

StacoSine® Competitive Analysis

StacoSINE®

Description	Staco Energy StacoSine	SqD Accusine	Mesta DPM	Schaffner ECOsine	TransCoil H5	ABB PQF	Nokian MaxSine (Aveva)	APT AIM Energy	StacoSine Advantages and Comments
UL Listed	UL 508, c-UL Listing	UL 508, c-UL Listing	UL 508, c-UL Listing	UL 508, c-UL (3-wire, 480vac only)	UL 508, c-UL	c-UL	No, UL not indicated	UL 508, c-UL	Maximum Safety
Standard Enclosure	NEMA 1	NEMA 1	NEMA 1	IP20 (Similar to NEMA 1) IP54 (200-300A)	NEMA 1	IP21 similar to NEMA 1	IP41, similar to NEMA 1	NEMA 1	General Industry Standard
Wall Mounted	25, 50A	50, 100A	50, 100, 150A	30, 50, 60, 100, 120	50, 90A	30, 45, 60, 70, 80, 90, 100A	50A	25, 50A	Compact Size
Freestanding	100, 150, 200A	300A	200, 300A	200, 250, 300A	170A	70, 100, 130, 150, 180, 250, 320, 450A	60, 100, 400A	100, 150, 200, 300, 400A	Stand-Alone or Match-and-Line
NEMA 12, NEMA 3R	Yes	NEMA 12, IP30, IP54	No Listed, Limited	IP54 (Similar to NEMA 12) 30-120A	No	Yes, Limited	No	Available	Available NEMA 12, 3R, other ratings and configurations
Open Chassis Available	Yes	Yes	Yes	30-120A Wall or Internal Enclosure Mount	Yes	Yes	No, not listed	Yes	Ideal for system integrators, panel builders to use own enclosures
Mount in 20" Enclosure	25, 50, 100, 150, 200A	50, 100, 300A	50, 100, 150A	30, 50, 100, 120A	50, 90, 170A	Yes, PQF type dependent	No	All ratings	Most common size (depth) for MCC's
Mount in 24+ Enclosure	All ampere ratings	All ampere ratings	200, 300A Possible	Not Listed, Difficult	170A	Yes, master, slave arrangement	50, 60, 100A possible	All ratings	Flexible for larger enclosure systems
Fuse Protection	200kaic	200kaic	Internal fuses	Not Listed	Internal C/B, 100kaic	Not Listed	Fused protection	200kaic	Maximum protection rating
Parallel Individual Units	Up to 6 Units	6 or 10 model dependent	Yes, qty not listed	Up to 5 Units	Yes, qty not listed	Up to 4-8 slave units, same, various ratings	No, not listed	Up to 4 units	Offers up to 18000A of harmonic current mitigation
Ampere Ratings	25, 50, 100, 150, 200	50, 100, 300	50, 100, 150, 200, 300	30, 50, 60, 100, 120, 200, 250, 300	50, 90, 170 (65, 77, 96, 124, 152, 180, 210, 240)	70, 100, 130, 250, 450A	50, 60, 100, 400	25, 50, 100, 150, 200, 300, 400	Optimum rating selection for virtually all applications
Filter Performance	To 51st order	To 50th order	Not Listed (to 31st order)	To 50th order	To 50th order	To 50th order	To 50th order	To 51st order	Proven cancellation wide range of harmonic orders
3-Phase, 3-Wire	Yes	Yes	Yes	Yes	Yes	Yes	50, 100, 400A	All Ratings	Designed for typical power distribution systems
3-Phase, 4-Wire	Yes (modular)	Yes (3-wire product, 3 CT's)	No	Yes, 30, 60, 100, 120, 200, 250, 300A	No	Various sizes, types of PQF	60, 100A	All Ratings	For systems with neutral, saves money other devices not necessary
Voltage Ratings, VAC	208-480vac (690 with XFR)	208-480, XFR option	480vac, other vac optional	380-480vac (3-wire) 380-415vac (4-wire)	208-480vac	208-480vac, 600 and 690vac	400vac	208-600vac	Widest range of low voltages, 600VAC XFR CSA certified
Operating Frequency	50 or 60hz	50 or 60hz	60hz, 50hz Optional	50 or 60hz	50 or 60hz	50 or 60hz	50 or 60hz	50 or 60hz	Frequency insensitive, meet all applications
Reactive Power Compensation	Fixed	Automatic, Variable	Automatic, Variable	Not Listed	Automatic, Variable	Automatic, Variable	Automatic, Variable	Fixed	100% Filtering with proportional VAR compensation
Single and Multiple Loads	Yes	Yes	Yes	Not Listed	Yes, H7 model AHF one device only	Yes	Yes	Yes	Bus connected systems, or individual equipment correction
"Hybrid" with PF Correction	Yes	Yes	No	No	No	No, not listed, has capability	Yes	No	Maximum filtering with maximum power factor correction by adding capacitors

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Response Time, microseconds	<20ms	<20ms	32ms	3ms (ultra fast mode)	8ms	40ms	<20ms	300ms	Dynamic, fast acting cancellation
Switching Performance	20khz	20khz	Not Listed	16khz	Not Listed	Not Listed	10khz	Not Listed	Rapid, reliable performance
Specified Harmonic Selection	Yes, multiple orders	No, Global Only	Not Listed	Not Listed	Not Listed	15-20 order range, plus global	Yes	No, Global Only	Cancel all orders, or target specific harmonic order problems
Specified Harmonic or PFC Selection	Yes	Yes	Not Listed	Not Listed	No	Yes	Yes	No	Added control flexibility
Control Algorithm	Discrete FFT	Instantaneous	Not Listed	FFT/Analysis	Real-Time PWM	FFT, Closed Loop Control	No Listed	Instantaneous	Advanced technology, high speed, accurate response
Controller	Digital, DSP	Analog + Digital	Digital	Digital	Digital	Digital	Digital	Analog	Preferred device for active filter control
User Controls	LCD, Keypad	LED/keypad or touchscreen	LED, Test Button	LED, keypad	LED, keypad	LDC, Keypad	LCD, Keypad	LED indication, switch	Simple to use with high level of functionality
Graphic Display Panel	Yes, Standard	Yes	No	Yes	No	Yes	Yes	No	Real-time data, graphics and for optimum user control
Analyzer	Yes, Standard	No, not listed	No	Not Listed (may be included)	No	Yes	Yes	No	Monitoring line, load and StacoSine, ancillary metering not required
Waveform Reading	Yes, Standard	No, not listed	No	Not Listed (may be included)	No	Yes	Yes	No	First-hand visuals of power system
Communication Interface	RS232 Standard, other optional	Modbus capable	RS232	RS485, Modbus, TCP/IP (AHF Viewer)	RS232	RS232 standard, Modbus optional	Modbus, RS485	No, Not Listed	Wide array of communication portals
Current Transformers (CT)	Standard, 1A secondary	Optional, 5A secondary	Optional	Standard, 5A secondary	Optional	Optional 5A secondary	Optional, 1A secondary	Optional 1A secondary	Split-core CT's with high level of accuracy and response
Disconnect Means	External, Optional	Internal, Freestanding Only	Not Listed	Includes Fused Disconnect	Includes C/B	Internal C/B	No, not listed	Internal Disconnect Switch	Customer can select own type of device
Line Reactor	Optional 3%+ reactor	3% reactor suggested	Not indicated	Not indicated	TCI can include 3% reactors	Not indicated	Not indicated	Not indicated	Customer can select own reactor type/brand
Forced Air Cooling	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Maintains and improves operation, efficiency, reliability
Liquid Cooling (Electronics)	No	No	No	Yes 200, 250, 300A, plus forced air	No	No	No	No	No value for StacoSine design, will only add cost
Load Balancing	No	No	No (some mention)	No	No	Yes	No	No	Load balancing is more effective with systems approach, not one device
Seismic Rating	Vibration tested	IBC, ASET	No, not listed	No	No	No	No	No	Electronics tested for vibration, complete assembly includes mounting brackets

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Comparison data is based on information from ABB, Nokian/Areva, TCI, Schaffner, Mesta, APT Aim Energy and Square D as of 10/09 (60hz systems). Company product/model names are the registered trademarks of their respective owners. Data reflects three-wire product. Any incorrect information is unintentional and will be corrected if/when found.

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