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Mitsubishi Electric Receives Order for Prototype Traction Transformers from French National Railways

First Japanese company to be certified by SNCF as propulsion systems supplier

TOKYO, December 5, 2017 – [Mitsubishi Electric Corporation](http://www.MitsubishiElectric.com) (TOKYO: 6503) announced today that it will be the first Japanese company* to supply the French National Railways (SNCF) with prototype traction transformers for the Z2N commuter train operating in Paris and its suburbs and T4 tram trains also operating in the Parisian suburbs. The orders were made possible by Mitsubishi Electric becoming the first Japanese company to be certified by SNCF as a propulsion systems supplier, effective immediately. The traction transformers for the Z2N and T4 will be delivered in February and December of next year, respectively.

* According to Mitsubishi Electric research, as of December 5, 2017



Z2N commuter train



T4 tram train

Traction Transformer for Z2N

The prototype traction transformer weighs 400kg less than the Z2N's existing product thanks to its aluminum winding cables, yet its conversion efficiency is the same or better than the currently installed equipment. The interface design is identical with that of the existing equipment, so the refurbishing will not require any modification of the train car.

Traction Transformer for T4

World's first* application of a natural running air cooling type traction transformer on the car roof, leading to

a noise reduction of around 13dB by omitting the electric cooling fan, and achieving electricity loss savings of 50 percent compared to the previous equipment resulting in significant energy efficiency improvements. Also, fully hermetic constant-pressure bellows seals will eliminate the need to periodically replace the insulator oil, which will remain in a sealed system and will not deteriorate. As a result, overall maintenance costs will be reduced.

Background

SNCF, in addition to procuring new high-speed and commuter trains, also actively refurbishes its existing train sets. Retaining a car’s body and only renewing components as required helps to lower the railway’s environmental impact and to make effective use of existing assets. For the refurbishments this time, SNCF requested Mitsubishi Electric to lower the weight of the Z2N’s traction transformer and to reduce energy consumption and noise while extending the life of the T4’s traction transformer. Mitsubishi Electric was awarded the orders after being certified as an official supplier following SNCF’s favorable evaluation of its technological capabilities and long record of developing and producing high-quality traction transformers.

Future Deployment

The transformers will be installed and then evaluated over a one-year period. If all goes well, SNCF will establish mass-production specifications for both traction transformers. Mitsubishi Electric aims to receive the mass-production orders from the ensuing tenders for both products.

In addition, Mitsubishi Electric will consider supplying other products to SNCF, one of the biggest rail operators in Europe, as the starting point for expanding its business, including refurbishments, in this market.

Outline of Z2N Traction Transformer

Type	Shell-form transformer, forced-air cooling
Ratings	1700kVA, 25kV, single phase, 50Hz
Weight	1,950kg (existing product: 2,350kg)
Size	1,520mm (L) x 890mm (W) x 2,841mm (H)
Installation	Equipment room
Delivery	February 2018

Outline of T4 Traction Transformer

Type	Shell-form transformer, natural-air cooling, fully hermetic constant-pressure bellows seal
Ratings	690kVA, 25kV, single phase, 50Hz
Weight	2,150kg
Size	2,160mm (L) x 1,800mm (W) x 565mm (H) (existing product length: 2,548mm)
Installation	Roof top
Delivery	December 2018

About SNCF

Company Name	Société Nationale des Chemins de fer Français (SNCF)
HQ Location	Saint-Denis France
Established	1938
Employees	Approx. 250,000
Railway network	29,776km

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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 4,238.6 billion yen (US\$ 37.8 billion*) in the fiscal year ended March 31, 2017. For more information visit:

www.MitsubishiElectric.com

*At an exchange rate of 112 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2017