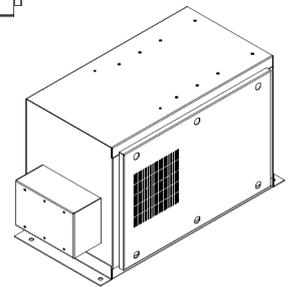
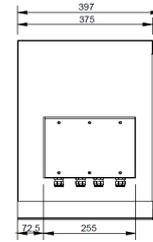
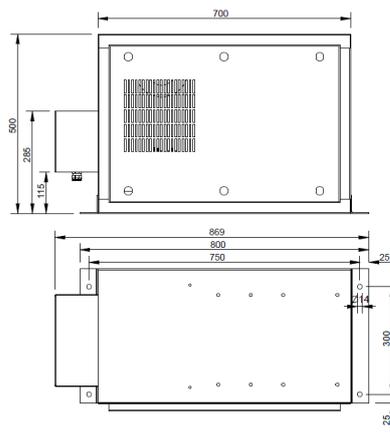


ENI-PL110/400AC Converter

Product Data Sheet



APPLICATION

The ENI-PL110/400AC converter is intended as a power supply source for three-phase loads and fed from the 110 V_{DC} electric locomotive on-board system.

SPECIFICATIONS

Supply voltage	66 to 130 V _{DC}
Rated output voltage	3 x 400 V, 50 Hz
Output voltage variation	± 5 V, ± 0,3 Hz
Rated power output	12 kVA, cosφ=0,8
Output current limit	42 A
Weight	65 kg
Ambient temperature	-30°C to +40°C
Size (w/o mounting fixtures and connections)	800 x 500 x 400 mm
Installation	locomotive body interior

ENI-PL110/400AC Converter

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DESIGN

The converter is contained within a stainless steel enclosure. The enclosure is hot-dip zinc and powder coated for anticorrosion protection. One of the enclosure side walls is removable for service access to the device interior. The converter is installed on the locomotive structural frame with four M10 bolts. A sealed terminal box is located on the left side of the device. The power connections are made with M8 screw terminals, and the control line connections are made with a terminal strip. The enclosure houses the complete electrical system of the converter, comprising:

- an IGBT based voltage step-up converter;
- a three-phase inverter, based on IGBT smart power modules;
- an output filter with stripping of output voltage and current higher harmonics.

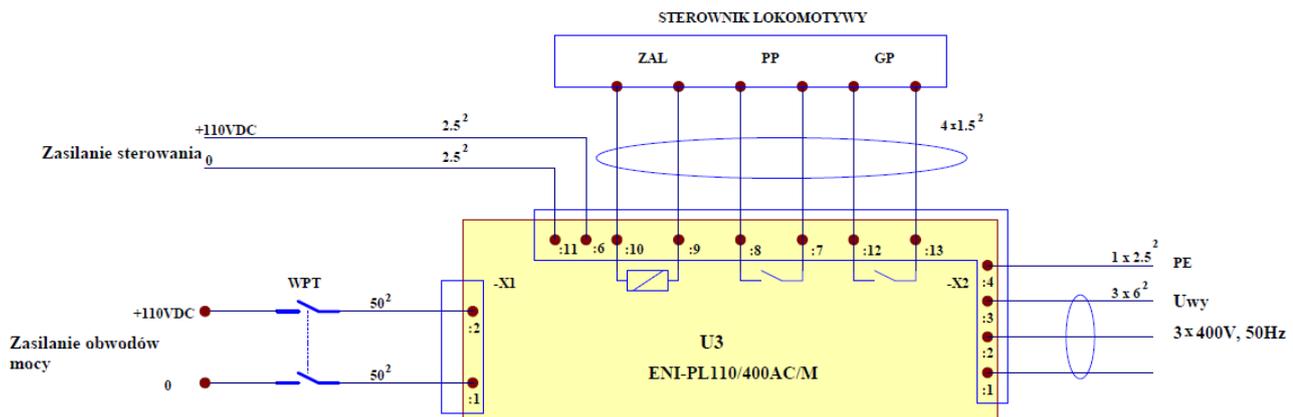
OPERATION

The converter transforms 110 VDC input voltage into stabilised 3 x 400 V, 50 Hz output voltage. The 110 V input voltage is stepped up in the transformer and fed to the three-phase output inverter.

The output inverter converts the intermediate DC voltage into the modulated three-phase output voltage with stabilised 50 Hz first harmonic frequency. To reduce the harmonic content of current and voltage, the three-phase output filter is applied.

The device does not provide galvanic separation of the input terminals from the output terminals. The converter is turned on when the locomotive controller commands the device to start with the battery bank online.

BLOCK DIAGRAM



ZAL - sygnał załącz przetwornicę
 PP - poprawna praca przetwornicy
 GP - gotowość do pracy przetwornicy

Sygnał ZAL nie jest spolaryzowany,
 sygnały PP i GP są stykami bezpotencjałowymi.