

SM1600

Compact switch mode rectifier with wide input and overvoltage protection for world-wide Telecom applications

Rating: 30A at 48Vdc

Key features

- Space saving and extremely compact due to its exceptional power density and format (581W/l, 1U high);
- Robust due to its very wide operating input voltage range (80 to 300 Vac);
- Wide operating temperature range -10°C to +70°C with full thermal management;
- Reliable operation due to advanced self-protection (input, output, temperature, current, power) and high MTBF;
- Self-disconnect on high and low mains voltage with automatic re-connection;
- Self-protection against high temperature conditions via automatic output power de-rating;
- Fan speed control & monitoring - low noise, extended fan lifetime, easy maintenance;
- Fan monitoring for easy maintenance;
- Sine wave input (PFC) and high efficiency (91%) to reduce operation costs;



- Easy to operate: compact, light, hot pluggable, clear indications by LED, adjustment free;
- Control & alarm functions for remote management;
- Float temperature compensation and voltage control input for optimum battery charging via system controller - increases battery life;
- **CE** marked, UL under registration.

For use with controllers:

ACM1D

For use in systems:

MPS1600, MTP1600

SPECIFICATION

Input	
Nominal input voltage lines	208, 220, 230, 240Vac without adjustment
Input voltage range	185 - 300Vac (with full power output) 80 - 185Vac (with power de-rating between 80 and 185Vac)
Nominal current	7.3 A at 230Vac
Nominal frequency	50/60 Hz
Number of phases	Single phase
Power factor	0.99
Total harmonic distortion (THD)	< 5%
Inrush current	< 20A

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Output											
Nominal voltage	48Vdc										
Output voltage control range	42 - 58Vdc										
Maximum power	<table border="0"> <tr> <td>at 230Vac -10%, +20 %</td> <td>1600 W</td> </tr> <tr> <td></td> <td>1500 W up to +45°C</td> </tr> <tr> <td></td> <td>1400 W up to +50°C</td> </tr> <tr> <td>at 230Vac ± 20%,</td> <td>1500 W up to +40°C</td> </tr> <tr> <td></td> <td>1400 W up to +45°C</td> </tr> </table>	at 230Vac -10%, +20 %	1600 W		1500 W up to +45°C		1400 W up to +50°C	at 230Vac ± 20%,	1500 W up to +40°C		1400 W up to +45°C
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Maximum current	30A										
Current sharing	± 5%										
Efficiency	91%										
Line & load regulation	< 1%										
Ripple and noise	< 2 mV rms weighted , < 20 mV rms unweighted, < 250mV peak to peak (30MHz Bandwidth)										
Transient response	5% for load variations from 10% to 90% or 90% to 10%, recovery to normal regulation limits in 5ms										
Protection											
Input protection	Hot pluggable, inrush protection, soft-start, fuse on phase and neutral, surge protection devices Auto disconnect above 300Vac with automatic re-start at 280Vac Auto disconnect under 80Vac with automatic re-start at 90Vac										
Output protection	Hot pluggable, electronic short circuit protection, output power limit, reverse polarity protection, output protection fuse										
Output overvoltage protection	DC overvoltage shutdown										
Thermal protection	Automatic power de-rating on high temperature										
Alarms & indicators											
Alarms	Mains fail, rectifier fail, control loop fail /rectifier in fall back operation, DC overvoltage shutdown, output voltage present, fan fail										
Front panel indicators	Green LED: DC output "OK" Red LED: mains fail, rectifier fail, fan fail										
Mechanical specification											
Dimensions	43.6 mm H (1U), 210mm W, 298mm D (minimum cabinet depth: 400mm)										
Weight	2.9 kg										
Ingress protection	IP 20										
Mounting	Horizontal 1U, 2 rectifiers across 19" or ETSI rack										
Connections	Hot pluggable with rear connections										
Environmental											
Cooling	Forced air cooling with electronic speed control										
Operating temperature	-10°C to +70°C full power up to 50°C, apply de-rating criteria between +50°C and +70°C										
Storage temperature	- 40°C to +85°C										
Humidity	10% to 95% RH non-condensing										
Acoustic noise	< 50 dB(A)										
Standards											
Safety	EN60950-1										
EMC	Emission: EN 55022 Class B – EN61000-3.2/3.3 - EN61000-6.3/6.4 Immunity: EN61000-6.1/6.2 – ANSI C62.41										
Telecom networks	EN300 386 – EN300132-2										
Environment	EN300 019 (Transportation, storage and operation)										
Acoustic noise	ETS 300753										
Approvals	CE, UL under registration										
Available configurations											
Product reference	SM1600-48-30										