

## 300W UPS/Battery Charger, Rugged Industrial Quality BCH 300-F3 Series



- Rugged, industrial quality
- Field-proven design
- Conduction/convection cooled - no fan
- Full electronic protection
- Charger Fail Alarm
- Made in North America

This rugged, industrial quality DC-output UPS system with external battery uses field-proven high-frequency technology to generate the required output power. The built-in battery charger provides 300W total power for the output and for float charging the battery. A built-in charger fail alarm (Form C) indicates either failure of the charger circuit or loss of AC-input power. The battery input is protected against accidental reverse battery connection by a crossbar diode and internal safety fuse. The battery must be fused externally, directly at the battery. Cooling is by conduction via baseplate. Additional cooling is achieved by natural convection through the cooling slots. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also provides exceptional mechanical ruggedness. Conformal coating provides protection against humidity and airborne contaminants. Full electronic protection, low component count, large design headroom and the exclusive use of components with established reliability contribute to a high MTBF. The unit is manufactured at our plant under strict quality control.

### SPECIFICATIONS

#### Input Voltage

##### Mains Input:

115/230Vac  $\pm 15\%$  (47 - 420Hz)  
jumper selectable

##### Battery Input:

12V, 24V, 48V or 125V battery  
Other inputs available on request

#### Input Protection

##### AC Input

Inrush current limiting  
Varistor  
Internal safety fuse  
Lower voltage than the specified minimum input will not damage the unit

##### Battery Input:

Crossbar diode  
Internal battery safety fuse  
**Warning: Battery must be fused externally, directly at the battery**

#### Input Isolation

2250VDC input to chassis  
4300VDC input to output,  
8mm spacing  
500VDC output to chassis

#### Standards

Designed to meet EN 60950-1 and related standards

#### EMI

EN55032 Class A with margins

#### Switching Frequency

55kHz  $\pm 3$ kHz

#### Output Voltages

13.8V (for 12V battery) or  
27.6V (for 24V battery) or  
55.2V (for 48V battery) or  
138V (for 125V battery)  
Output is floating, either terminal can be grounded  
Other outputs available on request

#### Output Separation Diode

Installed internally

#### Line/Load Regulation

$\pm 1.5\%$  combined from no load to full load including output separation diode

#### Output Ripple/Noise

Better than 1% of output voltage peak to peak or 0.2% RMS of the output voltage (20MHz BW)

#### Overload Protection

Rectangular current limiting with hiccup mode short circuit protection  
Thermal shut-down with automatic recovery in case of insufficient cooling  
Internal battery safety fuse on battery input

#### Output Overvoltage Protection

Double regulator loop, stable and independent of the main feedback loop

#### Efficiency

Typically 80 - 90% at full load depending on output

#### Operating Temperature

0°C to +50°C for full specification with natural convection cooling  
Extended temperature range available

#### Battery Temp. Compensation

Not included on this design  
Available as option.

#### Temperature Drift

0.03% per °C over operating temperature range

#### Cooling

Conduction to customer heat-sink or chassis and natural convection

#### Environmental Protection

Basic ruggedizing  
Conformal coating

#### Shock/Vibration

IEC 61373 Cat 1 A&B

#### Humidity

5-95% non-condensing

#### MTBF

150,000h at 45°C  
Demonstrated MTBF is significantly higher

#### Indicators

Charger ON LED visible through cooling slots

#### Control input

None

#### Alarm Outputs

Charger Fail Form C

#### Package/dimensions (W x H x L)

F3: 132 x 62 x 290 mm  
5.2" x 2.43" x 11.4"  
Dimensions include mounting flanges/baseplate, exclude connectors.  
Mounting holes are clear

#### Weight

2 kg (4.4 lb) approx.

#### Connections

12-pole barrier type terminal block with 3/8" spacing for all connections. Common terminals for load and battery.

#### RoHS Compliance

Compliant

#### Warranty

Two years subject to application within good engineering practice.

ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change.

OEM of industrial and railway quality DC-DC converters, AC-DC power supplies and battery chargers, DC-AC sine-wave inverters, phase and frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility.



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