

DC POWER-L Thyristor rectifiers 10 A - 200 A

DC power-L: Charging systems for stationary batteries

Salicru's **DC power-L** range of rectifiers/battery chargers, based on microprocessor-controlled thyristor technology, provides high-quality and reliable protection for critical DC loads.

The **DC power-L** series covers the range between 10 A and 200 A with outputs from 24 to 220 Vdc. The output accuracy is better than +/- 1% and the system is designed to charge open or sealed lead acid and nickel cadmium batteries.

All alarms, monitoring and status indicators (via display and LEDs) are managed through a digital control system. Each type of battery requires special charging characteristics, which are managed by the controller. The systems are completely customisable to the specific characteristics and needs of each client and application.

The robust design ensures that the installation requires low maintenance and can work for long periods without special attention.

Performances

- Microprocessor-controlled thyristor technology.
- Galvanic isolation between input and output via transformer.
- Complete six-pulse bridge.
- Ventilation by natural convection.
- Standard DC output earth fault detection.
- Electrolyte level detection for NiCd batteries (optional).
- Charging states: floating, fast and exceptional.
- Robust and compact design.
- High power density.
- Monitoring of all equipment parameters through LCD display.
- Possibility of redundant parallel operation.
- Operation with lead acid or nickel cadmium batteries.
- Temperature-compensated float voltage.
- Automatic disconnection in the event of minimum battery voltage or temperature.
- Extensive configuration options.
- High MTBF and low MTTR.
- Easy installation, start-up and maintenance.



DC power-L

Applications: Efficient, reliable and robust solutions

DC power-L systems are designed to protect DC loads of maximum criticality and to operate with nickel cadmium or lead acid batteries in harsh and demanding operating environments, such as power plants, electrical substations, oil and gas pipelines, petrochemical plants, mines, railways, telecommunications facilities, hospitals, industrial plants, etc.

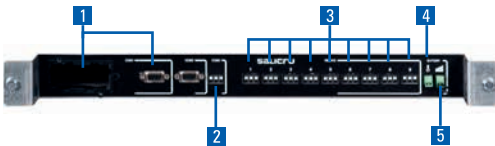


User interface



1. Output voltage indicator.
2. Input voltage fault indicator.
3. Urgent alarm indicator (customisable).
4. Non-urgent alarm indicator (customisable).
5. LCD display with multiple languages.
6. Navigation keys.

Extended communication



1. Slot for the SICRES telemagement or RS-232 interface.
2. RS-485 serial ports. MODBUS communication protocol.
3. Programmable relay (x6) interface.
4. Battery temperature measurement input.
5. NiCd electrolyte level detection input. ⁽¹⁾

(1) Only extended version

Optional

- 12-pulse rectifier with isolation transformer.
- Voltage drop diodes.
- TCP/IP interface.
- Heater.
- Output diodes for parallel operation.
- Different types of batteries (SLA, lead acid, nickel cadmium, etc.).
- Other degrees of protection.
- Other input voltages on request.
- Top cable entry.

Services

- Pre and post-sales advice.
- Multiple maintenance and telemaintenance options.

DC POWER-L

Thyristor rectifiers 10 A - 200 A



THECHNICAL SPECIFICATIONS

MODEL		DC POWER-L							
INPUT	AC voltage	Single Phase	120 / 230 V (P+ N)						
		Three Phase	3 x 208 / 3 x 220 / 3 x 400 V (3 Ph + N)						
	Range		±15%						
	Frequency		50/60 Hz						
	Frequency range		±5%						
	Power factor		0.85						
	Efficiency		>85%						
OUTPUT	Rated DC voltage		24 V	48 V	110 V	120 V	125 V	220 V	
	Float voltage		2.27 V/cell (Pb) / 1.4 ÷ 1.45 V/el (NiCd)						
	Fast charging voltage		2.5 V/cell (Pb) / 1.5 V/el (NiCd)						
	Exceptional charging voltage/formation		2.7 V/cell (Pb) / 1.65 V/el (NiCd)						
	Accuracy (with batteries)		±1%						
	Ripple (with batteries)		<1% ⁽¹⁾						
	Current ⁽²⁾	Single Phase	10 / 20 / 30 / 50 A						
		Three Phase	25 / 50 / 75 / 100 / 150 / 200 A						
BATTERIES	Type		PbCa (sealed or open) or NiCd						
	No. of cells Pb		12	24	55	60	62	110	
	No. of elements NiCd		19	38 ÷ 39	81 ÷ 86	88 ÷ 94	92 ÷ 96	161 ÷ 173	
	Type of charge		IU constant as per DIN 41773						
	Charging current		0.1 to 0.3 C adjustable						
	Recharging time		Up to 80% in 4 hours (0.2 C)						
	Protection		Against overvoltage and undervoltage						
	Voltage/temperature compensation		Yes, customisable as per battery specifications (mV / °C)						
	PROTECTION	Input protection / battery		Circuit breaker / fuses					
		Soft start		Yes					
GENERAL	Dielectric strength		2500 V @ 1 minute						
	Degree of protection		IP20						
	Cooling		Natural convection						
	Operating temperature		-10° C to +55° C ⁽³⁾						
	Storage temperature		-20° C ÷ +70° C ⁽⁴⁾						
	Relative humidity		Up to 95% non-condensing						
SYNOPTIC	LCD display		Yes						
	Indicators (LED)		4 (mains power failure, urgent alarm, non-urgent alarm, output OK)						
COMMUNICATION	Ports		RS-232/485						
	Dry contacts		6 Dry contacts						
	SNMP		Optional						
	Slots		Yes, one						
ALARMS	Categories		Urgent						
			Non-urgent						
			AC fault						
STANDARDS	Safety standard		IEC/EN 61204-7, IEC/EN 60950-1						
	Electromagnetic compatibility (EMC)		IEC/EN 61204-3 Class A						
	Environmental Quality Management		ISO 9001 and ISO 14001						

(1) Premium version

(3) Power degradation from +40°C

(2) Includes battery charging current (I_{bat}). In Premium, I_{bat} version, can power loads.

(4) Without batteries

(5) Power degradation from 1000 m.a.s.l.

RANGE

MODEL	INPUT VOLTAGE (Vac)	OUTPUT VOLTAGE (Vdc)	CURRENT ⁽¹⁾ (A)
DC-10-L	120 / 230	24 / 48 / 110 / 120 / 125 / 220	10
DC-20-L	120 / 230	24 / 48 / 110 / 120 / 125 / 220	20
DC-30-L	120 / 230	24 / 48 / 110 / 120 / 125 / 220	30
DC-50-L	120 / 230	24 / 48 / 110 / 120 / 125 / 220	50
DC-25-L	3 x 208 / 3 x 220 / 3 x 400	24 / 48 / 110 / 120 / 125 / 220	25
DC-50-L	3 x 208 / 3 x 220 / 3 x 400	24 / 48 / 110 / 120 / 125 / 220	50
DC-75-L	3 x 208 / 3 x 220 / 3 x 400	24 / 48 / 110 / 120 / 125 / 220	75
DC-100-L	3 x 208 / 3 x 220 / 3 x 400	24 / 48 / 110 / 120 / 125 / 220	100
DC-150-L	3 x 208 / 3 x 220 / 3 x 400	24 / 48 / 110 / 120 / 125 / 220	150
DC-200-L	3 x 208 / 3 x 220 / 3 x 400	24 / 48 / 110 / 120 / 125 / 220	200

(1) Check for other output currents.



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