



ProTalk

B1294

B1294 Battery Backup Power Supply Manual

Version 1.0
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B1294 Battery Backup Power Supply

Introduction:

The B1294 Battery Backup Power Supply provides power for a B1290 ProTalk Plus Alarm Reporting Unit, switching to the internal battery in the event of an AC power failure. The battery will provide approximately 20 hours of standby power.



Operation:

Under normal operating conditions, the B1294 routes power from the AC wall adapter and regulates it to the output, powering a B1290. The unit switches to the internal battery automatically when AC power is lost. When AC power is restored, the B1294 will simultaneously charge the battery while powering the B1290.

An *AC Power Fail Alarm* is generated when AC power is lost and the battery back-up is initiated. A relay with a normally open (NO) and normally closed (NC) terminal is available to activate an alarm on a B1290 and can be wired as shown in the *B1294 Wiring Diagram*. The NC contact of the relay is connected to ground internally, while the NO contact is open relative to ground. When the AC power fail alarm occurs, the NC contact opens while the NO contact closes to ground. This feature is optional and is typically used to give an idea as to how much alarm reporting time remains once AC power fails.

To prolong the life of the battery, the output disconnects when the battery voltage drops to 11.0V (to prevent deep discharging) during an AC power failure. The battery charges between -20°C to +50°C when AC is available, though the B1294 will still provide power to the output when the temperature is as low as -40°C.

Other devices (multiple B1292 expanders, for example) may be powered by the B1294, as long as the total maximum current draw does not exceed 400mA and the devices can tolerate between 11.0V and 15.8V.

Installation:

Wire the B1294 to the B1290 as shown in the *B1294 Wiring Diagram*.

Connect the AC adapter to the B1294. The AC ON indicator will illuminate.

Flip the DC ON switch to the ON position. This will power the B1290 and illuminate the DC ON indicator. The CHARGING indicator may also light if the battery requires charging.

If the optional AC Power Fail output is to be used, connect either the normally open (NO) or normally closed (NC) terminal to any unused B1290 alarm input. For example, if the B1290 is fail-safe wired (inputs are normally closed to ground), use the B1294's NC contact.

Maintenance:

The battery will self-discharge while not in use, so if spare units are kept in stock, charge them every six months for the length of time required for the CHARGING indicator to turn off.

Since the low voltage drop-out circuit prevents the battery from discharging too deeply and the battery is permitted to only charge between -20°C to +50°C, the battery will recover its nominal voltage reliably over many charge/discharge cycles. As a preventive maintenance measure, the battery should be replaced every 6 years where sites experience regular power failures.

Replacement batteries are available at Barnett Engineering Ltd..

Troubleshooting:

To check the battery, disconnect the AC adapter and make sure that the DC ON switch is set to the ON position. The DC ON indicator should be lit. If the indicator is off, check the + and - terminals with a voltmeter. If the voltage is low (below 11V), re-connect the wall adapter. The AC ON and CHARGING indicators should light and the voltage across the + and - terminals should be above 12V and rise. If the charging indicator is off, the battery isn't responding to charging and is likely dead. To verify, remove the case and disconnect the battery cable from the board. Measure the voltage across the battery terminals. If the battery voltage is very low, it needs to be replaced.

Specifications:

Input Voltage:	15V _{DC} (from the supplied 120V _{AC} wall adapter)
Output Voltage:	13.3V _{DC} (nominal), 11.0V _{DC} (min), 15.8V _{DC} (max)
Low-voltage Disconnect:	11.0V _{DC}
Output Current:	400mA maximum
Battery Type:	PS-1212 Sealed lead-acid
Battery Capacity:	1.4AH
Battery Life:	27 hours (max), 15 hours (min) - B1290 only connected 3.5 hours - multiple devices connected drawing the maximum current (400mA)
Relay Type:	Form C
Relay Max. Voltage:	110VDC, 125VAC Max
Relay Max Power:	30W (1A @ 30VDC) 37.5W (0.3A @ 125VAC)
Operating Temperature:	-40°C to +50°C
Charging Temperature:	-20°C to +50°C