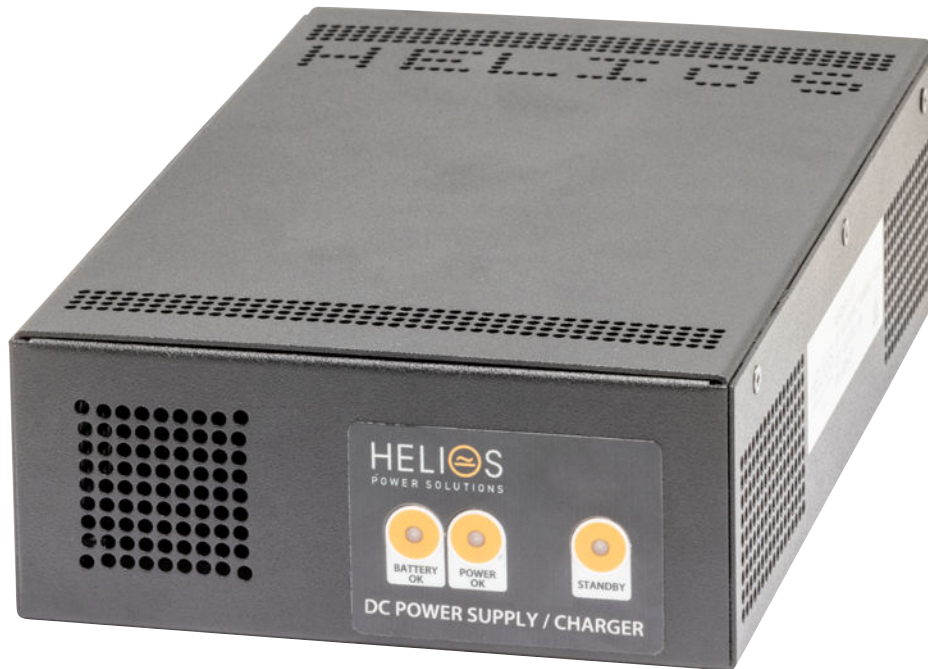


250W Battery Charger / Power Supply NSR250F Series



NSR250F Series - 250W Battery Charger / Power Supply

Following on from the tried and tested SR-series, the NSR250F series is upgraded and re-engineered to provide robust and reliable DC battery charging for your critical systems.

The NSR250F 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 improved with fan cooling system.



NSR250F 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.

NSR250 Series Options

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

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: NSR250F12TC
250W 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 NSR250. (Programming and monitoring via MODBUS-RTU with RS-485 is provided on all models).

Dashboard

8/18/2025 - 1:55:12 PM

Real time monitoring of the unit

Charger

- Mains AC: - OK
- Mode: On Off CHRG
- Int Temp: 32.3 °C

Output

- Voltage: 13.8 V
- Current: 0.0 A
- Temperature: 20.3 °C
- Status: - DSC
- OVP: - NORMAL
- OLP: - NORMAL

I/O

Digital input

- Input 1: Off
- Input 2: Off

Digital output

- Contol 1: OFF

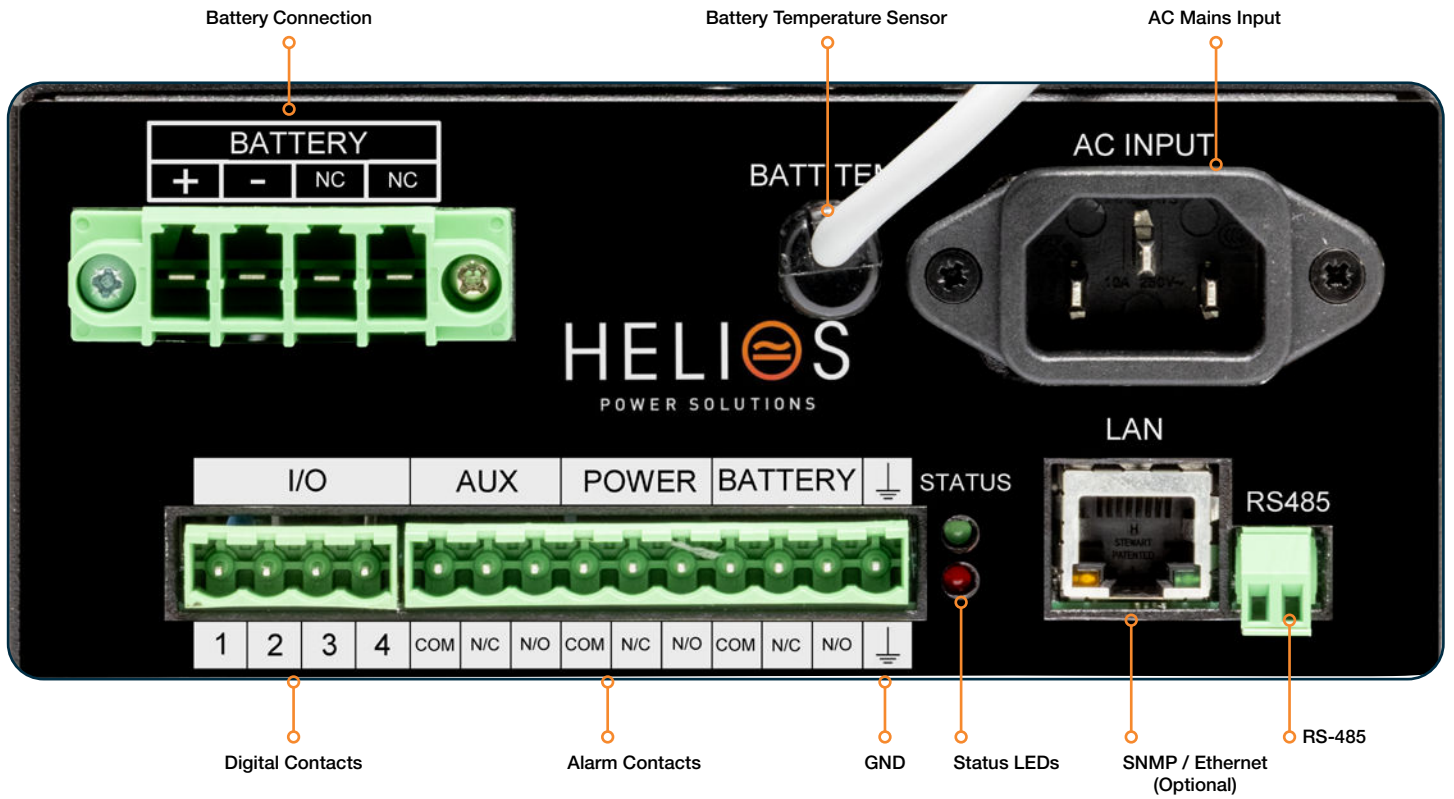
Helios Power Solutions
www.heliosps.com
sales-au@heliosps.com (+61) 2 7200 9200
sales-nz@heliosps.com (+64) 9 838 0700

Specifications

Model	NSR250F12xxxx	NSR250F24xxxx	NSR250F48xxxx
Output Voltage	13.8Vdc nominal	27.6Vdc nominal	55.2Vdc nominal
PSU Rated (A)	18A	9A	4.5A
Charge Limit (A) ¹	18A	9A	4.5A
Power			
Input Voltage	90-264Vac		
Frequency	47-63Hz		
Output Power (Max)	250W		
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	Fan cooled		
LED Indication	Green: Batt OK Green: Power OK Red: Standby 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 A		
Safety	AS/NZS 60335.2.29		
Dimension	150(W) x 242(D) x 62(H)mm (excluding mounting feet and terminals)		
Weight	1.7kg		
Protection	IP20		

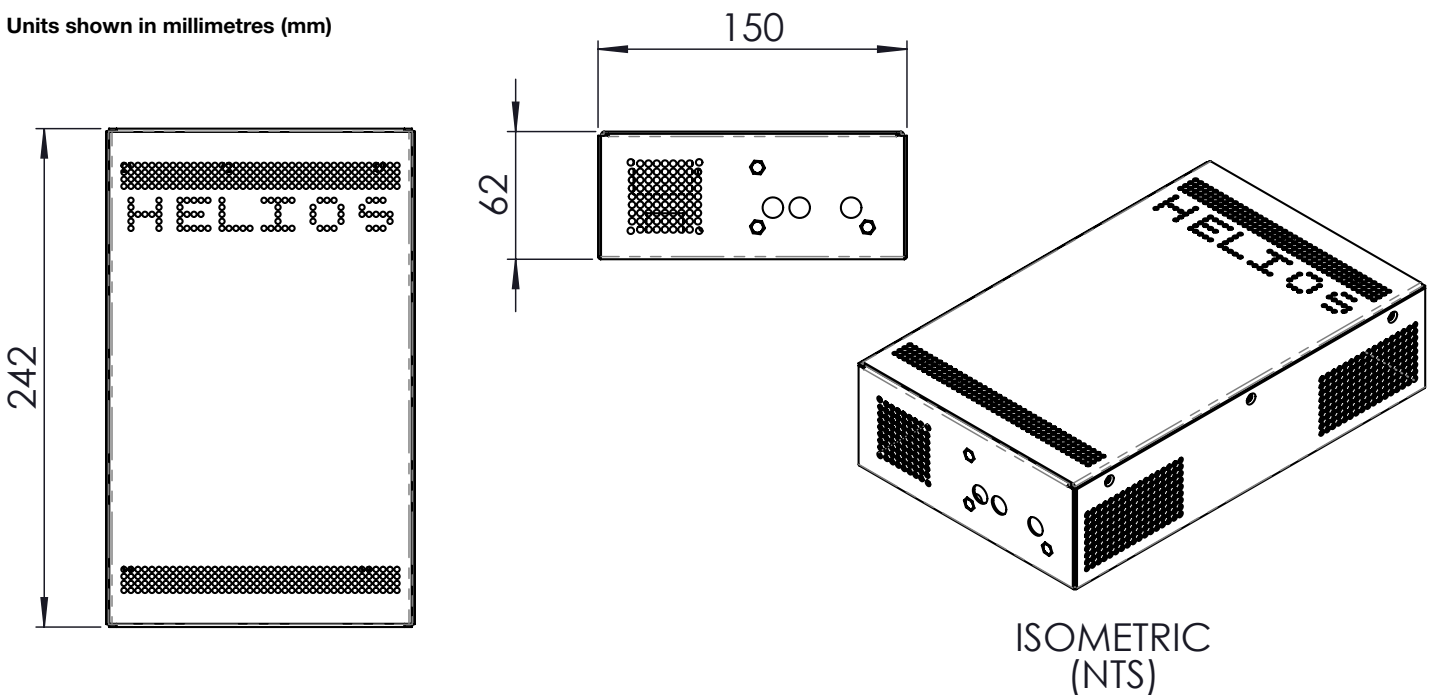
1. Default is 100% PSU rating current, can be customisable.

NSR250F Rear Panel

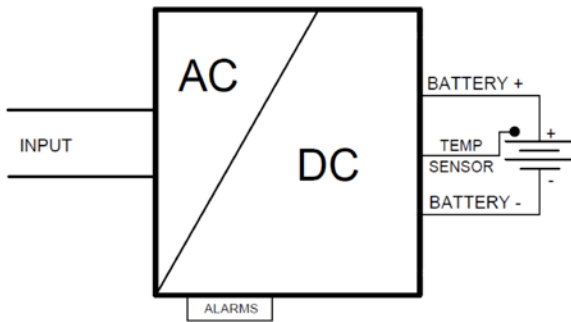


Technical Drawings

Units shown in millimetres (mm)

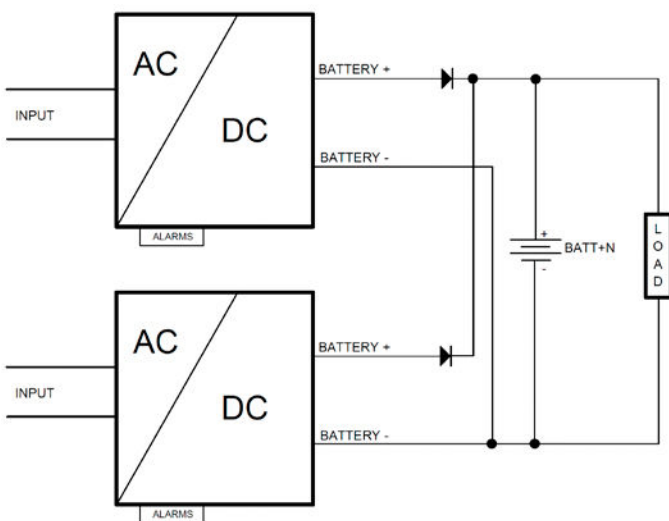


Circuit Block Diagram



N+1 Redundancy with 2 x NSR Units

Common Battery



Independent Batteries

