

POWER ELECTRONICS

Controller CPC2

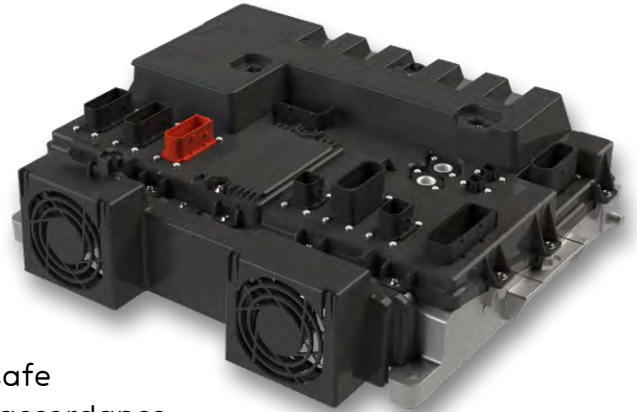
The CPC2 is an integrated power and control unit designed for the control and regulation of electric drives in mobile machinery and industrial systems. It is used for speed and torque control of traction drives, hydraulic drives, and auxiliary drives, as well as for safe power distribution and power shutdown within electrically operated systems.

In addition, it provides power supply and diagnostics for sensors and actuators, implements safety-related shutdown functions, and enables communication with higher-level control systems.

The component is intended for use in battery-powered vehicles, autonomous transport systems, industrial trucks, construction machinery, special-purpose vehicles, and comparable industrial applications.

Features:

- Nominal battery voltage: 80 V
- Input voltage range: 56 V to 104 V
- High-efficiency 3-axis power output stages with regenerative capability (energy recovery)
- Suitable for asynchronous (induction), synchronous, and synchronous reluctance motors
- Phase current (RMS) in short-time operation according to DIN EN 60034:
 - Axis 1: 400 A (5 min), 270 A (60 min)
 - Axis 2: 80 A (5 min), 130 A (60 min)
 - Axis 3: 40 A (5 min), 30 A (60 min)
- Temperature-dependent phase current limitation for maximum utilization of the power stage
- Electronic charge and discharge circuit for the DC link capacitor bank
- Integrated main contactor
- Dual-channel emergency stop shutdown enabling safe independent stopping of the three-phase drives in accordance with Performance Level d, Category 3, per EN ISO 13849-1
- Dual-channel shutdown of the 24 V on-board power supply in accordance with Performance Level d, Category 3, per EN ISO 13849-1
- Forced-air cooling via integrated heat sink
- DC/DC converter for on-board power supply: 600 W (5 min), 400 W (60 min)
- Dual-channel I/O interface with a wide range of inputs and outputs
- Integrated fuses for individual outputs including diagnostic capability
- Multiple communication interfaces:
 - 3x Ethernet (100Base-T1)
 - 2x Ethernet (100Base-TX)
 - 2x CAN FD
- Shock-resistant up to 400 m/s² and vibration-resistant up to 30 m/s² in the frequency range of 10-500 Hz
- Rugged, sealed enclosure (IP64, excluding fan) for harsh operating conditions
- Storage temperature: -40 °C to +85 °C
- Ambient operating temperature: -28 °C to +50 °C
- Service life: ≥ 20,000 h
- Dimensions: 440 mm x 370 mm x 139 mm
- Weight: 12 kg



More information:

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