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Mitsubishi Electric's S-EIV[®] Saves on Power for Tokyo Metro

Regenerative electricity from trains is used for station lighting, air conditioning and elevators

TOKYO, September 18, 2014 – <u>Mitsubishi Electric Corporation</u> (TOKYO: 6503) announced today that its Station Energy Saving Inverter (S-EIV[®]), which has been in operation at Tokyo Metro's Myoden Station since June 2014, has contributed a daily power savings of approximately 600kWh, or enough to power about 60 households.

The electricity produced by regenerative brakes supplies power to other trains running nearby, but not all of the electricity is consumed. S-EIV[®] directly delivers this surplus regenerative electricity to the station without the need for a secondary battery and converts it to an alternate current with generated-power quality to prevent the generation of vibration or harmonic frequencies.

After witnessing a field test of S-EIV[®] at its Nishi Funabashi electrical substation, Tokyo Metro ordered one for Myoden Station, where it has saved up to 576 kWh per day on weekdays and up to 661kWh per day on holidays in commercial operations.



The S-EIV[®] achieves a compact size and low weight through the use of silicon carbide (SiC) power modules and high-frequency link inverter, making it suitable for installation in tight spaces, such as the end of a station platform. The system's drip-proof, dustproof and anticorrosion housing also protects it from harsh outdoor conditions.



S-EIV® installed on end of platform at Myoden Station

A monitoring and operation board installed in the station's electrical room enables remote operation and monitoring of the S-EIV[®] and keeps a record of the power generated. The data can be conveniently downloaded to a PC or mobile device via Wi-Fi.

"Mitsubishi Electric is a leading developer of solutions for railway energy management and savings for railcars, railways, stations and factories," said Takahiro Kikuchi, Executive Officer and Group President of the Public Utility Systems. "We have already productized traction inverters for railcars that are equipped with all-SiC power modules, enabling efficient use of the regenerative electricity produced by braking. S-EIV® builds on that to realize an energy-management system for railways that directly delivers the surplus regenerative electricity to station facilities for significant energy savings."

S-EIV[®] Specifications

Input voltage	1,500V, 750V, 600V DC
Output voltage	210V three-phase AC, 50Hz/60Hz
Rated output	200kW for 30 seconds, two and a half minutes pause
Cooling system	Self-cooling
Usage environment	Outdoors (generally at end of platform or by rail tracks)

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About Mitsubishi Electric Corporation

With over 90 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,054.3 billion yen (US\$ 39.3 billion*) in the fiscal year ended March 31, 2014. For more information visit http://www.MitsubishiElectric.com

*At an exchange rate of 103 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2014

S-EIV is a trademark of Mitsubishi Electric Corporation.

Development of SiC power module has been partially supported by Japan's New Energy and Industrial Technology Development Organization (NEDO).