

INSTRUCTIONS

T8 Hybrid Type A+B

RAB®

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

T8-12-48G-8XX-HYB
T8-7.5-24G-8XX-HYB



IMPORTANT

READ CAREFULLY BEFORE INSTALLING FIXTURE. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.

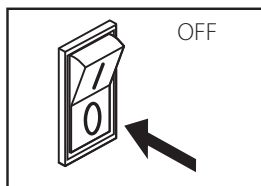
RAB LED tubes must be wired in accordance with the National Electrical Code and all applicable local codes. Proper grounding is required for safety. THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT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

WARNING:

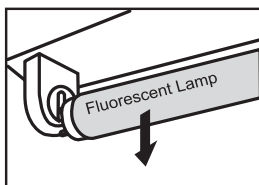
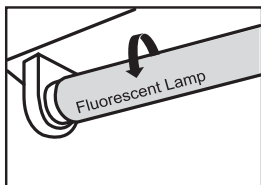
1. LED Luminaire Retrofit Kit Including LED Tube, Installation instructions, Luminaire Marking Label.
2. Risk of fire or electric shock. LED Retrofit Kit installation requires knowledge of luminaires electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician in accordance with the National Electrical Code and relevant local code.
3. 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.
4. 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. This device is not intended for use with emergency exits. 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 DIMMERS. SUITABLE FOR DAMP LOCATIONS.
5. 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.
6. THIS RETROFIT KIT IS ACCEPTED AS A COMPONENT OF A LUMINAIRE WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY AUTHORITIES HAVING JURISDICTION.
7. To avoid potential fire or shock hazard, do not use this retrofit kit in luminaires employing shunted bi-pin lampholders. Note: Shunted lamp holders are found only in fluorescent luminaires with Instant-Start ballasts. Instant-start ballasts can be identified by the words "Instant Start" or "I.S." marked on the ballast. This designation may be in the form of a statement pertaining to the ballast itself, or may be combined with the marking for the lamps with which the ballast is intended to be used, for example F40T12/IS. For more information, contact the LED luminaire retrofit kit manufacturer.

INSTALLATION INSTRUCTIONS-Ballast Compatible

1. Turn Power OFF

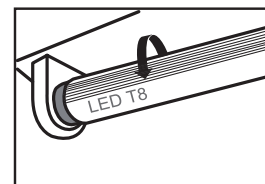
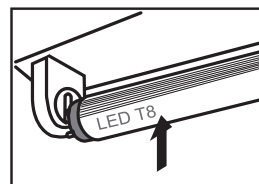


2. Remove lens or diffuser (if applicable)
3. Remove existing fluorescent lamps from the luminaire.

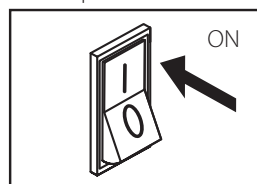


4. Bring LED lamp to luminaire and insert lamp pins into luminaire lamp holders

5. Rotate LED lamp until lamp locks in place. Ensure that the LED lamp front points away from the back of the luminaire.



6. Place lens or diffuser back in place (if applicable)
7. Switch power ON.



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PRODUCT NOTES

The products are intended to retrofit Type IC or Non-IC recessed mount Listed Fluorescent luminaires with instructions to remove the existing trim. They use maximum four straight tubular lamps with or without a diffuser. The minimum lamp compartment dimensions are tabulated on the right: Replace LED lamp only with model: T8-7.5-24G-8XX-HYB; T8-12-48G-8XX-HYB Manufactured by RAB Lighting Inc.

Part Number	MINIMUM LAMP COMPARTMENT DIMENSIONS (cm)
T10066/T10067/T10068/T10069 T8-7.5-24G-8XX-HYB	62 x 56 x 5
T10070/T10071/T10072/T10073 T8-12-48G-8XX-HYB	122 x 56 x 5
Maximum Lamp quantity in Luminaire	4

INSTALLATION INSTRUCTIONS-Ballast Bypass DOUBLE-ENDED POWER

1. Make sure the circuit breaker that supplies the power to the fixture is turned off.
2. Remove lens or diffuser cover (if applicable) and existing fluorescent lamps.
3. Open/Remove ballast wiring compartment cover.
4. Identify the line and neutral wires running from the breaker box to the ballast and confirm the power is off using a voltmeter.
5. Cut all wires connected to ballast, Dispose of removed ballast and fluorescent lamps in accordance with government regulations in your area.
6. Ensure that the fixture contains shunted G13 bi-pin lamp holders. If socket lamp holders are non-shunted, replace with new shunted socket lamp holders, or shunted with a jumper wire to convert into shunted sockets.
7. LED T8 lamps are designed for double sided connections only (Fig. 1). To install, please wire non-shunted sockets by connecting one wire from the lamp holder to branch circuit L (LIVE) and the other wire at the opposite end to the branch circuit N (NEUTRAL). Do not connect opposite side to power. Use appropriate wires for connection.



Fig. 1 - Double sided connections

8. Make sure all sockets are replaced and wired according to the appropriate wiring diagram. (Fig. 2, 3, 4, 5).

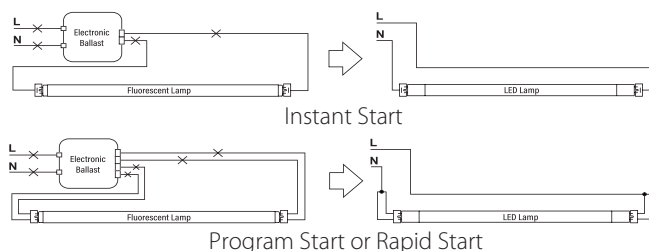


Fig. 2 - Retrofit luminaire with One Lamp

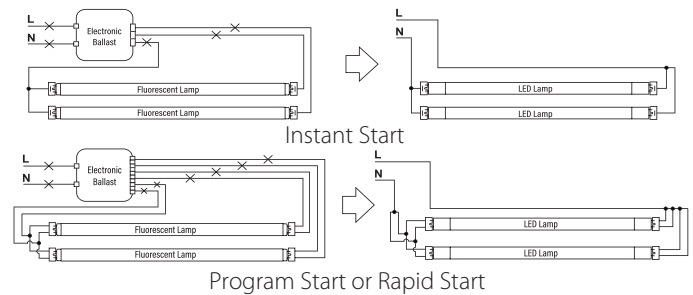


Fig. 3 - Retrofit luminaire with Two Lamps

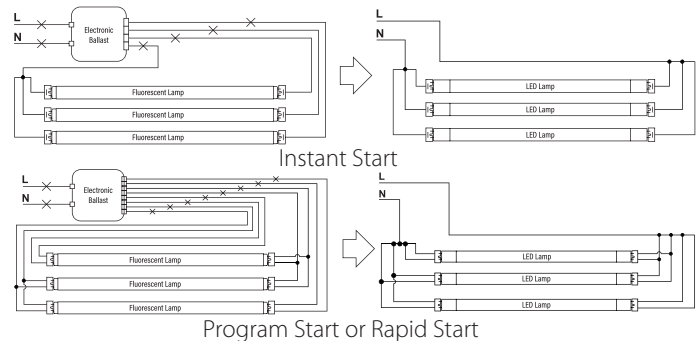


Fig. 4 - Retrofit luminaire with Three Lamps

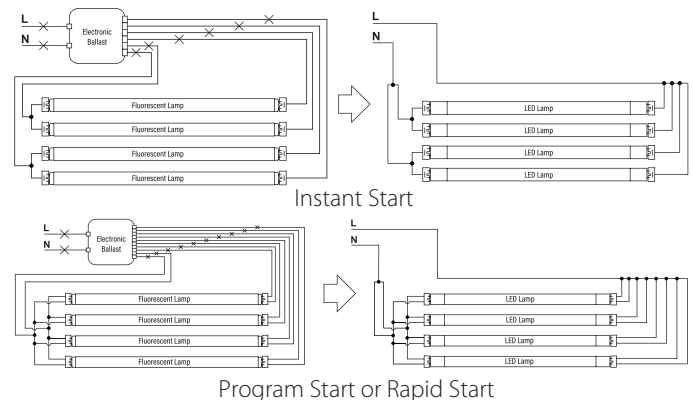


Fig. 5 - Retrofit luminaire with Four Lamps

9. Reinstall the ballast cover to hide all wires.
10. Install your new LED T8 replacement lamps.
11. Apply Relamping Label on a visible location inside the fixture.
12. Reinstall lens or diffusion cover on the light fixture.
13. Turn power on at the breaker box.
14. Turn on the lights.

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.

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INSTALLATION INSTRUCTIONS-Ballast Bypass SINGLE-ENDED POWER

1. Turn Power OFF.
2. If applicable, replace lamp holders at power end with non-shunted lamp holders (*Fig.6*).

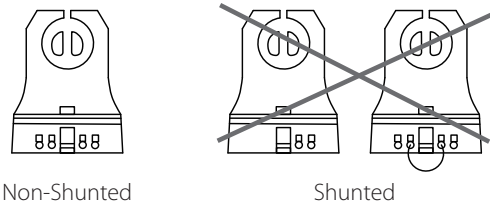


Fig: 6

3. Install lamp with the L and N markings into the wired lamp holder end (*Fig.7*).



Fig: 7

4. If installing a single tube refer to Fig. 8. If connecting multiple lamps, connect separate neutral wire into "Neutral out" from primary source lamp holder and connect that wire into "Neutral in" on the adjacent tube. See Fig. 9 below.

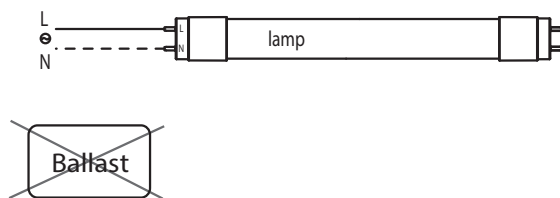


Fig: 8

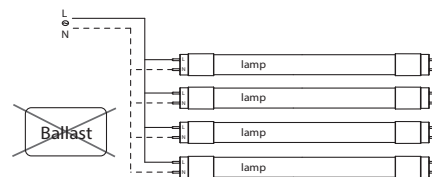


Fig: 9

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T8-13-U6G-8XX-SD-HYB



T8-13-U1G-8XX-SD-HYB



IMPORTANT

READ CAREFULLY BEFORE INSTALLING LED TUBE. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.

RAB LED tubes 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:

SUITABLE FOR DAMP LOCATIONS. DO NOT USE WITH DIMMERS.

THIS DEVICE IS NOT INTENDED FOR USE WITH EMERGENCY EXITS.

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.

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.

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

FOR TYPE B, INPUT VOLTAGE IS 120-277V.

RISK OF FIRE OR ELECTRIC SHOCK. LED RETROFIT KIT INSTALLATION REQUIRES KNOWLEDGE OF LUMINAIRES ELECTRICAL SYSTEMS. IF NOT QUALIFIED, DO NOT ATTEMPT INSTALLATION AND CONTACT A QUALIFIED ELECTRICIAN.

RISK OF FIRE OR ELECTRIC SHOCK. PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE OR YOUR LOCAL ELECTRICAL CODE. IF YOU ARE NOT FAMILIAR WITH THESE CODES AND REQUIREMENTS, CONTACT A QUALIFIED ELECTRICIAN.

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.

TO AVOID POTENTIAL FIRE OR SHOCK HAZARD, DO NOT USE THIS RETROFIT KIT IN LUMINAIRES EMPLOYING SHUNTED BI-PIN LAMP HOLDERS. NOTE: SHUNTED LAMP HOLDERS ARE FOUND ONLY IN FLUORESCENT LUMINAIRES WITH INSTANT-START BALLASTS. INSTANT-START BALLASTS CAN BE IDENTIFIED BY THE WORDS "INSTANT START" OR "I.S." MARKED ON THE BALLAST. THIS DESIGNATION MAY BE IN THE FORM OF A STATEMENT PERTAINING TO THE BALLAST ITSELF, OR MAY BE COMBINED WITH THE MARKING FOR THE LAMPS WITH WHICH THE BALLAST IS INTENDED TO BE USED, FOR EXAMPLE F40T12/IS. FOR MORE INFORMATION, CONTACT THE LED LUMINAIRE RETROFIT KIT MANUFACTURER.

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.

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INSTALLATION- BALLAST BYPASS

BYPASSING MAGNETIC/ELECTRONIC BALLAST

1) Turn-off power before installation(Fig.1).

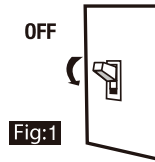


Fig:1

2) Remove the existing ballast and existing starter (if present) from the fixture(Fig.2).

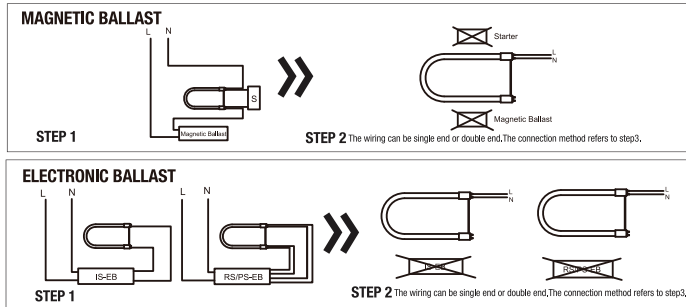


Fig:2

3) Rewire the fixture to be on certain single end/double end power(Fig.3).

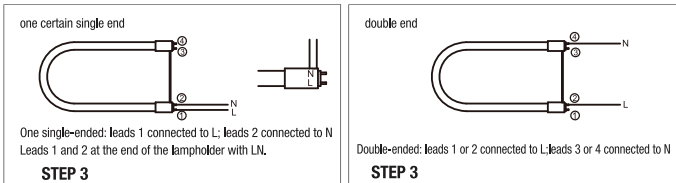
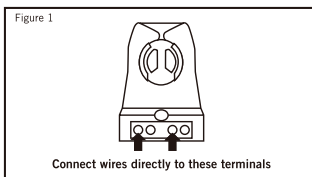


Fig:3

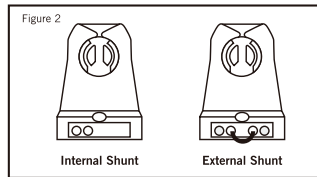
CAUTION: Use only non-shunted lampholders for single-ended wiring installations. Do not perform single-ended wiring installation of product in a fixture with shunted lampholders (found in all fixtures using instant start ballasts). If the existing lampholders are shunted, and single-ended wiring is desired, remove and replace them with non-shunted lampholders (or remove the external shunt if applicable). Make new connections directly to lampholder terminals as shown in Figure 4 below.

Typical Non-Shunted Lampholder



If it is non shunted socket, it can work in both single end and double end.

Typical Shunted Lampholders



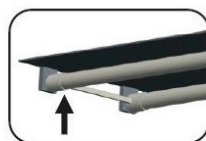
If it is shunted socket, it is double end only.

Fig:4

After wiring modification is completed, attach the warning label onto a visible place on the fixture that is kept visible after installation of U-Bend.

4) Install the LED U-Bend(Fig.5).

LED U-bend Fig:5



Step 4

5) Turn-on the power and light the LED U-Bend.

INSTALLATION - BALLAST COMPATIBLE

1) Switch-off power to the luminaire(Fig.6).

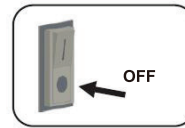


Fig:6

Step 1

2) Remove fixture diffuser if present(Fig.7).

3) Remove the existing fluorescent lamps from your fixture(Fig.7).

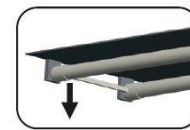


Fig:7

Step 2-3

4) Install the LED T8 U-Bend replacement lamp(Fig.8).

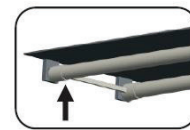


Fig:8

Step 4

5) Attach the diffuser and turn on the power switch to the fixture(Fig.9).

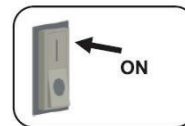


Fig:9

Step 5