

GRADE 2 AC INPUT SWITCHED MODE

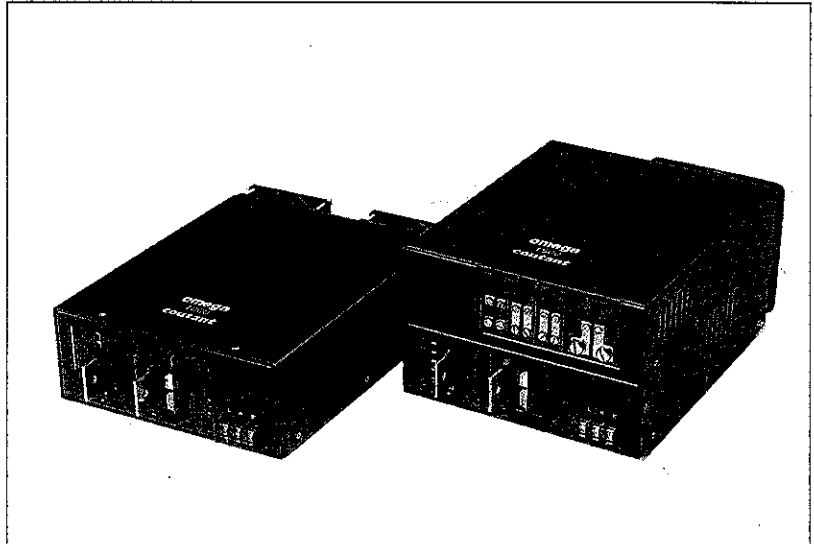
OMEGA SERIES



1000W-1500W SINGLE/MULTI OUTPUT

FEATURES

- Power factor 0.99 - meets IEC 555 2
- 85V-265VAC wide range input
- Meets UL1950, CSAEB 1402C, EN60950, BS6301, BS7002 approvals*
- RFI to VDE0871 curve B
- 37% smaller than industry standard case (1000W)



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OUTLINE SPECIFICATION

Preliminary consult technical sales for verification

Input

Input voltage range	85-265 AC wide range
Input frequency	47-63Hz
Inrush current	<20A pk (1000W) <34A pk (1500W)
Input protection	fuse
Thermal shutdown	standard
Harmonic distortion of mains	meets IEC-555-2

Output

Main channel

Rating (fan cooled)	1000W (+600W for auxiliary O/Ps) 1500W total
Minimum load	10% (none for auxiliary O/Ps)
Line regulation (high line - low line)	0.1%
Load regulation (10 to 100% load change)	0.1%
Cross regulation	0.1%
Hold up (min)	20mS from 95VAC full load
PARD	greater of 100mV or 2% of set volts
Temperature coefficient	0.02%/C
Overload protection	constant current limit. Set point adjustable from 105 to 120%

Output continued

Overvoltage protection	adjustable multi turn pot shut down of channel or psu
Remote sense	Standard 0.5V
Output adjust range.	
5V nom	4.5-6.0V
12V nom	11.5-16.0V
24V nom	23.0-30.0V
48V nom	45.0-60.0V
Transient response (25% to 75% load change)	<10% deviation, recovery to 1% typically 100mS
Start up rise time	50mS (monotonic rise)

1000W-1500W SINGLE/MULTI OUTPUT continued

OUTLINE SPECIFICATION continued

Auxiliary Outputs (Specifications nominal unless stated)

Auxiliary outputs are combinations of the following modules:-
(Maximum auxiliary power is 600W)

Module Type	A	B	C	D	E	F	G	H	J ⁶	K ⁶
Slots (width of module) ¹	2	1	1	1	1	2	2	1	2	1
Output voltage (pre-set)	5V	5V	12V	24V	12V/12V	12V	12V	24V/24V	48V	12V/12V
Adjustment range	2-6V	2-6V	5-15V	12-28V	5-15V	5-15V	12-28V	12-28V	25-60V	5-5V
Output current	60A	25A	12A	7A	6A ³	24A	15A	3.5A ³	10.5A	6A ³
Load regulation (0-100% loading)	0.1%	0.1%	0.1%	0.1%	0.5% ²	0.1%	0.1%	0.5% ²	0.1%	0.5%
Adjustment	Multi-turn potentiometer for each output									
Setting accuracy	± 1%									
Off-load voltage	As pre-set									
Temperature coefficient	0.2%/°C									
Line regulation	0.1% at ± 20% of nominal mains									
Noise and ripple (PARD)	50mV or 1% whichever is greater (A,B,C,D,F,G,J). 1% (E-H, twin O/P)									
Transient response (25%-75% load)	Max. deviation <10% of set volts recovering to 1% within 300 micro-secs									
Overcurrent protection	Foldback from 110% to 60% at 0 volts (A,B,C,D,F,G,J) (24V output - 110% to 77%) constant current (E,H,K twin O/P)									
Overvoltage protection	Adjustable, multi-turn potentiometer one per output, inhibits individual outputs ⁴									
Remote sense	.0.5 volts total (Not on E,H,K)									
Output isolation	500V DC to ground									

1. Maximum of 5 slot widths available for auxiliary outputs
2. 10 to 100% load
3. Total current shared between both outputs
4. Fixed OVP on twin O/Ps, models E,H & K
5. 50mV up to 6A/channel
10mV up to 1A/channel
6. Preliminary specification

Available Q2/93 - 'L' module 5V 100A 3 slot

General

Efficiency	>70%
MTBF	consult Technical Sales with details of operating environment
Isolation voltage:	
Input - output	3.0kV RMS
Input - ground	1.5kV RMS
Output - ground	1.5kV RMS
Power fail	standard on OMS 1000 5 and OMM models. Option on other models (see Option table)

Environmental

Operating temperature range	0°C to 70°C
Derating	100% at 50°C 75% at 60°C 50% at 70°C (2.5%/°C)

Environmental continued

Storage temperature range	-40°C to 85°C
Operating humidity (non-condensing)	10% to 95%RH
Storage humidity (non-condensing)	10% to 90%RH
Operating/storage pressure	1030-680mb (-500' to 10000')
RFI	meets VDE 0871 B - conducted and radiated

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OMEGA SERIES



ELECTRICAL SPECIFICATION

Model Number	Case Size	Maximum Power	Output 1		Output 2		Output 3		Output 4		Output 5	
			Volts	Amps	Volts	Amps	Volts	Amps	Volts	Amps	Volts	Amps
OMS 1000 5	1000	1000	5	200								
OMS 1000 12	1000	1000	12	83								
OMS 1000 24	1000	1000	24	41								
OMS 1000 48	1000	1000	48	21								
OMM 1500 W1	1500	1500	5	200	12	24	12	24				
OMM 1500 W2	1500	1500	5	200	5	25	12	24	12	12		
OMM 1500 W3	1500	1500	5	200	12	24	12	12	12	12		
OMM 1500 W4	1500	1500	5	200	12	24	24	15	12	12		
OMM 1500 W5	1500	1500	5	200	5	25	12	24	12	12	24	7

Note 1. Output 1 is user adjustable between the following ranges

Nominal setting	Adjustable range
5V O/P	4.5-6.0V
12V O/P	11.5-16.0V
24V O/P	23.0-30.0V
48V O/P	45.0-60.0V

Output power is limited to 1000W max on O/P1

Note 2. Outputs 2-5 are user adjustable over the ranges specified in the module table shown in the Auxiliary Outputs section. However when reducing the output voltages from those shown above, it may not be possible to draw full O/P power. Overall O/P power limited to 600W max. total on O/PS 2-5. Request Omega Application Note 2 for further details.

Note 3. 10% minimum load required on Output 1 for operation within specification.

(Outputs 2-5 will operate correctly with zero load on Output 1)

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OPTIONS

Configured (Modular) Units

(Secondary options not available on standard OMM models)

If you cannot find a standard Omega 1500 unit which fully meets your requirements, the Coutant Lambda team will create a customised modular unit utilising the standard modules. If your requirements are straightforward you can even configure the unit yourself.

There are four basic rules to observe.

1. Maximum output power of main output is 1000W.
2. Maximum total output power of auxiliary outputs is 600W.
3. Maximum overall output power is 1500W.
4. Maximum number of 'slots' that can be occupied by auxiliary output modules is 5.

1. First select the main channel output voltage required from the following ranges:

4.5-6.0V	222A max
11.5-16.0V	87A max
23.0-30.0V	44A max
45.0-60.0V	22A max

Overall power limit 1000W max.
eg. 5.0V 200A

2. Next list all the required auxiliary output voltages and current ratings. (Because all outputs are fully floating, polarity can be ignored). Multiply the voltage and current together to calculate power in watts for each output. Add together all of the output powers to arrive at the total wattage. In this example, the total power output is 471W. This is within the total permissible auxiliary output power of 600W.

Volts	Amps	Watts
28	7	196
5	25	125
5	6	30
12	4	48
24	3	72
Total Power		471

3. Now refer to the module table and select a unit to meet the requirements of the first output.

In the example, this is 28 volts at 7 amps, so a 'D' module would be suitable. Prefix this with the required voltage (in this case 28). This gives the module specification as 28D.

4. Refer again to the module selection table and select modules to meet the requirements of each of the remaining outputs. Prefix each module with the voltage required. In the example, the complete list would read as follows.

Volts	Amps	Watts	Module	Width in Slots
28	7	196	D	1
5	25	125	B	1
5	6	30	B	1
12	4	48	C	1
24	3	72	D	1

Total number of slots occupied is 5 which is the maximum allowed.

5. Now construct the part number as follows:-

- a. Basic model number OMM 1500.
- b. Add main channel output voltage eg., OMM 1500 5.
- c. Add the auxiliary output modules selected in descending order of current rating.
e.g., OMM 1500 5 5B 28D 5B 12C 24D.

6. In addition, there are options available for either the converter or each of the modules separately. Consult the options table for details. If you need the mains fail option enter an 'X' after the basic model number, i.e. OMM 1500 X5. If you need a Starpoint paralleling option on the 28 volt output, enter Y5 after that module, i.e. OMM 1500 5 5B 28D Y5.

Remember, the Technical Support Team are available to configure the outputs you require.

1000W-1500W SINGLE/MULTI OUTPUT continued

OPTIONS continued

Primary Options

Standard on OMS 1000 5 and standard OMM models)	
Mains fail	Isolated signal from opto-coupler. Output signal can sink a maximum of 10mA. To allow a 5 milli-seconds hold-up from activation of mains fail signal until the power supply output drops out of limit.
Converter inhibit	Power supply inhibited by applying 7.5 mA. through an opto-isolated input. N.B. it is also possible to control the power supply on/off by pulse control consult the Technical Support Team at Coutant Lambda for more details.

Secondary options (Main channel)

Power good	'PG'
Starpoint parallel	('SP')
Output inhibit	('OI')
Output enable	('OE')
Remote programming	('RP')
Margin control	('MC')

Secondary options (Auxiliary outputs)

Starpoint paralleling*	Single wire interconnect forces paralleled modules to share current at greater than 25% load, modules share within 2% of current determined by current limit setting.
Power good	Detects output voltage high or low ($\pm 9\%$) from set output volts. Open collector, grounded for output OK.

Secondary options continued

Inhibit/enable	Factory configurable for module inhibit/enable - high or low. Pin is connected to 0 volts or + VE output to effect control. Output connections are via a 4-way Molex connector located above output terminals.
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*Consult the Technical Support Team at Coutant Lambda for more details.

Unit Options

Reverse air	('RA')
Low noise fan	('LNF')

Order Codes

Primary options	Mains fail/power supply inhibit Add suffix 'X' to basic model number eg., OMS 1000 X 24
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Secondary Options (Main Channel)

Add order code suffix to main channel output e.g. OMM 1500 5SP 24D for Starpoint parallel.

Secondary Options (Auxiliary outputs)

(Not available on twin output E, H, K modules.)

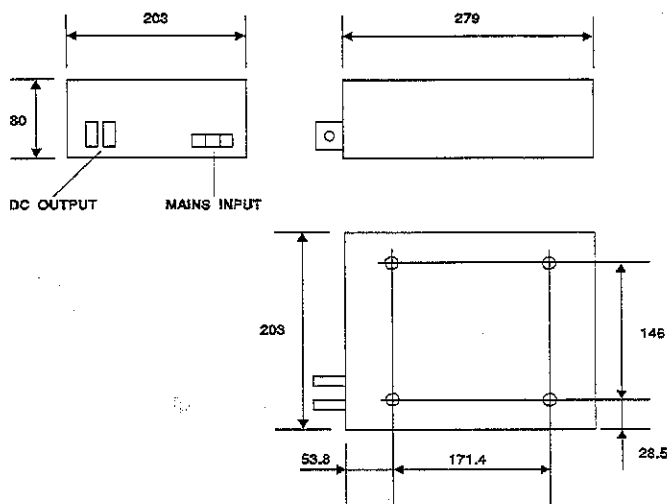
Suffix	Function
Y5	'Starpoint', 'paralleling' & 'module good' signal for parallel redundant applications
Y6	'Power good', 'Inhibit' (active high and low)
Y7	'Power Good', 'Enable' (active high)
Y8	'Power Good', 'Enable' (active low)

Suffix added to individual module descriptions, i.e., 5AY6 = 5 volts 'A' module with Power Good and Inhibit.

Unit options	Add order code suffix to basic model number eg., OMS 1000 RA 24 for reverse air.
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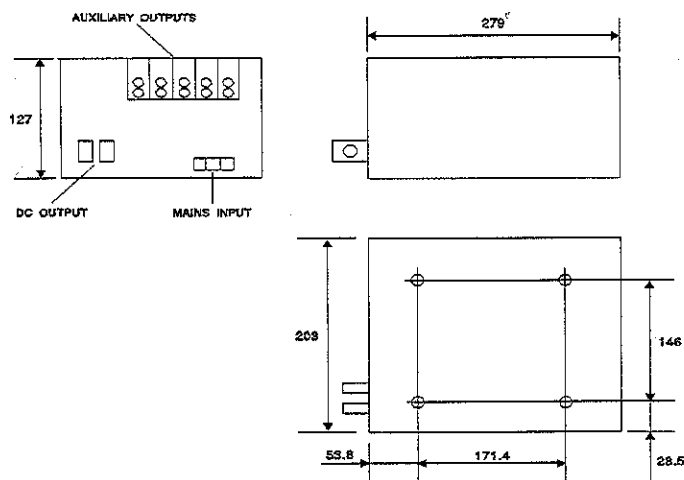
PHYSICAL SPECIFICATION

CASE 1000



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CASE 1500



CONNECTION DETAILS

Input connections	terminal block 8-32 screws
Output connections	main output - busbars
	auxiliary outputs - screw terminals
Option connections	primary, Molex
	secondary, Molex
Case style	boxed