

Enterprise Power Systems-XU Series

NSR48-1U / NDC48-1U

Features

- Intelligent Main Control Unit (MCU)
- Multi master system control
- NCR48U Hot-Pluggable rectifier Series
- Remote control & monitoring
- Data logging
- 19" standard with 1U height



NSR48-1U

Power Shelf Systems Specification	
Model	NSR48-1U
No. of compartments	1
Telecommunications design	19" for telecom
Main Control Unit (MCU)	NCU48U / More info is available in page 32
Individual rectifier	NCR48U 2000W NCR48U 3000W
Efficiency	>96% >94%
	More info is available in page 35
Max.number of rectifiers	1
Max.power capacity	2 KW 3 KW
Back-up battery bus-bar	Available
Current transducer	Available for battery
LVD	Optional
Load sharing	Available
Cable entry	Back
Dimension (H*W*D) mm	48*482.6*444.7
Weight (Kg)	3

NDC48-1U Power Systems

Features

- 1.2 KW power capacity
- Front input & output cable entry
- 19" standard with 1U height
- Easy installation



NDC48-1U

Power Shelf Systems Specification	
Model	NDC48-1U
No. of compartments	1
Telecommunications design	19" for telecom
Max. available power	1.2 KW/25 A (adjustable)
Input voltage (nominal)	185-275 VAC
Input voltage (range)	95-300 VAC
Available battery charging procedure	Float-Equalize
Back-up battery terminal	Available-front access
Protections	Available
Cable entry	Front
Outputs	One for battery/one for load
Operating temperature (°C)	-15 to +65
Dimension (H*W*D) mm	44.5*482.6*343
Weight (kg)	5.2

Enterprise Power Distribution Solutions

DC-PDP08 / DC-PDP010 / AC-PDP04



DC-PDP08

Features

- Custom design DC-distribution
- Front access
- Up to 8 DC MCBs
- 19" standard with 1U height
- Easy & fast installation



DC-PDP10

Features

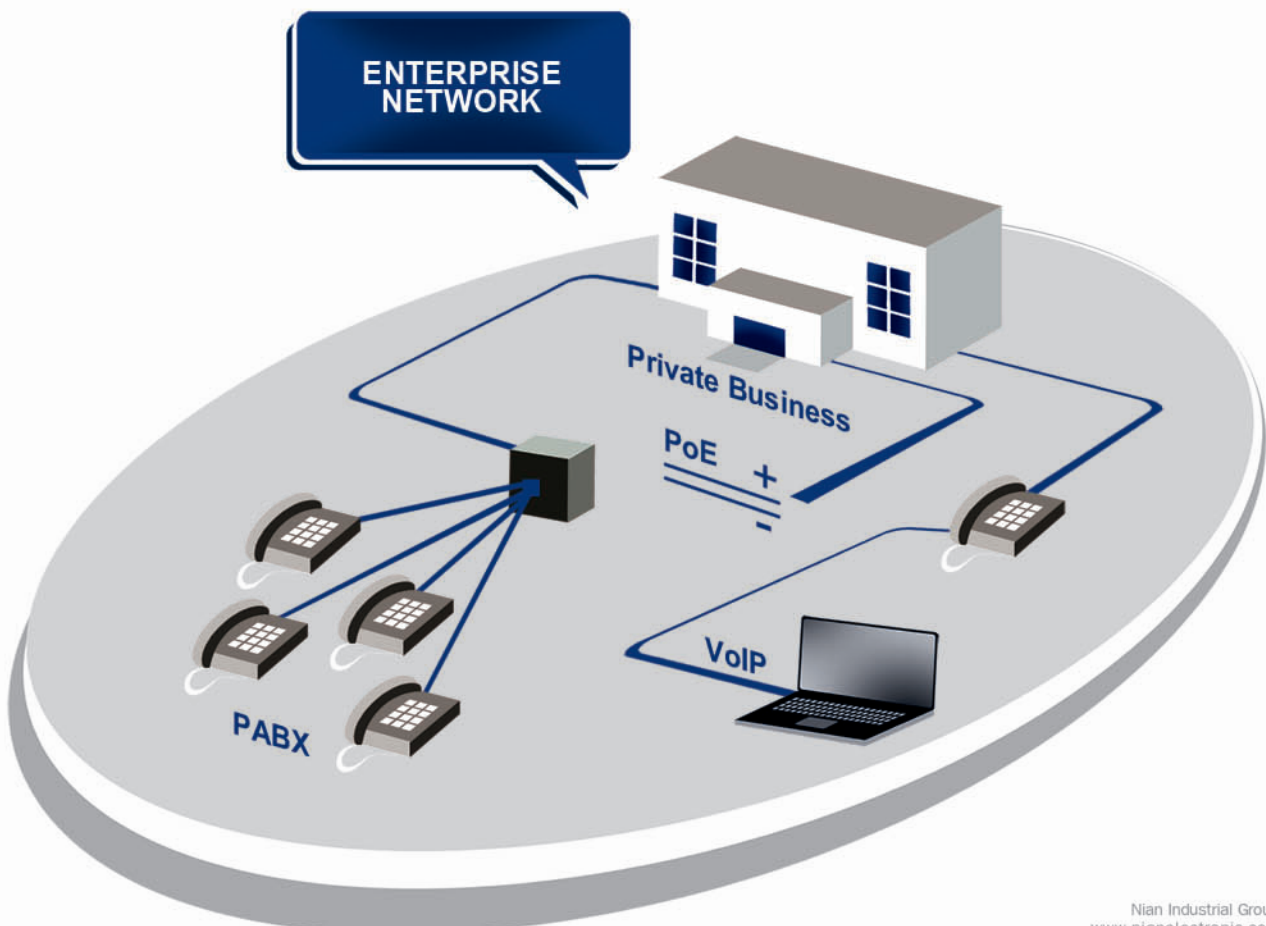
- Custom design DC-distribution
- Front access
- Up to 10 DC MCBs
- 19" standard with 2U height
- Easy & fast installation



AC-PDP04

Features

- Custom design AC-distribution
- Front access
- Up to 10 MCBs
- 19" standard with 2.5U height
- Easy & fast installation



Access Power Shelf Systems-XU Series

NSR48 / NSP48-5S / NSR48-2S

Introduction

Nian Electronic Power Shelf Systems-XU Series are small, just like cells and easy to transport.

They are embedded in telecommunications infrastructure and often used in outdoor & indoor system applications.

Their installation is also simple even in locations with difficult access. These series are light, front access and especially designed for embedded power systems with limited space.

They provide 2 to 10 KW (NSR48 series) of premium-quality electricity. Power shelf systems platforms are available in two options: The first option offers the complete power system embedded in a single rack; and the other one comprises a standard rectifier shelf and a distribution unit.



Secure DC Power for Business Network Application



NSR48



NSR48 Power Shelf Systems

Features

- Intelligent Main Control Unit (MCU)
- Multi master system control
- Up to 10 KW (5*NCR48S) Hot-Pluggable rectifiers
- LVDSs (Low Voltage Disconnection Switch, optional)
- Supervisory alarms & contacts
- Data logging
- 19" standard with 5U height

Power Shelf Systems Specification

Model	NSR48
No. of compartments	1
Telecommunications design	19" for telecom
Main Control Unit (MCU)	NCU48S / More info is available in page 32
Supervisory alarms	Available
Individual rectifier	NCR48S
	Efficiency >%94
	Max. output power 2000 W
	More info is available in page 35
Max. number of rectifiers/power capacity	5/10 KW
Back-up battery bus-bar	Available
Current transducer	Available for battery
LVD	Optional
Load sharing	Available
Cable entry	Back
Dimension (H*W*D) mm	220*480*500
Weight (kg)	9.5



▶ NSP48-5S Power Shelf Systems

Features

- Intelligent Main Control Unit (MCU)
- Multi master system control
- NCR48U Hot-Pluggable rectifier Series
- 19" standard with 5U height
- LVDS (Low Voltage Disconnection Switch), LLVD & BLVD
- Surge Protection Device (SPD)
- Highly reliable proven DC architecture and telecom grade equipment
- Efficiency Plus rectifiers application; over %96 operation efficiency
- Cost-effective and simple power expansion with modular increments
- Safe & simple installation and 'plug & go' auto-configuration
- Extensive LAN/WAN communications capabilities
- Sophisticated automated system & battery control and monitoring
- Compact 5U (including AC&DC -distribution) rack mounting



▶ NSR48-2S Power Shelf Systems

Features

- Intelligent Main Control Unit (MCU)
- Multi master system control
- NCR48U Hot-Pluggable rectifier Series
- Remote control & monitoring
- Data logging
- 19" standard with 2U height



Power Shelf Systems Specification		
Model	NSP48-5S	NSR48-2S
No. of compartments	1	
Telecommunications design	19" for telecom	
AC&DC -distribution	Available	--
Main Control Unit (MCU)	NCU48U / More info is available in page 32	
Individual rectifier	NCR48U 2000W	NCR48U 3000W
Efficiency	>96%	>94%
	More info is available in page 35	
Max. number of rectifiers	3	
Max. power capacity	6 KW	9 KW
Back-up battery terminal	Available	
Current transducer	Available for battery	
LVD	Available for batteries & load	--
Surge Protection Device (SPD)	Available	
Load sharing	Available	
Cable entry	Front	Back
Dimension (H*W*D) mm	236*481*440	95*482.6*444.7
Weight (kg)	17	6

Indoor Integrated Access Power Systems (up to 800 Ah Back-Up Batteries)

NR48-E Series

Compact, Powerful, Efficient
and Secure Power Supply for Access Network



NR48-E Series





NOR48F



Outdoor Integrated Power Systems Specification

Individual rectifier

NCR48S

Efficiency >%94

Max. output power 2000 W

More info is available in page 35

Max. number of rectifiers / power capacity	6/12 KW
Back-up battery capacity	Up to 600 Ah
Battery heater	Available
Surge Protection Device (SPD)	Available
Load sharing	Available
DC-distribution	Available
Service light	Available
Cable entry	Top
Dimension (H*W*D) mm	2000*750*580
Weight (kg)	300

Outdoor Integrated Access Power Systems

NORE48F / NOBT48F / NOTR48F



Introduction

These outdoor series consist of two detached and easy to transport parts; the upper section is foreseen for installation of power supply, alarm panel, AC&DC -distribution MCBs and 10U free space (for further required equipment). The lower section is foreseen for two rows of VRLA back-up batteries (400 Ah).

Each section is cooled with a particular DC air-conditioner which continues the operation on AC failures. Saving more energies, the upper-side could be equipped with a heat-exchanger instead of an air-conditioner.

A complete base station can be built inside these series.

A Transmission cabinet could be added to the existing power system to have more available space (15U) for telecommunication equipment installation. This cabinet has ventilation options & also related alarms.

Features

- IP 55 compliant standard
- Intelligent Main Control Unit (MCU)
- Multi master system control
- Surge Protection Device (SPD)
- Up to 3 NCR48U Hot-Pluggable rectifiers (48V / 2000W / 3000W)
- Up to 2 battery shelves (400 Ah back-up)
- AC&DC -power distribution MCBs (custom design)
- DC air-conditioner & heater
- Smoke detector
- Moisture sensor
- Remote control & monitoring

▶ Alarm Panel

Introduction

This module collects data from different detectors like doors, current, batteries Aux, smoke, temperature and moisture -sensors and transfers them to MCU (Main Control Unit) for data processing. The MCU processes all incoming information from the sensors and other detective devices and send signals to indicate relevant alarms to alarm panel. The alarms contacts (Dry Contacts) are accessible from alarm panel by RJ45 ports (in Huawei systems application) or 25 pins connectors (in ZTE systems application).



NORE48F Alarm Panel

Features:

- The design is completely modular, so that in case of any failure, it could be replaced easily.
- The transferring alarm is designed for both ZTE & Huawei systems application. If a Huawei system is selected in the MCU setting, the related alarms are transferred to RJ45 ports, installed in front of the panel, and if a ZTE system is selected, alarms will be sent to 25 pins connector.
- This module has only 1U height and could be easily embedded inside all kinds of standard telecommunications cabinets.
- All the alarm connectors are front access.

Outdoor Power Systems Specification

Model	NORE48F-NOBT48F	
Cabinet ventilation options	H-EX/DC or AC air-conditioner	
Cooling system	Door mount	
No. of compartments	2	
Construction	Heat insulation	
AC-distribution	Available	
Security	Lockable, vandal-proof hinges, multi-point locking mechanism door	
Telecommunications cabinet	19" for telecom & 23" for batteries	
Available space for telecom equipment installations excluding power, battery & DC-distribution	10 U	
Detector sensors	Moisture, Smoke, Door opening	
Color	RAL 7035	
IP compliance	55	
Main Control Unit (MCU)	NCU48U / More info is available in page 32	
Individual rectifier	NCR48U 2000W	NCR48U 3000W
Efficiency	>%96	>%94
	More info is available in page 35	
Max. number of rectifiers	4	
Max. power capacity	8 KW	12 KW
Back-up battery capacity	Up to 400 Ah	
Battery heater	Available	
Current transducer	Available for battery	
LVD	Available for battery & load	
Surge Protection Device (SPD)	Available	
Load sharing	Available	
DC-distribution	Available	
Service light	Available	
Cable entry	Bottom	
Dimension (H*W*D) mm	1800*600*650	
Total weight (kg)	170	

Outdoor Integrated Access Power Systems

NOR48D



NOR48D



Introduction

Nian Electronic Outdoor Integrated Access Power Systems (Dual) are a field proven design for all conditions and flexible for all applications. Dual cabinet with a proper free space and highly efficient DC air-conditioners and also numerous intelligent control features, ensures the highest possible operating efficiency and whisper quiet operation.

A large battery capacity for high power loads and longer battery reserve times when the AC main power fails and flexible AC and DC distribution options are also available. A dedicated space for telecommunications equipment installation led to a direct link between the power source and the load which means providing high reliability.

Features

- Whisper quiet operation to minimize neighborhood noise pollution
- Dedicated DC air-conditioner for each cabinet to ensure the required cooling capacity
- 19", 21" or 23" standard equipment bay mounting
- Large battery compartment for high power loads and longer battery reserve times

The power systems is equipped with an intelligent Alarm Panel. This module collects data from different detectors like doors, current, batteries Aux, smoke, temperature and moisture –sensors and transfers them to MCU (Main Control Unit) for data processing. The MCU process all incoming information from the sensors and other detective devices and send signals to indicate relevant alarms to alarm panel.

The alarms contacts are accessible from front side of the alarm panel by dry contacts.



NOR48D ▶

Outdoor Integrated Power Systems (Dual) Specification

Model	NOR48D
Cabinet ventilation options	H-EX/DC or AC air-conditioner
Cooling system	Door mount
No. of cooling system	2
No. of compartments	1
Construction	Heat insulation
AC-distribution	Available
Security	Lockable, vandal-proof hinges, multi-point locking mechanism door
Telecommunications cabinet	19" for telecom & 23" for batteries
Available space for telecom equipment installations excluding power, battery & DC-distribution	23 U
Detector sensors	Moisture, Smoke, Door opening
Color	RAL 7035
IP compliance	55
Main Control Unit (MCU)	NCU48U / More info is available in page 32
Individual rectifier	NCR48U 3000W Efficiency >%94 Max. output power 3000W More info is available in page 35
Max. number of rectifiers	7
Max. power capacity	21 KW
Back-up battery capacity	Up to 600 Ah
Battery heater	Available
Current transducer	Available for battery
LVD	Available for battery & load
Surge Protection Device (SPD)	Available
Load sharing	Available
DC-distribution	Available
Service light	Available
Cable entry	Bottom
Dimension (H *W *D)mm	1850*1250*850
Total weight (kg)	430



Metro Power Systems with Back-Up Batteries

NHC48F-D Series / NHC48F-B Series

Introduction

However, should you require customized or design to delivery solutions with a unique architecture, we will come up with one, to your exact specifications.

Nian Electronic DC Power Systems are designed to withstand the most rigorous network power applications in mini, small, medium and large power configurations.

These types of DC power systems consist of Surge Protection Device (SPD), AC&DC -distribution, intelligent Main Control Unit (MCU) and power modules with an output rating up to 6000 W for each. Up to eight extension battery cabinet (1000 Ah each) can be installed in addition to NHC48F cabinets. This gives a total battery capacity of up to 6000 Ah.

Features

- High-capacity power systems in a compact footprint
- Cost-effective; simple capacity expansion (modular increment)
- Hot-Pluggable NHR48S rectifiers
- Custom design
- Easy & fast installation
- Intelligent Main Control Unit (MCU)
- Touch screen graphic LCD
- Multi master system control
- Advanced battery management
- Remote control & monitoring
- AC&DC -distribution
- Data logging



**Efficient, Reliable
and Flexible DC Power Solution**

NHC48F-D Series ▶





NHC48F-B Series



Metro Power Systems Specification

Model	NHC48F-D&B Series
DC power plant arrangement	Power and battery cabinet
Color	RAL 7035
Main Control Unit (MCU)	Graphical/Multi-language/Touch screen/Ethernet access
Individual rectifier	NHR48S Efficiency >%94 Max. output current 120 A Max. output power 6000 W Power factor >0.99/Full load More info is available in page 35
Max. number of rectifiers	12
Power capacity expansion	Available
Back-up battery bus-bar	Available
Surge Protection Device (SPD)	Available
Load sharing	Available
DC load & battery distribution	Optional
Cable entry	Top/Bottom
Dimension (H*W*D) mm/each cabinet	2000*600*600
Weight (kg)/each cabinet	100

Core Power Systems (up to 10,000 A)*

NP5000

More Intelligent
More Efficient
More Powerful

Introduction

Nian Electronic Core Power Systems Series can secure up to hundreds of kilowatts of premium-quality electricity.

The stand-alone cabinets present an integrated approach to power system architecture.

The modularity and scalability of these easy-to-use systems enable rapid roll-out and easy expansion. The DC Power Plant provides the option of parallel installation for maximum capacity, while the entire system can be

controlled by a single Main Control Unit (MCU).

It offers energy-efficient, large scale, high-capacity power for Central Offices (CO), Main Switching Offices (MTSOs, MSCs) and data center applications. These series consist of individual power modules with output ratings of up to 6,000W, enabling customers to configure bulk power systems with up to 480,000W* output capacity; including flexible AC and DC -distribution options.



▶ Nian Electronic Rectifier Modules

NHR48S / NCR48S / NCR48U2000W / NCR48U 3000W / NCR48W / NCR482U -Series

Nian Electronic Rectifier Modules are high reliability, telecom grade AC-DC 48 V modules; covering a wide range of AC inputs and DC power outputs to suit different applications.

Efficiency exceeding %96 with the Efficiency Plus Rectifiers, power dense and a standardized design assisting scalability, flexible mounting and universal AC input all contribute to Nian Electronic's power system solutions to meet customer requirements.

▶ NHR48S – Rectifier Module Series

Introduction

NHR48S is a single phase rectifier with outstanding efficiency and power density. This rectifier is optimal for the Nian Electronic Metro and Core -DC Power Systems. The excellent functional operation in high temperature ranges makes the device most suitable for wired and wireless broadband applications in harsh climates.

Easy installation is assured as all Nian Electronic's rectifiers are Hot-Pluggable. The fan cooling systems with speed control support the silent operation.



▶ NHR48S / 6000W

Features

- High efficiency (over %94)
- Wide AC input range
- Wide operation temperature range
- Module keying
- Soft-Switching
- Comprehensive output protection
- Phase Shift Full Bridge Technology
- Hot-Pluggable
- Voltage keying
- Initial-Boost-Float charging mode
- Adjustable output voltage
- Active load sharing

▶ NCR48S – Rectifier Module Series

Introduction

These series of Nian Electronic's rectifiers, comprising advanced control and monitoring features, are high-density, compact design and extremely cost-effective power supplies.

A silent operation is by the application of Maglev fan cooling systems ensured.



◀ NCR48S / 2000W

Features

- High efficiency (over %94)
- Wide operation temperature range
- Wide input range
- Module-keying
- Soft-Switching
- Comprehensive output protection
- Hot-Pluggable
- Voltage keying
- Boost-Float charging mode
- Adjustable output voltage
- Active load sharing
- High quality components
- Fault LED indicators

▶ NCR48W / NCR482U - Rectifier Module Series



▶ NCR482U / 4000W



▶ NCR48W / 1200 W



▶ NCR48W / 1500 W

► NCR48U - Efficiency Plus Rectifier Module Series

Introduction

Nian Electronic delivers one of the most efficient rectifiers in the industry! The combination of innovative design, efficiency and reliability makes the NCR48U 2000W EP Series to stand out. With the efficiency over 96%, the losses have been reduced by 50% compared to the current industry standards.

EP NCR48U / 2000W ►



NCR48U / 3000W ►



Features

- High efficiency (up to 96.2% at standard conditions)
- Wide operation temperature range
- Wide AC input range
- Compliance with international standards
- Hot-Pluggable (fast on-line expansion of rectifiers)

Technical Specification of Rectifiers				
Model	NCR48U	NCR48S	NCR482U	NHR48S
Part number	NCR48U-xx	NCR48S-xx	NCR482U-xx	NHR48S-xx
Input Data				
Voltage (nominal)	185-265 VAC			
Voltage (range)*	95-300 VAC		150-265 VAC	
Frequency	45-65 Hz			
Power factor*	>0.99 at %50 load or more			
THD	<%5			
Input current (maximum)	13 A		23 A	36 A
Inrush current	<7 A			
Protection	Surge protected, High input voltage, Low input voltage, Hot plug-in, Inrush current limit			
Output Data				
Voltage (default)	53.5 VDC			
Voltage (adjustable range)	48-59 VDC			
Power (maximum)	2000 W		4000 W	6000 W
Current (maximum)	42 A		84 A	120 A
Current sharing	<0.05 Maximum current			
Charging types	Equalize (Boost)-Float		Initial-Equalize-Float	
Regulation time	<2 ms		<1 ms	
Ripple	<100 mV peak to peak			
Protections	High input voltage Over voltage shut-down Under current protection Hot plug-in inrush current limiting High temperature protection Current limit		Low input voltage Under voltage shut-down Over current protection Short circuit proof Fan failure	
Other Specifications				
Efficiency*	Up to %96.2	>%94	>%92	>%94
Operating temperature & humidity	-10 to +50 °C / 5-90%			
Cooling method	2 Maglev technology fan-front to back air flow			
LED indicators	Green LED: Normal/Yellow LED: Current limit/Red LED: Output fail			
Dimension (H*W*D) mm	44*212*327	212*66*395	86.9*108*432	88*435*400
Weight (kg)	3	5	5.5	10
Visual Display	LED indicator		LCD display	

* Voltage (range), power factor, efficiency and DC output power are dependent on rectifier model fitted. Refer to the rectifier datasheet for further details.