

# Installation and Setup

## Planning Your Installation

The first step in planning your WBID Pro installation is to select what options you wish to install.

WBID Pro Module. The basic module includes power and current sensing connections which enable it to sense and record the entire electrical history of the battery for the entire life of the battery. To enable that functionality, you will need only to make the proper connections on the battery and configure the parameters in the module. We'll get to that in detail shortly.

Optional Devices. In all but the simplest installations, it is highly beneficial to include some key external sensors in your installation.

Electrolyte Temperature Sensor(s). In moderate usage applications at room temperature, the built-in capability to measure the temperature of an intercell connector is sufficiently reflective of cell temperatures to suffice. But, in any application that includes large temperature changes such as foundries or cold storage, or in opportunity charge situations where the charging process itself must be monitored for heating effects an electrolyte temperature sensor is a great idea. In many situations (particularly in cold storage), there can be a substantial temperature difference between the internal cells and the corner cells. In these situations, it is important to place the electrolyte temperature sensor to get the best control point to regulate the charge. For cold storage this will be on a corner cells. For high ambient applications this will be in the center of the pack. The electrolyte temperature sensor is installed on the white and orange wires.



Electrolyte Level Sensor. Ordinary usage of the battery causes the electrolyte level to decrease – partially due to charging and partially due to evaporation. If the tops of the plates become dry, they lose their activity and the battery's capacity falls. So, routine watering is essential to optimal battery performance and life. With an electrolyte level sensor installed, the information will be recorded in the battery history file on the Wireless BID. Electrolyte level sensors are installed on the brown wire.

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## Mechanical and Electrical Installation

**WARNING:** Use extreme caution when working with batteries. The possibility of shock, fire, and explosion exists. Batteries produce explosive gases. Keep sparks, flame, and cigarettes away. Ventilate when working in an enclosed area. Always shield eyes when working near batteries. Facemask and gloves are recommended during WBID Pro installation.

**AVERTISSEMENT :** Soyez extrêmement prudent lorsque vous travaillez avec des batteries. Il existe un risque de choc, d'incendie et d'explosion. Les batteries produisent des gaz explosifs. Tenez à l'écart les étincelles, les flammes et les cigarettes. Aérez lorsque vous travaillez dans un endroit fermé. Protégez toujours vos yeux lorsque vous travaillez à proximité de batteries. Le port d'un masque et de gants est recommandé lors de l'installation du WBID.

**WARNING:** Do not lay tools on top of the battery as they may conduct electricity.

**AVERTISSEMENT :** Ne posez pas d'outils sur la batterie car ils peuvent conduire l'électricité.

These instructions cover mechanical and electrical installation of the AMETEK WBID Pro. The following tools will be required for the installation:

- Portable power drill
- 3/16" drill bit with suitable stop to limit drill depth to 1/2"
- #2 Phillips screwdriver
- Diagonal cutting pliers (side cutters)
- Wood or rubber mallet

Note: If you will be installing any sensors or other optional devices, be sure to check the instructions packed with the device(s) for any additional tool requirements. Accessory instructions are also included in the appendices of this document.

### **Installation:**

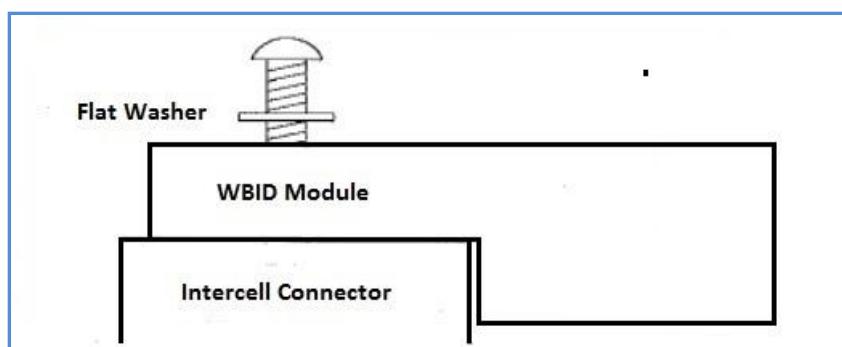
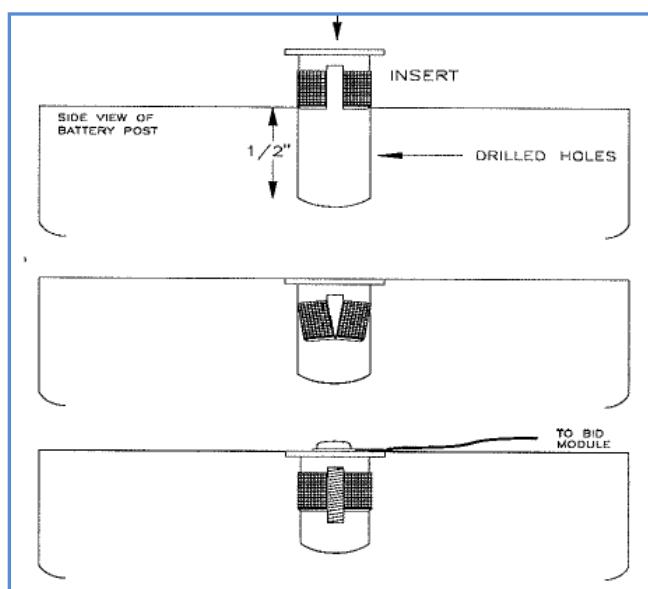
1. Carefully unpack the WBID Pro from its shipping carton, and neatly lay out the parts. Some of the wires will have their terminations sealed in heat shrink tubing. DO NOT REMOVE THE HEAT SHRINK AT THIS TIME. Check the parts against the following material list:
  - a. WBID Pro Module
  - b. Qty 1: No-Ox-ID A Special grease, 0.25 oz
  - c. Qty 5: 6-32 1/4" screws
  - d. Qty 2: 6-32 3/4" screws
  - e. Qty 7: #6 flat washer
  - f. Qty 7: Brass inserts
  - g. Qty 8: Wire ties
2. Move the battery to a clean, well-lit area.
3. The battery must be clean and free of corrosion for proper operation of the WBID Pro.

**WARNING: drilling can cause sparks that can ignite flammable gas. Please use caution with batteries that have recently been under charge or in areas with flammable gas or material.**

**AVERTISSEMENT : Le perçage peut provoquer des étincelles susceptibles d'enflammer un gaz inflammable. Soyez prudent avec les batteries qui ont été récemment chargées ou dans les zones où se trouvent des gaz ou des matériaux inflammables.**

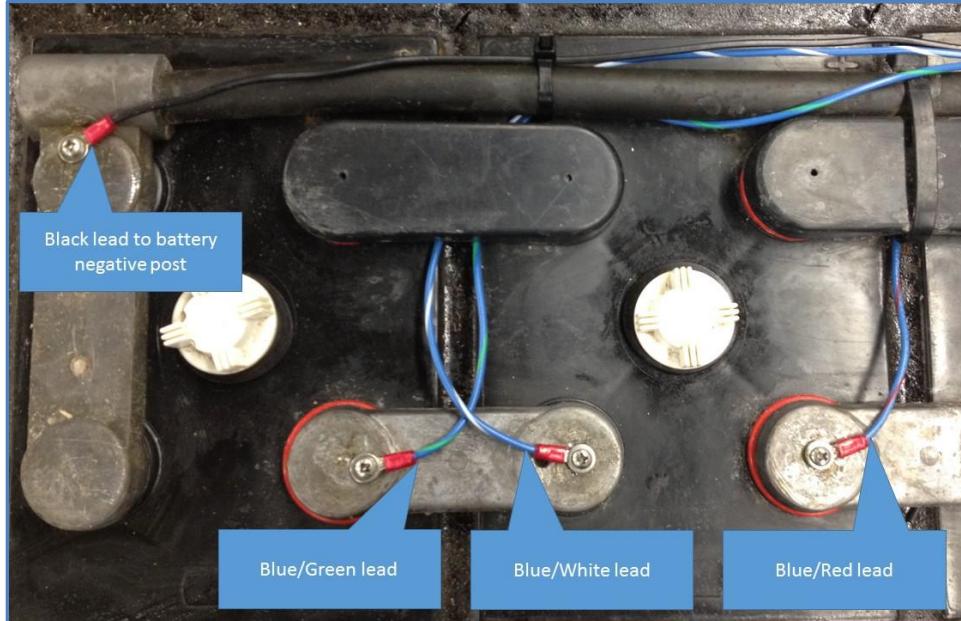
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4. Using a 3/16" drill and a suitable stop to limit the depth of the hole to 1/2", drill 7 holes for the provided inserts. These holes must be at least 3/8" deep in order to assure proper seating of the components.
- In the center of the battery negative post
  - In the center of the battery positive post
  - In the positive post of the cell closest to the negative battery terminal (most negative cell)
  - In the negative post of the second cell from the negative terminal
  - In the positive post of the second cell from the negative terminal
  - Two holes in the intercell connector where the module is to be mounted. Typically, this will be toward the center of the battery as that gives the module maximum mechanical protection. Before removing the connector cover, place the module in its planned location on top of the connector cover and scribe a line around it. Then remove the connector cover, and cut out along the line so that after mounting, the module will make direct contact with the connector. Now, with the connector cover back in place, use the module as a template for drilling the holes. When drilling the intercell, be careful to limit the depth so as not to damage a cell cover.
5. Place an insert into each one of the 7 holes and tap it gently with a wooden or rubber mallet until it is flush with the surface. It is especially critical that the module mounting inserts be flush so that the bottom of the module is tight against the intercell connector.



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6. Pre-grease the two 6-32 x 3/4" machine screws with NO-OX-ID A, and attach the WBID Pro to the intercell connector using the two holes drilled in step 4f and using two #6 flat washers as shown above.
7. Apply NO-OX-ID A corrosion inhibitor on all 5 of the remaining inserts prior to connecting the harness to the battery.
8. Loosely route the red and black WBID Pro power leads to the positive and negative battery terminals, respectively. Do not connect them yet.
9. Route the bundle of wire whose ends are sealed in heat shrink into the vicinity of the last two cells (those nearest the negative battery terminal). Then carefully remove the heat shrink, taking care to prevent the ring terminals from touching any intercell connectors other than those on the first two cells.
10. Loosely route the blue/green WBID Pro lead to the positive post of the most negative battery cell.
11. Loosely route the blue/white WBID Pro lead to the negative post of the second cell from the negative terminal.



12. Loosely route the blue/red WBID Pro lead to the positive post of the second cell from the negative terminal.
13. Plan the electrical installation of any optional devices. The WBID Pro includes a cluster of three color coded wires (White, Brown and Orange) that form its accessory ports. Select which of the wires will be connected to which of the sensors and make a note of it. The sensors and indicators have their own installation instructions detailing mechanical installation that come packed with the devices.
14. Using a 6-32 x 1/4" machine screw and provided washer, connect the black power lead to battery negative.

**NOTE: Double check the following two connections: verify ~2V from the black WBID Pro lead to the planned connections for the blue/green and blue/white WBID Pro leads.**

15. Using a 6-32 x 1/4" machine screw and provided washer, connect the blue/green lead to the positive post of the most negative cell.
16. Using a 6-32 x 1/4" machine screw and provided washer, connect the blue/white lead to the negative post of the second cell from the negative terminal.

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**NOTE: Double check the following connection: verify ~4V from the black WBID Pro lead to the planned connection for the blue/red WBID Pro lead.**

17. Using a 6-32 x 1/4" machine screw and provided washer, connect the blue/red lead to the positive post of the second cell from the negative terminal.
18. Using a 6-32 x 1/4" machine screw and provided washer, connect the red power lead to the positive battery terminal.
19. Verify that the green LED on the WBID Pro is flashing rapidly (10x/sec), indicating that the module is operating. It may take more than 30 seconds for the startup process to be completed and the LED's to settle into this pattern.
20. Coat all exposed metal connections/screw heads with NO-OX-ID A.
21. Replace the terminal covers. Modify the intercell covers if needed, and replace those as well. Tie down all wiring with the provided wire ties. If for any reason other wire ties are used, make sure they are the polypropylene type. (Most wire ties are nylon which deteriorates quickly in contact with battery acid.)
22. If the battery has a cover, verify that it closes with no interference. If there is no cover, verify that the battery goes into the truck with no issues.

The WBID Pro must be calibrated and configured to your battery before connecting it to a charger. IntelliFleet includes functions that make this quick and easy using a laptop computer and an AMETEK WID2 device.

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## WARRANTY

### AMETEK/PRESTOLITE POWER DATA DEVICES (BID, BID AH/ACC, WBID, SITE PROBE, CID, WID, WID2, & INSIGHT GATEWAY)

Ametek/Prestolite Power (hereinafter called "Prestolite") warrants that each new and unused WBID manufactured and supplied by it is of good workmanship and is free from any inherent mechanical defects, provided that (1) the product is installed and operated in accordance with generally accepted industrial standards and in accordance with the printed instructions of Prestolite, (2) the product is used under normal conditions for which designed, (3) the product is not subjected to misuse, negligence or accident, and (4) the product receives proper care, protection and maintenance under supervision of competent personnel. This warranty is subject to the following provisions:

1. **PRODUCT AND PARTS WARRANTED.** Subject to the exceptions listed below, each Data Device is warranted for a specific period of time commencing from the date of its shipment by Prestolite, provided the charger is used in accordance with Prestolite's published performance rating for the unit involved. The exceptions to this warranty are as follows:
  - a) Terms and conditions for warranty coverage: Parts replacement only. For a warranty period of 1 year.
  - b) Warranty Expense Limitation: The maximum warranty expense Prestolite will incur for any Data Device will be limited to the original purchase price of the device.
2. **COMMENCEMENT OF WARRANTY TIME PERIODS.** The warranty periods indicated in the Warranty Schedule shall commence on the date of shipment by Prestolite.
3. **PERSONS COVERED BY WARRANTY.** Prestolite extends this warranty only to the purchaser of new equipment from Prestolite or one of its authorized distributors. The products purchased under this agreement shall be used exclusively by the buyer and its employees and by no other persons; and therefore, there shall be no third-party beneficiary to this warranty.
4. **LIMITATION OF REMEDY.** The existence of claimed defects in any product covered by this warranty is subject to Prestolite's factory inspection and judgement. Prestolite's liability is limited to repair of any defects found by Prestolite to exist or, at Prestolite's option, the replacement of the defective product F.O.B. factory after the defective product has been returned by the purchaser at its expense to Prestolite's shipping place. Replacement and exchange parts will be warranted for the remainder of the original Data Device Warranty or for a period of ninety (90) days, whichever is greater.
5. **USE OF DEFECTIVE PRODUCT.** Continued use of Data Device after discovery of a defect VOIDS ALL WARRANTIES.
6. **ALTERED EQUIPMENT.** Except as authorized in writing, the warranty specified does not cover any equipment that has been altered by any party other than Prestolite.

**THIS WARRANTY IS GIVEN AND ACCEPTED IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OTHER THAN AS EXPRESSLY SET FORTH HEREIN. IN NO EVENT SHALL PRESTOLITE BE LIABLE FOR ANY ANTICIPATED OR LOST PROFITS, SPECIAL, DIRECT, INDIRECT, OR INCIDENTAL DAMAGES, CONSEQUENTIAL DAMAGES, TIME CHARGES OR OTHER COMMERCIAL EXPENSES OR LOSSES, AND BUYER ASSUMES ALL RISK AND LIABILITY RESULTING FROM USE OF THE GOODS. PRESTOLITE DOES NOT AUTHORIZE ANY REPRESENTATIVE OR OTHER PERSON TO ASSUME ON BEHALF OF PRESTOLITE ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OR USE OF THE GOODS SOLD, AND THERE ARE NO ORAL AGREEMENTS OR WARRANTIES COLLATERAL TO OR AFFECTING THIS WRITTEN WARRANTY.**

#### WARNING

At all times, safety must be considered an important factor in the installation, servicing and operation of the product and skilled, qualified technical assistance should be utilized.

**AMETEK/PRESTOLITE POWER - TROY, OHIO USA**

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