Lightalarms
A Division of Thomas & Betts Corporation
TEL: (888) 935-3610 FAX: (888) 867-1566

AM6

TBTS SERIES D
EMERGENCY
LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector.
3. **CAUTION** – This is a sealed unit. The integral, high temperature Ni-Cad battery is not replaceable. Replace the entire unit when necessary. The EPA certified RBRC® Battery Recycling Seal indicates voluntary participation in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cad batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-822-8837 for information on Ni-Cad battery recycling and disposal bans/restrictions in your area. Involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.
4. **DO NOT USE OUTDOORS.** The **AM6** is for use with grounded, UL Listed, indoor fixtures except in heated air outlets or hazardous locations.
5. The **AM6** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
6. Do not mount near gas or electric heaters.
7. The **AM6** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
8. The **AM6** will cold strike and operate one 2′ through 4′ (20-40W) instant start, rapid start, U shape or circline, T8 through T12 fluorescent lamps, including energy saving and long compacts for 90 minutes at reduced light output.
9. The **AM6** is compatible with all A.C. magnetic and electronic ballasts including multiple lamp ballasts with one lamp operating in the emergency mode.
10. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
11. Do not use this equipment for other than intended use.
12. Install in accordance with the National Electrical Code and local regulations.
13. Installation and servicing should be performed by qualified personnel.
14. Lighting fixture manufacturers, electricians, and end-users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS

UL® LISTED

RECYCLE RBRC Ni-Cd 1.800.822.8837

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INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the AM6 unit connector is disconnected.

1. LAMPS OPERATED

The **AM6** can be used with most 2′ –4′ lamps. Refer to the chart below for the type of lamp(s) operated and the number of lamps to be operated in emergency mode.

OPTION	LAMP TYPE	EMERGENCY OPERATION	*VIOLET LEADS	WIRING DIAGRAMS
1	2 FT T8-T12 Single, Bipin	One Lamp	Connected	1,2,3,4,5,6,7,8
2	4 FT T8-T12 Single, Bipin	One Lamp	Disconnected	1,2,3,4,5,6,7,8

*The 6″ violet leads provide the lamp selection option. The unit is shipped from the factory with the leads disconnected and capped.

2. MOUNTING THE AM6

Remove the ballast channel cover. Mount the **AM6** in the ballast channel at least 1/2″ away from the A.C. ballast(s).

When battery packs are remote mounted, the remote distance can not exceed 1/2 of the distance from ballast to lamp specified by the A.C. ballast manufacturer. For example, if the A.C. ballast manufacturer recommends no more than 25′ remote distance, then the battery pack should not exceed 12 1/2′ . Under no circumstances should the battery pack exceed a distance of 50′ from the lamp.

2. WIRING

Refer to the wiring diagrams on the back page for the appropriate wiring of lamp(s) and ballast. Install in accordance with the National Electrical Code and local regulations. For additional wiring diagrams consult Customer Service.

Illustration 1

Recessed Troffer Fixture

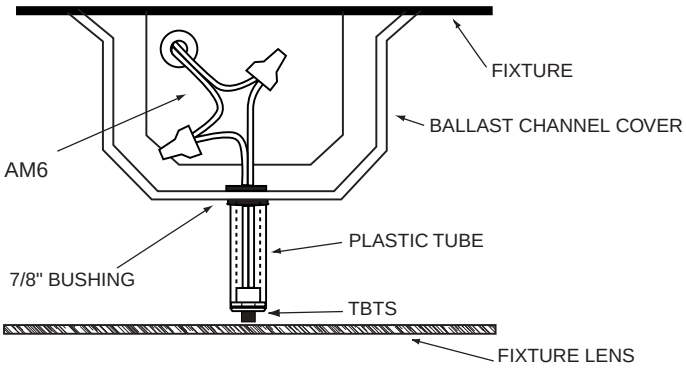
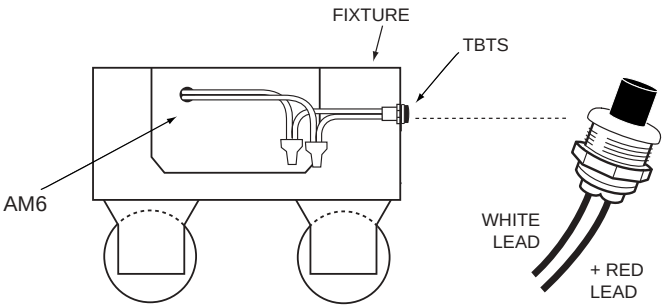


Illustration 2

Strip Fixture



OBSERVE PROPER POLARITY

3. INSTALLING THE THREADED BODY TEST SWITCH (TBTS)

Recessed Troffer Fixture – Select a convenient location with proper clearance in the ballast cover and drill or punch a 7/8″ hole (1/2″ knockout). Insert the 7/8″ bushing into the hole. Push the plastic tube through the bushing. Route the leads of the **TBTS** through the plastic tube. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Push the entire assembly back into the tube until the lens collar rests against the plastic tube. The plastic tube should be adjusted so that the **TBTS** is within ¼″ of the fixture lens. The **TBTS** must be visible after installation. Refer to *Illustration 1*.

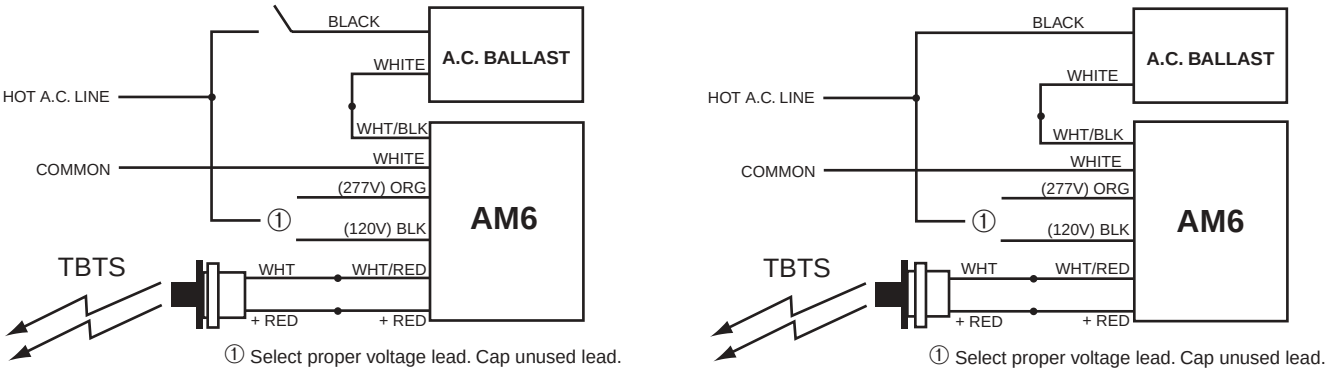
Strip Fixture – Select a convenient location on the fixture so the **TBTS** can be seen after installation. Allow for proper clearance inside the fixture and drill or punch a 1/2″ hole. Remove the nut from the **TBTS**. Push the **TBTS** housing into the 1/2″ hole and secure with the nut. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Refer to *Illustration 2*.

4. WIRING THE A.C. INPUT

A. The **AM6** and A.C. ballast ***must*** be on the same branch circuit.
B. The **AM6** requires an ***unswitched*** A.C. power source of either 120 or 277 volts. Select the proper voltage lead and cap the unused lead.
C. When the **AM6** is used with a switched fixture, the A.C. input to the **AM6** must be connected ahead of the fixture switch. Refer to *Illustration 3* for switched and unswitched fixture wiring diagrams.

5. BALLAST WIRING BLOCK DIAGRAM

Illustration 3 **Switched Fixture** **Unswitched Fixture**



① Select proper voltage lead. Cap unused lead.

① Select proper voltage lead. Cap unused lead.

6. LABELS

Attach the appropriate labels adjacent to the **TBTS**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

7. COMPLETING INSTALLATION

When the installation is complete, switch the A.C. power on and join the **AM6** unit connector.

OPERATION

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **AM6** is in the standby charging mode. The **TBTS** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **AM6** senses the A.C. power failure and automatically switches to the *Emergency Mode*. One lamp is illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **AM6** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the Instruction Manual.

TESTING & MAINTENANCE

Pressing the red lens on the **TBTS** turns off the light on the **TBTS** and forces the unit into emergency mode. This interrupts power to the emergency lamp only. The emergency lamp is now being lit by the **AM6** unit and will be less bright than the other lamps in the system. To simulate a "BLACK OUT" use the wall switch or circuit breaker to turn off A.C. power.

Initial Testing – Allow the unit to charge approximately 1 hour, then press the **TBTS** to conduct a short discharge test. Allow a 24 hour charge before conducting a one hour test.

The **AM6** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **TBTS** is illuminated. Conduct a 30 second discharge test by depressing the **TBTS**. One lamp should operate at reduced output.

Annually – Insure that the **TBTS** is illuminated. Conduct a full $1^1/_2$ hour discharge test. The unit should operate as intended for the duration of the test.

"Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction."

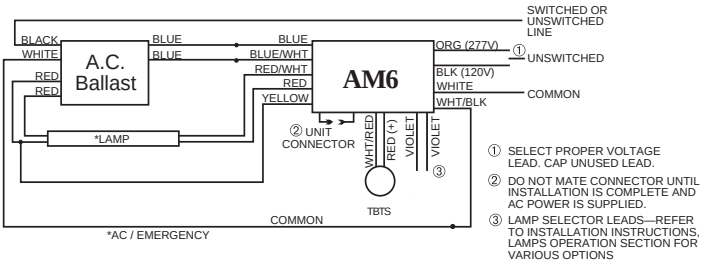
SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

Consult Customer Service for current warranty information.

TYPICAL WIRING DIAGRAMS

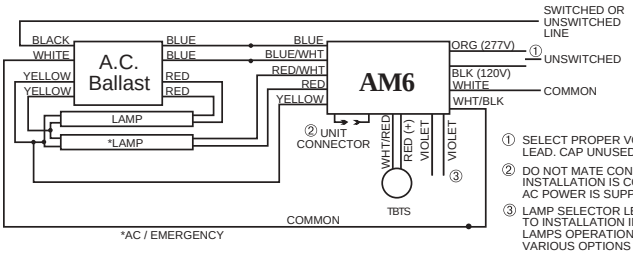
For wiring diagrams of ballasts not shown, consult our Customer Service.

1. ONE LAMP RAPID START BALLAST



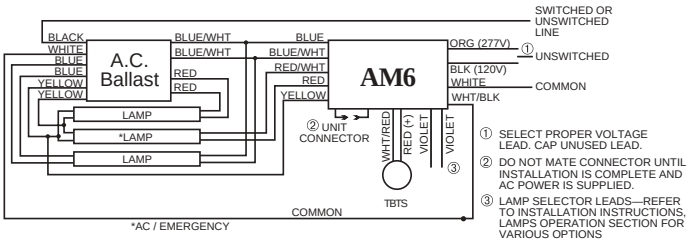
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

2. TWO LAMP RAPID START BALLAST



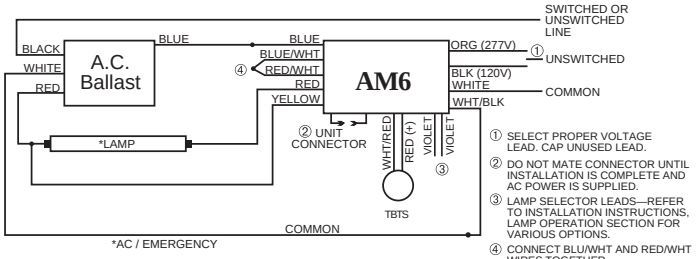
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

3. THREE LAMP RAPID START BALLAST



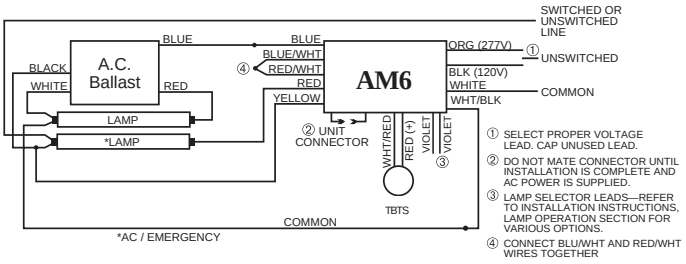
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

4. ONE LAMP INSTANT START BALLAST



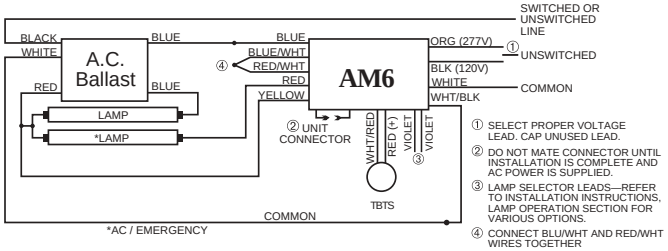
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

5. TWO LAMP INSTANT START BALLAST



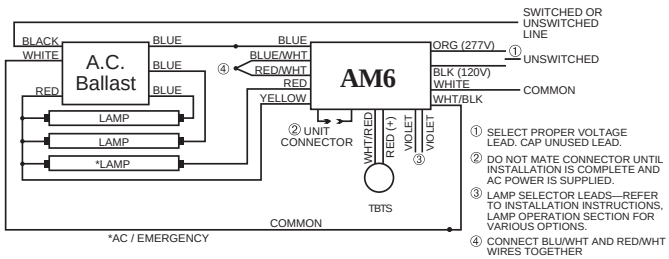
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

6. TWO LAMP INSTANT START BALLAST



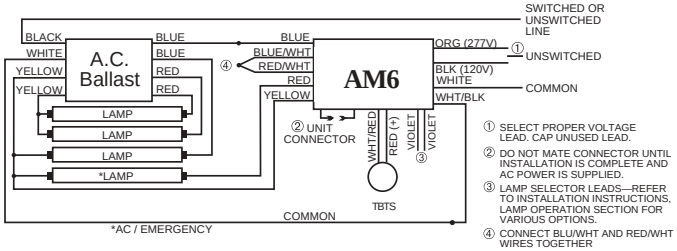
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

7. THREE LAMP INSTANT START BALLAST



① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

8. FOUR LAMP INSTANT START BALLAST



① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

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AM7

LPTS SERIES D
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LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector.
3. **CAUTION** – This is a sealed unit. The integral, high temperature Ni-Cad battery is not replaceable. Replace the entire unit when necessary. The EPA certified RBRC® Battery Recycling Seal indicates voluntary participation in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cad batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-822-8837 for information on Ni-Cad battery recycling and disposal bans/restrictions in your area. Involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.
4. **DO NOT USE OUTDOORS.** The **AM7** is for use with grounded, UL Listed, indoor fixtures except in heated air outlets or hazardous locations.
5. The **AM7** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
6. Do not mount near gas or electric heaters.
7. The **AM7** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
8. The **AM7** will cold strike and operate *one* 2′–8′ or *two* 2′–4′ instant start, rapid start, U shape or circline, T8 through T12 fluorescent lamps, including energy saving and long 4 pin compact lamps for 90 minutes.
9. The **AM7** is compatible with most A.C. ballasts (including multiple lamp) as follows:
   Magnetic ballasts – either one or two lamp emergency operation.
   Electronic ballasts – one lamp emergency operation, consult Customer Service for two lamp emergency operation wiring diagrams.
10. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
11. Do not use this equipment for other than intended use.
12. Install in accordance with the National Electrical Code and local regulations.
13. Installation and servicing should be performed by qualified personnel.
14. Lighting fixture manufacturers, electricians and end users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS

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RECYCLE RBRC Ni-Cd 1.800.822.8837

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INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the AM7 unit connector is disconnected.

1. LAMPS OPERATED

The **AM7** can be used with most 2′–8′ lamps. Refer to the chart below for the type of lamp(s) operated and the number of lamps to be operated in emergency mode. Contact Customer Service for answers about specific lamps.

OPTION	LAMP TYPE	EMERGENCY OPERATION	*VIOLET LEADS	WIRING DIAGRAMS
1	2'–4' T-8/T-12 Single & Bipin Pin	One lamp	Connected	1,2,3,4,5,6,7,8
2	5'–8' T-8/T-12 Single & Bipin Pin	One lamp	Disconnected	1,2,4,5,6
3	2'–4' T-8/T-12 Single & Bipin Pin	Two lamp	Disconnected	9,10

*The 6″ violet leads provide the lamp selection option. The unit is shipped from the factory with the leads disconnected and capped.

2. MOUNTING THE AM7

Remove the ballast channel cover. Mount the **AM7** in the ballast channel at least 1/2″ away from the A.C. ballast(s).

When battery packs are remote mounted, the remote distance can not exceed 1/2 of the distance from ballast to lamp specified by the A.C. ballast manufacturer. For example, if the A.C. ballast manufacturer recommends no more than 25′ remote distance, then the battery pack should not exceed 12 1/2′. Under no circumstances should the battery pack exceed a distance of 50′ from the lamp.

3. WIRING

Refer to the wiring diagrams on the back page for the appropriate wiring of lamp(s) and ballast. Install in accordance with the National Electrical Code and local regulations. For additional wiring diagrams consult Customer Service.

4. INSTALLING THE LIGHTED PUSH BUTTON TEST SWITCH (LPTS)

Recessed Troffer Fixture – Select a convenient location with proper clearance in the ballast cover and drill or punch a 7/8″ hole (1/2″ knockout). Insert the 7/8″ bushing into the hole. Push the plastic tube through the bushing. Disconnect the leads from the **LPTS** housing and route the leads down the plastic tube. Reconnect the leads to the housing, observing the proper polarity (Red lead to positive (+) red tab). Push the entire assembly back into the tube until the lens collar rests against the plastic tube. The plastic tube should be adjusted so that the **LPTS** is within ¼″ of the fixture lens. The **LPTS** must be visible after installation. Refer to *Illustration 1*.

Strip Fixture – Select a convenient location on the side of the fixture so the **LPTS** can be seen after installation. Allow for proper clearance inside the fixture and drill or punch a 1/2″ hole. Disconnect the leads from the **LPTS** housing. Push the **LPTS** housing into the 1/2″ hole until it is firmly locked in place. Reconnect the leads, observing the proper polarity (Red lead to positive (+) red tab). Refer to *Illustration 2*.

Illustration 1 Recessed Troffer Fixture

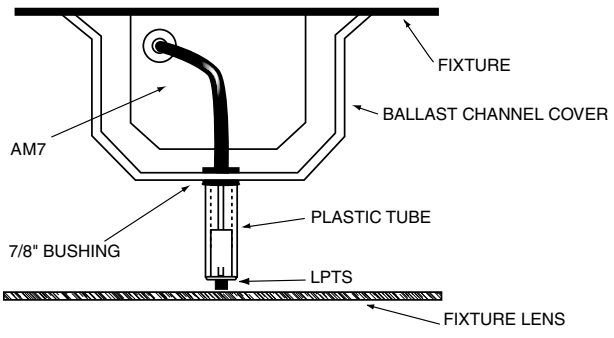
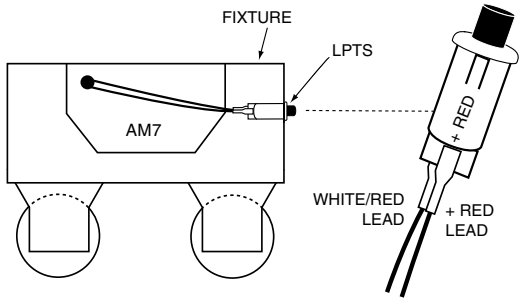


Illustration 2 Strip Fixture



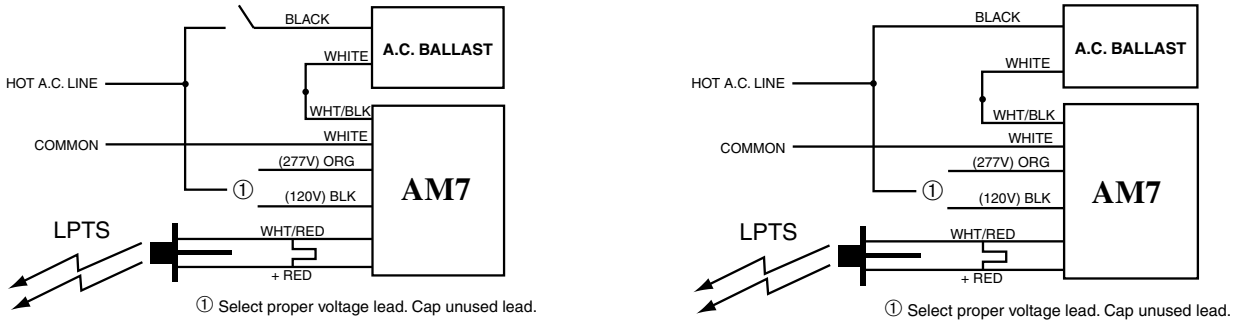
OBSERVE PROPER POLARITY

5. WIRING THE A.C. INPUT

A. The **AM7** and A.C. ballast ***must*** be on the same branch circuit.
B. The **AM7** requires an ***unswitched*** A.C. power source of either 120 or 277 volts. Select the proper voltage lead and cap the unused lead.
C. When the **AM7** is used with a switched fixture, the A.C. input to the **AM7** must be connected ahead of the fixture switch. Refer to *Illustration 3* for switched and unswitched fixture wiring diagrams.

6. BALLAST WIRING BLOCK DIAGRAM

Illustration 3 **Switched Fixture** **Unswitched Fixture**



7. LABELS

Attach the appropriate labels adjacent to the **LPTS**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

8. COMPLETING INSTALLATION

When the installation is complete, switch the A.C. power on and join the **AM7** unit connector.

OPERATION

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **AM7** is in the standby charging mode. The **LPTS** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **AM7** senses the A.C. power failure and automatically switches to the *Emergency Mode*. One or two lamps are illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **AM7** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the Instruction Manual.

TESTING & MAINTENANCE

Pressing the red lens on the **LPTS** turns off the light on the **LPTS** and forces the unit into emergency mode. This interrupts power to the emergency lamp only. The emergency lamp is now being lit by the **AM7** unit and will be less bright than the other lamps in the system. To simulate a "BLACK OUT" use the wall switch or circuit breaker to turn off A.C. power.

Initial Testing – Allow the unit to charge approximately 1 hour, then press the **LPTS** to conduct a short discharge test. Allow a 24 hour charge before conducting a one hour test.

The **AM7** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **LPTS** is illuminated. Conduct a 30 second discharge test by depressing the **LPTS**. One lamp should operate at reduced output.

Annually – Insure that the **LPTS** is illuminated. Conduct a full $1\frac{1}{2}$ hour discharge test. The unit should operate as intended for the duration of the test.

"Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction."

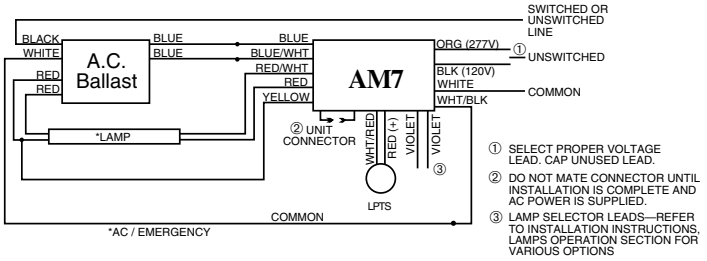
SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

Consult Customer Service for current warranty information.

TYPICAL WIRING DIAGRAMS

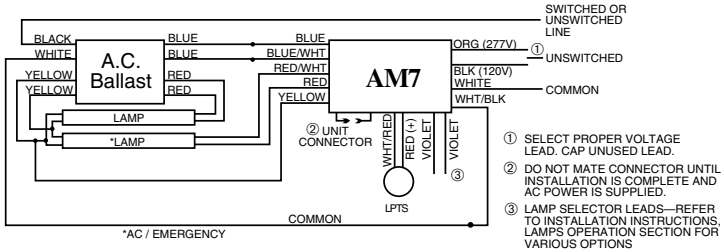
For wiring diagrams of ballasts not shown, consult our Customer Service.

1. ONE LAMP RAPID START BALLAST



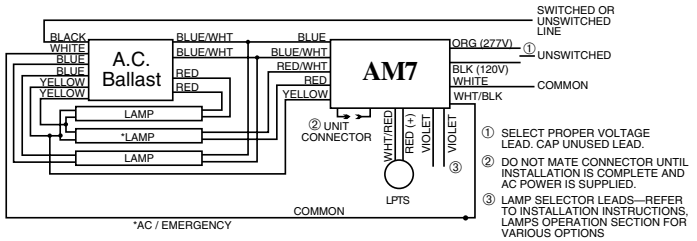
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

2. TWO LAMP RAPID START BALLAST



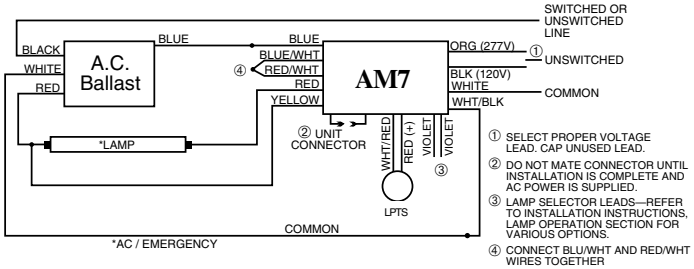
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

3. THREE LAMP RAPID START BALLAST



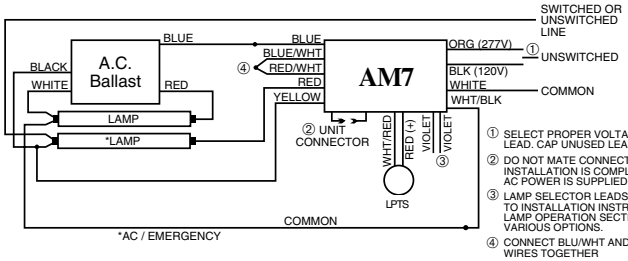
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

4. ONE LAMP INSTANT START BALLAST



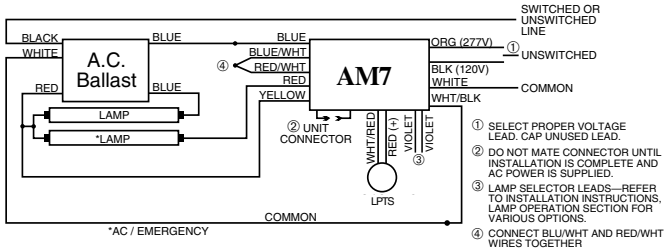
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

5. TWO LAMP INSTANT START BALLAST



① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

6. TWO LAMP INSTANT START BALLAST



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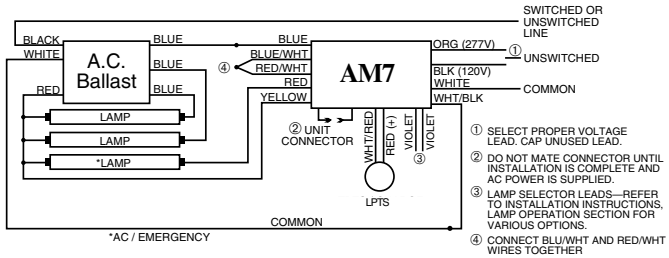
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

7. THREE LAMP INSTANT START BALLAST



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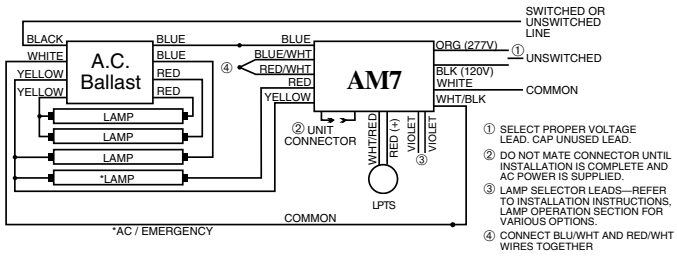
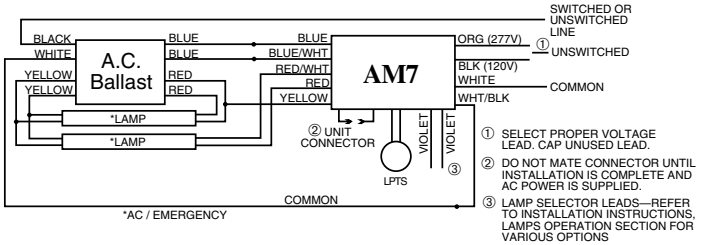
8. FOUR LAMP INSTANT START BALLAST



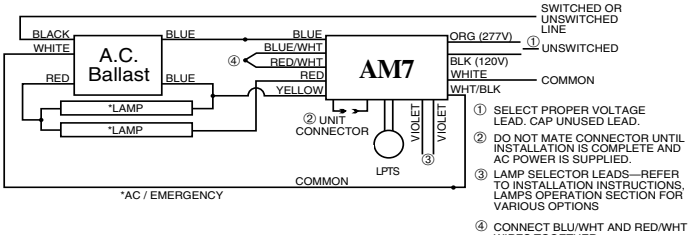
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

9. TWO LAMP RAPID START BALLAST W/2 LAMP EMERGENCY OPERATION



① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

10. TWO LAMP INSTANT START BALLAST W/2 LAMP EMERGENCY OPERATION



① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

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AM12

TBTS SERIES D
EMERGENCY
LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector.
3. **CAUTION** – This is a sealed unit. The integral, high temperature Ni-Cad battery is not replaceable. Replace the entire unit when necessary. The EPA certified RBRC® Battery Recycling Seal indicates voluntary participation in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cad batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-822-8837 for information on Ni-Cad battery recycling and disposal bans/restrictions in your area. Involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.
4. **DO NOT USE OUTDOORS.** The **AM12** is for use with grounded, UL Listed, indoor fixtures except in heated air outlets or hazardous locations.
5. The **AM12** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
6. Do not mount near gas or electric heaters.
7. The **AM12** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
8. The **AM12** will cold strike and operate *one* 2′ –8′ or *two* 2′ –4′ instant start, rapid start, U shape or circline, T8 through T12 fluorescent lamps, including energy saving and long 4 pin compact lamps for 90 minutes.
9. The **AM12** is compatible with most A.C. ballasts (including multiple lamp) as follows:
   Magnetic ballasts – either one or two lamp emergency operation.
   Electronic ballasts – one lamp emergency operation, consult Customer Service for two lamp emergency operation wiring diagrams.
10. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
11. Do not use this equipment for other than intended use.
12. Install in accordance with the National Electrical Code and local regulations.
13. Installation and servicing should be performed by qualified personnel.
14. Lighting fixture manufacturers, electricians and end-users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS

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9900365

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INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the AM12 unit connector is disconnected.

1. LAMPS OPERATED

The **AM12** can be used with most 2′ –8′ lamps. Refer to the chart below for the type of lamp(s) operated and the number of lamps to be operated in emergency mode. Contact Customer Service for answers about specific lamps.

OPTION	LAMP TYPE	EMERGENCY OPERATION	*VIOLET LEADS	WIRING DIAGRAMS
1	2'–4' T-8/T-12 Single & Bipin Pin	One lamp	Connected	1,2,3,4,5,6,7,8
2	5'–8' T-8/T-12 Single & Bipin Pin	One lamp	Disconnected	1,2,4,5,6
3	2'–4' T-8/T-12 Single & Bipin Pin	Two lamp	Disconnected	9,10

*The 6″ violet leads provide the lamp selection option. The unit is shipped from the factory with the leads disconnected and capped.

2. MOUNTING THE AM12

Remove the ballast channel cover. Mount the **AM12** in the ballast channel at least 1/2″ away from the A.C. ballast(s).

When battery packs are remote mounted, the remote distance can not exceed 1/2 of the distance from ballast to lamp specified by the A.C. ballast manufacturer. For example, if the A.C. ballast manufacturer recommends no more than 25′ remote distance, then the battery pack should not exceed 12 1/2′ . Under no circumstances should the battery pack exceed a distance of 50′ from the lamp.

3. WIRING

Refer to the wiring diagrams on the back page for the appropriate wiring of lamp(s) and ballast. Install in accordance with the National Electrical Code and local regulations. For additional wiring diagrams consult Customer Service.

4. INSTALLING THE THREADED BODY TEST SWITCH (TBTS)

Recessed Troffer Fixture – Select a convenient location with proper clearance in the ballast cover and drill or punch a 7/8″ hole (1/2″ knockout). Insert the 7/8″ bushing into the hole. Push the plastic tube through the bushing. Route the leads of the **TBTS** through the plastic tube. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Push the entire assembly back into the tube until the lens collar rests against the plastic tube. The plastic tube should be adjusted so that the **TBTS** is within ¼″ of the fixture lens. The **TBTS** must be visible after installation. Refer to *Illustration 1*.

Strip Fixture – Select a convenient location on the fixture so the **TBTS** can be seen after installation. Allow for proper clearance inside the fixture and drill or punch a 1/2″ hole. Remove the nut from the **TBTS**. Push the **TBTS** housing into the 1/2″ hole and secure with the nut. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Refer to *Illustration 2*.

Illustration 1 Recessed Troffer Fixture

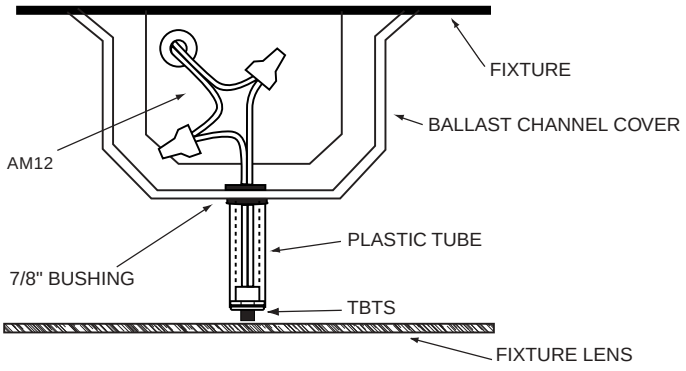
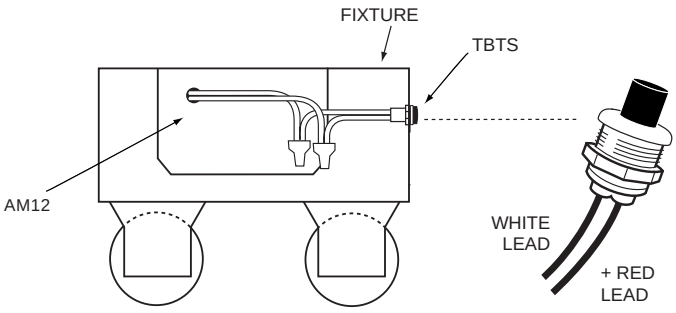


Illustration 2 Strip Fixture



OBSERVE PROPER POLARITY

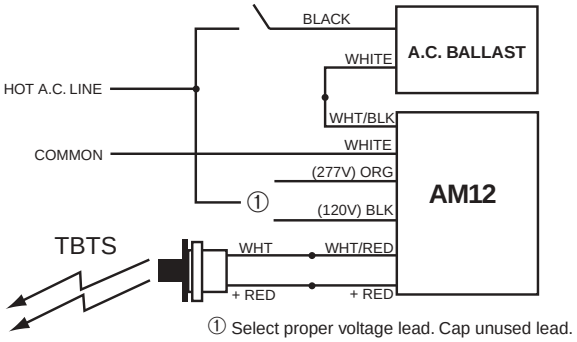
5. WIRING THE A.C. INPUT

A. The **AM12** and A.C. ballast ***must*** be on the same branch circuit.
B. The **AM12** requires an ***unswitched*** A.C. power source of either 120 or 277 volts. Select the proper voltage lead and cap the unused lead.
C. When the **AM12** is used with a switched fixture, the A.C. input to the **AM12** must be connected ahead of the fixture switch. Refer to *Illustration 3* for switched and unswitched fixture wiring diagrams.

6. BALLAST WIRING BLOCK DIAGRAM

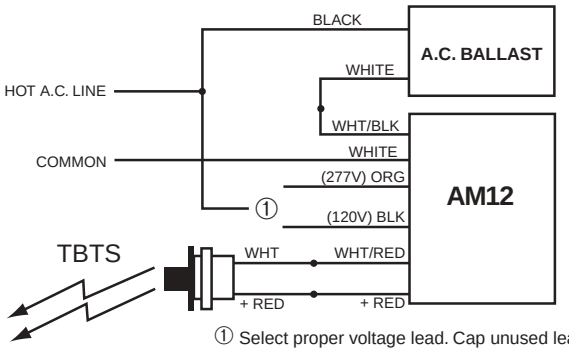
Illustration 3

Switched Fixture



① Select proper voltage lead. Cap unused lead.

Unswitched Fixture



① Select proper voltage lead. Cap unused lead.

7. LABELS

Attach the appropriate labels adjacent to the **TBTS**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

8. COMPLETING INSTALLATION

When the installation is complete, switch the A.C. power on and join the **AM12** unit connector.

OPERATION

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **AM12** is in the standby charging mode. The **TBTS** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **AM12** senses the A.C. power failure and automatically switches to the *Emergency Mode*. One or two lamps are illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **AM12** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the Instruction Manual.

TESTING & MAINTENANCE

Pressing the red lens on the **TBTS** turns off the light on the **TBTS** and forces the unit into emergency mode. This interrupts power to the emergency lamp only. The emergency lamp is now being lit by the **AM12** unit and will be less bright than the other lamps in the system. To simulate a "BLACK OUT" use the wall switch or circuit breaker to turn off A.C. power.

Initial Testing – Allow the unit to charge approximately 1 hour, then press the **TBTS** to conduct a short discharge test. Allow a 24 hour charge before conducting a one hour test.

The **AM12** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **TBTS** is illuminated. Conduct a 30 second discharge test by depressing the **TBTS**. One lamp should operate at reduced output.

Annually – Insure that the **TBTS** is illuminated. Conduct a full $1^1/_2$ hour discharge test. The unit should operate as intended for the duration of the test.

"Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction."

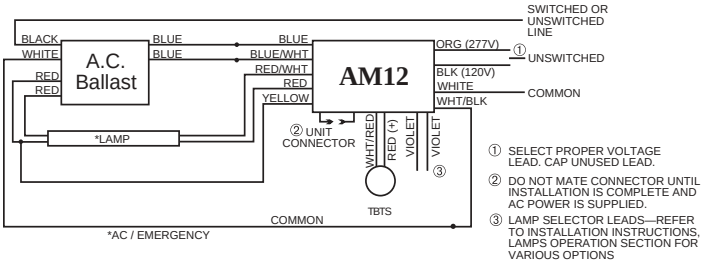
SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

Consult Customer Service for current warranty information.

TYPICAL WIRING DIAGRAMS

For wiring diagrams of ballasts not shown, consult our Customer Service.

1. ONE LAMP RAPID START BALLAST

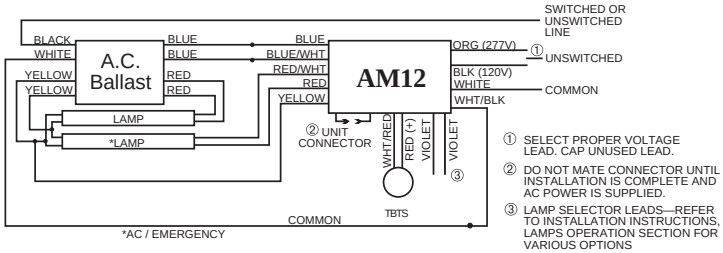


① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

2. TWO LAMP RAPID START BALLAST



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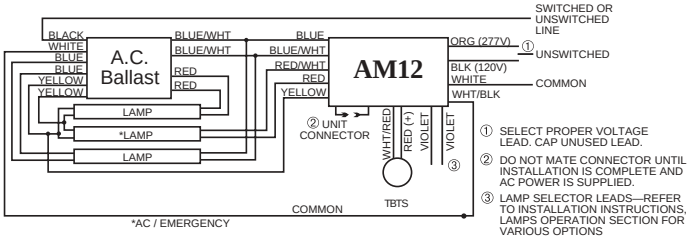
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

3. THREE LAMP RAPID START BALLAST



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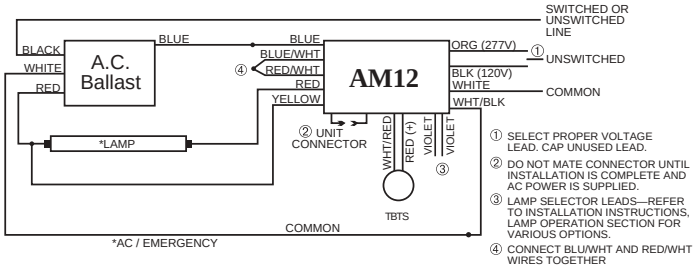
4. ONE LAMP INSTANT START BALLAST



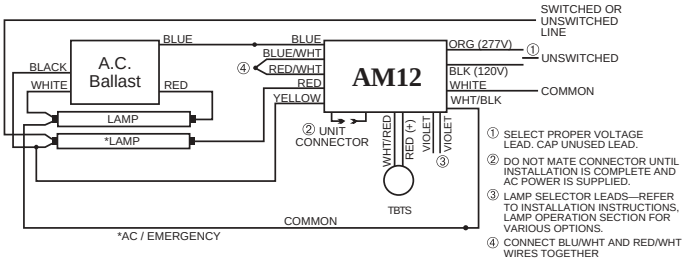
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.

④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

5. TWO LAMP INSTANT START BALLAST



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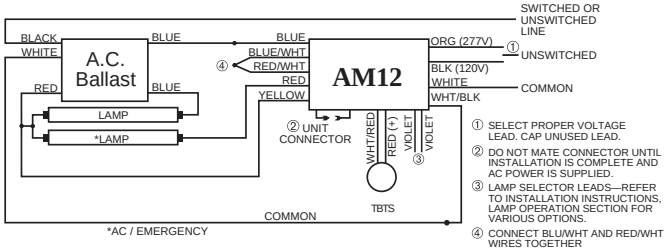
6. TWO LAMP INSTANT START BALLAST



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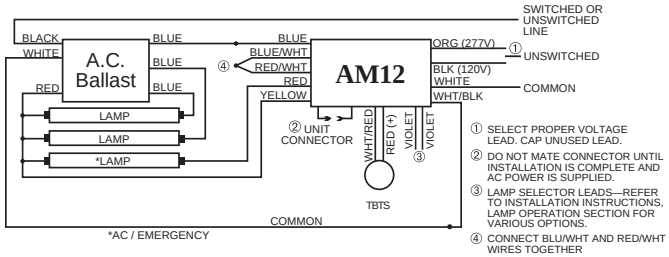
7. THREE LAMP INSTANT START BALLAST



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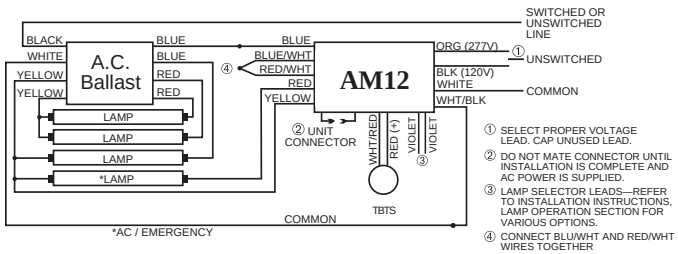
8. FOUR LAMP INSTANT START BALLAST



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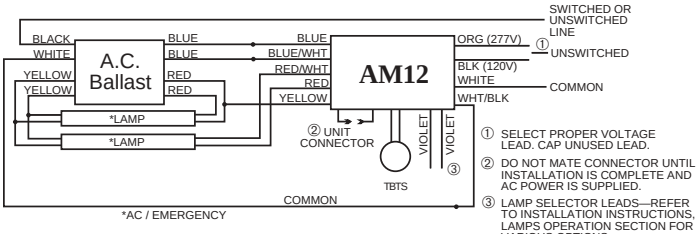
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.

④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

9. TWO LAMP RAPID START BALLAST W/2 LAMP EMERGENCY OPERATION



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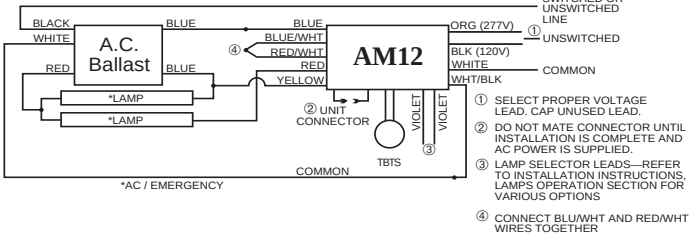
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

10. TWO LAMP INSTANT START BALLAST W/2 LAMP EMERGENCY OPERATION



① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

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AM15

SERIES D
QUAD TUBE
EMERGENCY
LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector.
3. **CAUTION** – This is a sealed unit. The integral, high temperature Ni-Cad battery is not replaceable. Replace the entire unit when necessary. The EPA certified RBRC® Battery Recycling Seal indicates voluntary participation in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cad batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-822-8837 for information on Ni-Cad battery recycling and disposal bans/restrictions in your area. Involvement in this program is part of a commitment to preserving the environment and conserving natural resources.
4. **DO NOT USE OUTDOORS.** The **AM15** is for use with grounded, UL Listed, indoor fixtures except in heated air outlets or hazardous locations.
5. The **AM15** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
6. Do not mount near gas or electric heaters.
7. The **AM15** should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.
8. The **AM15** will cold strike and operate *one* 18W/26W, quad tube, compact fluorescent lamp, two-pin base, including integral starter, each with a single lampholder per lamp.
9. The **AM15** can be used with one or two lamp fixtures; however, only *one* lamp can be operated in emergency mode.
10. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
11. Do not use this equipment for other than intended use.
12. Install in accordance with the National Electrical Code and local regulations.
13. Installation and servicing should be performed by qualified personnel.
14. Lighting fixture manufacturers, electricians and end users need to ensure product system compatibility before final installation.

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INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the AM15 unit connector is disconnected.

1. MOUNTING THE AM15

When used with ceiling mounted downlight fixtures, the **AM15** should be mounted on the fixture above the ceiling. The flex conduit marked "A" should be wired into the ballast/lamp compartment or to an electrical junction box on the fixture which allows access to the ballast/lamp connections. Refer to *Illustration 1* for typical mounting.

When battery packs are remote mounted, the remote distance can not exceed 1/2 of the distance from ballast to lamp specified by the A.C. ballast manufacturer. For example, if the A.C. ballast manufacturer recommends no more than 25′ remote distance, then the battery pack should not exceed 12 1/2′. Under no circumstances should the battery pack exceed a distance of 50′ from the lamp.

2. MOUNTING THE TEST SWITCH AND CHARGE INDICATOR LIGHT

Cut the single gang switch box into the ceiling tile adjacent to the fixture within reach of the **AM15** flex marked "B". After mounting the switch box, connect flex "B" to the box and route all leads inside the box. Refer to *Illustration 1* for typical mounting. Connect the leads to the components as follows:

Red lead	(+) Charge light terminal	
Wht/Red lead	(–) Charge light terminal	White — Test switch
*Wht/Blk lead	Unit connector	White/Black — Test switch
*Wht/Blk lead	Unit connector	

* To prevent electrical shock and unintentional battery discharge, do not join the unit connector until the installation is complete.

3. WIRING

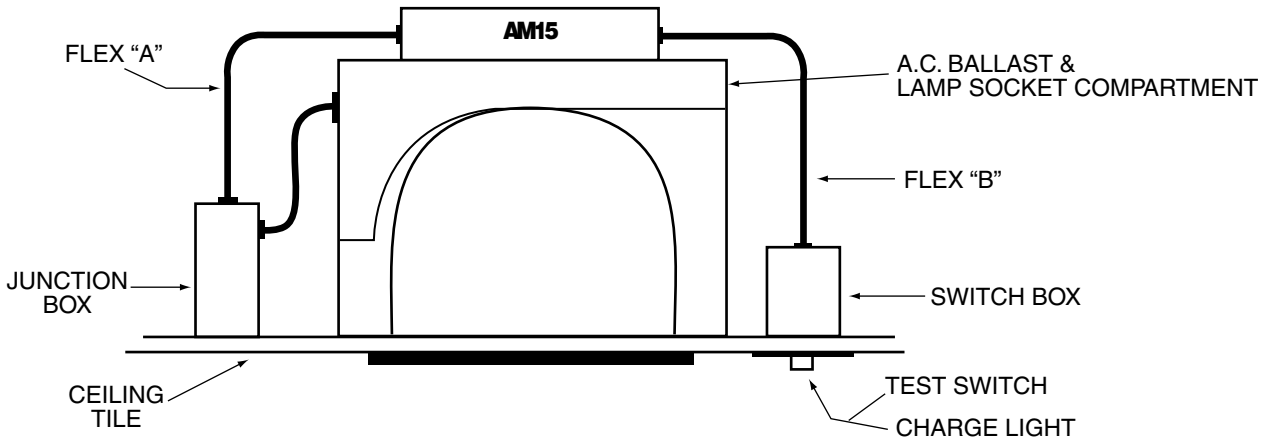
A. The **AM15** and A.C. ballast ***must*** be on the same branch circuit.

B. The **AM15** requires an ***unswitched*** A.C. power source of either 120 or 277 volts; therefore, when used with switched fixtures, the **AM15** input must be wired ahead of the switch.

C. Refer to the wiring diagrams on the back page for the proper wiring.

Illustration 1

Downlight Fixture



INSURE WIRING IS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL REGULATIONS.

4. LABELS

Attach the appropriate labels adjacent to the **Test Switch** and **Charge Indicator**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

5. COMPLETING INSTALLATION

A. When the installation is complete, switch the A.C. power on and join the **AM15** unit connector.

OPERATION

General – This unit is primarily designed to be used with compact fluorescent lamp downlight fixtures. It will wire in conjunction with the existing A.C. ballast(s) and lamp(s) to provide the emergency function. It can also be wired for emergency only operation. The **Test Switch** and **Charge Indicator** light are offered in a standard single gang switch box for installation adjacent to the fixture.

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **AM15** is in the standby charging mode. The **Charge Indicator** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **AM15** senses the A.C. power failure and automatically switches to the *Emergency Mode*. One lamp is illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **AM15** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the Instruction Manual.

TESTING & MAINTENANCE

Initial Testing – Allow the unit to charge approximately 1 hour, then conduct a short discharge test by depressing the test switch. The Charge Indicator light will go out and the fluorescent tube will be illuminated. When the **AM15** is used in fixtures with more than one A.C. ballast, the second A.C. ballast is NOT de-energized with the test switch. It may, therefore, be advisable to switch the A.C. fixture power off prior to depressing the test switch. Allow a 24 hour charge before conducting a one hour test.

The **AM15** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **Charge Indicator** light is illuminated. Conduct a 30 second discharge test by depressing the **Test Switch**. One lamp should operate at reduced output.

Annually – Insure that the **Charge Indicator** light is illuminated. Conduct a full 1 1/2 hour discharge test. The unit should operate as intended for the duration of the test.

"Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction."

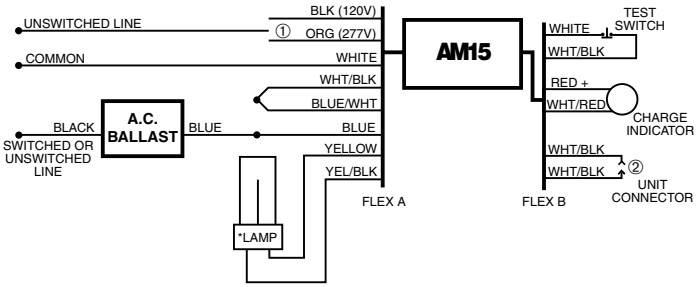
SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

Consult Customer Service for current warranty information.

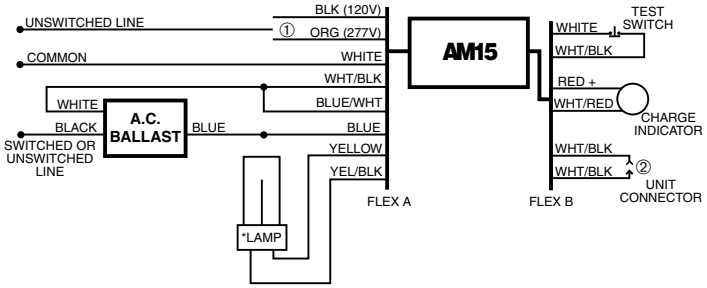
TYPICAL WIRING DIAGRAMS

For use with 2 pin, 18 through 26 watt lamps with integral starter only

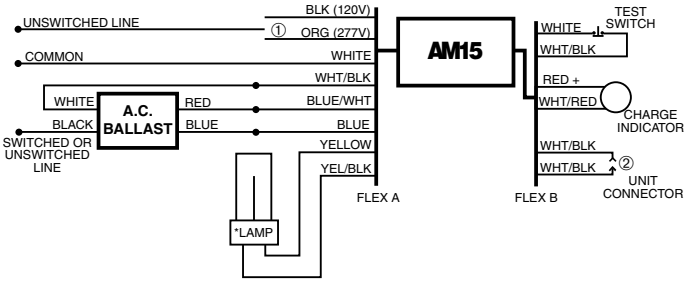
1. ONE LAMP MAGNETIC BALLAST



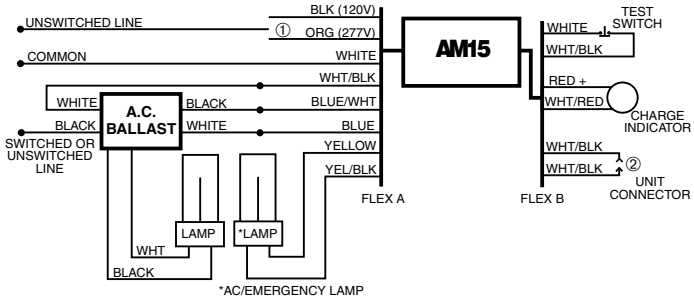
2. ONE LAMP HIGH POWER FACTOR MAGNETIC BALLAST



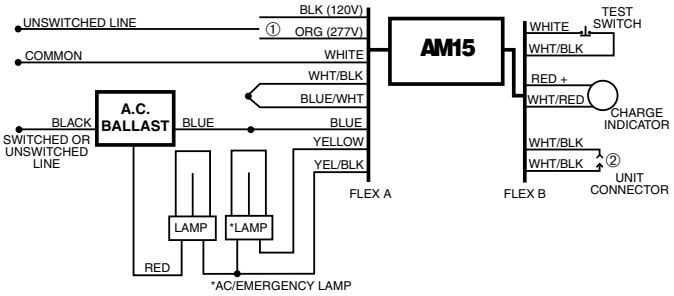
3. ONE LAMP ELECTRONIC BALLAST



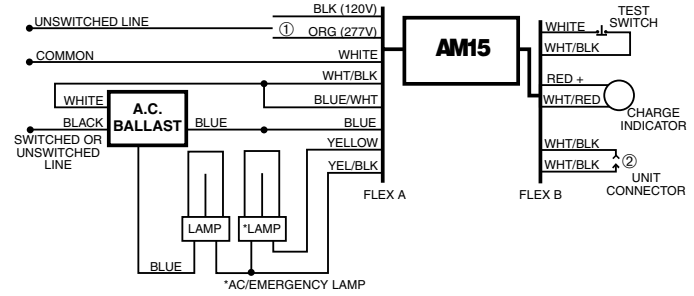
4. TWO LAMP ELECTRONIC BALLAST



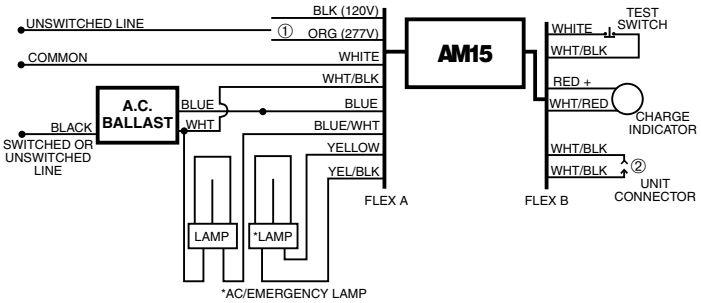
5. TWO LAMP PARALLEL MAGNETIC BALLAST



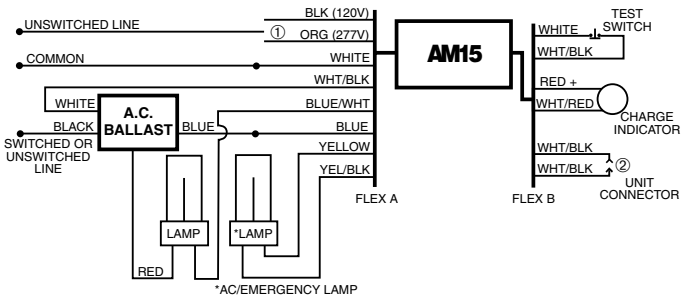
6. TWO LAMP PARALLEL HIGH POWER FACTOR MAGNETIC BALLAST



7. TWO LAMP SERIES MAGNETIC BALLAST



8. TWO LAMP SERIES HIGH POWER FACTOR MAGNETIC BALLAST



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① SELECT PROPER VOLTAGE LEAD, CAP UNUSED LEAD.

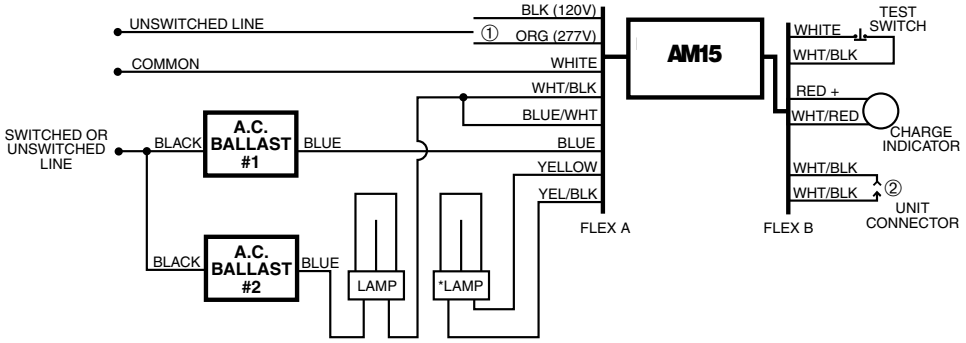
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND A.C. POWER IS SUPPLIED.

Rev. 021903
68326-009

TYPICAL WIRING DIAGRAMS

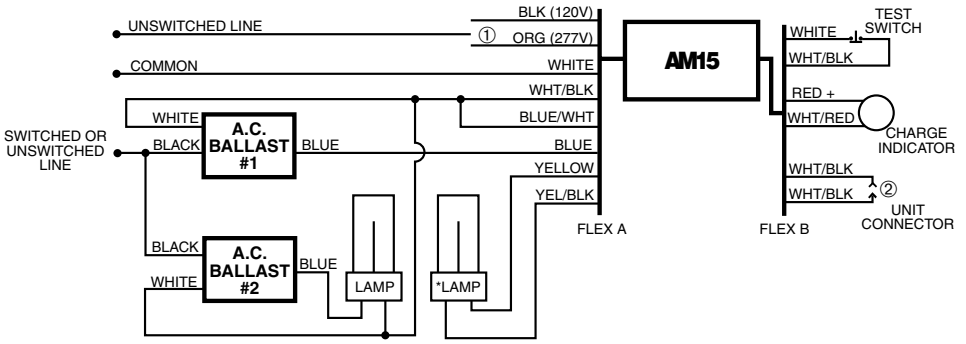
For use with 2 pin, 18 through 26 watt lamps with integral starter only.

9. TWO NORMAL POWER FACTOR MAGNETIC BALLASTS



*AC/EMERGENCY LAMP

10. TWO HIGH POWER FACTOR MAGNETIC BALLASTS



*AC/EMERGENCY LAMP

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AM20

SERIES D
10W–42W RAPID START
4 PIN COMPACT LAMP
EMERGENCY LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector.
3. **CAUTION** – This is a sealed unit. The integral, high temperature Ni-Cad battery is not replaceable. Replace the entire unit when necessary. The EPA certified RBRC® Battery Recycling Seal indicates voluntary participation in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cad batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-822-8837 for information on Ni-Cad battery recycling and disposal bans/restrictions in your area. Involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.
4. **DO NOT USE OUTDOORS.** The **AM20** is for use with grounded, UL Listed, indoor fixtures except in heated air outlets or hazardous locations.
5. The **AM20** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
6. Do not mount near gas or electric heaters.
7. The **AM20** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
8. The **AM20** will cold strike and operate *one* 10W through 42W, or *two* 10W through 26W, 4 pin Rapid Start compact fluorescent lamps. Contact customer service for additional lamp usage.
9. The **AM20** is compatible with most electronic A.C. ballasts (including multiple lamps) as follows:
   Electronic ballasts – one or two lamp emergency operation.
10. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
11. Do not use this equipment for other than intended use.
12. Install in accordance with the National Electrical Code and local regulations.
13. Installation and servicing should be performed by qualified personnel.
14. Lighting fixture manufacturers, electricians and end users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS

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INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the AM20 unit connector is disconnected.

1. LAMPS OPERATED

Refer to the chart below for the type of lamp(s) operated and the number of lamps to be operated in the emergency mode.

If you have any questions regarding specific lamps, contact customer service.

OPTION	LAMP	TYPE	EMERGENCY OPERATION	VIOLET LEADS	WIRING DIAGRAMS
1	10W-32W	Compact	One Lamp	Connected	1,2
2	42W	Compact	One Lamp	Disconnected	1,2
3	10W-13W		Two Lamp	Connected	3
4	18W-26W		Two Lamp	Disconnected	3

The 6″ violet leads provide the lamp selection option. The unit is shipped from the factory with the leads disconnected and capped.

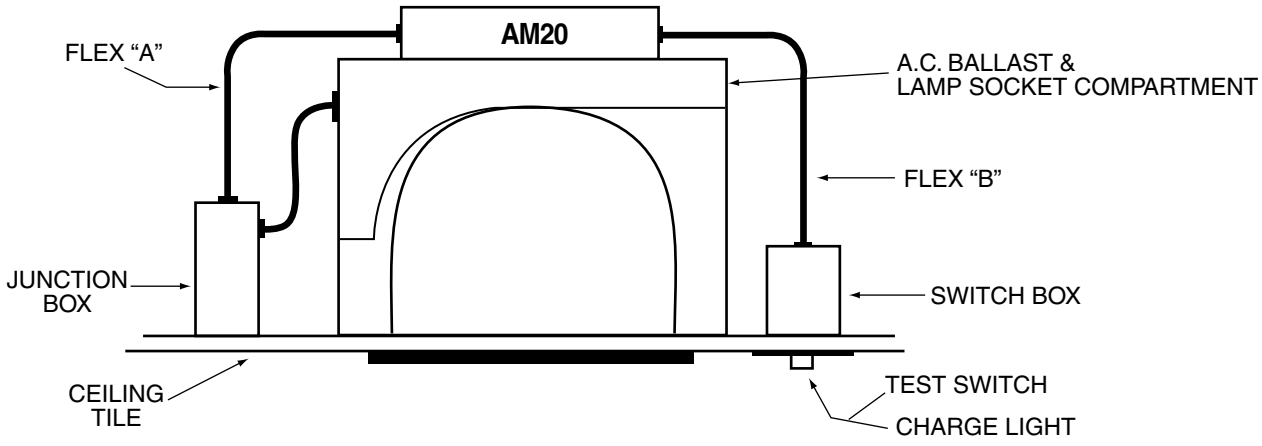
2. MOUNTING THE AM20

When used with ceiling mounted downlight fixtures, the **AM20** should be mounted on the fixture above the ceiling. The flex conduit marked “A” should be wired into the ballast/lamp compartment or to an electrical junction box on the fixture which allows access to the ballast/lamp connections. Refer to *Illustration 1* for typical mounting.

When battery packs are remote mounted, the remote distance can not exceed ½ of the distance from ballast to lamp specified by the A.C. ballast manufacturer. For example, if the A.C. ballast manufacturer recommends no more than 25′ remote distance, then the battery pack should not exceed 12½′. Under no circumstances should the battery pack exceed a distance of 50′ from the lamp.

Illustration 1

Downlight Fixture



INSURE WIRING IS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL REGULATIONS.

3. MOUNTING THE TEST SWITCH AND CHARGE INDICATOR LIGHT

Cut the single gang switch box into the ceiling tile adjacent to the fixture within reach of the **AM20** flex marked “B”. After mounting the switch box, connect flex “B” to the box and route all leads inside the box. Refer to *Illustration 1* for typical mounting.

4. WIRING

A. The **AM20** and A.C. ballast ***must*** be on the same branch circuit.

B. The **AM20** requires an ***unswitched*** A.C. power source of either 120 or 277 volts; therefore, when used with switched fixtures, the **AM20** input must be wired ahead of the switch.

C. Refer to the wiring diagrams on the back page for the proper wiring. For wiring diagrams of ballasts not shown, consult our customer service.

5. LABELS

Attach the appropriate labels adjacent to the **Test Switch** and **Charge Indicator**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

6. COMPLETING INSTALLATION

A. When the installation is complete, switch the A.C. power on and join the **AM20** unit connector.

OPERATION

General – This unit is primarily designed to be used with compact fluorescent lamp downlight fixtures. It will wire in conjunction with the existing A.C. ballast(s) and lamp(s) to provide the emergency function. It can also be wired for emergency only operation. The **Test Switch** and **Charge Indicator** light are offered in a standard single gang switch box for installation adjacent to the fixture.

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **AM20** is in the standby charging mode. The **Charge Indicator** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **AM20** senses the A.C. power failure and automatically switches to the *Emergency Mode*. One lamp or two lamps are illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **AM20** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the Instruction Manual.

TESTING & MAINTENANCE

Initial Testing – Allow the unit to charge approximately 1 hour, then conduct a short discharge test by depressing the test switch. The Charge Indicator light will go out and the fluorescent tube will be illuminated. When the **AM20** is used in fixtures with more than one A.C. ballast, the second A.C. ballast is NOT de-energized with the test switch. It may, therefore, be advisable to switch the A.C. fixture power off prior to depressing the test switch. Allow a 24 hour charge before conducting a one hour test.

The **AM20** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **Charge Indicator** light is illuminated. Conduct a 30 second discharge test by depressing the **Test Switch**. One lamp should operate at reduced output.

Annually – Insure that the **Charge Indicator** light is illuminated. Conduct a full 1½ hour discharge test. The unit should operate as intended for the duration of the test.

“Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction.”

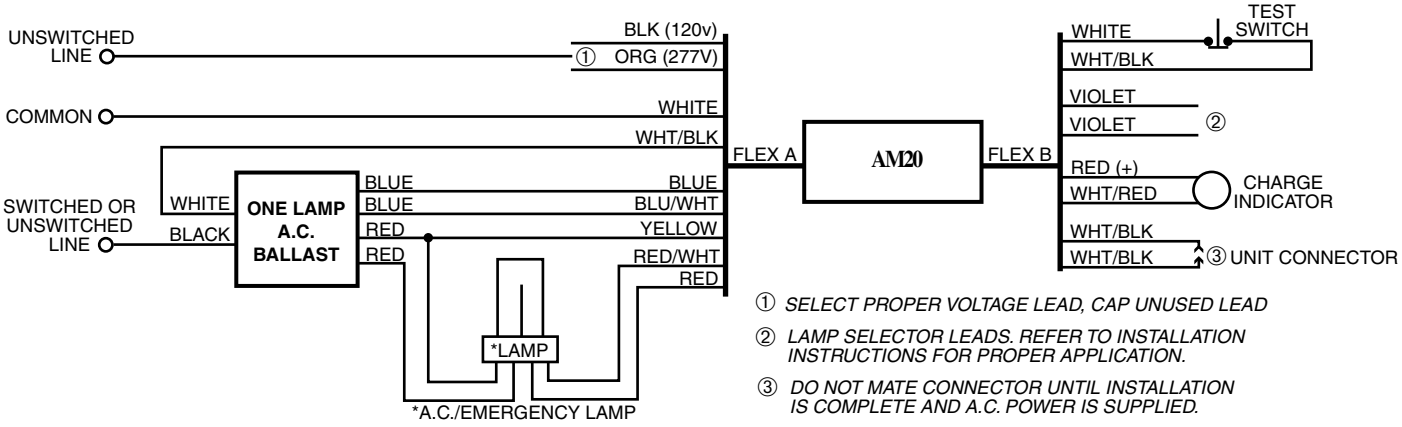
SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

Consult Customer Service for current warranty information.

TYPICAL WIRING DIAGRAMS

Use in conjunction with Rapid Start ballasts and 4 pin lamps only

1. ONE LAMP RAPID START BALLAST

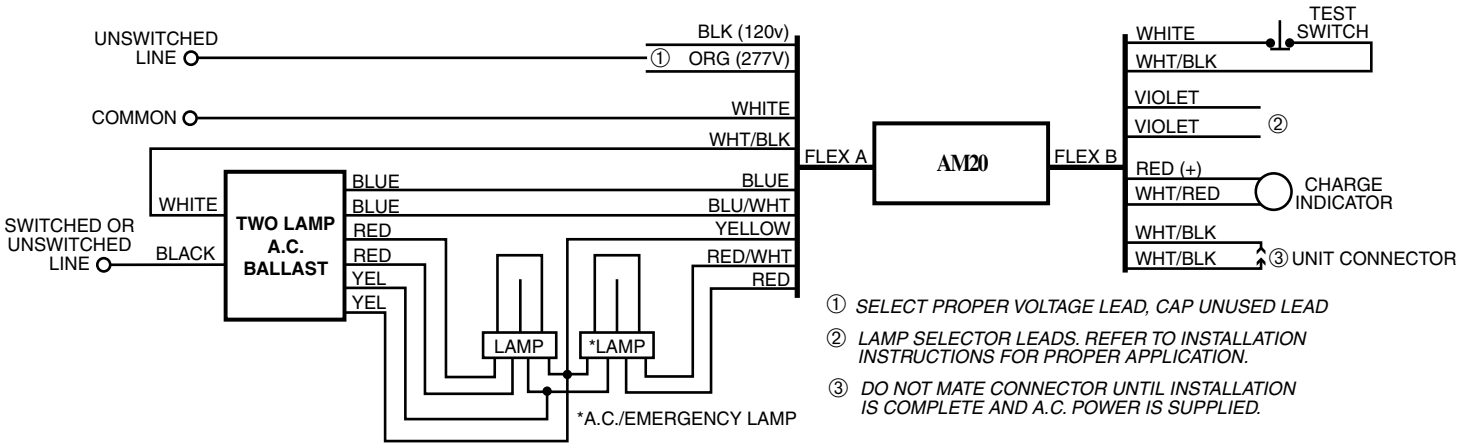


① *SELECT PROPER VOLTAGE LEAD, CAP UNUSED LEAD*

② *LAMP SELECTOR LEADS. REFER TO INSTALLATION INSTRUCTIONS FOR PROPER APPLICATION.*

③ *DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND A.C. POWER IS SUPPLIED.*

2. TWO LAMP RAPID START BALLAST WITH ONE LAMP EMERGENCY OPERATION

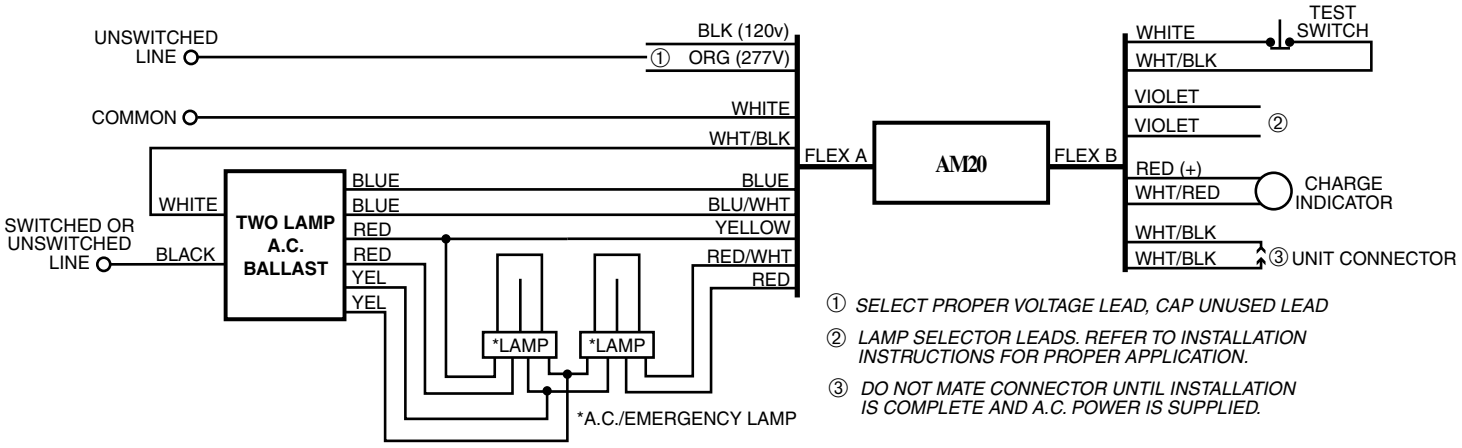


① *SELECT PROPER VOLTAGE LEAD, CAP UNUSED LEAD*

② *LAMP SELECTOR LEADS. REFER TO INSTALLATION INSTRUCTIONS FOR PROPER APPLICATION.*

③ *DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND A.C. POWER IS SUPPLIED.*

3. TWO LAMP RAPID START BALLAST WITH TWO LAMP EMERGENCY OPERATION



① *SELECT PROPER VOLTAGE LEAD, CAP UNUSED LEAD*

② *LAMP SELECTOR LEADS. REFER TO INSTALLATION INSTRUCTIONS FOR PROPER APPLICATION.*

③ *DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND A.C. POWER IS SUPPLIED.*

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AM23

EMERGENCY
LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector.
3. **CAUTION** – This is a sealed unit. The integral, high temperature Ni-Cad battery is not replaceable. Replace the entire unit when necessary. The EPA certified RBRC® Battery Recycling Seal indicates voluntary participation in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cad batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-822-8837 for information on Ni-Cad battery recycling and disposal bans/restrictions in your area. Involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.
4. **DO NOT USE OUTDOORS.** The **AM23** is for use with grounded, UL Listed, indoor fixtures except in heated air outlets or hazardous locations.
5. The **AM23** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
6. Do not mount near gas or electric heaters.
7. The **AM23** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
8. The **AM23** is suitable for mounting in the ballast compartment or on top of the fixture. For top mount, order optional mounting kit TMK-80.
9. The **AM23** will cold strike and operate *two* 4′ instant start, rapid start, U shape or circline, T8 through T12 fluorescent lamps.
10. The **AM23** operates lamps at reduced output as follows: two 4′ lamps for 90 minutes. The **AM23** is compatible with all A.C. ballasts (including multiple lamps).
11. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
12. Do not use this equipment for other than intended use.
13. Install in accordance with the National Electrical Code and local regulations.
14. Installation and servicing should be performed by qualified personnel.
15. Lighting fixture manufacturers, electricians and end-users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS

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INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the AM23 unit connector is disconnected.

1. MOUNTING THE AM23

Remove the ballast channel cover. For heat consideration, mount the **AM23** in the ballast channel as far away from the A.C. ballast(s) as possible. The **AM23** may also be mounted on top of the fixture. The optional top mounting kit (catalog no. TMK-80) may be ordered separately from Customer Service.

When battery packs are remote mounted, the remote distance can not exceed 1/2 of the distance from ballast to lamp specified by the A.C. ballast manufacturer. For example, if the A.C. ballast manufacturer recommends no more than 25′ remote distance, then the battery pack should not exceed 12 1/2′ . Under no circumstances should the battery pack exceed a distance of 50′ from the lamp.

2. WIRING

Refer to the wiring diagrams on the back page for the appropriate wiring of lamp(s) and ballast. Install in accordance with the National Electrical Code and local regulations. For additional wiring diagrams consult Customer Service.

3. INSTALLING THE CHARGE INDICATOR

Recessed Troffer Fixture – Select a convenient location with proper clearance in the ballast cover and drill or punch a 7/8″ hole (1/2″ knockout). Insert the 7/8″ bushing into the hole. Push the plastic tube through the bushing. Disconnect the leads from the **LED** housing and route the leads down the plastic tube. Reconnect the leads to the housing, observing the proper polarity (Red lead to positive (+) red tab). Push the entire assembly back into the tube until the lens collar rests against the plastic tube. The plastic tube should be adjusted so that the **Charge Indicator** is within ¼″ of the fixture lens. The **Charge Indicator** must be visible after installation. Refer to *Illustration 1*.

Strip Fixture – Select a convenient location on the side of the fixture so the **Charge Indicator** can be seen after installation. Allow for proper clearance inside the fixture and drill or punch a 1/2″ hole. Disconnect the leads from the **LED** housing. Push the **LED** housing into the 1/2″ hole until it is firmly locked in place. Reconnect the leads, observing the proper polarity (Red lead to positive (+) red tab). Refer to *Illustration 2*.

Illustration 1 Recessed Troffer Fixture

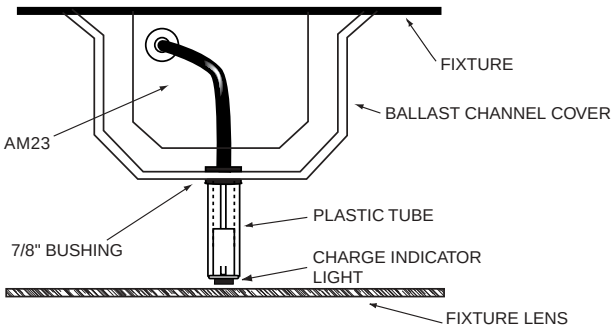
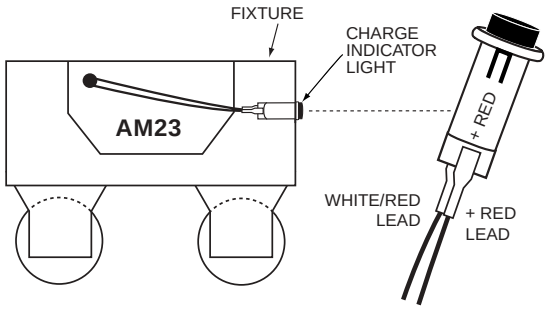


Illustration 2 Strip Fixture



OBSERVE PROPER POLARITY

4. INSTALLING THE TEST SWITCH

The test switch should be mounted on the ballast channel cover of a recessed troffer, or on the side of a strip fixture, preferably adjacent to the charge indicator. Drill or punch a 1/2″ mounting hole.

5. WIRING THE A.C. INPUT

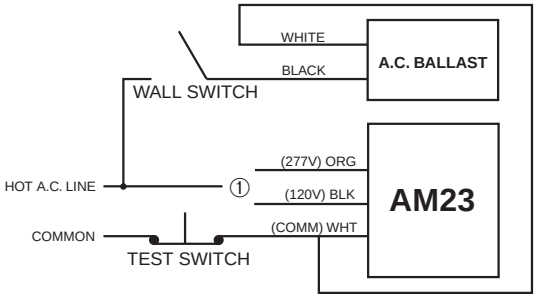
A. The **AM23** and A.C. ballast ***must*** be on the same branch circuit.

B. The **AM23** requires an ***unswitched*** A.C. power source of either 120 or 277 volts. Select the proper voltage lead and cap the unused lead.

C. When the **AM23** is used with a switched fixture, the A.C. input to the **AM23** must be connected ahead of the fixture switch. Refer to *Illustration 3* for switched and unswitched fixture wiring diagrams.

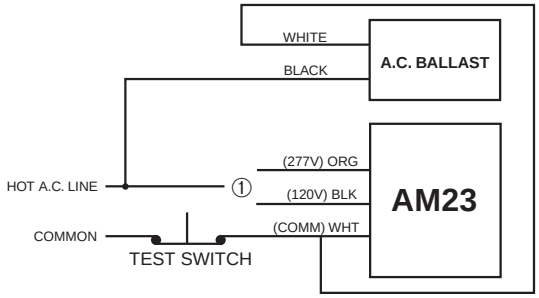
Illustration 3

Switched Fixture



① Select proper voltage lead. Cap unused lead.

Unswitched Fixture



① Select proper voltage lead. Cap unused lead.

6. LABELS

Attach the appropriate labels adjacent to the **Test Switch** and **Charge Indicator**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

7. COMPLETING INSTALLATION

When the installation is complete, switch the A.C. power on and join the **AM23** unit connector.

OPERATION

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **AM23** is in the standby charging mode. The **Charge Indicator** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **AM23** senses the A.C. power failure and automatically switches to the *Emergency Mode*. Two lamps are illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **AM23** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the Instruction Manual.

TESTING & MAINTENANCE

Initial Testing – Allow the unit to charge approximately 1 hour, then conduct a short discharge test. Allow a 24 hour charge before conducting a one hour test.

The **AM23** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **Charge Indicator** light is illuminated. Conduct a 30 second discharge test by depressing the **Test Switch**. Two lamps should operate at reduced output.

Annually – Insure that the **Charge Indicator** light is illuminated. Conduct a full $1^1/_2$ hour discharge test. The unit should operate as intended for the duration of the test.

"Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction."

SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

Consult Customer Service for current warranty information.

TYPICAL WIRING DIAGRAMS

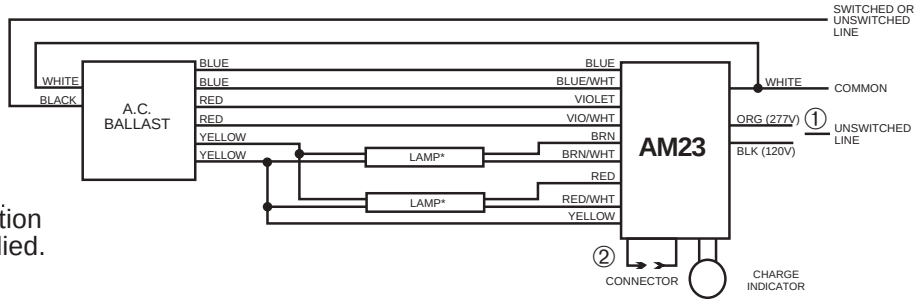
For wiring diagrams of ballasts not shown, consult our Customer Service.

1. TWO LAMP RAPID START BALLAST

* Operates in A.C. and emergency mode.

① Select proper voltage lead. Cap unused lead

② Do not mate connector until installation is complete and A.C. power is supplied.

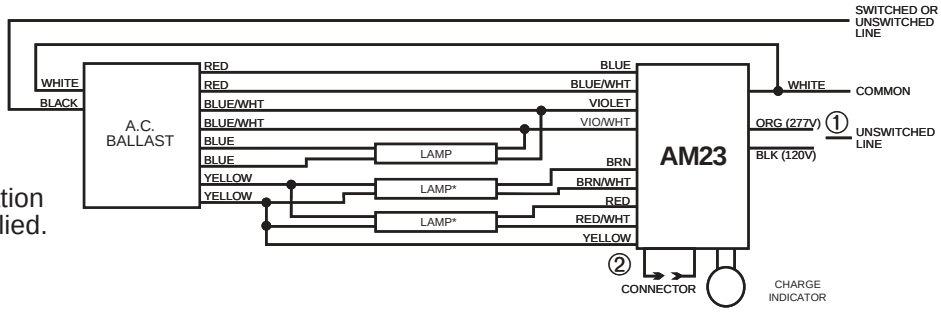


2. THREE LAMP RAPID START BALLAST

* Operates in emergency mode.

① Select proper voltage lead. Cap unused lead

② Do not mate connector until installation is complete and A.C. power is supplied.



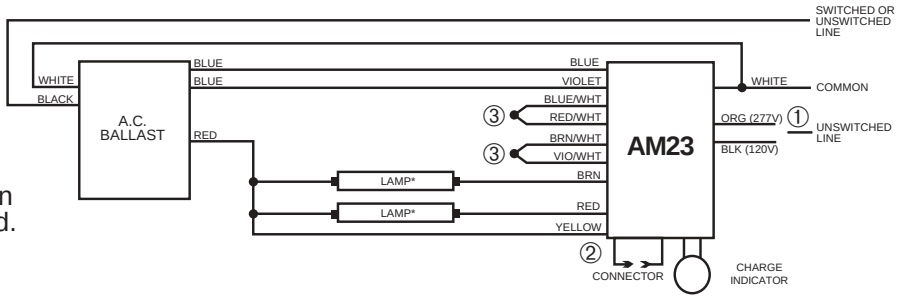
3. TWO LAMP INSTANT START BALLAST

* Operates in A.C. and emergency mode.

① Select proper voltage lead. Cap unused lead

② Do not mate connector until installation is complete and A.C. power is supplied.

③ Pigtail leads together.



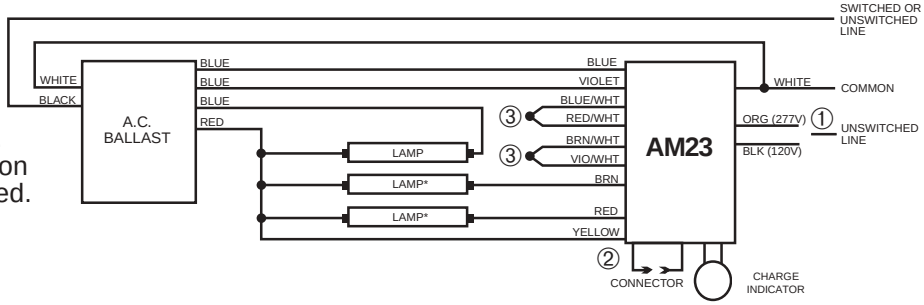
4. THREE LAMP INSTANT START BALLAST

* Operates in emergency mode.

① Select proper voltage lead. Cap unused lead

② Do not mate connector until installation is complete and A.C. power is supplied.

③ Pigtail leads together.



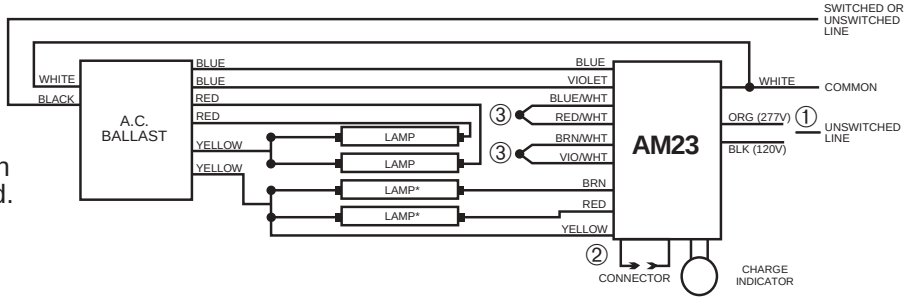
5. FOUR LAMP INSTANT START BALLAST

* Operates in emergency mode.

① Select proper voltage lead. Cap unused lead

② Do not mate connector until installation is complete and A.C. power is supplied.

③ Pigtail leads together.



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AM28

TBTS SERIES D
EMERGENCY
LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector.
3. **CAUTION** – This is a sealed unit. The integral, high temperature Ni-Cad battery is not replaceable. Replace the entire unit when necessary. The EPA certified RBRC® Battery Recycling Seal indicates voluntary participation in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cad batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-822-8837 for information on Ni-Cad battery recycling and disposal bans/restrictions in your area. Involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.
4. **DO NOT USE OUTDOORS.** The **AM28** is for use with grounded, UL Listed, indoor fixtures except in heated air outlets or hazardous locations.
5. The **AM28** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
6. Do not mount near gas or electric heaters.
7. The **AM28** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
8. The **AM28** will cold strike and operate for 90 minutes *one* 2′ to 4′ T5 or T8 linear lamp.
9. The **AM28** is compatible with all A.C. magnetic and electronic ballasts including multiple lamp ballasts with one lamp operating in the emergency mode.
10. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
11. Do not use this equipment for other than intended use.
12. Install in accordance with the National Electrical Code and local regulations.
13. Installation and servicing should be performed by qualified personnel.
14. Lighting fixture manufacturers, electricians and end users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS

UL® LISTED

RECYCLE RBRC Ni-Cd 1.800.822.8837

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INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the AM28 unit connector is disconnected.

1. MOUNTING THE AM28

Remove the ballast channel cover. Mount the **AM28** in the ballast channel at least 1/2″ away from the A.C. ballast(s).

When battery packs are remote mounted, the remote distance can not exceed 1/2 of the distance from ballast to lamp specified by the A.C. ballast manufacturer. For example, if the A.C. ballast manufacturer recommends no more than 25′ remote distance, then the battery pack should not exceed 12 1/2′. Under no circumstances should the battery pack exceed a distance of 50′ from the lamp.

2. WIRING

Refer to the wiring diagrams on the back page for the appropriate wiring of lamp(s) and ballast. Install in accordance with the National Electrical Code and local regulations. For additional wiring diagrams consult Customer Service.

3. INSTALLING THE THREADED BODY TEST SWITCH (TBTS)

Recessed Troffer Fixture – Select a convenient location with proper clearance in the ballast cover and drill or punch a 7/8″ hole (1/2″ knockout). Insert the 7/8″ bushing into the hole. Push the plastic tube through the bushing. Route the leads of the **TBTS** through the plastic tube. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Push the entire assembly back into the tube until the lens collar rests against the plastic tube. The plastic tube should be adjusted so that the **TBTS** is within ¼″ of the fixture lens. The **TBTS** must be visible after installation. Refer to *Illustration 1*.

Linear Fixture – Select a convenient location on the fixture so the **TBTS** can be seen after installation. Allow for proper clearance inside the fixture and drill or punch a 1/2″ hole. Remove the nut from the **TBTS**. Push the **TBTS** housing into the 1/2″ hole and secure with the nut. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Refer to *Illustration 2*.

Illustration 1

Recessed Troffer Fixture

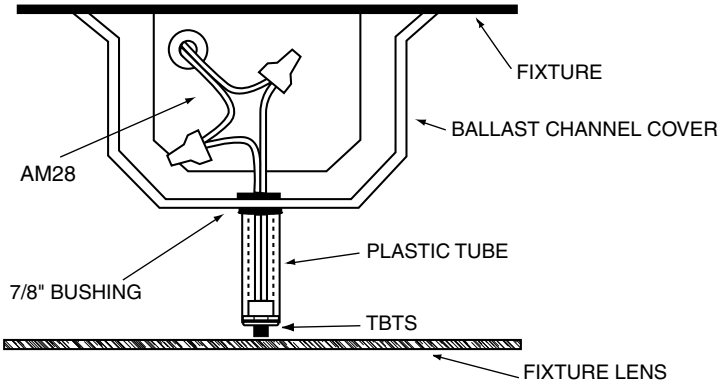
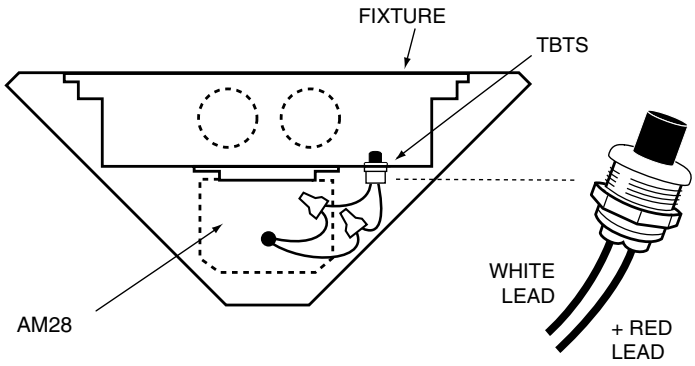


Illustration 2

Linear Fixture

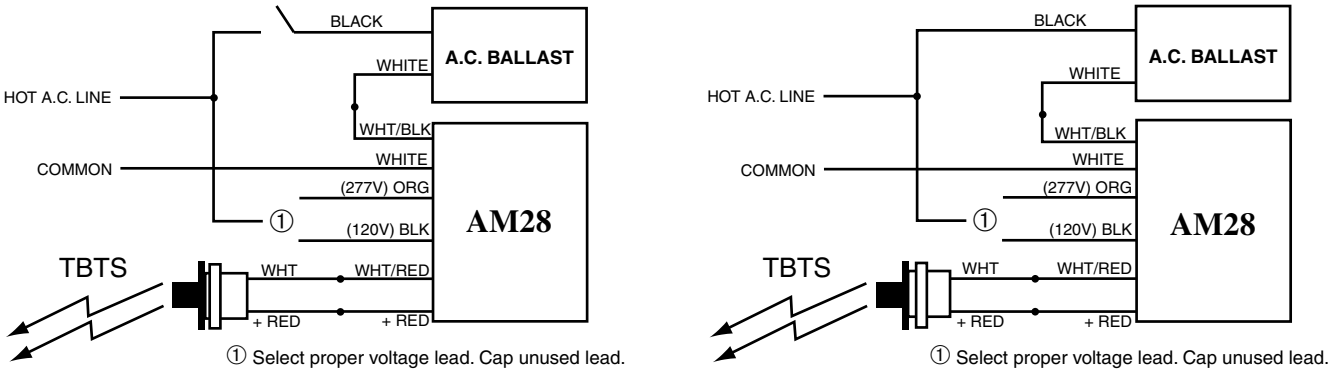


4. WIRING THE A.C. INPUT

A. The **AM28** and A.C. ballast ***must*** be on the same branch circuit.
B. The **AM28** requires an ***unswitched*** A.C. power source of either 120 or 277 volts. Select the proper voltage lead and cap the unused lead.
C. When the **AM28** is used with a switched fixture, the A.C. input to the **AM28** must be connected ahead of the fixture switch. Refer to *Illustration 3* for switched and unswitched fixture wiring diagrams.

5. BALLAST WIRING BLOCK DIAGRAM

Illustration 3 **Switched Fixture** **Unswitched Fixture**



6. LABELS

Attach the appropriate labels adjacent to the **TBTS**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

7. COMPLETING INSTALLATION

When the installation is complete, switch the A.C. power on and join the **AM28** unit connector.

OPERATION

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **AM28** is in the standby charging mode. The **TBTS** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **AM28** senses the A.C. power failure and automatically switches to the *Emergency Mode*. One lamp is illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **AM28** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the Instruction Manual.

TESTING & MAINTENANCE

Pressing the red lens on the **TBTS** turns off the light on the **TBTS** and forces the unit into emergency mode. This interrupts power to the emergency lamp only. The emergency lamp is now being lit by the **AM28** unit and will be less bright than the other lamps in the system. To simulate a "BLACK OUT" use the wall switch or circuit breaker to turn off A.C. power.

Initial Testing – Allow the unit to charge approximately 1 hour, then press the **TBTS** to conduct a short discharge test. Allow a 24 hour charge before conducting a one hour test.

The **AM28** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **TBTS** is illuminated. Conduct a 30 second discharge test by depressing the **TBTS**. One lamp should operate at reduced output.

Annually – Insure that the **TBTS** is illuminated. Conduct a full $1\frac{1}{2}$ hour discharge test. The unit should operate as intended for the duration of the test.

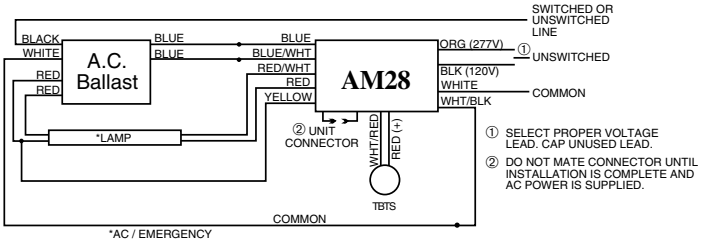
"Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction."

SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.
Consult Customer Service for current warranty information.

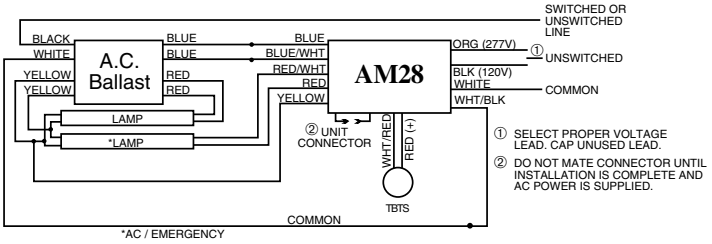
TYPICAL WIRING DIAGRAMS

For wiring diagrams of ballasts not shown, consult our Customer Service.

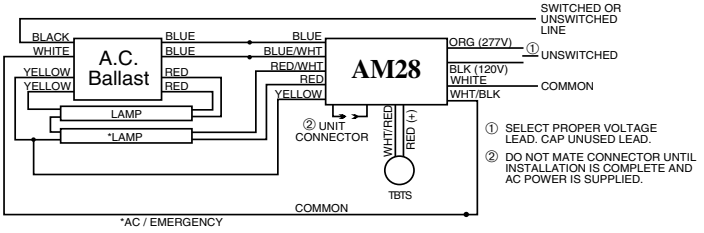
1. ONE LAMP RAPID START BALLAST



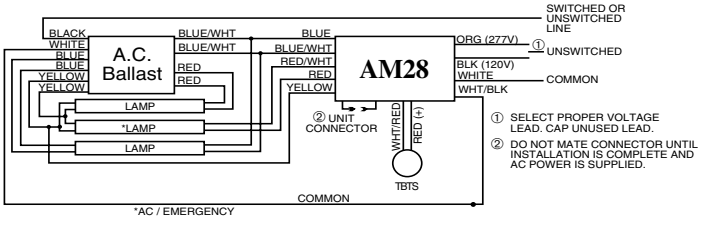
2. TWO LAMP RAPID START BALLAST



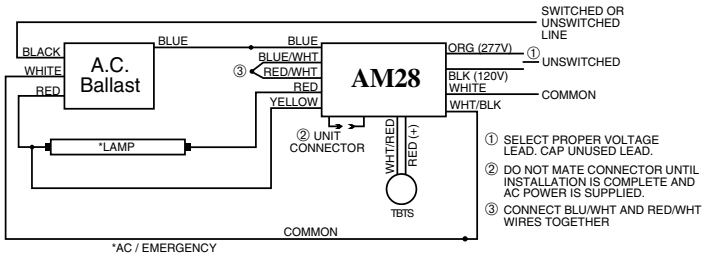
3. TWO LAMP RAPID START BALLAST



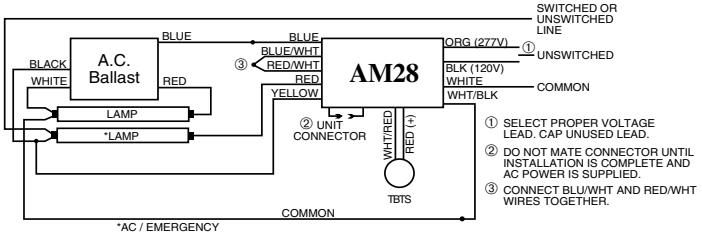
4. THREE LAMP RAPID START BALLAST



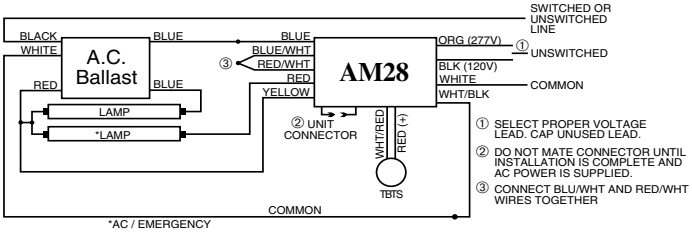
5. ONE LAMP INSTANT START BALLAST



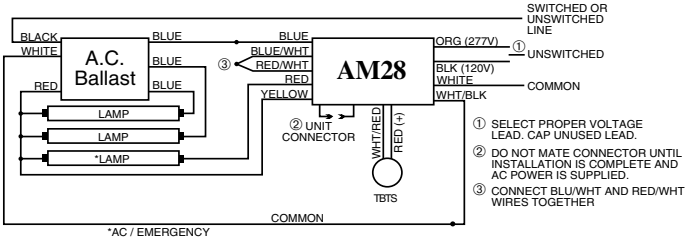
6. TWO LAMP INSTANT START BALLAST



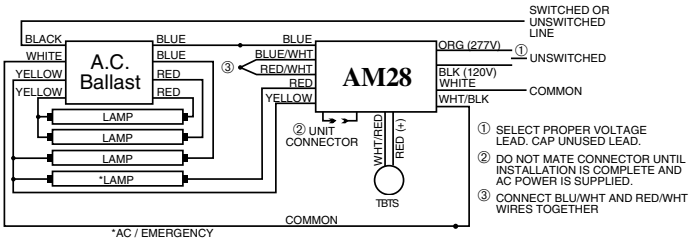
7. TWO LAMP INSTANT START BALLAST



8. THREE LAMP INSTANT START BALLAST



9. FOUR LAMP INSTANT START BALLAST



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AM30

EMERGENCY
LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector.
3. **CAUTION** – The integral, high temperature Ni-Cad battery is replaceable. To replace the battery, disconnect the unit connector and remove both switched and unswitched A.C. power to the fixture. Remove the lid screw and open the lid to expose the battery. Unplug the battery connector and replace with part number 44900-006 (14.4V Ni-Cad battery only). Recycle the used battery. The EPA certified RBRC® Battery Recycling Seal indicates voluntary participation in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cad batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-822-8837 for information on Ni-Cad battery recycling and disposal bans/restrictions in your area. Involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.
4. **DO NOT USE OUTDOORS.** The **AM30** is for use with grounded, UL Listed, indoor fixtures except in heated air outlets or hazardous locations.
5. The **AM30** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
6. Do not mount near gas or electric heaters.
7. The **AM30** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
8. The **AM30** mounts on top of the fixture or adjacent to the fixture on an optional T-bar mounting bracket.
9. The **AM30** will cold strike and operate *one* 2′–8′ or *two* 2′–4′ instant start, rapid start, U shape or circline, T8 through T12 fluorescent lamps, including energy saving and long 4 pin compact lamps for 90 minutes.
10. The **AM30** operates lamps as follows:
    One 2′–8′, or two 2′–4′ lamps for 90 minutes at reduced light output.
    One 2′–4′ lamp for 90 minutes at full light output.
11. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
12. Do not use this equipment for other than intended use.
13. Install in accordance with the National Electrical Code and local regulations.
14. Installation and servicing should be performed by qualified personnel.
15. Lighting fixture manufacturers, electricians and end users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS

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INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the AM30 unit connector is disconnected.

1. LAMPS OPERATED

The **AM30** can be used with most 2′–8′ lamps. Refer to the chart below for the type of lamp(s) operated and the number of lamps to be operated in emergency mode. Contact Customer Service with questions about specific lamps.

OPTION	LAMP TYPE	EMERGENCY OPERATION	*LAMP SELECTOR LEADS			WIRING DIAGRAMS
			Brn/Wht	Brown	Violet	
1	2′-4′ T-8/T-12, Circline	One Lamp	X	X		1,2,3,4,5,6,7,8
2	8′ T-12, BIAX	One Lamp	X		X	1,2,4,5,6,7
3	2′-4′ T-8/T-12, Circline	Two Lamp		X	X	9,10

*The lamp programming wires each have a 3 position shorting P-nut connector. Select the proper wire combination from the chart above for the desired lamp(s) used. Cut and strip one of the selected wires (3/8″) and plug it into the P-nut of the second wire.

2. MOUNTING THE AM30

Remove the ballast channel cover. Mount the **AM30** on the fixture top in a position that does not interfere with the existing A.C. ballast or any other hardware. Extend the flex conduit to a convenient location on top of the fixture and punch a 7/8″ hole. Feed the wires and flex connector down through the hole in the fixture and secure in place with the flex connector nut. An optional T-bar mounting kit is available to mount the **AM30** above the ceiling tile adjacent to the emergency fixture. To order the optional T-bar mounting kit (part number TBMK-160) contact Customer Service.

When battery packs are remote mounted, the remote distance can not exceed 1/2 of the distance from ballast to lamp specified by the A.C. ballast manufacturer. For example, if the A.C. ballast manufacturer recommends no more than 25′ remote distance, then the battery pack should not exceed 12 1/2′. Under no circumstances should the battery pack exceed a distance of 50′ from the lamp.

CAUTION: Properly secure the AM30 in the ceiling grid to insure compliance with local, state, and federal guidelines regarding ceiling mounted equipment.

3. WIRING

Refer to the wiring diagrams on the back page for the appropriate wiring of lamp(s) and ballast. Install in accordance with the National Electrical Code and local regulations. For additional wiring diagrams consult Customer Service.

4. INSTALLING THE CHARGE INDICATOR

Recessed Troffer Fixture – Select a convenient location with proper clearance in the ballast cover and drill or punch a 7/8″ hole (1/2″ knockout). Insert the 7/8″ bushing into the hole. Push the plastic tube through the bushing. Disconnect the leads from the **LED** housing and route the leads down the plastic tube. Reconnect the leads to the housing, observing the proper polarity (Red lead to positive (+) red tab). Push the entire assembly back into the tube until the lens collar rests against the plastic tube. The plastic tube should be adjusted so that the **Charge Indicator** is within 1/4″ of the fixture lens. The **Charge Indicator** must be visible after installation. Refer to *Illustration 1*.

Illustration 1 Recessed Troffer Fixture

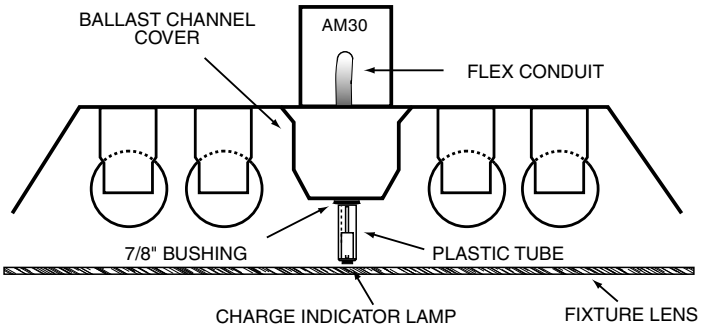
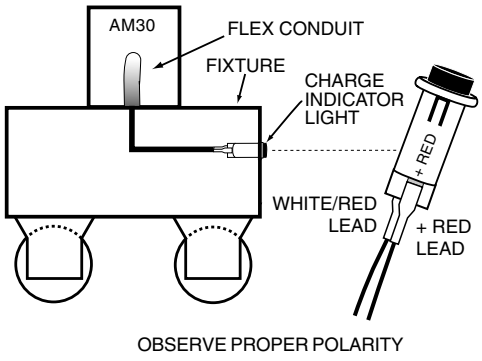


Illustration 2 Strip Fixture



Strip Fixture – Select a convenient location on the side of the fixture so the **Charge Indicator** can be seen after installation. Allow for proper clearance inside the fixture and drill or punch a 1/2″ hole. Disconnect the leads from the **LED** housing. Push the **LED** housing into the 1/2″ hole until it is firmly locked in place. Reconnect the leads, observing the proper polarity (Red lead to positive (+) red tab). Refer to *Illustration 2*.

5. INSTALLING THE TEST SWITCH

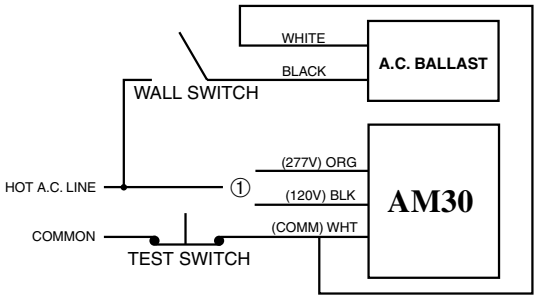
The test switch should be mounted on the ballast channel cover of a recessed troffer, or on the side of a strip fixture, preferably adjacent to the charge indicator. Drill or punch a 1/2″ mounting hole.

6. WIRING THE A.C. INPUT

A. The **AM30** and A.C. ballast ***must*** be on the same branch circuit.
B. The **AM30** requires an ***unswitched*** A.C. power source of either 120 or 277 volts. Select the proper voltage lead and cap the unused lead.
C. When the **AM30** is used with a switched fixture, the A.C. input to the **AM30** must be connected ahead of the fixture switch. Refer to *Illustration 3* for switched and unswitched fixture wiring diagrams.

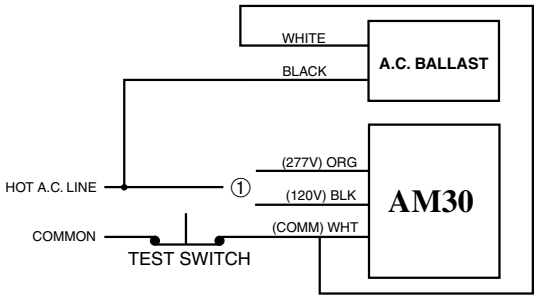
Illustration 3

Switched Fixture



① Select proper voltage lead. Cap unused lead.

Unswitched Fixture



① Select proper voltage lead. Cap unused lead.

7. LABELS

Attach the appropriate labels adjacent to the **Test Switch** and **Charge Indicator**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

8. COMPLETING INSTALLATION

When the installation is complete, switch the A.C. power on and join the **AM30** unit connector.

OPERATION

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **AM30** is in the standby charging mode. The **Charge Indicator** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **AM30** senses the A.C. power failure and automatically switches to the *Emergency Mode*. One or two lamps are illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **AM30** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the Instruction Manual.

TESTING & MAINTENANCE

Initial Testing – Allow the unit to charge approximately 1 hour, then conduct a short discharge test. Allow a 24 hour charge before conducting a one hour test.

The **AM30** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **Charge Indicator** light is illuminated. Conduct a 30 second discharge test by depressing the **Test Switch**. One lamp or two lamps should operate at full or reduced output, depending on your configuration.

Annually – Insure that the **Charge Indicator** light is illuminated. Conduct a full 1 1/2 hour discharge test. The unit should operate as intended for the duration of the test.

"Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction."

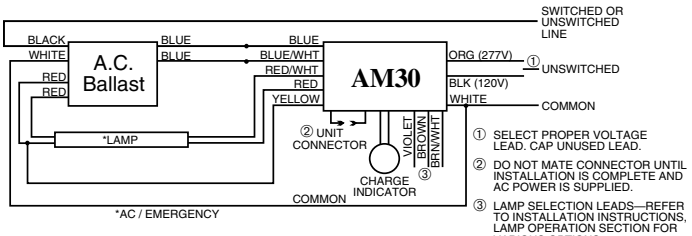
SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

Consult Customer Service for current warranty information.

TYPICAL WIRING DIAGRAMS

For wiring diagrams of ballasts not shown, consult our Customer Service.

1. ONE LAMP RAPID START BALLAST

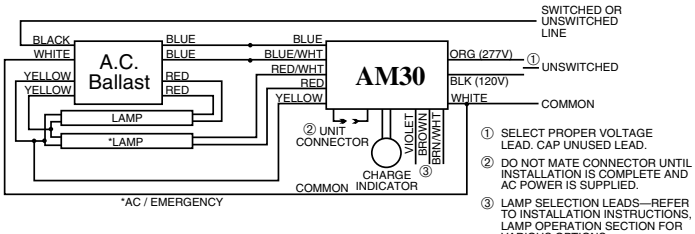


① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTION LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.

2. TWO LAMP RAPID START BALLAST

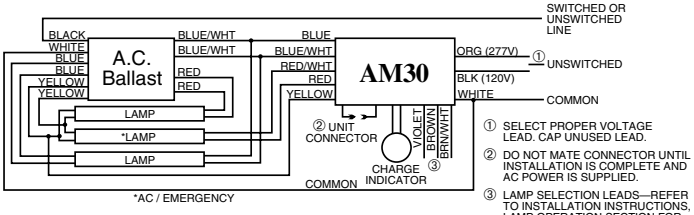


① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTION LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.

3. THREE LAMP RAPID START BALLAST

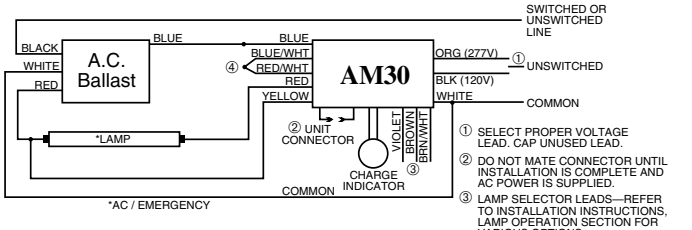


① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTION LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.

4. ONE LAMP INSTANT START BALLAST



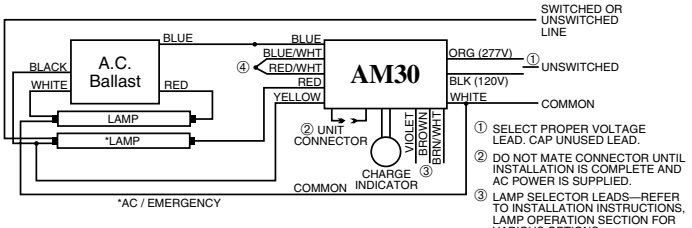
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.

④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

5. TWO LAMP INSTANT START BALLAST



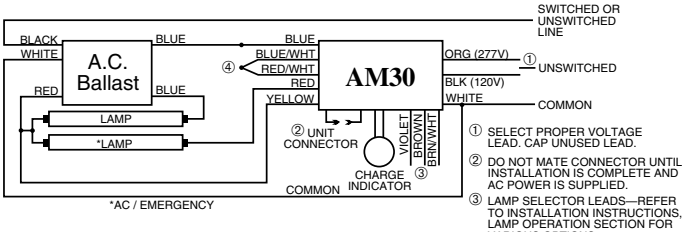
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.

④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

6. TWO LAMP INSTANT START BALLAST



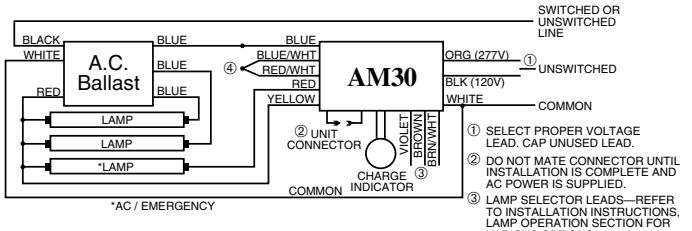
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.

④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

7. THREE LAMP INSTANT START BALLAST



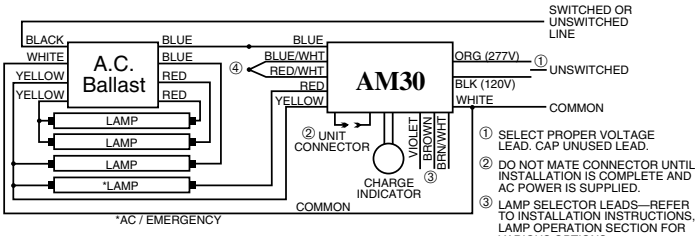
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.

④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

8. FOUR LAMP INSTANT START BALLAST



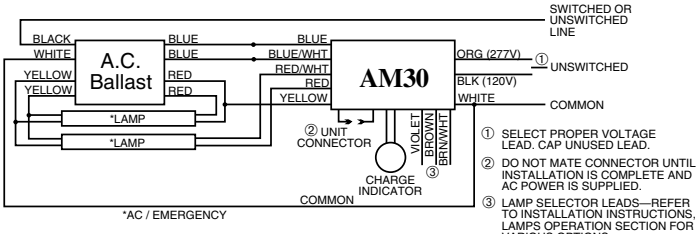
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.

④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

9. TWO LAMP RAPID START BALLAST W/2 LAMP EMERGENCY OPERATION

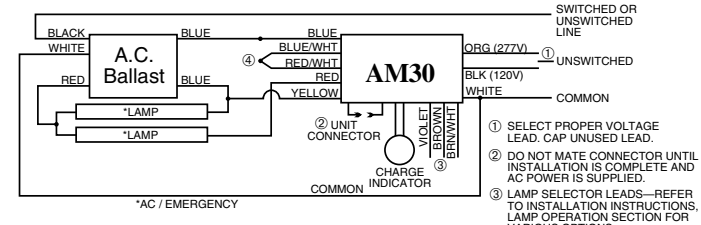


① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

10. TWO LAMP INSTANT START BALLAST W/2 LAMP EMERGENCY OPERATION



① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.

② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.

④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

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AM32

TBTS SERIES D
EMERGENCY
LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector.
3. **CAUTION** – This is a sealed unit. The integral, high temperature Ni-Cad battery is not replaceable. Replace the entire unit when necessary. The EPA certified RBRC® Battery Recycling Seal indicates voluntary participation in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cad batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-822-8837 for information on Ni-Cad battery recycling and disposal bans/restrictions in your area. Involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.
4. **DO NOT USE OUTDOORS.** The **AM32** is for use with grounded, UL Listed, indoor fixtures except in heated air outlets or hazardous locations.
5. The **AM32** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
6. Do not mount near gas or electric heaters.
7. The **AM32** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
8. The **AM32** will cold strike and operate one 2′ through 4′ (20-40W) instant start, rapid start, U shape or circline, T8 through T12 fluorescent lamps, including energy saving and long compacts for 90 minutes at reduced light output.
9. The **AM32** is compatible with all A.C. magnetic and electronic ballasts including multiple lamp ballasts with one lamp operating in the emergency mode.
10. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
11. Do not use this equipment for other than intended use.
12. Install in accordance with the National Electrical Code and local regulations.
13. Installation and servicing should be performed by qualified personnel.
14. Lighting fixture manufacturers, electricians, and end-users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS

UL® LISTED

RECYCLE RBRC Ni-Cd 1.800.822.8837

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INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the AM32 unit connector is disconnected.

1. LAMPS OPERATED

The **AM32** can be used with most 2′ –4′ lamps. Refer to the chart below for the type of lamp(s) operated and the number of lamps to be operated in emergency mode.

OPTION	LAMP TYPE	EMERGENCY OPERATION	*VIOLET LEADS	WIRING DIAGRAMS
1	2 FT T8-T12 Single, Bipin	One Lamp	Connected	1,2,3,4,5,6,7,8
2	4 FT T5(28W) T8-T12 Single, Bipin	One Lamp	Disconnected	1,2,3,4,5,6,7,8

*The 6″ violet leads provide the lamp selection option. The unit is shipped from the factory with the leads disconnected and capped.

2. MOUNTING THE AM32

Remove the ballast channel cover. Mount the **AM32** in the ballast channel at least 1/2″ away from the A.C. ballast(s).

When battery packs are remote mounted, the remote distance can not exceed 1/2 of the distance from ballast to lamp specified by the A.C. ballast manufacturer. For example, if the A.C. ballast manufacturer recommends no more than 25′ remote distance, then the battery pack should not exceed 12 1/2′ . Under no circumstances should the battery pack exceed a distance of 50′ from the lamp.

3. WIRING

Refer to the wiring diagrams on the back page for the appropriate wiring of lamp(s) and ballast. Install in accordance with the National Electrical Code and local regulations. For additional wiring diagrams consult Customer Service.

Illustration 1

Recessed Troffer Fixture

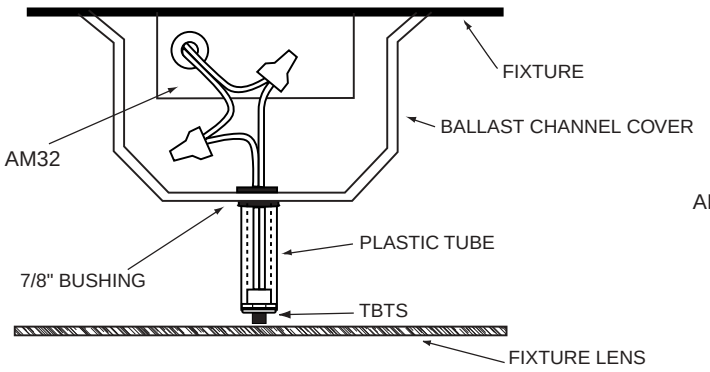
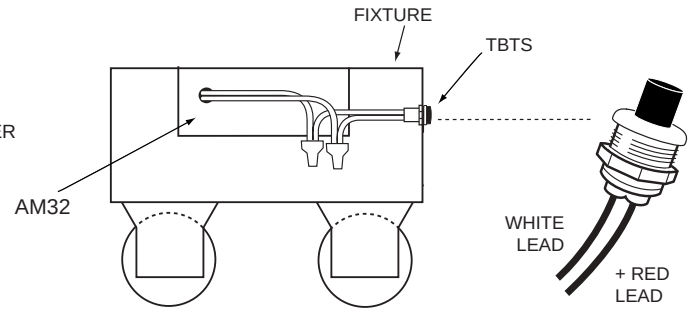


Illustration 2

Strip Fixture



OBSERVE PROPER POLARITY

4. INSTALLING THE LIGHTED PUSH BUTTON TEST SWITCH (TBTS)

Recessed Troffer Fixture – Select a convenient location with proper clearance in the ballast cover and drill or punch a 7/8″ hole (1/2″ knockout). Insert the 7/8″ bushing into the hole. Push the plastic tube through the bushing. Route the leads of the **TBTS** through the plastic tube. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Push the entire assembly back into the tube until the lens collar rests against the plastic tube. The plastic tube should be adjusted so that the **TBTS** is within ¼″ of the fixture lens. The **TBTS** must be visible after installation. Refer to *Illustration 1*.

Strip Fixture – Select a convenient location on the fixture so the **TBTS** can be seen after installation. Allow for proper clearance inside the fixture and drill or punch a 1/2″ hole. Remove the nut from the **TBTS**. Push the **TBTS** housing into the 1/2″ hole and secure with the nut. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Refer to *Illustration 2*.

5. WIRING THE A.C. INPUT

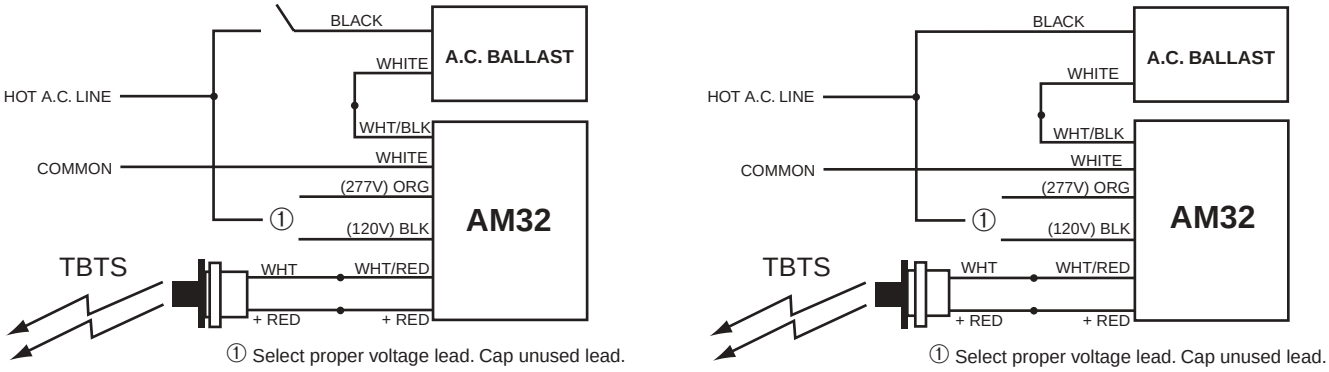
A. The **AM32** and A.C. ballast ***must*** be on the same branch circuit.

B. The **AM32** requires an ***unswitched*** A.C. power source of either 120 or 277 volts. Select the proper voltage lead and cap the unused lead.

C. When the **AM32** is used with a switched fixture, the A.C. input to the **AM32** must be connected ahead of the fixture switch. Refer to *Illustration 3* for switched and unswitched fixture wiring diagrams.

6. BALLAST WIRING BLOCK DIAGRAM

Illustration 3 **Switched Fixture** **Unswitched Fixture**



① Select proper voltage lead. Cap unused lead.

① Select proper voltage lead. Cap unused lead.

7. LABELS

Attach the appropriate labels adjacent to the **TBTS**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

8. COMPLETING INSTALLATION

When the installation is complete, switch the A.C. power on and join the **AM32** unit connector.

OPERATION

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **AM32** is in the standby charging mode. The **TBTS** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **AM32** senses the A.C. power failure and automatically switches to the *Emergency Mode*. One lamp is illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **AM32** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the Instruction Manual.

TESTING & MAINTENANCE

Pressing the red lens on the **TBTS** turns off the light on the **TBTS** and forces the unit into emergency mode. This interrupts power to the emergency lamp only. The emergency lamp is now being lit by the **AM32** unit and will be less bright than the other lamps in the system. To simulate a "BLACK OUT" use the wall switch or circuit breaker to turn off A.C. power.

Initial Testing – Allow the unit to charge approximately 1 hour, then press the **TBTS** to conduct a short discharge test. Allow a 24 hour charge before conducting a one hour test.

The **AM32** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **TBTS** is illuminated. Conduct a 30 second discharge test by depressing the **TBTS**. One lamp should operate at reduced output.

Annually – Insure that the **TBTS** is illuminated. Conduct a full $1^1/_2$ hour discharge test. The unit should operate as intended for the duration of the test.

"Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction."

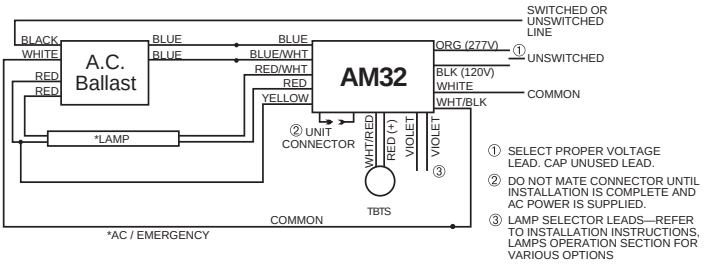
SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

Consult Customer Service for current warranty information.

TYPICAL WIRING DIAGRAMS

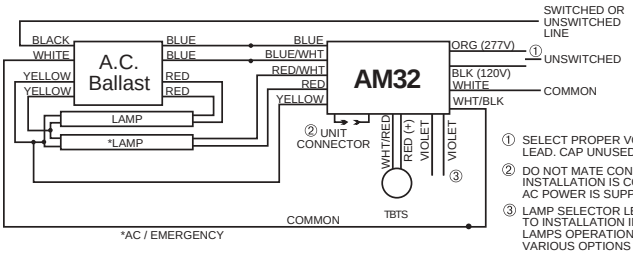
For wiring diagrams of ballasts not shown, consult our Customer Service.

1. ONE LAMP RAPID START BALLAST



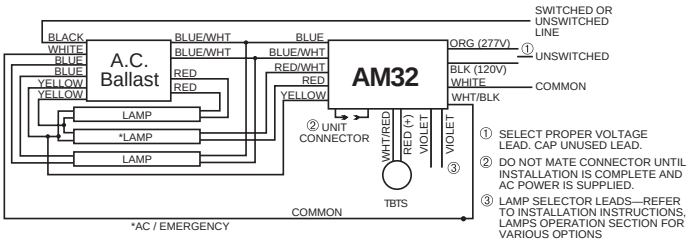
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

2. TWO LAMP RAPID START BALLAST



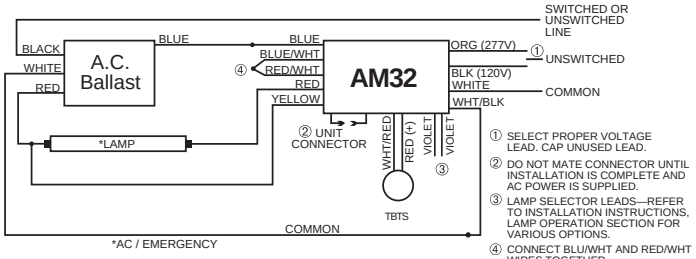
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

3. THREE LAMP RAPID START BALLAST



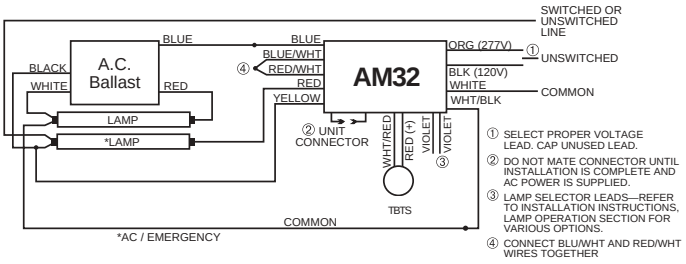
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMPS OPERATION SECTION FOR VARIOUS OPTIONS

4. ONE LAMP INSTANT START BALLAST



① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

5. TWO LAMP INSTANT START BALLAST



① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
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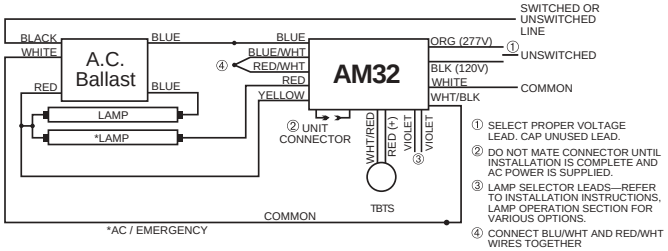
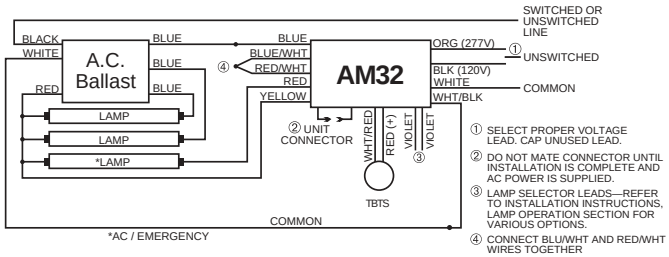
6. TWO LAMP INSTANT START BALLAST



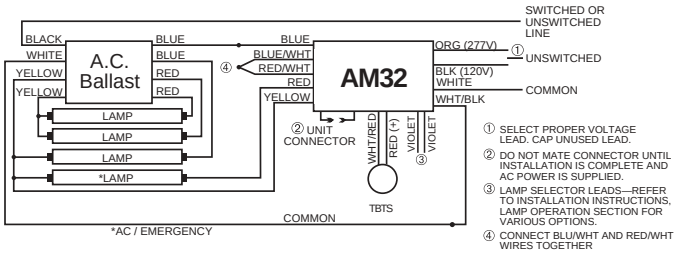
① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

7. THREE LAMP INSTANT START BALLAST



① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

8. FOUR LAMP INSTANT START BALLAST



① SELECT PROPER VOLTAGE LEAD. CAP UNUSED LEAD.
② DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
③ LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
④ CONNECT BLU/WHT AND RED/WHT WIRES TOGETHER

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AM54

TBTS SERIES D
EMERGENCY
LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector.
3. **CAUTION** – This is a sealed unit. The integral, high temperature Ni-Cad battery is not replaceable. Replace the entire unit when necessary. The EPA certified RBRC® Battery Recycling Seal indicates voluntary participation in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cad batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-822-8837 for information on Ni-Cad battery recycling and disposal bans/restrictions in your area. Involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.
4. **DO NOT USE OUTDOORS.** The **AM54** is for use with grounded, UL Listed, indoor fixtures except in heated air outlets or hazardous locations.
5. The **AM54** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
6. Do not mount near gas or electric heaters.
7. The **AM54** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
8. The **AM54** will cold strike and operate for 90 minutes *one* 2′ to 4′ T5 or T8 linear lamp, including HO and 4 pin long compact fluorescent lamps, from 40 through 55 watts.
9. The **AM54** is compatible with all A.C. magnetic and electronic ballasts including multiple lamp ballasts with one lamp operating in the emergency mode.
10. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
11. Do not use this equipment for other than intended use.
12. Install in accordance with the National Electrical Code and local regulations.
13. Installation and servicing should be performed by qualified personnel.
14. Lighting fixture manufacturers, electricians and end users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS

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INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the AM54 unit connector is disconnected.

1. MOUNTING THE AM54

Remove the ballast channel cover. Mount the **AM54** in the ballast channel at least 1/2″ away from the A.C. ballast(s).

When battery packs are remote mounted, the remote distance can not exceed 1/2 of the distance from ballast to lamp specified by the A.C. ballast manufacturer. For example, if the A.C. ballast manufacturer recommends no more than 25′ remote distance, then the battery pack should not exceed 12 1/2′. Under no circumstances should the battery pack exceed a distance of 50′ from the lamp.

2. WIRING

Refer to the wiring diagrams on the back page for the appropriate wiring of lamp(s) and ballast. Install in accordance with the National Electrical Code and local regulations. For additional wiring diagrams consult Customer Service.

3. INSTALLING THE THREADED BODY TEST SWITCH (TBTS)

Recessed Troffer Fixture – Select a convenient location with proper clearance in the ballast cover and drill or punch a 7/8″ hole (1/2″ knockout). Insert the 7/8″ bushing into the hole. Push the plastic tube through the bushing. Route the leads of the **TBTS** through the plastic tube. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Push the entire assembly back into the tube until the lens collar rests against the plastic tube. The plastic tube should be adjusted so that the **TBTS** is within ¼″ of the fixture lens. The **TBTS** must be visible after installation. Refer to *Illustration 1*.

Linear Fixture – Select a convenient location on the fixture so the **TBTS** can be seen after installation. Allow for proper clearance inside the fixture and drill or punch a 1/2″ hole. Remove the nut from the **TBTS**. Push the **TBTS** housing into the 1/2″ hole and secure with the nut. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Refer to *Illustration 2*.

Illustration 1

Recessed Troffer Fixture

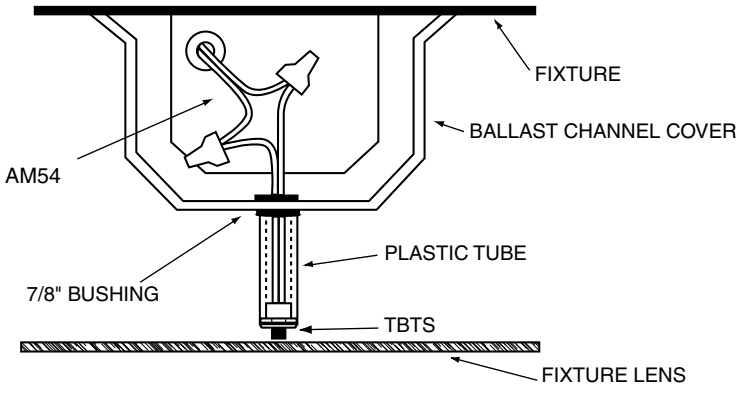
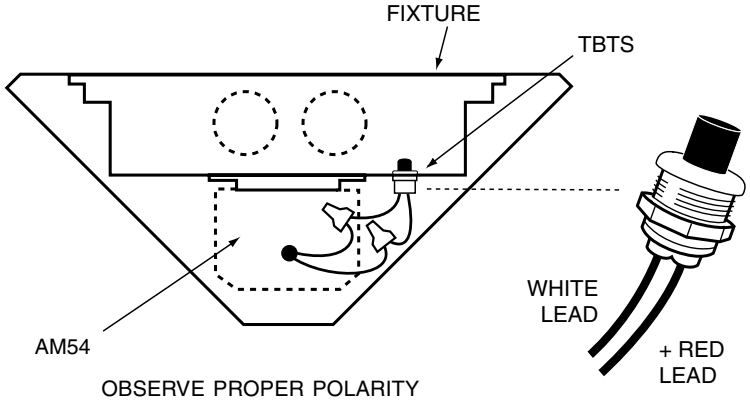


Illustration 2

Linear Fixture



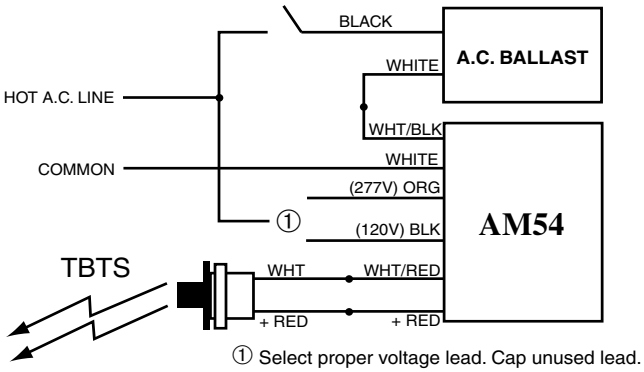
4. WIRING THE A.C. INPUT

A. The **AM54** and A.C. ballast ***must*** be on the same branch circuit.
B. The **AM54** requires an ***unswitched*** A.C. power source of either 120 or 277 volts. Select the proper voltage lead and cap the unused lead.
C. When the **AM54** is used with a switched fixture, the A.C. input to the **AM54** must be connected ahead of the fixture switch. Refer to *Illustration 3* for switched and unswitched fixture wiring diagrams.

5. BALLAST WIRING BLOCK DIAGRAM

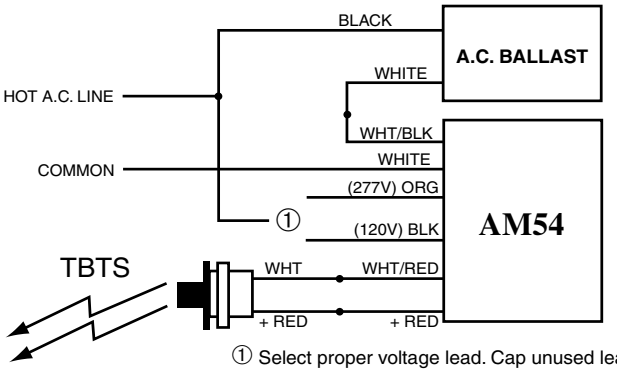
Illustration 3

Switched Fixture



① Select proper voltage lead. Cap unused lead.

Unswitched Fixture



① Select proper voltage lead. Cap unused lead.

6. LABELS

Attach the appropriate labels adjacent to the **TBTS**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

7. COMPLETING INSTALLATION

When the installation is complete, switch the A.C. power on and join the **AM54** unit connector.

OPERATION

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **AM54** is in the standby charging mode. The **TBTS** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **AM54** senses the A.C. power failure and automatically switches to the *Emergency Mode*. One lamp is illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **AM54** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the Instruction Manual.

TESTING & MAINTENANCE

Pressing the red lens on the **TBTS** turns off the light on the **TBTS** and forces the unit into emergency mode. This interrupts power to the emergency lamp only. The emergency lamp is now being lit by the **AM54** unit and will be less bright than the other lamps in the system. To simulate a "BLACK OUT" use the wall switch or circuit breaker to turn off A.C. power.

Initial Testing – Allow the unit to charge approximately 1 hour, then press the **TBTS** to conduct a short discharge test. Allow a 24 hour charge before conducting a one hour test.

The **AM54** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **TBTS** is illuminated. Conduct a 30 second discharge test by depressing the **TBTS**. One lamp should operate at reduced output.

Annually – Insure that the **TBTS** is illuminated. Conduct a full $1\frac{1}{2}$ hour discharge test. The unit should operate as intended for the duration of the test.

"Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction."

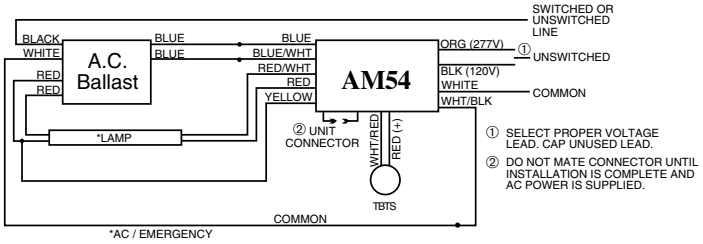
SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

Consult Customer Service for current warranty information.

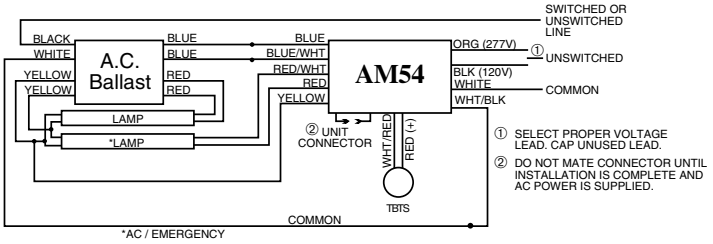
TYPICAL WIRING DIAGRAMS

For wiring diagrams of ballasts not shown, consult our Customer Service.

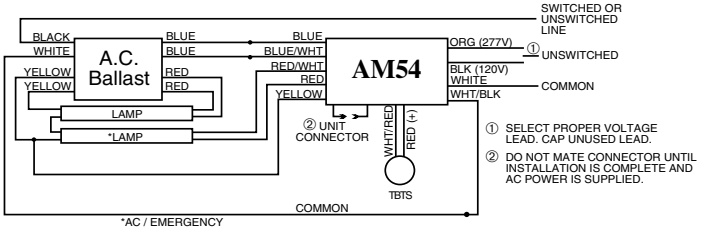
1. ONE LAMP RAPID START BALLAST



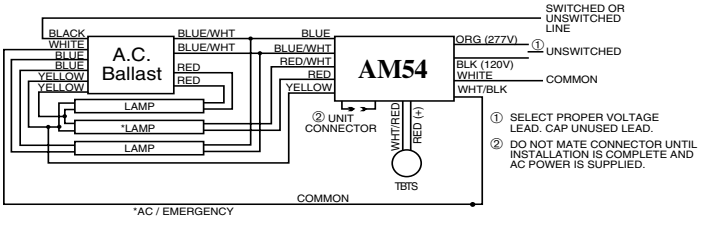
2. TWO LAMP RAPID START BALLAST



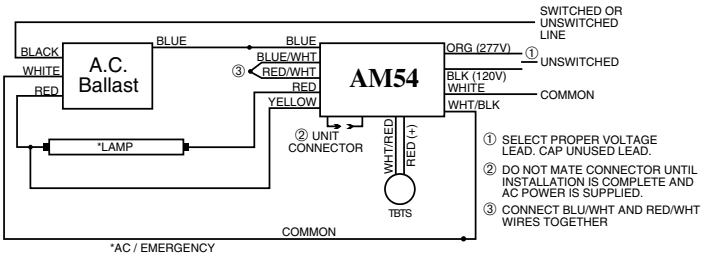
3. TWO LAMP RAPID START BALLAST



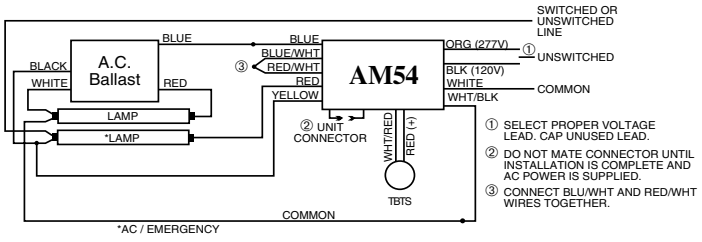
4. THREE LAMP RAPID START BALLAST



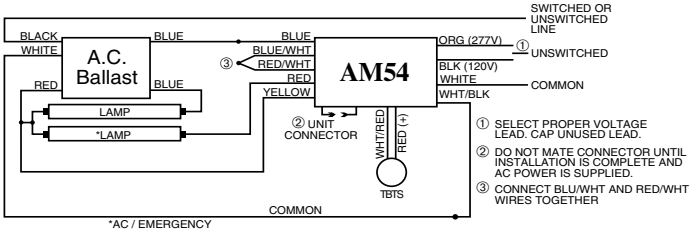
5. ONE LAMP INSTANT START BALLAST



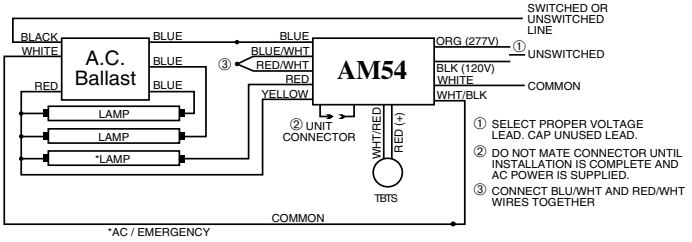
6. TWO LAMP INSTANT START BALLAST



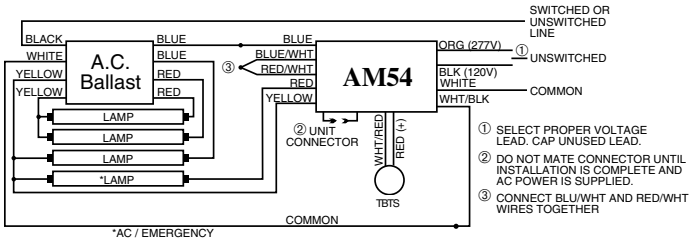
7. TWO LAMP INSTANT START BALLAST



8. THREE LAMP INSTANT START BALLAST



9. FOUR LAMP INSTANT START BALLAST



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AM540

TBTS SERIES D
EMERGENCY
LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector.
3. **CAUTION** – This is a sealed unit. The integral, high temperature Ni-Cad battery is not replaceable. Replace the entire unit when necessary. The EPA certified RBRC® Battery Recycling Seal indicates voluntary participation in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Ni-Cad batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-822-8837 for information on Ni-Cad battery recycling and disposal bans/restrictions in your area. I nvolvement in this program is part of our commitment to preserving our environment and conserving our natural resources.
4. **DO NOT USE OUTDOORS.** The **AM540** is for use with grounded, UL Listed, indoor fixtures except in heated air outlets or hazardous locations.
5. The **AM540** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
6. Do not mount near gas or electric heaters.
7. The **AM540** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
8. The **AM540** will cold strike and operate for 90 minutes *one* 2′ to 4′ T5 or T8 linear lamp, including HO and 4 pin long compact fluorescent lamps, from 40 through 55 watts.
9. The **AM540** is compatible with all A.C. magnetic and electronic ballasts including multiple lamp ballasts with one lamp operating in the emergency mode.
10. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
11. Do not use this equipment for other than intended use.
12. Install in accordance with the National Electrical Code and local regulations.
13. Installation and servicing should be performed by qualified personnel.
14. Lighting fixture manufacturers, electricians and end-users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS

UL® LISTED

RECYCLE RBRC Ni-Cd 1.800.822.8837

Thomas&Betts

INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the AM540 unit connector is disconnected.

1. MOUNTING THE AM540

Remove the ballast channel cover. Mount the **AM540** in the ballast channel at least 1/2″ away from the A.C. ballast(s).

When battery packs are remote mounted, the remote distance can not exceed 1/2 of the distance from ballast to lamp specified by the A.C. ballast manufacturer. For example, if the A.C. ballast manufacturer recommends no more than 25′ remote distance, then the battery pack should not exceed 12 1/2′ . Under no circumstances should the battery pack exceed a distance of 50′ from the lamp.

2. WIRING

Refer to the wiring diagrams on the back page for the appropriate wiring of lamp(s) and ballast. Install in accordance with the National Electrical Code and local regulations. For additional wiring diagrams consult Customer Service.

3. INSTALLING THE THREADED BODY TEST SWITCH (TBTS)

Recessed Troffer Fixture – Select a convenient location with proper clearance in the ballast cover and drill or punch a 7/8″ hole (1/2″ knockout). Insert the 7/8″ bushing into the hole. Push the plastic tube through the bushing. Route the leads of the **TBTS** through the plastic tube. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Push the entire assembly back into the tube until the lens collar rests against the plastic tube. The plastic tube should be adjusted so that the **TBTS** is within ¼″ of the fixture lens. The **TBTS** must be visible after installation. Refer to *Illustration 1*.

Linear Fixture – Select a convenient location on the fixture so the **TBTS** can be seen after installation. Allow for proper clearance inside the fixture and drill or punch a 1/2″ hole. Remove the nut from the **TBTS**. Push the **TBTS** housing into the 1/2″ hole and secure with the nut. Connect the LED wires from the unit to the **TBTS** (Red to Red, White to White/Red). Refer to *Illustration 2*.

Illustration 1

Recessed Troffer Fixture

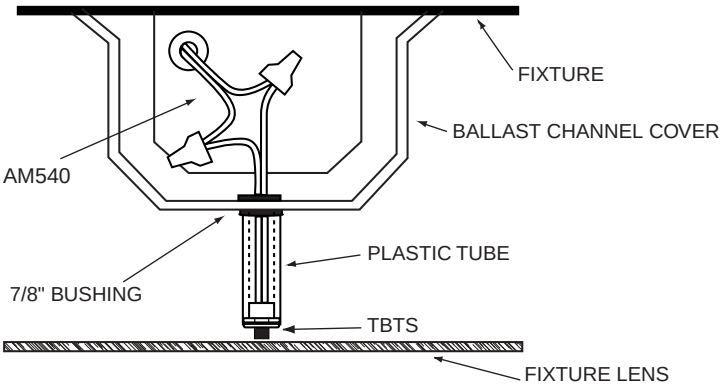
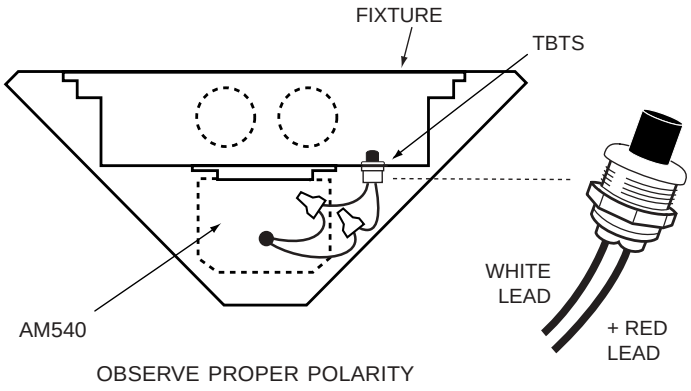


Illustration 2

Linear Fixture



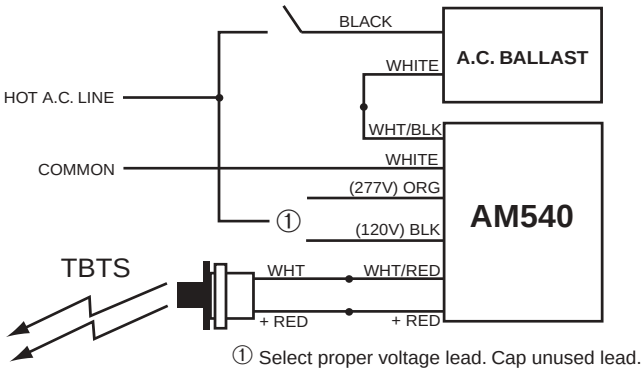
4. WIRING THE A.C. INPUT

A. The **AM540** and A.C. ballast ***must*** be on the same branch circuit.
B. The **AM540** requires an ***unswitched*** A.C. power source of either 120 or 277 volts. Select the proper voltage lead and cap the unused lead.
C. When the **AM540** is used with a switched fixture, the A.C. input to the **AM540** must be connected ahead of the fixture switch. Refer to *Illustration 3* for switched and unswitched fixture wiring diagrams.

5. BALLAST WIRING BLOCK DIAGRAM

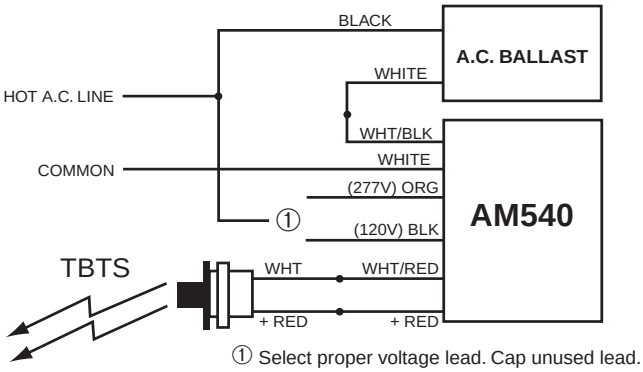
Illustration 3

Switched Fixture



① Select proper voltage lead. Cap unused lead.

Unswitched Fixture



① Select proper voltage lead. Cap unused lead.

6. LABELS

Attach the appropriate labels adjacent to the **TBTS**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

7. COMPLETING INSTALLATION

When the installation is complete, switch the A.C. power on and join the **AM540** unit connector.

OPERATION

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **AM540** is in the standby charging mode. The **TBTS** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **AM540** senses the A.C. power failure and automatically switches to the *Emergency Mode*. One lamp is illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **AM540** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the Instruction Manual.

TESTING & MAINTENANCE

Pressing the red lens on the **TBTS** turns off the light on the **TBTS** and forces the unit into emergency mode. This interrupts power to the emergency lamp only. The emergency lamp is now being lit by the **AM540** unit and will be less bright than the other lamps in the system. To simulate a "BLACK OUT" use the wall switch or circuit breaker to turn off A.C. power.

Initial Testing – Allow the unit to charge approximately 1 hour, then press the **TBTS** to conduct a short discharge test. Allow a 24 hour charge before conducting a one hour test.

The **AM540** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **TBTS** is illuminated. Conduct a 30 second discharge test by depressing the **TBTS**. One lamp should operate at reduced output.

Annually – Insure that the **TBTS** is illuminated. Conduct a full $1^1/_2$ hour discharge test. The unit should operate as intended for the duration of the test.

"Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction."

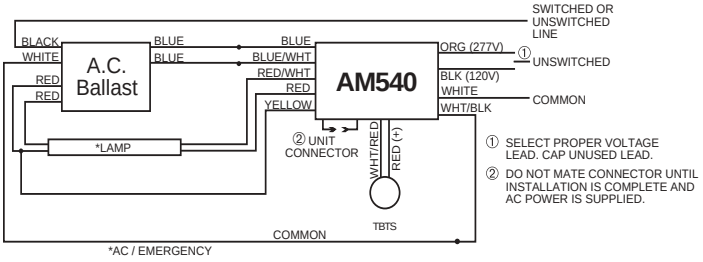
SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

Consult Customer Service for current warranty information.

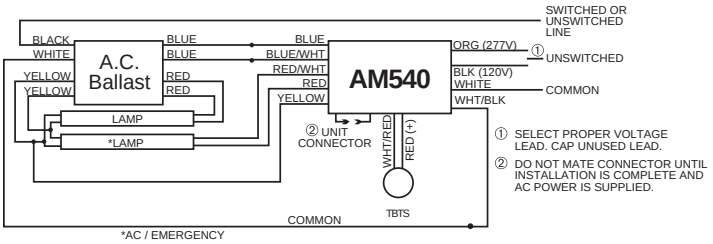
TYPICAL WIRING DIAGRAMS

For wiring diagrams of ballasts not shown, consult our Customer Service.

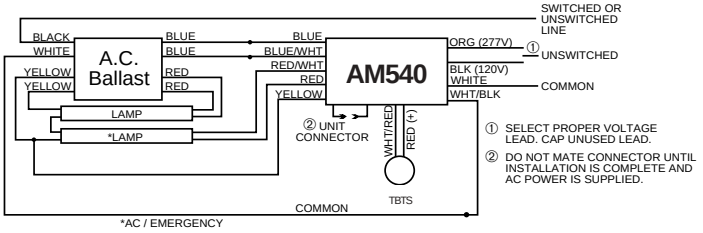
1. ONE LAMP RAPID START BALLAST



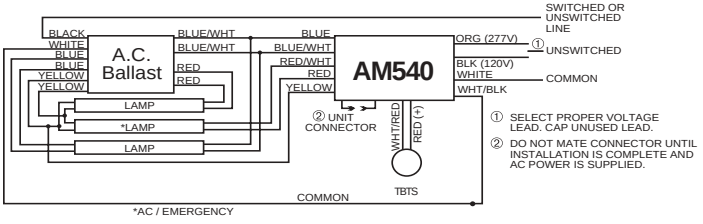
2. TWO LAMP RAPID START BALLAST



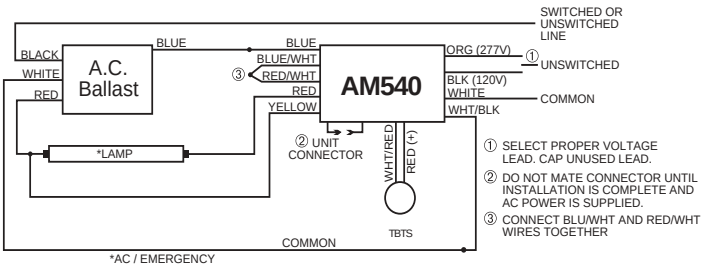
3. TWO LAMP RAPID START BALLAST



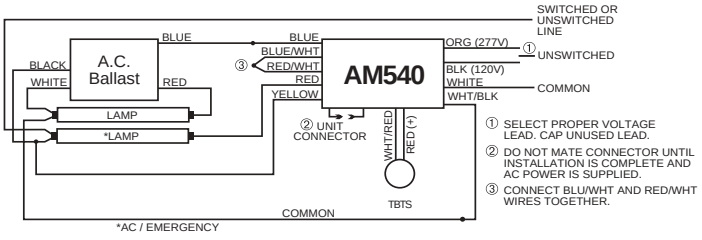
4. THREE LAMP RAPID START BALLAST



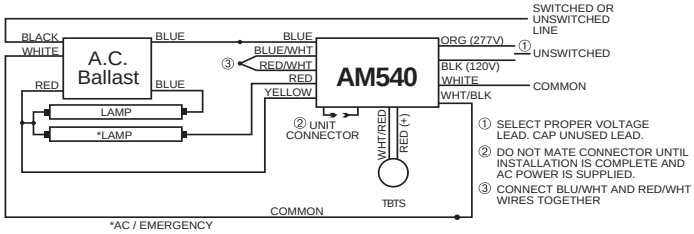
5. ONE LAMP INSTANT START BALLAST



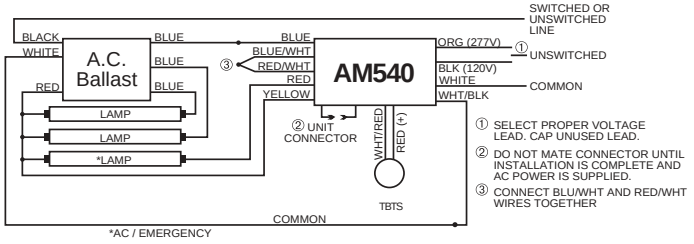
6. TWO LAMP INSTANT START BALLAST



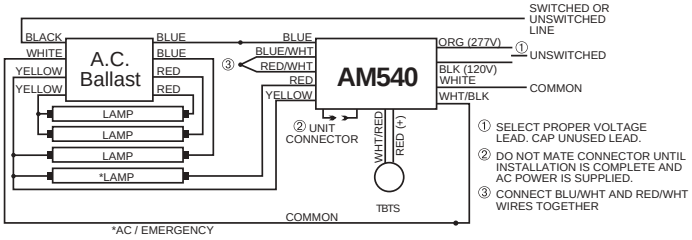
7. TWO LAMP INSTANT START BALLAST



8. THREE LAMP INSTANT START BALLAST



9. FOUR LAMP INSTANT START BALLAST



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