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### **DANGER - DISCONNECT POWER TO BALLAST AND FIXTURE BEFORE INSTALLING**

1. Remove lamps and fixture metal cover, as applicable.
2. Cut or disconnect leads of ballast to be replaced within 8 inches of ballast and remove ballast.
3. Check existing wiring in fixture to make certain all leads are free, in good condition and not pinched in the lighting unit. Make certain required leads are firmly connected to lamp socket holders. Do not bundle / twist together excess lead wires.
4. Check lamp socket holders for cracks, breaks or signs of oxidation (dark or black discoloration) in terminals, replacing where necessary. Socket holders must securely grasp lamp pins and be firmly retained in place at ends of fixture. Verify that proper lamp sockets are being used. Instant start ballasts require the lamp sockets to have both pins of the bi-pin socket shorted together. Rapid or programmed start ballasts require rapid start bi-pin sockets to properly operate.
5. Mount replacement ballast securely in place, in contact with metal of grounded fixture. Ballasts with plastic casing require grounding with the green ground connector. A solid, positive ground must be provided between the ballast and the electrical system. This is normally provided by firmly tightening all ballast mounting hardware. A good earth ground is essential to ensure proper lamp starting, eliminate lamp flashing and reduce conducted electromagnetic interference. The National Electrical Code (NEC) requires that both the fixture and ballast be grounded.
6. For ballasts with leads, trim leads to minimize length of replacement ballast leads and strip 1/2 inch. For ballasts with connectors, strip solid copper wire 3/8 inch (wire must be 16-20 AWG) and insert stripped end of wire into connector terminal. Gently pull on wire to ensure proper insertion. Connect ballast leads or connectors, as applicable, to existing stripped wiring as shown on ballast label. Utilize U.L. Listed connectors only.
7. Verify that replacement lamps are recommended for use with replacement ballast as shown on ballast label.  
**Note: The installation of new lamps should be considered to avoid lamp starting difficulties that may be experienced with previously used lamps in certain applications.**
8. Make certain all connections are secure and replace metal channel cover on fixture, as applicable.
9. Replace lamps in fixture making certain lamp pins are properly aligned, in direct contact with lamp holders, and properly seated. Some lamps may start normally but fail prematurely when not properly connected.
10. Reconnect power to ballast.

#### VOLTAGE RANGE REQUIREMENTS

Designation	Nominal (V)	Range (V)
<b>G</b>	347	312-382
<b>H</b>	347-480	312-528
<b>I</b> (except Mark 5)	120-277	108-305
<b>I</b> (only Mark 5)	120-277	90-305
<b>J</b>	277-480	250-525
<b>R</b>	120	108-132
<b>V</b>	277	249-305

**REMOTE OR TANDEM BALLAST MOUNTING:** For remote mounting/tandem wiring information, please reference the support page on the Philips web site or the latest version of the Philips Advance Catalog.

**PARALLEL OPERATION OPTIONS:** For 1 lamp operation of 2 lamp parallel wired ballasts, or 2 lamp operation of 3 lamp parallel wired ballasts, or 3 lamp operation of 4 lamp parallel wired ballasts, properly insulate unused leads. (See ballast label for proper voltage.)

**MARK 7 0-10V (IZT, RZT, VZT Series) and ROVR (IDA, IDL Series) CONTROLLABLE BALLASTS:** Low voltage control leads (violet and grey or (2) purple) must be wired according to local and national electric codes for Class I or Class II circuitry. If the low voltage control leads are not to be used, each must be insulated from ground and from each other. Lamps must not be mounted closer than 1/4" of grounded metal reflector. Mark 7 0-10V and ROVR control leads must only be connected to an appropriate Mark 7 0-10V or ROVR controller, respectively. **Warning: Standard fluorescent / incandescent wallbox or system dimmers must not be used.**

**MARK 10 Powerline (REZ, VEZ Series) CONTROLLABLE BALLASTS:** Use with compatible 2-wire modified powerline phase-cut style line voltage dimmers only. Lamps must not be mounted closer than 1/4" of grounded metal reflector. **Warning: Standard fluorescent / incandescent wallbox or system dimmers must not be used. Only use Rapid Start sockets.**

Visit the literature section of the website to view the *Dimming Ballast Control Compatibility Guide* for a list of compatible controls for the Mark 10 Power line and Mark 7 0-10V ballasts.

**Warning:** Ballast replacement should be performed only by qualified personnel. Failure to mount and wire ballast and fixture in conformance with the National Electrical Code, applicable State/Municipal Codes and the specific U.L. Safety Standards for the intended working

environment may cause serious personal injury, death and/or property damage. During installation power to ballast and fixture must be disconnected at all times. Ballast and fixture must be grounded.

Contact Philips/Advance Field Service at 1-800-372-3331 if you require additional technical information.

**ELECTRONIC BALLAST  
RETROFIT / INSTALLATION INSTRUCTIONS (continued)**

**PLEASE READ THE FOLLOWING INFORMATION REGARDING EMI/RFI BEFORE INSTALLING ELECTRONIC BALLASTS**

This equipment has been tested and found to comply with the limits pursuant to FCC 47 CFR Part 18. These rules are designed to provide reasonable protection against interference when the equipment is operated in the appropriate environment (Consumer or Non-Consumer). This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with local and national codes, may cause interference to radio communications. Most ballasts meet the less stringent Non-Consumer requirements for commercial applications. Ballasts meeting the more stringent Consumer requirements for residential applications are noted as such on the ballast label.

**Other Possible Interference Concerns:**

Infrared remote controls, IR scanners, library book detection systems, portable radios and phones, power line carrier systems (clocks, security). Please ensure that electronic ballasts are properly applied in these and other sensitive locations.

**Philips Lighting Electronics Lamp Ballast Limited Warranty**

Philips Lighting Electronics, 10275 W. Higgins Road, Rosemont, IL 60018  
warrants that its lamp ballasts will be free from defects in material  
and workmanship from the date of manufacture by  
Philips Lighting Electronics for specific time periods.

Ballast warranty depends upon ballast type, product family and maximum case temperature.  
Please go to our web site for up-to-date warranty information.

## Warranty Terms and Conditions

This warranty is conditioned upon proper storage, installation, use and maintenance. This warranty is not applicable to any ballast which is not installed and operated in accordance with the current edition of The National Electric Code (NEC), the Standards for Safety of Underwriters' Laboratory, Inc. (UL), the Standards for the American National Standards Institute (ANSI), and with Philips Lighting Electronics' instructions and guidelines for the ballast. This warranty is not applicable to any ballast which is installed with lamps not meeting ANSI requirements unless the ballast is designed to operate a specific non-ANSI lamp and marked accordingly. This warranty is not applicable to any ballast subjected to abnormal stresses and operating conditions.

Philips Lighting Electronics shall correct any defects, at Philips Lighting Electronics' option, by either repairing any defective part or parts or by replacing any defective part or parts or by making available a new replacement ballast.

The conditions of any tests concerning any ballast which is claimed to have not performed to this warranty shall be mutually agreed upon in writing and Philips Lighting Electronics shall be notified of, and may be represented at any such tests. This express limited warranty is extended by Philips Lighting Electronics only to the original or first end-user purchaser.

Warranty claims are to be made in accordance with Philips Lighting Electronics' published Warranty Service Program.

**NO IMPLIED STATUTORY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY BEYOND THE AFOREMENTIONED WARRANTY PERIOD.**

The foregoing warranty is exclusive of all other statutory, written or oral warranties, and no other warranties of any kind, statutory or otherwise, are given or herein expressed. This warranty sets forth Philips Lighting Electronics' responsibilities regarding the ballast and claimant's exclusive remedy.

**LIMITATION OF LIABILITY.** Philips Lighting Electronics will not under any circumstances whether as a result of breach of contract, breach of warranty, tort, strict liability or otherwise be liable for consequential, incidental, special or exemplary damages including but not limited to, loss of profits or revenues, loss of use of ballast or any other goods or associated equipment or damage to any associated equipment, cost of capital, cost of substitute products, facilities of services, down time cost, or claims of claimant's customers.

Philips Lighting Electronics' liability on any claim of any kind for any loss or damages arising out of, resulting from or concerning any aspect of this agreement or from the product or services furnished hereunder shall not exceed the price of the specific ballast or ballasts which gives rise to the claim.

This warranty gives the claimant specific legal rights. The claimant may also have other rights which vary from state to state.

Contact Philips/Advance Field Service at 1-800-372-3331 if you require additional technical information.