

eVO+S 1P & 3P Series Voltage Optimisation Plus Regulation



The eVO+S Voltage Optimisation System uses the latest generation high speed microprocessor controlled thyristors to provide plant and equipment with optimal & controlled voltage, providing both energy saving and improved equipment life expectancy benefits by consistently operating electrical loads at their design voltage.



The eVO+S benefits from industry leading voltage detection and response times of <300mS to maintain voltage and protect equipment from an ever more unstable electrical supply system.

- Product range 2kVA to 3000kVA
- Single phase and three phase output versions
- Latest generation power management technology suitable for all supply environments
- Microprocessor based control system
- Independent phase voltage control
- Fast reaction to changing voltage profiles (<300mS)
- Automatic bypass – able to transfer full load onto mains
- Manual bypass for statutory inspections
- Static modular structure with thyristor technology used in power control and SMPS technology
- Electronic protection for over load, over voltage, over temperature and short circuit
- Aesthetic and ergonomic design. Durable enclosure design, powder coated with standard colour (RAL-7035)
- User friendly, comprehensive LCD screen
- Remote network function and software support



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Technical Specifications for eVO+S 1 & 3 phase voltage optimiser

Model Range	eVO+S 1 phase & 3 phase
kVA Range	1 phase 2 – 50 kVA, 3 phase 10-3200 kVA
Power Factor	0.8
Input	
Voltage	230 V 1 phase & 400V 3 phase + neutral
Voltage Tolerance	±10%
Frequency	50Hz ±5%
Input Connection	Copper busbar terminal
Output	
Voltage	220 V 1 phase & 380V 3 phase + neutral
Voltage Tolerance	±1.5%
Frequency	50Hz ±5%
Voltage Adjustment Range	220/380 + 15% - 5% in 1V increments
Current	Rating dependent
Overload Capability	101% - 125% 3 Min, 126% - 150% 10 Sec higher loadings auto shut off
Response Time	20 m/sec
Correction Speed	500V/sec
Efficiency	1 Phase >97%, 3 Phase >98% Typical
Output Connection	Copper busbar terminal
LCD Display	Input Voltage, Output voltage, Output load %, output frequency, stabilise condition and fault history, warnings (overload, over temp, input failure)
Communication	Optional network connectivity and remote management kit
Protection	
Input Voltage Protection	Automatic over/under voltage shutdown to mains supply
Output Voltage Protection	Automatic over/under voltage shutdown to mains supply
Input Current Protection	MCB/MCCB rating dependent
Output Current Protection	MCB/MCCB rating dependent
Output Overload Protection	101% - 125% 3 Min, 126% - 150% 10 Sec higher loadings auto shut off
Over Temperature Protection	Automatic bypass for unit over temperature
Bypass Switch	Automatic electrical bypass & manual 1-0-11 position bypass
Surge Arrestor	Suitable surge arrestor for lighting and voltage surges
Environmental Protection	
Operational Temperature	-10 deg C to +40 deg C
Maximum Altitude	<3000m
Maximum Humidity	<90% Non condensing
Acoustic Noise	<65 db (rating dependent)
Enclosure Specification	
Type	Indoor (External option available)
IP Rating	IP21
Standard Colour	RAL 7035
Base	Plinth
Cooling	Temperature controlled fans



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eVO+S Ratings – Dimensions and Weights

Input	Model	Electrical	Electrical	Dimensions (CM)			Weight
		Rating (kVA)	Current (Amps)	Width	Depth	Height	KG
1 Phase	eVO+S 1PH02	2	9	20	41	37	28
	eVO+S 1PH03	3	14	20	41	37	33
	eVO+S 1PH05	5	23	20	41	37	40
	eVO+S 1PH7.5	7.5	34	27	45	46	45
	eVO+S 1PH10	10	45	27	45	46	52
	eVO+S 1PH15	15	68	27	45	46	65
	eVO+S 1PH20	20	91	31	52	52	85
	eVO+S 1PH30	30	136	31	52	52	100
	eVO+S 1PH40	40	182	31	52	52	140
	eVO+S 1PH50	50	227	33	76	76	160
3 Phase	eVO+S 3PH10	10	16	33	76	76	115
	eVO+S 3PH15	15	23	33	76	76	125
	eVO+S 3PH23	23	34	33	76	76	135
	eVO+S 3PH30	30	45	33	76	76	150
	eVO+S 3PH45	45	68	50	70	130	175
	eVO+S 3PH60	60	91	50	70	130	220
	eVO+S 3PH75	75	114	50	70	130	260
	eVO+S 3PH100	100	152	50	70	130	300
	eVO+S 3PH120	120	182	60	70	150	400
	eVO+S 3PH150	150	227	80	80	160	400
	eVO+S 3PH200	200	303	80	90	160	750
	eVO+S 3PH250	250	397	80	90	160	800
	eVO+S 3PH300	300	455	90	90	170	900
	eVO+S 3PH400	400	606	90	100	170	1100
	eVO+S 3PH500	500	758	90	100	170	1200
	eVO+S 3PH600	600	909	90	120	170	1400
	eVO+S 3PH700	700	1061	240	120	170	1900
	eVO+S 3PH800	800	1212	240	80	170	2200
	eVO+S 3PH900	900	1363	240	80	170	2500
	eVO+S 3PH1000	1000	1515	250	80	170	2800
eVO+S 3PH1250	1250	1894	250	100	170	3000	
eVO+S 3PH1600	1600	2273	260	100	170	3500	
eVO+S 3PH2000	2000	3030	290	125	170	4000	
eVO+S 3PH2500	2500	3788	330	125	220	4700	
eVO+S 3PH3200	3200	4545	360	125	220	5500	



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eVO+S Options

Non-standard input voltage value	xxxV	eVO+S units can be manufactured for any required input voltage value
Non-standard input voltage range	XS,M,L,XL	eVO+S units can be manufactured for different input voltage ranges.
Non-standard output voltage value	xxxV	eVO+S units can be manufactured at any required output voltage value
Non-standard output voltage tolerance	R	Output voltage tolerances of eVO+S units can be +/-1%, +/-2%, +/-3%, +/-5%
Non-standard frequency	FRQ	eVO+S units can be manufactured for use on 60Hz network frequencies
Special enclosure	K	eVO+S units can be manufactured for both indoor and outdoor applications in special cabinets having different IPXX protection classes, e.g. IP54
Input/output EMC filter	EMC	Specially designed EMC-Filters can be added to both the input and output of eVO+S unit
Input/output surge protector	ESD	High voltage protection and surge protection can be added to both the input and output of the eVO+S unit. The required protection classes and specifications should be provided at enquiry stage (CLASS-I, CLASS-II, CLASS III)
Remote monitoring and management unit	RMU	For remote access and control of the eVO+S unit, the remote management and monitoring module (RMU) can be added. No additional software is needed for the RMU unit. The RMU provides communication over LAN or Internet
Auxiliary contacts	C	NO-NC auxiliary contactor terminals can be installed for ON-OFF and Automatic Bypass modes of the eVO+S
Non-standard input/output terminal	T	According to site specification installation requirements, input & output terminals can be designed and located as required on the cabinet. The required terminal drawings must be supplied together with the offer/order
Special design and accessories	SPM	eVO+S units can be designed and constructed to meet specific customer requirements and technical specifications. All special requirements, detailed technical drawings and specifications must be provided by the customer at the offer/order stage
Parallel connection management units	PCM	Up to 4 eVO+S units can be connected in parallel for special high power applications. A PCM unit is used for management and synchronisation when units are connected in parallel

The above are not included in the standard unit price. Details of any options required must be confirmed at the time of order. All options may not be suitable for a particular model or application. Please keep in touch with your sales representative for suitable options. The technical specifications given in this brochure are to be used as a guide. Efficient Power reserve the right to change without giving prior notice. The technical specifications in this brochure are for the eVO+S model. Please ask your sales representative for details and technical specifications for our extensive power management range.



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