



# Static Converter Kiepe BNU 500

for Auxiliary Power Supply in Mass Transit Vehicles

# Static Converter Kiepe BNU 500

## Description

The converters of the type Kiepe BNU 500 are static converters which are used for the auxiliary power supply in mass transit vehicles. Usually, the vehicles are equipped with a three-phase AC-voltage-system and a DC-voltage-system. They are designed especially for the mechanical and electrical loads produced by mass transit vehicles.

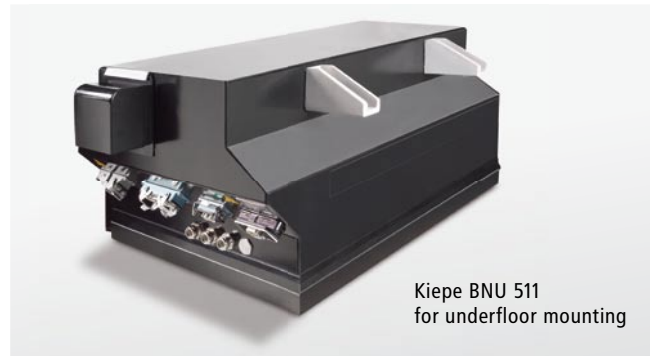
The Kiepe BNU 500 can be fitted on the roof<sup>1)</sup> or under floor in a container. Moreover, it can be fitted inside cabinets in the car.

Outstanding features of the Kiepe BNU 500:

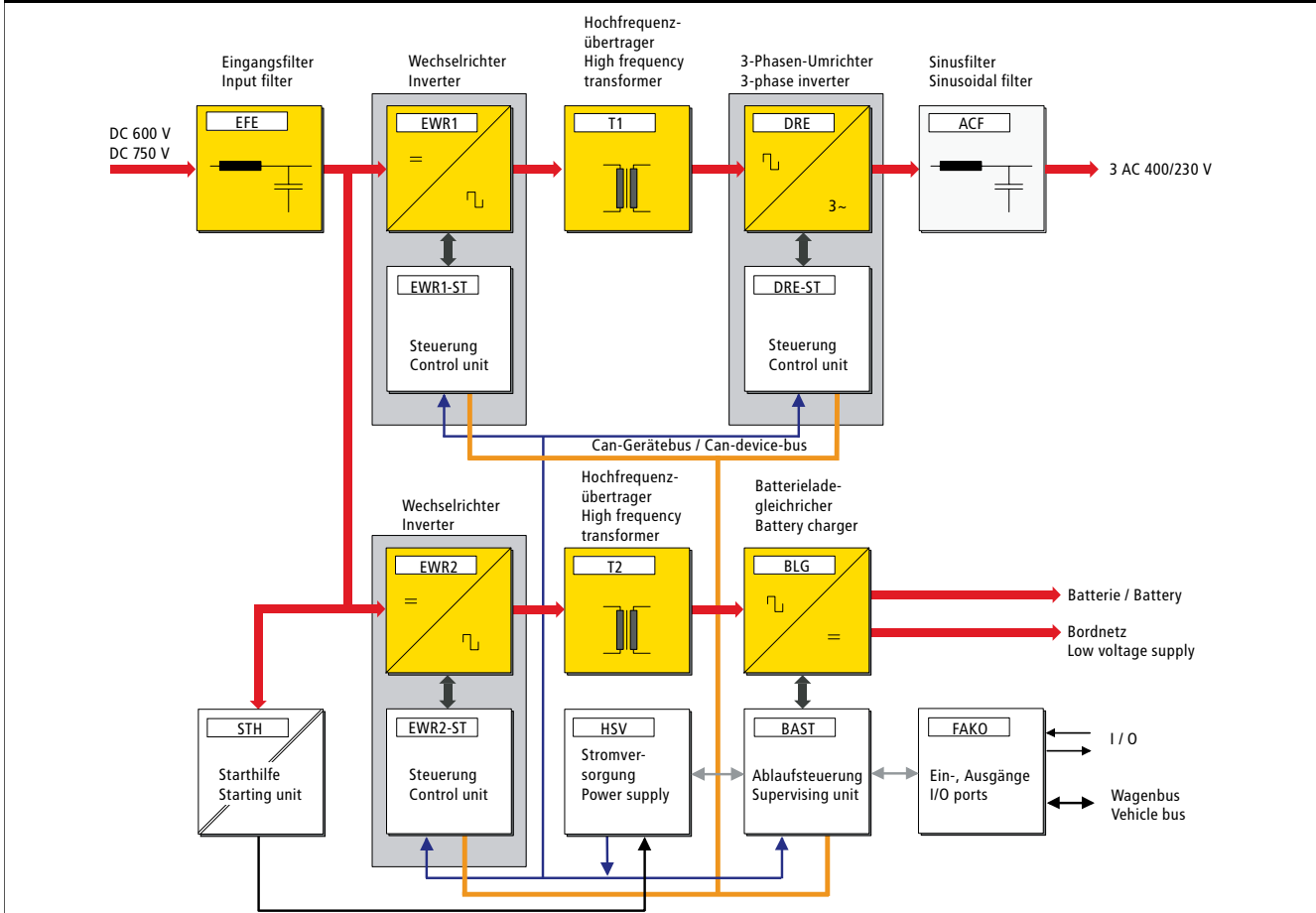
- Simple maintenance
- Double electrical isolation between input and output
- 3 AC- and DC-output controlled separately
- 3 AC- and DC-output can be charged simultaneously with max. output power
- Designed for application in rail vehicles and trolleybuses
- Low-noise
- High efficiency
- Low weight thanks to high-frequency switching technology
- Microprocessor control
- Diagnostic interface and vehicle bus interface

The new Kiepe BNU 500 series replaces the former on-board converters of the series Kiepe BNU 400. Important innovations are the use of high-frequency switching technology and the reduction of the weight at increased total output. Furthermore, the construction is simplified and diagnostic capabilities expanded.

With the new type series of static converters Kiepe BNU 500 a maximum 3 AC-output power up to 35 kVA ( $\cos \varphi 0,85$ ) and a maximum DC-output power up to 8 kW is possible.



## Blockdiagram



1) Illustration Kiepe BNU 519 see front page

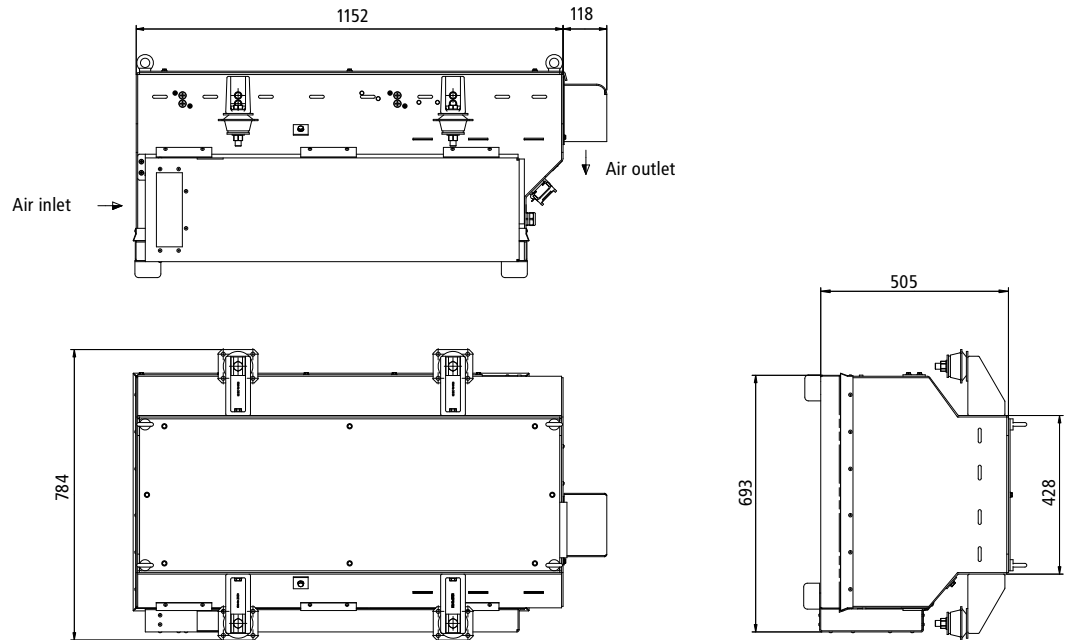
## Technical data

For example are shown subsequently the data of Kiepe BNU 511 for underfloor mounting and of Kiepe BNU 519 for roof mounting.

Type	Kiepe BNU 511	Kiepe BNU 519
<b>General</b>		
Nominal input voltage	DC 600 V/750 V	
Operating range	DC 420 V ... 1000 V	
Total output power	20,6 kW	13,6 kW
Housing	underfloor mounting	roof mounting
Degree of protection	IP 65	
Cooling	forced-ventilated	
Cooling air temperature	-25 °C ... +45 °C	
<b>DC output</b>		
Nominal voltage	24 V	
Total current	200 A	
Battery charging current	70 A	
Battery charging voltage	27,6 V	
Total output	5,6 kW	
<b>AC output</b>		
Nominal voltage	3/N 400 V / 230 V	
Nominal power	15 kVA	8 kVA
Unbalanced load per phase	5,0 kVA	2,7 kVA
Power factor	cos $\varphi$ = 0,85	
Frequency, sinusoidal	50 Hz	
Total harmonic distortion	< 5 %	
<b>Relay outputs</b>		
Make contacts/changeover contacts	4 / 2	
Max. voltage switched	DC 30 V	
Max. current switched	2 A	
Max. turn-off power	2 mJ	
Max. operating frequency	60 min <sup>-1</sup>	
<b>Digital inputs</b>		
Number (isolated)	4	
Signal level	DC 24 V	
<b>Analog inputs</b>		
Temperature sensor for battery charging	optional	
<b>Diagnosis</b>		
Interface	RS232	
Transfer rate	9,6 ... 38,8 kbit/s	
Software	KIEPE Diagnosehilfe for Windows®	
<b>Vehicle bus</b>		
Interface	ISO 11898	
Protocol	CAN open, DS 301 V 4.02	
Transfer rate	250 kbit/s	
<b>Tests conforming to</b>		
	EN 50207, EN 50155, EN 50124-1, EN 50121-3-2	

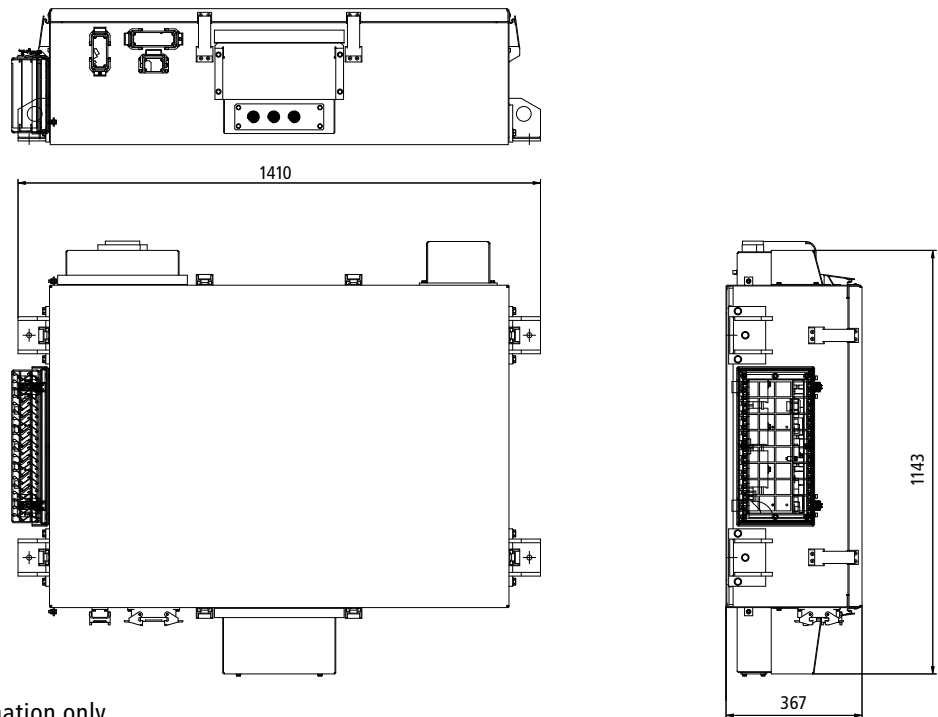
## Dimensions

Dimensional drawing Kiepe BNU 511 / underfloor mounting



Dimensional drawing for information only

Dimensional drawing  
Kiepe BNU 519 / roof mounting



Dimensional drawing for information only

Subject to change without notice

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