

## Portable NiMH Battery Charger for 12V/100Ah Battery BCP 130-PEL



- Rugged industrial quality
- Field-proven design
- Convection cooled – no fan
- Full electronic protection
- Internal crowbar diode and breaker
- Splash-proof portable Pelican case

This portable, heavy-duty battery charger was designed for charging an external 100Ah/12V (10 cell) Nickel Metal Hydride (NiMH) battery bank. The design is based on ABSOPULSE's field-proven switch-mode PFC65 circuitry, which provides many years of trouble free operation in the toughest environments. Each charge cycle can only be initiated via the "Charge Start" button, which is located on the front-panel. The battery voltage and temperature are monitored during the charge cycle; the battery temperature is monitored by an external sensor, which is connected to the charger via a 2-pole circular connector. If temperature monitoring is not required, the temperature sensor is simply not connected. The charging process is terminated when battery voltage reaches 13.5V or the battery temperature exceeds 50°C as the charger is disconnected from the battery via contacts. The disconnection values can be made application-specific. The charger disconnect is latching type. For safety reasons, the circuit will not re-initiate automatically, even in case of input power re-cycling. The breaker and an internal crowbar diode on the charger output protect against reverse connection of the battery to the charger. Full electronic protection minimizes the possibility of failure due to abnormal operating conditions, including application errors. All printed circuits are conformal coated, heavily ruggedized and housed in a splash-proof Pelican top loader case with a sturdy handle for easy portability in the field. The charger is convection cooled and operates over a 0°C to +50°C temperature range without de-rating. Wider temperature ranges are also available. Generous design headroom and the use of components with established reliability result in a high MTBF. The unit is manufactured at our plant under strict quality control. Custom options, as well as versions with higher output power and for different battery chemistries and voltages, are also available.

### SPECIFICATIONS

#### Input Voltage

95-264Vac universal range  
47-63Hz  
Input current: 1.7Arms at 95Vac  
Power Factor is better than 0.97 at full load for the entire input range  
Meets EN 61000-3-2

#### Input Protection

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

#### Input Isolation

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

#### Standards

Designed to meet EN 62368-1 and related standards.

#### EMI

Meets EN 55032 Class A with margins

#### Switching Frequency

50-150kHz load dependent

#### Charging Current and Voltage

Open circuit voltage is 15Vdc  
The charge current is 10.5A ± 0.5A  
The output is floating, either terminal can be grounded  
Other voltages on request

#### Charging Control

Charge Initiation: Pushbutton  
Charge Disconnect Criteria:

- Battery reaches 13.5V
- Battery temperature reached 50°C

The disconnect is latching, via contacts. The circuit is not able to initiate charge automatically. The "Charging Start" button needs to be initiated by pushbutton.

#### Battery Reverse Polarity Protection

Internal crowbar diode and breaker on the front-panel

**Note: Battery must be fused externally, directly at the battery for protection of the battery wires**

#### Efficiency

82% at full load

#### Operating Temperature

0°C to +50°C without de-rating.  
Wider temperature ranges are available on request.

#### Battery Temperature Sensor

Sensor is included, 5 feet wires  
Charging is terminated at 50 °C battery temperature

#### Cooling

Natural convection

**Note: The Pelican case cover must be kept open during operation and charging.**

#### Environmental Protection

Heavy ruggedizing,  
Conformal coating  
Splash-proof Pelican case

#### MTBF

Min. 100,000 hours at 45°C  
Demonstrated MTBF is significantly higher

#### Indicators

Charger ON LED on the front-panel  
AC "ON" indicator lamp

#### Control Input

Pushbutton on the front-panel to initiate charging cycle

#### Alarm Outputs

None

#### Dimensions / Package (L x W x D)

Pelican Top Loader Case #1430  
16.93" x 9.61" x 13.42"

#### Weight

Approx. 6kg (13 lb.)

#### Connections

AC-input: IEC receptacle  
Outputs: 3-pole circular connector  
Neutrik XLR Mating connector with 5 feet of AWG16 wires included  
Temperature Sensor with 2-pole circular connector, 5 feet wire

#### RoHS Compliance

Compliant

#### Warranty

Two years subject to application within good engineering practice  
Contamination related failures and shipping cost excluded.

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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