

# DC POWER-SD

## DC/DC power systems



### DC POWER-SD: Compact, flexible and modular DC power supply systems

Salicru's **DC power-SD** energy systems feature the following components: DC-SD rectifier modules, subracks, a control and monitoring system, a communications module and a DC distribution unit, all situated in a closed cabinet with the possibility of including batteries.

**DC power-SD** system rectifier modules are available in power ratings of 900, 1000, 1800, 2000 and 2700 W and output voltages of 24, 48, 60, 110 and 125 Vdc. Its modular design allows 2 or 4 modules to be installed in a 19" 2U subrack, achieving very high power density.

The control and monitoring system manages the entire system: input and output measurements, battery charging currents (Batteries are not supported for 60V output voltage option), control of priority and non-priority loads and communication channels with the outside. The maximum number of rectifiers controlled by a control system is 30, enabling systems to achieve power ratings of up to 81 kW with N+n redundant configuration options.

The basic version of the communications module has: three programmable relays, a battery temperature sensor and an RS-232/485 channel. Extended version features a slot for an Ethernet/SNMP Nimbus adapter, an NiCd electrolyte level detection input and six additional relays.

### Applications: Redundant protection for critical applications

Salicru's **DC power-SD** energy systems provide a high-level power supply to always critical telecommunications systems, ensuring excellent operation without unexpected outages. Because of its modular nature, it can also be expanded according to needs, thereby optimising the investment. Typical applications include: fixed and mobile communications networks, broadband access networks, data and telecommunications networks and railway infrastructures,...

It also allows the use of a charger/rectifier with a battery at the input to work with different output voltages depending on the application.



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## Performances

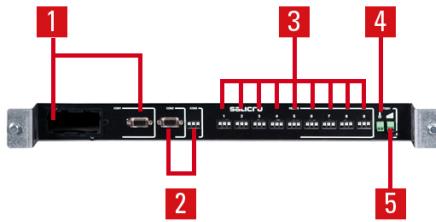
- Maximum power per system up to 21,6 kW.
- Flexible, scalable and N+n redundant systems, configurable for current demand and future expansion.
- High power density in the modules, up to 12 W/in3.
- High efficiency, up to 85% even with low load.
- Option of single or three-phase power supply.
- DC systems with output voltages of 24, 48, 60, 110 or 125 Vdc.
- Wide operating temperature range from -20° C to +55° C.
- Wide input voltage range from 90 Vdc to 290 Vdc with power derating.
- Modular design of the rectifiers and control system.
- Output current sharing between rectifiers.
- Front access for easy installation and maintenance.
- Hot-swap and hot-plug functions with automatic adjustment for module connection/disconnection.
- Full local control and monitoring system with LCD backlit (4x40 characters).
- Communication unit for remote monitoring.
- Monitoring software via Ethernet/Nimbus SNMP.
- Smart-mode to maximise MTBF (Mean Time Between Failures).



## Communications

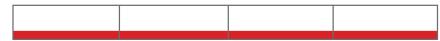
1. Slot for the telemagement or RS-232 interface.
2. RS-485 serial ports. MODBUS communication protocol.
3. Programmable relay (x9) interface.
4. Battery temperature measurement input.
5. NiCd electrolyte level detection input.<sup>(1)</sup>

(1) Extended version only.



## SMART mode

Load sharing in normal operation.



Load sharing and cycling of rectifiers in Smart-mode operation.



## Options

- Surge protector.
- Positive, negative or isolated output voltages.
- Sealed or open PbCa batteries, NiCd, etc.
- Extended communications module.
- Other degrees of IP protection.
- Conformal coating (tropicalization).
- Non priority loads disconnector.

## Range

MODEL	CODE	POWER (W)	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (A)
DC-33-SD 24/90-290Vdc	6A2AG000003	900	90 ÷ 290	24	33
DC-41-SD 24/176-290Vdc	6A2AH000005	1000	200 ÷ 290	24	41
DC-66-SD 24/90-290Vdc	6A2AH000006	1800	90 ÷ 290	24	66
DC-70-SD 24/176-290Vdc	6A2AH000007	2000	200 ÷ 290	24	70
DC-18-SD 48/90-290Vdc	6A2AG000004	900	90 ÷ 290	48	18
DC-20-SD 48/176-290Vdc	6A2AH000008	1000	200 ÷ 290	48	20
DC-36-SD 48/90-290Vdc	6A2AH000009	1800	90 ÷ 290	48	36
DC-41-SD 48/176-290Vdc	6A2AH000010	2000	200 ÷ 290	48	41
DC-50-SD 48/176-290Vdc	6A2AH000011	2700	200 ÷ 290	48	50
DC-15-SD 60/90-290Vdc	6A2AH000012	900	90 ÷ 290	60	15
DC-16-SD 60/176-290Vdc	6A2AH000013	1000	200 ÷ 290	60	16
DC-30-SD 60/90-290Vdc	6A2AH000014	1800	90 ÷ 290	60	30
DC-32-SD 60/176-290Vdc	6A2AH000015	2000	200 ÷ 290	60	32
DC-45-SD 60/176-290Vdc	6A2AH000016	2700	200 ÷ 290	60	45
DC-9-SD 110/176-290Vdc	6A2AH000017	1000	200 ÷ 290	110	9
DC-18-SD 110/176-290Vdc	6A2AH000018	2000	200 ÷ 290	110	18
DC-22-SD 110/176-290Vdc	6A2AH000019	2700	200 ÷ 290	110	22
DC-8-SD 125/176-290Vdc	6A2AH000020	1000	200 ÷ 290	125	8
DC-16-SD 125/176-290Vdc	6A2AH000021	2000	200 ÷ 290	125	16
DC-20-SD 125/176-290Vdc	6A2AH000022	2700	200 ÷ 290	125	20

## Dimensions



POWER MODULE 900/1000/2000/2700W



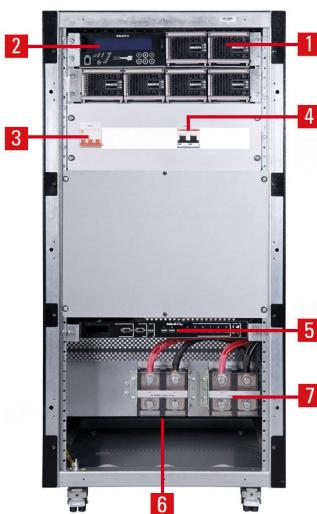
POWER MODULE 1800W



CONTROL MODULE

## Connections

1. Power module
2. Centralised control
3. Input protection
4. Output distribution
5. Extended communication
6. Input terminals
7. Output terminals



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# Technical specifications

MODEL	DC POWER-SD	
INPUT	Voltage range	90 ÷ 290 Vdc (depending on model)
	Performance	Up to 85%
OUTPUT	DC nominal voltage	24, 48, 60, 110, 125 V
	Accuracy	±1%
	Output voltage setting	-15% +25% <sup>(1)</sup>
	Maximum power (depending on model)	7,2kW ÷ 21,6 kW
	Rectifier module power	900 / 1000 / 1800 / 2000 / 2700 W
	Psophometric noise	<2 mV
	Load sharing between modules	Active parallel
	Maximum number of parallel modules	8 <sup>(2)</sup>
BATTERY (Optional)	Protection	Against overvoltage, undervoltage and overload
	Battery type	PbCa or NiCd <sup>(3)</sup>
	Charge type	Constant I/U in accordance with DIN 41773
	Recharge time	Up to 80% in 4 hours (0.2C)
	Voltage/temperature compensation	Yes, customisable (mV/°C)
	Electrolyte level detection (NiCd battery)	Optional
COMMUNICATION	Ports	RS-232/485 - 9 relays
	Intelligent slot	Yes, one / Optional
PROTECTION	Input and output	Circuit breakers
	Battery	Fuses + switch <sup>(3)</sup>
GENERAL	Operating temperature	-20°C ÷ +55°C <sup>(4)</sup>
	Storage temperature	-40°C ÷ +70°C <sup>(5)</sup>
	Relative humidity	Up to 95%, non-condensing
	Maximum operating altitude	3,000 masl <sup>(6)</sup>
	Dielectric strength (Input - Output)	3500 V for 1 minute (input-earth) / 2000 V for 1 minute (output-earth) / 4000 V for 1 minute (input-output)
	Degree of protection	IP20
	Cooling	Forced
	Acoustic noise at 1 metre	<60 dB(A)
	Mean time between failures (MTBF)	485.000 hours (power module)
STANDARDS	Mean time to repair (MTTR)	5 minutes
	Safety	EN IEC 61204-7
	Electromagnetic compatibility (EMC)	EN IEC 61204-3
	Seismic (Optional)	IEC 60068-3-3:2019/COR1:2021 / UBC1997 Zone3 & Zone 4 Ip 1.5
Corporate certification		ISO 9001, ISO 14001, ISO 45001

(1) Other margins for voltages of 60 Vdc and 110 Vdc

(2) Maximum of 5 modules for 1800W power

(3) Batteries are not supported for 60Vdc output

(4) Power degradation for temperatures higher than 45°C.

(5) Without batteries

(6) Power degradation from 2000 m.a.s.l.

Information subject to change without notice.

