

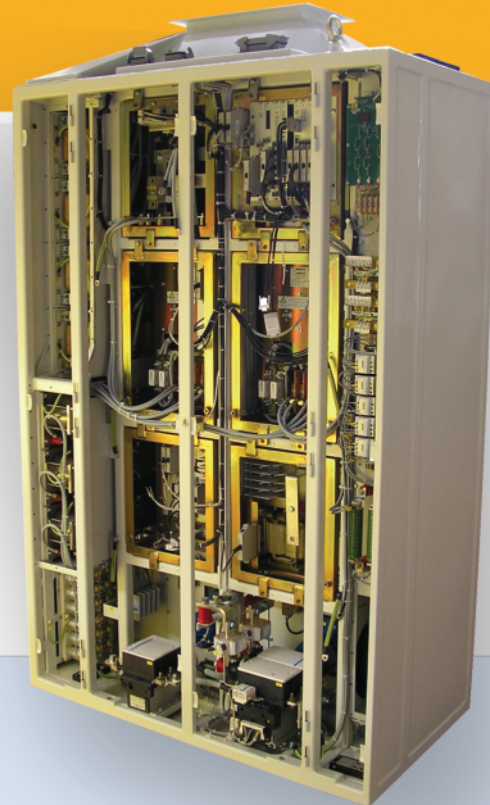


KONČAR

Končar Electronics and Informatics, Inc

KONTRAC PN 110 AC

Auxiliary converter for electric multiple unit



KONTRAC PN 110 AC for electric multiple unit

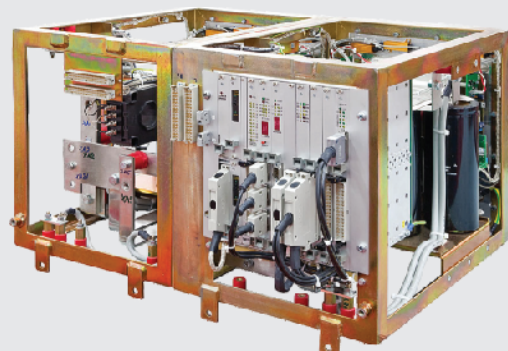
KONTRAC PN 110 AC is used as the auxiliary power supply converter in multiple unit trains. It is fed from a dedicated winding of the main transformer and supplies stabilized voltages to electrical loads. The converter has two three-phase outputs and one DC output. Its input current is nearly sinusoidal and its fundamental harmonic is in phase with the input voltage.

Features

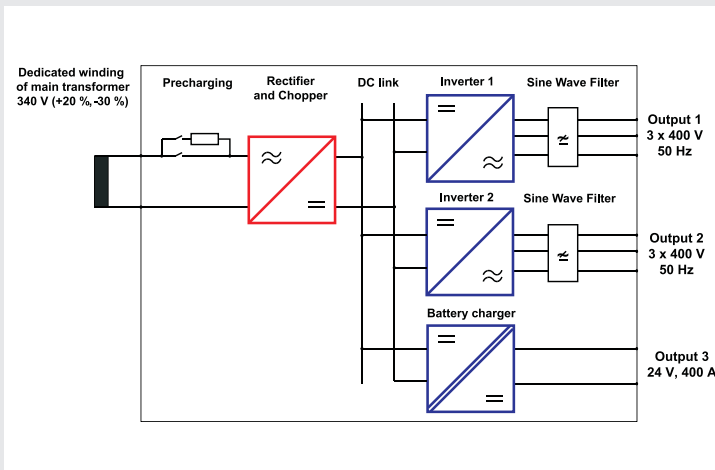
- Modular design of power units
- High energy efficiency
- Machine room mounting
- Easy maintenance
- Latest IGBT technology

KONTRAC PN 110 AC consists of:

- Input contactor and precharging circuit
- Input rectifier and chopper power modules
- Two output inverter modules
- Two output sine filters
- Battery charger
- Cooling system
- Control unit



Power units of input rectifier and chopper



Block diagram of the converter

Digital control unit

Digital control unit (DCU) is based on proprietary embedded control platform which has been used for years in our rail solutions (locomotives, coaches, trams, EMU, DMU).

DCU 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“ electric multiple unit for Croatian Railways

Basic technical data

Input voltage:	340 V, 50 Hz
AC outputs:	3 x 400 V, 50 Hz, 2 x 60 kVA
DC output:	24 V _{DC} , 12 kW
Cooling:	Forced air-cooling
Size (L x W x H):	1250 x 820 x 2085 mm
Weight:	990 kg
Mounting position:	Machine room
Connecting interface:	CAN / MVB / Ethernet

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 module.

The increased power density of the power modules enables compact and light-weighted converter design.

The converter is efficiently cooled by forced air.

Application examples

KONTRAC PN 110 AC is used as an auxiliary converter in a low-floor „Končar“ electric multiple unit built and delivered for Croatian Railways.

The 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.

These modern vehicles significantly contribute to efficient and comfortable passenger commute in urban and regional transport.

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