Auxilliary converter for LRVs and metro trains.

High AC power, high DC power: The PCS Rail AU 572 is used especially if high performance is required for mass transit.

The modern IGBT power modules of the PCS Rail AU 572 make it extremely compact and adaptable – it can be used either in the roof or under the floor of the train. Two medium-frequency transformers provide electrical insulation between the input voltage and the outputs. The cooling type is a forced air cooling. Every auxiliary converter contains an emergency supply which enables starting if the battery is at a low state of charge.

The Auxiliary Controller Unit (ACU 2) performs various internal functions: It controls the power electronics as well as the fan for the magnetic components, records events and faults during operation and enables communication via MVB or IP Ethernet with the vehicle control. The control unit also establishes a connection with the service software via the RS 232 interface or IP Ethernet.

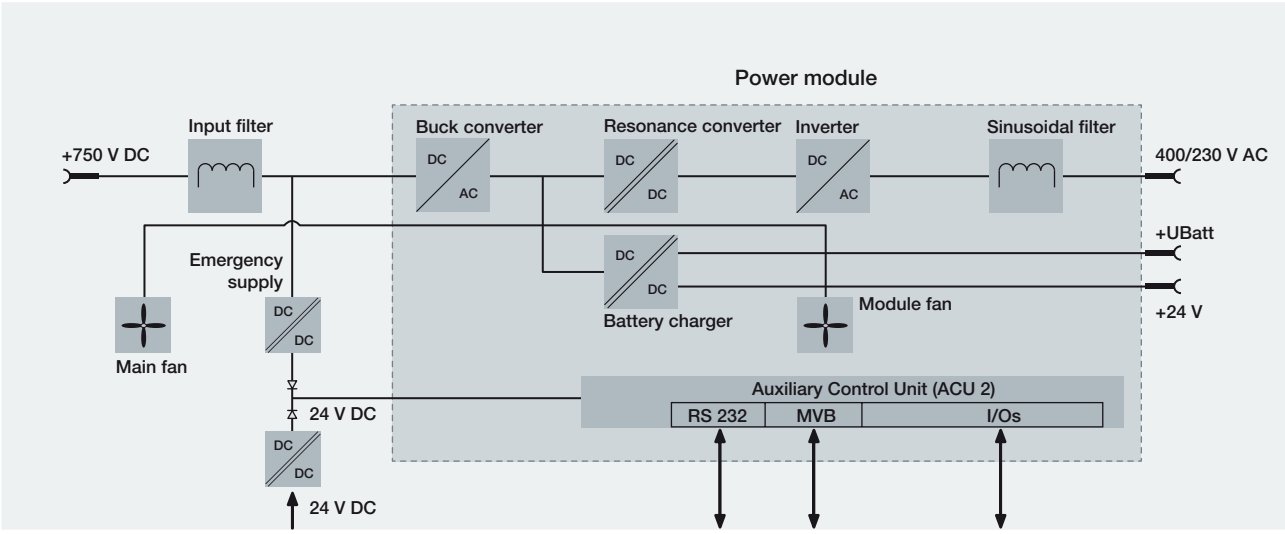
Properties

- Medium-frequency potential insulation of the AC and DC output
- Emergency supply for start if battery is in low charge state
- Robust and compact design
- High efficiency and low weight
- Short-circuit and overvoltage monitoring
- Electronically controlled ventilation

PCS Rail AU 572 V1 roof application

PCS Rail

Block diagram with the example of the PCS Rail AU 572



Technical data PCS Rail AU 572:

Technical data

Type	PCS Rail AU 572 V1
Mass (kg)	310
Dimensions (L/W/H mm)	1600/750/450
Application	Roof

Input voltage	600 V/750 V DC
Input voltage range	420 V to 975 V DC
Ambient temperature	-30 °C to +45 °C
Storage temperature	-40 °C to +85 °C
Communication	MVB, Ethernet (IPT Com), CAN

AC Output

Output power	75 kVA (cos phi = 0.8)
3 AC nominal current	108 A
Max. 3 AC current	2fach for 10 s
Output current protection limit	350 App
Single-phase current	16 A

DC Output

Output power	12 kW
Output current	420 A
Output voltage range	24 V to 30 V
Charge current (adjustable)	10 A to 100 A

The PCS Rail AU 572 auxiliary converter generates DC voltage which is used to charge the vehicle battery and supply the 24 V consumer loads. It also supplies AC voltage 3 x 400 V/50 Hz and 230 V/50 Hz for air-conditioning systems, fans etc.

Options

- AC output protection/coupling protection
- Battery fuse
- AC-phase failure monitoring
- AC synchronisation
- Fault current monitoring

Reference projects

Bombardier Flexity 2:
New generation of low-floor LRVs

PCS has for decades developed highly reliable power converters and electrical equipment. Take advantage of state-of-the-art solutions plus project management and service.

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Power Converter Solutions

PCS Power Converter Solutions GmbH
Am Borsigturm 100 | 13507 Berlin, Germany
Tel. +49 30 297725-0 | Fax +49 30 297725-102
www.pcs-converter.com | info@pcs-converter.com