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Meidensha Corporation

To members of the media

Meiden Hokuto starts selling “HJ-Neo” model of battery charge/discharge system

Small, lightweight model developed for space-saving

Meiden Hokuto Corporation, a subsidiary of Meidensha Corporation (Meiden), will start selling “HJ-Neo,” the latest model of its battery charge/discharge system designed to evaluate battery performance, from late November 2023.

This product is capable of measuring battery charge and discharge capabilities in a broad range of fields, including basic research and development, life-testing and assessment testing of batteries. The product is designed for research and development of cell batteries by battery and material makers. This comes as the battery research and testing market rapidly expands due to the proliferation of electric vehicles. Accurately understanding the charging and discharging state of batteries prevents dangerous overcharging and overdischarging, and enables cost-cutting through adequate selection of battery capacity. Given this situation, there’s a growing need for more accurate systems for evaluating batteries.



The model is capable of simultaneously measuring samples with 16 channels per computer system unit, compared with the eight channels of the conventional HJ Series of products that Meiden Hokuto previously marketed. Since the system can increase up

to 1,600 channels per unit, the product has a robust capability, particularly for simultaneous, multi-channel testing and for other diverse tests for battery properties. Moreover, the product has high precision, exemplified by its response time to current input, which is less than 300 microseconds (μs).

■ Product features

1. It is a small, lightweight model weighing less than 20 kg, which can be carried by a single person. It is easy to transport.
2. It allows clients who require many channels in a single measurement to set up the product in a smaller space. It also reduces the per-channel cost in one unit. (Each rack can hold six units)

<When measuring with 96 channels>

- Conventional models: 8 channels x 12 units (=2 racks)
 - This model: 16 channels x 6 units (=1 rack)
3. With less than 300 μs in response time to current input, it is able to achieve highly precise and accurate measurements.
 4. It employs Hoktnet Station, an analytical software application used in the “HZ-Pro Series” of products, large numbers of which were marketed for controlling battery charging and discharging, as well as for measurements.

This product has only one model, the 1A. Meiden Hokuto plans to expand its lineup and develop other attractive products.

Meiden Group is committed to helping realize a sustainable society and providing solutions to clients through the use of its electrochemical measurement technologies.

■ Product specifications

Item	Specifications
Outer dimensions	W434mmxH222mmxD450mm or smaller
Mass	20kg or lighter
Power voltage	AC100V—240V $\pm$ 10V or less, 50/60Hz

Power consumption	700VA
Operating temperatures	0°C—40°C
Operating humidity	30%RH—90%RH, no dew condensation allowed
Cable usage temperatures	-10°C—50°C
Storage temperatures	-10°C—50°C
Storage humidity	30%RH—95%RH, no dew condensation allowed
Accuracy-guaranteed temperatures	23°C±5°C
Accuracy-guaranteed humidity	30%RH—80%RH, no dew condensation allowed

Items related to electric potential and current control

Items	Specifications
Maximum output potential	+6V, -2V
Maximum output current	±1A
Maximum output power	6W
Control range of electric potential	+6V—-2V
Resolution of electric potential control	0.3mV
Resolution of electric current control	0.003% of the full-scale range (F.S. range)
Resolution of electric power control	0.006% of F.S.
Accuracy of electric potential control	±0.05% of set value±1mV
Accuracy of electric current control	±0.05% of set value±0.05% of F.S. range
Accuracy of electric power control	0.1% of F.S. range
Current response time	Less than 300μs

Items related to electric potential and current control

Items	Specifications
Electric potential detection range	±6V
Electric current detection ranges	±1A, ±100mA, ±10mA, ±1A, AUTO
Electric power detection ranges	6W, 600mW, 60mW, 6mW
Resolution of electric potential detection	0.21mV
Resolution of electric current detection	0.003% of F.S. range

Resolution of electric power detection	0.003% of F.S. range
Accuracy of electric potential detection	$\pm 0.05\%$ of the read value $\pm 1\text{mV}$
Accuracy of electric current detection	$\pm 0.05\%$ of the read value $\pm 0.05\%$ of F.S. range
Accuracy of electric power detection	0.172% of F.S. range *In case of $\pm 0.1\%$ F.S. range
Sampling intervals	10ms–24 hours *The minimum unit is 10ms
Sampling intervals (transient)	1ms, 2 μs , 5ms, 10 μs , 20ms, 50ms, 100ms *Maximum points of 6,000