



Thyristor Battery Chargers are engineered to deliver reliable battery charging, clean energy, and secure power backup for critical DC loads. They provide uninterrupted power to essential infrastructure, including telecommunication equipment, substations, transformer centers, emergency lighting, and advanced security systems. Thanks to their heavy-duty, transformer-based design, these units ensure an exceptionally long operational lifetime, minimal maintenance requirements, and flawless performance even in the harshest industrial conditions.

DNS Rectifiers come equipped with comprehensive protection systems, including DC leakage and earth fault safeguards. To fit your facility's spatial requirements, charger enclosures can be custom-manufactured either with integrated or separate battery compartments. The systems offer fully selectable float and boost voltage levels, and support parallel redundant configuration for up to 8 units to maximize system reliability.

Key Features

- **Thyristor Controlled Technology:** Advanced thyristor-based regulation ensuring robust and precise power control.
- **Galvanic Isolation via Transformer:** High-level electrical isolation built-in to protect both the equipment and connected loads.
- **Graphic LCD Display:** User-friendly, intuitive interface for real-time monitoring and easy system navigation.
- **6 or 12-Pulse Options:** Flexible configurations available to minimize total harmonic distortion (THD) based on grid requirements.
- **Total System Protection:** Comprehensive electronic protection against overvoltage, overcurrent, short circuits, and ground faults.
- **3-Stage Smart Charging:** Optimized automatic charging algorithms to maximize battery health, efficiency, and lifespan.
- **Load Output with Dropper Diode:** Integrated dropper diode regulation to maintain a stable output voltage for sensitive loads during boost charging.
- **2-Year Warranty:** Full manufacturer warranty backing product durability and technical excellence.



Highlights

- * Single or three-phase compatibility
- * Galvanic isolation via integrated transformer
 - * Intuitive graphic LCD display
- * Robust thyristor-controlled technology
 - * 6 or 12-pulse configuration options
 - * Easy installation and quick start-up
- * Advanced high/low voltage safeguards
- * Integrated over-temperature sensors
- * Suitable for all industrial battery types
- * Supports parallel redundant operation
 - * Automatic restart after power cuts
 - * 3-stage smart charging cycle
- * Remote monitoring and telemetry options
- * Load output with dropper diode regulation
 - * Dual or multiple output configurations
- * Heavy-duty, sturdy industrial construction
- * Low noise, quiet operation architecture
- * User-friendly & simple program menu
 - * 2 years manufacturer warranty

Technical Specifications

GENERAL

Phase	Single-Phase	Three-Phase
Technology	6 or 12 Pulse Thyristor Controlled Full Bridge AC/DC Rectifier	
Control	Automatic Microprocessor Controlled	

INPUT

AC Voltage	220/230/240 Vac (or 110/120/127 Vac) 380/400/415 Vac (or 208/480/600 Vac)
Voltage Tolerance	±15%
Frequency	50 Hz / 60 Hz ±10%
Power Factor	≥ 0.8 Inductive
THDi	≤5% (6 Pulse), ≤2.5% (12 Pulse)
Input Protection	MCB, Input High-Low Voltage Protection

OUTPUT

DC Voltage	12 / 24 / 48 / 72 / 110 / 220 / 400 Vdc (custom outputs available)
Output Accuracy	±1%
Current Adjustment	0 - 100% Digitally Adjustable
Voltage Adjustment	0 - 100% Digitally Adjustable
Charging Time	Digitally Adjustable
Charging Protocol	Constant Current and Voltage
Charging Stages	Boost, Equalize and Float
Voltage Ripple	≤ 1% RMS
Boost Voltage	2.4 Vdc for AGM, 1.60 for NiCd (adjustable with battery type)
Float Voltage	2.2 Vdc for AGM, 1.40 for NiCd (adjustable with battery type)
Boost Charging Timer	Digitally Adjustable
Overload Operation	100% - 125% load: 2 min, 125% - 150% load: 30 sec, > 150% load: 2 sec
Output Protection	MCB, DC High/Low, Over Temp, Short Circuit, Earth Fault Optional
Efficiency	>92% at Full Load

CONTROL PANEL

Display	LCD Graphic Display
Displayed Parameters	Float/Boost Voltage, Operation/Boost Charging Timer, Alarms Adjust, Password
Displayed Units	Float/Boost Charge Voltage, Charge Current Optional: Battery Capacity, Boost Charging Time
Event Log	512 Events Recorded (Optional)

COMMUNICATION

Standard	Dry Contact Card (up to 10 adjustable relays), RS485 MODBUS
Optional	SNMP, CANBUS, Profibus, IEC 61850, RS232, USB
Dropper Module	Included with Load Output

SAFETY and STANDARDS

Over Voltage	IEEE 587 4500 A, Surge Arrestor (Optional)
Safety	EN 61204, EN 60950-1, IEC 60146
Standards	EN 50091-1 (Security), EN 61204-3 (EMC), ISO 9001, ISO 14001, CE

ENVIRONMENT

Operating Conditions	-10 C° / + 60 C°, 0 - 90% (non-condensing)
Storage Conditions	-20 C° / + 70 C°, 0 - 90% (non-condensing)
Noise Level	Less than 60 dB
Protection Level	IP42 Indoor Type, IP56 Outdoor Type
Cooling	Forced Air Cooling with Axial Fans

DNS Industrial Rectifiers are engineered to support SCADA systems, RTUs, substations, transformer centers, emergency lighting, and advanced security systems. They deliver clean, uninterrupted DC energy and robust power backup from batteries directly to critical DC loads. DNS Rectifiers feature comprehensive integrated safety systems, providing full protection including DC leakage and earth fault safeguards. To accommodate different facility layouts, these rectifiers can be custom-manufactured either with integrated or separate battery compartments. Users can fully customize float and boost charging levels, and the system supports parallel operation for up to 8 units to maximize power redundancy.

Technical Specifications

Technology: Thyristor-Controlled Full Bridge AC/DC Rectifier

Control System: Automatic Microprocessor-Controlled Architecture

System Protection: Overload, Over-Temperature, Short-Circuit, Earth Fault, and High/Low Voltage Protection

Output Voltage & Current: 0 - 100% Digitally Adjustable Range

Charging Protocol: Constant Current & Constant Voltage (CC/CV)

Charging Stages: 3-Stage Smart Charging: Boost, Equalize, and Float

User Interface / Display: High-Resolution Graphic LCD Display



Contact our engineering team for oil-cooled transformer.
Customized heavy-duty power solutions.



OIL AND GAS

İkitelli Factory: İkitelli OSB Sefaköy Sanayi Sitesi

14 Blok No:21 Başakşehir / İstanbul

Phone: +90 554 219 0552 info@dnspowersystems.com