

biATLAS

Bidirectional DC power supply & Regenerative DC electronic load

Realizing a society where everyone on earth
can enjoy the benefits of electricity



business intelligence

Ideal power supply with ultimate usability

bi business intelligence

"biATLAS" contains the "bi," which stands for "Business Intelligence," signifying information that supports business decision-making. It also carries the meaning of "bi-direction," representing interactivity or two-way communication.

biATLAS

A "Map book" is called as an Atlas. The term derives from the Greek mythological figure Atlas, who was said to hold the heavens on his shoulders, as depicted in early map collections. Hence, "atlas" came to denote a comprehensive and detailed representation of geographical or other information.



Our product, "biATLAS," is more than just a compact and highly usable regenerative power supply. It is designed to robustly support the core of renewable energy devices, including EV batteries. It aims to navigate our customers' future as reliably as a map in an atlas guides a traveler.

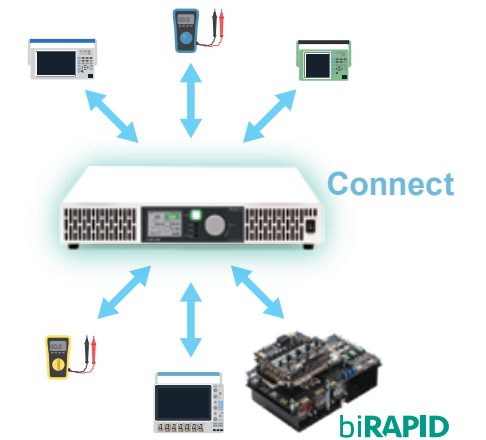


bi technology

Connected power source

The biATLAS series is equipped with technology, namely bi-technology, to realize DX(Digital Transformation) in the fields of research, development, and manufacturing. It has evolved into a "connected power source." By becoming a connected power source, biATLAS enables the construction of systems such as "Battery Simulation Systems," "Automated Inspection Systems," "Motor Bench Systems," and "Development Data Automated Acquisition."

With this technology, it is now possible to easily customize and build these systems, which traditionally required bespoke development. This leads to improved efficiency in development and inspection tasks, as well as cost reduction in system implementation.



biPYXIS

biPYXIS is a bi-technology applied tool that can significantly expand the 'connectivity feature' inherent in biATLAS.

✓ Easy Automation of time-consuming measurement and control

Automate labor-intensive measurements and controls easily. Choose equipment and commands, create a simple program by arranging them. Conditional branching and loops can also be implemented. Assign measurement data to variables for conditional branching. The acquired data is automatically saved to a centralized database.

biPYXIS



✓ Build a system easily tailored to the R&D, inspection, and production environments.

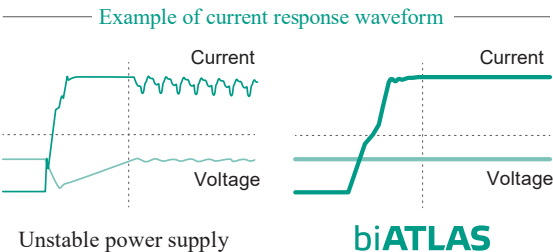
Easily automate tasks such as small-scale inspection lines and repetitive measurements during R&D. It is possible to frequently switch between various measurements during product development and execute them in a semi-automatic manner.

With the integration of biPYXIS into biATLAS, the power equipment of biATLAS now easily connects to external devices such as measurement instruments. This enables the straightforward construction of systems/facilities, including power, making the setup process more convenient.

The focus of the biATLAS series

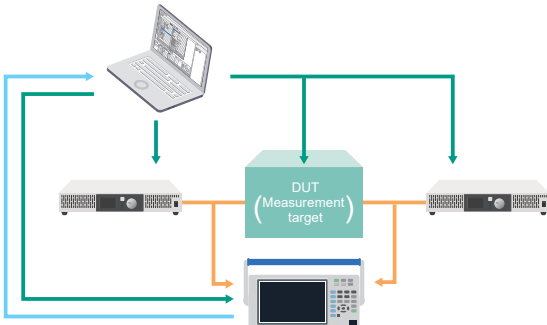
Stable power supply

- Equipped with Real-Time Stabilizer for stable control even under varying loads.
- With a stable power supply, reproducible debugging becomes.



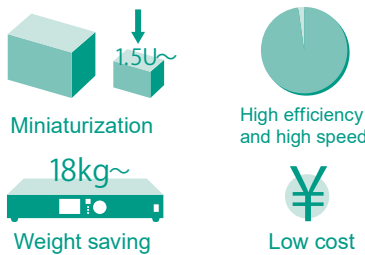
Connected Power Supply

- Previously, building these systems required custom development, but now they can be easily customized and constructed.



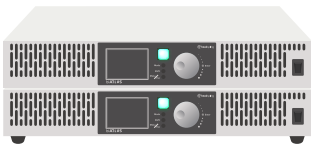
Adopting SiC for Miniaturization

- Utilizing next-generation power semiconductor SiC achieves industry-leading miniaturization and lightweight design.
- The downsizing allows for easy mobility of equipment with a minimal number of personnel.



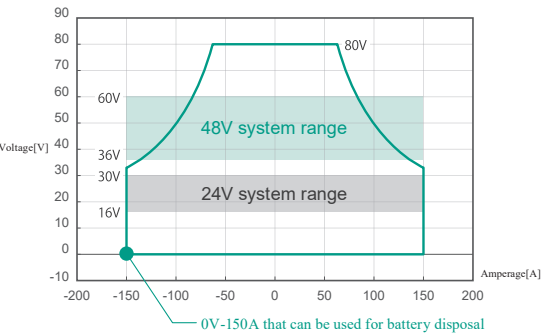
Capable of high voltage with Series Connection

- Through our proprietary control technology, it is possible to connect power supplies in series, enabling high-voltage testing.
- 5D525・15D525 ▶ Up to 1000V
- 5D80 ▶ Up to 210V
- Currently developing a 3-series 1500V model.



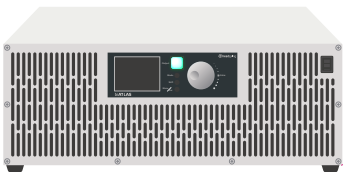
Discharge and Charge at 0V

- Capable of regenerating current even at 0V, allowing for complete battery discharge.
- *Available only in the biATLAS-5D80 model.
- *This is only for Japan version model.



Compatible with AC400V・200V Input

- Available in two input voltage types: 'Three-Phase 4-Wire 400V' or 'Three-Phase 3-Wire 200V,' Useable in both Japanese domestic and International market.
- *Available only in the biATLAS-15D525 model.



Lineup (Bidirectional DC power supply applications)

		biATLAS-5D525*	biATLAS-5D80*	biATLAS-15D525	biATLAS-5DL525*
Single unit	Exterior				
	Model number	HBPS-A2D525-502N	HBPS-A2D080-502N	HBPS-A2D525-153	HBPS-A2D525-502NL
	Electric power	±5kW	±5kW	±15kW	-5kW
	Voltage range	0~525V	0~80V	0~525V	0~525V
For multiple units*	Current range	±30A	±150A	±90A	-30A
	Size	1.5U	2U	3.5U	1.5U
	Weight	18kg	28kg	50kg	18kg
	Electric power	±10~100kW	±10~100kW	±15~300kW	-10~100kW
	Voltage range*	0~1000V	0~80~210V	0~1000V	0~1000V
	Current range*	±30~600A	±150~3000A	±90~1800A	-30~600A

*Only available for Japan Market



V2H System /Grid connection

P5

Can be used as a large-capacity battery with freely controllable electricity supply and withdrawal. Available for evaluation of energy management systems.



Inverter for Motor Drives

P6

Can be used for the evaluation of inverters designed for motor drives.



Battery Charging and Discharging

P7

Can be utilized as a charging and discharging device for a wide range of batteries, including EV batteries and storage batteries for solar power generation.



Hybrid Power Conditioner

P8

As it is a power source capable of simulating batteries, it can be used for the evaluation of hybrid power conditioners.



DCDC Converter

P9

Can be used for product evaluations requiring DC-to-DC power conversion.



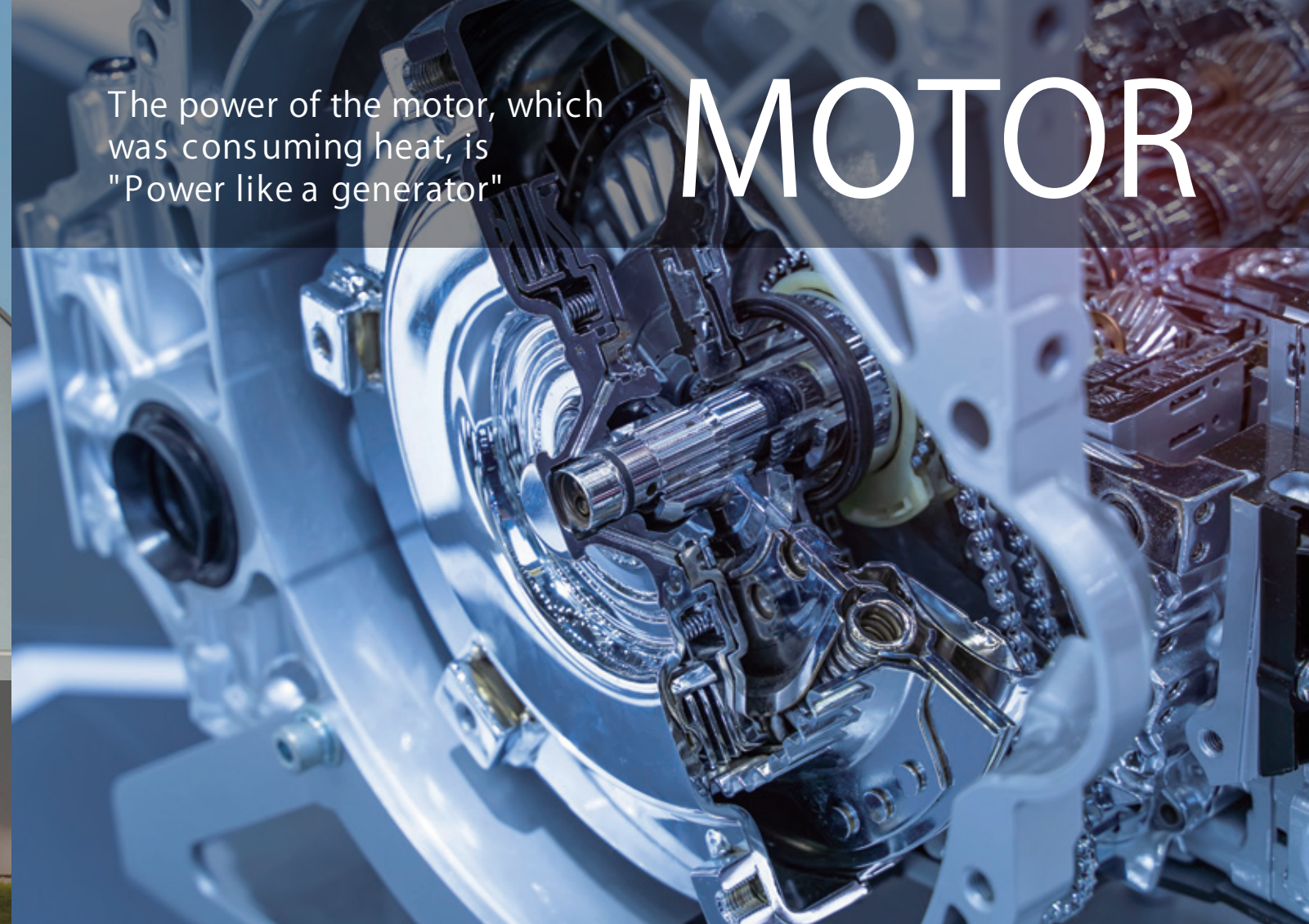
On-Board Charger (OBC)

P10

Can be used for evaluations tailored to various rated power levels.



Since it is bidirectional, electricity can be freely input and output.

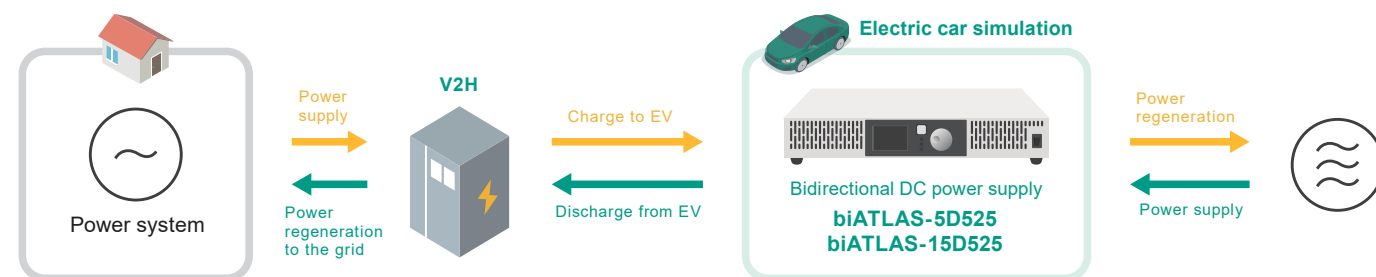


The power of the motor, which was consuming heat, is "Power like a generator"

MOTOR

V2H System/Grid connection

It can be used as a simulation system for large-capacity batteries that can be freely powered in and out of electricity. Available for evaluation of energy management systems.



✓ Bidirectionality

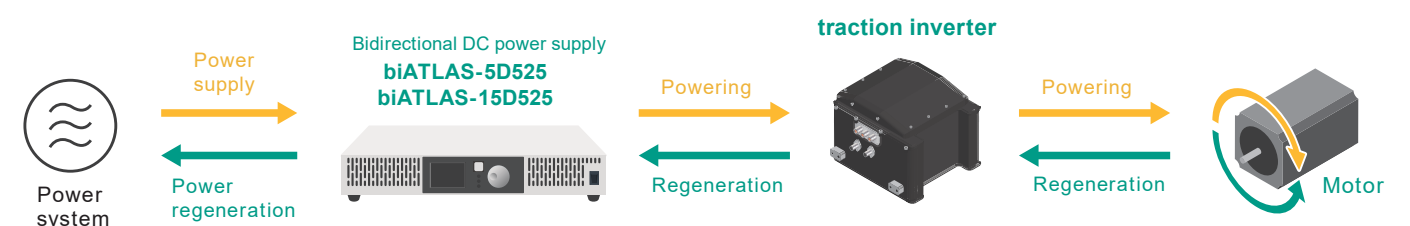
The biATLAS series features bidirectional functionality. Bidirectionality refers to the capability of performing power conversion between AC and DC in both directions within the power system. Being a bidirectional power source allows simulating batteries with charging and discharging, enabling seamless development, testing, and evaluation.

Bidirectional enables to stimulate EV batteries.

V2H evaluation requires two operations, 'charging to an EV battery' and 'supplying power from EV battery to the home'. Since a bidirectional power supply can replicate the role of an EV battery, it can be utilized for dual functions.

Inverter for Motor Drives

Can be used for the evaluation of inverters designed for motor drives.

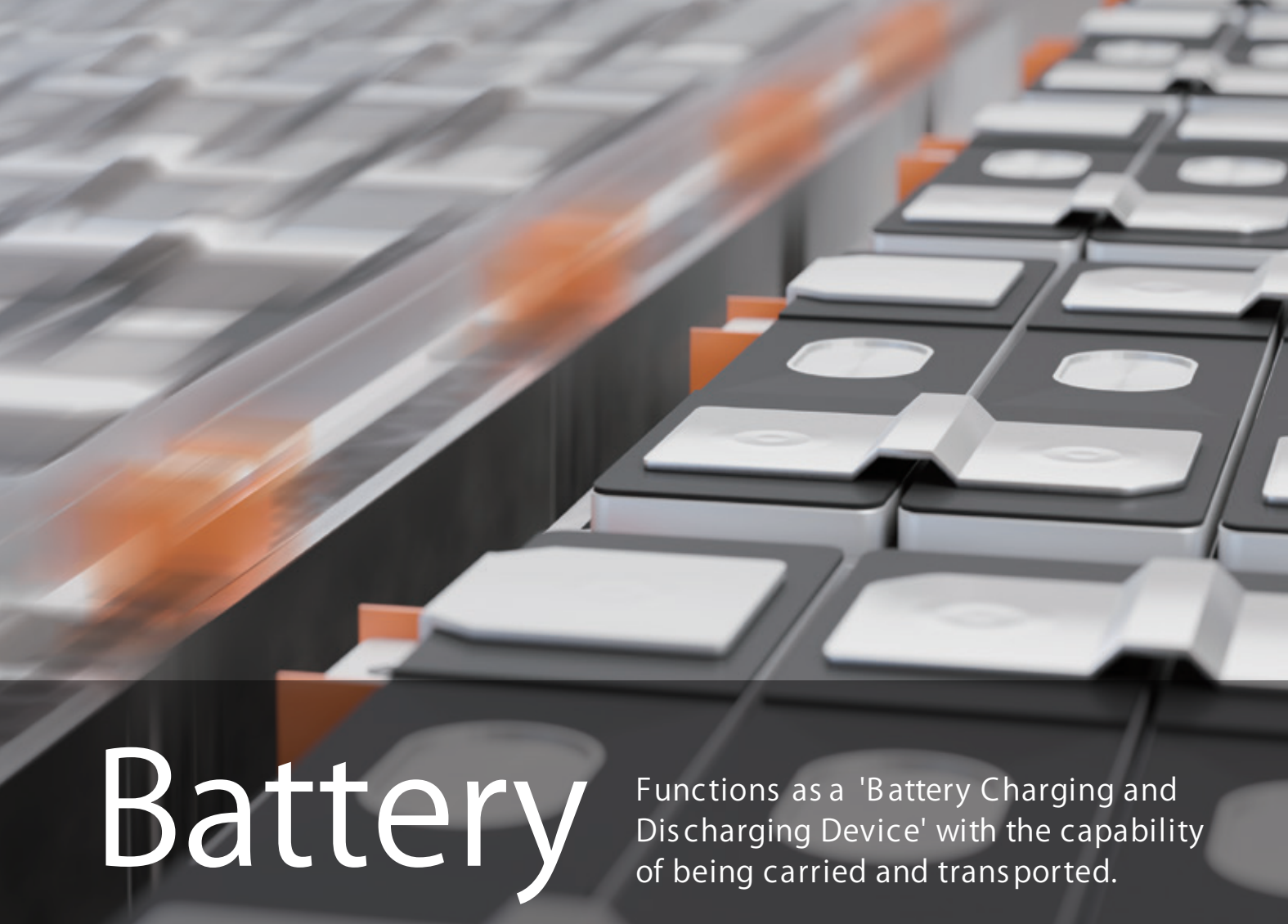


✓ Regenerative Operation

Bidirectional operation includes two modes: Motoring and Regeneration. Motoring functions like a single-function power supply, providing electrical power. Regeneration, in addition to absorbing power like an electronic load, involves the ability to regenerate electrical power back into the facility without converting it into heat. This capability allows for space-efficient facility construction, as power can be regenerated within the system without being consumed as heat.

Capable of absorbing motor back electromotive force and regenerating power.

biATLAS series can absorb back EMF when the motor is rotating or braking in bidirectional motion. In addition, since the absorbed power can be regenerated within the premises, it requires far less space than using electronic loads or bipolar power supplies.



Battery

Functions as a 'Battery Charging and Discharging Device' with the capability of being carried and transported.

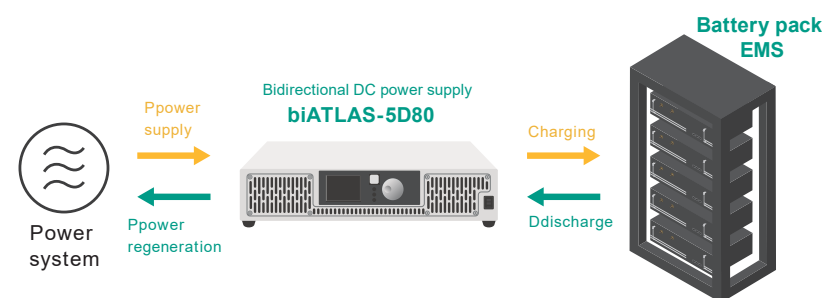


Battery Simulation

PCS

Battery Charging and Discharging

Can be utilized as a charging and discharging device for a wide range of batteries, including EV batteries and storage batteries for solar power generation.



Battery Voltage	Purpose
800V~1000V	EV Truck / EV Sports Car
500V~1000V	EV Bus
400~750V	Energy Storage System
200~400V	Home Battery
200~400V	EV Passenger Car
48~96V	Forklift / Electric Bike

✓ Compact and Lightweight

The biATLAS series is characterized by its easily portable size and weight, allowing for facility installation even in tight spaces.

✓ Covering a Wide Voltage Range

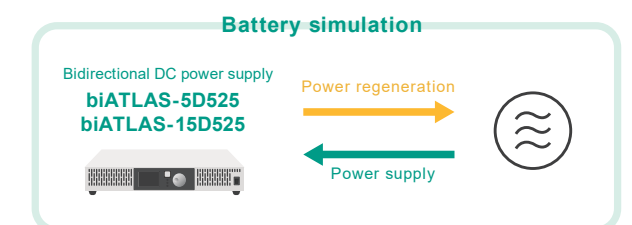
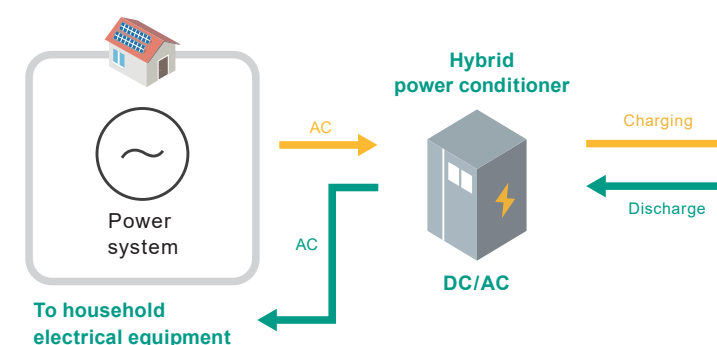
The biATLAS series features a wide voltage range from 0V to 1000V, allowing for versatile usage tailored to various applications.

The needs growing unexpectedly for its easily movable size.

In terms of battery charge and discharge system, large systems are major with assumption of installation in manufacturing processes, systems of moveable types are rarely found, but convenient as ready to use system for a laboratory, battery management warehouse and the demonstration of users.

Hybrid Power Conditioner (PCS)

As it is a power source capable of simulating batteries, it can be used for the evaluation of hybrid power conditioners.



✓ Battery Simulation System

The biATLAS series is equipped with a battery simulation feature. The battery simulation function of biATLAS allows for the operation of 'Terminal Voltage-SOC Characteristics' and 'Internal Resistance-SOC Characteristics.' Operating parameters include 'Voltage(v),' 'Current(i),' 'Time(t),' and 'State of Charge(SOC),' enabling evaluations tailored to the characteristics of the battery.

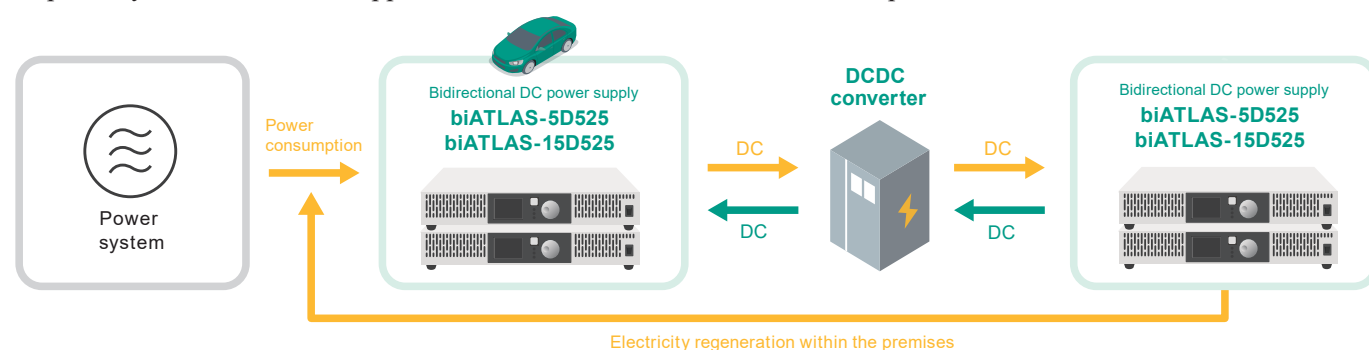
Power Supply with the battery stimulation function.

PCS evaluations requires battery or a battery stimulated power supply, In case of battery, the preliminary charging or replacement along with the battery deterioration is necessary, however the battery stimulated power supply can perform high efficiency evaluation due to no such work required.



DCDC Convertor

Can be used for product evaluations requiring DC-to-DC power conversion. Especially in bidirectional applications, seamless evaluations can be performed.



✓ High Efficiency

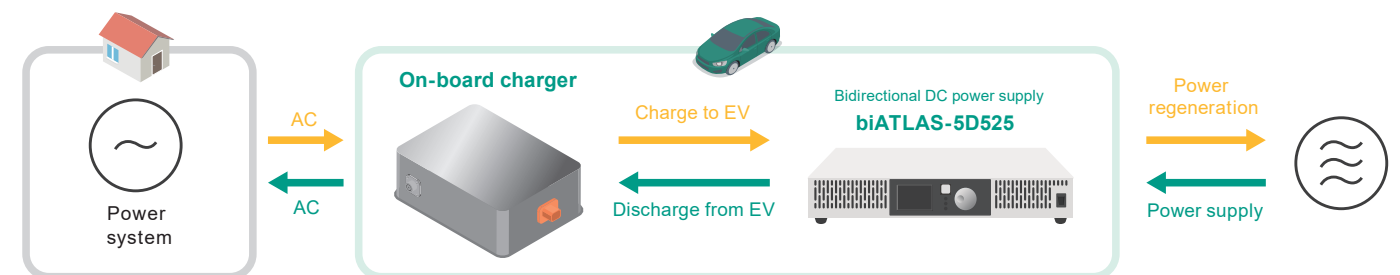
The biATLAS series employs next-generation power semiconductors(SiC), achieving very high efficiency. Due to its high efficiency, it reduces power consumption and allows for power regeneration within the facility, leading to energy savings. Especially during long-duration tests, it can reduce electricity costs, resulting in economic benefits.

Regenerative high efficiency power supply realize the saving energy and spaces.

Regenerative DC-DC power supply is ideally suited for products requiring bidirectional power conversion from DC to DC, such as V2V. It allows for seamless bidirectional testing, which enhances work efficiency without the need to reconfigure the facility. Furthermore, the combination of efficiency and regenerative functionality allows the facility to operate with reduced energy consumption and spatial requirements.

On-Board Charger(OBC)

Can be used for evaluations tailored to various rated power levels.



✓ Power Expandability

The biATLAS series allows for voltage and current range expansion through series and parallel connections. With the capability to perform series or parallel connections for up to 20 units, it becomes possible to flexibly construct bidirectional DC power sources up to 300kW. By having multiple biATLAS units available, it becomes feasible to build power sources on-demand according to specific requirements. This flexibility enables the reuse of common facilities for multiple applications.

Scalable power supply suitable for an OBC to keep enlarging its capacity.

The bidirectional on-board battery charger loaded on an EV increase its capacity year by year, for product which market drastically change a scalable facility is easy to use and very useful. Since the biATLAS offers excellent power scalability and can stimulate the battery, it can be utilized most suitably as the testing facility for the bi-directional on-board charger.

biATLAS Series Lineup

biATLAS^{-5D525} Bidirectional DC Power Supply (5kW high voltage type) P13-14

Nnumber of Units	Output Voltage(DC)	Output Power	Output Voltage(DC)
1 unit	525V	5kW	±30A
2 units in parallel 2 units in series	525V 1000V	10kW	±60A ±30A



biATLAS^{-5D80} Bidirectional DC Power Supply (5kW high current type) P15-16

Nnumber of Units	Output Voltage(DC)	Output Power	Output Voltage(DC)
1 unit	80V	5kW	±150A
2 units in parallel 2 units in series	80V 140V	10kW	±300A ±150A
3 units in parallel 3 units in series 4 units, 2 in series, 2 in parallel	80V 140V 210V	15kW	±450A ±300A ±150A



biATLAS^{-15D525} Bidirectional DC Power Supply (15kW high voltage type) P17-18

Nnumber of Units	Output Voltage(DC)	Output Power	Output Voltage(DC)
1 unit (200V/400V model)	525V	15kW	±90A
2 units in parallel (200V/400V model) 2 units in series (200V/400V model)	525V 1000V	30kW 30kW	±180A ±90A



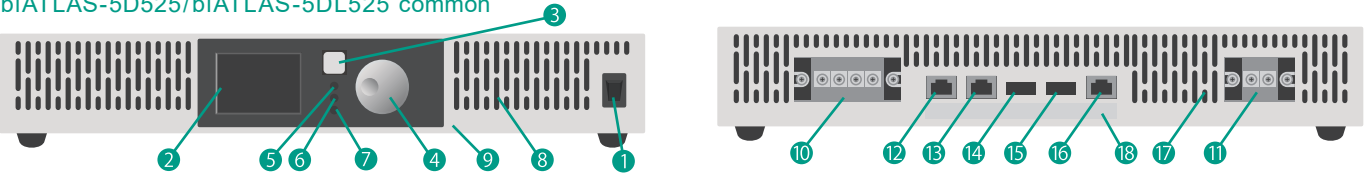
biATLAS^{-5DL525} Regenerative DC Electric Load (5kW high voltage type) P19-20

Nnumber of Units	Output Voltage(DC)	Output Power	Output Voltage(DC)
1 unit	525V	-5kW	-30A

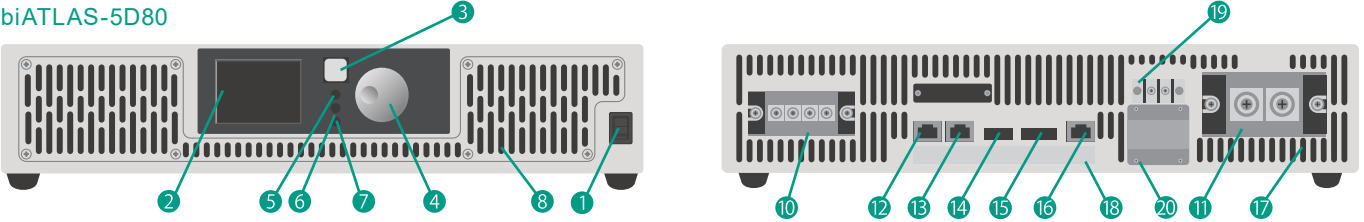


Product operation system

biATLAS-5D525/biATLAS-5DL525 common



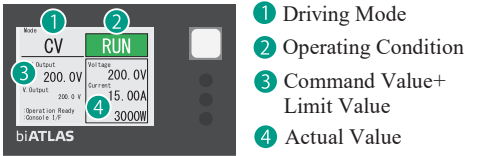
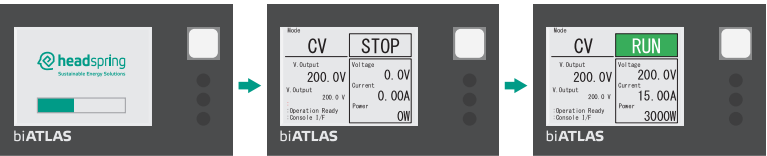
biATLAS-5D80



1 Main Power Switch	When pressed upwards, the power turns on. When pressed downwards, the power turns off.
2 LCD	Displays each screen.
3 Output button	This controls starts and stops the operation of device. The operational state is indicated by green, abnormal conditions by red, and the preparation for operation by yellow. All other indicators will be turned off.
4 Control Knob	Rotating this allows you to set values or select Items. Rotating clockwise increases and counterclockwise decreases. Pressing it confirms the values or item.
5 Mode button	Switching between CV (Constant Voltage), CC (Constant Current), CP (Constant Power), CR (Constant Resistance) modes.
6 Shift button	Switches between digits when manipulating values.
7 Menu / Esc button	Switches between setup screens. Additionally, allows you to go back to the previous screen.
8 Air intake	This is the air intake for the internal fan cooling system. Please ensure that the air intake is never blocked.
9 Load Label	It will be indicated in the case of Load.
10 ACInput /Protective Ground Terminal Block	It is a terminal block for connection to the commercial three-phase system and ground.
11 DC Output Terminal Block	It is the terminal block for DC output.
12 LINK IN	It is the connector used for series and parallel connection.
13 LINK OUT	Please connect the included LAN cable and termination resistor when operating in series or parallel configuration.
14 CAN Communication Port	It is the terminal block used when controlling this device via CAN communication.
15 Contact Input /Output Port	It is the terminal block used when controlling this device with contact input/output.
16 LAN Communication Port	It is the connector used when controlling this device via LAN communication.
17 Exhaust Port	This is the exhaust port for internal fan cooling of the device. Please ensure that the exhaust port is never blocked.
18 Rating Label	The main circuit input and output specifications of this device are indicated on the rating label.
19 Voltage Detection Terminal	It is the terminal for detecting direct current voltage. Please make sure to connect it to the DC side.
20 Maintenance Terminal	Not for use. Never open the cover.

biATLAS is simple to operate until it starts.
Operation can be started immediately by pressing the setting switch.

The items displayed on the screen have
been narrowed down to the minimum
four necessary items.



biATLAS-5D525



High Voltage Type Bidirectional DC Power Supply for High-Voltage Systems

The biATLAS-5D525: A bidirectional DC power supply optimized for user-friendliness. With a portable size that can be carried by one person, it allows for flexible use by combining in 5kW units. This versatility makes it suitable for a wide range of applications. Whether for testing and evaluation of power electronics equipment or for facility integration purposes, it provides a convenient solution.

A power source that can be carried by one person.

Conventional bidirectional DC power supplies, even in the 10kW class, were so large and heavy that one person could not carry them. They required significant storage space even when not in use and moving them for sharing with other teams was a challenge.

The biATLAS addresses these issues by making the individual power unit compact and lightweight. With a rack-mount size of 1.5U and a weight of 18kg per unit, it can be easily moved by one person. This means that whether you are conducting a 5kW test today or unexpectedly need to perform a 20kW test tomorrow, you can move the equipment more quickly than before.

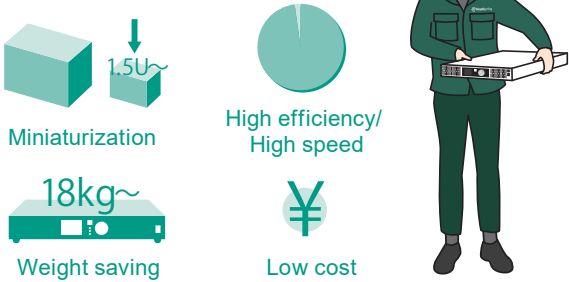
- ✓ A power source that can be carried by one person.
providing flexibility and ease in handling equipment relocation or modifications.

- ✓ High Voltage 1000V
Capable of delivering up to DC1000V and 10kW output when two units are connected in series, accommodating the rapid advancement of high-voltage requirements in EV technology.

- ✓ A versatile power source with high flexibility and expandability, starting from 5kW.
Suitable for a wide range of applications, with the ability to add capacity and options later as needed.

Utilizing SiC for compact design.

- By Adopting the next generation power Semiconductor SiC, we have achieved the lightest and smallest unit industry.
- As it is compactable, it can be moved by a few people.

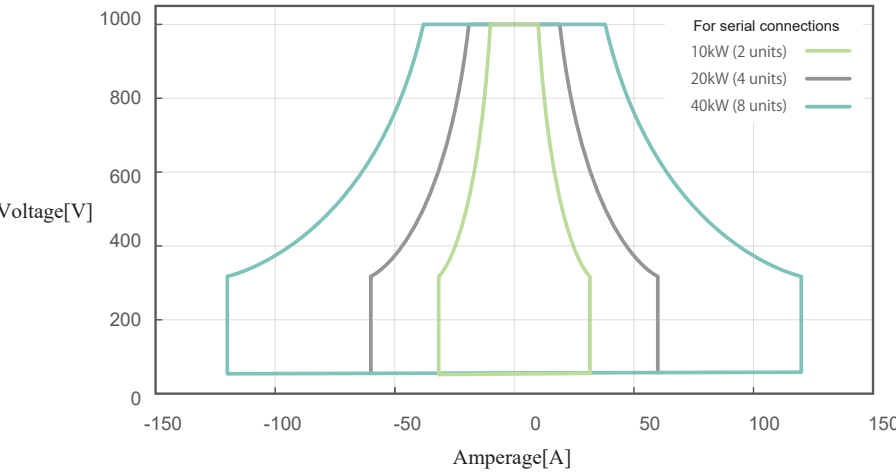


Both Series and Parallel configuration is possible

Example of series connection: 1000V output is possible.

	Power capacity	Weight	Output voltage (DC)	Output current (DC)
Connecting 2 units (2 in Series)	10kW	36kg	1000V 525V	30A 60A
Connecting 4 units (2 in Series and 2 in Parallel)	20kW	72kg	1000V	60A

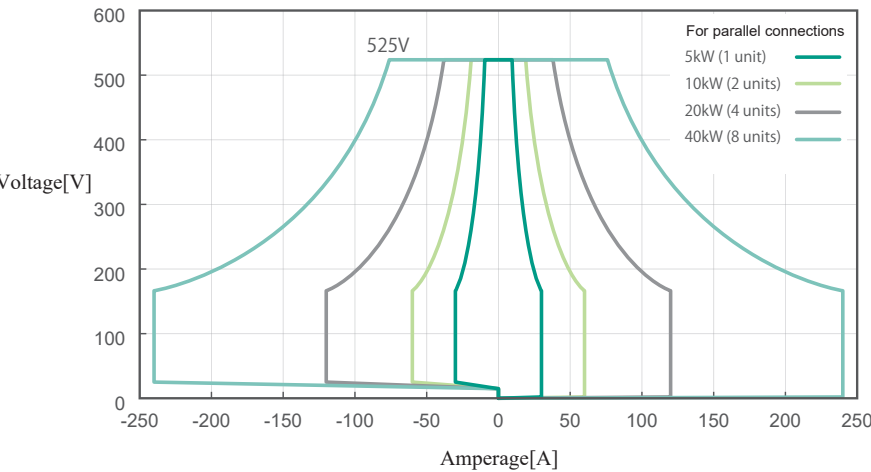
*By changing wiring, Operating within the 525V operating range graph is also possible.
By changing wiring, two types of operating range is possible.



Example of parallel connection: Increase maximum current

	Power capacity	Weight	Output voltage (DC)	Output current (DC)
Connecting 2 units (2 in Parallel)	10kW	36kg	1000V 525V	30A 60A
Connecting 4 units (4 in Parallel)	20kW	72kg	1000V	60A

Possible to freely configure like block. Smallest capacity being 5kW, then with 2 units 10kW, and maximum being 20 Units 100 kW. You can choose depending upon your test environment. (Up to 2 units can be connected in series, and up to 20 units can be configured in parallel).



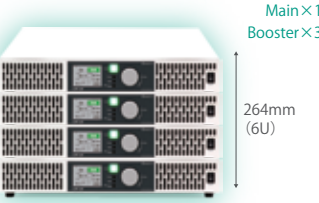
1 unit connected **5kW**



Connect 2 units **10kW**



Connect 4 units **20kW**



*The maximum loading capacity for this product is up to 4 units, when using 5 units and above, please use something like rack rail etc.

biATLAS-5D80



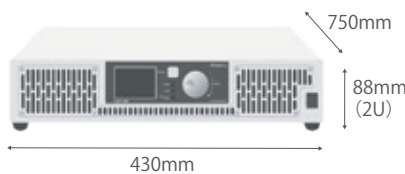
High Current Type

Bidirectional DC Power Supply for High-Current Systems

Introducing the high-current system version of the user-friendly bidirectional DC power supply 'biATLAS'. With expandability allowing combination in 5kW units, it provides flexibility for a wide range of applications. Achieving high current in a compact body, it operates across the entire range at $\pm 150\text{A}$ even at 0V output, offering performance for applications like battery disposal with 0V -150A capability. Suitable for evaluating systems such as 48V battery charging and discharging systems and e-mobility systems.

High Current of $\pm 150\text{A}$ in a compact body

Appearance of small and light weight of Heavy Current in biATLAS in contrast to many large and heavy power sources for high current, the biATLAS-5D80 achieves high current in a compact form. With the capability to connect to 20 units, it can output up to a maximum of 3000A. This allows for highly flexible environmental setups in the low voltage and high current range to suit testing requirements.



✓ High current $\pm 150\text{A}$

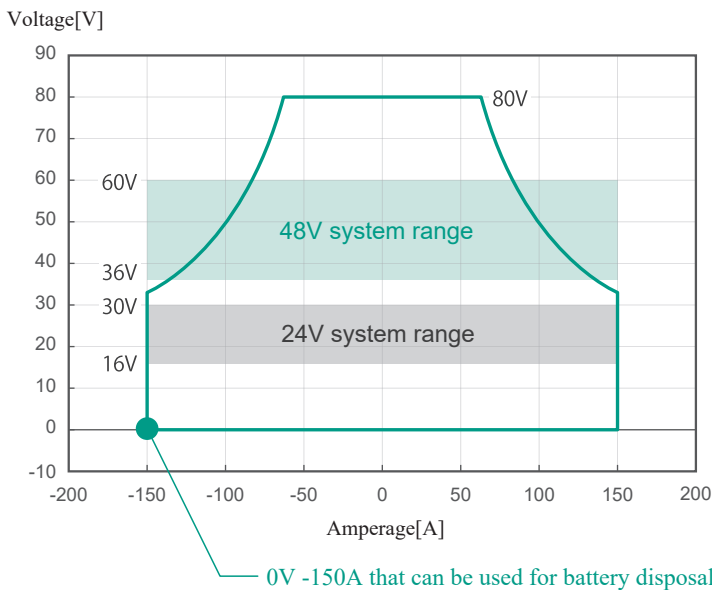
With a compact 2U, 28kg body, it is capable of charging and discharging up to a maximum of 150A.

✓ Safely operates and stops the charging and discharging of the battery.

Equipped with a function to check internal and external voltages at startup. In the event of a sudden change in battery voltage, it can safely stop with an error, preventing damage to the system.

✓ It is possible to discharge the battery even at 0V.

Through careful design of the DC side circuit and control, it can discharge up to a maximum of 150A at 0V.



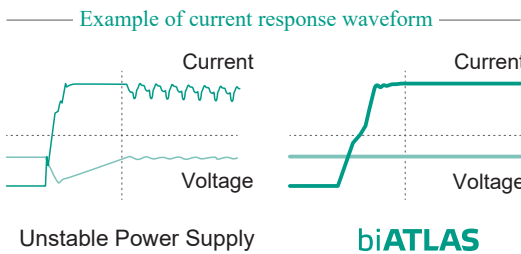
An ecosystem of regenerative power sources that can be utilized for the charging and discharging of batteries.

The biATLAS-5D80 is designed with the concept of a "compact bidirectional DC power supply." It can deliver a high current of up to 150A for low voltages such as 12V/24V/48V, all in a single unit. Additionally, it features a circuit configuration that allows charging and discharging at 150A even at 0V, making it versatile for various testing scenarios. Unlike traditional discharge tests using resistive or electronic loads, this system enables the realization of an ecosystem where the energy previously consumed as a load can be circulated and reused.

- Capable of charging up to 5kW, 80V and 150A with a single unit
- Even at 0V, it is possible to charge and discharge at 150A
- Configurable for a maximum setup of 3 series and 20 parallel units achieving 100kW

The optimal voltage and current waveforms for charge and discharge testing.

The voltage and current waveforms ideal for charge and discharge testing have been achieved with the use of high-precision sensors, ensuring stable control even in the presence of a load. The system is equipped with a **Real-Time Stabilizer**, allowing for precise control and ensuring the stability of voltage and current crucial for battery charging and discharging. With an unwavering power source, it becomes possible to conduct tests with high reproducibility.

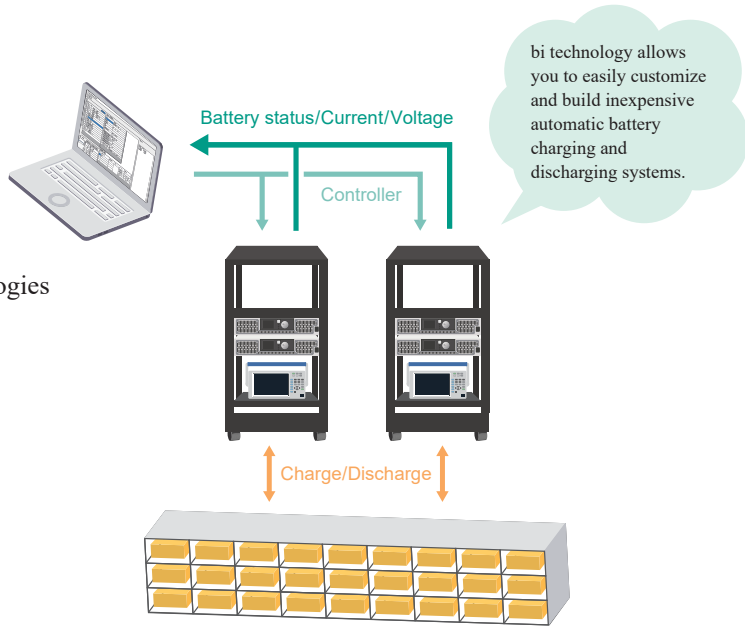


Easy configuration of a battery charging and discharging system.

Recommended individuals

- Those looking to develop battery packs or construct charging and discharging test systems.
- Individuals seeking a power supply for charging and discharging systems that is easily customizable.

The biATLAS-5D80 is equipped with various bi technologies that can interface with a range of measuring instruments and power sources. It allows for the easy construction of charging and discharging systems for EV and industrial battery packs. It is recommended for those who want to build a small-scale charging and discharging system for battery pack development or for individuals who wish to integrate the charging and discharging system with external systems via CAN/LAN. When constructing a charging and discharging system, you can monitor the battery's status using a charging and discharging control controller or a PC and send charging and discharging commands to the biATLAS based on the battery's condition. Additionally, it is possible to retrieve information on charging and discharging currents and voltages from the biATLAS.



biATLAS-15D525



High Voltage Type

High Voltage Type Bidirectional DC Power Supply for High Voltage Systems

Introducing the highly user-friendly bidirectional DC power supply, 'biATLAS-15D525,' designed for high voltage systems. Despite its portable size and lightweight design, it can be combined in units of 15kW, making it versatile for a wide range of applications. Connect up to 20 combinations. This power supply is suitable for testing and evaluating power electronics equipment and can also be used for facility integration purposes.

Standard features

- CAN Function
- LAN Function
- DIO Function
- Series Operations Function

2-unit connection 30kW

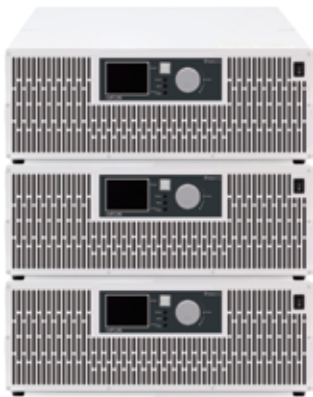
In parallel configuration, a maximum of DC 525V/180A is achievable, while in series configuration, a maximum of DC 1000V/90A can be configured.



3-unit connection 45kW

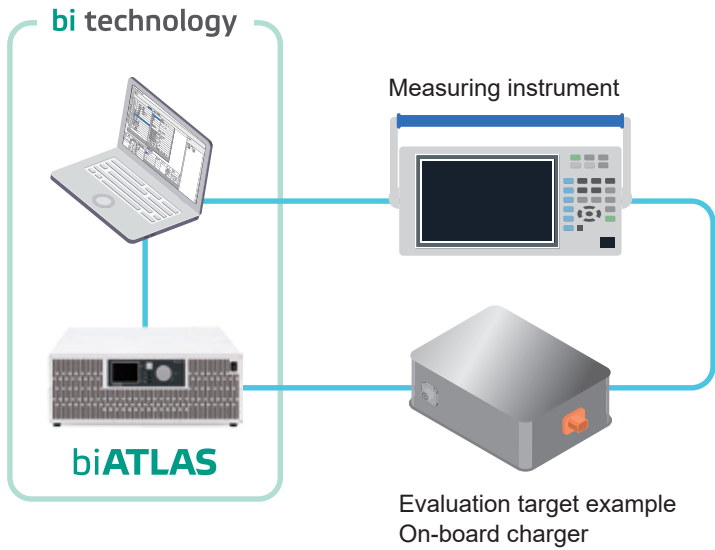
In parallel configuration, a maximum of DC 525V/270A can be configured.

*Please note that only up to two units can be directly mounted. If you wish to mount three units, consider using rack rails to create configurations such as one unit + two units.



- ✓ Selectable input options for AC 400V and AC 200V are available allowing flexibility to adapt to the facility's environment. *This is an optional configuration at the time of shipment.
- ✓ Capable of high voltage up to 1000V It can output up to 30kW with two units in series. This makes it suitable for addressing the rapid advancement of high voltage in Electric Vehicles (EVs).
- ✓ A highly flexible and expandable power supply starting from 15kW! It is versatile, catering to a wide range of scenarios. Capacities and options can be added later for increased adaptability.

Equipped with bi technology, it enables the construction of an automated measurement system.



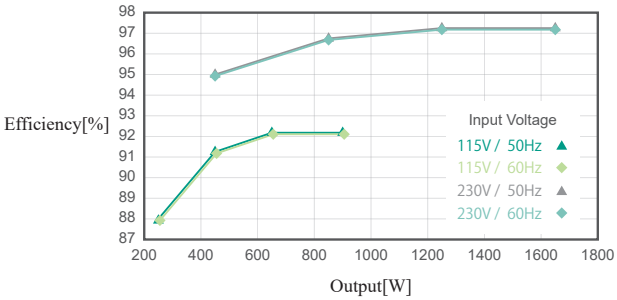
bi technology is a technique that involves connecting and controlling multiple measurement instruments required for experiments and inspections, enabling the automatic acquisition of measurement data. Using the PC application provided with our bidirectional power supply, it is easy to construct an automated measurement system that is synchronized with measurement instruments.

Example of Building an Automated Measurement System

- ✓ Efficiency Curve Acquisition for an Inverter Automatically vary the output of the inverter and measure the efficiency at each point using a measurement instrument. Fine adjustments in the output can also be achieved.

Used Equipment

- Bidirectional DC Power supply
- PC
- Digital Multimeter
- Power Meter

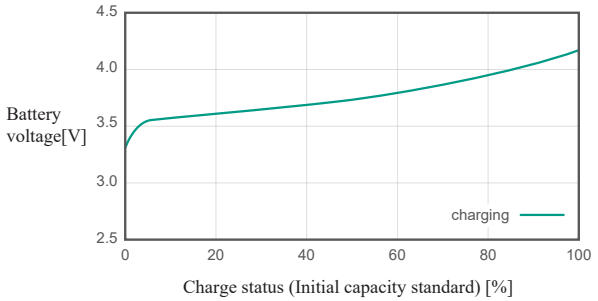


- ✓ Battery Emulation Operation

Simulate the operation of the battery following the V-SOC curve. The V-SOC curve can be customized based on a CSV file from the PC. It is also possible to simulate the internal resistance of the battery.

Used Equipment

- Bidirectional DC Power supply
- PC

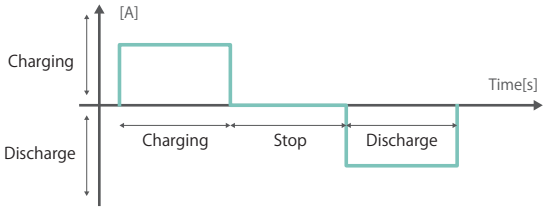


- ✓ Charge-Discharge Cycle Test

Perform repetitive charge and discharge cycles automatically as part of a cycle test. Equipped with CCCV control, it is suitable for various types of batteries.

Used Equipment

- Bidirectional DC Power supply
- PC
- Data Logger



	Setting items
Charging	Charging current[A], Upper limit voltage[V], Charging time[s]
Stop	Stop time[s]
Discharge	Discharge current[A], Lower limit voltage[V], Discharge time[s]

biATLAS-5DL525



Electronic Load

Regenerative Electronic Load for High Voltage Systems

Resistive loads are often used for the evaluation and testing of high-capacity DC power supplies and DC-DC converters. Resistive loads are relatively inexpensive and operate stably, making them versatile for various purposes. However, since all the consumed energy is converted into heat, there are challenges such as the large size of the equipment and an increase in the power consumption of the system. The biATLAS-5DL525 is an electronic load device that can regenerate the energy previously converted into heat back into AC power. By using the biATLAS-5DL525 instead of resistive loads, it is possible to create a compact and energy-efficient evaluation and testing system.

‘Easy to use’ and ‘Affordable’

We have designed the basic functions as a load device to be simple and user-friendly. This design also enables us to achieve affordability. Advanced features can be easily implemented by leveraging bi technology.

- Large Capacity** 5kW, 10kW, 20kW, 30kW, 40kW, 50kW, 100kW
- High Voltage** Up to 525V by single unit, Up to 1000V by 2 units in series.

It is also possible to upgrade to the 'Bidirectional DC Power Supply biATLAS-5D525 through a paid upgrade.

- ✓ **Regenerative electronic load with 'ease of use' and 'affordability'.**

Realizing regenerative load equipment of up to 100kW with a single 19-inch rack. Its small and lightweight design makes it easy to move during facility changes. By focusing on essential features, we have achieved a low-cost regenerative load, making it more affordable.

- ✓ **Eco-friendly system construction.**

Reuse electrical energy previously discarded as heat, enabling the construction of an energy-circulating evaluation and testing system. It allows for the evaluation and testing of high-capacity devices with minimal power consumption.

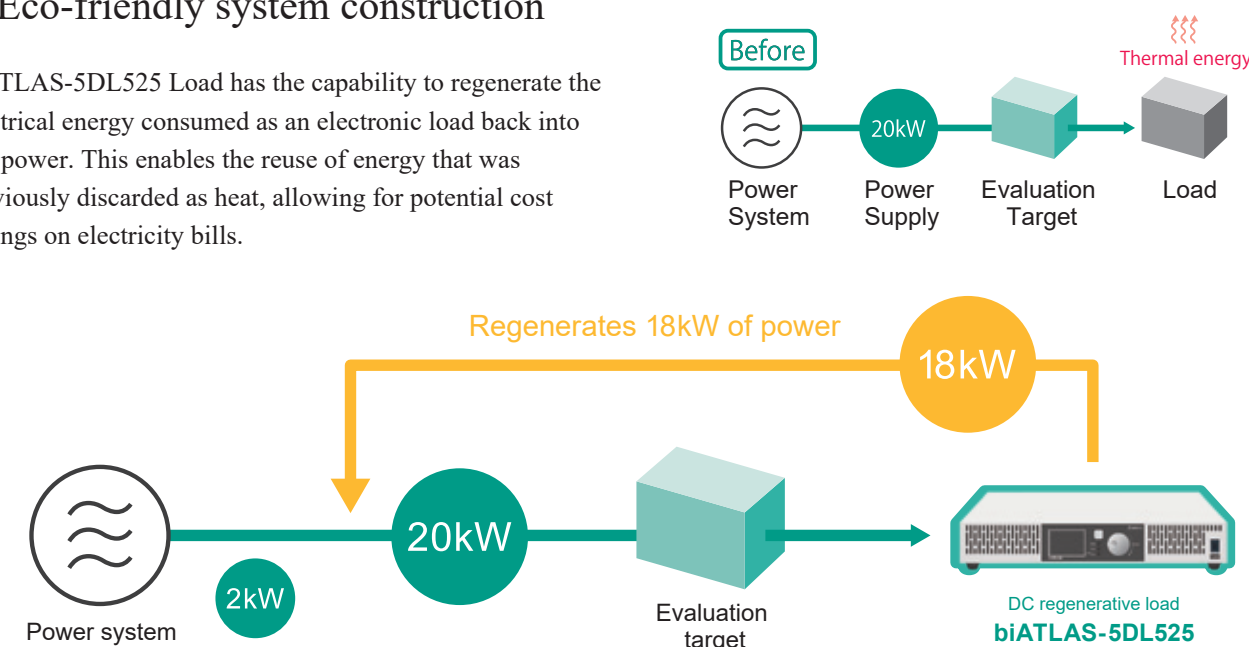
- ✓ **Equipped with CV/CC/CP/CR modes.**

CR mode allows simulation of resistive load behavior, enabling continuous adjustment of the load resistance value without changing connections.



Eco-friendly system construction

biATLAS-5DL525 Load has the capability to regenerate the electrical energy consumed as an electronic load back into AC power. This enables the reuse of energy that was previously discarded as heat, allowing for potential cost savings on electricity bills.

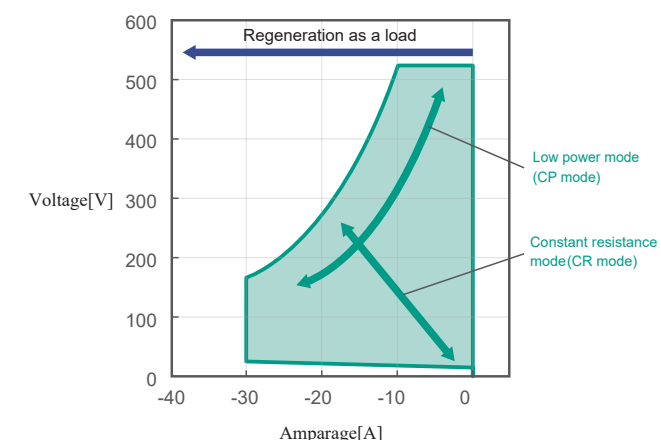
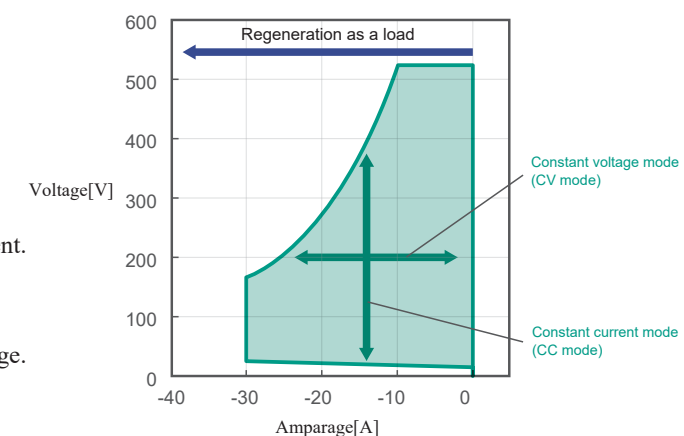


Furthermore, by connecting the biATLAS-5DL525 Load to the common distribution board of the evaluation and testing system's power supply, the regenerated energy can be reused by the power supply unit. This allows for the construction of an energy-circulating evaluation and testing system, enabling the evaluation of large-capacity devices with minimal power from the power system.



CV CC CP CR Modes

These are the 4 operations Mode.

- CV Mode** Constant Voltage Mode
Maintains a constant voltage while varying the current.
- CC Mode** Constant Current Mode
Maintains a constant current while varying the voltage.
- CP Mode** Constant Power Mode
Maintains constant power while varying both voltage and current.
- CR Mode** Constant Resistance Mode
Maintains a constant resistance while varying both voltage and current.



PRODUC SPECIFICATION & OPTIONS

		<div>biATLAS^{-5D525}</div> <div></div>	<div>biATLAS^{-5D80}</div> <div></div>
Model number		HBPS-A2D525-502N	HBPS-A2D80-502N
Rated Capacity		±5 kW (Forward/Regenerative)	±5 kW (Forward/Regenerative)
Input/output Insulation Type		High-Frequency Transformer Isolation Method	High-Frequency Transformer Isolation Method
Operation Mode		Constant Voltage (CV) /Constant Current (CC)/ Constant Power (CP)/Constant Resistance (CR)	Constant Voltage (CV) /Constant Current (CC)/ Constant Power (CP)/Constant Resistance (CR)
AC Electrical Specifications	Rated Voltage	Three-phase AC 200 V (Three-phase 3-wire)	Three-phase AC 200 V (Three-phase 3-wire)
	Operating Voltage Range	Three-phase AC 180 ~ 220 V	Three-phase AC 180 ~ 220 V
	Rated Frequency	50/60Hz	50/60Hz
	Frequency Range	49.0 ~ 51.0Hz/58.5 ~ 61.5Hz	49.0 ~ 51.0Hz/58.5 ~ 61.5Hz
	Power Factor	0.95 or higher (rated power)	0.95 or higher (rated power)
	Efficiency	92% (rated power)	89% or higher (rated power)
	Maximum Current	19.2A	20.8A
DC Electrical Specification	Voltage Range	Single unit: DC 0.0 ~ 525.0V (CC mode) DC 2.0 ~ 525.0V (CV/CP mode) DC 15.0 ~ 525.0V (CR mode) When connecting 2 units in series: DC 60.0 ~ 1000.0V (All modes)	DC 0.00V ~ 80.00V (All modes)
	Current Range	±30.00 A	±150.0 A
	Power Range	±5.0kW	±5.0kW
	Voltage Accuracy	0.2% set. + 0.2% F.S.※3,8	0.06 %set. + 0.02 %F.S.※3,8
	Current Accuracy	0.2% set. + 0.4% F.S.※3,8	0.05 %set. + 0.2%F.S.※3,8
	Power Accuracy	1.2% F.S.※3,8	0.7 %F.S.※3,8
	Voltage Ripple	0.4%rms F.S.	0.175 %rms F.S.※4,5
	Current Ripple	0.8%rms F.S.	0.55 %rms F.S.※4,5
	Voltage Setpoint Response	9 msec ※1	10 msec ※5,6
	Current Setpoint Response	5 msec ※2	1 msec※5,7
	Current Setpoint Response	9 msec※1	10 msec※5,7
Genral Specification	Weight	18kg	28kg
	Size (excluding protrusions)	W430 x D670 x H66 mm (19-inch Rack Mount 1.5U Equivalent)	"W430 x D770 x H88 mm (19-inch Rack Mount 2U Equivalent)"
	Standard Features	Parallel Operation Function, Series Operation Function, Through Rate Function, Internal Resistance Simulation Function, Protection Function (Overvoltage, Overcurrent, Overpower), LAN Communication Function (CMD Method, SCPI Method), CAN Communication Function, DIO Communication Function	Parallel Operation Function, Series Operation Function, Through Rate Function, Internal Resistance Simulation Function, Protection Function (Overvoltage, Overcurrent, Overpower), LAN Communication Function (CMD Method, SCPI Method), CAN Communication Function, DIO Communication Function
	Cooling Method	Forced Air Cooling	Forced Air Cooling
	Operating Ambient Temperature Range	0 to 40 °C	0 to 40 °C
	Accuracy Guaranteed Temperature Range	25 ± 5 °C	25 ± 5 °C
	Number of Units Possible for Direct Parallel Connection	Maximum 20 units (Parallel 20 units, Series 2 units)	Maximum 20 units (Parallel 20 units, Series 3 units)

*1: For resistance load, time taken for the output voltage to change from 30V to 525V or 525V to 30V when the command value changes, with a variation of 10% to 90%.

*2: For voltage source, time taken for the output to change from ±100% F.S. when the command value changes, with a variation of 10% to 90%.

*3: Within the guaranteed accuracy temperature range.

*4: For resistance load, at rated conditions.

<div>biATLAS^{-15D525}</div> <div></div>	<div>biATLAS^{-15D525}</div> <div></div>	<div>biATLAS^{-5DL525}</div> <div></div>
HBPS-A2D525-153	HBPS-A4D525-153	HBPS-A2D525-502LN
±15kW (Forward/Regenerative)	±15 kW (Forward/Regenerative)	-5kW (Regenerative)
High-Frequency Transformer Isolation Method	High-Frequency Transformer Isolation Method	High-Frequency Transformer Isolation Method
Constant Voltage (CV) ,Constant Current (CC), Constant Power (CP), Constant Resistance (CR)	Constant Voltage (CV),Constant Current (CC), Constant Power (CP),Constant Resistance (CR)	Constant Voltage (CV),Constant Current (CC), Constant Power (CP),Constant Resistance (CR)
Three-phase AC 200 V (Three-phase 3-wire)	Three-phase AC 400V (Three-phase 4-wire)	Three-phase AC 200 V (Three-phase 3-wire)
Three-phase AC 180 ~ 220 V	Three-phase AC 324 ~ 457 V	Three-phase AC 180 ~ 220 V
50/60Hz	50/60Hz	50/60Hz
49.0 ~ 51.0Hz/58.5 ~ 61.5Hz	49.0 ~ 51.0Hz/58.5 ~ 61.5Hz	49.0 ~ 51.0Hz/58.5 ~ 61.5Hz
0.95 or higher (rated power)	0.95 or higher (rated power)	0.95 or higher (rated power)
93% (rated power)	93% (rated power)	92% (rated power)
56.6A	31.4A	19.2A
Single unit: DC 0.0 ~ 525.0V (CC mode) DC 2.0 ~ 525.0V (CV/CP mode) DC 15.0 ~ 525.0V (CR mode) When connecting 2 units in series: DC 60.0 ~ 1000.0V (All modes)	Single unit: DC 0.0 ~ 525.0V (CC mode) DC 2.0 ~ 525.0V (CV/CP mode) DC 15.0 ~ 525.0V (CR mode) When connecting 2 units in series: DC 60.0 ~ 1000.0V (All modes)	Single unit: DC 0.0 ~ 525.0V (CC mode) DC 2.0 ~ 525.0V (CV/CP mode) DC 15.0 ~ 525.0V (CR mode) When connecting 2 units in series: DC 60.0 ~ 1000.0V (All modes)
±90.00 A	±90.00 A	0 ~ -30.00 A
±15kW	±15kW	0 ~ -5.0kW
0.2 %set. + 0.2 %F.S.※3,8	0.2 %set. + 0.2 %F.S.※3,8	0.2% set. + 0.2% F.S.※3,8
0.2 %set. + 0.4 %F.S.※3,8	0.2 %set. + 0.4 %F.S.※3,8	0.2% set. + 0.4% F.S.※3,8
0.9% P F.S. + 0.3% I F.S. × Vrdg.※3,8	0.9% P F.S. + 0.3% I F.S. × Vrdg.※3,8	1.2% F.S.※3,8
0.4%rms F.S.※4,5	0.4%rms F.S.※4,5	0.4%rms F.S.
0.8%rms F.S.※4,5	0.8%rms F.S.※4,5	0.8%rms F.S.
14 msec ※1	14 msec ※1	9 msec ※1
5 msec※2	5 msec※2	5msec ※2
14 msec ※1	14 msec ※1	9 msec※2
50kg	50kg	18kg
W430 x D750 x H154 mm (19-inch Rack Mount 3.5U Equivalent)	W430 x D750 x H154 mm (19-inch Rack Mount 3.5U Equivalent)	W430 x D670 x H66 mm (19-inch Rack Mount 1.5U Equivalent)
Parallel Operation Function, Series Operation Function, Through Rate Function, Internal Resistance Simulation Function, Protection Function (Overvoltage, Overcurrent, Overpower), CAN Communication Function, LAN Communication Function (CMD Method, SCPI Method), DIO Communication Function	Parallel Operation Function, Series Operation Function, Through Rate Function, Internal Resistance Simulation Function, Protection Function (Overvoltage, Overcurrent, Overpower), CAN Communication Function, LAN Communication Function (CMD Method, SCPI Method), DIO Communication Function	Parallel Operation Function, Series Operation Function, Through Rate Function, Internal Resistance Simulation Function, Protection Function (Overvoltage, Overcurrent, Overpower), CAN Communication Function, LAN Communication Function (CMD Method, SCPI Method), DIO Communication Function
Forced Air Cooling	Forced Air Cooling	Forced Air Cooling
0 to 40 °C	0 to 40 °C	0 to 40 °C
25 ± 5 °C	25 ± 5 °C	25 ± 5 °C
Maximum 20 units (Parallel 20 units, Series 2 units)	Maximum 20 units (Parallel 20 units, Series 2 units)	Maximum 20 units (Parallel 20 units, Series 2 units)

*5: Wiring length from DC output terminal to D.U.T. should be less than 2m on one side.

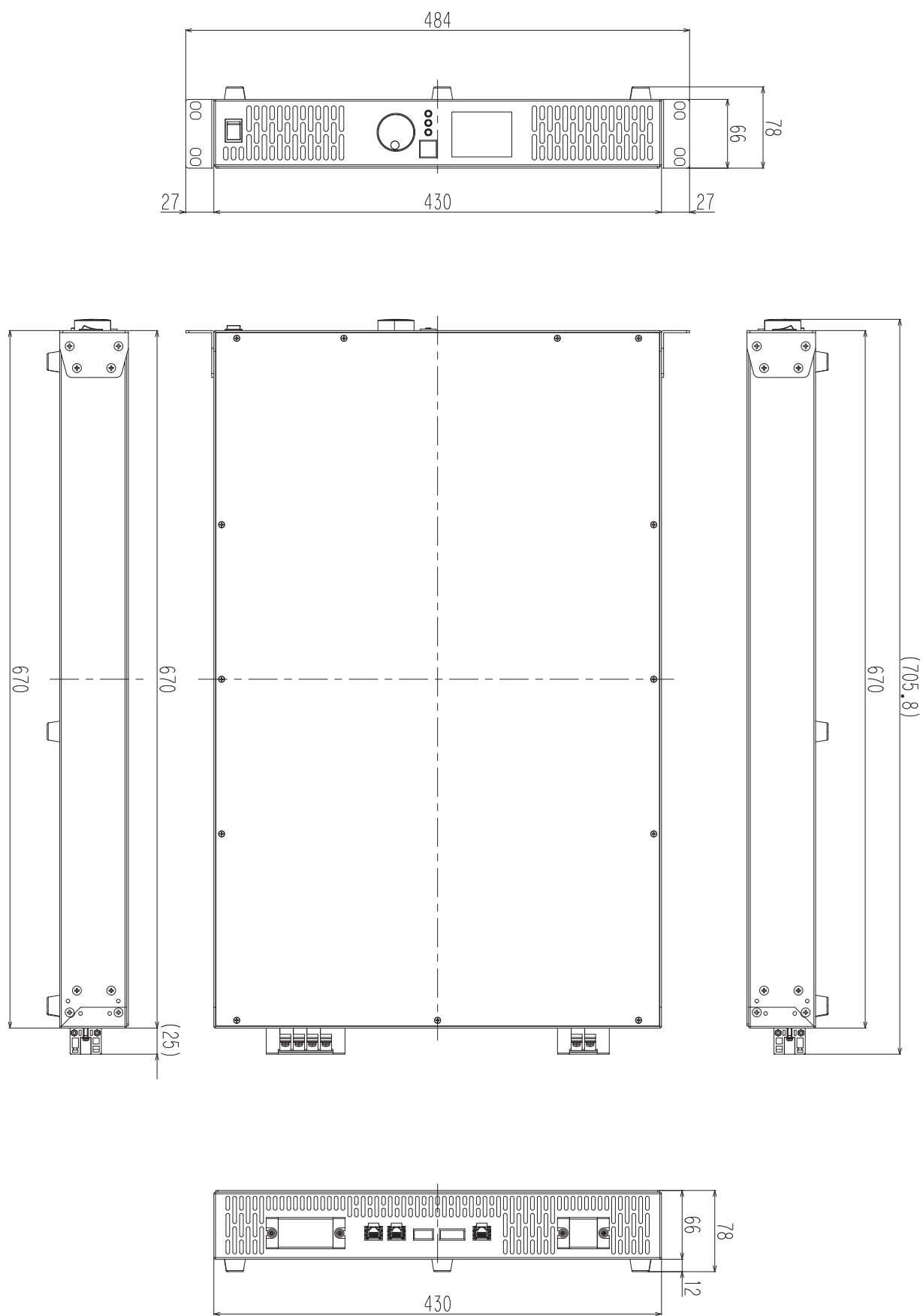
*6: For resistance load, time taken for the output voltage to change from 0% to 100% when the command value changes, with a variation time of 10% to 90%.

*7: For voltage source, time taken for the output to change from ±100% F.S. when the command value changes, with a variation of -90% to 90%.

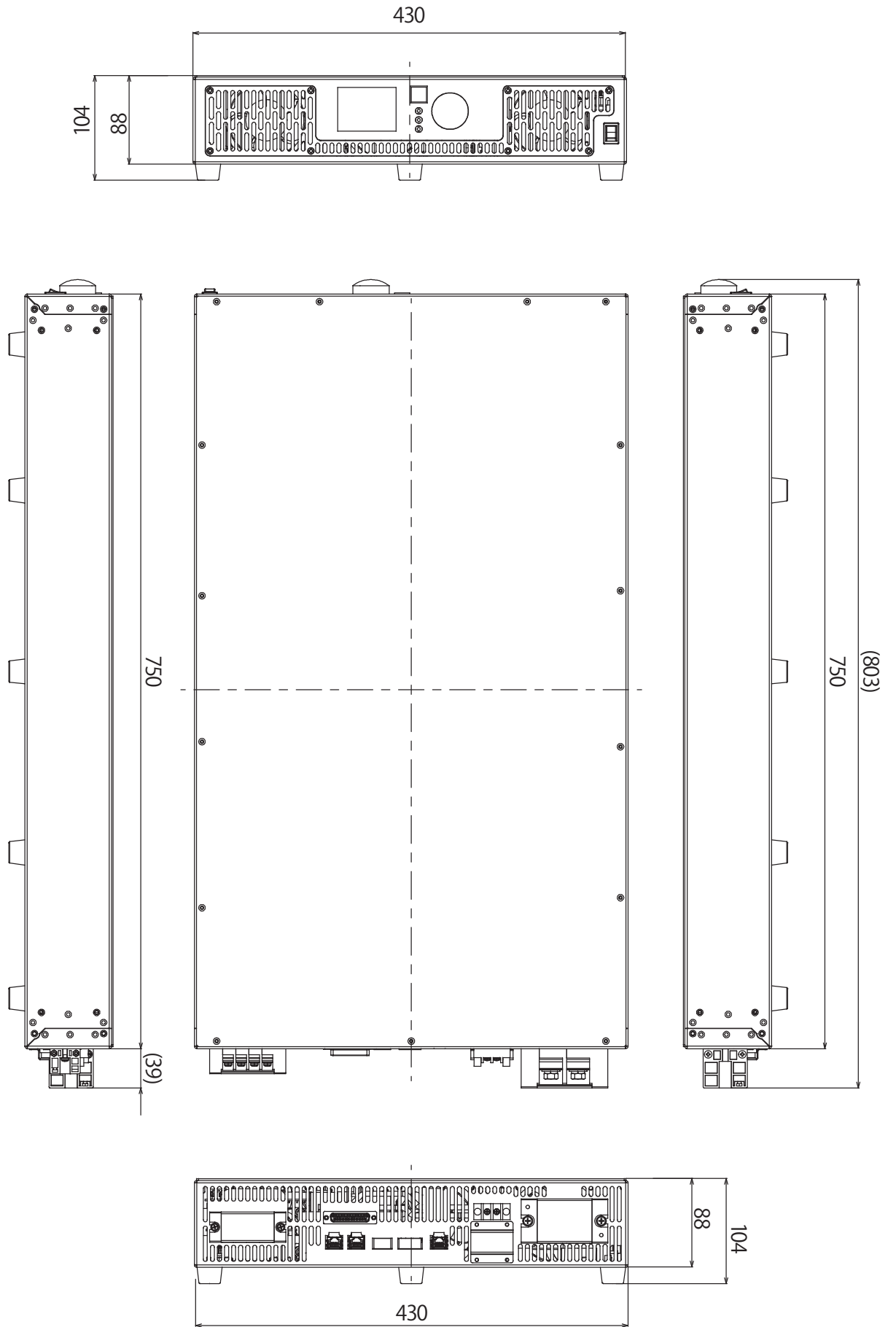
*8: DC output voltage should be (30 × Number of Series) V or higher.

■ Dimensions

biATLAS-5D525 / biATLAS-5DL525 common

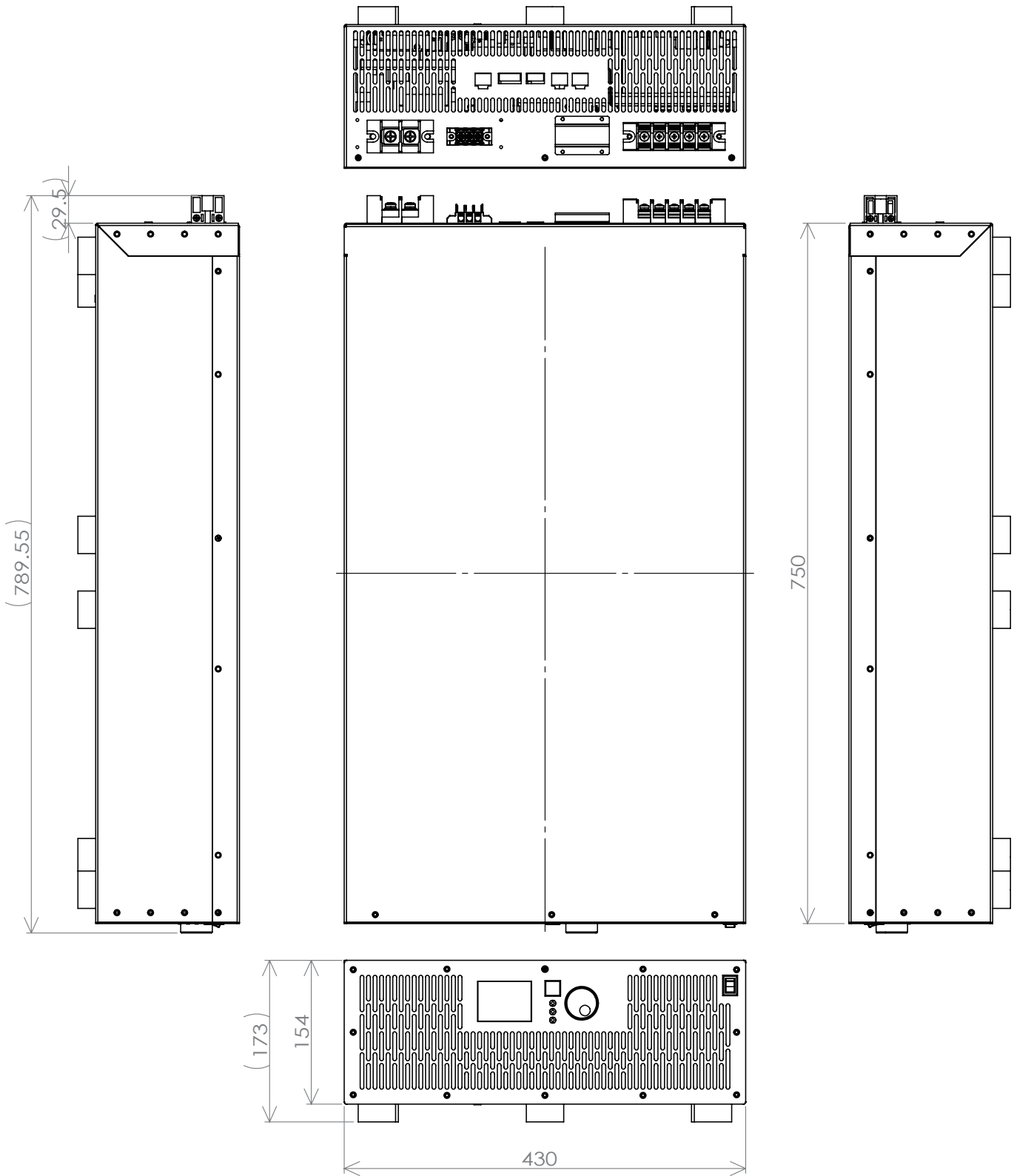


biATLAS-5D80



Dimensions

biATLAS-15D525



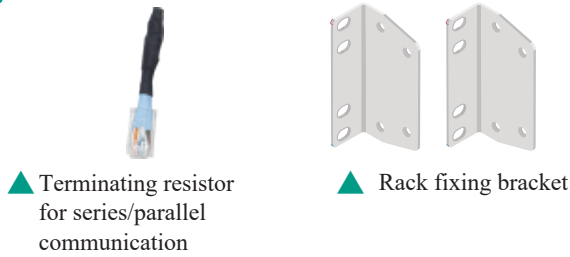
Standard Accessories

Compatible Models

biATLAS-5D525 biATLAS-5D80 biATLAS-15D525 biATLAS-5DL525

ACCESSORIES	LAN Cable for Direct Parallel Connection
	Termination Resistor for Direct Parallel Connection※
	Rack Mounting Brackets (Set of 2)※

*Terminal resistors and rack fixing metal fittings can be purchased as options.



Options

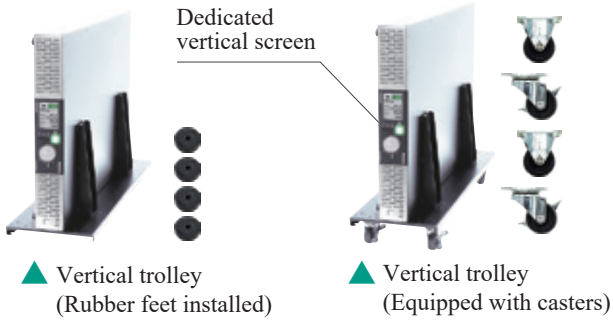
Compatible Models

biATLAS-5D525 biATLAS-5DL525

ACCESSORIES	Busbar Kit
	2 in series, 2 in parallel, etc.*

*Please contact us for more details.

*Please contact us regarding biATLAS-5D80 and biATLAS-15D525.



Compatible Models

biATLAS-5D525 biATLAS-5DL525

ACCESSORIES	Vertical Cart (for 1 to 2 units)
	Connecting Brackets (Set of 4)

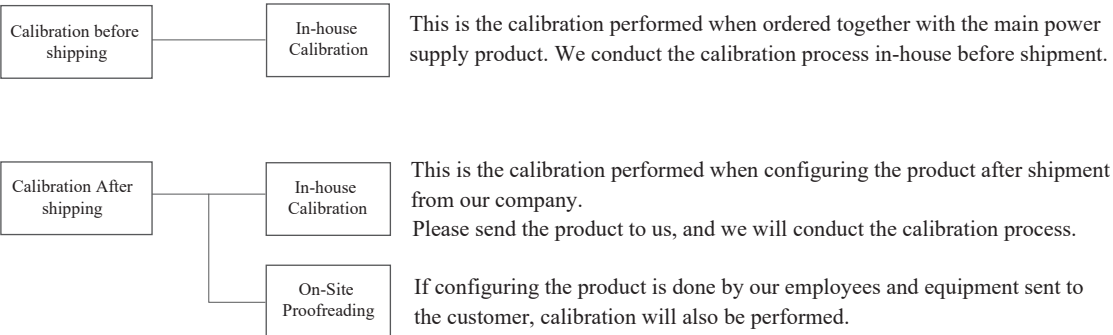
Calibration Service

Compatible Models

biATLAS-5D525 biATLAS-5D80 biATLAS-15D525 biATLAS-5DL525

We offer a calibration service valid for one year. After successfully passing calibration, we will provide three copies of the calibration documents as part of the delivered items.

Calibration pattern



Calibration Document	Calibration Certificate
	Test Report
	Traceability System Chart