IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions

should always be followed including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

- 1. Do not use outdoors.
- 2. Do not let power supply cords touch hot surfaces.
- 3. Do not mount near gas or electric heaters.
- 4. Use caution when servicing batteries.
- 5. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- 6. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- 7. Do not use this equipment for other than intended use.
- 8. Servicing of this equipment should be performed by qualified service personnel.

SAVE THESE **INSTRUCTIONS**

INSTALLATION INSTRUCTIONS

This unit is designed for surface mounting on wall or ceiling. Mount unit high enough to maximize lighted area under anticipated condition of use. It may be semi-recessed with option kit #F-SRM.

Do not mount unit where it will be exposed to direct sunlight, radiators, or other heat sources. Prolonged exposure to temperatures exceeding 95°F may reduce battery life and void warranty.

Provide each unit with a single unswitched supply from a 120 or 277VAC branch circuit used for normal lighting in the area to be protected. The wiring should be a permanent installation using metal enclosed wire

The unit housing will accept $3^{1}/_{2}$ or 4" octagon outlet boxes direct.

PREPARATION FOR MOUNTING

If unit is shipped with lens and reflector mounted, remove lens by sliding the tip of a screwdriver into the slot where the words "Pry out" appear, then pry out the lens. Take out the reflector by removing the two screws in Fig. 1 (No. 6)

Note: When replacing reflector, position it so that there are equal spacings around the lamp socket and the reflector to the housing before tightening screws (F1g.1, No. 6). To replace lens, simply bow in center and slide lens in where housing is marked "Slip In". Smooth surface to face inside of unit.

SURFACE MOUNTING (Fig. 1)

Make up AC power Input connections with standard wire nuts. For 120VAC operation, connect to black and white input leads. For 277VAC operation, connect to red and white input leads. NOTE: Insulate the unused lead with tape.

If unit is equipped with output leads for remote unit, make output connections using appropriate size wire (See Voltage Drop Table). Fasten housing to octagon box with screws and washers (FIg.1, items 3 & 4). Start unit (see Placing The Unit In Service).

SEMI-RECESSED MOUNTING KIT #F-SRM (Fig.3)

Cut an $8^{3}/_{2}$ square opening in ceiling or wall. If mounting ears are to be used, knock out keyed slots on side of back box. If suspended ceiling mounted, use suspension bars as shown in (Fig.3). In order to insert the unit housing into the back box, it will be necessary to snap off the eight housing gussets with a pair of pliers.

See "Preparation for Mounting". Make up AC power input connections with standard wire nuts. For 120VAC operation, connect black and white input leads. For 277VAC operation, connect red and white input leads. NOTE: Insulate the unused lead with tape.

SURFACE MOUNT CEILING/WALL



If unit is equipped with output leads for remote units, make up output connections using appropriate size wire (See Voltage Drop Table). Fasten housing to back box with 8-32 machine screws and washers (Fig. 1, items 3 & 4).

Start unit (see Placing The Unit In Service).

- 1. 3¹/₂" or 4" octagon box (supplied by others)
- 2. Metal back box
- 3. Suspension bars (supplied by others)
- 4. Mounting ears
- 5. #8 self-threading screw 1/," long

PLACING THE UNIT IN SERVICE

Connect battery leads red(+) and yellow(-). See Fig. 2. Replace reflector and lens. Energize AC power. Red status lamp

should light brightly.

Allow unit to charge for 16 hours, then test unit. See Test Cycling. CAUTION: Damage to the battery may possibly occur if the battery is left connected for a prolonged period of time without AC





Fig. 3

3 4 5 2 1 SEMI-RECESSED CEILING MOUNTED GUSSET (SNAP OFF WITH PLIERS) 0 0

Voltage Drop Tables

maximum voltage drop 5%

	wire					wa	tts				
6 volts	size	13	18	25	28	36	44	50	56	70	100
wiring distance in feet	#12	42	30	22	19	15	12	11	9	8	6
	#10	65	47	34	30	23	20	17	15	12	9
	#8	103	75	54	48	37	30	27	24	19	14
	#6	165	120	83	78	60	50	43	39	31	22

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0603224 Rev A 8/08



Power Battery





Commercial Series

Emergency Lighting Equipment

INSTALLATION • OPERATION • SERVICE

SPECIFICATIONS

AC supply voltage:	120/277VAC ± 10%.
Power consumption:	15 watts.
Battery type:	Sealed maintenance-free battery
Operating temperature range:	68°F-86°F
Discharge duty cycle:	$1^{1} l_{2}$ hours of light to $87^{1} l_{2}^{\prime} \%$ battery voltage.
Charger type:	Solid state-full-wave silicon diode recti- fication, silicon controlled rectifier output control. Zener diode voltage regulation.
Transfer means:	Transfer circuit in unit energizes lamps on loss of AC and disconnects lamp when normal power is restored. The circuit disconnects lamps when the bat- tery voltage drops to 70-80% of nominal during prolonged power failure to protect a battery from deep discharge or sulfa- tion.
Status indication:	Pilot light shows AC is available and reflects charge rate: bright high-charge indication fades to dim glow when bat- tery is fully charged and floating
Test means:	Pushbutton switch simulates AC failure to test transfer function, battery and lamp readiness and charger response to battery discharge.
Lighting:	High light output miniature lamp.

Unit is shipped with battery leads disconnected



Hubbell Lighting, Inc.

SYMPTOM	POSSIBLE CAUSE	PROCEDURE
Unit blows AC supply fuse/breaker.	Unit connected to 277VAC circuit, but 120VAC input lead used.	Check AC input connections. If wrong, correct connections and try unit again, but electronic module will also probably have to be replaced.
	Short in unit wiring or electronic module.	Check wiring. If wiring OK but disconnecting black or red lead from transformer clears short, replace electronic module.
No pilot light indication when AC on. Emergency lamps may be on.	Unit connected to 120VAC circuit, but 277VAC input lead chosen.	Check AC input connections and correct if wrong.
No red pilot light indication when AC on.	Unit connected to 277VAC circuit, but 120VAC input lead used.	Check AC input connections. If wrong, correct connections and try unit again, but electronic module will also probably have to be replaced.
	Defective electronic module.	Replace module.
Pressing test switch does not light emergency lamp(s).	If red lamp was bright before test switch pressed, battery voltage may be below cutoff threshold .	Allow battery to charge until red light dims, and then repeat test. Battery lead may be disconnected.
	If red lamp was dim before switch pressed and does not light emergency lamps when pressed, lamp(s) defective.	If all battery and lamp circuits check OK, replace electronic module.
	Defective electronic module.	
Prior lamp indications OK, but units fails to give full 11/2 hours of emergency lighting.	Battery partially sulfated.	Perform conditioning cycle(s) per instructions under Routine Care until short apparent recharge time symptom of sulfation no longer occurs.
	Battery defective.	Conditioning charges do not increase battery capacity, replace battery.
Full apparent recharge occurs too quickly within 1_2 hour after discharge to low voltage cutoff, but unit won't perform 11_2 hour test as above.	Same as causes of preceding symptom.	Same procedures for causes of preceding symptom.

CHART SHOOTING Щ TROUBL

TEST CYCLING

Every three months, if there has been no power failure, press the unit test switch for at least 30 seconds. Before the switch is pressed, the pilot light should be glowing dimly. When the switch is pressed, the pilot light should become bright and remain bright when the switch is released (assuming that the emergency lights lit while the switch was depressed). The pilot light should fade back to its dim state within a few minutes.

CONDITIONING CYCLES

Once a year, if power failures have been infrequent or of short duration, perform a full battery conditioning cycle. De-energize the AC circuit to which the unit is connected and let the emergency light(s) operate one and one half hours. Then restore AC power. This puts the battery through a discharge/recharge cycle over its full intended range, and also provides a rigorous test of over-all unit operation. See Trouble-shooting for the significance of any abnormal indications observed during a conditioning cycle.

TAKING A UNIT OUT OF SERVICE

If a unit is to be deliberately taken out of service for an extended period, the positive battery lead must be disconnected from the charger printed circuit board and insulated so that the battery will go into storage in a fully charged condition.

If there is any chance that a unit taken out of 120VAC service may later be used on a 277 VAC circuit, the unit should be tagged as connection (120/277 VAC).

CHECKING FLOAT CHARGE VOLTAGE

First be sure that AC supply voltage is within +10% of its nominal value and that the unit has operated for 24 hours with the red light stable in its dim condition. Then, with AC still on, remove the lens and reflector and connect an accurate DC voltmeter to battery. The reading obtained should be within the specifications on front page of this manual. The reading may differ slightly if temperature is not close to 72°F .

REPLACING A BATTERY

A battery has reached the end of its useful life if it cannot light lamp(s) for full rated discharge duty cycle despite normal charger operation and capacity does not increase after repeated battery conditioning cycles.

A battery should also be replaced if it shows any sign of electrolyte leakage, indicating failure of a pressure seal. In such a case, check float charge voltage after the first 24 hours of charger operation with the new battery to be sure that high float voltage was not the cause of the original seal failure. If float voltage is found to be high, replace the charger module as well.

To replace a battery, first de-energize the AC to the unit, then remove the lens and reflector and disconnect the battery leads from charger module. Take out the battery bracket screws and remove the battery(s). Replace with new battery(s).

When connecting the battery leads, double check for correct polarity. Match the actual printed circuit board with Fig. 2 to locate proper battery terminals.

De-energize the AC input power and remove the lens and reflector. See Preparation For Mounting.

Pull red battery positive (+) lead and insulate end with tape. Take out screw holding printed circuit bracket. Cut transformer leads (white, black and red) and pull oft the remaining leads.

Replace printed circuit board. Connect transformer leads with standard wire nuts. NOTE: Match colors. Connect all remaining leads except for battery positive lead, see Fig. 2.

Refer to Placing The Unit In Service to complete the installation.

REPLACING THE CHARGER MODULE