PowerBriX®
Innovative Sic based platform
ABB Railway Research Center constantly monitors the requirements of the market, technological innovations and new emerging needs to develop and launch innovative products and services to meet customers’ requirements and schedules.

Based on above, ABB has developed the PowerBriX® an auxiliary converter product family for urban mass transit vehicles with the focus on the following: short time-to-market, high reliability and cost-effective maintainability. The PowerBriX® product family is based on a modular concept that consists of pre-validated modules, standardized for various voltages and output power levels, based on latest Si/SiC power semiconductors.

This technology allows for several benefits such as higher switching frequency, lower power losses, higher current capability and efficiency, reduced weight, noise and volume. Complete Auxiliary Power Units (APU) can be configured by the flexible combination of the PowerBriX® modules and a broad set of options that enable the precise match to customer requirements.

Also known as the ABB Base Product platform, the new PowerBriX® auxiliary converter platform for urban mass transit has been designed in three power sizes according to vehicle requirements:

- **PowerBriX® LOW POWER**
  (power range from 35kVA to 55kVA)
- **PowerBriX® MEDIUM POWER**
  (power range from 75kVA to 100kVA)
- **PowerBriX® MEDIUM POWER PASSIVE-COOLED**
  (power range up to 90 kVA)

These converters are highly standardized but tailorable to the customer’s requirements thanks to a wide set of options that can be simply combined (i.e. specific fixing point, DC output power, input stage) in order to reach a system that fully meets the customer’s specific needs, both in new vehicles and retrofit projects.

This approach leads to a big benefit for railway players as the time and costs of product configuration and maintenance are significantly reduced.

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**PowerBriX®**

The new platform of the ABB family setting new standards for efficient power supply in rail vehicles

- Reduced efforts in project planning and configuration
- Shorter delivery-time
- Compact, weight-optimized design
- Energy saving
- Flexible and rapid configuration to meet specific customer requirements
High energy efficiency
Service-proven with more than 1000 units delivered
Fully validated and type tested product
Easy maintenance for reduced LCC and increased train availability
Standard APU design and frame, leading to optimized NRC
Enhanced passenger comfort thanks to train availability and reduced audible noise
PowerBriX®
Three power sizes to meet all vehicle's requirements

PowerBriX®
Low power

PowerBriX®
Medium power

PowerBriX® Low power
- Cooling: Air-Forced
- Installation: Roof/Underframe
- Input: 600/750 VDC
- 3AC Output:
  - FF or VF
  - 280-460 VAC
  - 35/55 kVA
- LVDC Output:
  - 24 VDC / 8 kW
  - 24 VDC / 12 kW
  - 110 VDC / 20 kW
- Max Efficiency: Up to 93.5%
- Communication: Any
- Dimensions: 1400x550x400 mm
- Weight:
  - 155 kg – 35 kVA / Roof
  - 180 kg – 55 kVA / Roof
  - +20 kg for Underframe

PowerBriX® Medium power
- Cooling: Air-Forced
- Installation: Roof/Underframe
- Input: 600/750/1500 VDC
- 3AC Output:
  - FF or VF
  - 280-460 VAC
  - 100 kVA [120 kVA]
- LVDC Output:
  - 24 VDC / 8 kW
  - 24 VDC / 12 kW
  - 110 VDC / 20 kW
- Max Efficiency: Up to 95.2%
- Communication: Any
- Dimensions: 1600x750x500 mm
- Weight:
  - 335 kg / Roof
  - 350 kg / Underframe
**PowerBriX®**

Medium power passive-cooled

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**PowerBriX®**

Battery charger

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**PowerBriX®**

Customizable Features

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**01**

**Converter Type**

- Auxiliary Converter
- Battery charger

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**02**

**Select your DC input voltage**

- DC INPUT
  - 750 V
  - 1500 V

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**03**

**Select your AC output voltage and AC power**

- AC OUTPUT
  - 3AC 208 V
  - 3AC 460 V
  - 35 kVA
  - 120 kVA

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**04**

**Select your DC output and DC power**

- DC POWER
  - 6 KW
  - 40 KW
  - 24 V
  - 110 V

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**05**

**Converter Type**

- Air forced
- Passive

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**06**

**Select your type of mounting**

- ROOF
- INTEGRATED
- UNDERFLOOR
Haven’t found what you were looking for? We can offer you a customized product based on your needs.

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