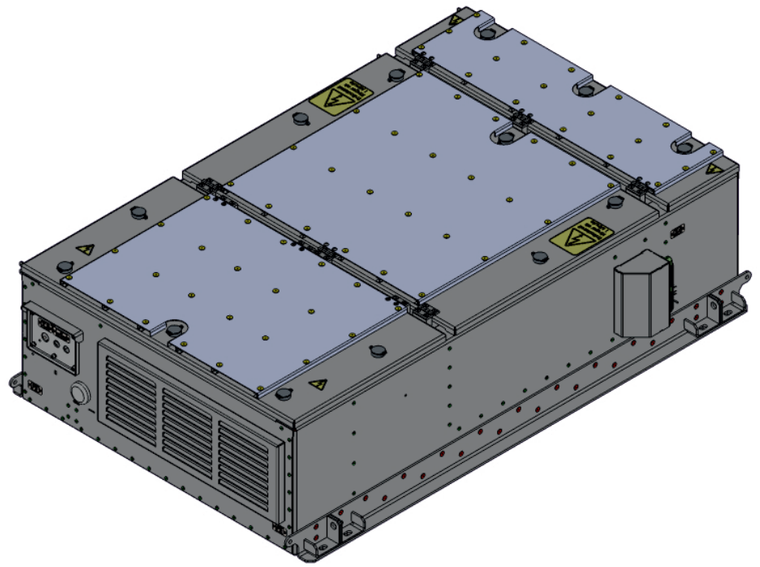
ENI-PTC750/24 Converter

APPLICATION

The ENI-PTC/750/24 converter is intended to supply auxiliary circuits with 24V DC voltage and 3x400V/50Hz sinusoidal alternating voltage. The converter converts the traction supply voltage with a nominal value of 750V$_{DC}$ into stabilized output voltages: 24V$_{DC}$ and 3x400V$_{AC}$/50Hz AC. The device works properly when powered with a nominal voltage of 750V$_{DC}$, the range of variability and overvoltage values of which is specified in the EN 50163 standard. Galvanic separation between the input and outputs of the converter is provided by transformers. Each of the blocks has its own controller, which is responsible for measuring voltages and currents, resistance to overloads and short circuits. The diagnostic system monitors the efficiency and readiness for operation of the entire device and in the event of a malfunction of any of the components, the device's operation is stopped and a failure is signaled.

Functions of the converter:

- Soft start after applying high voltage,
- Maintaining constant values of AC and DC output voltages,
- Limitation of the maximum current value of AC and DC outputs in short-circuit and overload conditions,
- Control and limitation of the maximum value of the battery charging current,
- Generation of three-phase sinusoidal voltage,
- Constant voltage generation,
- Providing power supply on the vehicle in the absence of batteries or in the case of deep discharge - the so-called auto start system.



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SPECIFICATION

TYPE	ENI-PTC750/24
Rated input voltage	750 V_{DC}
Supply voltage variation	500 ÷ 900 V_{DC}
Lowest short term voltage	450 V_{DC} (120 s)
Rated voltage	27,6 V ± 0,1 V
AC output electrical parameters	
Rated output voltage	3 x 400V_{RMS}
Rated power	15 kVA
Output voltage stability	+ 10% / -5% static (normal operation)
Frequency stability	50 Hz ± 2%
Rated load power factor	cos ϕ = 0,94
Output protection	Overload; shorting
Output overload	2,75 x 15 KVA for 10 s
DC output electrical parameters	
Rated power	24 V_{DC}
Load specification	9 kW
Output overload	Overload; shorting
Battery charging method	With current limitation
Galvanic separation	Yes
Insulation test voltage	WN 2,8 kV 3 x 400 V_{AC} 1,9kV 24 V_{DC} 0,75 kV
Pollution degree	PD4 according with EN-50124-1
Working position	OV3 according with EN-50124-1
Cooling	Forced
Noise	65 dB
Working position	Level
Enclosure protection rating	IP66 - box IP24 - for air inlets IP20 - for air inlets according with EN-60529
UV resistance	90 % gloss retention after 2000 hours of testing according to ISO 11507 UV-A
Working temperature	-25ºC ÷ +40ºC
Weight	300 kg
Size (L x W x H)	1700 x 1136 x 450 mm

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