

AUXILIARY CONVERTER

BORDLINE® M7 DC_72V

For diesel-electric locomotives



The BORDLINE® M7 DC auxiliary converter is a compact, rugged unit to generate supply voltage for rail vehicles.

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BORDLINE® M7 DC_72V
for rolling stock
applications

System overview

The BORDLINE® M7 DC converter is based on modern IGBT technology.

The system is composed by:

- Input filter
- Galvanic insulated DC/DC step up converter (72 Vdc to DC link) to insulate the mains to the load for safety requirements satisfaction
- Three phases IGBT H bridge
- Control unit
- Output EMI filter

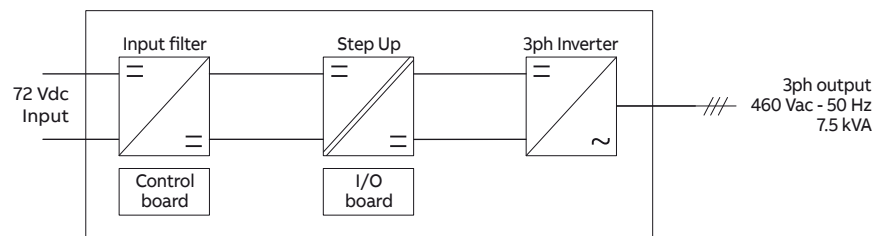
Functionality

The BORDLINE® M7 DC auxiliary converter feeds from battery (72 Vdc) to generate a three-phases output (460 Vac 3ph 60 Hz) to supply AC loads of the locomotive.

Characteristics

- DSP technology
- Compact and robust design
- Input voltage 72 Vdc, three-phases output voltage 460 Vac 60 Hz
- Natural convection cooling system
- Ethernet diagnostic
- Rack mounting
- High reliability thanks to consolidated building blocks

Technical data	BORDLINE® M7 DC_72V
Input voltages	72 Vdc (55 to 110 Vdc)
Output voltage	460 Vac 60Hz 3ph
Output power	7,5 kVA
Protection degree	IP20
Dimensions (L x W x H)	483 x 400 x 540 mm
Ambient temperatures	-25°C +70°C
Weight	70 kg
DSP Technology	



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Block diagram of
BORDLINE® M7 DC_72V

Control and monitoring

The converter is full digital controlled (DSP technology). The monitoring of the converter is supported by Ethernet interface (via M12 connector). A web server, compatible with the most common browsers (e.g. Internet Explorer) provides monitoring of the converter status (main technical parameters, alarms codes, etc).

Cooling system

The unit is natural convection cooled. The auxiliary converter is located inside an electrical cabinet where there's a ventilation of filtered air when the train is running.

Mechanical design

The converter is suitable to be mounted on board inside a cabinet. All electrical interfaces are located in the front for easy and fast connection.

Diagnostics and service

The service-friendly modular design with highly standardized components ensures high reliability, excellent spare parts availability, and optimized life cycle costs. For maintenance, a diagnostic interface (Ethernet) is available. It permits to monitor converter status and alarms history.

Application example

BORDLINE® M7 DC is mounted on locomotives (electric locomotives running in Israel).