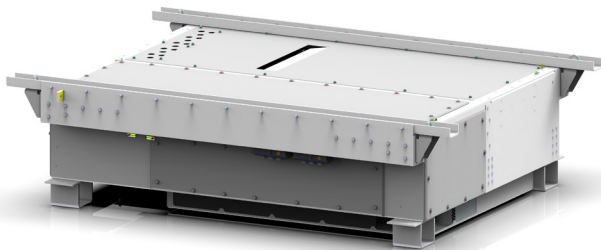


COMPACT CONVERTER

BORDLINE® CC750 DC

For metro vehicles with 600/750/1500 Vdc line voltage



The Compact Converter BORDLINE® CC750 DC converts 600/750 Vdc or 1500 Vdc line voltage into propulsion power to control and drive the traction motors.

—
BORDLINE® CC750 DC
for metro vehicles

Characteristics

- Highly compact and lightweight design with built-in inductor and braking resistor in one cabinet
- One standard platform intended for both 750 Vdc and 1500 Vdc
- Versatile internal topology that enables bogie or car control
- Low noise operating mode
- Easy maintenance
- Modular concept based on standard ABB power modules
- All connections by plug-in connectors

System overview

The BORDLINE® CC750 DC converters are compact, modular, rugged units based on state-of-the-art IGBT technology and designed for metro vehicle applications.

BORDLINE® CC750 DC Compact Converter contains:

- 1 or 2 motor converters
- Main switch
- Line filter
- Braking chopper
- Braking resistor (for 600/750Vdc)
- Forced air cooling system
- AC 800PEC control module

Propulsion power

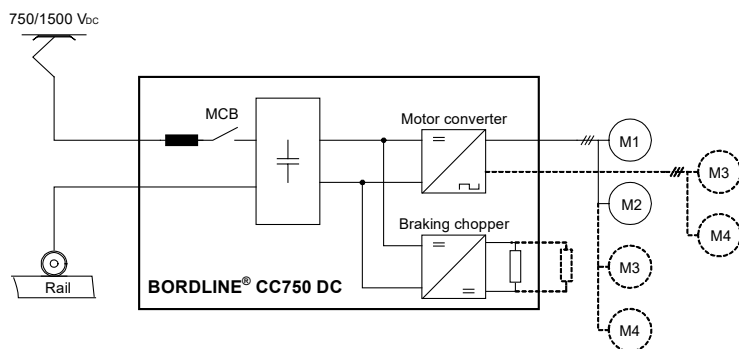
Motor converters can work independently or parallel, allowing control per coach or per bogie with same platform. During braking operation the energy will be recuperated or, if the line is not receptive, dissipated in the resistors by the braking chopper.



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01 Berliner Verkehrsbetriebe AöR (BVG), Germany
Photo: Stadler

02 Simplified main circuit of BORDLINE® CC750 DC



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Powerful control platform

ABB traction converters are built on the AC 800PEC control platform, one of the most powerful modular controller for high-speed performance on the market. This control platform is also used in a wide range of industrial applications. The AC 800PEC software is implemented on three performance levels, thus providing an excellent range of control and communication functionality, in cycle times that extend from the sub-microsecond to the millisecond level. Compared to most other commercially available traction control systems, the modular application software in the AC 800PEC reduces train commissioning time significantly.

Mechanical design

The BORDLINE® CC750 DC is housed in a lightweight aluminum cabinet, with an IP65 area intended for power electronics and an IP21 area where the inductor and braking resistor are located. The equipment is designed for under-floor mounting. Due to its modular design, it offers easy maintenance access.

Cooling system

The equipment is efficiently cooled using forced air. Electronically controlled fan enables noise optimized operation. Forced cooling of all power components with a common airflow yields a very compact and noise efficient design.

Diagnostics and service

The service-friendly modular design with highly standardized components ensures high reliability, excellent spare parts availability, and optimized life-cycle costs. The Compact Converter is delivered with BORDLINE® WebView, a diagnostic tool that visualizes signals, various parameters and the state of the traction system. It consists of an advanced self-diagnosis function, which provides advice and instructions for service and repair. BORDLINE® WebView is easy to use and runs with standard web browser, no special software tool is needed.

Application examples

The BORDLINE® CC750 DC is used in Stadler's underground metro cars of the type J and JK for BVG (Berliner Verkehrsbetriebe) in Berlin, Germany.

| Technical data | BORDLINE® CC750 DC_750V_U BORDLINE® CC750 DC_1500V_U |
|---------------------------|---|
| Input voltage | 600 / 750 / 1500 Vdc |
| Propulsion output | 0...550/1100 Vac, 400 kW at wheel |
| Braking output | 800 kW at wheel |
| Vehicle control interface | CANopen, MVB, TRDP, Profinet, I/Os |
| Mounting position | underfloor |
| Dimensions (LxWxH) | 1320 x 1617 x 500 mm |
| Weight | 470... 540 kg |

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