Uninterruptible Power Systems & Power Conversion Products

ED Series™ UVS PLUS® *1kVA to 5kVA*

Voltage & Frequency Converters

- **True Double Conversion Design**
- **Precision Output Voltage & Frequency**
- **Pure Sinewave Output <3% THD**
- **50, 60 & 400Hz Frequency Conversion**
- **Voltage Conversion Models Available**
- **Battery Backed Up Models Available**
- **Input Power Factor Corrected Models Available**
- **Superior Brownout, Surge and Transient Protection**
- **Battery Backed Up Models Available**
- **Small and Lightweight**

Technology Breakthrough

Falcon® Electric's ED Series™ UVS Plus® is more than a frequency converter, voltage regulator, power factor corrector or line conditioner. Its unique features will significantly improve your equipment's reliability, virtually eliminating power-related downtime and dramatically increasing productivity. Its small size and lightweight construction makes it ideal for OEM and integrated applications.

Unique Frequency Converter & UPS Capability

The ED Series provides unique flexibility in a small footprint. The ED Series can be factory configured as a pure frequency converter accepting a 50, 60 & 400Hz input and yielding a fixed 50 or 60Hz output. It can also supply a 400Hz, 120V output if properly derated. The ED can be configured as an international converter, making it an ideal solution for those tough applications requiring both voltage and frequency conversions. A battery system may be added to most models, turning it into a true Regenerative On-line UPS.

Superior Voltage/Frequency Regulation & Extended Brownout Protection

Since the ED Series is a solid-state generator, it prevents daily power disturbances from reaching your equipment. Constant voltage transformers, line conditioners and other devices are not designed to prevent damage from these problems.

The ED continually regenerates new, clean AC power in pure sinewave form for superior protection. Even with wide input variations in voltage and frequency, the ED Series UVS Plus's output steadfastly remains at its designed voltage and frequency. It also allows your system to continuously operate during extended brownouts to 88 VAC.

Enhanced Surge Start-up Capability

Falcon Electric's ED Series is designed to start-up loads that exhibit high inrush when started from the utility. This gives the ED the ability to start tough loads such as motors, multiple computers or incandescent lighting.

Converts Generator Output Into Computer-Grade Power

Due to its Regenerative On-line design, the ED Series regenerates new, clean computer-grade power with tightly regulated voltage and frequency, independent of generator voltage and frequency drift.

Ideal for applications such as:

- **Military & Aerospace**
- **Aircraft Frequency Conversion**
- **Off Shore Platforms**
- **Shipboard Systems**
- **Robotics**
- **Automated Manufacturing**
- **Test Equipment Benches**
- **Precision Motor Speed Application**
- **Mobile Office/Labs**
- **Communications/Microwave**

Falcon Electric, Inc. - 5116 Azusa Canyon Rd. - Irwindale, CA91706 - 800.842.6940 Fax 626.962.7720
www.falconups.com - email: sales@falconups.com

ED Series™ UVS PLUS®

Model Comparison

ED Model Series	-A Models	-PFC Models	-LC Models	-1 Models
Primary Function	**Frequency Converter**	**Power Factor Corrector**	**Voltage & Frequency Converter**	**On-Line UPS**
Wide Input Voltage Range?	YES -20% to +10% of Nominal Line			
Input PFC?	**NO** .65 -.7pf	**YES** .97 - .99pf	**NO** .65- .7pf	
Superior Brown out, Surge and Transient Protection	**YES**			
Input Voltage(s) Available	120Vac Only		**-1/2 Model** 120Vac **- 2/1 Models** 220Vac or 230Vac or 240Vac	120Vac Only
Output Voltage(s) Available	120Vac Only		**- 1/2 Models** 220Vac or 230Vac or 240Vac **-2/1 Models** 120Vac	120Vac only
Output Ratings Available	**1kVA – 5kVA** 1kVA = 700W 1.5kVA – 1050W 2kVA = 1400W 3kVA = 2100W 4kVA = 2800W 5kVA = 3500W	**1kVA – 2.4kVA** 1kVA = 700W 1.5kVA – 1050W 2kVA = 1400W 2.4kVA = 1680W		
3% Output Voltage Regulation?	**YES**			
True Sinewave Output?	**YES** <3% THD @ Full Load			
Handles High Inrush Loads?	**YES**			
Frequency Conversion?	Input – 50, 60 or 400Hz Output – 50, 60 or 400Hz	Input – 60 Output – 50, 60 or 400Hz	Input – 50, 60 or 400Hz Output – 50, 60 or 400Hz	Input – 50, 60 or 400Hz Output – 50, 60 or 400Hz
Cleans Dirty Generator Power and Eliminates Frequency Drift?	**YES**			
Voltage Conversion?	**NO**		**YES**	**NO**
Battery Backup?	External Battery Bank Options Available			**YES**
High Temperature Operation?	**YES** 0ºC-50ºC 32ºF - 122ºF*			**NO** 0ºC-35ºC 32ºF - 95ºF
Dry Contact Closure Interface	**YES**			
Size	13.6 H x 6.25 W x 19.4 D Typical			
Other	See Individual Datasheets for More Information			

* Without optional battery bank .

ED Series™ UVS PLUS® *Model -A*

ED Series Model -A Frequency Converter (120V Input/Output)

Model Number	ED-1000-A	ED-1500-A	ED-2000-A	ED-3000-A	ED-4000-A	ED-5000-A
Nominal VA	1000	1500	2000	3000	4000	5000

Electrical Input

AC Voltage, +10% -20%	120Vac					
Current-Amps	10.4	15.6	20.8	29	39	48
Frequency Range	47-450 Hz					

Electrical Output

AC Voltage, ± 3%	120Vac					
Watts @ 50 or 60 Hz	700	1050	1400	2100	2800	3500
Watts @ 400 Hz	595	892	1190	1900	2600	3200
Current-Amps @ 50/60 Hz	8.3	12.5	16.7	25	33	42
Current-Amps @ 400 Hz	7.1	10.6	14.2	19	26	35
50/60 Hz Non – Linear Repetitive Peak (Amps)	20	30	40	60	80	100
400 Hz Non – Linear Repetitive Peak (Amps)	14.2	21.3	28.3	42.5	56.1	71.8
Total Harmonic Distortion	< 3% @ 100% Linear Load, < 5% @ 100% Non – Linear Load					
Overload	200% for 0.5 Seconds, 120% for 30 Seconds					
Dynamic Response	± 5% RMS for 100% Step Load Change, 1ms Recovery Time					
Output Protection	Short Circuit and Overload					

Electrical Connections

Input	6' Cord with 5-15P	8' Cord with 5-20P	8' Cord with L5-30P	Hardwired
Output	(4) 5-15R	(4) 5-15R	(4) 5-15R	Hardwired

Environmental

Operating Temperature	0º C to 50º C (32º C to 122º F)	0º C to 40º C (32º C to 104º F)
Humidity	10% to 95% Non – Condensing	
Altitude	7,000 Feet	
Cooling	Low Velocity Forced Air Fans	
Audible Noise @ 1.5 Meters	49dBA	54dBA

Controls and Indicators

Sequenced LEDs	Load Level
Single LED	Utility Present, Summary Alarm, Inverter On
Audible Alarms	Utility Interrupt, Inverter Failure, Overload
Communications	Dry Contact Closures on Utility Loss via 9 Pin "D" Connector

Mechanical

Dimensions H x W x D inches (mm)	13.5 x 6.25 x 19.4 (342.9 x 158.8 x 492.8)					
Weight lb. (kg)	25 (11.3)	38 (17.2)	38 (17.2)	50 (22.7)	50 (22.7)	60 (27.2)
Agency Listing	FCC Class A, Meets UL 1778 Standard					

Specify input/output frequency, 50/60 or 400Hz (any combination).
Standard models shown. Custom configurations available; Consult Factory.

ED Series™ UVS PLUS® *Model -PFC*

ED Series Power Factor Corrector / Frequency Converter (120V)

Model Number	ED-1000-PFC	ED-1500-PFC	ED-2000-PFC	ED-2400-PFC
Nominal VA	1000	1500	2000	2400

Electrical Input

AC Voltage, +10% -20%	120Vac			
Current-Amps	6.9	10.7	14.2	17
Frequency Range	47-63 Hz			
Power Factor	.97 - .99pf			
Current Distortion	>3% any single harmonic			

Electrical Output

AC Voltage, ± 3%	120Vac			
Watts @ 50 or 60 Hz	700	1050	1400	1680
Watts @ 400 Hz	595	892	1190	1487
Current-Amps @ 50/60 Hz	8.3	12.5	16.7	20
Current-Amps @ 400 Hz	7.1	10.6	14.2	17
50/60 Hz Non – Linear Repetitive Peak (Amps)	20	30	40	48
400 Hz Non – Linear Repetitive Peak (Amps)	14.2	21.3	28.3	33
Total Harmonic Distortion	< 3% @ 100% Linear Load, < 5% @ 100% Non – Linear Load			
Overload	200% for 0.5 Seconds, 120% for 30 Seconds			
Dynamic Response	± 5% RMS for 100% Step Load Change, 1ms Recovery Time			
Output Protection	Short Circuit and Overload			

Electrical Connections

Input	6’ Cord with 5-15P	8’ Cord with 5-20P	8’ Cord with L5-30P
Output	(4) 5-15R		

Environmental

Operating Temperature	0º C to 50º C (32º C to 122º F)
Humidity	10% to 95% Non – Condensing
Altitude	7,000 Feet
Cooling	Low Velocity Forced Air Fans
Audible Noise @ 1.5 Meters	54dBA

Controls and Indicators

Sequenced LEDs	Load Level
Single LED	Utility Present, Summary Alarm, Inverter On
Audible Alarms	Utility Interrupt, Inverter Failure, Overload
Communications	Dry Contact Closures on Utility Loss via 9 Pin “D” Connector

Mechanical

Dimensions H x W x D inches (mm)	13.5 x 6.25 x 19.4 (342.9 x 158.8 x 492.8)			
Weight lb. (kg)	25 (11.3)	38 (17.2)	38 (17.2)	42 (19.1)
Agency Listing	FCC Class A, Meets UL 1778 Standard			

ED Series™ UVS PLUS® *Models -1/2LC & 2/1LC*

ED Series Model -1/2LC & 2/1LC Voltage & Frequency Converter (1/2LC, 120V Input/200-240V Output ~ 2/1LC, 200-240 Input/120V Output)

Model Number	ED-1000-1/2LC	ED-1500-1/2LC	ED-2000-1/2LC	ED2500-1/2LC	ED-1000-2/1LC	ED-1500-2/1LC	ED-2000-2/1LC	ED-2400-2/1LC
Nominal VA	1000	1500	2000	2500	1000	1500	2000	2400

Electrical Input

AC Voltage, +10% -20%	120Vac				230Vac			
Current-Amps	10.4	15.6	20.8	24	5.4	8.1	10.9	12
Frequency Range	47-450 Hz							

Electrical Output

AC Voltage, ± 3%	230Vac				120ac			
Watts @ 50 or 60 Hz	700	1050	1400	1750	700	1050	1400	1680
Watts @ 400 Hz	N/A				595	892	1190	1487
Current-Amps @ 50/60Hz	4.3	6.5	8.7	10.5	8.3	12.5	16.7	20
Current-Amps @ 400 Hz	N/A				7.1	10.6	14.2	17
50/60 Hz Non – Linear Repetitive Peak (Amps)	8.7	13.0	17.4	25	20	30	40	48
400 Hz Non – Linear Repetitive Peak (Amps)	N/A				14.2	21.3	28.3	33
Total Harmonic Distortion	< 3% @ 100% Linear Load, < 5% @ 100% Non – Linear Load							
Overload	200% for 0.5 Seconds, 120% for 30 Seconds							
Dynamic Response	± 5% RMS for 100% Step Load Change, 1ms Recovery Time							
Output Protection	Short Circuit and Overload							

Electrical Connections

Input	6' Cord with 5-15P	8' Cord with 5-20P	8' Cord with L5-30P	As Specified
Output	As Specified			(4) 5-15R

Environmental

Operating Temperature	0º C to 50º C (32º F to 122º F)
Humidity	10% to 95% Non – Condensing
Altitude	7,000 Feet
Cooling	Low Velocity Forced Air Fans
Audible Noise @ 1.5 Meters	54dBA

Controls and Indicators

Sequenced LED s	Load Level
Single LED	Utility Present, Summary Alarm, Inverter On
Audible Alarms	Utility Interrupt, Inverter Failure, Overload
Communications	Dry Contact Closures on Utility Loss via 9 Pin "D" Connector

Mechanical

Dimensions H x W x D inches (mm)	13.5 x 6.25 x 22.4 (342.9 x 158.8 x 568.9)			13.5 x 6.25 x 19.4 (342.9 x 158.8 x 492.8)			
Weight lb. (kg)	41 (18.6)	64 (29)	68 (31)	41 (18.6)	64 (29)	68 (31)	
Agency Listing	FCC Class A, Meets UL 1778 standard						

Specify input/output frequency, 50/60 or 400Hz (any combination).
Standard configuration can be field changed to 200V, 220V or 240V.
Standard models shown. Custom configurations available; consult factory.
Batteries may be added to most ED Series Models; consult factory.

ED Series™ UVS PLUS® *Model -1*

ED Series Model -1 Frequency Converter with Battery Back-Up (120V Input/Output)

Model Number	ED-1000-1	ED-1500-1	ED-2000-1	ED-2400-1
Nominal VA	1000	1500	2000	2400

Electrical Input

AC Voltage, +10% -20%	120Vac			
Current-Amps	10.4	15.6	20.8	22
Frequency Range	47-450 Hz			

Electrical Output

AC Voltage, ± 3%	120Vac			
Watts @ 50 or 60 Hz	700	1050	1400	1680
Watts @ 400 Hz	595	892	1190	1487
Current-Amps @ 50/60 Hz	8.3	12.5	16.7	20
Current-Amps @ 400 Hz	7.1	10.6	14.2	17
50/60 Hz Non – Linear Repetitive Peak (Amps)	20	30	40	48
400 Hz Non – Linear Repetitive Peak (Amps)	14.2	21.3	28.3	33
Total Harmonic Distortion	< 3% @ 100% Linear Load, < 5% @ 100% Non – Linear Load			
Overload	200% for 0.5 Seconds, 120% for 30 Seconds			
Dynamic Response	± 5% RMS for 100% Step Load Change, 1ms Recovery Time			
Output Protection	Short Circuit and Overload			

Battery

Type	Sealed Lead Acid Maintenance-Free		
Back Up Time @ Full Load	8 Minutes	5 Minutes	3 Minutes
@ 1/2 Load	20 Minutes	14 Minutes	9 minutes

Battery times are approximate.

Electrical Connections

Input	6' Cord with 5-15P	8' Cord with 5-20P	8' Cord with L5-30P
Output	(4) 5-15R		

Environmental

Operating Temperature	UL Listed - 0º C to 35º C (32º F to 95º F) Non-UL Listed - 0º C to 50º C (32º F to 122 º F) With Hawker High Temperature batteries - 0º C to 60º C (32º F to 140 º F)
Humidity	10% to 95% Non – Condensing
Altitude	7,000 Feet
Cooling	Low Velocity Forced Air Fans
Audible Noise @ 1.5 Meters	54dBA

Controls and Indicators

Sequenced LEDs	Load Level
Single LED	Utility Present, Low Battery, Summary Alarm, Inverter On
Audible Alarms	Utility Interrupt, Inverter Failure, Overload, Low Battery
Communications	Dry Contact Closures on Utility Loss & Low Battery via 9 Pin "D" Connector

Mechanical

Dimensions H x W x D inches (mm)	13.5 x 6.25 x 19.4 (342.9 x 158.8 x 492.8)	
Weight lb. (kg)	41 (18.6)	64 (29)
Agency Listing	UL Listed 1778, FCC Class A	

Specify input/output frequency, 50/60 or 400Hz (any combination).
Standard models shown. Custom configurations available; consult factory.

Falcon Electric, Inc. - 5116 Azusa Canyon Rd. - Irwindale, CA91706 - 800.842.6940 Fax 626.962.7720
www.falconups.com - email: sales@falconups.com