



Batteries and Cells in Full Float Service Applications

WARRANTY

East Penn Manufacturing Co., Inc. (referred to as "EPM") guarantees Deka Unigy High Rate Batteries manufactured and shipped in approved EPM packaging against defective materials and workmanship for the periods shown on the chart at right in years from the date of shipment when used in the United States and Canada according to the following chart:

	Full	Pro-rata	Total
U1HR1500	1 yr.	2 yrs.	3 yrs.
HR Top Terminal Batteries and 4DHR6500 (except U1HR1500)	3 yrs.	0 yrs.	3 yrs.
HR Front Access Batteries	4 yrs.	0 yrs.	4 yrs.

If upon initial inspection, installation, and adequate float charge, (a) the battery fails to meet the published 15 minute performance ratings to 1.67 vpc per the latest EPM catalog data, and based upon IEEE 1188-2005 Section 6.2 and Section 7 recommended practices, at the time of shipment or (b) the user identifies flaws in materials or workmanship that would impair life or product performance, the user will be instructed to:

1. Upon written approval, return the product for examination, or
2. Hold the materials on site pending inspection by an EPM representative.

Upon satisfactory proof of claim, as determined solely by EPM, EPM will repair or, at its option, replace any defective battery.

A defect in material or workmanship is defined as failure to reach at least 80% of its rate adjusted capacity. If a **properly maintained** battery fails to meet 80% of its rate adjusted capacity, as determined by an EPM approved capacity test using procedures established by IEEE 1188-2005 Section 7.4.3 (conductance, resistance, or impedance values cannot be used as a substitute for a capacity test), EPM will (a) repair parts, cells, or battery at its expense for both labor and parts, (b) furnish a suitable replacement battery having a rated capacity equal or greater than the published rated capacity of the battery returned, or (c) issue a credit toward the purchase of another Deka Unigy High Rate battery based on the following formula:

$$\text{Warranty Credit} = \left(\frac{\text{Total Warranted Months} - \text{Service Life in Months}}{\text{Total Warranted Months}} \right) \times \text{Current Equivalent Price}$$

$$\text{Replacement Price} = (\text{Current Equivalent Price} - \text{Warranty Credit})$$

The replacement battery shall only be warranted for the remaining unused portion of the original warranty of the replaced battery. The original battery will become the property of EPM. The owner of the battery will be responsible for delivery of the battery to EPM's nearest authorized representative or factory as directed by the EPM product support department. The use of a rental battery is not part of this warranty.

TERMS AND CONDITIONS

1. The user is responsible for determining that each battery is of the proper size, design, and capacity to perform properly at time of purchase.
2. Warranty is not transferable and is applicable only to the "Original Purchaser."
3. This warranty shall be void if batteries are subjected to misuse, abuse, unauthorized product alteration, or any other physical damage other than ordinary wear or if manufacturing codes are destroyed.
4. Warranty claims for full replacement must be made within three (3) months from time of tested failure or alleged defect.
5. Purchaser must discontinue the use of the battery after discovery of a safety defect.
6. The cost for removal of the warranted product, installation of replacement product, material freight charges, and travel expenses of EPM representatives will be the responsibility of the purchaser.
7. Charger must be able to sustain the system voltage within $\pm 0.5\%$ of the desired level at all times and must be within the limits of EPM's published instructions. Ripple that has a frequency greater than 667Hz (duration less than 1.5ms) is acceptable, unless it is causing additional battery heating. Ripple that has a frequency less than 667Hz (duration greater than 1.5ms), must meet the following voltage specification to be acceptable. Ripple voltage shall be less than .5% peak to peak (.177% rms) of the manufacturer's recommended string voltage.
8. The battery power system must limit the depth of discharge of the cells based upon an average voltage per cell that is equal to or greater than published discharge ratings for the cells. The battery system shall be limited to three (3) full discharges per year.
9. Any storage of this battery shall be at an ambient temperature of 77°F (25°C), or less, and user shall give a freshening charge to all cells every six months prior to installation in accordance with EPM's published installation and operating instructions.
10. Batteries must not be continuously operated below 50°F (10°C).
11. Batteries must be located in a manner that the individual cells do not vary by more than 5°F (2.8°C) between the lowest and highest individual cell temperatures.

	Operating Temp.	Proportional % of Life	Warranty Period: U1HR1500	Warranty Period: Top Terminal & 4DHR6500 (Except U1HR1500)	Warranty Period: Front Access
12. The life of the battery is affected by the operating temperature. For every 13°F (7°C) increase in operating temperature above 77°F (25°C), the warranty period will be proportionally reduced by 50% as shown to the right:	77°F	100%	12 mos. full / 24 mos. pro-rata	36 mos. full / no. pro-rata	48 mos. full / no. pro-rata
	81°F	80%	10 mos. full / 19 mos. pro-rata	29 mos. full / no. pro-rata	38 mos. full / no. pro-rata
	87°F	60%	7 mos. full / 14 mos. pro-rata	22 mos. full / no. pro-rata	29 mos. full / no. pro-rata
	90°F	50%	6 mos. full / 12 mos. pro-rata	18 mos. full / no. pro-rata	24 mos. full / no. pro-rata

13. Upon installation and at least once a year thereafter, purchaser (user) must complete and maintain record of a Battery Maintenance Report recording battery serial numbers, battery float voltages, surface temperatures, battery and connection resistances/conductances, ambient environment temperature, etc. in accordance with EPM's Installation and Operation Manual. The inability to produce such documents at the time of warranty consideration may result in the voiding of any applicable warranty. **Records must indicate the battery was operated in accordance with EPM's published instructions.**

LIMITATIONS

This express warranty is the buyer's sole remedy and shall be subject to all terms and conditions herein. All other warranties, whether expressed or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are disclaimed. **THIS WARRANTY DOES NOT COVER LOSS OF TIME, INCONVENIENCE, DAMAGE TO ANY PROPERTY, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.**

EAST PENN manufacturing co., inc.

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