

Table of Contents

Section	Page
1.0 Product Range	3
2.0 Description	3
3.0 Features and Benefits	4
4.0 Installation Instructions	4
4.1 Installation Location	4
4.2 Compatible Loads	4
4.3 Terminal Functional Descriptions:	5
5.0 Examples of Track 3000 System Wiring	7
6.0 Important Notes	10
7.0 Servicing	10
8.0 Power-up Load Status	11
9.0 Power Surges and Short Circuit Conditions	11
10.0 Megger Testing	11
11.0 Standards Complied	11
12.0 Product Specifications	12
13.0 Mechanical Specifications	13

Copyright Notice

© 2002 Copyright Clipsal Integrated Systems Pty Ltd. All rights reserved.

Trademarks

- Clipsal is a registered trademark of Gerard Industries Pty Ltd.
 - Track 3000 is a registered trademark of Clipsal Integrated Systems Pty Ltd
- All other logos and trademarks are the property of their respective owners.

Disclaimer

Clipsal Integrated Systems reserves the right to change specifications or designs described in this manual without notice and without obligation.

1.0 Product Range

Product Catalogue \ Load	Incandescent (A)		Fluorescent (A)		Inductive (A)	
	Zone	Aux.	Zone	Aux.	Zone	Aux.
5621SVJ Standard Single Reset Switch (Stand-alone)	2	N/A	0	N/A	2	N/A
5621FVJ Fluorescent Single Reset Switch (Stand-alone)	6	N/A	6	N/A	6	N/A
5621SR Standard Single Zone Card (Spare)	2	N/A	0	N/A	2	N/A
5621FR Fluorescent Single Zone Card (Spare)	6	N/A	6	N/A	6	N/A
5623S (Track 3000 System including 5621SR Single Zone cards)	6A Total	2A	0	0	6A Total	2A
5623F (Track 3000 System including 5621FR Single Zone cards)	8A Total	2A	8A Total	0	8A Total	2A

2.0 Description

The Track 3000 Reset System is a retro-fittable product whose purpose is to reduce power consumption in commercial buildings. In conjunction with locally fitted switches, the system provides a centrally located control panel where each lighting zone can be manually or automatically reset to a pre-defined state, regardless of its current status. The system can therefore be used to ensure that lighting and other electrical services are switched off when not in use.

The system also allows control from C-Bus or BMS systems (if these systems are installed). Zones can be turned on or off at certain times of the day according to a pre-defined switching schedule (*), hence power consumption is controlled and saving can be achieved, especially in large commercial buildings or offices.

The Track 3000 system consists of two main assemblies, a single-zone controller card (removable) and a mother board which can accommodate a maximum of three single-zone controller cards. The mother board also incorporates an auxiliary output which is a switched-active output if controlled by BMS system or can be used as a voltage-free output where the output will be dependent on the input voltage.

The 5621SR and 5621FR versions are the single-zone controller replacement cards for the three-zone Track 3000 Systems 5623S and 5623F respectively.

(*) Requires a device such as a C-Bus Touchscreen to be used as a scheduler.

3.0 Features and Benefits

- Easy retro-fitting
- Reduces power consumption and running costs for lighting
- Local enable/disable of individual zone and auxiliary outputs.
- Fail-safe, any electronic component failure leaves lights on (Available in 5621SVJ and 5623S versions only).

4.0 Installation Instructions

The following instructions detail the installation of the Track 3000 system:

- a. Isolate the supply until the unit has been fitted.
- b. Remove the Track 3000 unit from its packaging.
- c. Remove the larger of the two covers by removing the four screws holding it to the base.
- d. Mount unit as required.
- e. Fit cables to terminals on PCB making sure to keep the cables with mains potential separated from those with extra low voltage.
- f. Replace cover on unit.
- g. Energise the supply.
- h. Test and Commission.

4.1 Installation Location

The Track 3000, 3 Zone Controller should be wall mounted vertically and installed in a suitable location. It is important the unit is easily accessible, so that when required, the manual override facility is convenient for the user.

4.2 Compatible Loads

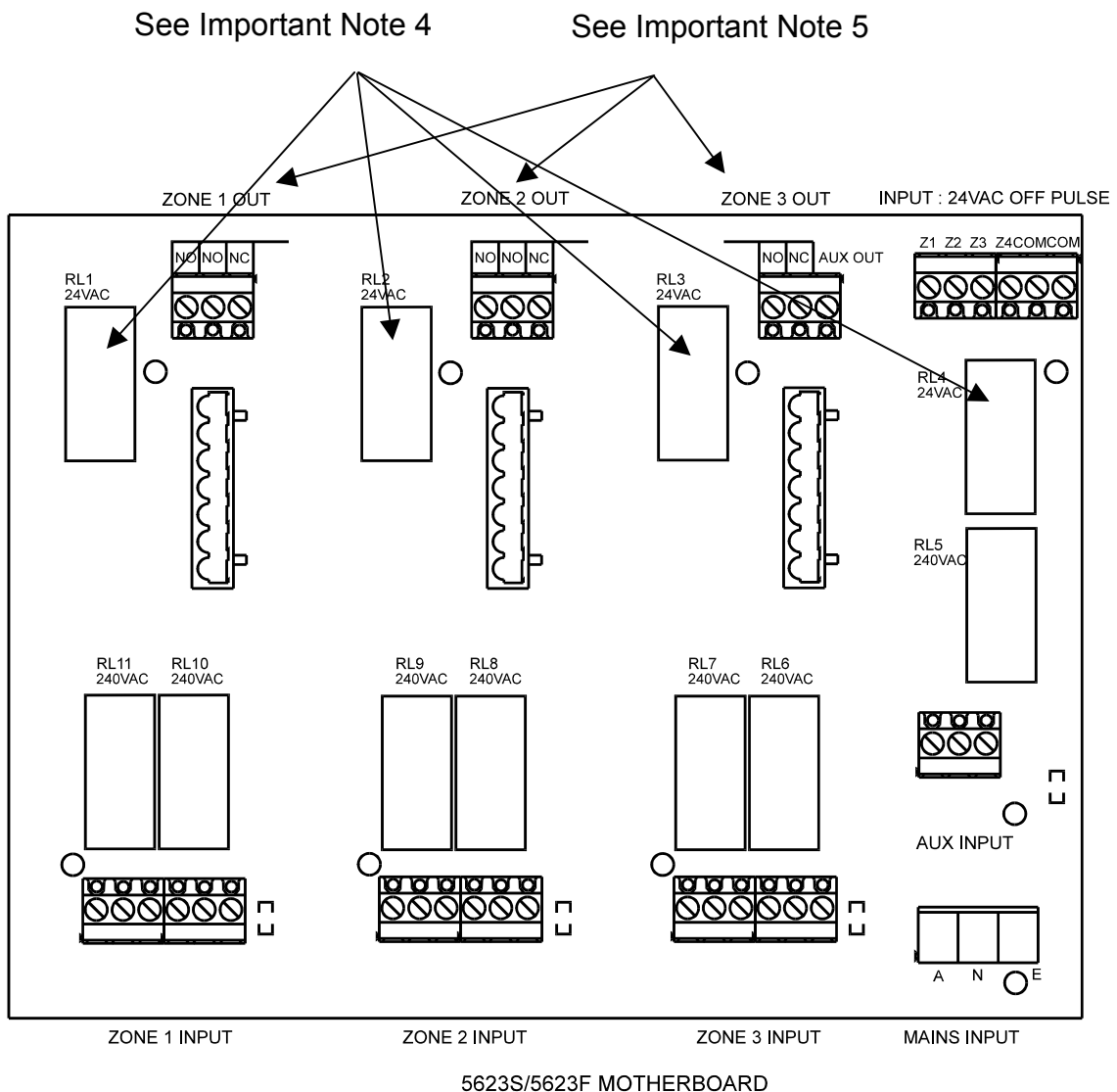
The Track 3000, 3 Zone Controller is compatible with load types as shown below. Please refer to the electrical specification table for maximum load ratings.

Load Type	Typical Examples
Incandescent	Includes tungsten halogen lamps or similar types
Inductive	Includes contactors(*), iron-core transformers for LV lighting, ceiling sweep fans, exhaust fans
Fluorescent (**)	Includes electronic transformers for LV lighting or similar types

(*) Clipsal 6 Series contactors are recommended.

(**) Available only for the 5621FVJ, 5621FR and 5623F versions.

4.3 Terminal Functions and Descriptions



IMPORTANT WARNINGS:

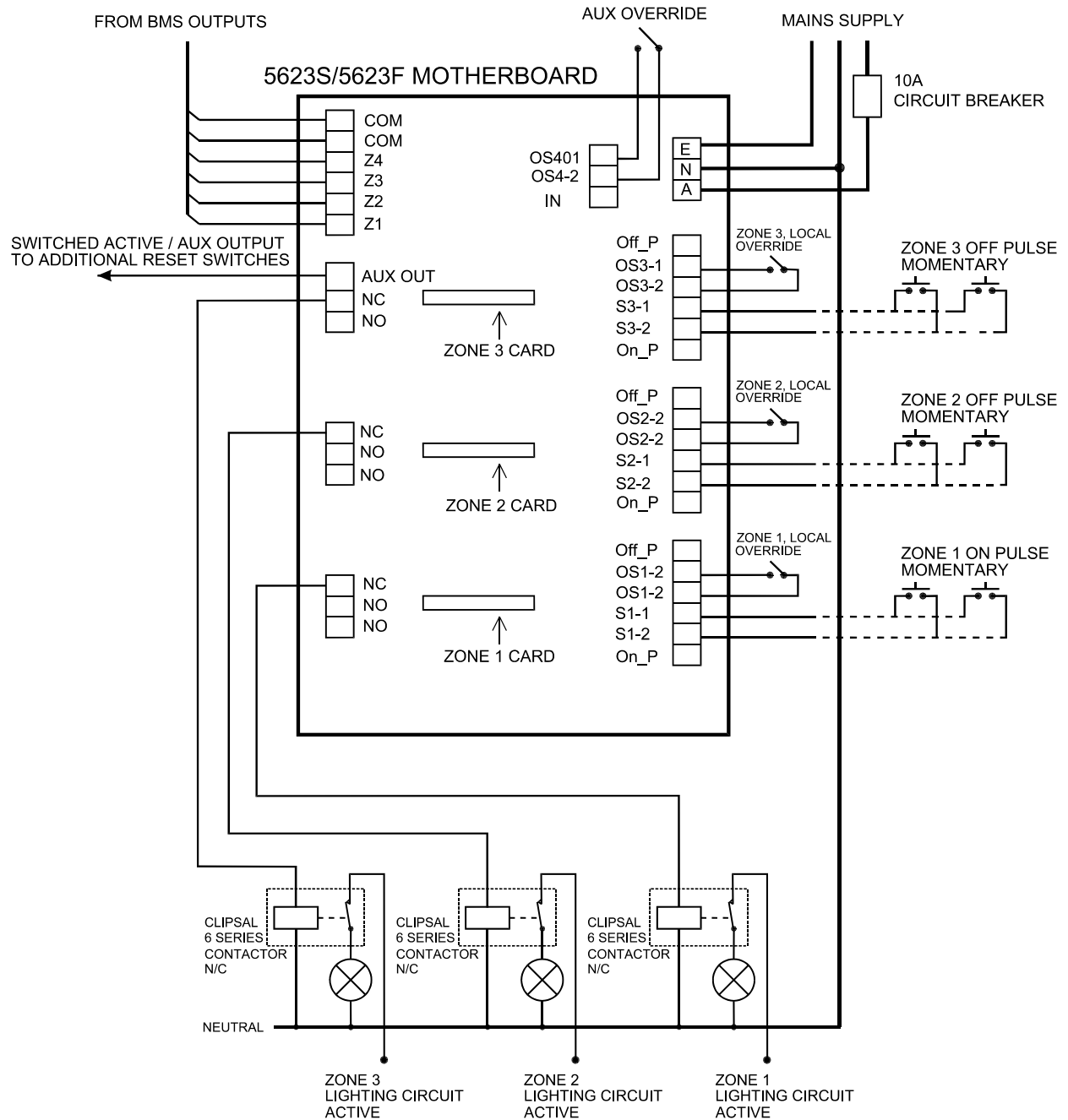
- 1) Always switch off mains power when adding or removing zone card(s), or when terminating any devices to the motherboard.
- 2) Always be sure to comply with all relevant local safety standards when installing the Track 3000 system. Unused cable entry holes must be blocked, else the entire unit must be installed in a lockable cabinet or other.
- 3) The mains active input must be fed from a 10A circuit breaker to protect the system if overload or short-circuit load occur.
- 4) Relays RL1 – RL4 must be removed if C-Bus (or similar system) is used for controlling the zones and auxiliary output.
- 5) The 5623F version does NOT provide normally closed (N.C.) switched-active outputs.
- 6) Each zone output connector includes two N.O. output terminals. These terminals are connected internally.

Terminal	Terminal Marking	Description
Mains Input	A	Active input terminal.
	N	Neutral input terminal.
	E	Earth input terminal.
Zone χ Input ($\chi = 1,2,3$)	On_P	On pulse input terminal. A 2 second mains active pulse is required at this terminal to toggle the active between N.C. and N.O. positions at the output. At power-up, active always starts at N.C. terminal (N.C. terminal not available on 5623F).
	S χ -1 & S χ -2	Input terminals for remote momentary-switch(es), which are designated to toggle Zone χ output.
	OS χ -1 & OS χ -2	Local override switch (in-built) input terminals for Zone χ . There are three intended functions for this switch as follows: 1) Off: Zone χ is disabled 2) On: Zone χ is enabled 3) On \rightarrow Off two seconds \rightarrow On: will reset Zone χ .
	Off_P	Off pulse input terminal. A switched active input (normally being active for system to function) is required at this terminal. To reset Zone χ output, the active input is required to be absent for 2 seconds.
Zone χ Output ($\chi = 1,2,3$)	N.C.	Normally Closed output terminal. Mains active is always output at this terminal after the system is powered up or reset. Subsequent actions of the momentary switch input will toggle the active between N.C. and N.O. output terminals (N.C. terminal not available on 5623F).
	N.O.	Normally Open output terminal. Mains active is disconnected from this terminal after the system is powered up or reset. Subsequent actions of the switch input will toggle the active between N.C. and N.O. output terminals.
Auxiliary Input	IN	Auxiliary input terminal. This terminal is for switched active input, generally from a C-Bus relay output. The input will be passed to the output terminal labeled 'Aux. Out' when local override-switch OS4 is 'On'.
	OS4-1	Local override-switch (in-built) input terminal.
	OS4-2	Local override-switch (in-built) input terminal.
Auxiliary Output	AUX OUT	Auxiliary output terminal (switched active). The switched active output may come from one of two different sources. 1) 'Aux. Input' terminal (as explained above). 2) Mains active input terminal and is controlled by the Z4 input (as described below).
Input: 24Vac_Off_Pulse (from BMS system)	Z χ ($\chi = 1,2,3$)	Switching input terminal. A 2 second 24Va.c. signal is required at this terminal for resetting Zone χ .
	Z4	Switching input terminal. A 24Va.c. signal is required at this terminal to produce a switched active at the 'Aux.Out' terminal.
	COM	Common terminal for all references of 24Va.c. switching inputs.

5.0 Examples of Track 3000 System Wiring

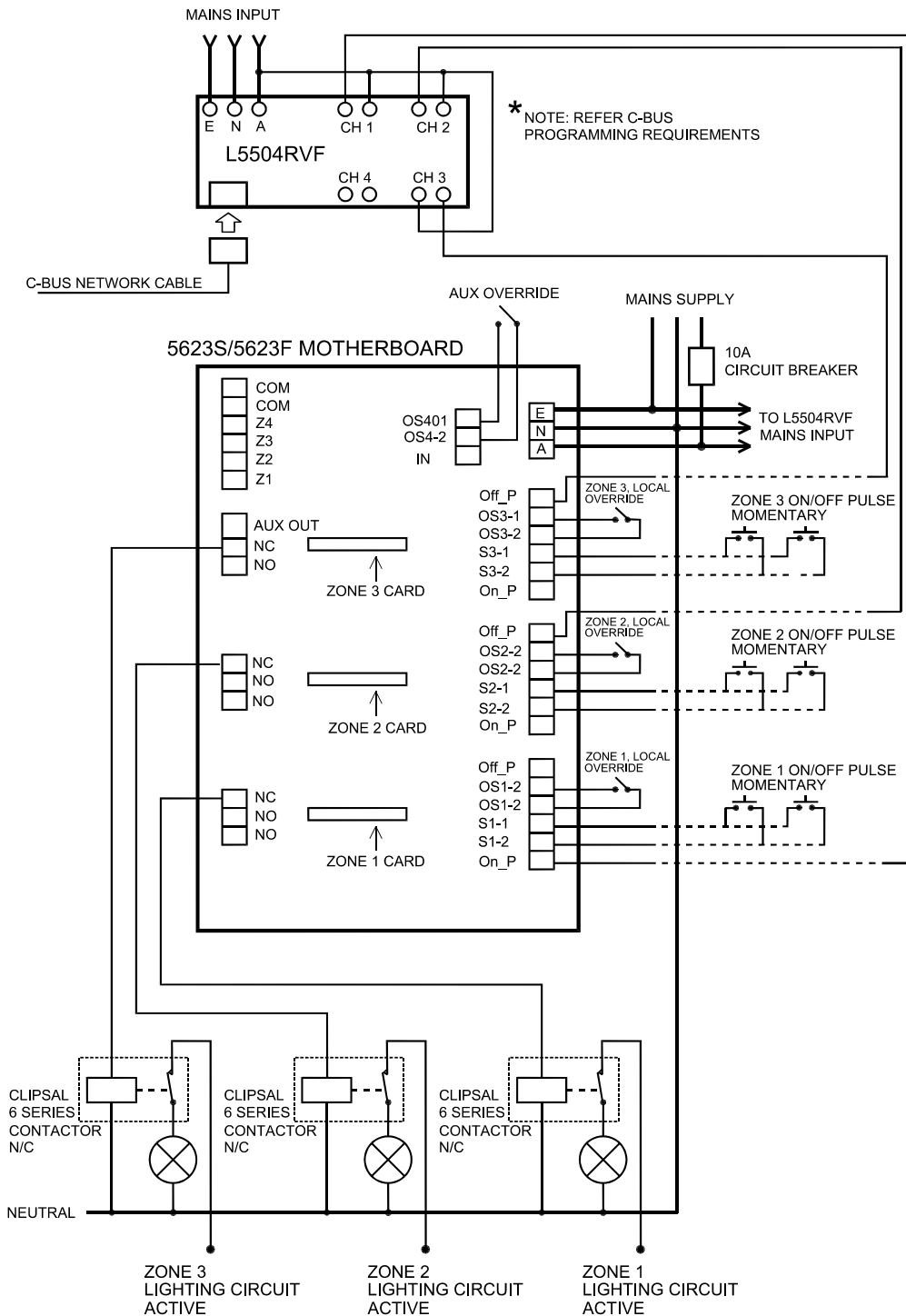
This system can be wired in the various ways. The following examples show typical installation configurations:

5.1 Example 1 - Basic Wiring with N.C. Outputs and BMS Control Inputs.



5.2 Example 2 - Basic Wiring with N.C. Outputs and C-Bus Control Inputs.

The Track 3000 unit provides space to mount a C-Bus 4 Channel Relay Unit. If the customer chooses to use C-Bus in conjunction with the unit then the appropriate Zone Relay(s) should be removed.

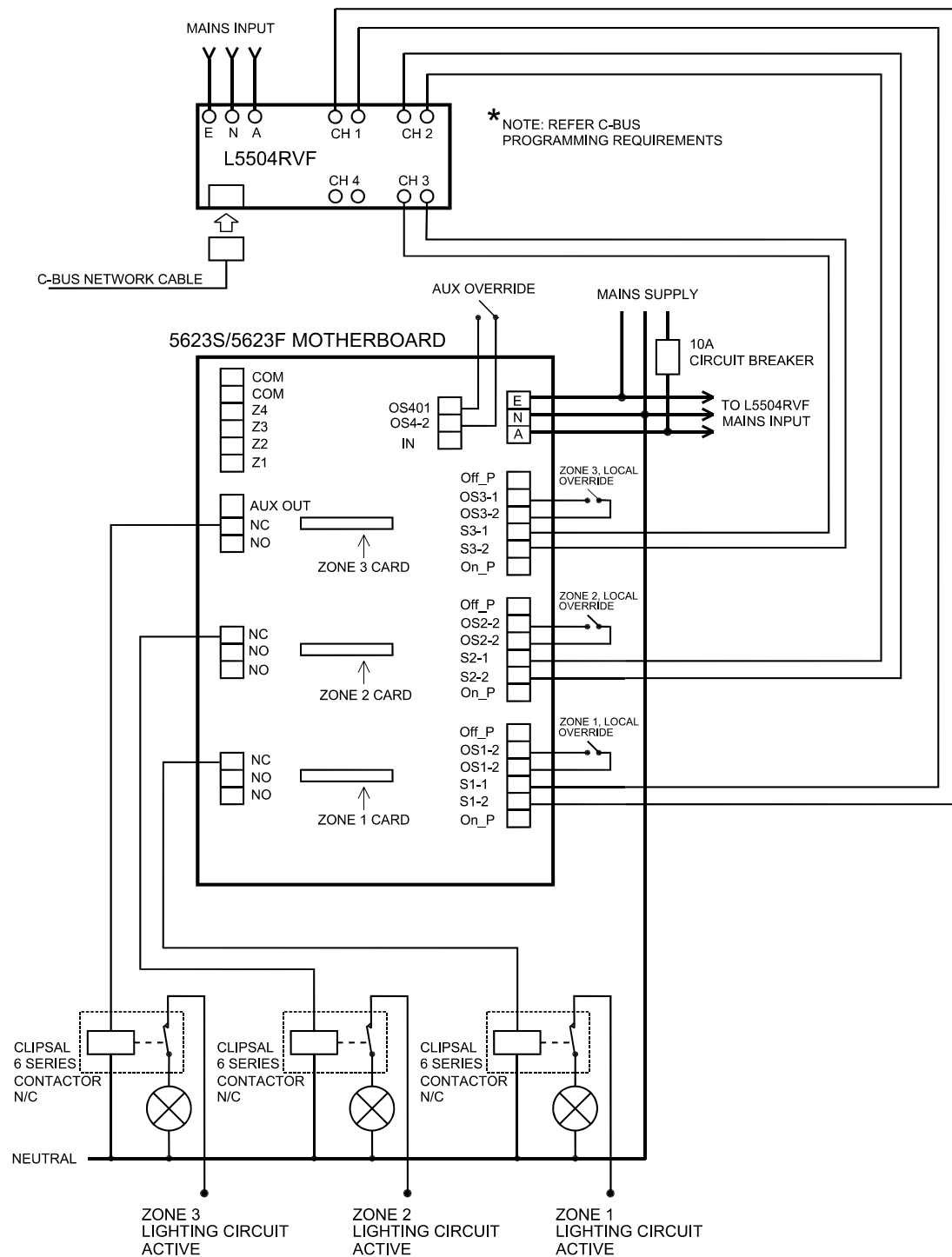


Note:

- Zone Relays RL1 – RL4 must be removed when using C-Bus to control zones.
- If the switched active from C-Bus relay outputs are fed to On_P terminals, these C-Bus outputs need to be programmed to have N.O. contacts.
- If the switched active from C-Bus relay outputs are fed to Off_P terminals, these C-Bus outputs need to be programmed to have N.C. contacts.

5.3 Example 3 - Basic Wiring with N.C. Outputs and C-Bus Remote Switching

C-Bus Voltage Free contacts may be used as momentary switches as shown in the sample wiring diagram below.



Note:

- Zone Relays RL1 – RL4 must be removed when using C-Bus to control zones.

6.0 Important Notes

- The Track 3000 is an electronic assembly containing electronic components. The installer should handle the assembly with due care.
- Do not exert excessive pressure on the Printed Circuit Board (PCB) assembly. Bending of the PCB may damage components in the electronic assembly.
- The equipment has not been designed to be placed in a hostile environment, near sources of heat or in wet areas. Failure to comply with manufacture's installation instructions may void the warranty.
- When wiring up the Track 3000 system it is important to note that the system may need to accommodate wires that are rated as Low Voltage and wires that are rated as Extra Low Voltage. If this is the case, due care must be taken to segregate and secure them within the unit.

7.0 Servicing

The 5620 Series Track 3000 Controller incorporates three modular single zone relay cards. These cards are replaceable in case of field failure.

5623 Series Controller	5621 Series Modules Fitted	Qty	Suitable Loads*
5623S Track 3000 Three Zone Controller	5621SR Track 3000 Single Zone Cards	3	Incandescent Inductive
5623F Track 3000 Three Zone Controller	5621FR Track 3000 Single Zone Cards	3	Incandescent Inductive Fluorescent

(*) Please refer to electrical specification table for appropriate maximum load ratings.

In case of fault, the following procedure may be used to remove the single zone module:

1. Remove supply to the unit and detach the cover.
2. Remove the affected single zone module.
3. Replace the module and reconnect supply.

IMPORTANT WARNINGS:

- Always switch off mains power when adding or removing zone card(s), or when terminating any devices to the motherboard.
- The mains active input must be fed from a 10A circuit breaker to protect the system if overload or short-circuit load occur.

TIP:

- It is recommended the installer places a label or tapes a business card to the unit cover, so that he/she may be contacted in case of fault, or otherwise take advantage of repeat business from that customer.

8.0 Power-Up Load Status

After the system is powered up or reset, all zone outputs (switched active) will always be set to the normally closed (N.C.) positions (5623S version) or open-circuit loads (5623F version).

9.0 Power Surges and Short Circuit Conditions

The mains voltage must be limited to the range specified, however external 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 be installed at the switchboard.

10.0 Megger Testing

Megger testing of an electrical installation which has Track 3000 units connected will not cause any damage, however since the unit contains electronic components, the installer should interpret megger readings with due regard to the nature of the circuit connection.

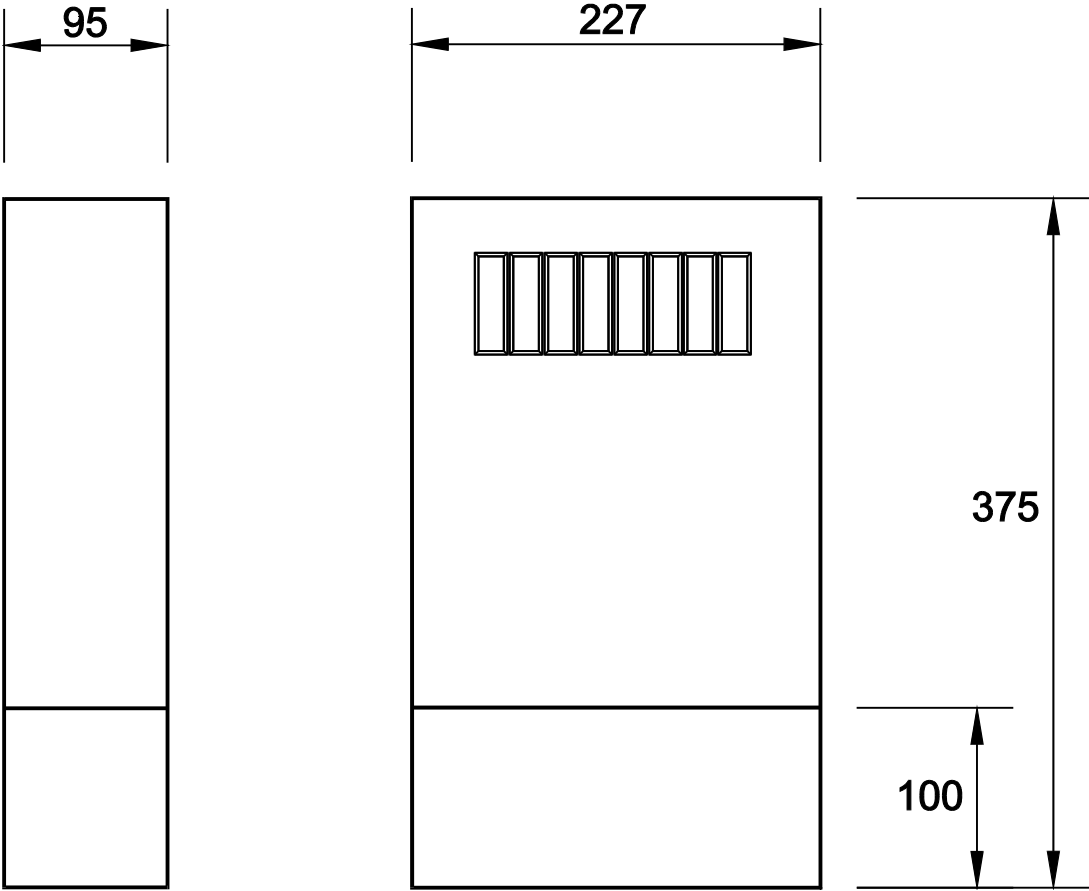
11.0 Standards Complied

Standard	Title
AS/NZS 3100:1997	General Requirements for electrical equipment.
AS/NZS 1044:1995	RFI Emissions.

12.0 Product Specifications

		CATALOGUE NUMBER	
		5623S	5623F
General Limits	Supply Frequency	50Hz	
	Nominal Supply Voltage	220 / 240Vac	
	Maximum Power Consumption at 240Vac (no load)	8W	10.5W
	Maximum System Load Current	8A	10A
Zone Outputs	Maximum Load / Zone	2A	6A
	Contact Switching Arrangement	Switched Active N.C. & N.O.	Switched Active N.O.
	Compatible Loads	- Incandescent - Inductive	- Incandescent - Inductive - Fluorescent
Auxiliary Output	Maximum Load	2A	2A
	Contact Switching Arrangement	Switched Active N.O.	Switched Active N.O.
	Compatible Loads	- Incandescent - Inductive	- Incandescent - Inductive
Inputs	Min. On Pulse Time (On_P) required	1 second	
	Min. Off Pulse Time (Off_P) required	2 seconds	
	Min. Off Pulse Time (for Z1 – Z4) required	2 seconds (Applicable only when Relays RL1 – RL4 Fitted)	
Zone Momentary Switch	Minimum Switch Close Time Required	100ms	
	Time Between Switch Press	1 second	
	Maximum Switch and Cable Resistance	1000Ω	
Other Limits	Warm-Up Time	2 seconds	
	Isolation Rating	3750Vac for 1 minute (extra low voltage to mains)	
	Mains Terminals	Accommodates 2 x 2.5mm ² solid or 1 x 4mm ² stranded cable	
	ELV Terminals	Accommodates 1 x 1.5mm ² cable	
Mechanical Details	Shipping Weight	3.5kg	
	Dimensions (LxWxD)	380 x 230 x 95mm	
	Operating Temperature	0 – 45°C	
	Operating Humidity	10 – 95% RH	
Specifications typical @ 25°C ± 5°C			
No user serviceable parts inside.			

13.0 Mechanical Specifications



All dimensions are in millimeters.
No user serviceable parts inside.

Technical Support and Troubleshooting

For further information about Clipsal Energy Controllers and Energy Management Systems, please consult your nearest Clipsal Integrated Systems Sales Representative or Technical Support Officer.

Technical Support Email

techsupport.cis@clipsal.com.au

Sales Support Email

sales.cis@clipsal.com.au

Clipsal Integrated Systems Website

clipsal.com/cis

Technical Support Hotline

1300 722 247 (Cost 25c per call)

Available within Australia Only

Products of Clipsal Integrated Systems Pty Ltd

ACN 089 444 931 ABN 15 089 444 931

Head Office

12 Park Terrace, Bowden

South Australia 5007

International Phone +61 8 8269 0560

International Fax +61 8 8346 0845

Internet clipsal.com/cis

E-Mail cis@clipsal.com.au

1036381