

| General description:

The SDB 65 power supply system is intended for uninterruptible supply of 48Vdc loads by direct current in direct full-float operating mode. The construction of the system using cooperation of rectifiers type PDB 48/17-800W and batteries under control of advanced MSS1-03, MSS2M or Pi1 controller.

The power supply system can also be produced in Front Terminal version (SDB 65FT) – all terminals and connectors are located on front panel of the system.

| Application:

- + IT network systems;
- + professional telecommunications systems;
- + industrial automation systems.

| Features:

- + compact design of the system (3U/19") adapted for assembling in cabinets (racks) 19", 21" or 23";
- + optional side panels (housing) allowing floor mounting or wall mounting;
- + very easy connecting external cables in Front Terminal version – all terminals and connectors are located on front panel of the system;
- + modern, constant power rectifiers;
- + easy installation of rectifier (replacement or extension) during normal operation status (*hot-swap*);
- + continuous control of system's operation and fast reporting of alarm states by means of controller;
- + easy and full safe operation;
- + high efficiency;
- + immunity to short-circuits and overloads of output circuits;
- + immunity to electromagnetic interferences;
- + wide range of optional equipment.

| Rectifiers:

Constant power rectifier PDB 48/17-800W with nominal output power 800W is equipped with microprocessor card controlling its work's parameters. The digital communication between rectifiers and control unit, gives operator the possibility of remote supervision on individual rectifiers of the system.

| Power supply of the system:

The SDB 65 system is supplied from three-phase AC supply line. Failure of one or two phases of mains supply does not cause the whole power supply system to be switched off (individual rectifier units are supplied from different phases). Also it is possible to supply system with single-phase line.

| Design of the system:

In standard version the enclosure of the system is intended to installing in standard 19-inch cabinets (racks).

The standard version the power supply system consists:

- + microprocessor controller type MSS1-03, MSS2M or Pi1 (depending on control unit type it may be equipped with LCD display and control buttons or manipulator);;
- + rectifier subrack intended for installing up to 4 pcs. of rectifiers PDB 48/17-800W;
- + battery protections – magnetic circuit-breakers (MCB) - 2 pcs.;
- + load protections – magnetic circuit-breakers (MCB) – max. 12 pcs. (max. 11 pcs. for SDB65FT), separated charging set decreases the number of load protections by 1;
- + temperature compensation of float voltage with temperature sensor.

Optionally the power supply system can be equipped with additional modules and elements:

- + summary battery current measurement;
- + ambient temperature measurement;
- + separated battery charging from external power supply;
- + automatic disconnection of the batteries from loads (protection against deep discharge);
- + control of AC mains;
- + side panels intended for creating floor mounting and wall mounting versions of the system;
- + terminals intended for connecting loads and batteries located on front panel of the system (in Front Terminal version).

| Safety and Environmental aspects:

During the system design process following aspects related to environmental protection have been taken into consideration:

- + compliance with the European Union's directive RoHS - restrict the use of certain hazardous substances,
- + compliance with the European Union's directive WEE regarding waste of electrical and electronic equipment,
- + compliance with the European Union's directives LVD and EMC - electrical safety and electromagnetic compatibility,
- + reduce of used electrical energy as the result of high efficiency,
- + reduce the amounts of used materials and wastes as a consequence of system dimensions minimization and high reliability.



Basic parameters of the system:

Input parameters:

Input voltage	Vac	3 x 230/400 (-23,5%; +30,4%)
Frequency	Hz	45...65
Max. phase current	Aac	6 (three-phase), 18 (single-phase)
Power factor	-	≈ 1

Output parameters:

Range of voltage	Vdc	48...58
Characteristic	-	UPI
Stabilization of output voltage	%	±1
Maximum output current	Adc	72
Maximum output power	W	3200
Output voltage ripples (psophometric value)	mV	< 2

General data:

Range of ambient temperature	°C	-33 ÷ +55
Cooling	-	fan-cooled
Efficiency	%	≥ 90
Protection class		IP20
Electromagnetic compatibility	-	PN-EN 300-386 class B
Dimensions of the power supply system (HxWxD)	mm	133 x 482 x 390
System weight without rectifier units	kg	~11
Dimensions of the rectifier unit (HxWxD)	mm	81 x 40 x 285
Weight of the rectifier	kg	1,1

| Basic functions of the control unit:

- + controlling values of output current and voltage, battery current, battery temperature and ambient temperature;
- + temperature compensation of float voltage;
- + current limitation of battery charging;
- + automatic and equalizing battery charging;
- + signalling of load and battery protections blow-out;
- + battery asymmetry control ;
- + creating register of events in control unit's memory;
- + programming of cut-out battery from the loads (protection of the battery against deep discharge);
- + visualization parameters and state of the system by means of LCD display;
- + sending alarm signals(3 potential-free contacts of relays and 8 open collectors of transoptors);
- + automatic reporting of alarm states to WinCN supervisory system.

| Extended functions of the control unit:

- + remote supervision of the system by means of WinCN software with:
 - fixed network (telecom modem),
 - logical network (TCP/IP),
 - wireless network (GSM);
- + possibility of supervising up to 16 additional external signals.