

# Regenerative Hybrid Power Supply

RZ-X2-100K series

Model RZ-X2-100K-H (750V/±400A)

Hybrid high-voltage DC power supply and cycler for  
battery emulation, inverter, and traction motor testing

*Supplies up to 2MW output through  
series and parallel connectivity of individual racks*



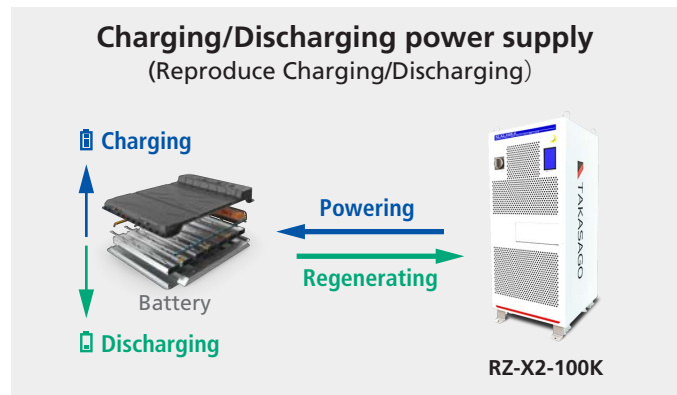
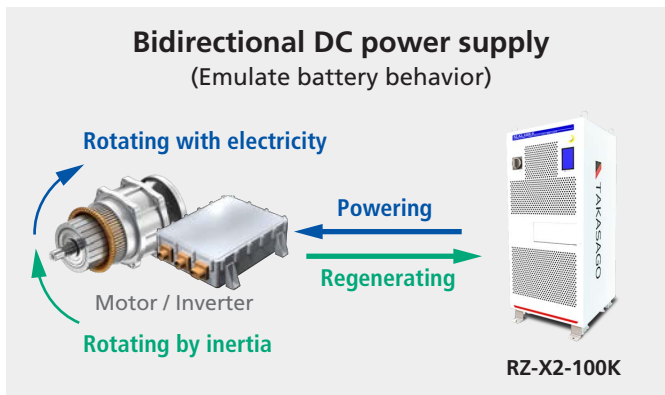
# A complete test system for the EV powertrain.

The RZ-X2-100K provides all voltage, current and power suitable for testing batteries, inverters, and traction motors. When integrated as a full solution, the RZ-X2-100K offers a complete test system for the EV powertrain.

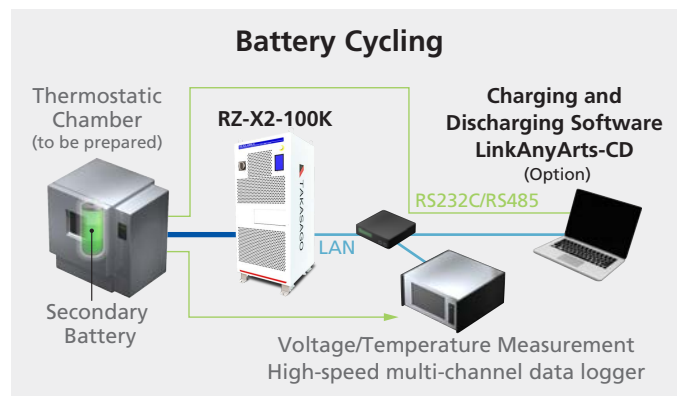
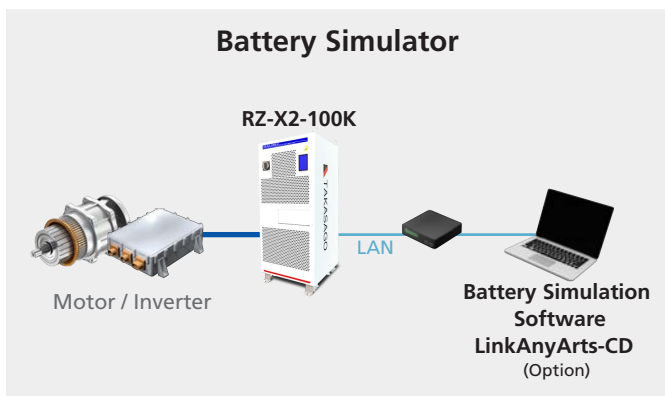


## Use Case

- Hybrid power supply supports battery emulation (including charging/discharging) and verification testing for inverters and traction motors



- Extend battery verification testing with the optional LinAnyArts software and multi-channel data logger.

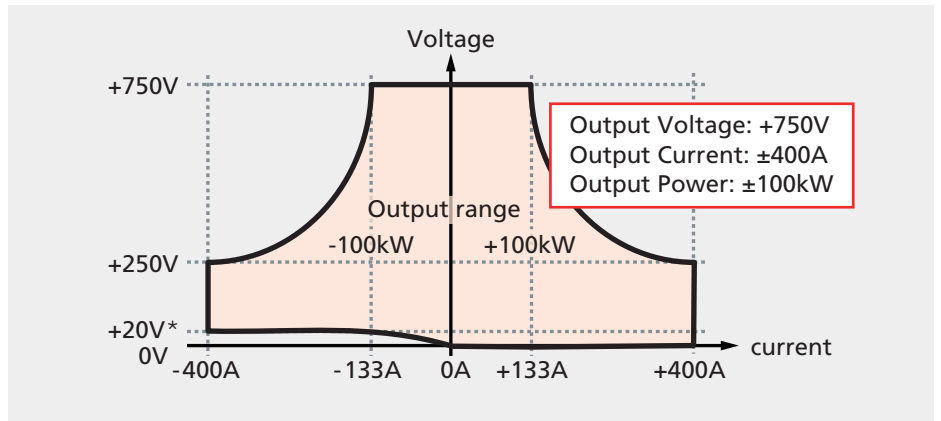


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## Specifications

### Variable voltage and current anywhere within the 100kW power envelope.

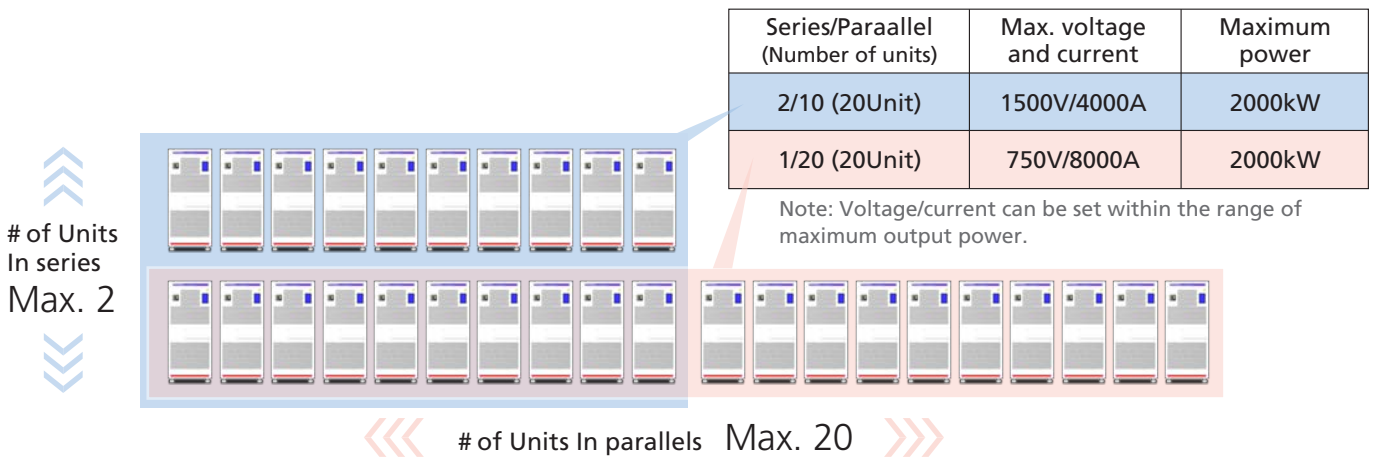
Rated output voltage : + 750V  
 Rated output current : ± 400A  
 Rated output power : ± 100kW



\* Voltage set accuracy during power and regeneration below 20V is not guaranteed.

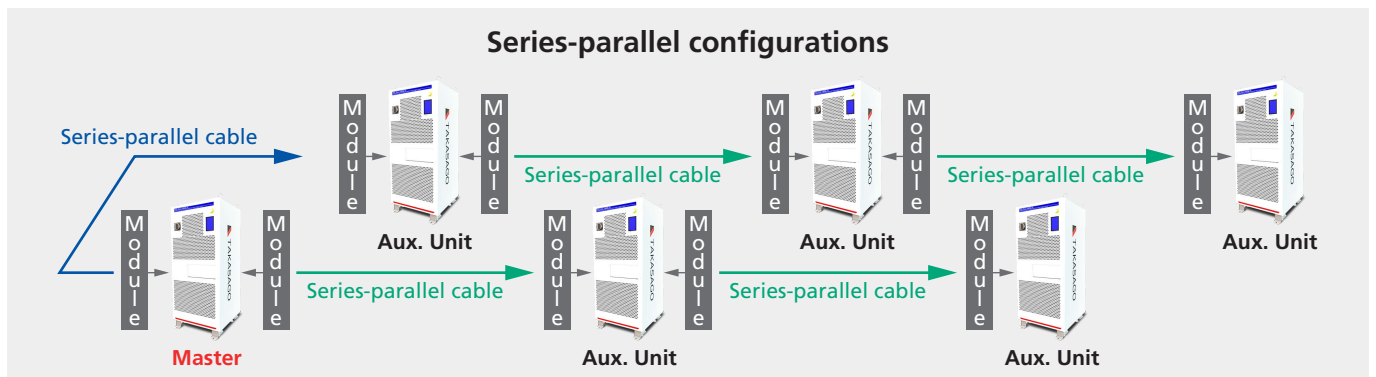
## Features

### Supplies 2 MW with Max. 20 units expansion in series and parallel configurations.

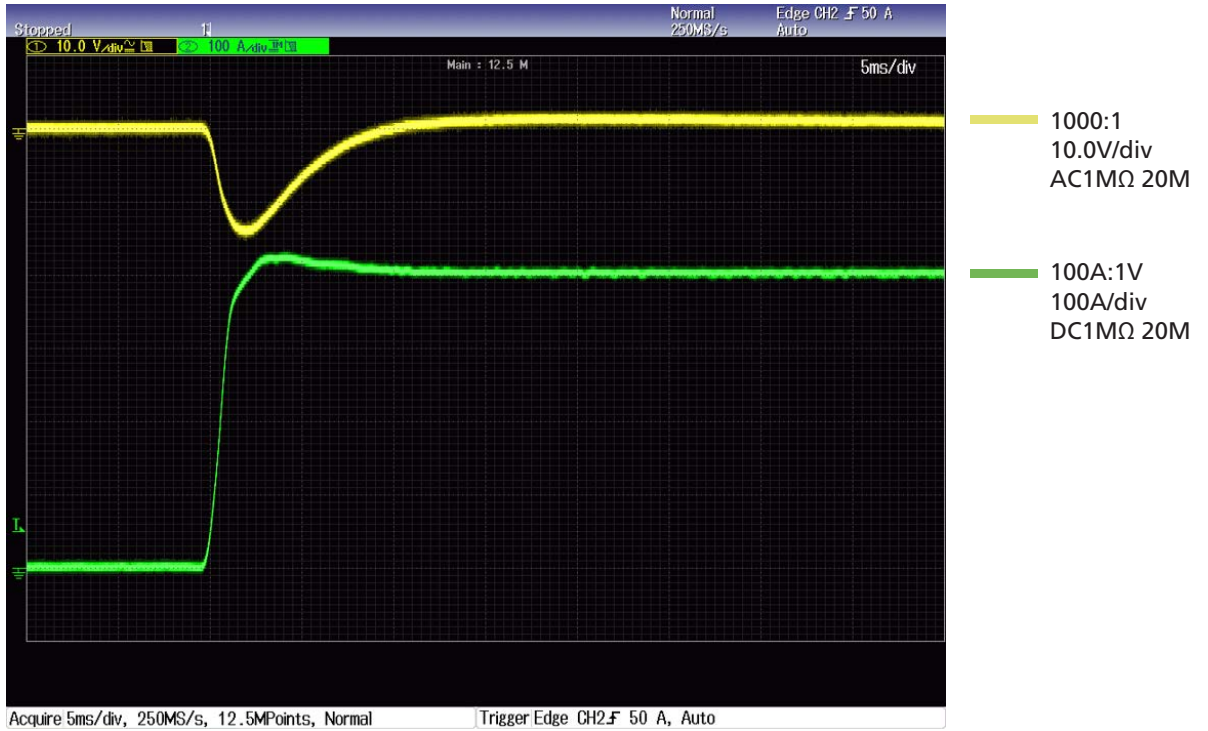


### Easy expansion with automatic detection of multiple connected units.

Master machine controller configures all auxiliary units automatically.

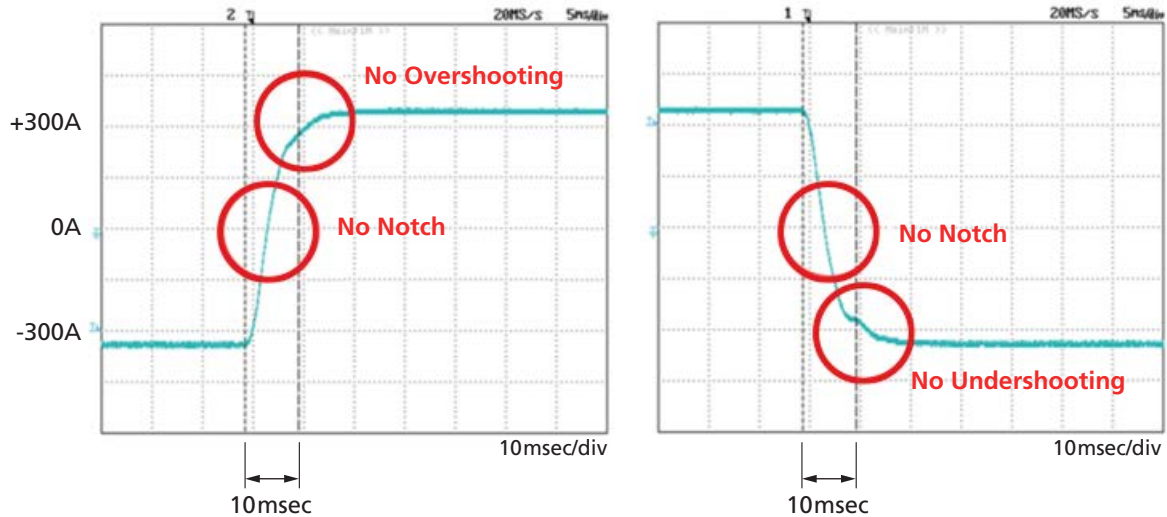


- ▶ Emulates actual battery use scenarios while maintain stability. Fully independent of DUT load functions.



- ▶ High speed system response.

- Current response  $\leq 10$  m sec.
- Seamless switching between sourcing and loading.
- Reduce stress to DUT with no overshooting and undershooting of current.



## Features

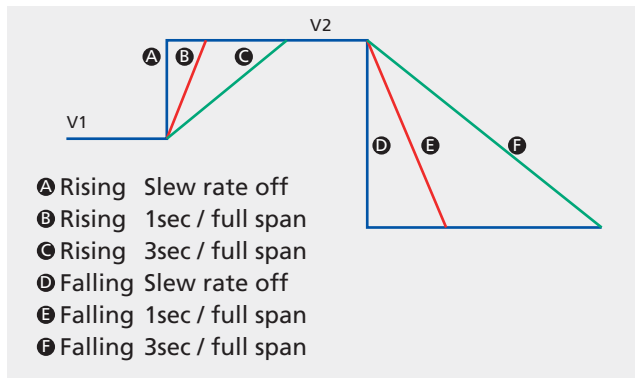
### ▼ Safety features

- Over-Voltage, over-current, and over temperature detection.
- Earth leakage breaker.
- Optional operational status light on top of unit.
- Emergency Stop button
- Thermostatic Chamber monitoring with optional LinkAnyArts software.

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### ▼ Adjustable slew rates

Slew rate of output voltage and current can be set to minimize rush current. This function is adjustable for rising and falling voltages, currents.



### ▼ Sequential operation

Built in sequencer functionality.

### ▼ Large touch panel

7-inch touch panel display provides easy operation and comfortable visibility.

### ▼ High efficiency and low Noise

### ▼ High stability

Accurate output characteristic and loss-evaluation independent of DUT load conditions.

### ▼ Fan noise control

Output power sensing automatically reduces fan RPM for lower output power.

### ▼ LAN connectivity for control and monitoring

Setting, Output control and Output monitoring are available from PC with LAN connection.

### ▼ External Interface

Interfaces such as Analog input to control unit, Contact Output, and Contact Input for E-stop are available.

### ▼ Thermostatic chamber interlock

### ▼ CAN/CAN FD (Option)

Communicate with DUT over both CAN interfaces.

### ▼ Multi-channels data logger (Option)

High-speed multi-channel data logger, for collecting information on voltages and temperatures during battery cycling test, is available.

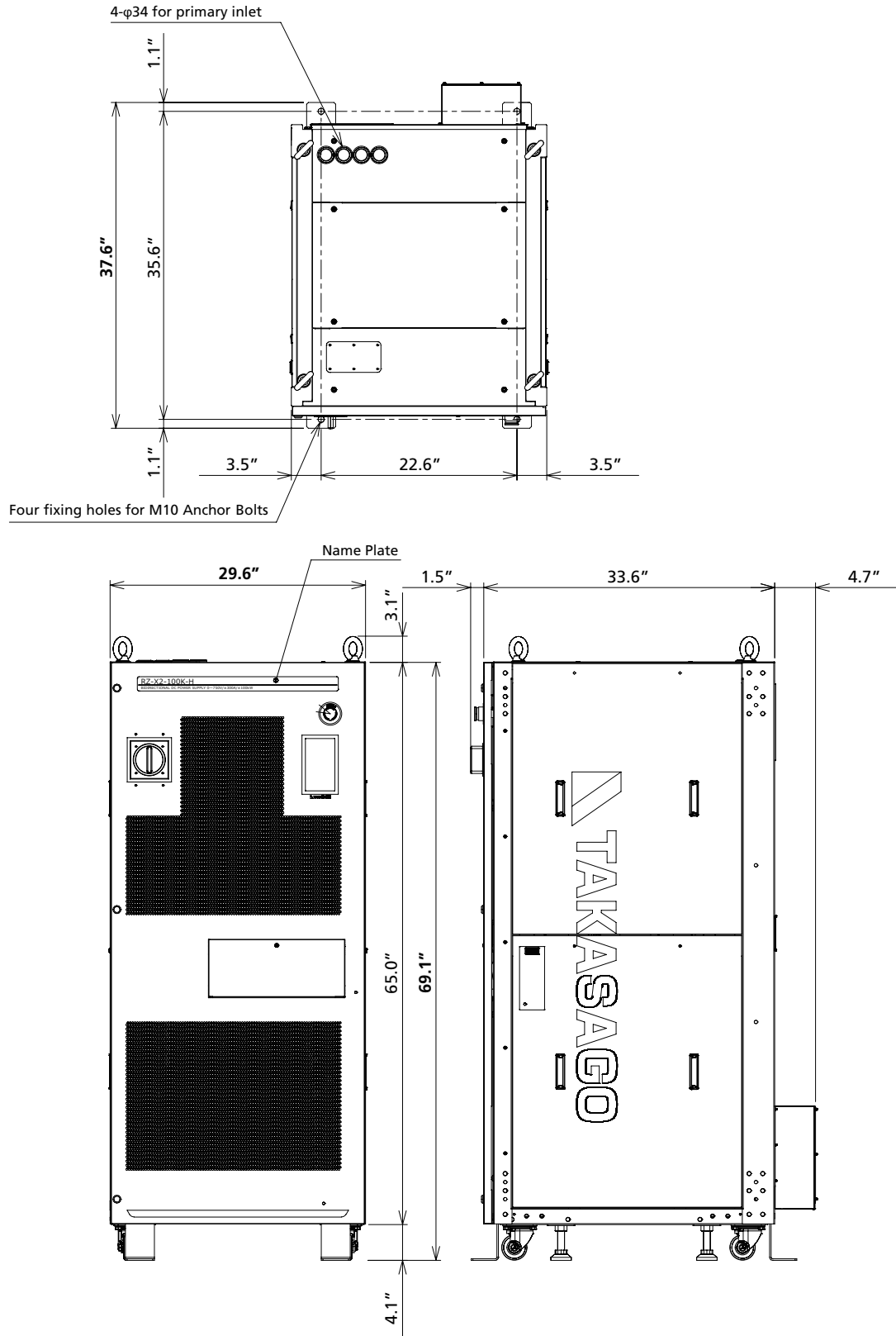
### ▼ Multi-channels data logger (Option)

- LinkAnyArts-CD for battery charging & discharging
- LinkAnyArts-BT for battery emulation
- LinkAnyArts-SC2 for sequencing of tests.

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# Specifications

- Dimension: 29.6"(W) x 37.6"(D) x 69.1"(H). (inches)
- Weight: 1,322 lbs.



## Data Sheet of RZ-X2-100K-H Hybrid Bidirectional DC Power Supply

Item		Specifications	
<b>Output</b>	Rated Output Voltage	+750V	
	Rated Output Current	±400A	
	Rated Output Power	±100kW	
<b>Constant Voltage (CV)</b>	Set Range	High Range	+0.00V~+787.50V
		Low Range	+0.000V~+78.750V
	Setting Accuracy	High Range	Within ± (0.1%+0.75V) of set value <note 1>
		Low Range	Within ± (0.1%+0.075V) of set value <note 1>
	Setting Resolution	High Range	20mV
		Low Range	2mV
<b>Constant Current (CC)</b>	Set Range	High Range	-420.00A~+420.00A
		Low Range	-42.000A~+42.000A
	Setting Accuracy	High Range	Within ± (0.2%+400mA) of set value <note 2>
		Low Range	Within ± (0.2%+40mA) of set value <note 2>
	Setting Resolution	High Range	20mA
		Low Range	2mA
<b>Constant Power (CP)</b>	Set Range	Voltage: High / Current :High	-105000W~+105000W
		Voltage: High / Current :Low	-31500W~+31500W
		Voltage: Low / Current: High	-31500W~+31500W
		Voltage: Low / Current: Low	-3150W~+3150W
<b>Current Response Time</b>	Rising Time (CC mode)	10ms or less. Time for load current to reach 10 to 90% of set value	
	Falling Time (CC mode)	10ms or less. Time for load current to reach 90 to 10% of set value	
<b>Operating Power Supply</b>		AC378V~AC462V, Three-phase, 50Hz/60Hz	
<b>Input current (RMS value)</b> <note 5>	AC378V	200Arms or less	
<b>Inrush current (peak value)</b> <note 6>	AC462V	200A or less	
<b>Power Efficiency</b>		91% or higher <note 3> / Above 92% <note 4>	
<b>External Dimension</b>		29.6"(W) × 69.1"(H) × 37.6"(D) (inches)	
<b>Master Unit</b>	Max. number of Serial Connection	2 units	
<b>Booster Unit</b>	Max. number of Parallel Connection	20 units	
<b>Serial-parallel operation</b>	Max. Rated Output Voltage	+1500V	
	Max. Rated Output Current	±8000A	
	Max. Rated Output Power	±2000kW	
<b>Other Functions</b>	Variable internal resistance	Available	
	External Control (insulated)	Output ON/OFF, Output control, E-stop signal, and status	
	Measurement Monitor	Option	
	Communication Functions	LAN / CAN and CAN FD Interface (Option)	
	Sequence Operation	5-pattern operation	
<b>Operational Environment</b>		Ambient temperature 0~40°C(Operation) / 0~60°C (Save) , Humidity 20~85%RH (Operation) / 20~85%RH (Save) , No freezing, No Condensation, and No corrosive gases	
<b>Weight</b>		Less than 600kg <note 7>	
<b>Input Terminal/ FG Terminal</b>		M10 bolt & nut for Terminal block and Bar terminal	
<b>Output Terminal</b>		M12 bolt & nut for Bar terminal	

note 1: Applicable from output voltage setting value +20V (ambient temperature: 23°C±5°C) . However, voltage set accuracy during power and regeneration below 20V is not guaranteed.

note 2: Applicable from output voltage +20V (ambient temperature 23°C±5°C) . However, voltage set accuracy during power and regeneration below 20V is not guaranteed.

note 3: At 420V AC input, rated output power, and rated output current

note 4: At 420V AC input, rated output power, and rated output voltage

note 5: For rated power output and rated output current

note 6: Excluding the charging current component that flows to the capacitor of the internal EMC filter circuit immediately, Approx. 1ms, after input power breaker is turned on.

note 7: If the underfloor load capacity of the potential location to install the RZ-X2-100K is insufficient, please contact us.



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<https://www.takasago-ss.co.jp/en/>

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<https://www.anritsu.com/en-us/emobility-testing>



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