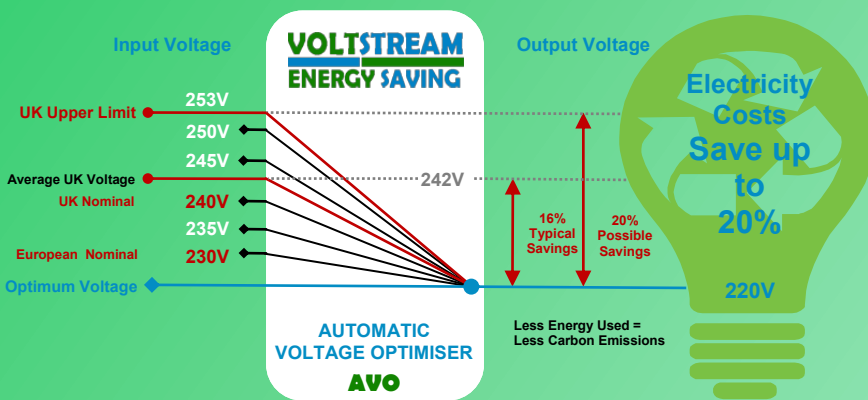


AC Automatic Voltage Optimisers

Cutting Electricity Costs by up to 20%

And ensuring we all do our bit for the Environment

A **VOLTSTREAM** Automatic Voltage Optimiser (AVO) reduces your energy usage by optimising the electricity supply voltage; significantly reducing your ongoing electricity costs and, through the need for less energy, greatly assisting in the quest for reducing your carbon footprint.



In addition, a **VOLTSTREAM** AVO protects electrical equipment against damaging power surges and voltage transients. Through ensuring an optimised supply voltage, your electrical load equipment should be able to operate more efficiently and be more able of obtaining intended design life - with the added benefit of reduced ongoing equipment maintenance costs.

Voltage Optimisation: A UK and Global Phenomenon

The interest in Voltage Optimisation is a growing worldwide trend, being particularly strong in the UK and Europe.

With Europe's electrical equipment's normally intended design voltage being 220V, in the UK, where generated supply voltage is typically between 240 to 245V, **VOLTSTREAM** Voltage Optimisers consistently deliver savings of between 10 to 20% on electricity bills.

Under such circumstances **VOLTSTREAM** AVOs deliver a speedy Return On Investment (ROI), especially when their economic justification is further strengthened in the UK, on environmental grounds, through the availability of Government backed unsecured loan funding from the Carbon Trust

Voltage Optimisation and Ashley-Edison

With our strong and wide manufacturing base, every **VOLTSTREAM** solution we supply is backed by unrivalled experience we have gained in world voltage control markets over the last 25 years or so.

Over that time, our unique design innovations have set new performance levels and the bread of our offerings have broadened to accommodate the needs and ever demanding requirements of our growing Client base.

VOLTSTREAM



- ✓ Up to 20% Lower Energy Costs and Carbon Emissions
- ✓ Protects electrical and electronic load equipment from damaging voltage transients and surges
- ✓ Optimum voltage extends the life of electrical and electronic load equipment and reduces maintenance costs

VOLTSTREAM Solutions

Available from our specialist resale partners, the **VOLTSTREAM** ranges of Automatic Voltage Optimisers combine exceptional performance and ISO 9000 build quality to deliver unmatched reliability and versatility, all at truly unbeatable prices.

Ranges available include

Supply	Rating Amps	Indoor	Outdoor
Single Phase	10 - 40 kVA	VS1	OVS1
Three Phase	15 - 500 kVA	VS3	OVS3
	250 - 1000 kVA	VSL3	



AC Automatic Voltage Optimisers

Operating on a 24 / 7 basis, **VOLTSTREAM** Automatic Voltage Optimisers not only save energy and reduce carbon emissions, they also enhance the security of your supply.



FEATURES							
VOLTSTREAM Series		INDOOR			OUTDOOR		
Model		VS1	VS3	VSL3	OVS1	OVS3	
Supply		Single Phase 2 Wire	Three Phase 4 Wire	Three Phase 4 Wire	Single Phase 2 Wire	Three Phase 4 Wire	
Rating	Amps	68 - 181	15 - 759	379 - 1518	68 - 181	40 - 700	
	kVA	15 - 40	15 - 500	250 - 1000	15 - 40	15 - 500	
No. of Models		5	14	7	5	14	
Features & Protection							
Automatic Voltage Optimisation		✓	✓	✓	✓	✓	
Voltage Surge & Spike Protection		✓	✓	✓	✓	✓	
Tight Output Voltage Accuracy		✓	✓	✓	✓	✓	
High Overload Capability		✓	✓	✓	✓	✓	
Start Up Load Protection		✓	✓	✓	✓	✓	
Over / Low Voltage Protection		⊙	✓	✓	✓	✓	
Electronic Controls Bypass Facility		✓	✓	✓	✓	✓	
Input Circuit Breaker		✓	✓	⊙	✓	✓	
Inbuilt Manual Bypass Facility		⊙	⊙	⊙	⊙	⊙	
Phase Failure Protection			✓	⊙		✓	
Independent Phase Balancing			✓	✓		✓	
Fault Tolerant Regulation Control				✓			
Lightning Surge Protection		⊙	⊙	⊙	⊙	⊙	
Output Circuit Breaker		⊙	⊙	⊙	⊙	⊙	
System Metering:							
Operational Status Indication		✓	✓	✓			
Volt Meter		✓	✓	✓	✓	✓	
Ammeter		✓	⊙	✓			
Frequency Meter			⊙	⊙			
Digital kW / kW Hour Meter		⊙					
Digital Power Meter		⊙	⊙	⊙	⊙	⊙	
Over/ Low Voltage Contacts		⊙	⊙	✓	⊙	⊙	

KEY ✓ Standard ⊙ Optional

VOLTSTREAM

Advanced Features & Protections

Automatic Voltage Optimisation

Stepless automated regulation of the incoming voltage to deliver a highly accurate optimised voltage for electronic and electrical load equipment.

Voltage Surge & Spike Suppression

Inbuilt protection against damaging voltage spikes and transients.

High Overload Capability

Ability to support electrical and electronic equipment initial / start up high current draws.

Start Up Load Protection

At the moment of switch ON the Voltage Optimiser will provide a lower output voltage that will then smoothly rise to the optimised output voltage - thereby avoiding any momentary over voltage situations which could possibly damage the connected load.

Over / Low Voltage Protection

Ability to configure the Voltage Optimiser, if required, to shutdown in the event of the incoming voltage supply going outside the normal input window of 323 to 437V / 187 to 254V AC or, via the optional 'no-volt' interface, notify any building BMS or monitoring system.

Inbuilt Full Manual Bypass Facility

Ability to manually power down the Voltage Optimiser, transferred the load directly onto the mains. Useful when performing maintenance on the system, or in the highly unlikely event of a system malfunction.

Phase Failure Protection

Any failure of phases on a three phase supply will be immediately detected and alarmed accordingly. The system will automatically power down to protect the load side equipment.

Independent Phase Balancing

On Three Phase systems each phase voltage remains optimised, irrespective of load unbalance, even for situations where a 100% load imbalance may exist.

Fault Tolerant Regulation Control

In the unlikely event of a phase control module failure a parallel module will take over control with no loss in system capacity. Especially useful in extremely critical load applications.

Lightning Surge Protection

Protection against extremely high surges and transients caused by lightning strikes.



TECHNICAL DATA SHEET

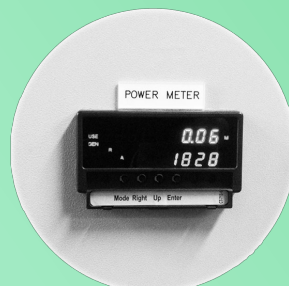
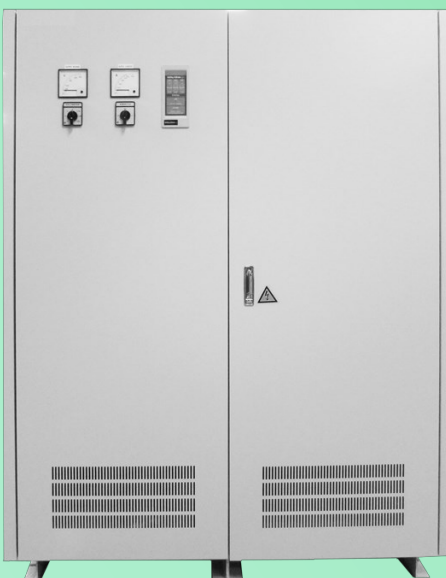
VOLTSTREAM Series	VSL 3
Input Voltage Range	323 - 437V Three Phase 4 Wire
Output Voltage	380 / 220V Three Phase 4 Wire
Output Voltage Accuracy	+ / - 0.5%
Frequency	47 to 65 Hz
Efficiency	98%
Power Factor	Any lagging to 0.95 leading
Surge Ratings	10 x max. current rating for 2 seconds 3 x max current rating for 1 minute 2 x max. current rating for 5 minutes
Total Harmonic Distortion	<1%
Digital Power Meter (Optional)	Display Red LED (V,A,W,VA,AER,PF) - Display Green LED (kWH) Temperature range -15 to 45°C. Derate by 2% for each additional °c up to max of 60°C. Suitable for indoor tropical use 95% RH (non-condensing). Maximum altitude 1000m. Derate by 2.5% for each additional 500m.
Environment	
Construction	Enclosures to IP20, BS EN5490 / IEC 60529
Conformance	BS EN50081-1;2 / IEC 61000-4-3;4
CE Conformity	EN55022, EN50082-2, ENV50140-1

MODELS

VOLTSTREAM Model	Rating kVA	Max. Output Amps (per Phase)	Dimensions (mm) W x H x D	Weight (Kg)
VSL3-250H	250	379	1280 x 1480 x 660	701
VSL3-300H	300	455	1280 x 1480 x 660	801
VSL3-400H	400	607	1280 x 1950 x 880	966
VSL3-500H	500	759	1280 x 1950 x 880	1016
VSL3-600H	600	911	1340 x 1950 x 1280	1401
VSL3-750H	750	1139	1340 x 1950 x 1280	1481
VSL3-1000H	1,000	1518	1340 x 1950 x 1280	1801

Note: Optional accessories added may affect dimension and weights, subject to confirmation.

Outdoor IP54 versions also available - OVSL3 Series



Optional Digital Power Meter

VSL3

INDOOR

Three Phase 250 - 1000 kVA



Supply Three Phase 4 Wire
Rating 379 - 1518 Amps
250 - 1000 kVA

No. of Models 7

Features & Protection

Automatic Voltage Optimisation	✓
Voltage Surge & Spike Protection	✓
Tight Output Voltage Accuracy	✓
High Overload Capability	✓
Start Up Load Protection	✓
Over / Low Voltage Protection	✓
Independent Phase Balancing	✓
Electronic Controls Bypass Facility	✓
Fault Tolerant Regulation Control	✓
Input Circuit Breaker	⊙
Inbuilt Full Manual Bypass Facility	⊙
Phase Failure Protection	⊙
Lightning Surge Protection	⊙
Output Circuit Breaker	⊙

System Metering:

Operational Status Indication	✓
Volt Meter	✓
Over/ Low Voltage Contacts	✓
Digital Power Meter	⊙
Frequency Meter	⊙

KEY ✓ Standard ⊙ Optional

