

ARC
Keeper®

eAK39-120V
eAK39-277V

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U.S. Patent No. 7,091,676

**ELECTRONIC BALLASTED HIGH INTENSITY
DISCHARGE BACKUP BALLAST**
FOR USE WITH ELECTRONIC HID BALLAST



INSTALLATION INSTRUCTIONS

! IMPORTANT SAFEGUARDS !

WHEN USING ELECTRICAL EQUIPMENT, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED, INCLUDING THE FOLLOWING:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. To prevent high voltage from being present on the orange/black and yellow/black output leads prior to installation, inverter connector must be open. Join inverter connector after the backup ballast has been installed and before the AC power is supplied.
2. For use with one electronic HID ballast operating one 20 W to 39 W HID Lamp.
3. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
4. To reduce the risk of electric shock, disconnect both normal and auxiliary power supplies and inverter connector of the backup ballast before servicing.
5. This backup ballast is for factory or field installation.
6. An AC power source (120, or 277 VAC, 60 Hz, model dependent) ahead of any wall switch is required to provide battery charging current.
7. Do not install near gas or electric heaters.
8. This product is for use with indoor or damp locations where ambient temperature is 0°C to 55°C. Not suitable for wet or hazardous locations.
9. This is a sealed unit. Integral battery is not replaceable. Replace entire unit when necessary.
10. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
11. Do not use this product for other than intended use.
12. Servicing should be performed by qualified service personnel.

SAVE THESE INSTRUCTIONS



**THIS PRODUCT CONTAINS A RECHARGEABLE NICKEL-CADMIUM BATTERY.
THE BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY.**

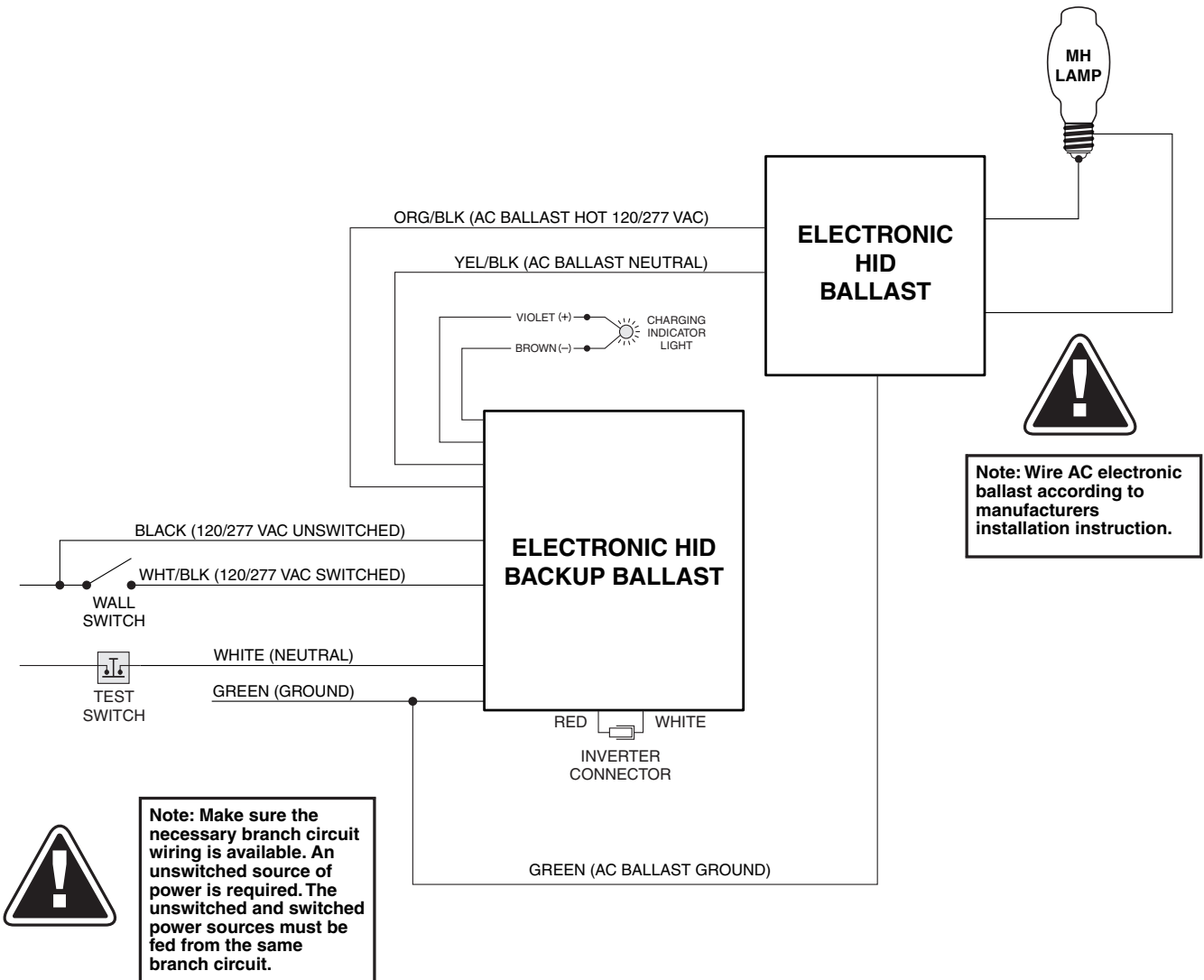
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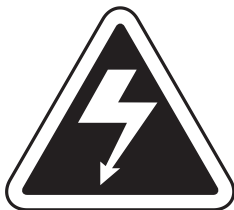
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Illustration 1



INSTALLATION



WARNING: TO PREVENT HIGH VOLTAGE FROM BEING PRESENT ON THE ORANGE/BLACK AND YELLOW/BLACK OUTPUT LEADS PRIOR TO INSTALLATION, INVERTER CONNECTOR MUST BE OPEN. JOIN INVERTER CONNECTOR AFTER INSTALLATION IS COMPLETE AND BEFORE AC POWER IS SUPPLIED.

NOTE: Make sure that the necessary branch circuit wiring is available. An unswitched source of power is required. The unswitched and switched power source must be fed from the same branch circuit.

INSTALLING THE BACKUP BALLAST

- > The backup ballast will be located between the AC power sources and the electronic ballast as shown in Illustration 1.
- > **NOTE:** The backup ballast may be installed in close proximity to the fixture or remote from the fixture. The maximum remote distance using 16 AWG wire is 250 ft. Contact the factory for more information.
- > The AC power is fed to the backup ballast.
- > The electronic ballast receives AC power from the backup ballast. The electronic ballast supplies power to the metal halide lamp. Identify the output wires of the backup ballast by the presence of the orange/black and yellow/black leads.

STEP 1 ► DISCONNECT AC POWER FROM FIXTURE

- > Disconnect power leads from the electronic ballast.
- > Select a suitable location for the backup ballast and install such that its output leads reach the input leads of the electronic ballast.
- > See Illustrations 2, for typical installation and select appropriate mounting method.

STEP 2 ► CONNECT THE BACKUP BALLAST TO THE PROPER LINE VOLTAGE

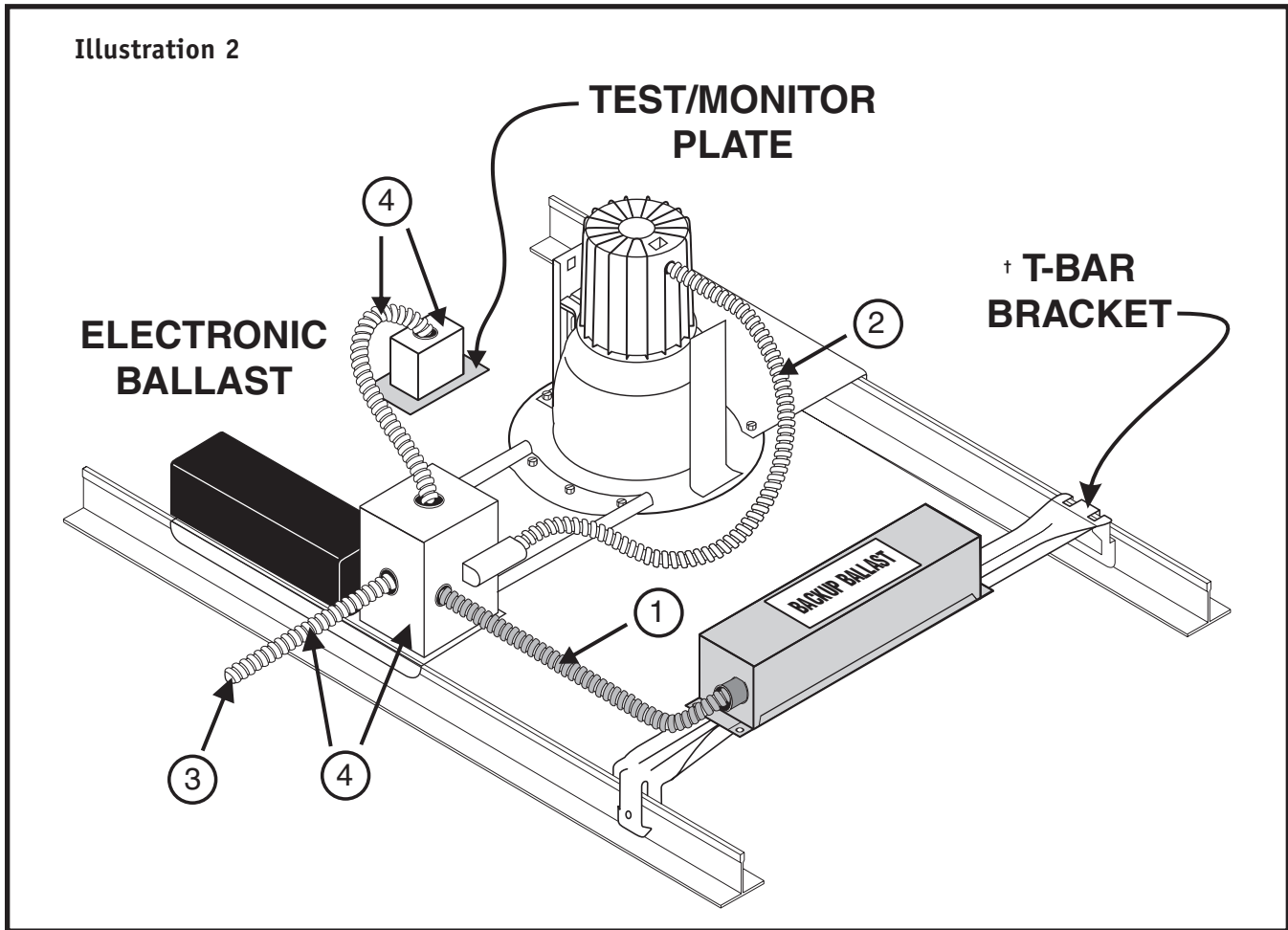
- > Verify that the inverter connector (red and white) is disconnected. Note that the unswitched hot connects to the black input backup ballast lead.

STEP 3 ► WIRING THE BACKUP BALLAST

- > Use the wiring diagram found in Illustration 1 as reference.
- > Connect the AC power source leads to the input of the backup ballast.
- > Connect the output leads of backup ballast to the electronic ballast.
- > Wire electronic ballast to the lamp in accordance with manufactures installation instructions.
- > Make sure all connections are in accordance with the National Electrical Code and any additional local regulations.
- > Connect LED by matching violet and brown leads.
- > In a readily visible location, attach the label "CAUTION–This Unit Has More Than One Power Connection Point. To Reduce The Risk Of Electric Shock, Disconnect Both The Branch Circuit-Breakers Or Fuses And DC Power Supply (Backup Ballast Inverter Connector) Before Servicing."

INSTALLATION

Illustration 2



† The T-BAR mounting bracket assembly is sold separately and is available from the factory as an accessory kit (T-BAR-MB). Call your local distributor or the factory for complete information.

 Emergency ballast

 No Shading – Equipment supplied by others

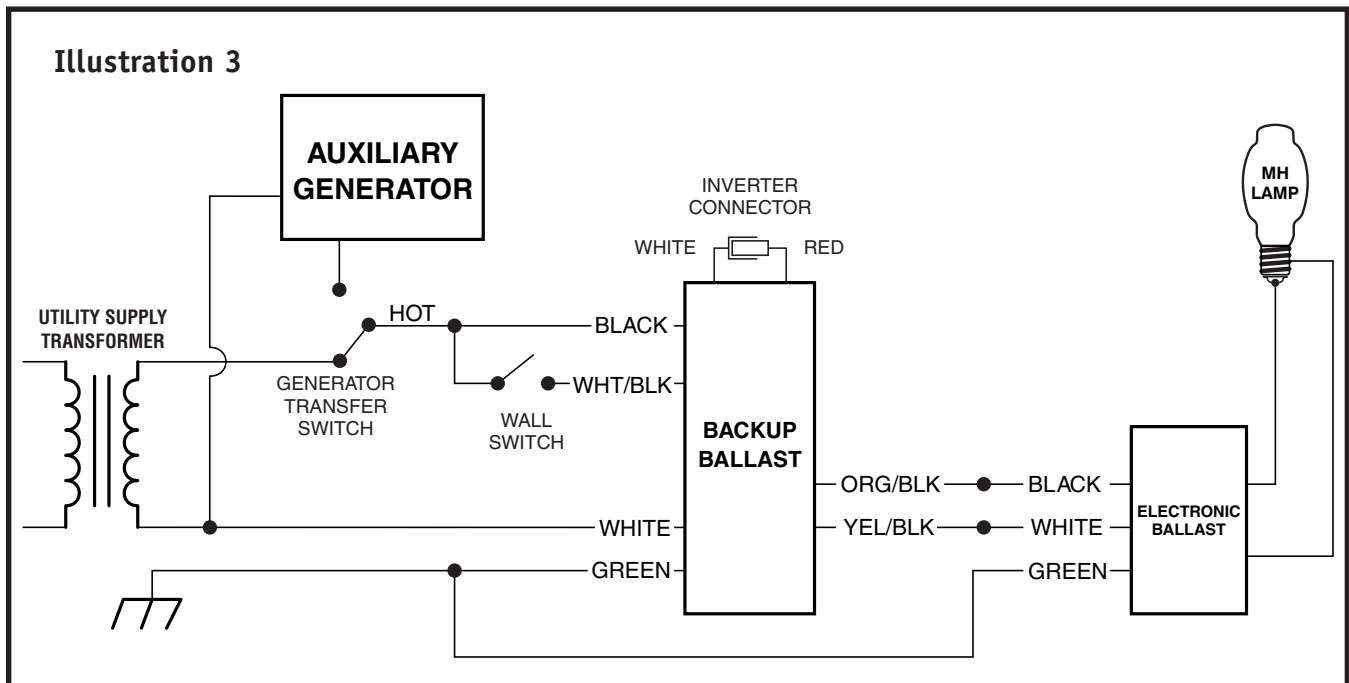
- ① – Flexible conduit (supplied) to connect ballast wires.
- ② – Existing conduit to run existing wires to lamp holder (AC ballast on junction box).
- ③ – AC line in.
- ④ – Conduit and junction box (not supplied).

STEP 4 JOIN THE INVERTER CONNECTOR & APPLY POWER

- > After installation is complete, join the inverter connector and apply AC power.
- > A short-term discharge test may be conducted after the backup ballast has been charging for 5 hours. Before performing any test, make sure that the electronic ballast has operated the lamp for at least 30 seconds. A short-term discharge test is conducted by momentarily disconnecting the circuit breaker(s) so both switched and unswitched AC power are removed for no more than 20 seconds.
- > After reapplying AC power, a functional e-HID ballast protected with the backup ballast will continue to operate normally. An e-HID ballast NOT protected with the backup ballast will not operate the lamp until the lamp cools down.

OPERATION

The backup ballast is a battery operated backup power supply for e-HID ballasts that maintains AC power to the e-HID ballast to prevent extinguishing of the HID lamp arc during AC utility power sags, interruptions or failures for up to 30 seconds. The backup ballast will apply low frequency AC line input power directly to the electronic ballast. The backup ballast may be used with or without an auxiliary generator. If not used with an auxiliary generator, the backup ballast will serve to support the electronic ballast and keep the lamp arc from extinguishing during power line interruptions for up to 30 seconds. If used with an auxiliary generator, the backup ballast's 30 second time limit allows more than ample time for an auxiliary generator to engage and support the e-HID ballast and metal halide lamp for emergency lighting purposes. See Illustration 3 for typical installation of the backup ballast when used with an auxiliary generator. Upon initial installation, or after a deep discharge of the battery, the backup ballast will need to be recharged before it can be expected to maintain the lamp arc for any significant length of time. The backup ballast should be allowed to recharge for a full 24 hours to ensure maximum battery capacity.



During day-to-day normal operation, the backup ballast will not try to maintain the lamp arc immediately when the lamp is first turned on; rather, there will be up to a 30 second delay before backup ballast will attempt to "catch" the arc. This delay allows the lamp to warm-up each time it is turned on from a cold start. If the wall switch is turned off, in order to turn the lamp off, the backup ballast will initially maintain AC power to the e-HID ballast preventing the HID lamp arc from extinguishing, but will, after a short delay, recognize that switched power has been turned off and unswitched power is still applied. The backup ballast device will release control of the e-HID ballast and allow the lamp to turn off as intended, then return to battery-charging mode.

MAINTENANCE

Although no routine maintenance is required to keep the backup ballast functional, it should be checked periodically to ensure that it is working.

Perform a short-term discharge test once every 30 days.

! REFER ANY SERVICING INDICATED BY THESE CHECKS TO QUALIFIED PERSONNEL !