



starkstrom

a Progility company

Powering Healthcare

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TECHNICAL DATA SHEET B8033FXS 80 - 100kVA

GENERAL INFORMATION

RATING		kVA	80	100
UPS Type			High Efficiency – OnLine Double Conversion	
Nominal output power (@40°C)		kVA	80	100
Nominal output active power (@40 °C/@ 20 °C)		kW	72/80	90/100
Input			Three-phase + N	
Nominal input voltage		Vac	400	
Range		%	-20/+15	
Output			Three-phase + Neutral	
Nominal Output Voltage (selectable)		Vac	380 - 400 - 415	
Efficiency VFI mode (AC/AC)*	@25% load	%	≥93.0	
	@50% load		≥94.0	
	@75% load		≥94.0	
	@100% load		≥94.0	
*@ Nominal voltage				
Heat dissipation at nominal voltage		kW kcal/h	≤4.211 ≤3620	≤5.263 ≤4525
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 sea level)	
Power derating for altitude > 1000 m			According to "IEC62040-3", 1% power derating every 100m above 1000m, up to max 2000m	
Ventilation			Forced	
Requested cooling air volume		m ³ /h	1300	
Audible noise level (according to IEC EN 62040-3)		dB	< 62	
Battery cells number		n° cells	2x180 – 2x186 adjustable	
Protection degree			IP 20	
Electromagnetic compatibility (EMC class)			IEC EN 62040-2 (class C3) (CE marking)	
Safety			IEC EN 62040-1 (CE marking)	
Test and performance			IEC EN 62040-3	
Painting			RAL9005/RAL9006 Metallized	
Accessibility			Front access for service Positioning via wheels	
Installation			side-by-side	
Dimensions WxDxH		mm	460x922x1693	
Weight (without battery)		kg	328	333
Static load (without battery)		kg/m ²	1680	1708
Input/Output cable connection			Bottom Side	



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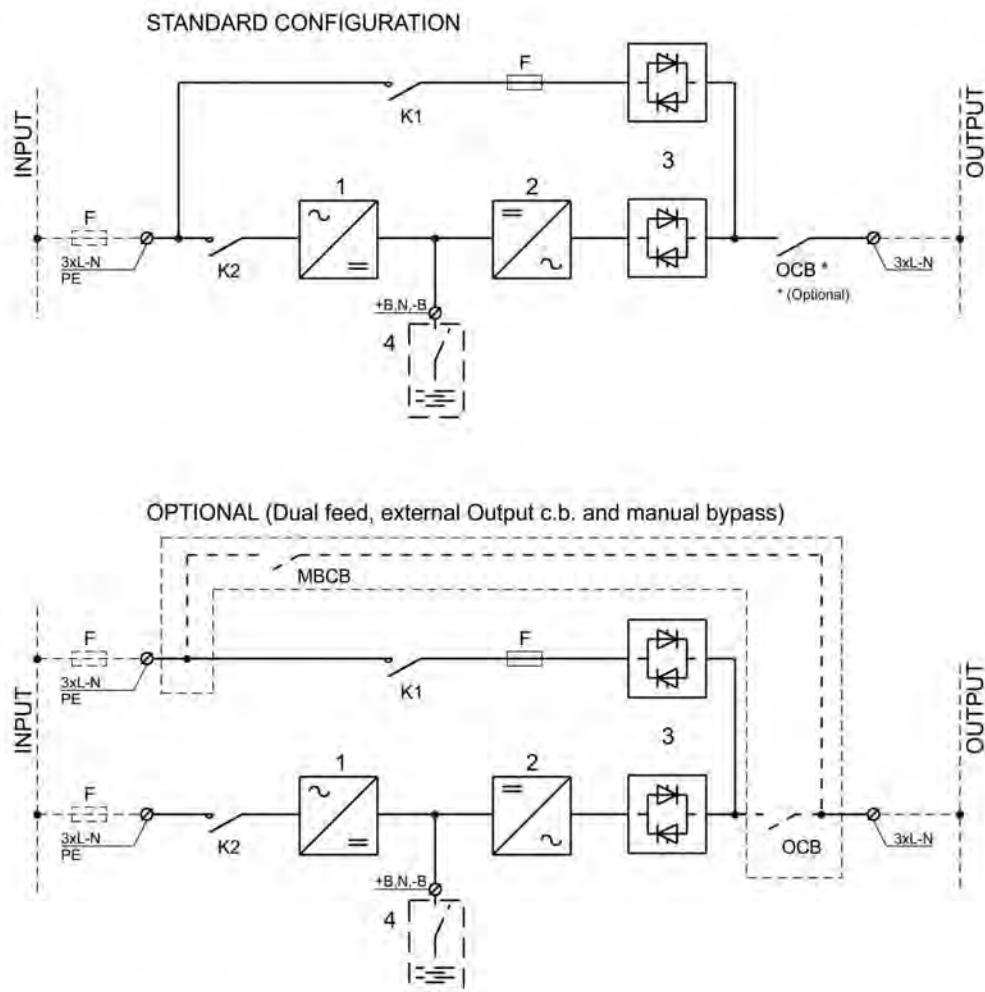
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RATING	kVA	80	100
Transport		Base provided for forklift handling	
Transport mechanical stress		According to "IEC EN 62040-3"	
Design standards		"IEC EN 62040" "ISO 9001:2008"	
Free contact interface		Output: 5 status and alarms Input: REPO – MCB – OCB – BCB – Die Mode	
Serial communication interface		RS232 - USB Optional: RS485 (Mod-Bus protocol), RJ45 (SNMP/web protocol)	
Parallel/modular configuration (optional)		Up to 5+1 (N+1 redundancy) Up to 6 (power parallel)	

BLOCK DIAGRAM



- 1) IGBT rectifier battery charger;
- 2) IGBT inverter;
- 3) Static switch for inverter-bypass transitions;
- 4) Energy storage system (battery / inertial storage systems);



UPS INPUT: RECTIFIER AND BATTERY CHARGER

RATING		kVA	80	100
Input			Three-phase + N	
Nominal input voltage		Vac	400	
Range		%	-20/+15	
Input frequency		Hz	50 – 60	
Range			±5	
Input power factor			≥ 0.99	
Input current THD at nominal voltage and THDv <0,5%	@25% load		< 5	
	@50% load	%	< 4	
	@75% load		< 3,5	
	@100% load		< 3	
DC output voltage accuracy		%	±1	
DC output voltage ripple		% rms	1	
Battery recharging characteristic			intermittent charging with prevailing state of complete rest IU (DIN 41773)	
Maximum recharging current		A		
- at nominal load			15	15
- with DCM function (max current)			50	50
AC-DC converter type			PFC IGBT	
Input protection			Fuses	
Nominal current absorbed from mains (at nominal load and battery charged @40°C)		A	110	137
Maximum current absorbed from mains (at nom. load and max. recharging current @40°C)		A	128	155
Walk-in		sec	Adjustable from 5" to 30"	
Hold-off		sec	Adjustable from 1" to 300"	

BATTERY

RATING		kVA	80	100
Type (other on request)			Lead Sealed maintenance free	
Number of Cells			2x180 – 2x186 (adjustable)	
Floating voltage at 25°C		Vdc	2x408 o 2x422 (adjustable)	
Battery minimum cut-off voltage		Vdc	600	
(protection against slow discharge)			On request	
Inverter input power (at nominal Load)		kW	74.6	93.2
Inverter input current (at nominal load-minimum Vdc)		A	124	155
Battery Protection (in extension cabinet)			Fuses	
Battery Test			Included	
Transfer:				
Normal mode to battery mode			according to EN50160	
Double Conversion mode to battery mode			zero time	



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UPS OUTPUT: INVERTER

RATING		kVA	80	100
Inverter Bridge			IGBT (High Frequency PWM)	
Nominal output power (@40°C)		kVA	80	100
Nominal output active power in battery mode(@40°C)		kW	80	100
Nominal output continuous active power (@40°C/@20°C)		kW	72/80	90/100
Efficiency (DC ÷ AC)	@25% load	%	≥95,9	
	@50% load		≥96,9	
	@75% load		≥97,4	
	@100% load		≥96,9	
Output			Three-phase + Neutral	
Nominal Output Voltage (selectable)		Vac	380-400-415	
Output Voltage Stability				
- Static (Balanced Load)		%	± 1	
- Static (Unbalanced Load)		%	± 2	
- Dynamic (Step Load 20%÷ 100% ÷20%)		%	± 2	
- Output Volt. Recovery Time (after step load)		ms	< 10	
- IEC EN 62040-3 classification			VFI-SS-111	
Phase Angle Accuracy				
- Balanced Load		°	± 1	
- 100% Unbalanced Load			± 1	
Output Frequency (selectable)		Hz	50 - 60	
Output Frequency Stability				
- Free Running Quartz Oscillator		Hz	± 0,001	
- Inverter Sync. with Mains		Hz	± 2 (other on request)	
- Slew rate		Hz/s	1	
Nominal Output Current (@ 400 Vac output)				
- 0,9 PF		A	116	145
- 1 PF			104	130
Overload Capability (with reference to a typical 0.9 PF load)			10min	>100%... 125%
			1min	>125%... 150%
			10s	>150%... 199%
			100ms	at 200%
Short Circuit Current		A	208	260
Short Circuit Characteristic			Elect. short circuit protection, current limited to short circuit value. Automatic stop after 5 seconds	
Selectivity			Within ½ cycle (Fuse gl 20% In)	
Output Waveform			Sinusoidal	
Output Harmonic Distortion				
- Linear Load		%	< 1	
- Non Linear Load			< 5	
- IEC EN 62040-3			Fully compliant	
Max Crest Factor without derating			3 : 1	



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UPS OUTPUT: BYPASS

RATING	kVA	80	100
Automatic static switch		Electronic Thyristor Switch	
Protection		Fuses	
Input/output	Vac	Three-phase + Neutral	
Nominal Voltage (selectable) Range	Vac %	380-400-415 ±10	
Nominal Frequency (selectable) Range	Hz %	50-60 ± (1÷5) adjustable	
Transfer mode		no break	
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 transfers within 2 minutes, reset by front panel	
Overload Capability	%	150 Continuously	
Manual By-Pass		Included: - Electronically controlled - No break	



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OPTIONS

1. INTERNAL OUTPUT CIRCUIT BREAKER (OCB)
2. EXTENSION MANUAL BYPASS + OCB
3. SEPARATE BYPASS INPUT
4. BATTERY TEMPERATURE VOLTAGE COMPENSATION
5. INSULATION TRANSFORMER
6. RELAY CARD (Five signals Alarms/Statuses), Free relay contact / SPARE INPUT CARD
7. SERIAL INTERFACE RS-485 (MOD-BUS protocol)
8. SNMP ADAPTER
9. REMOTE MONITORING PANEL
10. PARALLEL CARD INTERFACE KIT
11. WALL MOUNTED FUSED SWITCH BOX
12. SPECIAL PAINT

OTHER SOFTWARE SELECTABLE FEATURES

1. DIESEL-MODE (WITH SPARE INPUT CARD)
2. ECO-MODE
3. RECTIFIER WALK-IN TIME
4. RECTIFIER DELAY ON STARTUP (HOLD-OFF TIME)
5. FREQUENCY CONVERTER MODE
6. DCM FUNCTION



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