IMPORTANT!!!

PLEASE TAKE THE TIME TO FILL OUT THIS FORM COMPLETELY. FILE IT IN A SAFE PLACE. IN THE EVENT YOU EXPERIENCE PROBLEMS WITH, OR HAVE QUESTIONS CONCERNING YOUR CONTROLLER, THE FOLLOWING INFORMATION IS NECESSARY TO OBTAIN PROPER SERVICE AND PARTS.

MODEL #    AA3TSS 230V 50/60Hz

SERIAL #

PURCHASE DATE

PURCHASED FROM
# TABLE OF CONTENTS

## APPENDIX

1.0 **GENERAL INFORMATION**........................................................................................................ 1

2.0 **INSTALLATION** ............................................................................................................................. 2
   2.1 MOUNTING THE CONTROL CABINET ......................................................................................... 2
   2.2 EXTERNAL PHOTCELL WIRING .................................................................................................. 3
   2.3 POWER WIRING ......................................................................................................................... 3
   2.4 RED BEACON & SIDELIGHT WIRING ....................................................................................... 3

3.0 **THEORY OF OPERATION** ........................................................................................................... 5
   3.1 POWER SUPPLY ......................................................................................................................... 5
   3.2 SIDELIGHTS .............................................................................................................................. 5
   3.3 BEACONS ................................................................................................................................. 5

4.0 **MAINTENANCE GUIDE** ............................................................................................................... 6
   4.1 RED OBSTRUCTION LIGHTING ..................................................................................................... 6
   4.2 L-864 LAMP REPLACEMENT ..................................................................................................... 6
   4.3 L-810 LAMP REPLACEMENT ..................................................................................................... 6
   4.4 L-864 CONTROLLER .................................................................................................................. 7
   4.5 PHOTOCELL ............................................................................................................................... 7

5.0 **MAJOR COMPONENTS PARTS LIST** ........................................................................................ 8

6.0 **SUGGESTED SPARE PARTS LIST** .......................................................................................... 9

# WARRANTY & RETURN POLICY

RETURN MERCHANDISE AUTHORIZATION (RMA) FORM
AA3TSS 230V 50/60Hz CONTROLLER

APPENDIX

CHASSIS COMPONENT LAYOUT ................................................................. 1241-R
SCHEMATIC LAYOUT ................................................................................. 1241-S
TROUBLESHOOTING FLOW CHART ........................................................... 1241-F
A2/3 230V TOWER LIGHTING KIT W/CONDUIT 400’ TO 700’ ....................... T1292
A2/3 230V TOWER LIGHTING KIT W/CABLE 351’ TO 500’ ............................ T1293
L-810 OL-1 SINGLE OBSTRUCTION LIGHT .............................................. FM10018
L-810 OL-1 SINGLE OBSTRUCTION LIGHT DETAIL .............................. 279-OL (REV. B)
L-810 OL-1 WIRING DETAIL ................................................................. 274-S (REV. A)
L-864 FB 300 MM BEACON ................................................................. FM10017
L-864 FB 300 MM BEACON DETAIL .................................................. 275-B (REV. D)
L-864 FB 300 MM WIRING DETAIL ....................................................... 273-B
JUNCTION AND STRAIN RELIEF BOXES ............................................. 100089 (REV. A)
1.0 GENERAL INFORMATION

The TWR Lighting, Inc. (TWR) Model AA3TSS 230V 50/60Hz Controller is for towers 700’ to 1,050’ above ground level (AGL). Beacons should be placed at top, 2/3, and 1/3 intervals with respect to overall tower height. Obstruction lights should be placed at 5/6, 1/3, and 1/6 intervals.

The flash rate of the beacons is 30 per minute. The beacons flash synchronized to one another. The sidelights burn steady.

A by-pass switch allows the controller to be turned on during daylight hours without covering the photocell. This is particularly helpful since the controller can be mounted indoors while the photocell is outdoors.

Each beacon requires two (2) 700W, 230V bulbs. TWR recommends that you use only these bulbs. Each sidelight requires one (1) 230V bulb.

The photocell is the three (3) blade, twist to lock, type.

Power supplied to the controller shall be 230V AC 50/60 Hz wire single phase.

The controller housing is rated at NEMA 4X. It is suitable for indoor or outdoor mounting.
2.0 INSTALLATION

2.1 MOUNTING THE CONTROL CABINET
(Refer to Drawing 1241-R)

The power supply control cabinet can be located at the base of the structure, or in an equipment building. Mounting footprints are shown on Drawing 1241-R. Power wiring to the control cabinet should be in accordance with local methods, and National Electrical Codes (NEC).

2.1.1 If the control cabinet is mounted inside an equipment building, the photocell should be mounted vertically on ½” conduit outside the building above the eaves facing north. Wiring from the photocell socket to the control cabinet should consist of one (1) each, red, black, and white wires. The white wire is connected to the socket terminal marked “COM,” the black wire is connected to the socket terminal marked “L,” and the red wire is connected to the socket terminal marked “LO.” The photocell should be positioned so that it does not “see” ambient light, which would prevent it from switching to the nightmode.

2.1.2 If the control cabinet is mounted outside an equipment building, the photocell should be mounted vertically on ½” conduit so the photocell is above the control cabinet. Care must be taken to assure that the photocell does not “see” any ambient light that would prevent it from switching into the nightmode. The photocell wiring is the same as in 2.1.1.

The wiring from the photocell, the service breaker, the red incandescent beacon and the sidelights should enter the control cabinet through the watertight connectors in the bottom of the cabinet. Inside the cabinet, the connections will be made on the terminal strips and breakers located at the bottom of the controller. These connections are made as follows:
2.2 EXTERNAL PHOTOCELL WIRING
(Refer to Drawing 1241-R)

2.2.1 Connect the **BLACK** wire from the photocell to terminal block TB2 marked “L.”

2.2.2 Connect the **RED** wire from the photocell to terminal block TB2 marked “SSR.”

2.2.3 Connect the **WHITE** wire from the photocell to terminal block TB2 marked “N.”

2.3 POWER WIRING
(Refer to Drawing 1241-R)

2.3.1 Power wiring to the control cabinet should be in accordance with local methods, and National Electrical Codes (NEC).

2.3.2 Circuit breaker needs to be a 2 pole common trip rated at 30 amps.

2.3.3 Connect incoming 230V AC to terminal block TB1, marked “L.”

2.3.4 Connect the neutral wire to one (1) of the terminal blocks on TB1, marked “N.”

2.3.5 Connect the AC ground to the aluminum mounting plate.

2.4 RED BEACON & SIDELIGHT WIRING
(Refer to Drawings 1241-R, T1292, and T1293)

2.4.1 Connect the **BLACK** wire from beacon #1 to circuit breaker marked “B1.”

2.4.2 Connect the first **BLUE** wire from beacon #2, to circuit breaker marked “B2.”
2.4.3 Connect the second **BLUE** wire from beacon #3, to circuit breaker marked “B3.”

2.4.4 Connect the **RED** and **YELLOW** wires from sidelight group #1, and #2, to the circuit breaker marked “S.”

2.4.5 Connect the **Neutral** wires to one of the terminal blocks (TB1), marked “N.”
3.0 THEORY OF OPERATION

3.1 Power Supply

230V AC enters the controller from the circuit breaker panel. When the 102FAA photocell is activated, line (L) energizes the coil of the PRD relay. This can also be accomplished by using the photocell by-pass switch, SW1.

3.2 Sidelights

LD2 is sent to the circuit breaker marked “S,” which will power the three (3) levels of the sidelights.

3.3 Beacons

LD1, and LD2 are sent to the flasher module M1, and the load contactor modules M2, and M3. M1 is a solid-state flasher that operates Beacon #1, and the coils of modules M2, and M3, which makes the M2, and M3 flash beacon #2, and beacon #3, synchronized with beacon #1.
4.0 MAINTENANCE GUIDE

4.1 RED OBSTRUCTION LIGHTING

The only required maintenance needed to be performed is replacement of the lamps in the L-864, and L-810 fixtures. Lamps should be replaced after being operated for not more than 75% of the rated life, or immediately upon failure, as per FAA Advisory Circular 70/7460-1K. By following these instructions, maximum safety and performance can be achieved.

TOOLS REQUIRED: NONE

4.2 L-864 LAMP REPLACEMENT

4.2.1 Loosen the one (1) wing nut on the latch pin so that it can recline.

4.2.2 Open the lens and tilt it back.

4.2.3 To remove each lamp, press down while rotating the lamp counter-clockwise 90 degrees.

4.2.4 Install the new lamps by pressing down while rotating the lamp clockwise 90 degrees.

4.2.5 Close the lens and let the latch pin drop in the recessed slot.

4.2.6 Tighten the wing nut snug, then 1/4 turn more.

4.3 L-810 LAMP REPLACEMENT

4.3.1 Unclasp the two (2) latches and let the bail recline back.

4.3.2 Lift the lens up and over the lamp, letting the lens hang from the safety cable.

4.3.3 Unscrew the lamp counter-clockwise and remove.
AA3TSS 230V 50/60Hz CONTROLLER

4.3.4 Install the new lamp by screwing the lamp clockwise.

4.3.5 Reinstall the lens; making sure it is seated properly on the base.

4.3.6 Reclasp the two (2) latches.

4.4 L-864 CONTROLLER

No scheduled maintenance is required. Perform on an as needed basis.

4.5 PHOTOCELL

The photocell is a sealed unit. No maintenance is needed or required, other than replacement as necessary.
### 5.0 MAJOR COMPONENTS PARTS LIST

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>102-FAA</td>
<td>Photocell (120V – 240V)</td>
</tr>
<tr>
<td>1</td>
<td>FS165-30T</td>
<td>Solid State Flasher 230V (M1)</td>
</tr>
<tr>
<td>1</td>
<td>B12J2K5</td>
<td>2500 OHM 12W Resistor</td>
</tr>
<tr>
<td>2</td>
<td>FA165-2</td>
<td>Solid State Load Contactor 230V (M2, and M3)</td>
</tr>
<tr>
<td>1</td>
<td>PRD7AYO-230V</td>
<td>Mechanical Load Contactor PRD (230V)</td>
</tr>
<tr>
<td>3</td>
<td>S261-D10</td>
<td>10 amp Breaker</td>
</tr>
<tr>
<td>7</td>
<td>8WA1204</td>
<td>Single Pole Terminal Block (TB1, and TB2)</td>
</tr>
<tr>
<td>1</td>
<td>S261D6</td>
<td>6 amp Breaker</td>
</tr>
</tbody>
</table>
6.0  **SUGGESTED SPARE PARTS LIST**

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>102-FAA</td>
<td>Photocell (120V – 240V)</td>
</tr>
<tr>
<td>1</td>
<td>FS165-30T</td>
<td>Solid State Flasher 230V (M1)</td>
</tr>
<tr>
<td>1</td>
<td>FA165-2</td>
<td>Solid State Load Contactor 230V (M2, and M3)</td>
</tr>
<tr>
<td>2</td>
<td>S261-D10</td>
<td>10 amp Breaker</td>
</tr>
<tr>
<td>1</td>
<td>S261D6</td>
<td>6 amp Breaker</td>
</tr>
</tbody>
</table>
Warranty & Return Policy

TWR Lighting, Inc. (“TWR”) warrants its products (other than replacement parts) against defects in design, material (excluding incandescent bulbs) and workmanship for a period ending on the earlier of two (2) years from the date of shipment or one (1) year from the date of installation.

Replacement parts are warranted for 90-days from the date of shipment.

Conditions not covered by this Warranty or which might void this Warranty are as follows:

- Improper Installation or Operation
- Misuse
- Abuse
- Unauthorized or Improper Repair or Alteration
- Accident or Negligence in Use, Storage, Transportation, or Handling
- Any Acts of God or Nature

Field Service – Repairs are warranted for 90 days from the date of service, except where TWR has made recommendations that were not adhered to that may cause premature failure on previous repairs. Labor, Travel, and Tower Climb are not covered under warranty. Customer shall be obligated to pay for all incurred charges not related to warranty. All warranty repairs are performed by trained TWR personnel, or dispatched through an extensive network of certified and insured subcontractors.

Return Policy

Return Terms – You must first contact our Product Support Administrative Assistant at (713-973-6905) to acquire a Return Goods Authorization (RGA) number in order to return the product(s). Please have the following information available when requesting an RGA number:

- The contact name and phone number of the tower owner
- The contact name and phone number of the contractor
- The site name and number
- The part number
- The serial number (if any)
- A description of the problem
- The billing information
- The Ship To address

This RGA number must be clearly visible on the outside of the box. If the RGA number is not clearly labeled on the outside of the box, your shipment will be refused. Please ensure the material you are returning is packaged carefully. The warranty is null and void if the product(s) are damaged in the return shipment.

All RGAs must be received by TWR at 4300 Windfern Rd., Suite 100, Houston TX 77041-8943, within 30 days of issuance.
Upon full compliance with the Return Terms, TWR will replace, repair and return, or credit products returned by the customer. It is TWR’s sole discretion to determine the disposition of the returned item(s).

**Replacements** – Replacement part(s) will be shipped and billed to the customer for product(s) considered as Warranty, pending return of defective product(s). When available, a certified reconditioned part is shipped as warranty replacement with a Return Goods Authorization (RGA) number attached. Upon receipt of returned product(s), inspection, testing and evaluation will be performed to determine the cause of defect. The customer is then notified of the determination of the testing.

- Product(s) that is deemed defective and/or un-repairable and covered under warranty, a credit will be issued to the customer’s account.
- Product(s) that are found to have no defect will be subject to a **$60.00 per hour testing charge (1 hour minimum), which will be invoiced to the customer.** At this time the customer may decide to have the tested part(s) returned and is responsible for the return charges.
- Product(s) under warranty, which the customer does not wish returned, the customer will be issued a credit against the replacement invoice.

**Repair & Return** – A Return Merchandise Authorization (RMA) will be issued for all part(s) returned to TWR for repair. Upon receipt of returned product(s), inspection, testing and evaluation will be performed to determine the cause of defect. The customer is then notified of the determination of the testing. If the returned part(s) is deemed un-repairable or the returned part(s) is found to have no defect, the customer will be subject to a **$60.00 per hour testing charge (1 hour minimum), which will be invoiced to the customer.** Should the returned parts be determined to be repairable, a written estimated cost of repair will be sent to the customer for their written approval prior to any work being performed. In order to have the tested part(s) repaired and/or returned, the customer must issue a purchase order and is responsible for the return shipping charges.

**Return to Stock** – Any order that is returned to TWR for part(s) ordered incorrectly by the customer or unneeded upon receipt, the customer is required to pay a **20% restocking fee.** A credit will be issued once it is determined that the Return Terms are met.

**Credits** – Credits are issued once it is determined that all of the Warranty and Return Terms are met. All credits are processed on Fridays. In the event a Friday falls on a Holiday, the credit will be issued on the following Friday.

**Freight** – All warranty replacement part(s) will be shipped via ground delivery and paid for by TWR. Delivery other than ground is the responsibility of the customer.

REMEDIES UNDER THIS WARRANTY ARE LIMITED TO PROVISIONS OF REPLACEMENT PARTS AND REPAIRS AS SPECIFICALLY PROVIDED. IN NO EVENT SHALL TWR BE LIABLE FOR ANY OTHER LOSSES, DAMAGES, COSTS OR EXPENSES INCURRED BY THE CUSTOMER, INCLUDING
BUT NOT LIMITED TO, LOSS FROM FAILURE OF THE PRODUCTS TO OPERATE FOR ANY TIME, AND ALL OTHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING ALL PERSONAL INJURY PROPERTY DAMAGE DUE TO ALLEGED NEGLIGENCE, STRICTLY LIABLE, OR ANY OTHER LEGAL THEORY WHATSOEVER. THIS WARRANTY IS MADE BY TWR EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, TWR MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS OF THE PRODUCTS FOR ANY PARTICULAR PURPOSE. TWR EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES.
RETURN MATERIAL AUTHORIZATION (RMA) FORM

RGA#: __________________________ DATE: __________________________

CUSTOMER: ______________________________________________________

____________________________________________________________________

CONTACT: ______________________ PHONE NO.: ______________________

ITEM DESCRIPTION (PART NO.): ________________________________

____________________________________________________________________

MODEL NO.: _______________ SERIAL NO.: __________________________

ORIGINAL TWR INVOICE NO.: _______ DATED: __________________

DESCRIPTION OF PROBLEM: ____________________________________

____________________________________________________________________

____________________________________________________________________

SIGNED __________________________ DATE NEEDED _____________

RETURN ADDRESS: ________________________________________________

____________________________________________________________________

RETURN PRODUCT TO: 4300 WINDFERN RD. #100 HOUSTON TX 77041-8943

M.MANUALS.2007
AA3TSS 230V 50 60 Hz
6/26/07
RETURN MATERIAL AUTHORIZATION (RMA) FORM

RGA#: ______________________ DATE: ______________________

CUSTOMER: ____________________________________________

_____________________________________________________

CONTACT: ____________________ PHONE NO.: ______________

ITEM DESCRIPTION (PART NO.): __________________________

_____________________________________________________

MODEL NO.: _____________ SERIAL NO.: ________________

ORIGINAL TWR INVOICE NO.: ______________________ DATED: __________

DESCRIPTION OF PROBLEM: _____________________________

_________________________________________________________________

_________________________________________________________________

SIGNED _____________________ DATE NEEDED ______________

RETURN ADDRESS: ________________________________________

_________________________________________________________________

RETURN PRODUCT TO: 4300 WINDFERN RD. #100 HOUSTON TX 77041-8943
NOTES:

1. WHEN REPLACING MODULES USE HEAT SINK COMPOUND BETWEEN MODULE AND ALUMINUM PLATE.
2. PLUG 102 FAA PHOTOCELL INTO 43109 TWIST LOCK RECEPTACLE AND TWIST TO LOCK.
3. WIRES ARE CONNECTED LETTER TO LETTER. (EXAMPLE) S TO S TO S.
DO LIGHTS COME ON AT DUSK? NO

IS 230VAC INPUT PRESENT? NO CHECK BREAKER AND INTERCONNECTION WIRES

CHECK/REPLACE PHOTOCELL

REPLACE PHOTOCELL

DO SIDE LIGHTS BURN? NO

CHECK/REPLACE G1 FUSE NO CHECK/REPLACE BULBS NO

DOES BEACON #1 FLASH? NO

CHECK/REPLACE B1 FUSE NO CHECK/REPLACE M1 NO

NO

CHECK/REPLACE TOWER WIRING

DOES BEACON #2 FLASH? NO

CHECK/REPLACE G2 FUSE NO CHECK/REPLACE M2 NO

NO

CHECK/REPLACE TOWER WIRING

DOES BEACON #3 FLASH? NO

CHECK/REPLACE G3 FUSE NO CHECK/REPLACE M3 NO

NO

CHECK/REPLACE TOWER WIRING

DO LIGHTS GO OUT AT DAWN? NO

REPLACE PHOTOCELL

YES

REPLACE PHOTOCELL SYSTEM OPERATIONAL
BILL OF MATERIALS

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>TWR PART NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>BEACON 300 MM BEACON RED</td>
</tr>
<tr>
<td>2</td>
<td>6700WE5230V</td>
<td>700 WATT 230 VOLT LAMP</td>
</tr>
<tr>
<td>3</td>
<td>6700</td>
<td>3/4&quot; CONSTRUCTION LIGHT</td>
</tr>
<tr>
<td>4</td>
<td>61127510230V</td>
<td>11/2 WATT 230 VOLT LAMP</td>
</tr>
<tr>
<td>5</td>
<td>3052905A</td>
<td>3/4&quot; CONDUIT CONNECTOR</td>
</tr>
<tr>
<td>6</td>
<td>305277</td>
<td>3/4&quot; JUNCTION BOX W/7 TERMINALS</td>
</tr>
<tr>
<td>7</td>
<td>305278</td>
<td>3/4&quot; JUNCTION BOX</td>
</tr>
<tr>
<td>8</td>
<td>305279</td>
<td>3/4&quot; STRAIN RELIEF BOX</td>
</tr>
<tr>
<td>9</td>
<td>305280</td>
<td>3/4&quot; UNION</td>
</tr>
<tr>
<td>10</td>
<td>305281</td>
<td>3/4&quot; CONDUIT COVER AND GASKET</td>
</tr>
<tr>
<td>11</td>
<td>305330</td>
<td>3/4&quot; BY SHORT ELBOW</td>
</tr>
<tr>
<td>12</td>
<td>305331</td>
<td>3/4&quot; 90 DEG ELBOW</td>
</tr>
<tr>
<td>13</td>
<td>3052902</td>
<td>3/4&quot; BRACER</td>
</tr>
<tr>
<td>14</td>
<td>30510172</td>
<td>3/4&quot; PIPE DIP</td>
</tr>
<tr>
<td>15</td>
<td>30510205</td>
<td>3/4&quot; PIPE DIP</td>
</tr>
<tr>
<td>16</td>
<td>3051016</td>
<td>3/4&quot; CONDUIT LOCKNUTS</td>
</tr>
<tr>
<td>17</td>
<td>3051016</td>
<td>3/4&quot; BOLT NUT</td>
</tr>
<tr>
<td>18</td>
<td>3051016</td>
<td>3/4&quot; CONDUIT LOCKNUTS</td>
</tr>
<tr>
<td>19</td>
<td>3051016</td>
<td>3/4&quot; NO THREAD CONNECTOR</td>
</tr>
<tr>
<td>20</td>
<td>3051016</td>
<td>3/4&quot; CONDUIT FOR OILS</td>
</tr>
<tr>
<td>21</td>
<td>3051016</td>
<td>3/4&quot; CONDUIT OILS PIPE</td>
</tr>
<tr>
<td>22</td>
<td>3051016</td>
<td>3/4&quot; CONDUIT OILS PIPE</td>
</tr>
</tbody>
</table>

ITEM NUMBERS 22-28 ARE NOT INCLUDED IN THE KIT BUT ARE AVAILABLE UPON REQUEST, AND REQUIRED FOR INSTALLATION.

NOTES:
1) ITEM CONDUT34 CUT TO LENGTH FOR PROPER EXTENSION OF OIL (6"-12") FROM STRUCTURE. ATTACH ITEM HC402 TO UN ThREADED CONDUIT TO COMPLETE ASSEMBLY.
2) CONDUIT SIZE BASED ON USING TYPE THHN WIRE.
3) USE RIGID GALVANIZED STEEL CONDUIT.
4) BREATHERS ALLOW FOR CIRCULATION OF AIR TO PREVENT CONDENSATION.
5) USE COUPLING THAT IS PROVIDED WITH ITEM CONDUT34 TO ATTACH ITEM EL3430 TO ITEM HC402.
For use as an obstruction light on towers, building, bridges, cooling towers.
Meets or exceeds all FAA specs as found in AC 150/5345-43 Type L-810.

Our most popular light. The side hub allows for a straight run of conduit
from the junction box for hook up.

High temperature, ultra pure
FAA approved Aviation red, blue,
yellow, or clear glass fresnel lens.

Can be used steady
burning or flashing.

Copper free aluminum casting and
all stainless steel latches and
hardware for corrosion protection.

Neoprene gasket for
weatherproofing.

Specify conduit size
3/4", 1", 1-1/4" NPT
(19.055mm), (25.407mm), (31.756mm)

Stainless steel
safety cable.

General Specifications
Height 7.5 inches (19.055 cm)
Weight 3 lbs (1360.5442g)
Power 120, 230, or 240 volts AC
Uses 116W, 120V or 240V bulbs
Bulbs sold separately

No special tools required for maintenance.
NOTE:
1. FAA APPROVED LIGHT USES THE 116A21TS LAMP. OTHER LAMPS ARE AVAILABLE TO MEET YOUR APPLICATION.

**=PART NOT SHOWN
~-=PART SOLD SEPARATELY

OL1
3/4" OL-1 SIDE HUB
ASSEMBLY DETAIL (PART #OL1)

TWR Lighting, Inc.
Enlightened Technology

DATE: LTR
REVISION
Flashing 300 mm Code Red Beacon is used to light aviation obstructions taller than 150 feet AGL. ETL approved to meet or exceed all FAA specifications as found in AC 150/5345-43 Type L-864.

Porcelain receptacles with nickel plate brass bayonet shell.

Neoprene and Teflon gaskets for superior weather seal.

High grade copper free aluminum castings and stainless steel hardware for corrosion protection.

Stainless steel wingnut means no special tools required to change bulbs.

High temperature resistant wire and tie wraps.

Silicone fused lenses eliminates gasket "dead spot" at light focus.

General Specifications
- Height 30.5 inches (77.47 cm)
- Weight 68 lbs (30.8 kg)
- Power 120 to 240, 50 or 60 cycle
- Uses two 620W or 700W, 120V or 500W, 230V bulbs
- Bulbs sold separately

5 foot, 3 or 4 conductor SO Cord pigtail
Standard 4 bolt pattern, 90 degrees, 13-1/4”
### Parts List

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>100C</td>
<td>BEACON BASE</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>101C</td>
<td>LOWER HINGE</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>102C</td>
<td>UPPER HINGE</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>103C</td>
<td>CANOPY CAP</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>104C</td>
<td>CANOPY FLANGE</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>100G</td>
<td>GASKET BEACON BASE</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>101G</td>
<td>GASKET MIDDLE BEACON</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>102G</td>
<td>GASKET TOP HINGE</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>103G</td>
<td>GASKET TEFNON, TOP</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>104G</td>
<td>WHITE TEFNON WASHER</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>AP1557</td>
<td>CAP LENS RED</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>AP1556</td>
<td>MIDDLE LENS RED</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>AP1555</td>
<td>BOTTOM LENS RED</td>
</tr>
<tr>
<td>14</td>
<td>2</td>
<td>TWR23-546</td>
<td>BEACON LAMP RECEPTACLE</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>CG692955A</td>
<td>3/4&quot; CORD CONNECTOR .62 TO .75</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>TERM6L3K3</td>
<td>TERMINAL BLOCK 3-PART</td>
</tr>
<tr>
<td>17</td>
<td>3</td>
<td>BTR6-3</td>
<td>BEACON TIE ROD STRAIGHT</td>
</tr>
<tr>
<td>18</td>
<td>3</td>
<td>BTR6-3</td>
<td>BEACON TIE ROD BENT</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>BLP</td>
<td>BEACON LATCH PIN W/ Cotter PIN</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>BLP</td>
<td>BEACON LATCH PIN</td>
</tr>
<tr>
<td>21</td>
<td>6</td>
<td>516NJ6</td>
<td>5/16-15 HEX NUT</td>
</tr>
<tr>
<td>22</td>
<td>6</td>
<td>516NJ7N</td>
<td>5/16-18 NUT W/ NYLON INSERT</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
<td>6160SNH</td>
<td>6-32 X 3/8 RH SLOTTED SCREW</td>
</tr>
<tr>
<td>24</td>
<td>1</td>
<td>6162LW</td>
<td>6-32 LOCK WASHER</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
<td>6162NJ6</td>
<td>6-32 NUT HEX</td>
</tr>
<tr>
<td>26</td>
<td>1</td>
<td>1032x38BHP</td>
<td>10-32 X 3/8 PHS PAN HEAD</td>
</tr>
<tr>
<td>27</td>
<td>1</td>
<td>1032x58HP</td>
<td>10-32 X 5/8 PH SLOTTED SCREW</td>
</tr>
<tr>
<td>28</td>
<td>4</td>
<td>1032x38RH</td>
<td>10-32 X 3/8 SS PH SLOTTED SCREW</td>
</tr>
<tr>
<td>29</td>
<td>3</td>
<td>1420x58BH</td>
<td>14-20 X 5/8 RH SLOTTED SCREW</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td>100328</td>
<td>BEACON SERIAL NUMBER LABEL</td>
</tr>
<tr>
<td>31</td>
<td>2</td>
<td></td>
<td>BEACON LAMP</td>
</tr>
<tr>
<td>*</td>
<td>32</td>
<td>TY223M</td>
<td>HI TEMP TY WRAPS T&amp;S TEFZEL</td>
</tr>
<tr>
<td>33</td>
<td>4</td>
<td>1617WH</td>
<td>#16 HI TEMP WIRE WHITE</td>
</tr>
<tr>
<td>34</td>
<td>4</td>
<td>1617WBL</td>
<td>#16 HI TEMP WIRE BLACK</td>
</tr>
<tr>
<td>35</td>
<td>5</td>
<td>CSC14 3</td>
<td>50G. CORD 14AWG'S CONDUCTOR</td>
</tr>
<tr>
<td>*</td>
<td>36</td>
<td>YAV14-H34F</td>
<td>(STAKON) BURNEO DEO NEEDED HEAVY DUTY</td>
</tr>
</tbody>
</table>

* = ITEMS NOT SHOWN
~ = PART SOLD SEPARATELY

---

The use of non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could lead to the assurance of compliance with FAA requirements as published in Advisory Circular 150/5345-45. MITIGATION. The drawing and photographic images contained herein are the sole property of TWR Lighting, Inc. All information contained herein that is not generally known shall be considered confidential and may not be reproduced, copied or used as the basis for manufacture or sale or promotion or any other purpose without the expressed written permission of TWR Lighting, Inc.

---

**TWR Lighting, Inc.**

Enlightened Technology

300 MM BEACON ASSEMBLY DETAIL

---

The use of non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could lead to the assurance of compliance with FAA requirements as published in Advisory Circular 150/5345-45. MITIGATION. The drawing and photographic images contained herein are the sole property of TWR Lighting, Inc. All information contained herein that is not generally known shall be considered confidential and may not be reproduced, copied or used as the basis for manufacture or sale or promotion or any other purpose without the expressed written permission of TWR Lighting, Inc.

---

**TWR Lighting, Inc.**

Enlightened Technology

300 MM BEACON ASSEMBLY DETAIL

---

The use of non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could lead to the assurance of compliance with FAA requirements as published in Advisory Circular 150/5345-45. MITIGATION. The drawing and photographic images contained herein are the sole property of TWR Lighting, Inc. All information contained herein that is not generally known shall be considered confidential and may not be reproduced, copied or used as the basis for manufacture or sale or promotion or any other purpose without the expressed written permission of TWR Lighting, Inc.
1) WHITE WIRE IS NEUTRAL TO BOTH LAMPS.
2) BLACK WIRE IS LINE TO BOTH LAMPS.
3) GREEN WIRE IS EARTH GROUND.

300 MM BEACON WIRE
J8–5 AND J8–0
3/4” JUNCTION BOX

J8–8 AND J8–8SR
1” JUNCTION BOX

NOTES:

1) DRAWING ILLUSTRATES METHOD OF STRAIN RELIEVING WIRE. USE THIS METHOD ON ALL JUNCTION BOXES.

2) THE NATIONAL ELECTRICAL CODE–ARTICLE 300–19–83 REQUIRES CONDUCTORS IN A VERTICAL CONDUIT BE SUPPORTED TO RELIEVE STRAIN ON TERMINAL BLOCK CONNECTIONS.

3) SKETCH ILLUSTRATES METHOD OF STRAIN RELIEVING A SINGLE CONDUCTOR. SEVERAL CONDUCTORS MAY BE GROUPED TOGETHER.

4) CONDUCTORS MAY BE MIXED BUT SHOULD NOT TAKE UP MORE THAN 40% OF CONDUIT’S INSIDE AREA.

USING THIS JUNCTION BOX METHOD SPACING IS 100 FEET MAXIMUM.

<table>
<thead>
<tr>
<th>AWG WIRE SIZE</th>
<th>MAX. NUMBER WIRES IN 3/4” CONDUIT</th>
<th>MAX. NUMBER WIRES IN 1” CONDUIT</th>
<th>WIRE AREA (SQ. INCHES)</th>
<th>WEIGHT PER 100 FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 THHN</td>
<td>16</td>
<td>26</td>
<td>0.0117</td>
<td>2.50</td>
</tr>
<tr>
<td>10 THHN</td>
<td>10</td>
<td>17</td>
<td>0.0184</td>
<td>4.10</td>
</tr>
<tr>
<td>8 THHN</td>
<td>6</td>
<td>9</td>
<td>0.0373</td>
<td>6.70</td>
</tr>
<tr>
<td>6 THHN</td>
<td>4</td>
<td>7</td>
<td>0.0519</td>
<td>10.30</td>
</tr>
<tr>
<td>4 THHN</td>
<td>2</td>
<td>4</td>
<td>0.0845</td>
<td>16.20</td>
</tr>
</tbody>
</table>