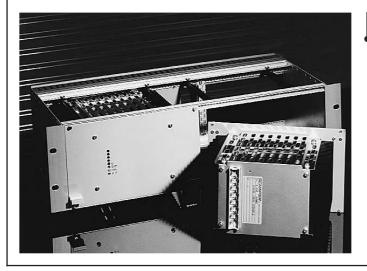
# **Rack & Cabinet Mount Switchers**

# **50-22 kWatts**

# **C** Series



# THE XPERTS IN POWER

CE Marked LVD & EMC

One to Four Outputs

5-400 Volts Output

Eurocassette or Wall Mount

Parallel Redundant Operation

Fully Wired Customised Racks

**Power Factor Correction Modules** 

## Specification -

### Input

DC Input Voltage Input Voltage Input Frequency

No-Load Input Current Inrush Current

- See Table
- See Table
- 47-440 Hz
- 3% of full load current typical
- AC/DC limited by thermistor DC/DC dependson impedance of supply line, see list of options for option 'I'

#### **Output**

DC Output Voltages Switch-On Time

Hold-Up Time

Line Regulation Load Regulation Ripple & Noise

Load Transient (20-100-20%)

Response Time to +1%

Overload Protection

Overvoltage Protection Remote Sensina Temperature

Coefficient

See Table

100 ms typical C/M200-C4700, 500ms typical C5600-C5800

AC/DC Increases with input voltage 15 ms typical at 230 VAC DC/DC depends on input voltage (typ. 2 ms at 12 VDC)

0.1% (±10% change Vin) 0.2% (10-90% load)

≤1% +30 mV p-p (0.5% typical lin. regulator auxiliary)

6% typical

2 ms typical C/M2000-C4700, 10 ms typical C5600-C5800

Current limited at 105-110% of full load

Standard on single output models & main output on multi output units

Standard for main output

0.02%/°C typical

#### General

Remote Sensing Switching Frequency •

Efficiency at Full Load •

MTRF

Connector

Standard for main output

Approx. 33 KHz

60-95%, depending on model

AC/DC approx. 250,000 hrs at +25°C DC/DC approx 100,000 hrs ar 40 °C

H 15 DIN 41612 or studs for higher current outputs C/M200/C4700, studs only for C5600-C5800

#### **Environmental**

Temperature Coefficient

Operating

Temperature

-20°C to +75°C,

derate from +55°C at 2.5%/°C (Optional -40 °C to +75 °C)

5-95% non-condensing

Storage Temperature

Relative Humidity

-40 °C to +85 °C

0.02%/°C typical

# **EMC & Safety**

Isolation

RFI-Interference

Construction (Safety) •

Creepage Distance

Air Distance Earth Leakage

High-Energy Pulses/Surges Spike/Bursts

Acc. to EN60950 Class 1

Acc. to VDE 0878, EN 55022, Level A

Acc. to EN60950 Class 1 Acc. to VDE 0110, 4 mm

Acc. to VDE 0110, 3 mm

<3.5 mA at 230 VAC, to EN60950

ENV 50142 (Level 3)

Acc. to IEC 1000-4-4 (Level 3)

For Full Module Data -

See AC-DC & DC-DC Series Datasheets at www.xpplc.com



0	PTIONS																										C
Options			C200	M200	C300	M300	C500	M500	0098	SM600	0090	M600	C1200	M1200	C1300	M1300	C1500	C1600	C2500	C2600	M2600	C3500	C3600	C3700	C3800	C4700	C5600/C5700/C5800
Mech	Tropical protection	Т																									
	Extended temp. range	С						Ont	ions	are	ava	ailal	ole i	n co	omb	inat	ion	with	n ot	her	opti	ons					
ĬĔĹ	Increased mech. strength	MS		Options are available in combination with other options																							
	Wall mounting	W																									
Input	Inrush current limiting(1)	I	•	•	•	•	*	*	*	*	*	*	•	•	*	*	*	*	*	*	*	*	*	*	*	•	*
	Series diode	SD	•	•	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Anti-parallel diode	AD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Autoranging	AU	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
1	Decoupling diode	DD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Output	Active current sharing	CS					*	*	*	*	*	*	*	*	*	*	•	•	•	•	•	•	•	•	•	•	•
۱ <u>ټا</u>	Inhibit (to be specified)	Н	*	*	*	*	*	*	*	*	*	*	*	*	*	*	•	•	•	•	•	•	•	•	•	•	•
$\square$	Externally programmable	Е	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
П	Power fail	Р	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	*	•	•	•	•	•	•	•	•
<u>s</u>	DC-OK one output	D	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	*	•	•	•	•	•	•	•	•
Signals	DC-OK all outputs	М								•		•		•		•					•						
ĬŠ	AC-OK (Inverters)	AC																									
	Signals with relay	R	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	•	•

- 1. Standard for mains input model to series C3700
- Option is available in combination with other options.
- Option is available with certain restrictions, contact technical sales for details.

#### **OPTIONS**

C

#### Option T (Tropical protection):

The unit is given additional protection by a heavy coat of varnish on the printed circuit board(s) and components

#### Option C (Extended temperature range):

Units are designed & tested for operation at an ambient temp down to -40 °C.

## Option MS (Increased mechanical strength):

Screws are fastened by Locktite and heavy components are fastened by ties or glue to following specification. Vibration: 2 – 2000 Hz at 2 G, Shock: 10 G for 11 ms to DIN 40046 part 7.

**Option W** (Wall mounting): Module is screwed to a mounting plate for installation within a cabinet (See C Series in DC-DC Section).

### Option I (Inrush current limiting):

A thermistor is connected in series with the input lines which changes its resistance from high to low when it gets hot. It does not reduce the current surge if the input power is interrupted for a short period of time not allowing the thermistor to cool down. Electronic inrush current limiting device is available upon request.

Option SD (Series diode): To protect the module against input voltage of wrong polarity, a series diode is provided (efficiency reduces).

**Option AD** (Anti-parallel diode): To avoid the power losses of a series diode a diode is provided with opposite polarity in parallel to the input blowing an internal or external fuse if the module is connected to a supply with wrong polarity.

#### Option DD (Decoupling diode):

For redundant operation the outputs of two or more units are paralleled behind de-coupling diodes so that an internal fault of one module does not affect the operation of the others. These diodes cause power losses. For high currents the de-coupling diode may have to be installed externally.

# Option SD, AD & DD:

May need to be fitted externally - contact sales office.

#### Option AU (Auto-ranging):

In standard dual AC input units (115/230 VAC) the range is selected by connecting the input line to different pins on the connector. With auto-ranging the unit senses the input voltage and automatically provides the correct connection

#### Option CS (Active current sharing):

By means of an additional control circuit active current sharing is provided via an interconnecting wire between 2 or more units.

#### Option H (Inhibit):

Operation of the unit is inhibited if a voltage signal (5 V/10 mA) is applied in reference to the negative line of the (main) output. Alternatively, a connector pin connected to the negative input line also shuts off the converter (to be specified). This can also be used in conjunction with a thermal trip which shuts unit down.

**Option E** (Programmable by ext. signal): An ext. signal applied with reference to the negative output line programs the output voltage.

#### Option P (Power fail):

A signal (logic or relay) is given if the input voltage drops below the specified limit. In AC input units we sense the rectified input voltage so that a power fail alarm can be avoided if at light load mains power returns before the input capacitors are substantially discharged.

# Option D (DC-OK, one output):

A signal (logic or relay) is given if the voltage of the main output is below the specified limit. In multi-output systems the main output is monitored.

# Option M (DC-OK, all outputs):

In multi-output systems a signal is provided if the voltage of any output is below the specified limit.

#### Option AC (AC-OK)

A logic signal is given if the output voltage of an inverter is below the specified limit.

### Option R (Relay):

Options P, D and M are available in conjunction with option R. A relay is provided for indication instead of a logic signal with a N.O., N.C. or changeover contact (to be specified).

### Option 'Y' (Sys-reset):

This logic signal is a combination of power fail and DC-OK as specified for VME systems.



# **Input & Output Voltages**

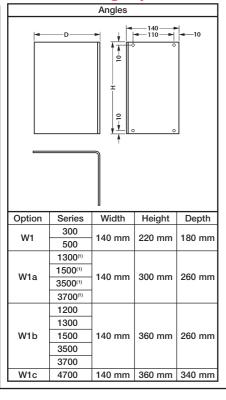
AC Input Voltages	
115 VAC	
(93-138 V)	
230 VAC	
(185-264 V)	
3 x 400 VAC	
(320-460 V)	
3 x 480 VAC	
(400-530 V)	

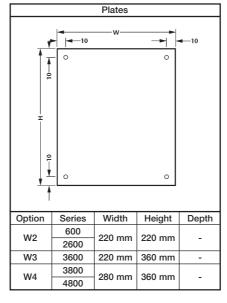
DC Input Voltages	
10-16 VDC	
18-36 VDC	
36-75 VDC	
45-90 VDC	
80-160 VDC	
160-320 VDC	
320-640 VDC	
450-900 VDC	

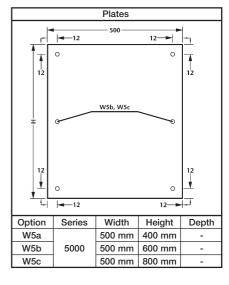
DC Output Voltages	
4.5-5.5 VDC	
8-10 VDC	
11-13 VDC	
14-16 VDC	
23-26 VDC	
26-30 VDC	
45-55 VDC	
58-68 VDC	
100-130 VDC	
190-200 VDC	

STANDARD N	ODULES - OUT	PUT POWERS	& DIMENSIONS	;	С
Series	Single Output	Multi Output		Dimensions	
	Maximum Power	Maximum Power	Width	Depth	Height
200	50 W	40 W	10 TE		
300	150 W	80 W	14 TE		
500	250 W	180 W	21 TE	160 mm	3U
600	350 W	300 W	42 TE	1	
000	500 W	450 W	42 TE		
2500	400 W	-	21 TE	220 mm	3U
2600	800 W	700 W	42 TE	220 111111	30
1200	200 W	160 W	10 TE		
1300	400 W	320 W	14 TE	160 mm	6U
1500	600 W	-	21 TE	160 mm	60
1600	1200 W	-	42 TE	]	
3500	850 W	-	21 TE		
3700	1250 W	-	28 TE	220 mm	CII
3600	1700 W	-	42 TE	220 mm	6U
3800	2500 W	-	56 TE		
4700	2500 W	-	28 TE	300 mm	6U
5600	6000 W	-	19"		
5700	8000 W	-	19"	360/460 mm	6/9U
5800	12000 W	-	19"	1	
6400	22000 W	-	19"	600 mm	8 U

# **Wall Mounting Options**







#### NOTES

- 1. No space available for connector underneath module.
- The size of the module plate depends on model size and output power, and on any additional equipment to be included - Contact Technical Sales.



# **C Series Versatility**

With over 3000 standard modules and many more modified and custom built units available, the C Series of AC-DC and DC-DC Converters can be used in a wide variety of applications and environments.

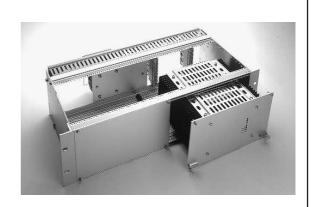


### **Standard Modules**

Standard modules are supplied in either Euro-Cassette or 19" rack mount formats depending on power rating.

### **Sub-Racks**

Fully wired sub-racks can be configured as 3U, 6U or 9U allowing any mix of units - including 'hot swap redundant systems complete with alarms, monitoring and controls.





# **Wall Plates**

For customers looking to install units in their own cabinets the C Series can be supplied to a wall plate (W option). Units come fitted to a vertical mounting plate complete with screw terminals.

#### **Customer Specific**

In addition to the 'W' option, units can be configured into complete stand-alone systems. The picture opposite shows a switchmode battery charger specifically designed for installation into a lighthouse. It has been mounted in a stainless steel cabinet to withstand a salt water environment.



