

e-ARC KEEPER™

eAK39-120V, eAK39-277V

Arc Maintenance Device for Electronically
Ballasted High Intensity Discharge MH Lamps

PHILIPS bodine

A Division Of Philips Electronics North America Corporation

**Arc Maintenance Device for High
Intensity Discharge metal halide lamps;
Supplies power to electronic HID ballasts**

Product Summary

UL Listed/CSA Certified
Factory or Field Installation
(Indoor and Damp)



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

Initial Power Output
Up to 45 Watts

Arc Maintenance Time
30 Seconds Continuous

Full Warranty
5 Years (NOT pro-rata)

Maximum Input Electrical Rating
eAK39-120V
120 VAC, 60 Hz, 80mA, 5 W

eAK39-277V
277 VAC, 60 Hz, 40mA, 6.5 W

Battery
High-Temperature,
Maintenance-Free Nickel-Cadmium Battery
7- to 10-Year Life Expectancy

Battery Charging Current
100 mA

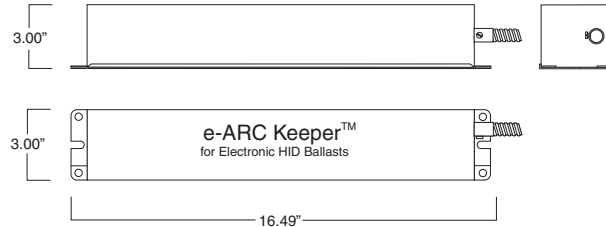
Charging Indicator Light
LED

Temperature Rating (Ambient)
0°C to +55°C (32°F to 131°F)

Dimensions
3.0" x 3.0" x 16.49"
(76 mm x 76 mm x 419 mm)

Weight
6.25 lbs. (2.84 kg)

Mounting Holes
A total of six holes, 0.25 inches in diameter each, are provided for mounting. Three holes spaced 1.25 inches apart (center to center) are located on each end of the unit. Hole spacing between the ends is 16.0 inches (center to center).



APPLICATION

The e-ARC Keeper 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. The e-ARC Keeper models eAK39-120V, and eAK39-277V are for use with one electronic HID ballast operating one HID metal halide lamp 20 W to 39 W. The e-ARC Keeper is for 60 Hz AC utility power use. The e-ARC Keeper detects AC power line disturbances and supplies low frequency AC line input power to the electronic HID ballast to keep the lamp arc from extinguishing during power line disturbances. The e-ARC Keeper solves the problem inherent with HID lamps that the lamp arc will extinguish if an AC power failure persists for more than the normal hold-up time of electronic ballasts. The e-ARC Keeper rapidly detects AC power line disturbances, then supplies supplemental power to the electronic HID ballast within the allowed hold-up time (typically less than 10-msec), thereby, maintaining the lamp arc during AC utility power disturbances. The e-ARC Keeper is for use in indoor or damp locations. It is not suitable for wet or hazardous locations. The e-ARC Keeper may be used with an auxiliary generator. The e-ARC Keeper supplies supplemental power to the electronic HID ballast for a maximum of 30 seconds, which is ample time for an auxiliary generator to engage and support the electronic HID ballast for emergency lighting purposes.

INSTALLATION

The e-ARC Keeper must be powered from the same branch circuit for both the switched and unswitched hot leads. For simple visual inspection of the charging indicator light and easy operational testing, the test/monitor plate can be installed near the fixture wall switch. It may also be installed in the ceiling near the fixture to ensure an unobtrusive installation. The e-ARC Keeper 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 factory for more information.

UL and CODE COMPLIANCE

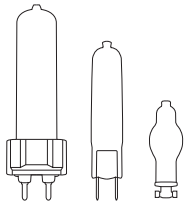
The e-ARC Keeper has been tested by Underwriters Laboratories in accordance with the standards set forth in UL 924, "Auxiliary Lighting and Power Equipment," and by the Canadian Standards Association (CSA) in accordance with the standards set forth in C22.2 No. 141, "Unit Equipment for Emergency Lighting." The e-ARC Keeper is UL Listed and CSA certified for factory or field installation.

Specifiers Reference

Project _____ Type _____ Model No. _____
Comments _____

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OPERATION

During normal operation, the battery charger supplies charging current to the battery while the AC power line voltage monitor monitors the line voltage waveform. The electronic HID ballast operates the lamp as normal. When there is an AC power line disturbance, the e-ARC Keeper will detect this problem and rapidly respond to supply supplemental low-frequency (60 Hz) AC back-up power at AC power line voltage levels to the electronic HID ballast within the allowed hold-up time, thereby, maintaining the lamp arc during AC utility power disturbances. When the AC power interruption event is over, the e-ARC Keeper will quickly switch the electronic HID ballast AC line input back over to the AC utility power mains supply and return to the monitoring mode as well as the battery-charging mode. If, on the other hand, there is a long-term power failure such that the power failure persists for more than 30 seconds, the e-ARC Keeper will supply supplemental low-frequency (60 Hz) AC back-up power to the electronic HID ballast for a maximum of 30 seconds, then turn off. A full 24 hours of charge is required for full recharge. If the wall switch is turned off in order to turn the lamp off, the e-ARC Keeper will recognize that switched power has been turned off but unswitched power is still applied. The e-ARC Keeper will release control and allow the lamp to turn off as intended, then return to battery-charging mode.

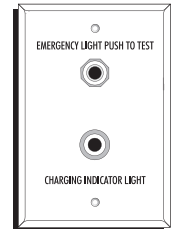
SPECIFICATION

Arc maintenance shall be provided by using one Philips Bodine e-ARC Keeper model _____ [eAK39-120V (for 120 VAC line voltage); eAK39-277V (for 277 VAC line voltage)] in conjunction with one _____ (electronic HID ballast operating one HID metal halide lamp 20 W to 39 W). The e-ARC Keeper shall have a maximum run time of 30 seconds. The e-ARC Keeper backup power supply shall consist of EMI filters; a rechargeable, high-temperature 12 V, 1.5 Ah nickel-cadmium battery; a battery charger; a low-frequency inverter; an AC power line voltage monitor; and control circuitry contained in one 3.0" x 3.0" x 16.5" metal case. A test/monitor plate with a solid-state charging indicator light shall be provided to monitor the charger and indicate the presence of battery charging current. A single-pole test switch and installation hardware shall also be provided. The e-ARC Keeper shall have a maximum input power of 6.5 W. The e-ARC Keeper shall be UL Listed and CSA certified, suitable for damp location installation and warranted for five (5) years from date of purchase.

WARRANTY

The e-ARC Keeper is warranted for a full five (5) years from date of purchase. This warranty covers only properly installed Philips Bodine e-ARC Keeper models used under normal conditions. For the warranty period, Philips Emergency Lighting will, at its option, repair or replace without charge a defective unit, provided it is returned to the factory transportation prepaid and our inspection determines it to be defective under terms of the warranty. Repair or replacement, as stated above, shall constitute the purchaser's exclusive warranty, which does not extend to transportation, installation, labor or any other charges; nor does it apply to any equipment of another manufacturer used in conjunction with the e-ARC Keeper.

Test/monitor plate with solid-state charging indicator light.



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For the most current technical information and notices, please visit TechNotes on our website.