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Meidensha Corporation

To members of the media

Meiden's charging and discharging device for battery testing registered in WIPO GREEN platform of environmental technologies

Meidensha Corporation (Meiden) recently registered its charging and discharging device for battery testing on WIPO GREEN, an international platform for environmental technologies operated by the UN's World Intellectual Property Organization.

This is Meiden's third registration on the platform. Meiden previously registered two products utilizing environmental technologies: the Ecotank Type Vacuum Circuit Breaker in February 2022, and its ceramic flatsheet membrane for water treatment devices in December the same year.

In March 2022, Meiden became a partner company of WIPO GREEN, endorsing its activities aimed at promoting the use and proliferation of environmental technologies. Meiden has been actively supporting its initiatives since then.

■ Product features

1. With its 540kW capacity, this product can evaluate a wide range of batteries, not only those used in electric vehicles, but also those used in boats and construction machines, which are increasingly transitioning to electric power, as well as stationary storage batteries.
2. The product guarantees high precision across a wide current range, from large currents to low currents, achieved through three selectable ranges — high, middle, and low — depending on the output current volume. This feature allows flexible adaptation to batteries of varying capacities, enabling clients to utilize it for the development of equipment, regardless of size, that utilizes storage batteries.
3. The product achieves the following specifications and performances*¹ to

enhance the reliability of battery evaluation.

- ✓ Precision in current output: $\pm 0.3\%$ F.S.
 - ✓ Pulse width (difference between peak and stable-state current values): $\pm 0.1\%$ F.S.*²
 - ✓ Current response performance: $\pm 0.1\%$ F.S. within 10ms
 - ✓ Current overshoot in volume*³: Within 1%
4. The product enables more efficient energy utilization and reduced operating costs thanks to its highly efficient power conversion capability (greater than 94% at rated load)*⁴.
 5. The product facilitates effective energy utilization by regenerating power discharged from a battery back into the power grid at testing facilities through electricity generation.

This product will enhance precision and efficiency in battery research and evaluation, thereby contributing to the improved performance of various equipment and devices that utilize batteries. It will also enable the development and enhancement of battery technologies, thus promoting effective energy usage and reducing carbon dioxide emissions. As a result, it will significantly contribute to the advancement of environmental technologies and the establishment of a sustainable society.

The Meiden Group is dedicated to conducting research and development and commercializing products with larger charging and discharging system capacities with the aim of addressing environmental challenges. Additionally, as a WIPO GREEN partner company, the Group will continue to promote the adoption of environmental technologies through the development of such technologies and intellectual property activities.

*1: Based on testing conducted in Meiden's testing environment

*2: Equivalent to the effective value of ripple current

*3: The waveform rises sharply during the switch-on surge, which is significantly higher than the steady-state current.

*4: According to Meiden's measurement conditions

■ Product Specifications (Products under this lineup are scheduled to be added)

Items	Specifications
Control modes	Rated current; rated voltage; rated power; high-speed, multiple stepped automatic transmission; travel simulation
Rated output voltage	750V
Rated output current	High range: $\pm 900\text{A}$ Middle range: $\pm 450\text{A}$ Low range: $\pm 20\text{A}$
Failure guarantee	Overvoltage, overcurrent, overtemperature, watchdog timer, earth leakage breaker, external emergency stop
Rated output power	540kW
Input power source	3 ϕ AC400–440V(50/60Hz)
Outer dimensions	4,500 mm in width, 2,100 mm in height, and 1,000 mm in depth
Weight	Less than 4,350 kg
Current response	10msec/current F.S.
Current control precision	$\pm 0.3\%$ F.S.
Pulse width	$\pm 0.1\%$ F.S. *Equivalent to the effective value of ripple current