

Double traction inverter EmCon DI1000-9AU 750V metro application



Key benefits

- + Optimized performance
- + Highest redundancy
- + Separate control of each motor bogie
- + Outstanding completeness
- + Well-structured arrangement
- + Minimized maintenance

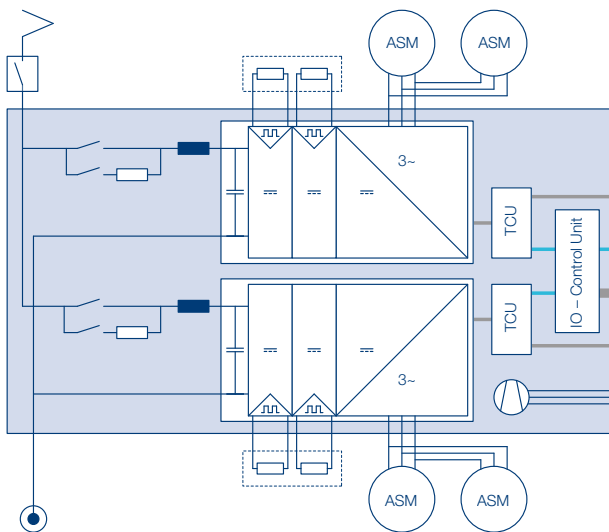
The EmCon DI1000-9AU is a double traction inverter for underfloor installation in 750 Vdc power supply applications such as metros, in particular.

The double traction inverter EmCon DI1000-9AU represents a compact and complete double traction inverter system for independent control per motor bogie typically. It contains two separate systems, each with its own power stack containing the line capacitor, inverter and double brake chopper. Furthermore, each system incorporates its associated equipment such as the main contactor, charging circuit, measuring devices, etc., as well as line inductor. A fan for cooling by forced ventilation is shared by the two systems.

Each system is controlled by its dedicated traction control unit (TCU), which provides the control of the three-phase inverter and the brake chopper. Project-specific control tasks are performed by the input/output control unit (Voith VPort). Communication with the vehicle controls takes place via CAN bus or MV bus as well as an appropriate number of digital/analog inputs and outputs.

All components are integrated to an enclosed housing protecting all parts from environmental influences. In spite of the high reliability of the components, all are clearly arranged and located for best possible access. A special focus is given to fast replacement of components in case of failure.

Block diagram



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Input data	
Input voltage nominal	750 Vdc
Rated input current	2 x 400 A
Maximum input current	2 x 900 A
Auxiliary supply voltage	110 Vdc
Fan supply voltage	3 x 400 V / 50 Hz

Inverter output	
Rated output power	2 x 400 kVA
Rated output current	2 x 440 Arms
Maximum output current	2 x 800 Arms
Output voltage range	2 x (3 x 0 – 700) Vac
Output frequency	2 x (0 - 250) Hz
Output switching frequency	up to 1500 Hz

Brake chopper output	
Rated braking power	2 x 2 x 65 kW
Maximum braking power	2 x 2 x 380 kW
Switching frequency	up to 1500 Hz

General data	
Ambient temperature	-40°C to +45°C
Protection level	IP55
Dimensions	1950 x 1910 x 590 mm
Mass	1200 kg
Noise level (fan)	class N3/N2

Control interfaces	
Ethernet (service)	1
MVB (or CANopen)	1
Digital inputs	32
Digital outputs	16
Analogue inputs	4
Pt100 inputs	4
PWM inputs	2
Speed sensor inputs	4
Traction enable input	2
Main contactor feedback	2
Line heat detector	1

Standards

The EmCon DI1000-9AU complies with the relevant standards such as IEC 61287, IEC 60571 (EN 50155), IEC 62236 (EN 50121), IEC 61373 as well as EN 45545.

Product Variant EmCon DCH1000-9AU

For application with dc-traction motors in refurbishment and modernization projects especially, a Double Traction Chopper EmCon DCH1000-9AU is available.

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