

Cut Sheet

Mi-BEAM Power Rack Series

OVERVIEW

The Mi-BEAM Power Rack system's modular architecture ensures that the overall system remains operational even if one of the individual power building blocks fails, enhancing reliability and uptime. This modularity also improves maintenance efficiency, as sparing and replacement can be performed at the building block level rather than the entire system. In addition, intelligent controls enable sophisticated sequencing and support constant power mode, allowing independent adjustment of maximum voltage, current, and power, along with convenient save and recall of supply settings.

KEY FEATURES

Scalability & Power Density

- High power density up to 262.5 kW in a 42U single-bay rack cabinet
- Each rack can hold up to 7 Mi-BEAMs
- Parallel racks for up to 8.6 MW*
- Up to 33 racks can be paralleled with controller
- Mi-BEAMs can operate in parallel or individual configurations
- Optional isolation chassis for parallel or individual Mi-BEAM units

Safety & Compliance

- Enhanced safety features include:
- Branch & Rack-level circuit breaker
- Emergency Power Off (EPO)
- CE & NRTL Certified

System Design & Serviceability

- Universal 3-phase AC input: 323-528 VAC
- Modular architecture simplifies sparing and maintenance
- Rack-mount cabinet with casters, forklift pockets, and lifting eyes

Standard Modes of Operation

- Bidirectional source and electronic load operation
- CC, CV, CP, and CR operating modes with combined mode support
- Battery simulation (BATSIM) and charge/discharge testing
- Photovoltaic simulation (PVSIM)
- Drivetrain and drive-cycle testing with programmable V-I characteristics

Mi-BEAM POWER RACK



37.5 kW - 8.6 MW*

80—2,000 V

up to 7,000 A per rack

MARKETS & APPLICATIONS

- Battery simulation
- Battery cycling/testing
- Electric powertrain testing
- Fuel cell testing
- Solar Inverter testing
- PV simulation
- Industrial automation
- Data centers
- Defense, military & aerospace
- Microgrids

*For higher power, please consult the factory

Markets & Applications

The Mi-BEAM Power Rack is a scalable, high-power DC test solution designed for demanding energy, transportation, industrial, defense, and power conversion applications. Its modular architecture enables flexible battery emulation, power source, and regenerative load testing in environments that require high power density, precision control, and bidirectional operation.



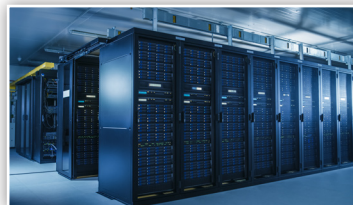
Defense, Military & Aerospace

Support testing of mission-critical power systems, energy storage technologies, and advanced electrical equipment in demanding environments.



Battery Cycling & Testing

Accelerate battery development and validation with programmable charge/discharge cycling, battery emulation, and energy recovery.



Data Centers

Validate backup power systems, battery energy storage, and power infrastructure to ensure maximum uptime and reliability.



Solar Inverter Testing

Perform grid-tied and standalone inverter validation with accurate DC source simulation and regenerative power capability.



COMMUNICATION & CONTROL INTERFACES

Standard Communication Interfaces

- LAN (10 BASE-T and 100 BASE-T)
- USB 2.0
- RS-232C
- CAN
- Isolated analog programming
- IVI-C, IVI-COM, and LabVIEW drivers
- SCPI-compliant command set
- Virtual panels/remote control GUI

Optional Communication Interfaces

- Optional IEEE-488

Environmental Specifications

Cooling	Internal fans in all power supplies, with additional fans in the racks
Humidity	10%-95%, noncondensing
Operating Temperature	0°C to +40°C (+32°F to +104°F)
Storage Temperature	-25°C to 65°C (-13°F to +149°F)
Altitude	Operating full power available up to 6,600 ft (2000 m)

Electrical Specifications

Voltage	Allowed range 323-528 VAC
Frequency	47 to 63 Hz
Phases	3-phase, 3-wire plus ground
Power Factor	0.99 typical
Efficiency	95% typical at full load
Output Power	Refer to Mi-BEAM Operating Manual or Datasheet for output power information

Mechanical Specifications

Rack Dimensions	W: 24 in (61 cm); D: 42 in (107 cm); H: 83.25 in (211.4 cm)
Rack Weight	Up to approximately 1,700 lb (771 kg), fully loaded with 7 Mi-BEAM units
Shipping Dimensions	(W) 31 in (78.7 cm), (D) 49 in (124.5 cm), (H) 95 in (241.3 cm)
Shipping Weight	Up to approximately 2,200 lb (998 kg)