

21 kW Rackable Load Bank

The 21 kW rackable load bank is a major piece of equipment for the commissioning of a data center. In your Data Center projects, this bank is designed to faithfully reproduce the energy and thermal behavior of computer rooms or servers under real operating conditions.

With an efficient design, it integrates easily into clean rooms or into containment areas while awaiting the server racks.



Operating principle

Its main role is to simulate a controlled electrical load in order to test the robustness and resilience of the data center's critical systems, in particular the electrical power supplies (UPS, PDU, generator sets) as well as the cooling systems. By generating heat dissipation equivalent to that of part or all of the servers in operation “**Room Load Test**”, the bank also makes it possible to assess the ability of the air-conditioning infrastructure to maintain optimal conditions “**Thermal Load Testing**”.

Thanks to precise power regulation (up to 21 kW), it is possible to reproduce various load scenarios, ranging from nominal operation to stress situations (consumption peaks, temperature rise). This makes it possible to anticipate potential failures, validate backup procedures and optimize energy management.

Technical Specifications

<i>Load Type</i>	Resistive	<i>Height</i>	695 mm
<i>Rated Power</i>	21 kW	<i>Width</i>	485 mm
<i>Rated Voltage</i>	230 Vac Single-phase ×3 400 Vac Three-phase	<i>Depth</i>	413 mm
<i>Power Factor</i>	1	<i>Weight</i>	27 kg
<i>Frequency</i>	50 Hz	<i>Cooling</i>	4 Fans
<i>Resolution</i>	1 kW		

Technical Architecture

The clean architecture of our load bank simplifies its installation and use.

Design		Cooling system	
<i>Use</i>	Indoor	<i>Air extraction</i>	Horizontal
<i>Frame</i>	Aluminum	<i>Rated Power</i>	100 W
<i>Paint</i>	Grey RAL7035 80µm	<i>Air flow</i>	1,380 m3/h
<i>Handling</i>	Casters 2 handles	<i>Average air T°C rise</i>	≈ 48°C
		<i>Sound level at 1 m</i>	85 dBA +/- 3dBA ⁽²⁾

Protections		Resistive elements	
<i>No. of Channels</i>	2 (Channel A & B)	<i>Technology</i>	Gridex ½ RU
<i>Resistive elements</i>	Circuit-breaker protection	<i>Resistive Alloy</i>	Chrome Alu
<i>Safety devices</i>	Safety thermostat	<i>Element tolerance</i>	+/- 5%
		<i>Temperature drift</i>	< 2%
		<i>Resistive elements</i>	Resistive elements

Control system

A simple interface for ease of use.

Control system	
<i>Power ramp-up</i>	Via push button
<i>Bank interconnection</i>	Via LBPI software

Environmental Characteristics

Capable of operating in all environments.

<i>Operating T°C</i>	-15°C to +50°C	<i>IP electrical enclosure</i>	IP 54
<i>Storage T°C</i>	-20°C to +70°C	<i>IP air duct</i>	IP 23
<i>Ambient Humidity</i>	95% relative ⁽¹⁾		
<i>Operating altitude</i>	800 m		



- (1) Relative humidity, non-condensing
 (2) At 50 Hz & Q=2