Industrial Power Solutions

TECHNICAL DATA SHEET

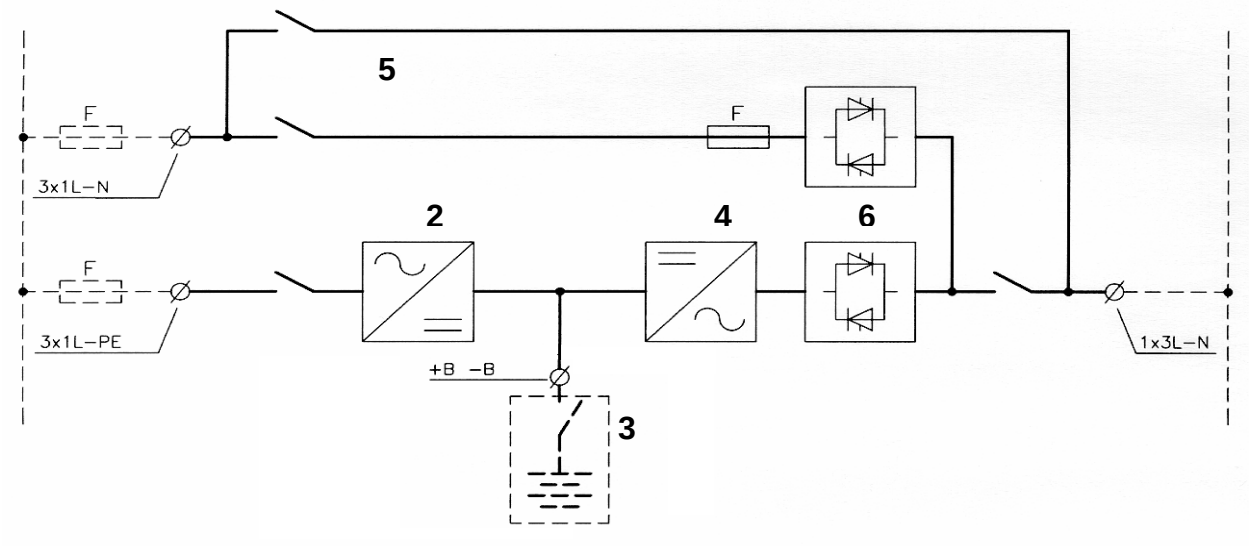
B9000FXS 200-250-300 kVA

GENERAL INFORMATION

POWER		**kVA**	**200**	**250**	**300**
UPS Type			ON LINE - Double Conversion		
Nominal output power (Cosφ 0.9)		kVA	200	250	300
Nominal output power (Cosφ 1.0)		kW	180	225	270
Efficiency (AC ÷ AC) ***** (ON LINE - Double Conversion) *** Certified by TÜV NORD GmbH**	@25% load @50% load @75% load @100% load	%	> 92 > 95 > 95 > 95		
Efficiency (AC ÷ AC) (Eco Mode)		%	> 98		
Heat dissipation at nominal load and voltage		kW kcal/h x 1000	12.4 10.6	15.4 13.3	18.5 16.0
UPS ambient temperature		°C	0 ÷ 40		
Battery ambient temperature		°C	0 ÷ +25		
UPS storage temperature		°C	-10 ÷ +70		
Battery storage temperature		°C	-10 ÷ +60		
Relative humidity (non condensing)		%	< 95		
Altitude		m	< 1000 (Above See Level)		
Power derating for altitude > 1000mt			According to “IEC62040-3”, 1% power derating every 100m above 1000m, up to max 2000m		
Ventilation			FORCED		
Requested cooling air volume		m^3/h	3500	4100	4500
Audible noise level (according to IEC EN 62040-3)		dB	< 62		
Standard battery type lead acid (n° of cells)		n° cells	300 - 312 adjustable		
Protection degree			IP 20		
Electromagnetic compatibility EMI			According to “IEC EN 62040-2” (CE marking)		
Safety			IEC EN 62040-1		
Test and performance			IEC EN 62040-3		
Paint			RAL 7016		
Accessibility			Front and top access for service		
Installation			Also against wall and/or side-by-side		
Dimensions		mm	W = 1217 D = 853 H = 1900		
Weight (without battery)		kg	970	1090	1170
Static load (without battery)		kg/m^2	888	998	1071
Input/output cable connection			Bottom Side (Top Side on Request)		
Transport			Base provided for forklift handling		
Transport mechanical stress			According to “IEC EN 62040-3”		
Design standard			“IEC EN 62040” “ISO 9001:2008” - “ISO 14001”		

Free contact interface		Standard to remotize the following contact: EPO – MBCB – BCB – DIESEL MODE
Serial communication interface		Standard: RS232 - USB Optional: RS485 (Mod-Bus protocol)
Parallel configuration		Up to 5+1 (redundant parallel) Up to 6 (power parallel)

BLOCK DIAGRAM



1. Input mains (separate for by-pass and rectifier)
2. Rectifier and battery charger
3. External battery
4. Inverter
5. Emergency line (by-pass) with optional backfeed contactor
6. Inverter (SSI) and by-pass (SSB) static switch

UPS INPUT: RECTIFIER AND BATTERY CHARGER

POWER		**kVA**	**200**	**250**	**300**
Input			Three-phase		
Nominal Input Voltage Range		Vac %	400 -20/+15		
Input Frequency Range		Hz	50 – 60 ±5 / ±10 adjustable		
Input Power Factor			> 0,99		
Input Current THD at nominal voltage and THDV <0.5% ***** *** Certified by TÜV NORD GmbH**	@25% load @50% load @75% load @100% load	%	< 10 < 7 < 5 < 3		
DC Output Voltage Accuracy		%	+/- 1		
DC Output Voltage Ripple		% rms	1		
Battery Recharging Characteristic			IU (DIN 41773)		
Maximum recharging current - at nominal load - with DCM function (max current)		A	30 100	40 100	40 100
AC-DC converter type			PFC IGBT		
Input protection			Fuses		
Nominal Current Absorbed from Mains (at nominal load and Battery charged)		A	275	342	413
Maximum Current Absorbed from Mains (at nom. load, max. recharging current and nominal input voltage)		A	312	392	463
Sectable walk-in		sec	Sectable from 5'' to 30''		
Sectable hold-off		sec	Sectable from 1'' to 300''		

BATTERY

POWER	**kVA**	**200**	**250**	**300**
Type (standard) other on request		Lead Sealed maintenance free		
Number of Cells		300 – 312 adjustable		
Floating Voltage at 25°C	Vdc	680 for 300 cells, 707 for 312 cells (adjustable)		
Minimum Discharge Voltage	Vdc	496 for 300 cells, 516 for 312 cells (adjustable)		
Inverter input power (at nominal Load)	kW	186	232	280
Inverter input current (at nominal load - minimum Vdc)	A	377	470	565
Battery Protection (external to the UPS)		Wall mounted fused switch box on request		
Battery Test		Included as standard		

UPS OUTPUT: INVERTER

POWER		**kVA**	**200**	**250**	**300**
Inverter Bridge			IGBT (High Frequency PWM)		
Nominal output power (Cosφ 0.9)		kVA	200	250	300
Nominal output power (Cosφ 1.0)		kW	180	225	270
Efficiency (DC ÷ AC)	@25% load @50% load @75% load @100% load	%	> 92 > 96 > 96 > 96		
Output		Vac	Three-phase + Neutral		
Nominal Output Voltage - (selectable)			380-400-415		
Output Voltage Stability - Static (Balanced Load) - Static (Unbalanced Load) - Dynamic (Step Load 20%÷ 100% ÷20%) - Output Volt. Recovery Time(after step load) - IEC EN 62040-3		 % % % ms 	 +/- 1 +/- 2 +/- 5 < 20 Class 1		
Phase Angle Accuracy - Balanced Load - 100% Unbalanced Load		°	 +/- 1 Degree +/- 2 Degrees		
Output Frequency –Hz (selectable)		Hz	50 - 60		
Output Frequency Stability - Free Running Quartz Oscillator - Inverter Sync. with Mains - Slew rate		Hz Hz Hz/s	± 0,001 ± 2 (other on request) 1		
Nominal Output Current (@ 400 Vac output) - Cosφ 0.9 (leading and lagging) - Cosφ 1 (purely resistive load)		A	 290 260	 362 326	 435 390
Overload Capability			10 min >100%…125% 1 min >125%…150% 10 s >150%…199% 100ms at 200%		
Short Circuit Current		A	462	580	694
Short Circuit			Elect. short circuit protection, current limited at above values. Automatic stop after 5 seconds		
Selectivity			Within ½ cicle (Fuse gl 20% In)		
Output Waveform			Sinusoidal		
Output Harmonic Distortion - Linear Load - Non Linear Load - IEC EN 62040-3		%	 < 1 < 5 Fully compliant		
Max Crest Factor without derating			3:1		

UPS OUTPUT: BYPASS

Automatic Static By-Pass		Electronic Thyristor Switch
Protection		Fuses
Bypass	Vac	Triphase + Neutral
Nominal Voltage (selectable) Range	Vac %	380-400-415 ±10
Nominal Frequency (selectable) Range	Hz %	50 - 60 ±(1÷5) ±10 adjustable
Transfer mode		Without interruption
Transfer inverter → automatic bypass		In case of : - Static Switch test - Inverter test - Inverter not operating - Battery end of discharge
Retransfer automatic bypass → inverter		- Automatic - Block on bypass after 6 tranfers within 2 minutes, reset by front panel
Overload Capability	%	150 Continuously 1000 For 1 Cycle
Manual By-Pass		Standard: - Electronically controlled - No break

OPTIONS

1. BATTERY TEMPERATURE VOLTAGE COMPENSATION
2. INSULATION TRANSFORMER ON BY-PASS
3. VOLTAGE ADAPTATION AUTO-TRANSFORMERS
4. RELAY CARD (Eight signals Alarms/Statuses), Free relay contact
5. SERIAL INTERFACE RS-485 (MOD-BUS protocol)
6. SNMP ADAPTER
7. REMOTE MONITORING PANEL
8. PARALLEL CARD INTERFACE KIT
9. EXTERNAL BATTERY CABINET
10. WALL MOUNTED FUSED SWITCH BOX
11. IN/OUT TOP CABLE ENTRY
12. SPECIAL PAINT
13. LOAD-SYNC BUS CARD INTERFACE KIT
14. BACK FEED PROTECTION

OTHER SOFTWARE SELECTABLE FEATURES

1. DIESEL-MODE
2. ECO-MODE
3. BOOST-CHARGE
4. RECTIFIER WALK-IN TIME
5. RECTIFIER DELAY ON STARTUP (HOLD-OFF TIME)
6. FREQUENCY CONVERTER MODE
7. DCM FUNCTION