

ARC KEEPER®

AK400PRB-SP

Probe-Start HID Backup Ballast

PHILIPS bodine

A Division Of Philips Electronics North America Corporation

Arc Maintenance Device for High Intensity Discharge lamps

Product Summary

UL LISTED/CSA CERTIFIED

Factory or Field Installation
(Indoor and Damp)



Initial Power Output

20% to 30% of Nominal Power

Arc Maintenance Time

30 Seconds Continuous

Full Warranty

5 Years (NOT pro-rata)

Maximum Input Electrical Rating

120 VAC, 310 mA, 4.0 W,
50/60 Hz, or 277 VAC,
320 mA, 4.0 W, 50/60 Hz

Battery

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

Battery Charging Current

120 mA

Charging Indicator Light

LED

Temperature Rating (Ambient)

0°C to +55°C (32°F to 131°F)

Dimensions

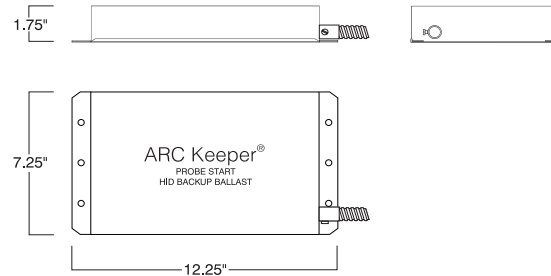
12.25" x 7.25" x 1.75"
(311 mm x 184 mm x 44 mm)

Weight

6.5 lbs. (2.9 kg)

Mounting Holes

A total of six holes, 0.25 inches in diameter each, are provided for mounting. Three holes spaced 1.725 inches apart (center to center) are located on each end of the unit. Hole spacing between the ends is 11.69 inches (center to center).



APPLICATION

The ARC Keeper AK400PRB-SP is a battery-operated backup ballast that catches and maintains the arc of one metal halide HID lamp during AC power sags, interruptions or failure. The ARC Keeper device works in conjunction with standard constant wattage autotransformer (CWA) magnetic ballasts. The ARC Keeper detects AC power line disturbances and operates the HID lamp with sufficient power to keep the lamp arc from extinguishing during power line disturbances. The lamp arc, in a typical HID lamp, will extinguish if an AC power failure persists for more than four milliseconds. The ARC Keeper detects AC power line disturbances, then supplies supplemental power to the lamp within approximately two milliseconds, thereby maintaining the lamp arc. The ARC Keeper Model AK400PRB-SP operates one (M59) 400 W or energy-saving 360 W metal halide probe-start lamp. The ARC Keeper AK400PRB-SP is a special 400-Watt probe-start model for use with installations not providing an unswitched line. The battery in this model ARC Keeper charges only while the switched line is applied. When the switched line is "off" the battery does not charge; instead, it discharges at approximately 50 mA. This model allows for 12-hour "on"/12-hour "off" operation. The switched line should not be left "off" for more than 16 hours within one 24-hour period. If the switched line is "off" for more than 16 hours, a full 24-hour charging period should be allowed to fully charge the battery, ensuring that the ARC Keeper will catch the lamp arc in the event of a power failure. Upon initial installation, or after a deep discharge of the battery, the ARC Keeper will need to be recharged before it can be expected to maintain the lamp arc for any significant length of time. The ARC Keeper is for use with Listed indoor or damp location fixtures. It is not suitable for wet or hazardous locations. The ARC Keeper may be used with an auxiliary generator. The ARC Keeper's 30-second time limit (arc is maintained for up to 30 seconds) allows ample time for an auxiliary generator to pick up and support the metal halide lamp for emergency lighting purposes.

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 CWA magnetic ballast is allowed to operate the lamp as normal. When there is a voltage sag, power interruption or failure of the AC power normally supplied to the CWA magnetic ballast, the ARC Keeper will detect this problem and respond within approximately two milliseconds. The ARC Keeper will apply high-frequency power to the lamp to supplement the low-frequency 60 Hz power normally supplied to the lamp by the CWA magnetic ballast. In this manner, the lamp arc is maintained and kept from extinguishing. The low-pass filter network attenuates high-frequency current and prevents it from flowing to the low-frequency CWA magnetic ballast. When the AC power interruption event is over, the ARC Keeper will withdraw supplemental high-frequency power from the lamp only after the AC power line has stabilized. When AC power is restored and deemed stable, the ARC Keeper returns 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 ARC Keeper inverter ballast will operate the lamp arc for 30 seconds maximum, then turn off. A full 24 hours of charge is required for full recharge. The battery charges only while the switched line is applied. When the switched line is not applied, the battery discharges at a low rate. During day-to-day normal operation, the ARC Keeper will not try to maintain the lamp arc immediately when the lamp is first turned on; rather, there will be a five-minute delay before ARC Keeper 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 switched line is turned off, in order to turn the lamp off, the ARC Keeper will respond as if a power failure had occurred and will support the lamp arc for 30 seconds before allowing the lamp to extinguish. The battery will not charge while the lamp is off.

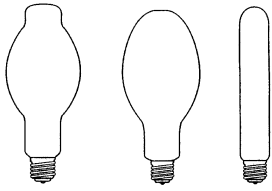
Specifiers Reference

L2200002

Project _____ Type _____ Model No. _____

Comments _____

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P.O. Box 460 Collierville, TN USA 38027-0460
Sales 800-223-5728 FAX 901-853-5009
Tech. Support 888-263-4638
www.philips.com/bodine



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INSTALLATION

The ARC Keeper must be powered from the same branch circuit as the CWA magnetic ballast. The ARC Keeper may be installed in close proximity to the fixture or remote from the fixture. The maximum remote distance from the lamp is 80 feet.

SPECIFICATION

Arc maintenance shall be provided by using one Philips Bodine ARC Keeper Model AK400PRB-SP used in conjunction with one M59 constant wattage autotransformer (CWA) magnetic ballast and one compatible 400 W or energy-saving 360 W metal halide probe-start lamp. The ARC Keeper backup ballast shall consist of EMI filters; a rechargeable, high-temperature 12 V, 1.5 Ah nickel-cadmium battery; a battery charger; a high-frequency inverter ballast; an AC power line voltage monitor; control circuitry; and a low-pass filter network contained in one 12 1/4" x 7 1/4" x 1 3/4" white metal case. A solid-state charging indicator light, which is an integral part of the ARC Keeper unit, is provided to monitor the charger to indicate the presence of battery charging current. Installation hardware shall be provided. The ARC Keeper shall maintain the arc of one lamp for a maximum of 30 seconds. The ARC Keeper shall have a maximum input power of 4 W at 120 VAC or 277 VAC, 50/60 Hz. The ARC Keeper shall be UL Listed, CSA Certified, suitable for damp location installation and warranted for five years from date of purchase.

WARRANTY

The ARC Keeper is warranted for a full five (5) years from date of purchase. This warranty covers only properly installed Philips Bodine backup ballasts used under normal conditions. For the warranty period, Philips Emergency Lighting will, at its option, repair or replace without charge a defective backup ballast, 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 backup ballast.

UL, CSA and CODE COMPLIANCE

The probe-start 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 ARC Keeper is UL Listed and CSA Certified for factory or field installation.

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