

Power supply system KONIS-L

KONIS-L is a robust and reliable DC power supply system designed to maintain continuous power for the most critical and essential equipment necessary for the operation of energy infrastructure, including power plants, as well as transmission and distribution substations.

- Field-proven thyristor rectifier technology.
- High reliability.
- Maximum power supply reliability.
- Redundant parallel operation of rectifiers.
- Selective disconnection of faulty rectifier module without system disruption.
- Configurable power supply – adaptable to facility's specific requirements and applications.
- Parallel operation of two systems for continuous delivery of electrical power from two power sources to a connected load.
- Integrated insulation monitoring and ground fault detection in ungrounded DC systems.
- Comprehensive protection of the power distribution – selectivity ensures safety across all outputs and operating conditions by clearing the fault without power disruption.
- User-friendly local and remote monitoring & control – intuitive interface for real-time status tracking, measurement review, and event logging.
- Direct access to all circuit breakers.
- Natural convection cooling – no fans required.
- Modular design facilitates easy maintenance and servicing.
- Long-life, maintenance-free battery system – designed for over 10 years of operation.

The system is designed for uninterrupted, reliable and stable power supply of critical equipment. Ensuring both efficiency and reliability, the system autonomously manages battery charging and maintenance while consistently powering critical loads.

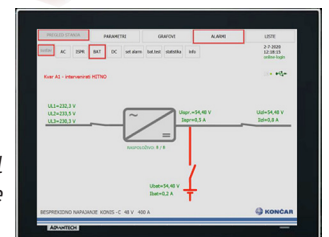
Rectifier modules operate in a redundant parallel configuration, ensuring balanced load distribution. In the event of a module failure, the affected unit is selectively disconnected, while the remaining modules continue supplying power to both the load and the batteries. This redundancy principle maximizes the system's reliability.

The parallel rectifier architecture allows for scalable power output, while the modular design facilitates rapid and efficient module replacement. Engineered for durability, the rectifiers utilize natural convection cooling, eliminating the need for fans and further enhancing system reliability and availability. By adding parallel rectifier modules, it is possible to increase the output power. As a critical element of the system, the battery bank is kept fully charged at optimal voltage level.



*KONIS-L DC
Power supply
system – 220 V,
200 A*

*KONLOG central control
unit interface*



The system provides precise regulation of the float voltage to ensure required battery autonomy at a specified load level. In case of a mains power failure, the battery seamlessly takes over, ensuring continuous power to connected loads. A central microprocessor-based control unit continuously monitors and manages the power supply system in real time, offering full parameter customization, remote diagnostics, and status alerts. Its robust communication interface supports integration with station computers, dispatch centers, and specialized service teams, minimizing maintenance costs and enhancing overall system resilience. The control unit chronologically records all alarm conditions, complete with timestamps, creating a detailed event log that can be accessed locally and remotely.

ParaNap software enables remote system monitoring, diagnostics, and parameter configuration. Remote monitoring reduces on-site service visits and enhances system availability and reliability. The modular system architecture enables quick removal and replacement of faulty modules or components, significantly improving serviceability and operational uptime.

The system is the result of intensive research and development, along with modern production procedures, control and quality assurance. It is designed, manufactured, and tested as a single solution, from the input mains power connection to all output feeders for the connected load. This comprehensive integration ensures exceptional quality, reliability and performance.

KONIS-L DC power supply system

TECHNICAL SPECIFICATIONS		
	KONIS-L 110	KONIS-L 220
Input		
Voltage	3x400 VAC + 10 % , - 15 %	
Nominal frequency	50/60 Hz	
Frequency tolerance	± 6 %	
Power factor at nominal load	≥ 0.8	
Output		
Nominal voltage	110 V	220 V
Static voltage accuracy	± 1 %	± 1 %
Voltage adjustment range	85 to 140 V	198 to 225 V
Voltage ripple	< 1 %	< 1 %
Regulation characteristic	IU	
Voltage compensation:	Temperature-based battery voltage adjustment	
Nominal current (dependent on number of rectifiers)	n x 60 A	n x 10 A
Current limit, adjustment range	from 50 to 110%	from 50 to 110%
Power (dependent on number of rectifiers)	n x 7260 W	n x 12100 W
Efficiency	≥ 0.9	≥ 0.9
Battery specifications		
Type	Sealed, maintenance-free lead-acid (open lead-acid and NiCd options available)	
Nominal block voltage (for lead-acid batteries)	2, 4, 6 or 12 V	
Charging/float voltage (at 20°C)	2.28 V per cell (configurable based on battery type)	
Design life	≥ 12 years	
Battery protection:	Short-circuit, deep discharge, and high charging voltage	
General data		
Remote communication	MODBUS protocol via RS485 or optical interface Optional: IEC 60870-5-104 protocol via Ethernet interface	
Cooling method	Natural convection (fanless)	
Operating temperature	0 to + 40 °C	
Storage temperature	- 20 to + 70 °C	
Relative humidity (non-condensing)	up to 90%	
Compliance with standards	IEC 60950, IEC 60529, IEC 60439-1, IEC 60146	
Ingress protection	IP 20	
Color	Light gray (RAL 7035)	
Mounting	Indoor installation	
Dimensions: Width	Dependent on system configuration	
Depth	600 mm	
Height	2100 mm	