

Mi-BEAM Power Rack Series

Mi-BEAM Power Rack High-Power Bidirectional DC Series

37.5 kW – 8.6 MW
80 V - 2000 V
up to 7000 A per rack

Advanced Features

- 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 be in Parallel or Individual configuration
- Optional Isolation Chassis for Parallel or Individual Mi-BEAM units
- Rack-mount cabinet with casters, forklift pockets, and lifting eyes
- AC Mains and branch circuit breakers with distribution wiring
- Emergency Power Off
- I/O panel for communications
- Flexible control includes Ethernet (LXI), isolated analog, and optional IEEE-488.
- Universal 3-Phase AC input accepts 323 VAC to 528 VAC
- Modular architecture simplifies sparing and maintenance.
- NRTL and CE Certified

*For higher power please consult factory

Markets and Applications

The Mi-BEAM Power Rack Series is designed for today's complex applications, including datacenters, microgrids, energy storage, automotive, industrial, and aerospace markets in a variety of applications. Applications include:

- Battery Simulation
- Battery Cycling/Testing
- Electric Powertrain Testing
- Fuel Cell Testing
- Solar Inverter Testing/PV Simulation
- Industrial Automation
- Datacenters
- Fuel Cell & Renewable Energy R&D
- Defense, Military & Aerospace
- Microgrids

Modular Architecture Benefits

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.



Specifications

Electrical Specifications	
Input Power	
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
Environmental Specifications	
Cooling	Internal fans in all power supplies, w/ additional fans in the racks
Humidity	10-95%, non-condensing
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)
Mechanical Specifications	
Rack Dims	(W) 24 in (61 cm), (D) 42 in (107 cm), (H) 83.25 in (211.4 cm)
Rack Weight	Up to ~1700 LBS (~771 kg) – fully loaded (7 Mi-BEAMS)
Shipping Dims	(W) 31 in (78.7 cm), (D) 49 in (124.5 cm), (H) 95 in (241.3 cm)
Shipping Weight	Up to ~2200 LBS (~998 kg)
Remote Control / Monitor Specifications	
IO Panel	
LAN	Ethernet LXI Complaint 10BASE-T and 100BASE-T over twisted-pair cables compliant with IEEE 802.3; Connector: 8P8C modular jack.
Isolated Analog	Remote isolated analog programming and monitoring of output voltage, output current, overvoltage programming, source/sink status, trigger output, output on/off state, output on/off control, CC/CV state. Remote analog programming in Bi-directional, source, and e-load modes only
IEEE-488 (Optional)	Parallel interface complies with IEEE-488.1, IEEE-488.2, and the SCPI command specification; Command execution response time, 10 ms, typical; Connector: IEEE-488.1 compliant.
Firmware Upgrade	Firmware can be upgraded through the LAN interface and a Command Line Firmware Update Tool.
Remote Sensing	
Remote Sensing	Terminals are provided to regulate output voltage at point of load. Maximum line drop is 5% of rated output voltage
Output Isolation	
Output terminal Chassis Earth	1428 V _{RMS} / ±2000 V _{peak}
Output terminal Positive to (+Ve) to Negative (-Ve)	V _{peak} = 110% of output rated voltage
Isolated Analog interface Signals and External User Control I/O interface to Output Negative terminal	±2000 V _{peak} , maximum; Isolated Analog programming and external user interface signals are galvanically isolated from negative output terminal; operation of Isolated Analog Interface signals should be at SELV safety voltage conditions to chassis ground.
Input AC to Output DC, working voltage	1460 V _{RMS} / ±2045 V _{peak}