

CRYONANO CN-HPRD Series

Electromagnet with 4-Quadrant Bipolar Power Supply (Optical Access Compatible)

The CRYONANO CN-HPRD Series is a high-performance, programmable DC power system designed for advanced research, industrial, and high-power testing applications.

Built as a high-power, rack-mounted DC platform, it delivers up to 60 kW output within a compact 23U rack architecture, combining precise DC control with low acoustic noise and flexible system integration.

The system supports a wide operating range and advanced communication interfaces, making it suitable for both standalone operation and fully automated environments

KEY FEATURES

Power & Performance

- Output Power: 30 kW / 45 kW / up to 60 kW
- Output Voltage: 10 – 600 V
- Maximum Current: up to 1000 A
- High power density in compact rack format
- Low-noise operation for sensitive environments

Advanced Control

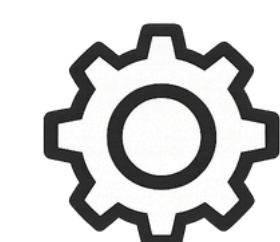
- Programmable voltage & current slew rate
- Constant Power Limit (CPL) operation
- Pre-load enable/disable control
- Dedicated control pins:
- Output disconnect
- Polarity reversal

User Interface & Connectivity

- Multi-function front panel interface
- LAN (LXI 1.5 compliant)
- USB 2.0
- RS-232 / RS-485
- Isolated analog interface (5V / 10V)

Optional Interfaces:

- IEEE (GPIB)
- EtherCAT
- Modbus-TCP
- Isolated 4–20 mA interface (IS420)



DESIGN ADVANTAGE

- High power density in compact rack format
- Flexible control architecture (CV / CC / CPL)
- Extensive communication options
- Optimized for low-noise lab environments
- Scalable across multiple configurations

CRYONANO TECHNICAL SPECIFICATIONS

Electrical Output

Parameter	Specification
Output Power	30 kW / 45 kW / up to 60 kW
Output Voltage	10 – 600 V
Output Current	Up to 1000 A
Operation Modes	CV / CC / CPL
Noise	Low acoustic noise

AC Input Specifications

Parameter	Specification
Input Type	3-phase AC
Voltage Range	342 – 525 VAC
Nominal Voltage	415 VAC
Frequency	47 – 63 Hz
Power Factor	~0.93 (typical)
PFC	Active Power Factor Correction

Control & Programming

Parameter	Specification
Control Modes	Programmable CV / CC / CPL
Slew Rate Control	Yes (Voltage & Current)
Pre-load Control	Enable / Disable
External Control	Dedicated hardware pins
Polarity Control	Supported

Communication Interfaces

Interface Type	Availability
LAN (LXI 1.5)	Standard
USB 2.0	Standard
RS-232 / RS-485	Standard
Analog (5V / 10V)	Standard
IEEE (GPIB)	Optional
EtherCAT	Optional
Modbus TCP	Optional
4–20 mA (IS420)	Optional

Mechanical & System

Parameter	Specification
Form Factor	23U Rack Mounted
Design	Compact, high power density
Cooling	Forced air (low-noise design)
Deployment	Lab / Industrial environments



Compliance & Safety

Parameter	Specification
Certifications	CE, UKCA
Standards	Low Voltage, EMC, RoHS
Reliability	Designed for global deployment



CRYONANO

APPLICATIONS

- High-power electromagnet systems
- Battery testing & energy storage systems
- Power electronics validation
- Industrial load simulation
- Research laboratories
- Automated test systems (ATE)



ORDERING INFORMATION

Parameter	Details
Product Series	CN-HPRD
Power Options	30 kW / 45 kW / 60 kW
Voltage Range	Up to 600 V
Current Range	Up to 1000 A
Interfaces	Standard + optional modules
Form Factor	23U rack system
Customization	Available
Warranty	Standard CRYONANO warranty

NOTES

- Designed for high-power continuous operation
- Requires appropriate 3-phase power infrastructure
- Suitable for automated and remote-controlled environments
- Optional interfaces enable full system integration

SCAN FOR
MORE INFO

