

SPECIFICATIONS: powerPerfector Plus



	Features	2 nd Generation powerPerfector Plus
General Information	Technical Description	Automatic Dynamic Voltage Power Optimiser with embedded winding for harmonic attenuation and unreferenced star point for passive voltage balancing with a high short circuit current withstand capability and ultra-low impedance. Dynamic control achieved using electronics (no moving parts) enabling voltage reduction and boost.
	Nominal Voltage	400V ± 20%
	Nominal Frequency	50/60 Hz
	Wire Connection	3 phase – 3 wire type (No neutral connection required)
	Construction	High purity cold-wound copper conductor, grain orientated sheet silicon steel core. Dry type.
	powerPerfector Rating	70kVA (100A) • 110kVA (160A) • 175kVA (250A) • 220kVA (315A) • 280kVA (400A) 350kVA (500A) • 440kVA (630A) • 560kVA (800A) • 690kVA (1000A) • 830kVA (1200A) 1MVA (1450A) • 1.25MVA (1800A) • 1.5MVA (2150A) • 2MVA (2900A)
	Available Optimisation Settings	+2.7, 0, -2.7, -5.4 & -8.1% • +3, 0, -3, -6 & -9% (Automatic / Manual modes)
	AVC Response Time	Between 1 and 2 µs with a minimum re-optimisation interval of 4 seconds
	Voltage Transient Protection	Protection against common transient events
	Passive Phase Voltage Balancing	Through differential compound interaction
	Harmonic Attenuation	Passive low filtration from primary winding plus tertiary delta winding (No tuned circuits, active or electronic components).
	Three-phase Surge Arrester Type 3 According To: EN 61643-11 and IEC 61643-1	Parallel devices intended for protection of electronic appliances (AVC) against impulse surge.
	Impedance	0.5% ensuring that existing electrical integrity is not compromised nor do existing circuit breaker timer settings require alteration.
	Efficiency	Peak efficiency 99.94%
	Voltage Withstand For 60 Secs	3kV
	Insulation Class	H – 180°C
	Duty Type	Continuous
	Cooling Type	Natural Air (AN)
	Environment Operating Range	-10°C to +50°C
	Environment Humidity Range	30% to 90%
	Enclosure Description	Floor standing, front access via two front panels secured with the minimum required exposed bolts. For added security and safety a combination of tools is required to remove the panels. Vents on the bottom and top to allow airflow through the enclosure. AVC touch panel access via touch panel access cover.
	Enclosure Ingress Protection Rating	IP44 enclosure with segregated compartment for containing the AVC allowing safe (no 'live working' necessary) removal / replacement without the need to interrupt the supply or load conditions (manually operated mechanically interlocked bypass of AVC).
	Enclosure Cable Access / Entry	Top cable entry: IP44 internal • Cable entry box for bottom cable entry: IP44 external
	Automatic Voltage Bypass	Internal automatic bypass within the AVC ensuring fail safe operation - output voltage automatically reverts to the input voltage without interruption to the supply or load conditions.
	Maintenance Requirement	The unit does not require any maintenance. The incoming and outgoing electrical connections of the unit should be periodically checked as stated within the latest wiring regulations.
	CE Mark	BS EN 60076:11-2004
Electromagnetic Compatibility (EMC)	EN 61000-6-2 (2005) • EN 61000-6-4 (2007) + A1 (2001)	
Microcontroller	ARM7TDMI-S based high-performance 32-bit RISC Microcontroller	
USB Memory Stick	8GB 100+ years of data storage	
BMS Volt free – Fail Safe Alarm	✓	
Touch Screen	Touch Screen	Colour touch panel inc. graphics
	Ability To Fully Control And Monitor The AVC	✓
	User's Password View And Management	(3 Levels)
	Monitor Optimisation Usage Feature (Displays Amount Of Time / % Spent On Each Optimisation Setting)	✓
	Monitor Active Alarms	✓
	Select And Monitor Voltage, Current And Power (kW) Graphs	✓
	Timer Settings, Monitor And Control (Enable / Disable) - Manual 0% / Auto	✓
	Date And Time Settings	✓

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Web Based Monitoring & Reporting Service*	Ability To Control And Monitor The AVC	Integrated within the AVC as standard	
	Download AVC Operational Data (AVC Log)	Date, Time, Mode (Auto / Manual), Opt. setting, three phase output voltage, single phase output voltage, output current, single phase power (kW), total power (kW), MOV, AVC Temperature, VPO Temperature, Ambient Temperature.	
	Download Alarm Log	✓	
	Operating System	Internet Explorer 9 / Google Chrome / Firefox / Safari	
	Control Protocol	Javascript	
	User's Password View And Management	(3 Levels)	
	User Security	Timed Login Sessions. Links diverted to Login page. 16 character password (min.4). Automatic 15 minute lockout if 5 Login attempts are incorrect.	
	Optimisation Usage Feature (Displays Amount Of Time / % Spent On Each Optimisation Setting)	✓	
	Timer Monitor And Control (Enable / Disable) - Manual 0% / Auto	✓	
	AVC Specific IP (DHCP) Address	✓	
	Get 'IP Address' Function	✓	
	Dynamic Domain Name System (DDNS)	✓	
	Server Configuration	SMTP server / SMTP port (optional SMTP username and passwords).	
Touch Screen And Web Based Monitoring And Reporting Service*	Optimisation Settings Monitor And Control	✓	
	3 Phase Output Voltages, Single Phase Output Voltages, Output Currents, Power Per Phase (kW) And Total Power (kW) Monitor	✓	
	Minimum Output Voltage (MOV) Monitor And Control (Customised By Client Site)	Range from 207V to 253V in 1V increments	
	AVC Information: Model, Serial Number, Country And Site Of Installation	✓	
	Network Settings	✓	
	Alarms Displayed On Touch Screen And Sent Via Email To Specified Users	(5 email addresses can be used)	
	Voltage Alarms	Internal Over Voltage Alarm	✓
		Output Over Voltage Alarm: 265V (Line To Neutral) (Customised By Client)	✓
		Low Voltage Setting Alarm (LVS): 207V (Line To Neutral) (Customised By Client)	✓
		Under Voltage Alarm: 196V (Line To Neutral)	✓
	Temperature Alarms	AVC Temperature Display And Alarm (Alarm Customised By Client)	✓
		VPO Temperature Display And Alarm (Alarm Customised By Client)	✓
		Ambient Temperature Display And Alarm (Alarm Customised By Client)	✓
		VPO Core Temperature Alarm	✓
		AVC Over Temperature Alarm	✓
		VPO Over Temperature Alarm	✓
		Ambient over temperature alarm	✓
	Operational Alarms	Sub Circuit Breaker Alarm	✓
		AVC Output MCCB Alarm	✓
		Phase Failure Alarm	✓
Phase Rotation Alarm		✓	
CPU Functional Alarm		✓	
Power Outage Record		✓	

*These features require a network connection.