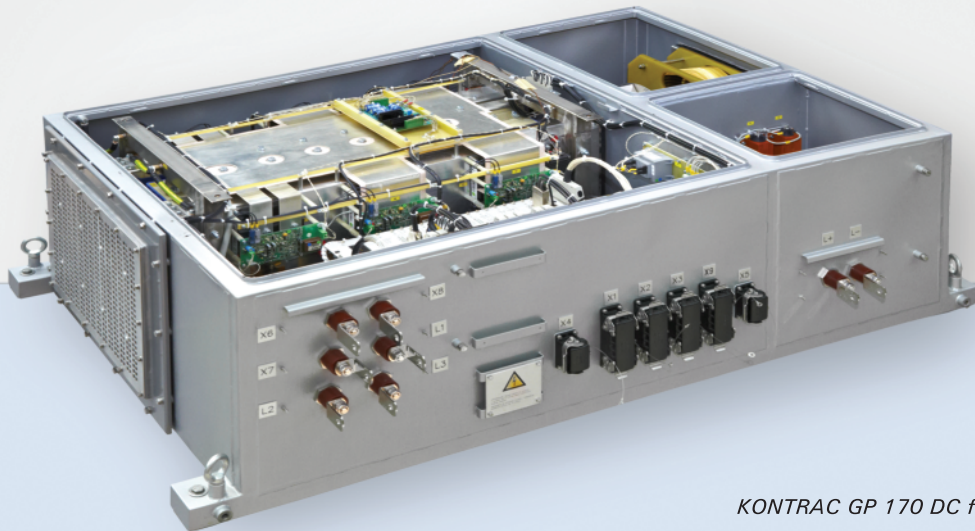




KONČAR

Končar Electronics and Informatics, Inc

KONTRAC GP 170 DC Propulsion converter for trams



KONTRAC GP 170 DC for trams

KONTRAC GP 170 DC converts 600 V_{DC} or 750 V_{DC} line voltage into propulsion power to control and drive asynchronous traction motors on tram vehicles.

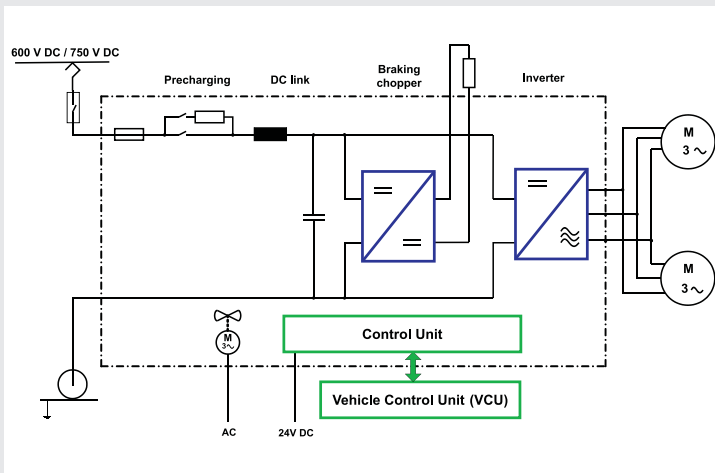
The converter supplies two asynchronous traction motors connected in parallel. The electrical motor drive operates in two modes: traction mode and braking mode.

KONTRAC GP 170 DC consists of:

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

Features

- Input line voltage 600 V_{DC} or 750 V_{DC}
- 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



Block diagram of the converter

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, trams, EMU, DMU).

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.



"Končar" tram vehicle in Zagreb

Basic technical data

Input voltage:	600 / 750 V _{DC}
Propulsion output:	170 kW
Braking chopper:	470 kW
Cooling:	Forced air-cooling
Size (L x W x H):	1550 x 1010 x 520 mm
Weight:	328 kg
Mounting position:	Roof
Connecting interface:	CAN / MVB / Ethernet

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 GP 170 DC is mounted on roof of 100 % low-floor Končar tramway TMK 2200 that operates in City of Zagreb, the capital of Croatia. The tram 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 Zagreb, the capital of Croatia.

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Končar Electronics and Informatics, Inc

Fallerovo šetalište 22, 10000 Zagreb, Hrvatska
 Tel.: +385 1 3655 766, fax: +385 1 3655 550
 E-mail: transportation@koncar-inem.hr
 www.koncar-inem.hr

