

Medium-Voltage Direct Current

MVDC-DAB-160kW

Modular DC-DC converter

Design Features:

- MVDC-DAB-160kW is made of modular DC-DC converters connected in series at the input and in parallel at the output.
- MVDC-DAB-40kW is a dual active bridge converter based on Silicon Carbide (SiC) technology. It is the basic building block of the MVDC-DAB-160kW

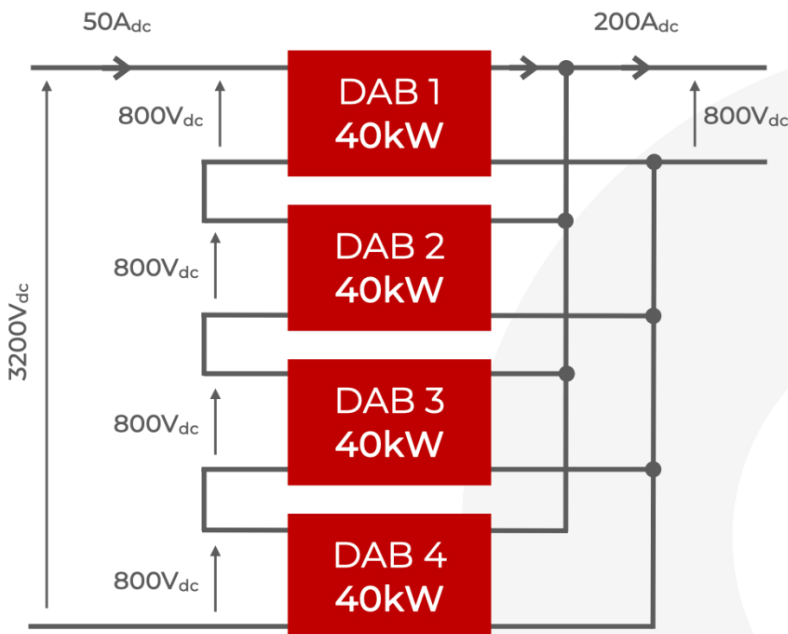
Key System Specifications:

- 4 x 40kW = 160kW power rating
- Made of standard components
- Isolation for MVDC bus
- Independent control strategy,
- No centralized control.

Applications:

- Transportation
- Microgrids
- Offshore power generation

Circuit Diagram



160kW Brick



40kW Module



MVDC-DAB-40kW: Datasheet

| Parameters | Value |
|---------------------------|--|
| Input and Output | |
| Max. Voltage | 1000Vdc |
| Operating Voltage Range | 500Vdc – 950Vdc |
| Rated Voltage | 800Vdc |
| Rated Current | 50 Adc |
| Rated Power | 40 kW |
| Specifications | |
| Topology | Dual Active Bridge Converter |
| Isolation | High Frequency Transformer |
| Ratio | 1:1 |
| Technology | Silicon Carbide |
| Frequency | 40kHz |
| Protection features | Overcurrent, overvoltage and overtemperature |
| Chaining | 4, can be expanded to 6 or 8 |
| Control | Independent control strategy |
| Efficiency | |
| Max. efficiency | 98.7% |
| Environment Limit | |
| Ingress Protection | IP5X |
| Operating Temperature | -20°C ~ 55°C (>45°C Derating) |
| Installation | Indoor |
| Max. operating altitude | 2000m |
| Overvoltage category | OVIII |
| General | |
| Dimensions (WxHxD) | 450 x 150 x 480 mm |
| Net Weight | 18 kg |
| Cooling | Air forced |
| Communication Interface | CAN Bus Protocol |
| Control Power Consumption | 15Watts |
| Control System Voltage | 230V |
| Certifications | IEC 62477-1 IEC 62477-2 |

MVDC-DAB-160kW: Datasheet

| Parameters | Value |
|---------------|---------|
| Input | |
| Rated Voltage | 3200Vdc |
| Rated Current | 50 Adc |
| Rated Power | 160 kW |
| Output | |
| Rated Voltage | 800Vdc |
| Rated Current | 200 Adc |