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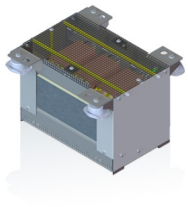
NTT 400 U

Onboard power supply transformer (Underfloor housing)



Unique Selling Point

- Vibration and shock tested according to DIN 61373 Cat 1 Class B
- High efficiency
- Low idling losses
- Reduced field scattering
- Low noise
- Reduced weight
- High mechanical resistance
- Natural Cooling
- Pollution degree PD4
- Various performance classes

Description

The REO transformer NTT 400 U is designed for on-board power supplies, which are fed by the auxiliary converter.The transformer NTT 400 U is the complete, ready to use-unit with transformer and housing. It is used to adjust the voltage and for galvanic separation of pulse-width modulated DC link voltage and the consumers of the electrical system. A corresponding sinusoidal filter must be connected between the transformer and the inverter.

The secondary-side load of the isolation transformer can be switchgears, rotating equipment , resistive loads or semiconductor power converters.The transformers are designed for the use in vehicles with AC or DC power (in inverter mode). This guarantees that REO transformers are optimally suited to your application. Our development methods emphasize maximum useful lifetime, cost/benefit optimization and safety.

- Power. 10 - 30 kVA
- Rated voltage

  Primary:
  Rated voltage: (Normal operation): 3x440 Veff 60 Hz
  Rated voltage: (external power supply): 3x400 Veff 50 Hz
  Rated voltage: (reduced operation): 3x345 Veff 47 Hz

  Secondary:
  Voltage: 3x230 Veff

- Insulation class: F/H
- Test voltage: EN 50124 / EN 60310
- Operating temperature: -40°C ... +55°C (optional +75°C)
- Humidity: max. 95%
- Pollution: PD 4
- Vibration resistance: Cat.1 class A/B acc. to EN61373
- Voltages: 24 / 42 / 110 / 230 / 400 / 690 Volt (Optional)
- Switching group: Optional

Customer-specific components

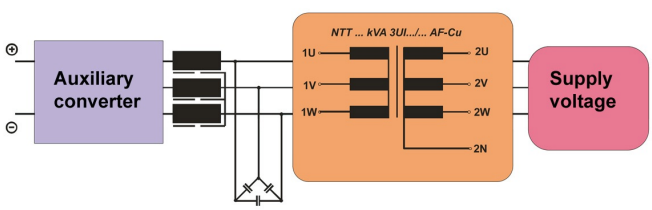
Onboard power supply transformer can be custom designed. Are you interested in this product? Please contact us!

Besides the standard components for use in the converter, REO offers customerspecific products - as individual components or as a complete solution in a ontainer. The most important criteria in railway engineering are availability for operation and passenger safety. Here, REO offers customized solutions that we develop step by step in close cooperation with our client.

Technical Data

- Rated power : 10000 - 30000 VA
- Input voltage : 3x440 V

Circuit example



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Technical data

Type	Power [kVA]	Total weight [kg]	Copper [kg]	Efficiency [%]	Uk [%]*
NTT 400 U/15.0	15.0	96	29	97.1	2.6
NTT 400 U/20.0	20.0	126	36	97.4	2.3
NTT 400 U/25.0	25.0	150	51	97.5	2.5
NTT 400 U/30.0	30.0	175	57	97.8	2.1

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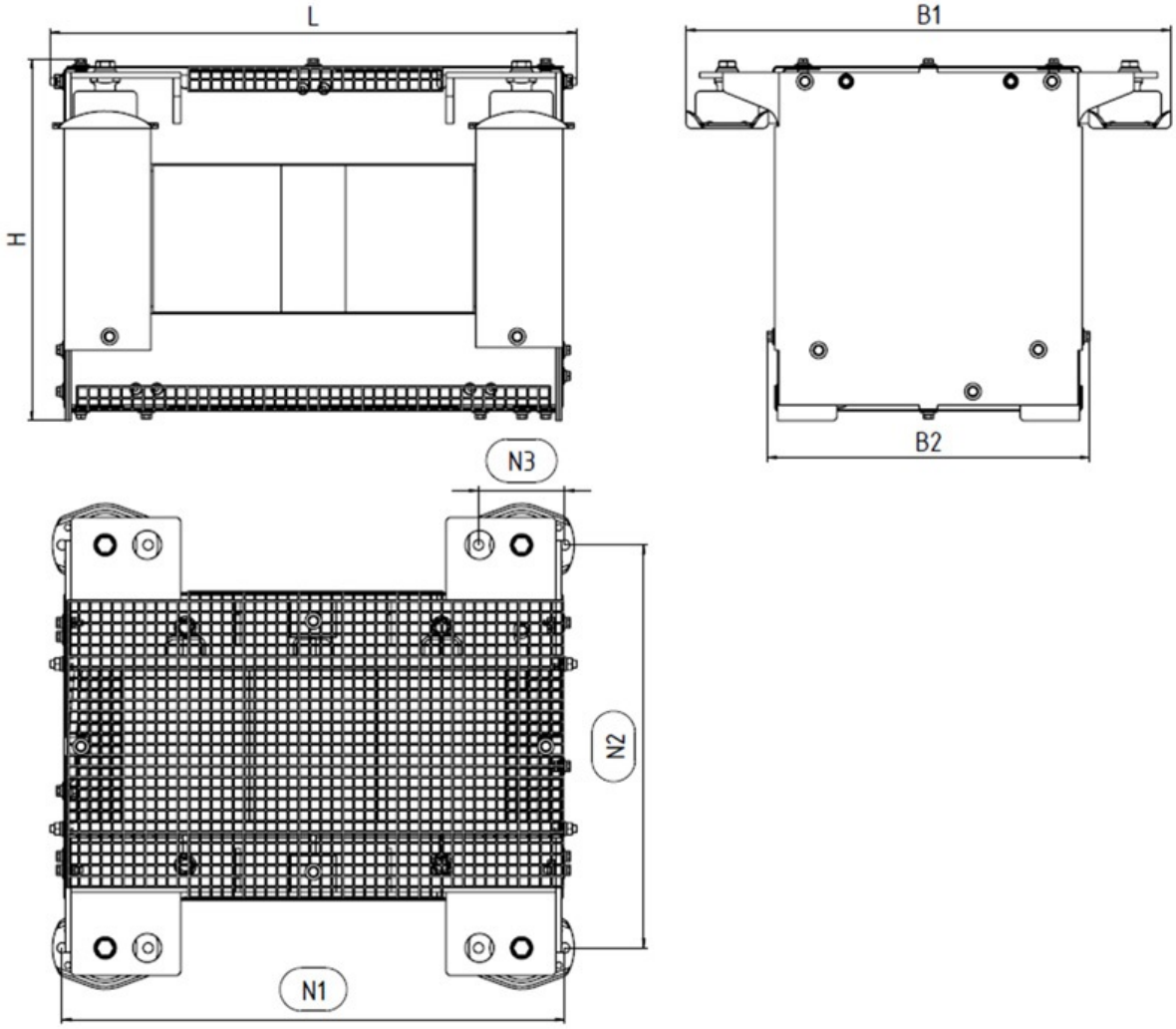
Dimension drawing



Dimensions

Type	L	B1	B2	H	N1	N2	D	Masse [kg]
NTT 400 U/15.0	510	520	350	345	385	460	10	120
NTT 400 U/20.0	540	520	355	365	410	440	13	147
NTT 400 U/25.0	575	500	355	396	455	440	13	175
NTT 400 U/30.0	561	536	392	351	300	456	13	195

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NTT 400 U

Onboard power supply transformer (Underfloor housing)

Environmental conditions, cooling, contact and moisture protection

Environment	
Mounting	Hanging as a underfloor housing (alternatively possible with the REO supporting frame for the roof mounting)
Vibration and shock resistance	Shock resistance: EN 61373 with 5g in all directions Vibration resistance: EN 61373 Category 1 - Class B
Environmental impact	Requirement
Ambient temperature during normal operation	**-25°C bis +55°C (max. +45°C outside)**
Ambient temperature during storage, transport	-25°C to +85°C
Classification according to EN 60721-3-5 Climate class Biologically active substances Chemically active substances Contamination means Mechanically active substances	 5K2 5B2 5C2 5F2 5S2
Pollution degree according to EN 50124	PD 4
Overvoltage category as per EN 50124	OV3
Air temperature class EN 50125-1	T1
Class height range EN 50125-1	AX to 1500 m
Cooling and coolant according to IEC 60310 Air cooling speed on surface Coolant flow rate Coolant inlet temperature:	AN 0,5 m/s
Protection acc. to IEC 60529	IP 54 (Anschlusskasten) optional IP 24 (Wicklung)
Protection class according to EN 61140	I
Vibration (all-metal damper)	4 Pcs (optional)

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