

# INSTRUCTION AND PARTS LIST

AIRPORT BEACON

MODEL AB-1000F / AB-1000FA  
220 VAC, 50 HZ  
SCR CONTROLLED 120VAC FOR LAMP OPERATION

ALWAYS FURNISH BOTH MODEL AND SERIAL NUMBER WHEN PLACING  
PARTS ORDER

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## **PLEASE . . . READ THESE INSTRUCTIONS BEFORE INSTALLATION**

Your airport beacon is designed to give you trouble free service with a minimum of attention. However, one important fact that you must take into consideration before installation: bulbs do burn out and must be replaced. Therefore, it is important to mount the beacon in such a location that it is easily accessible for maintenance. The bulbs have a rated life of 4,000 hours. Based on average use of 10 hours per night, one might expect to replace bulbs once a year. Light output is 200,000 cp per bulb. Total wattage of unit is 2250 watts, 18.7 amps.

**UNPACKING** - Carefully inspect beacon for shipping damage. If any is noted, notify the appropriate carrier at once.

**INSTALLATION** - The beacon should be mounted in the highest possible location, keeping in mind the comment above about bulb changes and maintenance. Provide a secure, level platform; bolt beacon firmly in place, using 5/16" bolts. Make sure the beacon is perfectly level. Uneven mounting will cause the beam to be low on one side and high on the opposite side, making angle adjustment virtually impossible. There is also a possibility that improper leveling will cause excessive wear and tear on the bearings.

**WIRING** – Unit is factory set to operate at 220 volt, AC 50 HZ. The beacon can be setup for operation from 208-240VAC. Operating the beacon on a voltage higher than its factory setting will result in shortened lamp life. (Contact factory for procedure.) Connect power supply and ground wire through watertight connection and attach to terminal block. Unit must be grounded to terminal provided. If optional Arctic Kit (Model AB-1000FA) is installed, a separate 220v line must be connected to the two remaining terminals. This provides power for heater during period beacon is not operating. Time clock or photoelectric cell in combination with a sufficiently sized definite purpose contactor (30 AMP recommended) may be used to control operating time of beacon. Be sure to fuse line between power source (220 volt, AC, 50 Hertz) and beacon. **(Do not use slow blow fuse on solid state power supply)**

**MAINTENANCE** - (TURN OFF POWER SUPPLY BEFORE OPENING ENCLOSURE).

Only routine maintenance is required. Check brushes semiannually, replace, if brush length is less than 3/8", clean brush and slip ring assembly with a small brush applicator or no deposit contact cleaner. Check all hardware for tightness.

**CHANGING BULBS** - (TURN OFF POWER SUPPLY). Loosen bolt at 9 o'clock position on lamp housing w/ 1/2" socket or wrench. Swing front of head aside, unplug lamp from socket and replace with new lamp. Socket retaining clip must be in a vertical position. Beam spread is 15° x 32°, so lamp must be installed with terminals in vertical position. Proper seating of gasket is important as lamp must be protected from moisture.

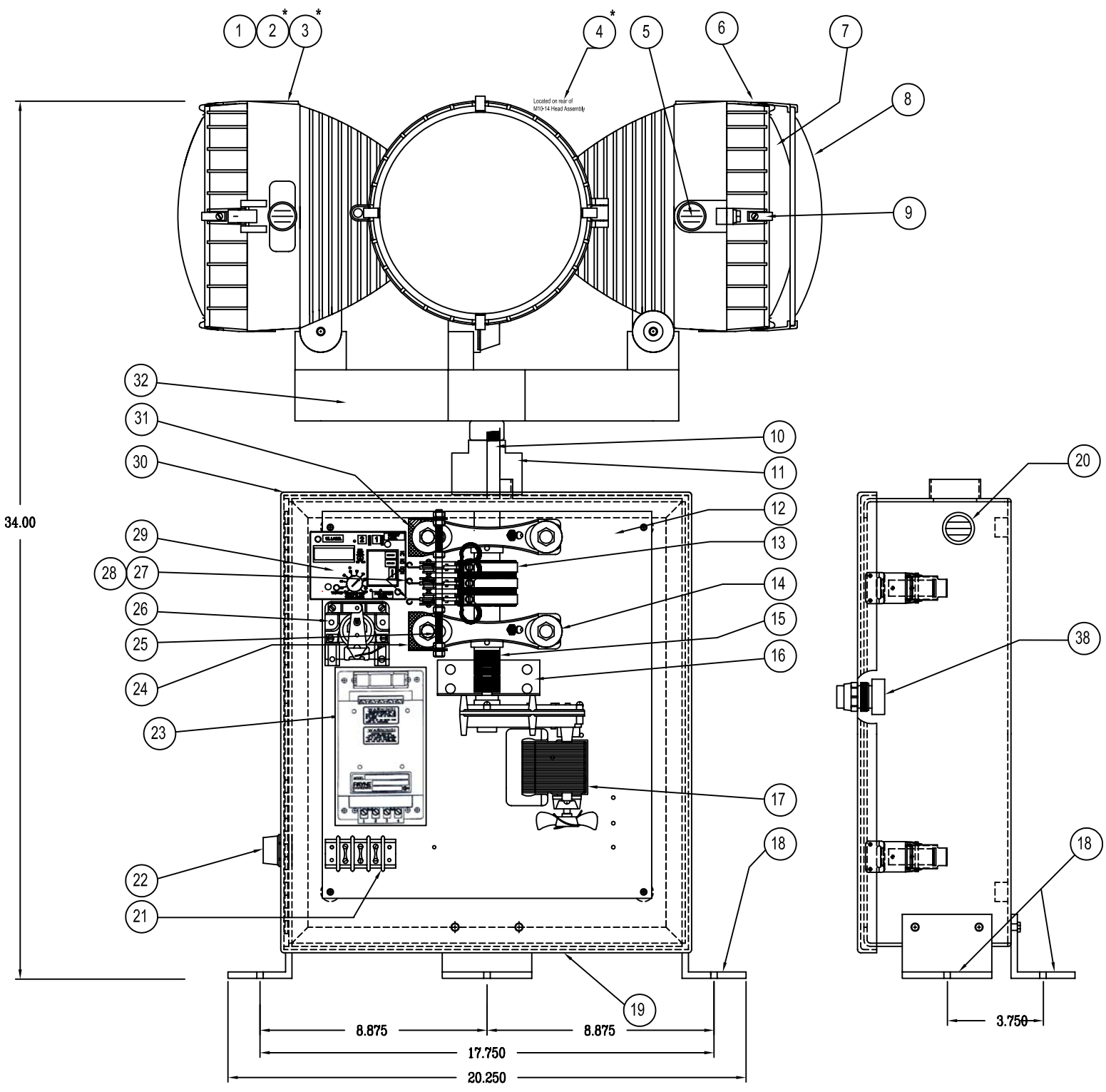
**ADJUSTING CHANGE OVER TRIP POINT** – The trip point may vary based on the actual input voltage supplied. If the unit is not changing from primary to secondary upon lamp failure, adjust trip point on M250-16E accordingly.

**OPERATION OF ARCTIC KIT** - With a constant source of power, control thermostat will start 100 WATT heater when temperature in unit reaches a low of approximately 32° F. Heater will operate until temperature reaches approximately 45° F. The overheat thermostat will shut heater off if the temperature reaches 160° F., and must be manually reset by pushing the red button. It is possible for the overheat thermostat to trip during extremely hot weather conditions. Check the reset button before operating in cold weather conditions.

**MAJOR REPAIRS** - Items such as motor, brushes, thermostats and heater can be replaced with unit in place. Beacon is designed so other major components can be removed as a unit and taken to a more convenient working area. (1) TURN OFF ALL POWER AT SOURCE.

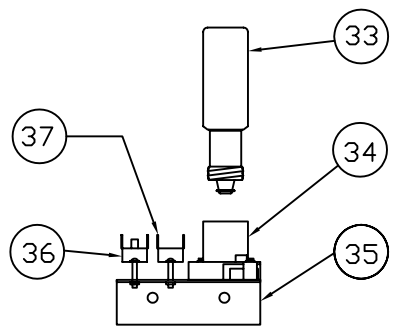
2) Disconnect power cables at terminal block inside housing. (3) Remove screws in lamp housing lid. (4) Disconnect wires coming through top of drive shaft. (5) Loosen the two set screws on roundel (M10-16F) and remove both set screws. (6) Unscrew beacon head and lay aside (turn counter clockwise). (7) Loosen set screws securing rain guard (M20-8). (8) Remove rain guard. (9) Remove four screws holding back panel (M240-8A). (10) Entire rotating assembly can now be removed.

**TO REINSTALL** - (1) Insert shaft through hole in top of housing and secure mounting plate loosely in place with four screws. (2) Center the shaft and tighten four back panel screws. (3) Install rain guard on shaft and hand tighten set screws. Place a small amount of duct seal or silicone compound around shaft at top of rain guard. (4) Screw roundel (M10-16F) assembly on shaft until tight. (5) Tighten set screws. (6) Slide rain guard up until it makes contact with the bottom of lamp bar assembly. Tighten set screws securely. Bottom of rain guard should not touch top of beacon enclosure (M10-13). Ideal distance is 3/8". (7) Connect shaft wires to socket wires in order they were removed. (8) Replace cover plate. (9) Connect power supply to terminal block.



# ARCTIC KIT

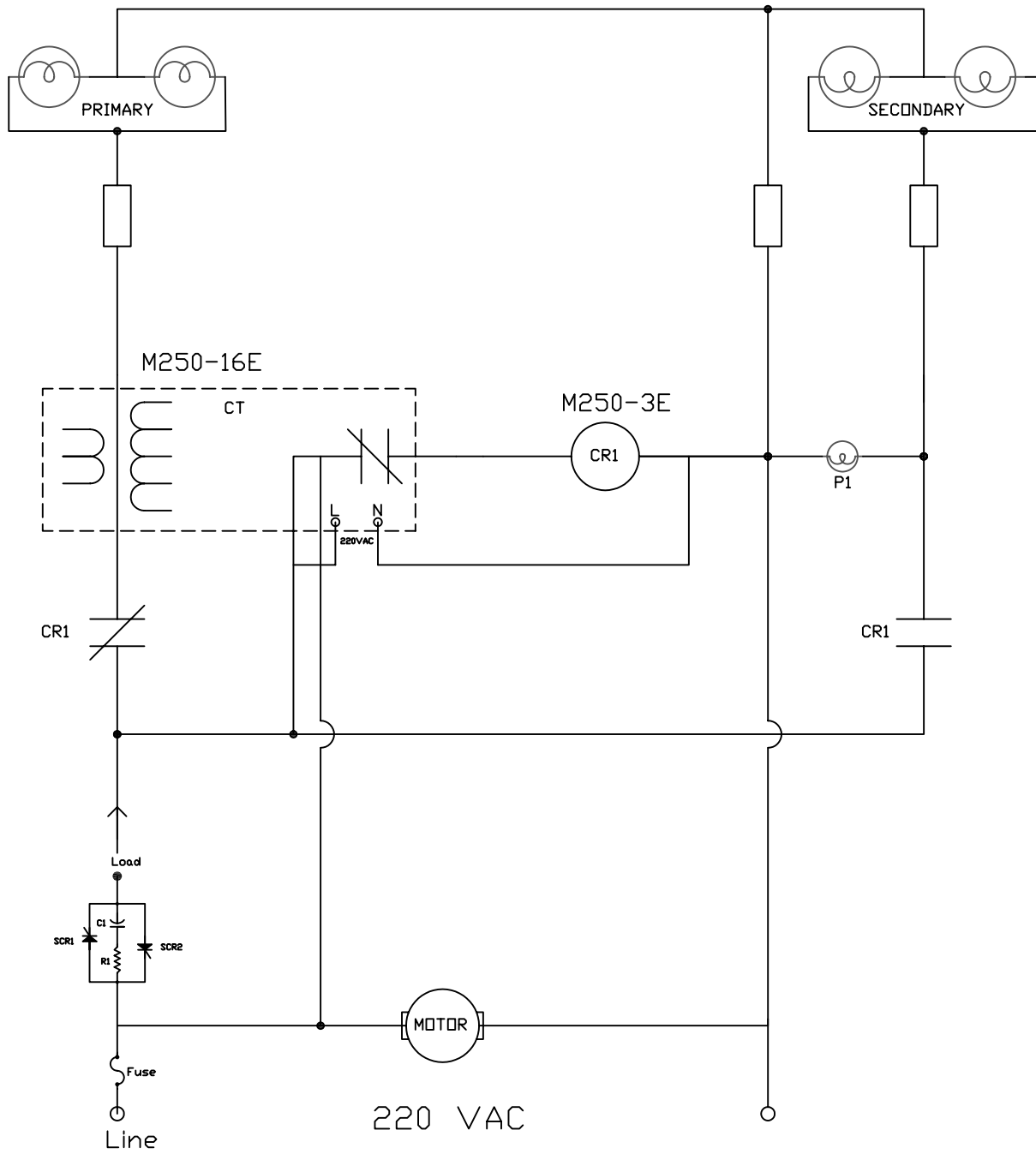
(OPTIONAL)



REF. NO.	PART NO.	DESCRIPTION	TOT. REQ.	DWG. OR REMARKS
1	M10-14	LAMP HOUSING (HEAD)	4	PAR 64 (2 NOT SHOWN)
2	M70-7B	LAMP SOCKET	4	*
3	M60-20	1000W LAMP	4	120VAC PAR 64 *
4	M460-2	1" VENT	12	
5	M460-3	1" TAB VENT	4	
6	M420-1	LENS STAND-OFF	8	Stands M50-29 off
7	M50-28	CLEAR LENS	4	PAR 64 (2 NOT SHOWN)
8	M50-29	GREEN LENS	2	PAR 64 (1 NOT SHOWN)
9	M405-2	LENS RETAINER	32	
10	M320-3	LAMP MTG. SHAFT	1	
11	M20-8	RAIN GUARD	1	
12	M240-8A	SHAFT & MOTOR PANEL	1	
13	M315-3	SLIP RING ASSEMBLY	1	THREE RING
14	M330-2	PILLOW BLOCK BEARING	2	
15	M370-1	FLEXIBLE COUPLING	1	THREE PARTS
16	M335-5	MOTOR MTG. FLANGE	1	
17	M260-8E	GEARMOTOR, 220VAC 50HZ	1	12 RPM
18	M335-2	HOUSING MTG. FLANGE	3	
19	M460-4	3" TAB VENT	1	*
20	M460-3	1" TAB VENT	2	
21	M395-2	5 POS. TERMINAL BLOCK	2	
22	M140-2	CONDUIT HUB	1	
23	M250-14A	VARIABLE LAMP CONTROL	1	
24	M335-3	STUD MTG. FLANGE	1	BOTTOM
25	M320-5	INSULATED STUD	1	Replaced M320-4 10-15-07
26	M250-3E	CONTROL RELAY	1	30 AMP (CR1)
27	M55-2	BRUSH HOLDER	3	
28	M325-2	BRUSH	3	
29	M250-16E	CURRENT SENSING RELAY	1	WITH TIMER
30	M10-13	BEACON HOUSING	1	
31	M335-4	STUD MTG. FLANGE	1	TOP
32	M10-16F	LAMP MTG. HOUSING	1	
33	M380-2E	100 W HEATER	1	
34	M70-6	HEATER SOCKET	1	
35	M335-8	AK-100 MTG. FLANGE	1	
36	M390-2	OVERHEAT THERMOSTAT	1	
37	M390-1	CONTROL THERMOSTAT	1	
38	M65-6	INDICATOR LIGHT	1	

\* Denotes items not shown

AB-1000F 220V 50HZ  
SCHEMATIC DIAGRAM



Parts Description	
M250-3E	Change Over Relay
M250-16E	Current Sensing Relay w/5Sec. Timer NC contacts

**SETTING BEAM ANGLE** - Beacon heads can be set at any angle desired. When shipped, angle is 3° to 5° which works well in most cases. If beam is too low or too high, adjust heads one notch at a time. Table below shows vertical height in feet of beam center line above beacon at various angles:

Feet	Miles	6° Beam	3° Beam	1 ½° Beam
10	-	1.05	.5	.13
100	-	10.5	5.2	1.3
1,000	.19	105	52	25
2,000	.38	210	104	51
4,000	.76	420	208	104
6,000	1.14	630	312	156
8,000	1.52	840	416	208
10,000	1.90	1,050	520	260
20,000	3.80	2,100	1,040	520
40,000	7.60	4,200	2,080	1,040
60,000	11.40	6,300	3,120	1,560
80,000	15.20	8,400	4,160	2,080
100,000	19.00	10,500	5,250	2,625

**EXAMPLE:** With 3° setting, center line of beam will be 3,120 feet above beacon at a distance of 11.4 miles.

SERIAL NO. \_\_\_\_\_

NOTES