

Milpower Source

7 Field Lane, Belmont NH 03220

Phone: (603) 267-8865

Fax: (603) 267-7258

M350380

Battery Pack

For UPS Model M120BA-1A

MPS Doc No: M350380B, Rev C Date: Apr 27, 2025 Page 1 of 4

1. General

The M350380 is a replacement Battery Pack intended for use in Milpower Model M120BA-1A. Packs with Date code 1422 and higher (or packs with earlier Date code that are marked by white-dot) contain newer, longer-life cells. The Battery Pack houses twelve valve-regulated lead acid cells connected in series. Each cell is rated for 12V, 7AH, resulting in a total source of 144Vdc, 7AH. The cell construction and sealing technique ensures that no electrolyte leakage should occur from the terminals or case. The cells are packaged inside a metal case and are secure in place by epoxy. The Battery Pack contains a thermistor that enables the battery-charger of the M120BA-1A, to trim the charging-voltage as a function of the battery's temperature. Electrical connection is provided through a connector.

2. Caution!

The Replaceable Battery Pack contains lead-acid batteries. The Battery Pack should not be opened since it can only be replaced with a new Pack (battery cells cannot be replaced individually). Dispose the Battery Pack properly. Careless disposal (such as into a fire) may cause an explosion. Local regulations may require controlled disposal of lead-acid batteries. Please check your local regulations before disposal.

3. Characteristics

Nominal Voltage:	144Vdc
Nominal Capacity:	7 Ampere Hours
Hold-Up Time:	15 Minutes at full load (when installed in an M120BA-1A).
Storage Temperature:	-20° to +72°C (Please see next page for Battery Storage Conditions).
Operating Temperature:	0°to +52°C
Weight:	80 Pounds

4. Battery Service Life

The lead-acid, sealed and maintenance-free battery used in the M120BA-1A is of the highest quality. Nevertheless, it is a Limited Life Item, and its life expectancy depends upon its operating and storage conditions. The three most important factors that determine the life of the battery are: temperature, storage conditions and the number and depth of charge-discharge cycles.

4.1. Temperature

The battery used in the M120BA-1A is sealed and does not “dry up” or lose gasses, but its end of service life is brought about by the gradual corrosion of the electrodes. This process is accelerated by high operating temperatures. Every 10°C rise above 20°C will reduce the battery service life by half.

4.2. Storage Conditions

When lead-acid batteries are stored for extended periods of time, lead sulfate is formed on the negative plates and insulates them. The sulfating rate depends on the ambient temperature and the charge level of the battery. High temperature and low charge level accelerate the sulfating and reduce the battery life.

In order to protect your battery from damage during storage:

- a) Recharge the battery periodically. Every 9 months at 24°C or lower and every 4 months at higher temperatures. For the older Packs (Date Codes 1421 and older, without a White dot) use 6 months below 24°C and 3 months above it. To recharge the battery, operate the M120BA-1A for at least 4 hours.
- b) Store the batteries in a cool place (may be stored separately from the UPS).
- c) Never store a discharged battery!!!

4.3. Charge-discharge Cycles

The number of times and the depth of battery discharges (during input failure) affects the service life of the battery. If the battery is allowed to discharge only to 50% of its charge, the number of charge-discharge cycles (before it fails) will be three times the number of cycles had it been allowed to reach 30% charge. Battery life may be prolonged by limiting the operating time on battery power to the minimum required by the system to perform an orderly shutdown.

5. Replacing a Battery Pack

To replace the Battery Pack of an M120BA-1A, follow the instructions on Paragraph 7.2 of the M120BA-1A User's Manual (Milpower Publication Number 120BA1UM).

Note: a brief version of the Removal and Installation instructions is printed on the top of each Battery Pack.

6. Outline Dimensions

The external dimensions of the M350380 are 26.5" long, 7.66" wide and 5.2" high. For more details see Milpower Drawing M350380.