

KONTRAC GN720MS

All in one propulsion and auxiliary converter for Battery Electric Multiple Units

KONTRAC GN720MS converts the power from transformer outputs of AC network or from on board traction batteries into propulsion power for the traction motors, three-phase auxiliary power supply for the train on board consumers and into DC auxiliary power supply for charging 24 V train batteries.

While supplied from catenary, KONTRAC GN720MS has sinusoidal input current in phase with voltage and with low harmonic content. During braking, the converter feeds back energy to the battery or to the network. All control, protective, communication and monitoring functions are implemented in control electronics inside the converter.

FEATURES:

- Traction battery charging from catenary and during braking
- Regenerative braking capability
- Modular design of power units
- High energy efficiency
- Machine room mounting
- Easy maintenance
- Line and motor friendly
- Latest IGBT technology
- Liquid cooling system

KONTRAC GN720MS CONSISTS OF:

- Input contactors and precharging circuits
- One line input converter
- One battery converter
- Two motor invertors with braking choppers
- Two auxiliary power supplies
- Two output sine filters
- One 24 V auxiliary battery charger
- DC link overvoltage protection
- Liquid cooling system
- Traction control unit



Converter
power unit

BASIC TECHNICAL DATA	
AC input voltage	420 V, 50 Hz
DC input voltage	655 ÷ 1008 V
Propulsion output	2x300 kW
Auxiliary AC power output	2x75 kVA, 3x400 V 50 Hz
Auxiliary battery charger	12 kW; 24 Vdc
Cooling	Liquid cooled
Size (W x D x H)	1588 x 2165 x 875 mm
Weight	1600 kg
Mounting position	Machine room
Connecting interface	CAN / Ethernet



KONČAR Battery Electric Multiple Unit for Croatian Railways

TRACTION CONTROL UNIT

Traction control unit (TCU) is based on proprietary embedded modular and distributed control platform (KONECS) which has been used for years in our rail solutions (trams, 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 mounting in machine room with IP54 protection. Modular design of the converter allows an easy maintenance access enabling easy replacement of each power or electronic module. The increased power density of the power modules enables compact and light-weighted converter design. The equipment is efficiently liquid cooled. Cooling system 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 external water-to-air heat exchanger.

APPLICATION EXAMPLES

KONTRAC GN720MS is used as a propulsion and auxiliary supply converter in a low-floor KONČAR Battery Electric Multiple Unit developed for Croatian Railways. The Battery Electric Multiple Unit, which is distinguished by its modern and attractive design, superior technical characteristics and comfortable ride, is intended for urban and regional passenger transport in Croatia on electrified and non-electrified rails.

