

# SI2000 MPS1000.50

## Typical features and advantages



- **Highly efficient > 91.5% - load up to 40A**
- **Modular basis**
- **Possible mounting into a 19" or an ETSI rack**
- **Integrated DC distribution**
- **Compact variant depth 300mm**
- **Integrated 1f or 3f AC distribution with overvoltage protection**
- **Easy access to modules and connection points**
- **Active load sharing**
- **Simple expansion of the system**
- **Automatic test of battery capacity**
- **Remote management and monitoring**
- **Monitoring of up to 128 battery blocks**
- **Management and monitoring of the ambient**

## Description of the MPS1000.50 system

MPS1000.50 is a system for uninterrupted power supply of telecommunications systems with the voltage of 48 V and total output current of up to 52A, which depends on the number of installed rectifiers. The system provides the power supply of 40A load maximum, the rest of the current is used for charging batteries.

The MPS1000.50 system is part of the MPS1000 family that ensures a high degree of flexibility and efficiency, and simple subsequent expansion. The standard configuration includes 48V-rectifiers, batteries, AC distribution, DC distribution with the connecting field and a control unit.

The uninterrupted DC power supply in the system is provided by the parallel connection of rectifiers and batteries to the common system ground bus, from which the loads are supplied. In the event of mains voltage failure the connected loads are supplied from the battery. The system provides the setting of the output voltage with regard to the type of connected batteries and the regulation with regard to the ambient temperature. The system provides optimal charging of the batteries and current limitation to the battery by increasing/reducing the output voltage. LVD relay provides protection against too deep discharge of the battery.

AC distribution comprises a single- or three-phase connector field that enables the distribution to the rectifiers with the overvoltage protection, class C. Up to eight rectifiers in an ETS rack and up to seven rectifiers in the 19" rack can be installed in the MPS1000.50 system. The rectifiers function in parallel, in compliance with the load requirements and the N+1 principle. MPS1000.50 provides simple and uninterrupted expansion of the system with rectifiers according to the plug & play principle.

DC distribution enables the connection of up to two batteries to 40A automatic circuit breakers. The load can be connected to four circuit breakers, 3x20A and 1x32A.

Management and monitoring of the system and management and monitoring of the ambient are performed by using the ARH control unit. Management is performed via the display and keys on the control unit, local PC connected over the ethernet port, USB port, or via the management node (MN). The ARH control unit provides the measurement of different electrical quantities of the system and the ambient.

## Technical data

Input	
Rated voltage	1x 230 V AC or 3 x 230 V AC
Permissible voltage	185 V AC - 265 V AC $\pm$ 10 % at 150V – 185 V AC the system operates with reduced power
Frequency range	45 Hz - 65 Hz
Max. input current	$\leq$ 20 A RMS or 3 x 7 A RMS
Power factor	> 0.95
Output	
Max. output power	3kW at input voltage > 185 V AC
Rated output voltage	54.5 V
Output voltage setting range	50.5 V - 56.5 V
Static voltage stability	1 %
Output current	52A at input voltage 54.5V; load max. 40A
Max. output current	52.8A $\pm$ 1A; load max. 40A
Current sharing	< 5 %
Ripple	< 50 mV p-p BW 30 MHz
Psophometric voltage	< 2 mV RMS at 0 % to 100 % load
Efficiency	> 91.5 % at max. load and rated input voltage
Standards	
Safety	In accordance with EN 60950, class 1
Mechanical protection	IP20 in accordance with EN50529
RFI radiation	In accordance with CISPR, class B; EN 55022
Vibration	In accordance with EN 300 19-2-3
Other data	
Protection	Automatic limitation of the AC/DC rectifier's output current, a fuse at the input of each rectifier, selective switch-off of a particular rectifier in case of error, at high input voltage, switch-off of the batteries at low voltage.
Insulation	4.25 kV DC, primary circuit – secondary circuit 2.12 kV DC, primary circuit – body 0.5 kV DC, secondary circuit – body
Dimensions	ETS variant: 530mm x 280mm x 250mm 19" variant: 481mm x 280mm x 267mm Optionally battery in the rack and additional DC distribution.
Monitoring and management	
Type	Local control unit for the power-supply system control, with the option of ambient monitoring and management.
System alarms	Mains failure, high/low system voltage, etc.
Ambient alarms	High/low temperature, break-in, air-conditioning error, DEA, etc.