



DC POWER-S DC power systems

DC power-S: Compact, flexible and modular DC power supply systems

Salicru's **DC power-S** energy systems feature the following components: DC-S 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-S system rectifier modules are available in power ratings of 1000, 2000 and 2700 W and output voltages of 48, 110 and 125 Vdc. Its modular design enables up to 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, 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 adapter, a NiCd electrolyte level detection input and six additional relays.

Performances

- Maximum power per system up to 81 kW.
- Flexible, scalable and N+n redundant systems, configurable for current demand and future expansion.
- High power density in the modules, up to 27 W/in³.
- High efficiency, up to 95% even with low load.
- Option of single or three-phase power supply.
- DC systems with output voltages of 48, 110 or 125 Vdc.
- Wide operating temperature range from -20° C to +55° C.
- Wide input voltage range from 90 Vac to 290 Vac with power derating.
- Input power factor 1 for better performance.
- 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.
- LLVD and BLVD - disconnection of non-priority loads and for low battery voltage.
- Full local control and monitoring system with LCD (4x40 characters).
- Communication unit for remote monitoring.
- Monitoring software via Ethernet/SNMP.
- Smart-mode to maximise MTBF (Mean Time Between Failures).

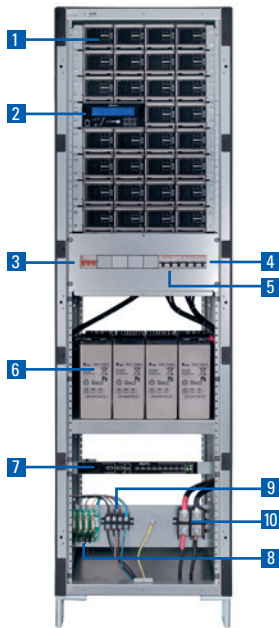


DC power-S

Applications: Redundant protection for critical applications

Salicru's **DC power-S** 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 and data and telecommunications networks.

System description



1. Rectifier module
2. Centralised control
3. Input protection
4. Output distribution
5. Batteries protection
6. Batteries
7. Extended communication
8. Surge protector
9. Input terminals
10. Output terminals

SMART mode

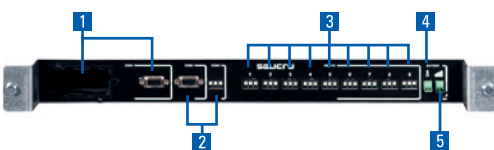
Load sharing in normal operation.



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



Extended communications



1. Slot for SICRES remote management or RS-232 interface.
2. RS-232 or RS-485 serial ports. MODBUS communications protocol.
3. Programmable dry contact (x9) interface.
4. NiCd electrolyte level detection input.⁽¹⁾
5. Battery temperature measurement input.

(1) Only for extended version.

Options

- Surge protector.
- Output voltage dropping diodes.
- Positive, negative or isolated output voltages.
- Sealed or open PbCa batteries, NiCd, etc.
- Extended communications module.
- Other degrees of IP protection.
- Wireless-link communication.

DC POWER-S

DC power systems



TECHNICAL SPECIFICATIONS

MODEL		DC POWER-S
INPUT	AC voltage	220 / 230 / 240 V 3x380 / 400 / 415 V (3Ph+N)
	Range (phase-neutral)	90 ± 290 Vac ⁽¹⁾
	Frequency	50/60 Hz
	Power factor	>0.99 (PFC)
	THDi	<5%
	Efficiency	Up to 95.5%
OUTPUT	DC voltage	48, 110, 125 V
	Voltage adjustment range	0.1
	Accuracy (with batteries)	±1%
	Psophometric noise	<2 mV
	Load sharing between modules	Active parallel
	Rectifier module power	1000 / 2000 / 2700 W
	Maximum number of parallel modules	30
	Maximum system power (depending on module)	30 / 60 / 81 kW
BATTERIES	Type	PbCa or NiCd
	Charge type	Constant I/U in accordance with DIN 41773
	Charging current	0.1C to 0.3C adjustable
	Recharge time	Up to 80% in 4 hours (0.2C)
	Protection	Against overvoltage, undervoltage and overload
	Voltage/temperature compensation	Yes, customisable (mV/°C)
PROTECTION	Electrolyte level detection (NiCd battery)	Optional
	Input and output	Circuit breakers
GENERAL	Battery	Fuses
	Dielectric strength	4000 V @ 1 minute
	Degree of protection	IP20
	Ventilation	Forced
	Acoustic noise at 1 metre	<55 dB(A)
	Operating temperature	-20°C ± +55°C ⁽²⁾
	Storage temperature	-40°C ± +70°C ⁽³⁾
	Relative humidity	Up to 95%, non-condensing
	Maximum operating altitude	3,000 masl
	Mean time between failures (MTBF)	250,000 hours
Mean time to repair (MTTR)	15 minutes	
SYNOPTIC	LCD display	Yes (4x40 characters)
	Indicators (LED)	5
COMMUNICATION	Ports	RS-232/485
	Dry contacts	3 relays (expandable to 9)
	SNMP	Optional
	Slot	Optional, one
STANDARDS	Safety	EN 60950-1
	Electromagnetic compatibility (EMC)	EN 6104-3; ETS 300 386-2
	Quality and environmental management	ISO 9001 and ISO 14001

(1) Power degradation for voltages lower than 190 Vac.

(3) Without batteries

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

Information subject to change without notice.

RANGE

OUTPUT VOLTAGE (Vdc)	MODULE			CURRENT PER SYSTEM (A)	POWER PER SYSTEM (kW)
	MODEL	POWER (W)	CURRENT (A)		
48	DC-18-S	1000	18	Between 18 and 540	Between 18 and 540
	DC-36-S	2000	36	Between 36 and 1080	Between 36 and 1080
	DC-50-S	2700	50	Between 50 and 1500	Between 50 and 1500
110	DC-8-S	1000	8	Between 8 and 240	Between 8 and 240
	DC-16-S	2000	16	Between 16 and 480	Between 16 and 480
125	DC-22-S	2700	22	Between 22 and 660	Between 22 and 660
	DC-7-S	1000	7	Between 7 and 210	Between 7 and 210
	DC-14-S	2000	14	Between 14 and 420	Between 14 and 420
	DC-20-S	2700	20	Between 20 and 600	Between 20 and 600

(*) Spain only (**) Rest of the world

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