

100W Battery Charger / Power Supply NSR100F Series



NSR100F Series - 100W Battery Charger / Power Supply

Following on from the tried and tested SR-series, the NSR100F series is upgraded and re-engineered to provide robust and reliable DC battery charging for your critical systems.

The NSR100F is one of the most robust Battery Charger / Power Supplies you can buy.

Key Features

- Automatic temperature compensated charging voltage (programmable via RS-485 / Ethernet).
- Precision power supply voltage configurable (automatic power supply operation with no battery connected).
- Battery detection - regular battery presence and battery circuit integrity checks.
- Power loss & battery system alarms through relays and LED indications.
- Phoenix output connectors.
- Rugged design and construction for long life and challenging environments.
- Thermal reliability with convection cooling system.



NSR100F Rear Panel

Unique Features

Universal Input Voltage

- The NSR series accommodates a wide input voltage with AC input 90 ~ 264Vac.

Intuitive Web Management Interface

- Ethernet/SNMP-optional models provide access to an intuitive and comprehensive web interface for monitoring and configuration.

High Efficiency

- Up to 90% power efficiency.

NSR100 Series Options

| Base Model | Output Power (W) | Operation Mode | Battery Nom. Voltage | Output Terminals | Communications |
|------------|--------------------------|----------------|----------------------|------------------|----------------|
| NSR | 100 250 500 750 | U F | 12 24 48 | S T | (blank) C |

| Output Power (W) | Operation Mode | Battery Nom. Voltage | Output Terminals | Communications |
|--|-------------------------------------|--|---------------------------------------|---------------------------------------|
| 100 - 100W 250 - 250W 500 - 500W 750 - 750W | U - UPS/Charger F - Charger Only | 12 - 12Vdc 24 - 24Vdc 48 - 48Vdc | S - M8 Studs T - Phoenix Terminals | (blank) - RS-485 C - Ethernet/SNMP |

Example: NSR100F12TC
100W Charger, 12Vdc Nominal Battery Voltage with Phoenix Terminals and Ethernet/SNMP

Intuitive Web Interface

On SNMP/Ethernet-optional models, the intuitive web-interface provides simple programming and monitoring of the NSR100. (Programming and monitoring via MODBUS-RTU with RS-485 is provided on all models).

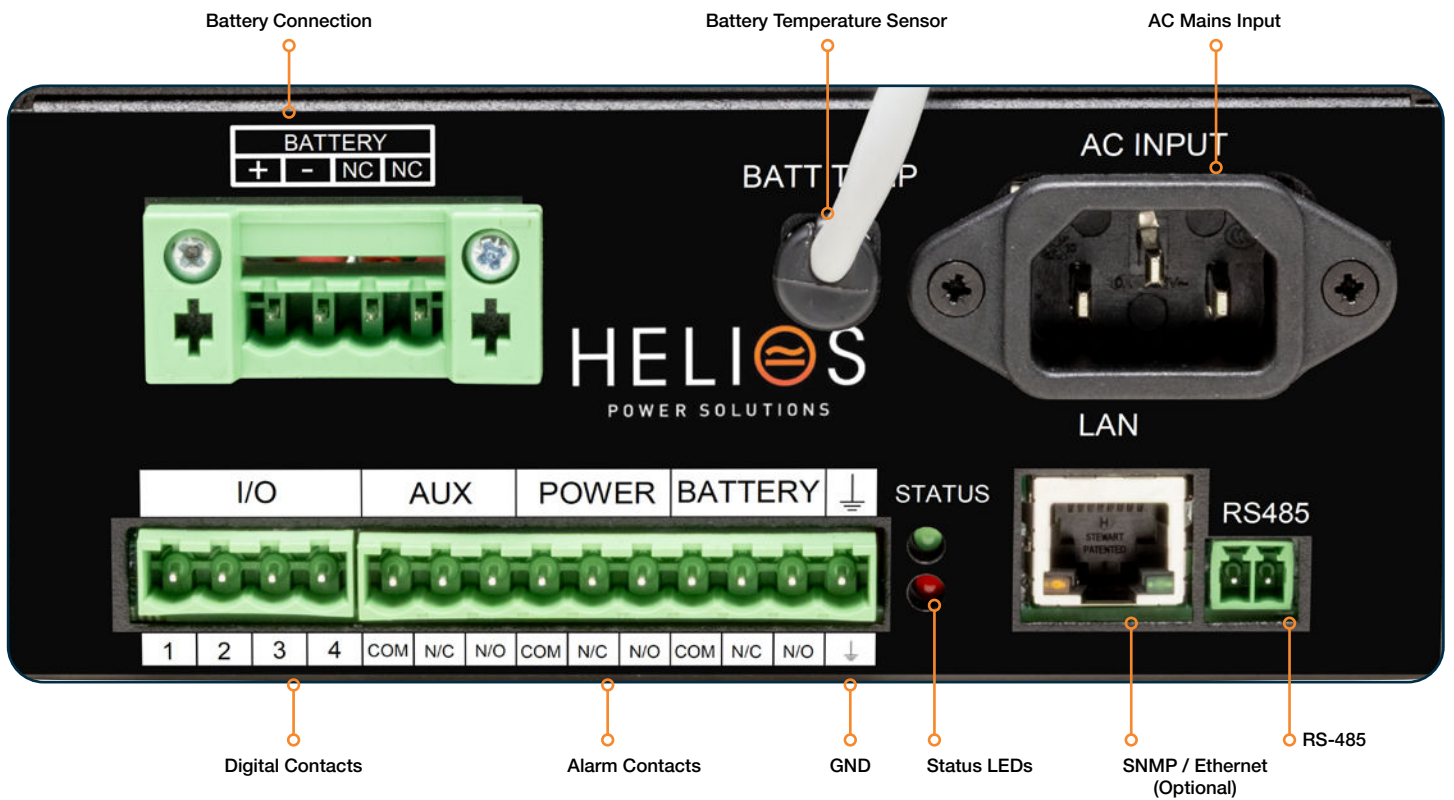
The screenshot shows a web interface for the NSR100 power supply. The main dashboard displays real-time monitoring of the unit. It includes sections for 'Charger' status (Mains AC, Mode, Int Temp), 'Output' status (Voltage, Current, Temperature, Status), and 'I/O' controls (Digital input and Digital output). The interface is dark-themed and includes a sidebar with navigation options like Dashboard, PSU, I/O, Network, and Administrator. The top right corner shows the date and time: 8/18/2025 - 1:55:12 PM.

Specifications

| Model | NSR100F12xxxx | NSR100F24xxxx | NSR100F48xxxx |
|--|---|-----------------|-----------------|
| Output Voltage | 13.8Vdc nominal | 27.6Vdc nominal | 55.2Vdc nominal |
| PSU Rated (A) | 7.5A | 3.7A | 1.9A |
| Charge Limit (A) ¹ | 7.5A | 3.7A | 1.9A |
| Power | | | |
| Input Voltage | 90-264Vac | | |
| Frequency | 47-63Hz | | |
| Output Power (Max) | 100W | | |
| Output Voltage (Programmable) | 12Vdc | 24Vdc | 48Vdc |
| Voltage Adjustment Range (via RS-485 / Ethernet) | 80 - 120% of V _{out} | | |
| Safety | | | |
| Fusing Protection | Input fuse Battery fuse for battery circuit | | |
| Overcurrent Protection | Constant current mode down to 70% of output voltage | | |
| Isolation | I/P-O/P: 2121VDC / I/P-FG:2121VDC / O/P-FG: 707VDC | | |
| Efficiency | Up to 90% | | |
| Noise | <1% | | |
| Operating Temperature | -10 ~ 50°C | | |
| Over Voltage Protection | 130% of V _{nominal} | | |
| Humidity | 20-90% relative humidity non-condensing | | |
| Cooling | Convection cooled | | |
| LED Indication | Flash code for different operating states | | |
| Alarms Relay | Form C contacts 30VDC, 2A/110VDC, 0.3A, 125VAC, 0.5A AUX (Activated by LVD condition) POWER (mains fail, PSU fails) BATTERY (batt missing, batt low) | | |
| Battery Charging | | | |
| Temp. Compensation | Temperature sensor on 1.7m lead with adhesive pad: -4mV/°C ±10% (customisable) | | |
| Battery Charge Current Limit | 100% Charger rating | | |
| Battery Circuit Protection | Fuse protection | | |
| Options | | | |
| Communication Options | RS-485 (Modbus RTU) Default on All Models Ethernet (Modbus RTU, SNMP, Web Interface) - Optional | | |
| Digital Inputs/Outputs | Isolated digital input (pins 1,2) / Open drain output (pin 3) / Return (pin 4) | | |
| EMC | CISPR 32:2015, Amdt 1:2020 Class B | | |
| Safety | AS/NZS 60335.2.29 | | |
| Dimension | 150(W) x 150(D) x 62(H)mm (excluding mounting feet and terminals) | | |
| Weight | 1.2kg | | |
| Protection | IP20 | | |

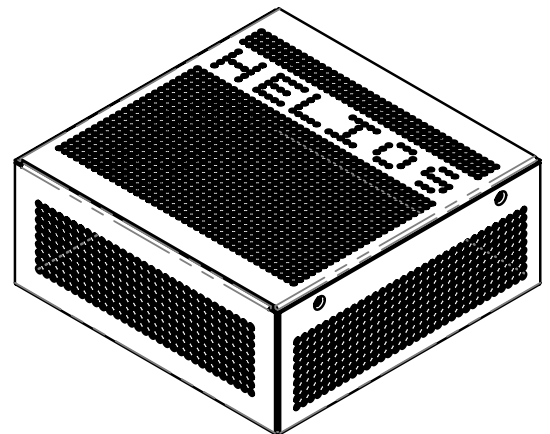
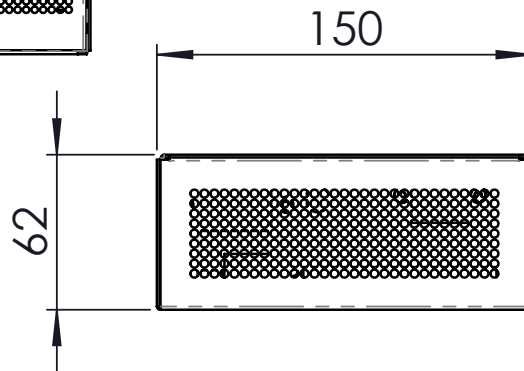
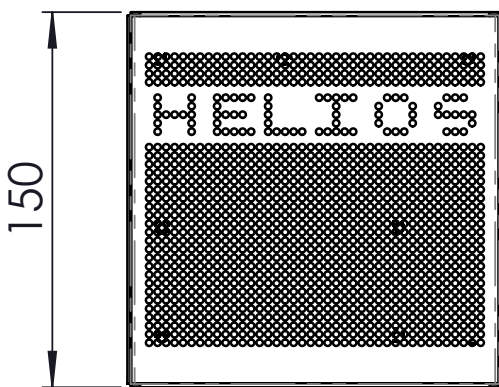
1. Default is 100% PSU rating current, can be customisable.

NSR100F Rear Panel



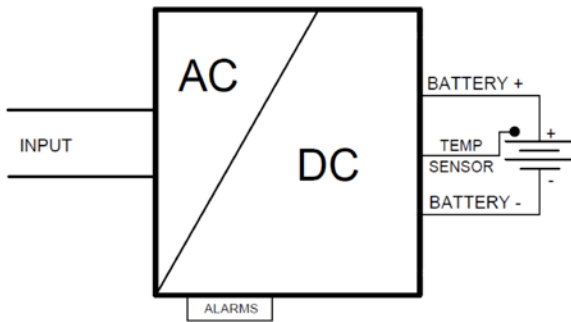
Technical Drawings

Units shown in millimetres (mm)



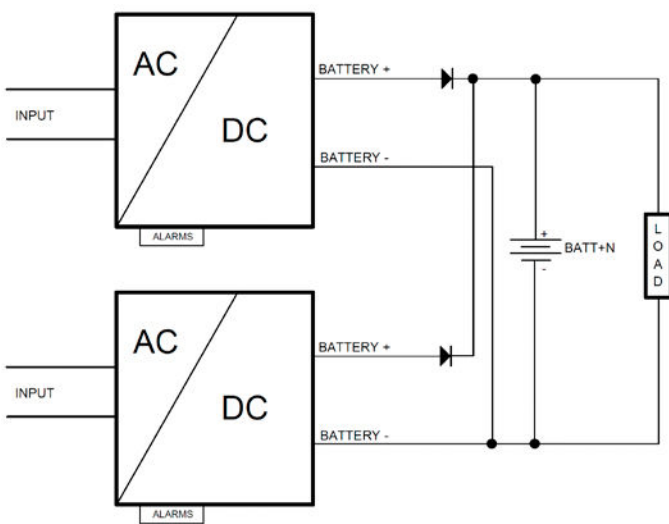
ISOMETRIC
(NTS)

Circuit Block Diagram



N+1 Redundancy with 2 x NSR Units

Common Battery



Independent Batteries

