

SM2000

Compact switch mode rectifier,
constant power output,
with wide AC input
for world-wide Telecom applications

Rating:
41.70 A at 48 Vdc



Key Features

- Parallel operation with SM1600: can be mixable with SM1600 in MPT1600C and MPS1600C systems
- Constant power output: 2000 W at 48 Vdc, reducing the number of modules needed in the system
- Space saving and extremely compact due to its power density and format (750 W / I, 1 U high)
- Robust due to its very wide operating input voltage range (80 to 280 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
- Automatic stop on high and low mains voltage with automatic re-start
- Self-protection against high temperature conditions via automatic output power de-rating
- Fan speed control and monitoring - low noise, extended fan lifetime



>> SM2000

- Fan monitoring with alarm signaling when failed. Easy removing for simple maintenance
- Sine wave input (PFC) and high efficiency ($\geq 91\%$) to reduce installing and operation costs
- Easy to operate: compact, light, hot pluggable, clear indications by LED, adjustment free, ready to use
- Control and alarm functions for remote management
- Float temperature compensation and output voltage control input for optimum battery charging via the system digital control module - increases battery life
- CE marked, and UL registered

For use with controllers and communication interfaces:

ACM1D, ACM1000 and NCS

For use in systems:

MTP2000C, MPS2000C

MTP1600C, MPS1600C

SPECIFICATION

Compact switch mode rectifier, constant output power, with wide AC input for world-wide Telecom applications

INPUT

Nominal input voltage lines	208, 220, 230, 240 Vac without adjustment
Input voltage range	187 - 280 Vac, (output power according features below) 80 - 187 Vac (with output power de-rating between 80 and 187 Vac)
Nominal current	9.5 A at 230 Vac
Nominal frequency	50 / 60 Hz
Number of phases	Single phase
Power factor	0.99
Total harmonic distortion (THD)	< 5 %
Inrush current	< 30 A peak

OUTPUT

Nominal voltage	48 Vdc
Output voltage control range	42 - 58 Vdc
Maximum power	At 230 Vac – 10 %, + 20 % 2000 W up to Tamb = 40 °C 1860 W up to + 50 °C At 230 Vac - 20 % 1780 W up to + 40 °C 1560 W up to + 50 °C
Nominal current	36.40 A at 55 Vdc
Maximum current	41.70 A at 48 Vdc

Current sharing	± 5 %
Efficiency	91 %
Line and load regulation	< 1 %
Ripple and noise	< 2 mV rms psophometric weighted, < 20 mV rms unweighted, < 250 mV peak to peak (30 MHz Bandwidth)
Transient response	5 % for load variations from 10 % to 90 % or 90 % to 10 %, recovery to normal regulation limits in 5 ms

PROTECTION

Input protection	Hot pluggable, inrush current limitation, soft-start, fuse on phase and neutral, VDR surge protection devices Automatic stop above 280 Vac with automatic re-start before 265 Vac Automatic stop under 80 Vac with automatic re-start before 95 Vac
Output protection	Hot pluggable, electronic short circuit protection, output power limit, reverse polarity protection
Output overvoltage protection	Selective DC overvoltage shutdown
Thermal protection	Automatic power de-rating on high temperature

ALARMS AND 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 (1 U), 210 mm W, 298 mm D (minimum cabinet depth: 400 mm)
Weight	2.9 kg
Ingress protection	IP 20
Mounting	Horizontal 1 U, 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 40 °C, apply de-rating criteria between + 40 °C and +70 °C
Storage temperature	- 40 °C to + 85 °C
Humidity	10 % to 95 % RH non-condensing
Acoustic noise	< 55 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 – EN300 132-2
Environment	EN300 019 (Transportation, storage and operation) ROHS Directive on Restriction of use of certain Hazardous Substances WEE directive on Waste Electrical and Electronic Equipment
Acoustic noise	ETS 300753
Approvals	CE, UL

AVAILABLE CONFIGURATIONS

Product reference	In 48 Vdc version SM2000-48 Also available in version with fuse on the DC output, negative polarity
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