

Model	HFF 306	HFF 310	HFF 315	HFF 320	HFF 330	HFF 340	HFF 360
Power (p.f. = 0.7):	600 VA	1000 VA	1500 VA	2000 VA	3000 VA	4000 VA	6000 VA
Input:	230V/50Hz or 110V/50Hz or 110V/60Hz, voltage +/- 15%, frequency +/- 5%						
Input Power Factor:	> 0.98						
Output:	230V/50Hz or 110V/50Hz or 110V/60Hz						
Voltage Regulation:	+/-2% Steady State, +/-4% for 0-100% Step Load						
Freq. Regulation:	Phase locked with input frequency until +/-3%, then unlock & quartz derived						
Distortion:	THD < 3% under linear load						
Waveform:	Pure sinusoid						
Overload Capacity:	120% @ 15 seconds, 180% @ 300mS						
Crest Ratio:	3:1						
Efficiency:	> 85% @ full linear load (AC to AC)						
Battery Type:	Sealed, maintenance free lead-acid						
Back-Up Time 4/4:	6 mins	6 mins	6 mins	10 mins	8 mins	15 mins	8 mins
Back-Up Time 1/2:	16 mins	16 mins	16 mins	20 mins	18 mins	25 mins	18 mins
Transfer Time:	Zero - True Online device						
Noise Level:	< 45dBA @ 1m						
Remote Ports:	RS232, 9-Way Serial + Volt Free Relays, 9-Way Serial						
Temp. Range	-5 deg.C to 40 deg.C						
Humidity:	0 to 90% non-condensing						
EMC:	Better than EN55-022B						
Dims. HxWxD (cm):	27x17x40	27x17x40	27x17x50	35x20x45	35x20x50	80x26x60	80x26x60
Weight:	12.6Kg	15.4Kg	20Kg	34.5Kg	41Kg	65Kg	80Kg

Other Options: Other options include 3-phase inputs, extended battery times, environmentally protected cases (high IP rating) and special connectors. Please ask for more details.

Other UPS Systems: Failsafe also manufactures 19" rack UPS as well as larger single phase and 3-phase systems. Please ask for more details.

Failsafe Power was established in 1984 to design and build high quality power converters. Based in West London our range of product now includes UPS, 19" rack UPS, frequency converters & 400Hz, telecom rectifiers and inverters. In addition a wide range of industrial and military power supplies are manufactured, several with full NATO approval. In 1997 Failsafe became ISO 9001 certified.

Distributor:

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Failsafe HFF200602 - Data subject to change without notice

True Online UPS Systems Type **HFF 300** Series 600VA to 6KVA



230V/50Hz, 110V/50Hz, 110V/60Hz

Fail safe
 Power converters

CE



Online UPS

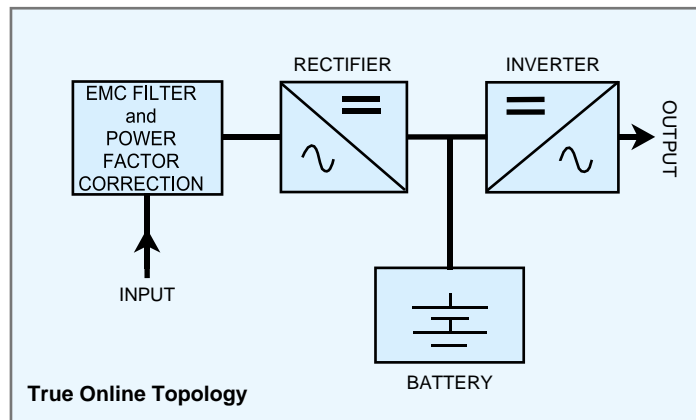
Failsafe 'HFF' True Online UPS, With Static and Maintenance By-Passes; Compact, Sophisticated and Utterly Dependable.

Failsafe's new range of small UPS units offers facilities that would normally only be found in much larger machines:

- q True Online Double Converter Topology
- q Intelligent Static By-Pass
- q Manual Maintenance By-Pass
- q Internal galvanic Isolation
- q RS232 & Relay Remote Ports
- q Optional SNMP Network Card
- q Power Factor Corrected Input
- q Microprocessor Controlled

True Online Design:

True online (double converter) design means that the UPS is processing the power through its inverter all the time, so there is no "changeover" or "transfer" to batteries when the mains fails and therefore no break in power whatsoever. The critical load only sees pure seamless power, regardless of the state of the incoming mains.



Absolute filtration.....

An additional benefit from the Online design is that it acts as the ultimate filter when the mains is present, removing voltage spikes, transients, brownouts and frequency drifts.

with galvanic isolation.....

Rarely available in modern UPS units due to its cost this feature electrically isolates the output from the mains input supply, dramatically enhancing User safety.

and power factor correction.....

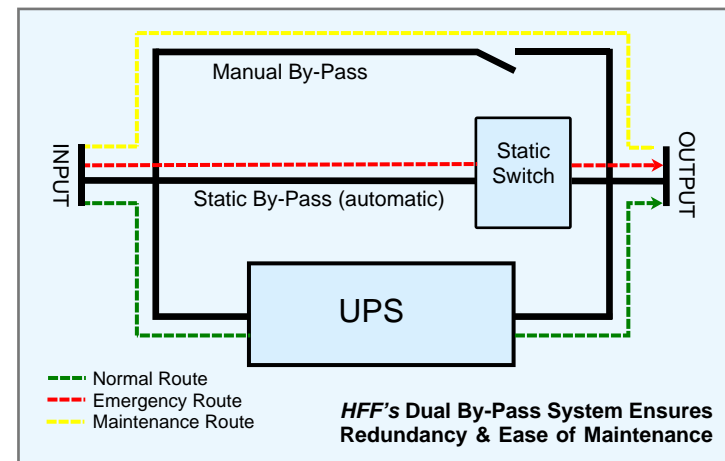
Fully compliant with all EU energy saving requirements, HFF units use a sophisticated power factor correction circuit to give an input power factor of close to unity. This results in input-to-output efficiencies up in the 90% region.

110V Versions:

All HFF models are available in both 230V and 110V variants, with either 50Hz or 60Hz options. Unusually, all 110V models have full CE approval and therefore may be used in industrial/railway applications within the UK and Europe.

Static and Maintenance By-Passes:

All HFF models have both a static by-pass and a maintenance (manual) by-pass.



The **static by-pass** is an emergency device - it automatically takes over in the event of a UPS overload, thermal overload or fault. And when the problem has cleared it automatically passes the load back to the UPS again. The transfer in either direction is without a break and therefore does not effect the load.

The **manual by-pass** is a maintenance device, allowing the UPS to be manually isolated from the system *without interrupting the load*. For example, the batteries could be changed within a machine without the load having to be shutdown. This is a very unusual feature in UPS systems of this power range.

Seven Models From 600VA to 6KVA:

From an individual PC to Servers and LANs, with seven models to choose from there is no need to compromise on power rating.

Business PCs



Security Systems



Networks



Industry/Railways



Microprocessor Control & Self Test:

Much of the complex hardware traditionally found in a UPS has been replaced with a powerful microprocessor carrying embedded software. Thus HFF units have a reduced parts count, resulting in reduced size and increased reliability. Each time the UPS is switched on the microprocessor runs a complete self analysis on its components and on the load, to detect any possible fault at the earliest stage.

User Friendly Display:

The display on HFF models gives extensive information on the status of the UPS in a clear and easy to read style. Included on the display is an output load meter (%) and a battery status meter. In addition there are LEDs for Input Mains, By-Pass, Inverter and Fault conditions.

An audible alarm is also fitted, warning of all fault conditions including mains failure and battery low.

The rear of each unit is fitted with domestic style output sockets (13A type in the UK), except the 4KVA and 6KVA models which are 'hard wired'.

Batteries:

Sealed, dry, maintenance free batteries, with a design life of 5 years, are used as standard in HFF UPS systems. As an option 10 year life batteries may be ordered.

The standard back-up time of 8-10 minutes may be increased by fitting an HFF extension battery pack. This is an external case which fits under the UPS unit and plugs in to the rear panel. Packs giving extension times of 30, 60 and 90 minutes are available.

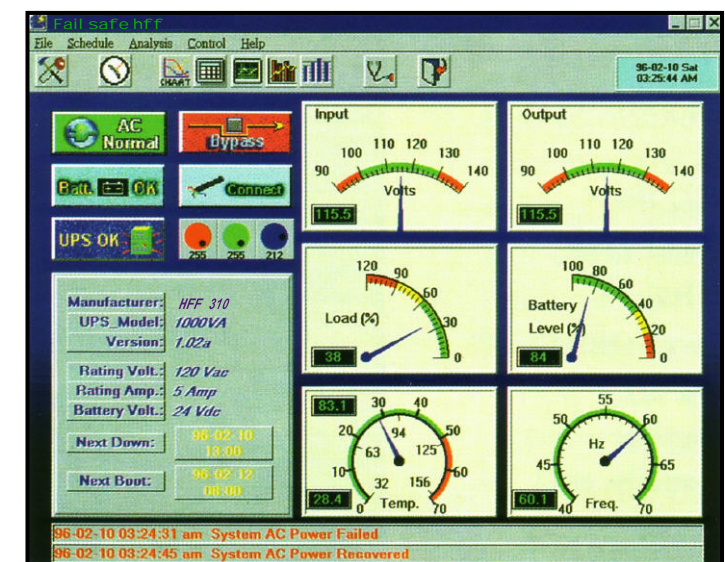
For still longer back-up times, special HFF models may be ordered with an up-rated battery charger and a separate battery cabinet. Using this method back-up times of as long as 72 hours are possible.

Plug & Play:

HFF UPS systems come ready for use - just plug in the mains supply, connect your PC, Server or Network and switch on. Instantly your system is fully protected from power problems and failures.

Remote Status and SNMP:

Each unit is supplied with a Windows based CD-ROM (UNIX optional) and an interface lead to allow an individual PC or Server to be connected directly to the RS232 port on the rear of the UPS. All the working parameters of the UPS (e.g. load %, output voltage, battery state etc) may then be viewed directly from your PC screen.



Sophisticated Remote Display

You can also set-up the software to call you on a modem or pager in the event of a problem or safely shutdown your system in your absence in the event of a prolonged power-cut.

For network applications an SNMP adapter card is available allowing a Network Manager to monitor and control the UPS from any remote point within the network.

For Novell and industrial applications HFF units have an additional port which provides UPS status information via **volt-free relays**.

Other Failsafe Products:

- q Pro-Rack 19" rack UPS units
- q SFC 6000 single and three phase UPS
- q SFC series frequency converters
- q TCF series telecom rectifier systems
- q DCF series inverters