



# KONČAR

Končar Electronics and Informatics, Inc

## KONTRAC GP 550 DE

Propulsion and auxiliary converter for diesel-electric rail vehicles



*KONTRAC GP 550 DE for diesel-electric multiple unit*

KONTRAC GP 550 DE converts the variable voltage from diesel generator into drive power for the traction motors, three-phase auxiliary power supply for the train onboard consumers and into DC auxiliary power supply for charging train batteries and supplying of all DC consumers on board the vehicle.

KONTRAC GP 550 DE is a robust and solid unit incorporating modern IGBT technology.

### Features

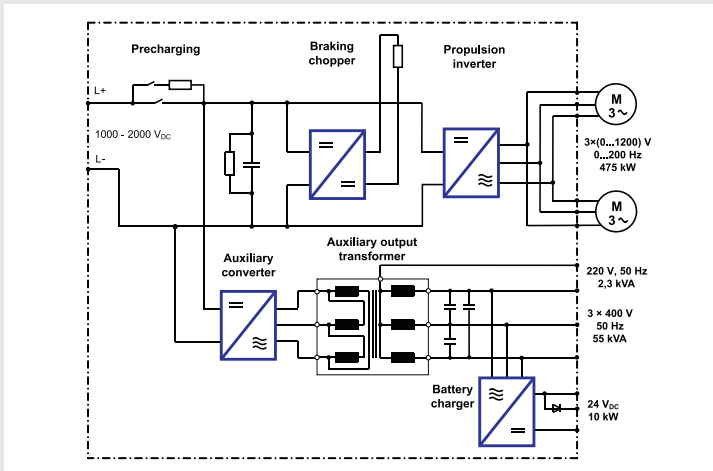
- Modular design of power units
- High energy efficiency
- Roof mounting
- Easy maintenance
- Motor friendly
- Integrated auxiliary converter
- Integrated battery charger
- Latest IGBT technology
- Liquid cooling system
- Galvanic isolated output

### KONTRAC GP 550 DE consist of

- Input contactor and precharging circuit
- Propulsion inverter
- Auxiliary converter with three phase output and battery charger
- Liquid cooled cooling system
- Output transformer
- Control unit



*Power unit of propulsion converter*



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.



Diesel-electric multiple unit for Croatian Railways

### Basic technical data

Input voltage:	1000 V <sub>DC</sub> - 2000 V <sub>DC</sub>
Propulsion output:	475 kW
Braking chopper:	730 kW
AC outputs:	3 x 400 V, 50 Hz, 55 kVA 230 V, 50 Hz, 2,3 kVA
DC output:	24 VDC, 10 kW
Cooling:	Liquid cooled
Size (L x W x H):	3195 x 1820 x 715 mm
Weight:	1485 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 the converter allows an easy maintenance access enabling that each module could be very easily replaced. The increased power density of the power modules enables compact and light-weighted converter design.

The efficient cooling system is completely integrated in converter box achieving a high degree of functional integration. It uses water to cool the converter power modules - a feature contributing to the converter's very compact design. The water itself is cooled by an internal air-to-water heat exchanger.

### Application examples

KONTRAC GP 550 DE is mounted on roof of the low-floor diesel-electric multiple unit built and delivered for Croatian Railways.

The diesel-electric multiple unit, which is distinguished by its modern and attractive design, superior technical characteristics and comfortable ride, is intended for regional passenger transport in Croatia.

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