

PHILIPS

TMFIC/ZMFIC Series

200W-450W Emergency
Luminaire

INSTALLATION AND OPERATING INSTRUCTIONS

IMPORTANT SAFEGUARDS

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

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

All servicing should be performed by qualified personnel only.

Equipment should be mounted in locations and at heights where it will not be readily subjected to tampering by unauthorized personnel.

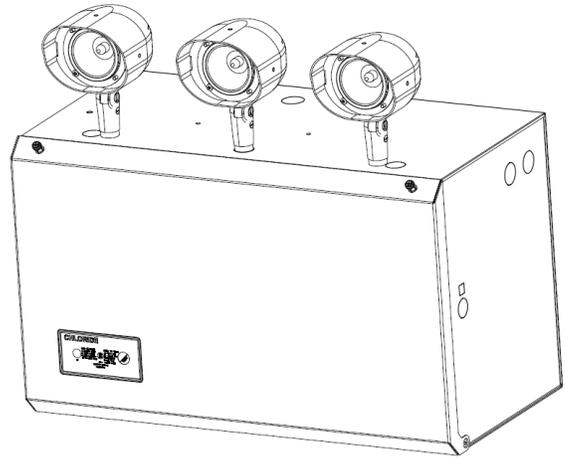
The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.

Do not use this equipment for other than intended use.

Do not use outdoors.

Do not let supply cords touch hot surfaces.

Do not mount near gas or electric heaters.



CAUTION: Halogen cycle lamp(s) are used in this equipment. To avoid shattering: Do not operate lamp in excess of rated voltage, protect lamp against abrasion and scratches and against liquids when lamp is operating, dispose of lamp with care.

Halogen cycle lamps operate at high temperatures. Do not store or place flammable materials near lamp.

CAUTION: “To avoid electrical overload, total connected lamp load (factory and field installed) should not exceed output rating”.

SAVE THESE INSTRUCTIONS

WARNING – Shut off AC power to branch circuits to which units will be connected. All wiring should be per N.E.C. Articles 501-4(b) and local codes.

To maintain warranty, equipment with batteries must be installed or placed on charge within prescribed period after shipment.

PHILIPS

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GENERAL INSTRUCTIONS

Direct Wall Mount Installation

- 1) Begin the installation process by securing the unit less battery. Three slotted vertical keyway knockouts in the housing (see Figure 1) are to be used to attach the housing to independent anchor supports. Use three ¼" toggle bolts (supplied by others) to secure the unit to drywall. If mounting to hollow concrete masonry, a minimum of two toggle bolts must be used. When using wall recessed wiring, The slotted, circular keyways can be used to secure the housing to a standard junction box for wiring purposes only. Run the wires through center hole of housing in preparation for unit wiring. For surface conduit wiring, there are a total of six knockouts which can be used for service entrance and exit.

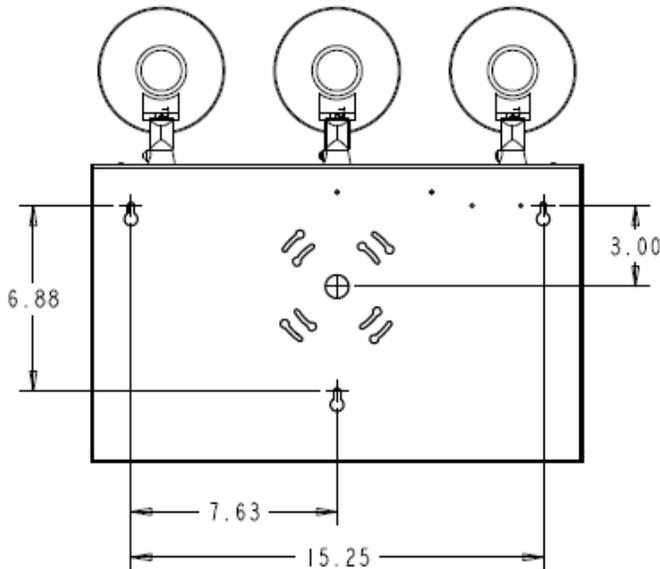


Figure 1

OPTIONAL MOUNTING SHELF FOR COLUMN, POLE OR I-BEAM

- 1) If the unit is to be mounted to poles, columns or I-Beams, use the optional

mounting shelf kit and strapping kit (ordered separately).

- 2) If mounting shelf is to be used for wall mounting, there are four (4) slotted vertical keyways (see Figure 2) available. Use ¼" toggle bolts (supplied by others) for installation.

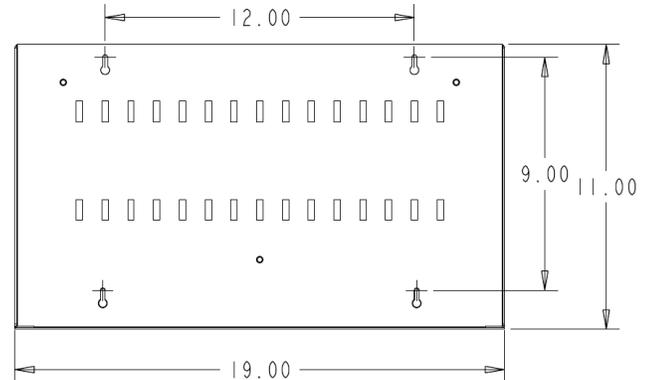


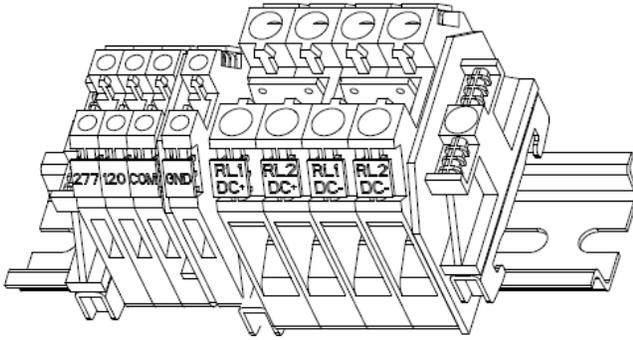
Figure 2

- 3) Once mounting shelf is installed, the unit is ready for installation.
- 4) Place unit on shelf less batteries and secure with three (3) securing screws (provided with mounting shelf) to shelf threaded inserts.

INSTALLING BATTERIES

1. Units ship without batteries installed. Unit batteries are shipped separately. Battery wiring harnesses are already connected to PCB assembly. Connection of harness to batteries is required.
2. Install and wire batteries as appropriate. (See Page 8 for battery configurations)
3. Tighten straps to secure batteries inside unit.

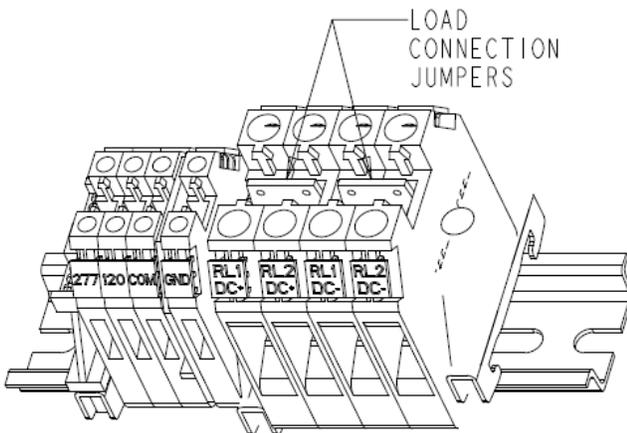
AC SERVICE HOOKUP INSTRUCTIONS



Standard Units:

Connect AC service to unit terminal block. The unit is pre-wired to accept 120 or 277 VAC. Insert AC service leads and ground wire to appropriately labeled terminal(s). Tighten.

REMOTE LAMP CONNECTION



1. A terminal block for the remote lamp loads is provided for easy installation. Two terminals are available for DC+ and DC- each. Units ship from the factory with load connection jumpers installed on both DC+ and DC-. This parallels the load among the unit RL1+ and RL2+ output load fuses. Using the jumpers ensures that the total load of the unit is evenly distributed.

2.

REMOTE LOADS WITH LOAD CONNECTION JUMPERS INSTALLED (SMALLER REMOTE LOAD REQUIREMENTS)

1. When using the jumpers, simply subtract the internal lamp total wattage from the unit total wattage and the remainder is the available total remote load capacity. Balancing of RL1 and RL2 is not required as the jumpers perform the remote load balancing.
2. When figuring total load, include the wattage of the internal lamps if applicable and do not exceed unit total wattage capability.
3. EXAMPLE:
A 200 watt unit with three (3) 12 watt lamps connected has 164 watts of remote load capability.

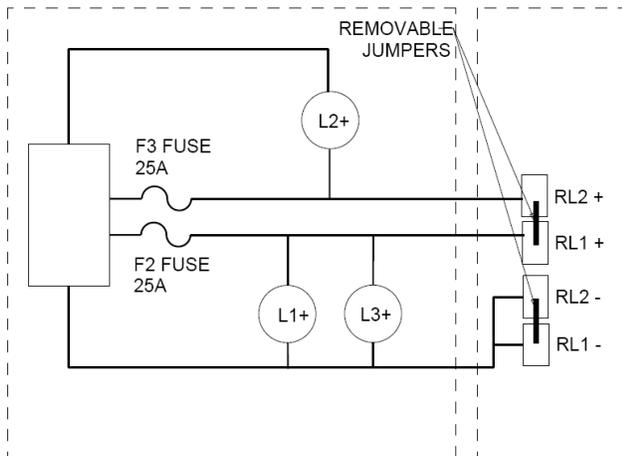
REMOTE LOADS REQUIRING SEPARATE FUSING (LARGER REMOTE LOAD REQUIREMENTS)

1. When it is necessary to independently fuse each set of remote lamp loads, removal of the load connection jumpers is required.
2. Removal of the load connection jumpers is accomplished unscrewing and removing the jumper itself.
3. The terminals are marked RL1 DC+, RL2 DC+, RL1 DC- and RL2 DC-. The terminal blocks are capable of accepting up to #6 wire.
Balancing of the remote lamp loads among RL1 and RL2 is now a consideration and must be planned ahead of time.



Determination of allowable RL1 and RL2 maximum capacity depends on whether the unit is configured as a two or three internal head unit as the remote load PCB fuses are shared with the internal lamps.

The schematic below illustrates the PCB load routing of the unit where L1+, L2+ and L3+ represent internal lamp loads and RL1+ and RL2+ are the remote lamp loads:



$$\begin{aligned} \text{RL1 Max Watts} &= (\text{Unit Wattage} / 2) - (2 * \text{Internal Lamp Wattage}) \\ &= (300/2) - (2*12) \\ &= 150 - 24 \\ &= 126 \text{ (Watts)} \\ \text{RL2 Max Watts} &= (\text{Unit Wattage} / 2) - (1 * \text{Internal Lamp Wattage}) \\ &= (300/2) - (1*12) \\ &= 150 - 12 \\ &= 138 \text{ (Watts)} \end{aligned}$$

Ensure total unit load (including internal lamps) does not exceed unit rating including internal lamp loads.

COMPLETING UNIT INSTALLATION

1. Adjust head(s) to illuminate desired area(s).
2. Close cover and latch. Ensure electrical wires and membrane switch cable remain inside unit and that the cover does not pinch wires when closed. Hand tighten the two thumb screws to finalize cover closure.

4. Determining allowable remote lamp loads for RL1 and RL2:

- For two head units, subtract twice the lamp wattage rating from the unit total available power. Equally divide the remaining capacity between RL1 and RL2.

- For three head units, internal lamp 1 and internal lamp 3 are on the RL1 fused circuit. Internal lamp 2 is connected to the RL2 fused circuit.

For RL1 circuit, subtract twice the internal lamp rating from half the unit wattage and the remainder is the available remote load capacity.

For RL2 circuit, subtract one internal lamp wattage from half the unit wattage and the remainder is the RL2 remote capacity.

Example:

A 300 watt unit is configured with 3 internal 12 watt heads. The total available wattages for RL1 and RL2 are calculated as follows:

Self Diagnostic System Operation – Emergency Light or EXIT Sign Products

Normal Power Up Sequence

At power up the red and green LED indicators will alternately flash for one to two seconds. Next the product will execute a “Power Up Quick Test” causing the green LED indicator to flash rapidly. If any faults are detected during the “Power Up Quick Test” these will be evident by a flashing red LED indicator. If the audible diagnostic option has been ordered, the flashing red LED will be accompanied by a simultaneous beeping tone. **(Note: A continuous rapid alternating Red/Green flash with rapid beeping tone indicates 277V applied to 120V input lead. TURN OFF POWER IMMEDIATELY!)**

Emergency Operation

Emergency operation occurs when AC power fails. The product remains in emergency operation until AC power is restored or battery capacity is depleted. During emergency operation both red and green LED indicators are disabled.

User Interface

Green LED indicator

- Slow Flash/Continuous ON = AC power present; normal operating condition
- Rapid Flash = product performing an automatic or manually initiated diagnostic test

Red LED indicator

- Single Flash = battery fault
- Two Flashes = lamp failure (light bar failure – EXIT signs)
- Three Flashes = charger fault
- Four Flashes = transfer fault

(If more than one fault condition is present simultaneously, the red LED will flash the indication pattern for each fault independently then repeat the cycle.)

Pushbutton Test Switch

- Long Press (longer than 0.5sec) transfers product to emergency operation during time the button is pressed.
- Short Press initiates self diagnostic activities as follows:
 - One Press cancels diagnostic test presently running.
 - Two Presses starts a one minute diagnostic test.
 - Three Presses starts a 90 minute diagnostic test.
 - Four Presses conducts a lamp load calibration (emergency light products only).
 - Seven Presses initiates a system reset.

(Note: the microprocessor will allow up to seven, one minute diagnostic tests within the first 24 hours of operation. Allow 24 hours of charging before performing any long duration testing.)

Buzzer (optional)– Sounds in unison with the flashing red LED if a fault condition is present. Buzzer may be silenced for up to 196 hours by a short press of either the test switch or the optional IR remote control device “silence” button. Correcting fault condition will cancel fault notification. Lamp failure indication requires a manually activated diagnostic test after lamp replacement to cancel notification.

IR Remote Control (optional)- is a hand held device that allows remote activation of diagnostic testing and silencing of the optional buzzer during fault conditions.





**SILENCE
ALARM**



**1 MINUTE
TEST**



**30 MINUTE
TEST**



**90 MINUTE
TEST**



CANCEL

OPTIONAL REMOTE CONTROL

Front

Press appropriate button to perform the indicated test or silence the audible alarm.

Cancel stops any test currently in process.

System Reset: Two presses of "SILENCE ALARM" button followed by two presses of "CANCEL" button.

Interpretation of flashing indicator lights on Equipment:

Green LED Indicator:

- Steady On - Normal
- Slow Flash - Battery Charging
- Fast Flash - Unit is self-testing

Red LED Indicator:

- Single Flash - Battery Fault
 - Double Flash - Lamp Failure
 - Triple Flash - Charger Fault
 - Quad Flash - Emergency Transfer Failure
- Red and Green LED Indicators flashing together:
- Slow Flashing - Low Line Voltage
 - Fast Flashing - High Line Voltage

Unit Equipment Lamp Calibration

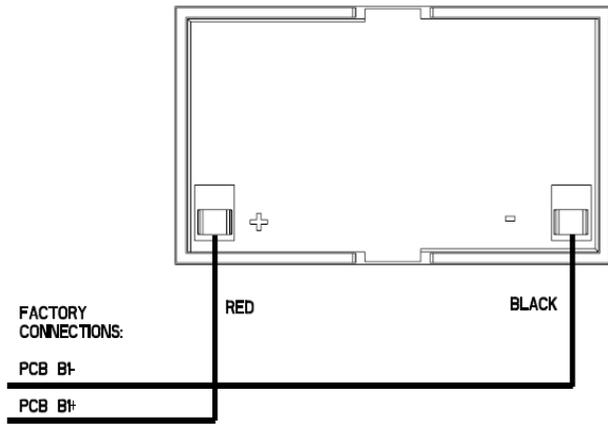
Press "Silence Alarm" twice followed by one press of "Cancel" and one press of "Silence Alarm" for Service Call (910)259-1000

Back

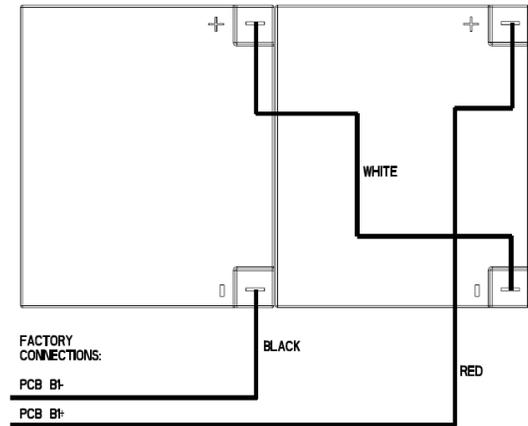
Explanation of indicator light flash sequences.

Refer to Table 2 above for further information.

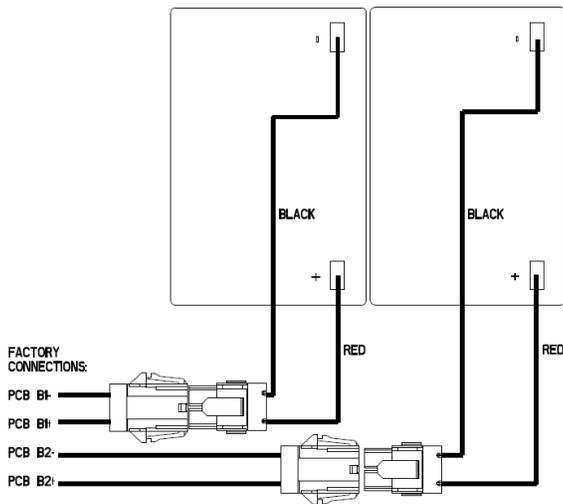
BATTERY HOOKUP DIAGRAMS



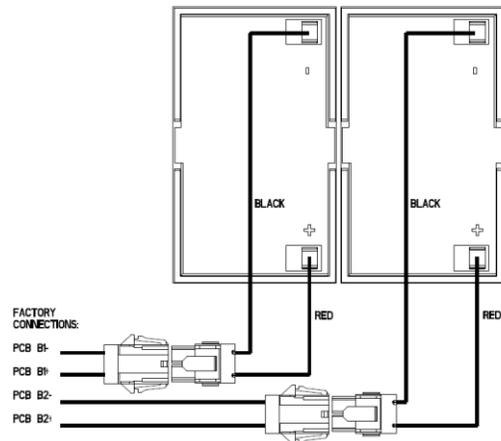
12V 200W



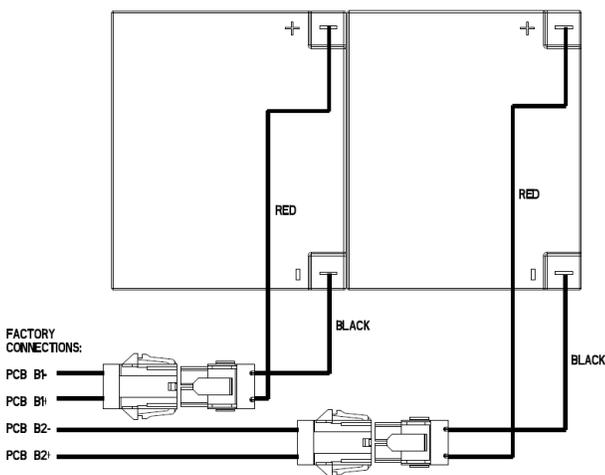
24V 300W



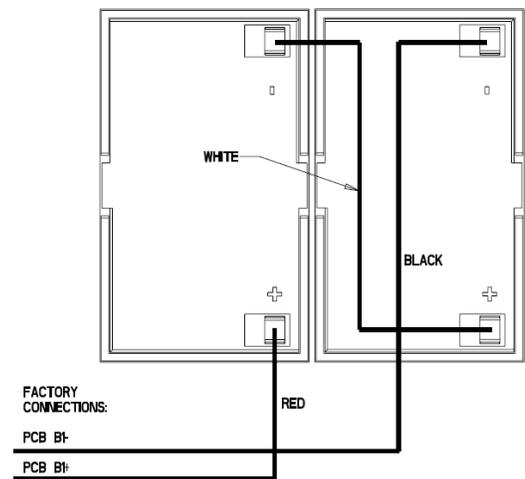
12V 250W



12V 450W



12V 300W



24V 450W



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