearest sales office can be found at <http://www.clipsal.com/locations> or by telephoning Technical Support (The CIS Technical Support Hotline for Australia only is 1300 722 247).

## 14.0 Technical Support

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)
Northern Asia	+852 2484 4157 (Clipsal Hong Kong)
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:** [cis.support@clipsal.com.au](mailto:cis.support@clipsal.com.au)

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Contact us: [clipsal.com/feedback](http://clipsal.com/feedback)

National Customer Care Enquiries:

**Tel 1300 2025 25**

**Fax 1300 2025 56**

**clipsal.com**

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