

Instruction Manual

PLEASE READ THIS INSTRUCTION MANUAL CAREFULLY BEFORE INSTALLATION OR USE OF THIS PRODUCT. KEEP IT IN A SAFE PLACE FOR FUTURE REFERENCE. FOLLOW ALL WARNINGS AND INSTRUCTIONS MARKED ON THE PRODUCT.

HIGH VOLTAGE WARNING!

Dangerous voltages are present within these power supplies. These products should only be worked on by qualified personnel.

CS Base Models	CS10M-24 (Medical)	24V/41.67A	1000W
	CS10S-24 (Standard)	24V/41.67A	1000W
	CS10M-48 (Medical)	48V/20.83A	1000W
	CS10S-48 (Standard)	48V/20.83A	1000W

CS Series products are designed for use within other equipment or enclosures, which restricts access to **AUTHORISED COMPETENT PERSONNEL ONLY**. This equipment is only intended for use in a **restricted access area**. The unit covers are designed only to protect skilled personnel from hazards. They must not be used as part of the external covers of any equipment where they may be accessible to operators, since, under full load conditions, part or parts of the unit may reach temperatures in excess of those considered safe for operator access. This equipment is not suitable for use in locations where children are likely to be present.

The CS series power supply should be supplied only by a power source of the type indicated on its label. The unit should only be used with suitably rated cables and appropriate IEC320 type connector where applicable, sourced by the end user, and in accordance with the requirements of Table 3B of IEC60950-1 (latest edition) & Table G.5 of EN62368 (latest edition) If in doubt, contact Excelsys Applications Department for assistance. Double pole / neutral fusing is used. If the installation is not completely disconnected from power, parts may remain live even if one of the two main fuses has blown.

When securing the product, do not use screws which infringe the maximum penetration depth of 2mm for Base mounting and 2mm for Side mounting. Customer fixings are provided on the base and side of the chassis. Maintain a 50mm minimum clearance all around the power supply to allow for adequate natural convection cooling to take place.

PARTS OF THE UNIT WILL BECOME HOT DURING OPERATION; ALLOW TIME TO COOL BEFORE HANDLING.

AFTER DISCONNECTING THE AC SOURCE, ALLOW 4 MINUTES BEFORE DISASSEMBLY TO ALLOW CAPACITORS WITHIN THE UNIT TO DISCHARGE.

INPUT SPECIFICATIONS

Input Voltage Range:	100 to 240Volts AC
Input Frequency:	50-60Hz
Earth Leakage Current:	300µA - Standard Options 150µA - Low Leakage Options

INPUT FUSING

WARNING!

There are no serviceable parts in this product - Return to Excelsys for repair.

Model	Reference	Fuse Rating	Type	Voltage	Size
CS10M/S-24	FS1	10A	T	500VAC/400VDC	5.0 x 20mm
	FS2	10A	T	500VAC/400VDC	5.0 x 20mm
CS10M/S-48	FS1	10A	T	500VAC/400VDC	5.0 x 20mm
	FS2	10A	T	500VAC/400VDC	5.0 x 20mm

OUTPUT SPECIFICATIONS

See Output table below, with more detail in Designers' Manual. Each Model may be adjusted over the full voltage range shown in the table subject to not exceeding the maximum rated Voltage and Power shown in the table⁽¹⁾.

Model	Vmin (V)	Vnom (V)	Vmax (V)	I _{max} (A)	Power (W)
CS10M/S-24	22	24	28	41.67	1000
CS10M/S-48	44	48	56	20.83	1000

Model - Auxiliary Output	Vnom (V)	I _{max} (A)	Power (W)
CS10M/S-24 & 48	5	4.8	24
CS10M/S-24 & 48	12	2.0	24

SAFETY

The CS models when correctly installed in a limited access environment are designed to comply with the following requirements:

- CS10S: IEC62368-1
 - CS10M: ANSI/AAMI ES60601-1, CSA 22.2-60601-1, IEC60601-1 and EN60601-1
- For current approval status, please contact Excelsys Sales. Equipment manufacturers must protect service personnel against inadvertent contact with the output terminals.

The user should connect to the screw barrier terminal input connector version using wiring terminated with grip sleeve insulated, fork/spade tongue terminals for stud Size 6 (M3.5).

For supply connections, use wiring materials suitable for at least 105°C

The power supply FG (Functional Ground) terminal of Terminal Block is connected to printed wiring board trace directly; the Limited Short-Circuit Test in CSA C22.2 No. 0.4, Bonding of Electrical Equipment not conducted due to building-in type component. The evaluation shall be considered in end-product.

WARNING: Do not modify this equipment without authorization of the manufacturer

ENVIRONMENTAL PARAMETERS

The products are designed for the following parameters:

- Pollution Degree 2
- Installation Category 2
- Class I - Equipment achieves electric shock protection through basic insulation and protective earth grounding.
- For use as part of another piece of equipment such that unit is accessible to service engineers only

ENVIRONMENTAL PARAMETERS (Continued)

Environmental Conditions for Normal Operations

- Altitude: -155 metres to +5000 metres from sea level
- Relative Humidity: 5% to 95% non-condensing
- Temperature Range: -25°C to +85°C

- Derate output power at 1.67% per °C above 40°C and up to 85°C
- (NOTE: IEC input terminal option limits maximum operating temperature to 50°C)
- Derating of 15% across all line voltages applies when lid is used on product.

Environmental Conditions for Transport & Storage

- Altitude: -155 metres to +15200 metres from sea level
- Relative Humidity: 5% to 95% non-condensing
- Temperature Range: -40°C to +85°C

APPROVAL LIMITATIONS

Use in North America

When this product is used on 180 to 253 Volts AC mains with dual Fuse, no neutral, connect one live wire to L (live) terminal and the other live wire to N (neutral) terminal on the input connector. The attachment plug shall be rated to a current not less than 125% of the rated current of the equipment.

LEVELS OF INSULATION

Subject to the limitations above

Dielectric strength testing is carried out as follows:

- Primary mains circuits to chassis: 1500V AC
- Primary mains circuits to secondary: 4.8KV AC or 6788VDC.
- Secondary to chassis: 1850V AC.

EARTH TERMINAL IMPORTANT

The protective earth must be considered in the end system. The input terminal block guarantees Functional Ground (FG) only on pin 2, the protective earth only provided by connecting directly to chassis. The power supply is only a component of the system and therefore must not be relied upon to provide protective earth for the end application. The IEC inlet input provides a protective earth connection. For further information, please contact Excelsys Technologies.

HEALTH AND SAFETY AT WORK ACT (UK ONLY)

To protect service personnel and users and to comply with section 6 of the Health and Safety Acts, a clearly visible label should be fitted warning that surfaces of these units may be hot and must not be touched when the units are in operation.

RECEIPT AND UNPACKING

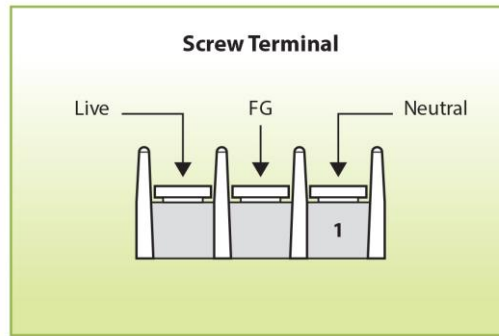
On receipt a unit should be unpacked carefully and checked for transit damage. If the unit is damaged, do not apply power or install the unit. SEEK SPECIALIST ADVICE!

WARRANTY

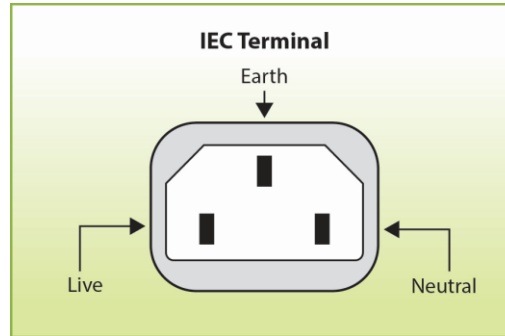
Warranty conditions are contained in our standard terms and conditions. Contact your authorised outlet for repair.

Input Connector (J2 or J11):

Barrier Terminal Block (J2):
 TE/Tyco: 2-1437667-5;
 Dinkle: DT-31-B01W-03

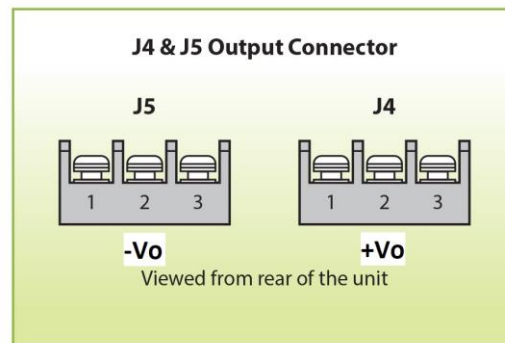


IEC Input Option (J11):
 Schurter GSP2.9103.13;
 Rong Feng 701W-G40111



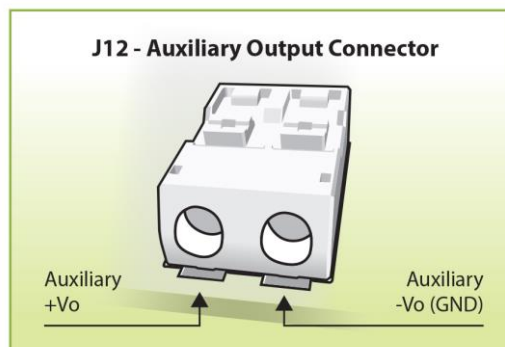
Output Connector (J4 & J5):

Barrier Terminal Block (J4 & J5),
 TE/Tyco 2-1437667-5;
 Dinkle: DT-31-B01W-03



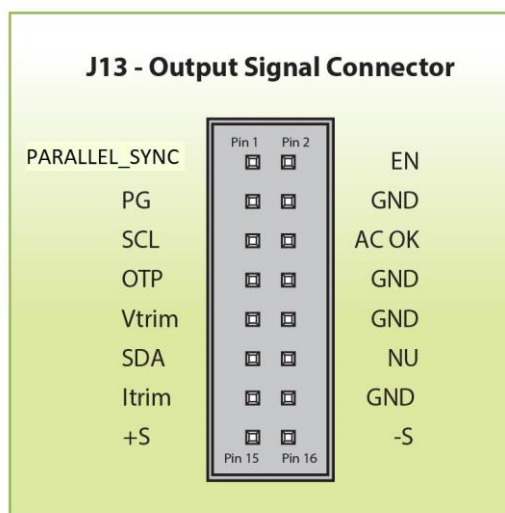
Auxiliary Output Connector (J12):

Lite-Trap™
 Molex: 104188-0210



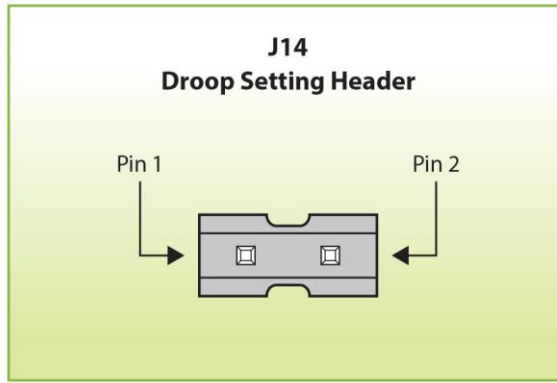
Output Signal Connector (J13):

Molex: 87831-1620



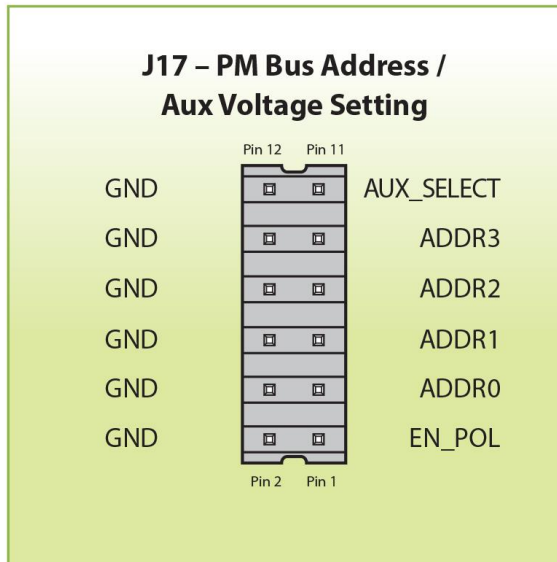
Set Droop (J14):

2 Pin Header,
 Harwin: M22-2510205;
 Cvilux: CH11022VA00-NH
 Shorting Jumper:-
 Harwin: M22-1900005



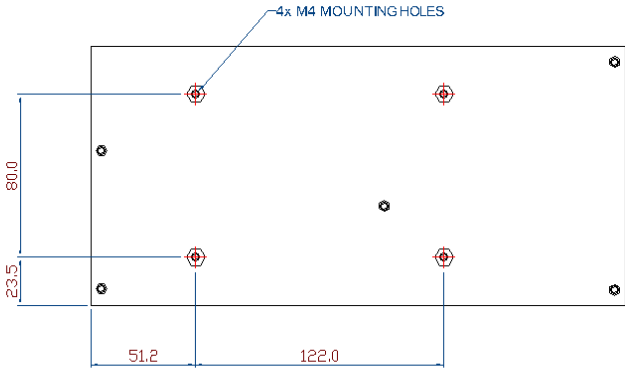
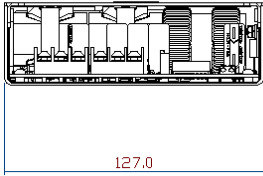
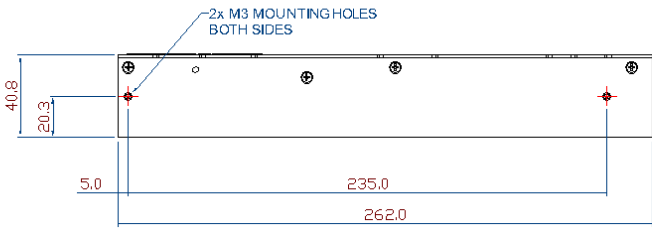
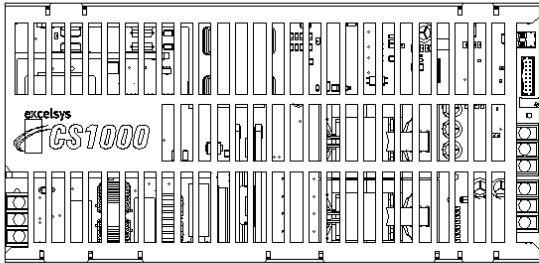
PM Bus/Aux Voltage Setting (Pin11 & 12) J17):

12 Pin Header,
 Harwin: M22-252060;
 Molex: 87758-1216
 Shorting Jumper for pins 11 & 12:-
 Harwin: M22-1900005



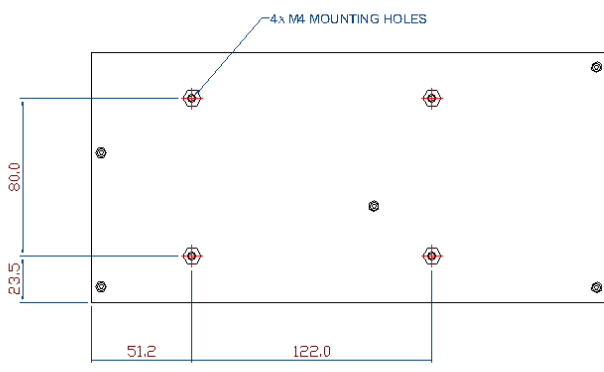
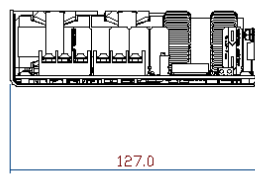
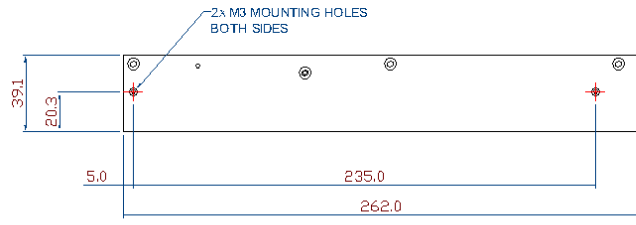
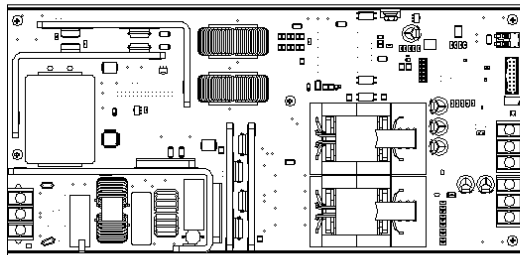
Input/Output/Signal Connector Details							
Pin	Input (J2 or J11)	Output Vout (J4)	Output Vout GND (J5)	Signal (J13)	Droop Connector (J14)	PMBus/Aux Voltage Setting (J17)	Aux Output Connector (J12)
1	N	+Vo	-Vo	PARALLEL_SYNC	Enabled when Jumper Fitted	EN POL	-Vo
2	E (FG)	+Vo	-Vo	EN		GND	+Vo
3	L	+Vo	-Vo	PG		ADDR0	
4				GND		GND	
5				SCL		ADDR1	
6				AC OK		GND	
7				OTP		ADDR2	
8				GND		GND	
9				VTRIM		ADDR3	
10				GND		GND	
11				SDA		Aux Setting	
12				NU		GND	
13				ITRIM			
14				GND			
15				SENSE +			
16				SENSE -			

CS10 – BARRIER CONNECTOR
 LID FITTED
 MECHANICAL
 SPECIFICATIONS



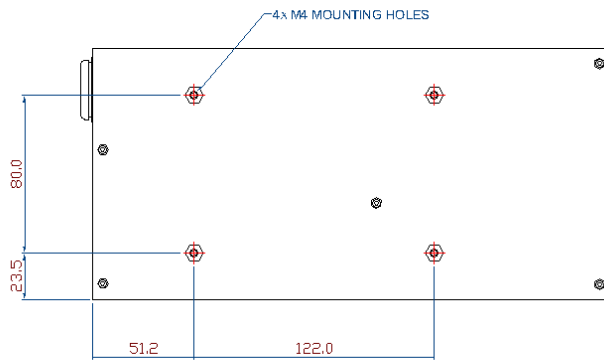
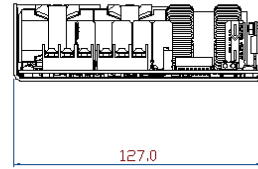
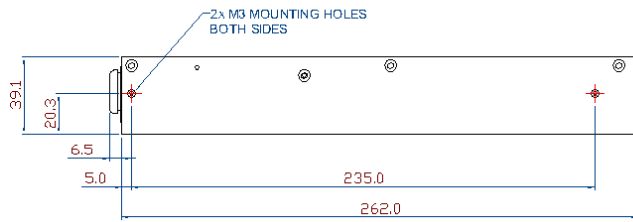
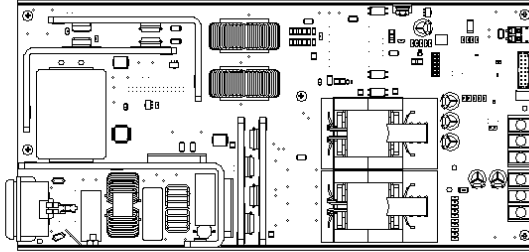
Mounting Holes:
 4 x M4 threaded PEMs on Base. Max Screw Penetration is 2mm from Base.
 2 x M3 threaded PEMs on Each Side. Max Screw Penetration is 2mm from Side.

CS10 – BARRIER CONNECTOR
 NO LID FITTED
 MECHANICAL
 SPECIFICATIONS



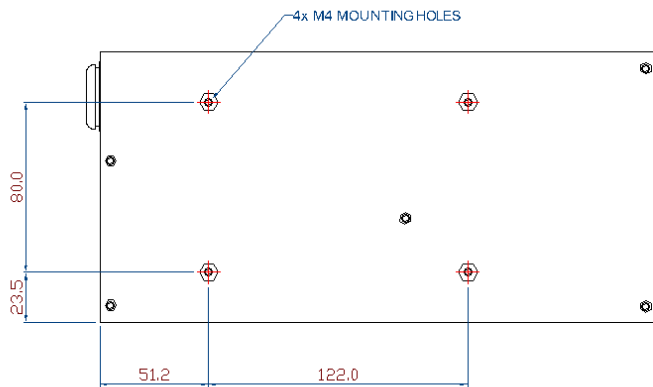
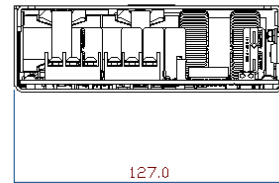
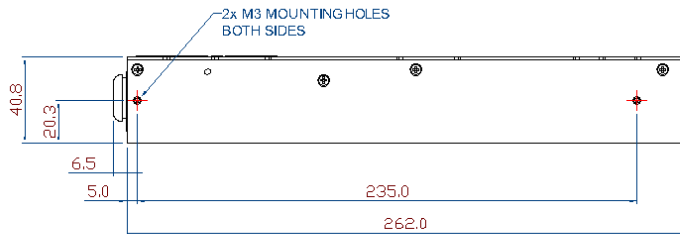
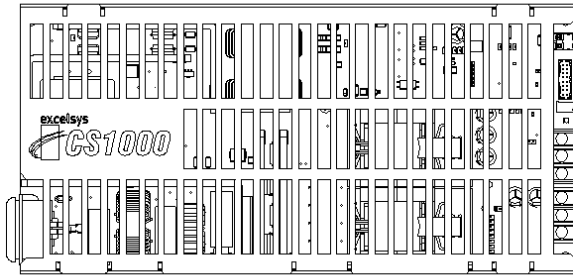
Mounting Holes:
 4 x M4 threaded PEMs on Base. Max Screw Penetration is 2mm from Base.
 2 x M3 threaded PEMs on Each Side. Max Screw Penetration is 2mm from Side.

CS10 – IEC CONNECTOR
 NO LID FITTED
 MECHANICAL
 SPECIFICATIONS



Mounting Holes:
 4 x M4 threaded PEMs on Base. Max Screw Penetration is 2mm from Base.
 2 x M3 threaded PEMs on Each Side. Max Screw Penetration is 2mm from Side.

CS10 – IEC CONNECTOR
LID FITTED
MECHANICAL
SPECIFICATIONS



Mounting Holes:
4 x M4 threaded PEMs on Base. Max Screw Penetration is 2mm from Base.
2 x M3 threaded PEMs on Each Side. Max Screw Penetration is 2mm from Side.

CS Model Label Contains:

- Input Freq,
- Input Voltage,
- Fuse Rating,
- Max Power Rating,
- Serial Number,
- Maximum Line Current under rated conditions.

Warning Symbol (**Danger High Voltage**) 

Warning Symbol (**Caution Hot Surface**) 

Model Configuration as defined by the diagram below this text.

Notes:

- Contact sales.support@aei.com for details including MOQs on alternative preset output voltages.
- A French translation of this Instruction Manual is also available; document number 40125. Contact sales.support@aei.com for a copy of this.

Part Numbering System

