

# INSTRUCTIONS

## PLS HYBRID



RAB Lighting is committed to creating high-quality, affordable, well-designed and energy-efficient LED lighting and controls that make it easy for electricians to install and end users to save energy. We'd love to hear your comments. Please call the Marketing Department at 888-RAB-1000 or email: [marketing@rablighting.com](mailto:marketing@rablighting.com)

PLS-5.5-H-8XX-HYB



### IMPORTANT

#### **READ CAREFULLY BEFORE INSTALLING LED tube. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.**

RAB LED tube must be wired in accordance with the National Electrical Code and all applicable local codes. Proper grounding is required for safety. THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED.

#### **SAFETY INFORMATION:**

- (1) Check the lamp before installation, if there is any damage caused during transportation, do not install.
- (2) Do not stare at the light source with bare eyes for a long time, or beam to others' eyes.
- (3) Do not place any objects on the lamp.
- (4) Keep the lamp away from flame or high temperature objects.
- (5) Only replace with same type of LED tube! Risk of electrical shock!
- (6) If the lamp is broken, the lamp must be disposed of immediately!

#### **MAINTENANCE NOTES:**

- (1) Clean luminaire with dry cloth.
- (2) Do not clean the lamp with corrosive chemicals.
- (3) Maintenance should be carried out by technical personnel only.
- (4) Disconnect lamp from power supply before any maintenance.

#### **SAFETY PRECAUTIONS**

For your and others' safety, please read the precaution carefully before installation:

##### **For Direct Replacement Mode (Mode I)**

- (1) WARNING: Risk of shock. Disconnect power before installation.
- (2) WARNING: Risk of shock. Use only in place of fluorescent lamps specified on label. Risk of electric shock. Suitable for damp locations.
- (3) LED lamp for use only with products described and installed in accordance with product specifications. LED lamp to be operated with fluorescent magnetic ballast.
- (4) NOT FOR EMERGENCY LIGHTING.

##### **For By Pass Mode (Mode II)**

- (1) Product should be installed by qualified electrician.
- (2) Switch off the power supply before commencing work, make sure correct connection before power on.
- (3) NOT FOR EMERGENCY LIGHTING.
- (4) The devices are intended to retrofit surface mount Type IC or non-IC recessed mount Listed fluorescent luminaires that use maximum two lamps with or without a diffuser, the minimum dimension of luminaires are tabulated below:

Model Name	Product Name	Max No. of lamp	MINIMUM LAMP COMPARTMENT DIMENSIONS	Lamp-to-lamp Spacing
T10049 T10050 T10051 T10052 T10053	PLS-5.5-H-827-HYB PLS-5.5-H-830-HYB PLS-5.5-H-835-HYB PLS-5.5-H-840-HYB PLS-5.5-H-850-HYB	2	22 cm(L) x 14.5 cm(W) x 11 cm(H)	1cm

**Note:** These instructions do not cover all details or variations in equipment nor do they provide for every possible situation during installation, operation or maintenance.

# INSTRUCTIONS

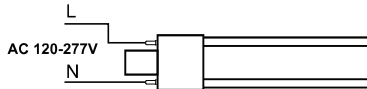
## PLS HYBRID



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## PRODUCT FEATURES

- UL certified
- Two operation models
- Direct Replacement Mode (Mode I)
  - Plug-n-Play replacement
  - Compatible with magnetic ballasts
- By Pass Mode (Mode II)
  - Direct connect with the mains: 120-277VAC 50/60Hz (universal voltage input)

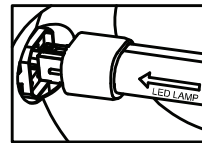
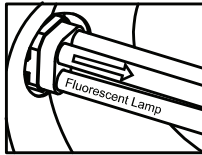


- Product applications: widely used in residential buildings, offices, shopping malls, supermarkets, hospitals, assembly lines, warehouses, etc. for energy-saving illumination.

## DIRECT REPLACEMENT Mode (Mode I)

### INSTALLATION INSTRUCTIONS

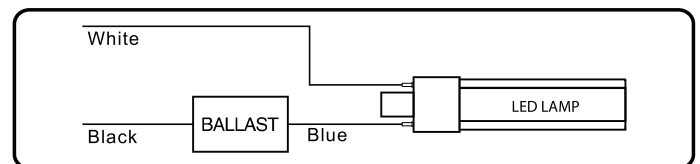
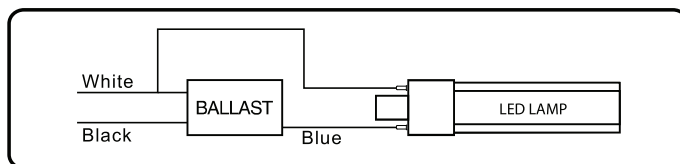
1. Make Sure Power is OFF.
2. Remove lens or diffuser (if applicable).
3. Remove existing fluorescent lamps from the luminaire.
4. Bring LED lamp to luminaire and insert lamp pins into luminaire lamp holders.



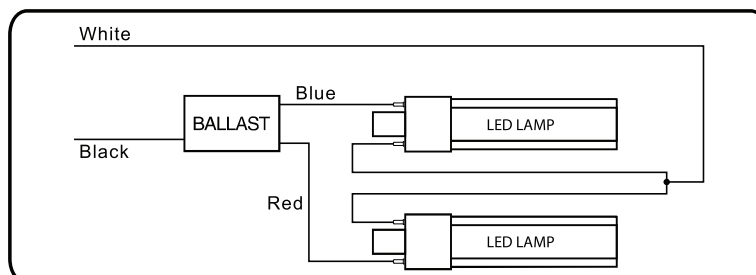
5. Place lens or diffuser back in place (if applicable).
6. Power ON.

## Magnetic Ballast Wiring Diagram

### Retrofit luminaire with 1 lamp



### Retrofit luminaire with 2 lamps



# INSTRUCTIONS

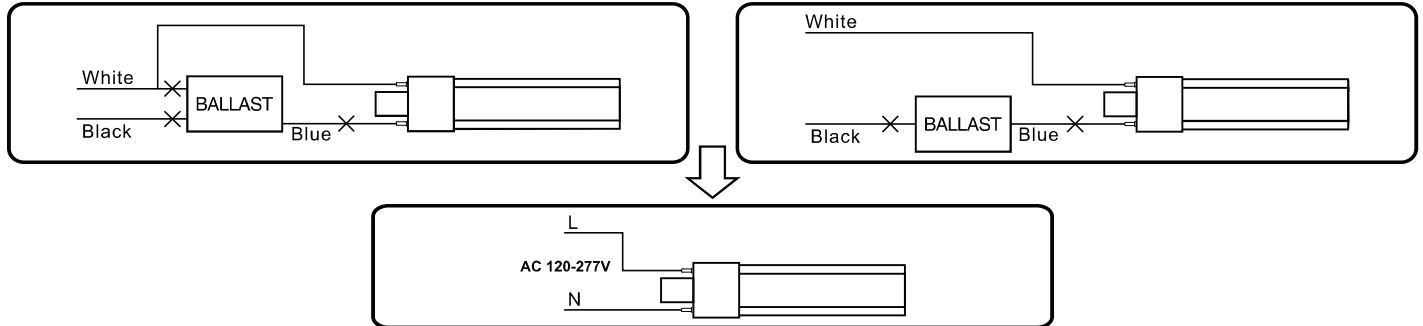
## PLS HYBRID



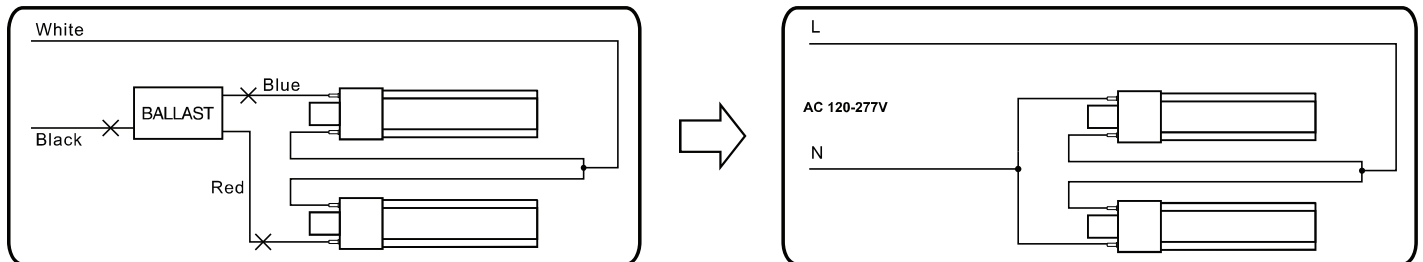
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### BY PASS Mode (Mode II)

#### Retrofit luminaire with 1 lamp



#### Retrofit luminaire with 2 lamps



## WARNING

**DO NOT INSTALL THIS LAMP IN A PRE-HEAT LUMINAIRE.**

Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.

Installers should not disconnect existing wires from lampholder terminals to make new connections at lampholder terminals. Instead installers should cut existing lampholder leads away from the lampholder and make new electrical connections to lampholder lead wires by employing applicable connectors.

**THIS LAMP ONLY OPERATES ON MAGNETIC BALLASTS. IF LAMP DOES NOT LIGHT WHEN THE LUMINAIRE IS ENERGIZED, REMOVE LAMP FROM LUMINAIRE AND CONTACT LAMP MANUFACTURER OR QUALIFIED ELECTRICIAN.**

**THE RETROFIT KIT IS ACCEPTED AS A COMPONENT OF A LUMINAIRE WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY AUTHORITIES HAVING JURISDICTION. PRODUCT MUST BE INSTALLED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH THE APPLICABLE AND APPROPRIATE ELECTRICAL CODES. THE INSTALLATION GUIDE DOES NOT SUPERSEDE LOCAL OR NATIONAL REGULATIONS FOR ELECTRICAL INSTALLATIONS.**

**WARNING - Risk of fire or electric shock. Install this kit only in luminaires that have the construction features and dimensions shown in the photographs and/or drawings and where the input rating of the retrofit kit does not exceed the input rating of the luminaire.**

**AVERTISSEMENT - Risque d'incendie ou de choc électrique. Installez ce kit dans les luminaires qui ont les caractéristiques de construction et les dimensions indiquées dans les photographies et / ou dessins et où la cote d'entrée du kit de modification ne dépasse pas la capacité d'entrée du luminaire.**

**WARNING - To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects. AVERTISSEMENT - Pour éviter d'endommager le câblage ou à l'abrasion, ne pas exposer le câblage aux bords de tôle ou d'autres objets pointus.**

**CAUTION - RISK OF FIRE. IF THE LAMP OR LUMINAIRE EXHIBITS UNDESIRABLE OPERATION (BUZZING, FLICKERING, ETC.), IMMEDIATELY TURN OFF POWER, REMOVE LAMP FROM LUMINAIRE AND CONTACT MANUFACTURER. ATTENTION RISQUE DE FEU - SI LA LAMPE OU LE LUMINAIRE MONTRE DES SIGNES D'OPERATION INDESIRABLE (BRUIT, VIBRATION, CLIGNOTEMENT, ETC.), ALORS COUPER IMMÉDIATEMENT LE COURANT ET ENLÈVER LA LAMPE DE L'APPAREIL D'ÉCLAIRAGE ENTRER EN CONTACT AVEC LE FABRICANT.**

**WARNING - Risk of fire or electric shock. LED Retrofit Kit installation requires knowledge of luminaires electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.**

**AVERTISSEMENT - Risque d'incendie ou de choc électrique. Installation du kit de Retrofit LED exige une connaissance des systèmes électriques luminaires. Si vous n'êtes pas qualifié, ne tentez pas de l'installation. Contactez un électricien qualifié.**

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## WARRANTY

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This product is warranted for 5 years from the date of purchase. If this product does not perform to the specifications supplied on this package, send an email or write to the address below for product return and replacement. This replacement is the sole remedy available. Liability for incidental or consequential damage is expressly excluded.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This product may cause interference to radio equipment and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45-30MHz.



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Call our experts: 888 722-1000

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### PLS-3.5-H-8XX-HYB



#### IMPORTANT

##### **READ CAREFULLY BEFORE INSTALLING LAMPS. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.**

RAB lamps must be wired in accordance with the National Electrical Code and all applicable local codes. Proper grounding is required for safety. THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED.

##### **WARNINGS:**

- **Risk of fire or electric shock.** LED Retrofit Kit installation requires knowledge of luminaire electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician. Installation should be performed only by a qualified electrician in accordance with the National Electrical Code and relevant local code.
- **Risk of fire or electric shock.** Install this kit only in the luminaires that have the construction features and dimensions shown in the photographs and/or drawings and where the input rating of the retrofit kit does not exceed the input rating of the luminaire.
- **To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects. Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.**  
Installers should not disconnect existing wires from lamp holder terminals to make new connections at lamp holder terminals. Instead installers should cut existing lamp holder leads away from the lamp holder and make new electrical connections to lamp holder lead wires by employing applicable connectors.

##### **CAUTION**

- **RISK OF FIRE. IF THE LAMP OR LUMINAIRE EXHIBITS UNDESIRABLE OPERATION (BUZZING, FLICKERING, ETC.), IMMEDIATELY TURN OFF POWER, REMOVE LAMP FROM LUMINAIRE AND CONTACT MANUFACTURER.**
- **THIS LAMP ONLY OPERATES ON MAGNETIC BALLASTS. IF LAMP DOES NOT LIGHT WHEN THE LUMINAIRE IS ENERGIZED, REMOVE LAMP FROM LUMINAIRE AND CONTACT LAMP MANUFACTURER OR QUALIFIED ELECTRICIAN.**
- **Disconnect power at the source before installation, inspection or removal. Do not simply switch off fixture.**
- **This item is rated at 120-277V. Installer must determine whether line voltage 120-277V is available at the luminaire before installation.**
- **THIS DEVICE IS NOT INTENDED FOR USE WITH EMERGENCY EXITS**
- **Not for use with luminaire ballast.**
- **Do not use if product is damaged.**
- **This lamp is non-dimmable. Not for use with dimmers.**
- **"This luminaire has been modified to operate LED lamps" shall be marked on the retrofit luminaire where readily visible by the user during normal maintenance including re-lamping.**
- **Risk of fire or electric shock. Do not open or modify. No user serviceable parts inside.**
- **Installers should not disconnect existing wires from lamp holder terminals to make new connections at lamp holder terminals. Instead installers should cut existing lamp holder leads away from the lamp holder and make new electrical connections to lamp holder lead wires by employing applicable connectors.**
- **SUITABLE FOR DAMP LOCATIONS.** Suitable for use in wet locations when used in an outdoor-rated fixture. Not for use where directly exposed to the weather or water.
- **Complies with Part 15 of FCC. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received including interference that may cause undesired operation.**
- **No external weight or mechanical force should be applied to lamp or components.**
- **THE RETROFIT ASSEMBLY IS ACCEPTED AS A COMPONENT OF LUMINAIRE WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY UL OR AUTHORITIES HAVING JURISDICTION.**
- **DO NOT INSTALL THIS LAMP IN A PRE-HEAT LUMINAIRE.**
- **WHEN DIRECT REPLACEMENT FOR SPECIFIC FLUORESCENT LAMPS, THIS LAMP ONLY OPERATES ON MAGNETIC BALLASTS. IF LAMP DOES NOT LIGHT WHEN THE LUMINAIRE IS ENERGIZED, REMOVE LAMP FROM LUMINAIRE AND CONTACT LAMP MANUFACTURER OR QUALIFIED ELECTRICIAN.**

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### NOTE:

- **This retrofit kit is for a 2 PIN MOUNT and can replace 5W, 7W and 9W CFL lamps with G23 bases.**
- **This lamp is non-dimmable. Not for use with dimmers.**
- **Operates on magnetic ballasts only.**
- **This lamp is not compatible with luminaires that use a remote starter.**
- **Suitable to replace compact fluorescent lamps as specified on the product label.**

## WIRING DIAGRAM

- 1) Read all WARNINGS before continuing this section.
- 2) Ensure fixture is 120-277V.
- 3) Make sure POWER IS TURNED OFF AT THE SOURCE.
- 4) Remove lens if applicable, remove cover and fluorescent lamp.
- 5) Before rewiring, check the ballast type and refer to the relevant diagram.
- 6) Before rewiring, please check the number of lamps per fixture and refer to the relevant diagram.
- 7) If fixture is new without ballast, please refer to Cf. Diagram 1.
- 8) If fixture ballast type is magnetic please refer to Cf. Diagram 2.
- 9) If fixture ballast type is magnetic please refer to Cf. Diagram 3, installation without wiring modification.
- 10) This device is powered by two pins; Install lamp into the wired lampholder end.
- 11) Visibly affix "Modification Sticker" and reinstall housing cover and lens if applicable.
- 12) Return power back to source and installation is now complete.

Diagram 1 – New fixture without ballast wiring

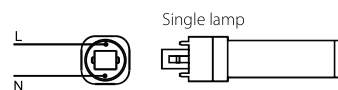


Diagram 3 – Magnetic ballast fixture without wiring modification

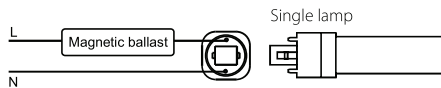
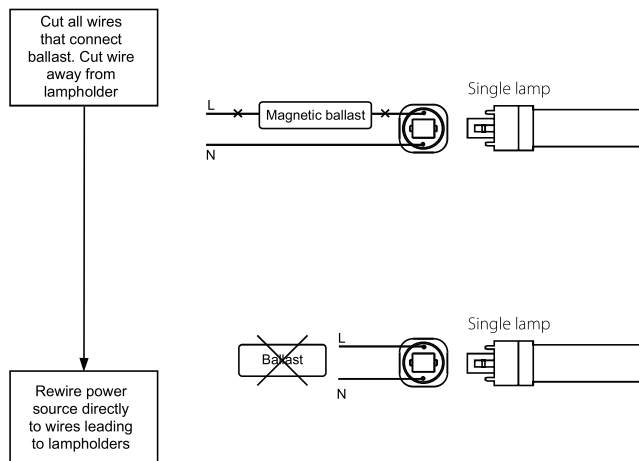


Diagram 2 – Magnetic ballast fixture wiring modification



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### PLS-5-H-8XX-HYB PLS-5.5-V-8XX-HYB



#### IMPORTANT

##### **READ CAREFULLY BEFORE INSTALLING LAMPS. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.**

RAB lamps must be wired in accordance with the National Electrical Code and all applicable local codes. Proper grounding is required for safety. THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED.

##### **WARNINGS:**

- **Risk of fire or electric shock.** LED Retrofit Kit installation requires knowledge of luminaire electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician. Installation should be performed only by a qualified electrician in accordance with the National Electrical Code and relevant local code.
- **Risk of fire or electric shock.** Install this kit only in the luminaires that have the construction features and dimensions shown in the photographs and/or drawings and where the input rating of the retrofit kit does not exceed the input rating of the luminaire.
- **To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects. Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.**  
Installers should not disconnect existing wires from lamp holder terminals to make new connections at lamp holder terminals. Instead installers should cut existing lamp holder leads away from the lamp holder and make new electrical connections to lamp holder lead wires by employing applicable connectors.

THE RETROFIT ASSEMBLY IS ACCEPTED AS A COMPONENT OF LUMINAIRE WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY UL OR AUTHORITIES HAVING JURISDICTION.

##### **CAUTION**

- **RISK OF FIRE.** IF THE LAMP OR LUMINAIRE EXHIBITS UNDESIRABLE OPERATION (BUZZING, FLICKERING, ETC.), IMMEDIATELY TURN OFF POWER, REMOVE LAMP FROM LUMINAIRE AND CONTACT MANUFACTURER.
- **DO NOT INSTALL THIS LAMP IN A PRE-HEAT LUMINAIRE.**
- **THIS LAMP ONLY OPERATES ON MAGNETIC BALLASTS.** IF LAMP DOES NOT LIGHT WHEN THE LUMINAIRE IS ENERGIZED, REMOVE LAMP FROM LUMINAIRE AND CONTACT LAMP MANUFACTURER OR QUALIFIED ELECTRICIAN.
- **THIS DEVICE IS NOT INTENDED FOR USE WITH EMERGENCY EXITS.**
- **Disconnect power at the source before installation, inspection or removal. Do not simply switch off fixture.**
- **This item is rated at 120-277V. Installer must determine whether line voltage 120-277V is available at the luminaire before installation.**
- **Not for use with luminaire ballast.**
- **Do not use if product is damaged.**
- **This lamp is non-dimmable. Not for use with dimmers.**
- **"This luminaire has been modified to operate LED lamps" shall be marked on the retrofit luminaire where readily visible by the user during normal maintenance including re-lamping.**
- **Risk of fire or electric shock. Do not open or modify. No user serviceable parts inside.**
- **SUITABLE FOR DAMP LOCATIONS.** Suitable for use in wet locations when used in an outdoor-rated fixture. Not for use where directly exposed to the weather or water.
- **Complies with Part 15 of FCC.** Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received including interference that may cause undesired operation.
- **No external weight or mechanical force should be applied to lamp or components.**

##### **NOTE:**

- This retrofit kit is for a 2 PIN MOUNT and can replace 13W CFL lamps with GX23 bases.
- This retrofit kit is a hybrid product meaning it can work a magnetic CFL ballast or run off line voltage. For installation with a magnetic CFL ballast, please refer installation (ballast bypass), please refer to the LED PLS BYPASS LAMP INSTALLATION GUIDE section.



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### WIRING DIAGRAM

- 1) Read all WARNINGS before continuing this section.
- 2) Ensure fixture is 120-277 V.
- 3) Make sure POWER IS TURNED OFF AT THE SOURCE.
- 4) Remove lens if applicable, remove cover and fluorescent lamp.
- 5) Before rewiring, check the ballast type and refer to the relevant diagram.
- 6) Before rewiring, please check the number of lamps per fixture and refer to the relevant diagram.
- 7) If fixture is new without ballast, please refer to Cf. Diagram 1.
- 8) If fixture ballast type is magnetic please refer to Cf. Diagram 2.
- 9) If fixture ballast type is magnetic please refer to Cf. Diagram 3, installation without wiring modification.
- 10) This device is powered by two pins; install lamp into the wired lampholder end.
- 11) Visibly affix "Modification Sticker" and reinstall housing cover and lens if applicable.
- 12) Return power back to source and installation is now complete.

#### PLS-5.5-V-8XX-HYB

Diagram 1 – New fixture without ballast wiring

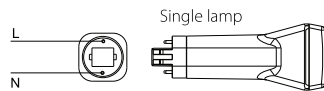


Diagram 2 – Magnetic ballast fixture wiring modification

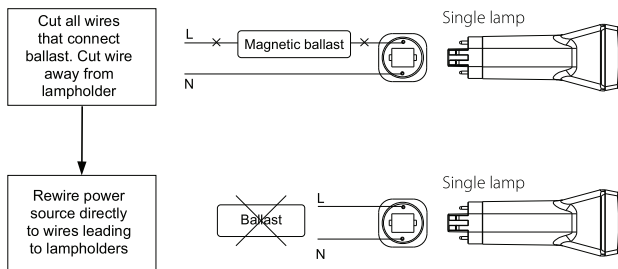
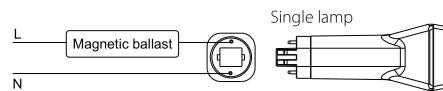


Diagram 3 – Magnetic ballast fixture without wiring modification



#### PLS-5.5-H-8XX-HYB

Diagram 1 – New fixture without ballast wiring

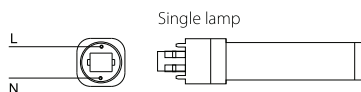


Diagram 2 – Magnetic ballast fixture wiring modification

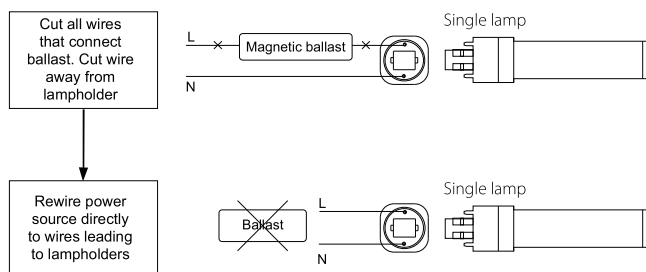
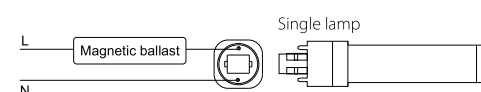


Diagram 3 – Magnetic ballast fixture without wiring modification



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