

DESCRIPTION OF THE DEVICE

An inverter, converting direct voltage(DC) to an alternating voltage(AC), is an essential element of all guaranteed power supply systems. The industrial guaranteed power supply systems are aimed at critical loads supply, that require uninterruptible power supply due to a necessity of technological processes powering or a necessity of the ideal electrical power supply parameters for correct and reliable operation. Guaranteed back up power technically makes the operation of sensitive receivers independent from the grid and in case of power failure ensures the continuous powering from a backup power source. Backup power source in the industry is usually represented by a battery bank or another type of DC energy storage.

CHARACTERISTICS OF INVERTERS OF BFiz TYPE

BFiz type inverters are modern microprocessor-controlled (DSP) devices, operating at high frequencies base on IGBT transistors with a Pulse Width Modulation (PWM), characterized by:

- Perfectly sinusoidal output voltage
- High voltage and output frequency stability, both in steady state and dynamic states;
- Galvanic isolation of DC and AC circuits;
- High energy efficiency >92%
- The possibility of 100% unsymmetrical load (for three-phase inverters);
- High immunity to overloads and harsh environment conditions;
- The ability to work with a load characterized by any $\cos \varphi$ (supply of inductive or capacitive loads);
- High short circuit current from $sc = 3 \times I_{nom}$ to $sc = 9 \times I_{nom}$, (high selectivity of tripping the protective devices);
- Electromagnetic compatibility (EMC). Filters of EMI (electromagnetic interference) at the input and output circuits – limitation of emission of conducted disturbances and at the same time high resistance to electromagnetic interference;
- Advanced user communication: keyboard, control console with the LCD screen;
- Signalling with LED diodes, informing about the operating state of device, warnings and alarms, are additionally signaled acoustically;
- Events logging on the SD card;
- Integrated communication interfaces: RS485, USB and Ethernet;
- A wide range of data transmission protocols: Modbus RTU, IEC 60870-5-103, IEC 61850, SNMP; APS6000; other;
- Overcurrent, overvoltage, short-circuit protections;



TAB. INVERTERS BFiz MS TYPE

Inverter Power Rating	Nominal DC input voltage	Single-phase		Three-phase	
		Type	Dimensions W*H*D (mm)	Type	Dimensions W*H*D (mm)
20 kVA	220 VDC	BFiz 20 S 220/230 MS	600 x 2000 x 800	BFiz 20 T 220/400 MS	600 x 2000 x 800

TAB. BFiz TYPE INVERTERS – TECHNICAL CHARACTERISTICS

Parameter	BFiz	BFiz ver. HC
INPUT		
DC supply voltage	48/60/110/220/400	
DC voltage tolerance	100% load -20% +30%	
OUTPUT		
Output voltage: Single-phase Three-phase	220/230/240 VAC 380/400/415 VAC	
Voltage stability(static)	+/- 1%	
Voltage stability(dynamic)	+/- 5% up to 10 ms	
Voltage waveform	Sinusoidal	
THDU voltage distortion(linear load)	<2%	
THDU voltage distortion(nonlinear load)	<5%	
Output voltage frequency	50/60 Hz	
Frequency stability	+/- 0,1%	
Overload (resistive load)	110% constant, 125% 10min, 150% 1 min, >150% 1s	110% constant, 125% 10min, 150% 1 min, 350% 2s*, >350% 1s*
Short-circuit current	3:1	to 9:1
Crest factor	3:1	to 5:1
cos φ	Cos φ ≤ 1 (0 ind to 0 cap)	
Efficiency	>92%	
Electro-magnetic compability	EN 62040-2	
Interface language	PL EN RUS DE CZ	
ENVIRONMENT		
Operating temperature (EN 50178 class 3K3)	0 to +40 °C	
Storage temperature	-15 to +55 °C	
Humidity (EN 50178 class 3k3)	max. 95% (without condensation)	
Access	Service and maintenance access from the front	
Cable entry	From the bottom	
Allititude (maximum level without power derating)	1000 m (amsl)	

* Not applicable in BFI M/MC

The manufacturer reserves the right to change parameters of the devices. Other types and solutions can be delivered on request.



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