



BSI 1000 50kW, 65 kW or 75 kW

Bidirectional AC/DC power electronic converter

Designed for use in battery storage

The BSI 1000 controls the conversion of electricity supplied to or taken from batteries and is an integral part of any electricity storage.

The technological solutions used made it possible to reduce the dimensions of the device and achieve high efficiency.

BSI 1000 is designed for cabinet installation. The **MFC1000/11** circuit responsible for controlling the converter is an external device placed outside the device housing.



Basic informations:

- SiC technology
- Galvanic separation of batteries from the grid
- Active power control P and reactive power control Q
- Harmonic compensation (optional)
- Reactive power compensation (optional)
- work on-grid, off-grid
- Power flow control independently for each phase (4L systems)

The **BSI 1000 converter** has a certificate of conformity **NC RfG** obtained during tests carried out at the KOMAG Institute of Mining Technology by the Attestation Testing Division Certification Body (No. KOMAG/23/0138), which confirms compliance with the requirements and standards for connecting generating units to the grid (Journal of Laws of the Republic of Poland). EU L 112/1 of 27.04.2016).



TECHNICAL DATA:

AC Side (Terminals L1, L2, L3)	Supply voltage U_{AC}	3x400 V		
	Frequency	50 Hz		
	Type of device	Active Power P [kW]	Nominal Current I [A]	
	BSI1000HF-SIC-DAB-50 kW	50	80	
	BSI1000HF-SIC-DAB-65 kW	65	100	
	BSI1000HF-SIC-DAB-75 kW	75	120	
DC Side (Terminals DC+, DC-)	Voltage range U_{DC}	Determined when placing an order: Minimum: 300 VDC Maximum: 780 VDC		
	Charge/Discharge Current	0-125 A for the 300-520 V voltage range 0-125 A for the 500-780 V voltage range		
Cross-section of connection cables	Power circuit (L1, L2, L3 i DC+, DC-): 10-95 mm ²			
Inverter Type	TWERD BSI1000HF-DAB-SIC Bidirectional AC/DC/DC DAB Power Electronic Converter with high-frequency isolation transformer and SiC transistors in the power circuit			
Topology	Depending on the order: 3L: three-branch L1, L2, L3 4L: four-branch L1, L2, L3, N			
Operating Mode	Bidirectional: charge, discharge			
	Basic: On-grid Custom-made: On-grid/Off-grid			
Control	Voltage, current and power limit adjustment on the DC side			
Communication	Communication standards are selected when ordering. The possible options are: 1. Modbus RTU-RS-485 Baud rate: 2400, 4800, 9600, 19200, 38400, 57600, 115200 bit/s 2. Modbus TCP/IP RJ-45 3. CANOpen			
Internal protection of the converter	Short circuit			
	Overcurrent AC			
	Overcurrent DC			
	Overvoltage AC/DC			
	Undervoltage			
	Thermal System			
	Control of analog inputs			
Efficiency	>94% - for nominal values			
Operating Temperature	-10°C ÷ +40°C			
IP Protection	21			
Dimensions H x W x D	900 x 300 x 370 [mm] – converter 154 x 364 x 54 [mm] – control board			

ORDER CODE – HOW TO CONFIGURE THE CONVERTER

(please tick the appropriate boxes and write down the symbol of the ordered device according to the pattern under the table)

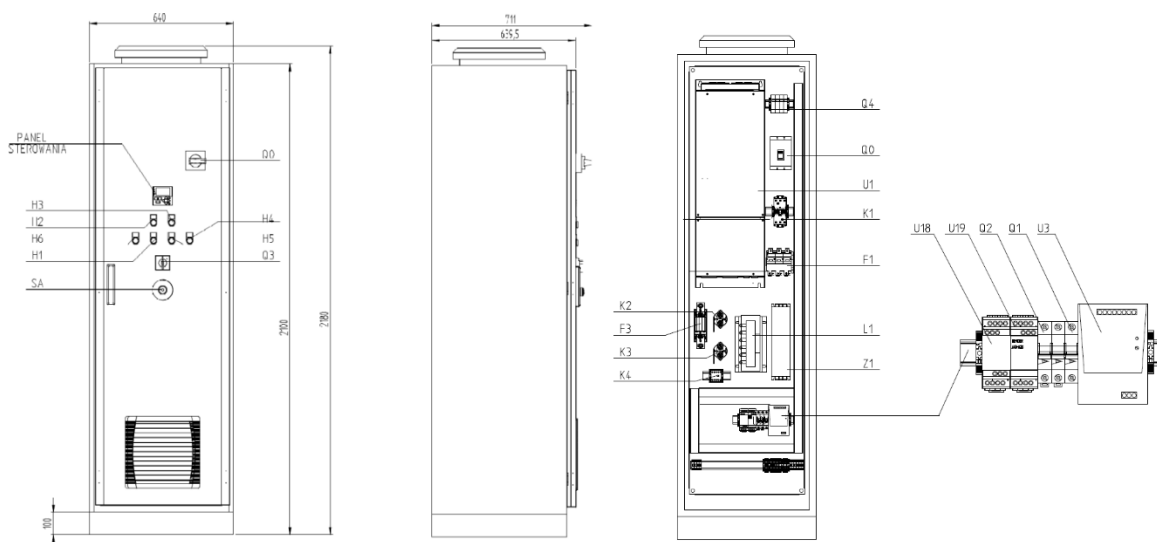
Nominal power of the ordered converter BSI1000HF-SIC-DAB-...		
50 kW ☐	65 kW ☐	75 kW ☐
Battery Voltage range		
LV (300-520 V) ☐	HV (500-780 V) ☐	C ¹⁾ (300-780 V) ☐
Topology		
3L (without Neutral wire) ☐	4L (with Neutral wire) ☐	
Operating Mode		
On-grid (O) ☐	On-grid/Off-grid (O/O) ☐	
Communication CANOpen		
NO (0) ☐	YES (1) ☐	
Installation in the cabinet²⁾		
NO (0) ☐	YES (1) ☐	

An example of how to configure a symbol to place an order:

50 kW system with a voltage range of 500-780V, 4-branch, on-grid/off-grid, with CANOpen communication and without installation in the cabinet.

BSI1000HF-SIC-DAB-50-HV-4L-O/O-1-0

The figure below shows an example of a cabinet design



¹⁾The battery voltage range may be different from that proposed in the other two variants, but it must be in the range of 300-780 VDC

2) When performing in a control cabinet, e-mail or telephone contact is required to determine all details regarding the location and operating conditions of the converter.