

## Reliable and Efficient. High-floor LRV for Manila

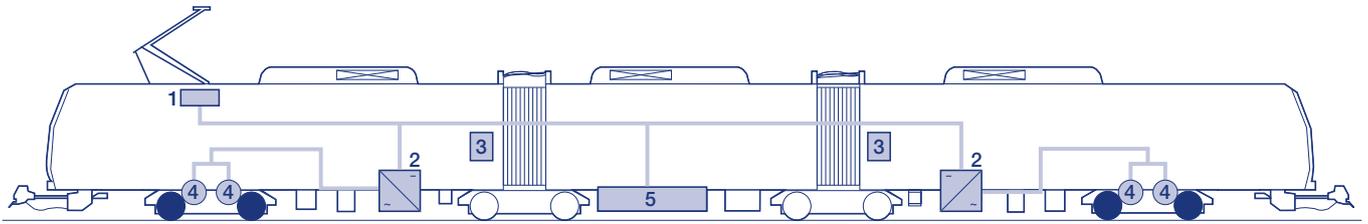


### Electric traction system from Voith for high-floor light rail vehicles Manila MRT3.

The capital of the Philippines is supporting the extension of public passenger transportation. The city is taking into account increasing passenger numbers with the acquisition of 48 urban railway units for the MRT3 line by the operator, Metro Rail Transit Corporation. The 3-section vehicles from the manufacturer CRRC Dalian Locomotive & Rolling Stock Co. Ltd. are equipped with a traction system from Voith, consisting of high-voltage equipment (surge arrestor, high speed circuit breaker, auxiliary converter fuse), traction inverter, I/O module, traction motors as well as the auxiliary converter. Additionally, Voith delivers gear-boxes and Scharfenberg coupler. The rail units are designed to operate in conjunction with up to 4 coupled carriages.

Vehicle manufacturer	CRRC Dalian Locomotive & Rolling Stock Co., Ltd.
Operator	Metro Rail Transit Corporation
Year of construction	2016
Track gauge	1 435 mm
Vehicle length	31.7 m
Tara weight	53.0 t
Axle configuration	Bo' + 2' + 2' + Bo'
Maximum speed	65 km/h
Catenary wire voltage	750 VDC
Maximum power	800 kW

## Traction system



- |                          |                       |
|--------------------------|-----------------------|
| 1 High voltage equipment | 4 Traction motor      |
| 2 Traction inverter      | 5 Auxiliary converter |
| 3 I/O unit               |                       |

## Traction inverter EmCon I1000-9AU

The two traction inverters type I1000-9AU are installed under the floor. They provide continuous power of 350 kVA, as well as short-term peak power of 700 kVA, with each one driving two traction motors. As well as the power electronics, the converter includes the traction control unit.



## I/O-unit VPort

The I/O unit, so called VPort, is an extension of the traction control unit and provides the interface between the traction inverter and the vehicle for project-specific control functions. While the traction control unit is integrated in the inverter housing, the VPort is installed in a convenient location inside the vehicle.



## Traction motor

The traction motors are coupled with Voith gearboxes and offer a continuous rated power of 120 kW each. The fully suspended motor-gear unit provides excellent dynamic characteristics and contributes to the high driving comfort.



Voith Digital Solutions Austria  
GmbH & Co. KG  
Linzer Str. 55  
3100 St. Poelten, Austria  
Tel. +43 2742 806-0  
Fax +43 2742 806-3124  
www.voith.com

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