

KONTRAC GP170DC Propulsion converter for tramways

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for tramways*



KONTRAC GP170DC converts 600 Vdc or 750 Vdc line voltage into propulsion power to control and drive asynchronous traction motors on tramway vehicles. The converter supplies two asynchronous traction motors connected in parallel. The electrical motor drive operates in two modes: traction mode and braking mode.

Features

- Input line voltage 600 Vdc or 750 Vdc
- Latest IGBT technology
- Vector control of asynchronous traction motors
- Easy maintenance
- Light and compact design
- Modular design of power unit and control electronic
- Roof mounting
- Extended ambient temperature range from -40 °C to +40 °C

KONTRAC GP170DC consists of

- Input contactor and precharging circuit
- Input filter
- One propulsion inverter
- DC link overvoltage protection
- Air-cooled cooling system
- Traction control unit

KONTRAC GP170DC

Traction control unit

Traction control unit (TCU) is based on proprietary embedded control platform which has been used for years in our rail solutions (locomotives, coaches, tramways, EMUs, DMUs). TCU is responsible for all sequence control, regulation, protection, communication, supervision and diagnostics tasks. Special care is put on obsolescence issues and modularity.

Diagnostic and visualization

Proprietary powerful diagnostic and visualization tool (ZZT) is compatible with all our platforms through many generations of control electronic solutions. Configurable event-driven data logging and event recording is integrated in the control electronics. Remote diagnostic functions allow monitoring of all intelligent units from one connection point.

Mechanical design and cooling system

The converter is designed for roof mounting with IP54 protection. Modular design of power unit and control electronic allows an easy maintenance access enabling easy replacement of power unit module. The increased power density of the power unit module enables compact and light-weighted converter design. Converter box is made from stainless steel and it is intended for use in extended ambient temperature range from -40°C to +40°C. The converter is efficiently cooled by forced air.

Application example

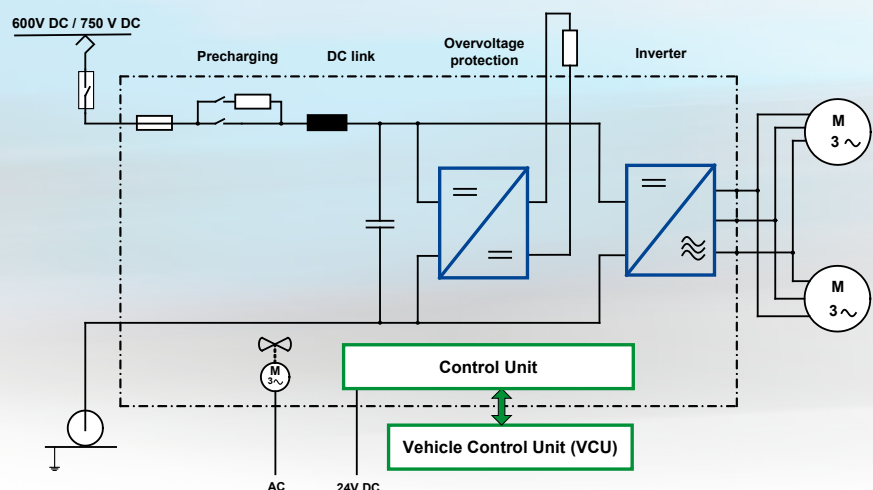
KONTRAC GP170DC is mounted on the roof of 100 % low-floor KONČAR tramway TMK 2200 that operates in City of Zagreb, the capital of Croatia. The tramway car series TMK 2200 is distinguished by its modern and attractive design, superior technical characteristics and comfortable ride. These modern vehicles significantly contribute to efficient and comfort public transport in City of Zagreb.

BASIC TECHNICAL DATA

Input voltage	600 / 750 VDC
Propulsion output	170 kW
Braking chopper	470 kW
Cooling	Forced air-cooling
Size (L x W x H)	1580 x 1000 x 520 mm
Weight	328 kg
Mounting place	Roof
Connecting interface	CAN / MVB / Ethernet



KONČAR tramway vehicle in Zagreb



Block diagram of the converter

KONČAR

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