MITSUBISHI ELECTRIC
Changes for the Better

for a greener tomorrow

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Mitsubishi Electric Delivers World's First SiC Auxiliary Power Supply Systems for Railcars

Will be incorporated in Type 1000 railcars of Tokyo Metro Ginza Line

TOKYO, March 26, 2013 – Mitsubishi Electric Corporation (TOKYO: 6503) announced today that it has commercialized and delivered railcar auxiliary power supply systems that incorporate the world's first silicon carbide (SiC) power modules for actual use in operating trains. Systems now being installed for test operation in new Type 1000 railcars of Tokyo Metro's Ginza Line subway are scheduled to enter commercial operation in June.

Auxiliary power supply systems provide electricity to air conditioners and lighting inside railcars. Compared to Mitsubishi Electric's existing system incorporating silicon power modules, the new system achieves 30% less power loss, is 20% smaller and 15% lighter. It also reduces transformer noise by 4dB due to a 35% improvement in the distortion rate of output voltage waveforms.

Tokyo Metro Ginza Line's new Type 1000 railcars

SiC auxiliary power supply systems for railcars

Compared to Si, SiC helps to reduce size and weight through lowered power loss and higher energy efficiency, as well as smaller power module radiators. Mitsubishi Electric has developed a variety of SiC power module applications, including the world's first large-voltage SiC railcar inverters for DC600V/750V power lines, which were launched in October 2011 and incorporated in Tokyo Metro's Ginza Line Type 01 railcars in February 2012. Also, SiC railcar inverters developed for DC1500V power lines were launched in November 2012 and installed in Tokyo Metro's Tozai Line Type 15000 railcars beginning in January 2013.

The new SiC auxiliary power supply system incorporate technologies Mitsubishi Electric developed for SiC inverters.

Main specifications

Rated voltage	DC 600V
Main power circuit	2 level, voltage-type PWM inverter
Output voltage	140kVA (AC200V, AC100V, DC100V and DC24V)
Cooling system	Natural air-cooling

Total railway energy solutions

Mitsubishi Electric is developing total railway energy solutions for enhanced energy management of railcars, including the new SiC auxiliary power supply systems, as well as stations, rail yards and train lines.

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About Mitsubishi Electric

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 3,639.4 billion yen (US$ 44.4 billion*) in the fiscal year ended March 31, 2012. For more information visit http://www.MitsubishiElectric.com

*At an exchange rate of 82 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2012