

4300 WINDFERN RD #100 - HOUSTON TX 77041-8943 VOICE (713) 973-6905 - FAX (713) 973-9352 web: www.twrlighting.com

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 #	AA0MTSS24V2CIR
SERIAL#	
PURCHASE DATE	
PURCHASED FROM	



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APPENDIX

CHASSIS COMPONENT LAYOUT	1283-R
SCHEMATIC LAYOUT	1283-9
TROUBLESHOOTING FLOW CHART	1283-F
L810 LED 24VDC OBSTRUCTION LIGHTS	100895
LIGHT KIT (CABLE)	T-1525
PHOTOCELL MOUNT KIT (OPTIONAL)	100885
12 X 10 ENCLOSURE POLE MOUNTING KIT (OPTIONAL)	100888



1.0 GENERAL INFORMATION

The TWR Lighting®, Inc., Model AA0MTSS24V2CIR Controller is for the application of two (2) LED double obstruction fixtures with two (2) independent output circuits.

The obstruction lights burn steady.

A by-pass switch (SW1) 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. SW1 can be operated by turning "on" the toggle switch mounted on the panel of the controller.

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

Power supplied to the controller shall be 24V DC.

Controller functions that are monitored by remote alarms in the form of dry contact closures (Form C) are as follows:

POWER FAILURE Monitors 24V DC to the controller. Alarms in the

event of power failure, or tripped circuit breaker.

LIGHTS "ON" Gives an indication whenever the controller is

activated.

OBSTRUCTION LIGHTS Will give an alarm when one (1) of the two (2) lights

in either double obstruction fixture fails within each

circuit.



2.0 INSTALLATION

2.1 MOUNTING THE CONTROL CABINET

(Refer to Drawing 1283-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 1283-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 blue wires. The black wire is connected to the socket terminal marked "W," the red wire is connected to the socket terminal marked "R," and the blue wire is connected to the socket terminal marked "B." The photocell should be positioned so that it does not "see" ambient light, which will 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 power supply, 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 circuit breaker located at the bottom of the chassis. These connections are made as follows:



2.2 EXTERNAL PHOTOCELL WIRING

(Refer to Drawing 1283-R)

- **2.2.1** Connect the **BLACK** wire from the photocell to terminal block TB2 marked "-."
- **2.2.2** Connect the **RED** wire from the photocell to terminal block TB2 marked "SSR."
- **2.2.3** Connect the **BLUE** wire from the photocell to terminal block TB2 marked "+."

2.3 POWER WIRING

(Refer to Drawing 1283-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 Connect the positive 24V DC to terminal block TB1 marked "+."
- **2.3.3** Connect the negative wire to one (1) of the terminal blocks on TB1 marked "-."
- **2.3.4** Connect the "Earth" ground wire to the ground lug located to the left of "TB2."

2.4 OBSTRUCTION FIXTURE WIRING

(Refer to Drawings 1283-R, T1525)

- **2.4.1** Connect the <u>WHITE</u> wire from the first double obstruction light to the circuit breaker marked "S1."
- **2.4.2** Connect the **BLACK** wire from the first double obstruction light to the terminal block TB1 marked "-."
- **2.4.3** Connect the **WHITE** wire from the second double obstruction light to the circuit breaker marked "S2."
- **2.4.4** Connect the **BLACK** wire from the second double obstruction light to the terminal block TB1 marked "-."



2.4.5 Connect the **GREEN** ground wires from both double obstruction lights to the ground lug located to the left of "TB2."



2.5 OBSTRUCTION FIXTURE ALARM WIRING

(Refer to Drawings 1283-R and 1283-S)

2.5.1 Alarm relays K1, K2, Modules M1 and M2 are provided for independent contact closures for: Power Failure, Lights "ON," and Obstruction Fixture Burnout.

2.5.2 Alarm wiring: To utilize all of the obstruction fixture alarms, the customer will need four (4) pairs of wires to interface with the alarm device. One (1) wire from each of the four (4) pairs will terminate at the points marked common (C). The remaining wire from each pair will terminate as follows:

Obstruction Fixture Burnout S1: Connect to Module M1,

terminal #18, for normally open, (or) terminal #16, for normally closed

monitoring.

Obstruction Fixture Burnout S2: Connect to Module M2,

terminal #18, for normally open, (or) terminal #16, for normally closed

monitoring.

Power Failure Alarm: Connect to relay K1, terminal #3, for

normally closed, (or) terminal #4, for

normally open monitoring.

Lights "ON" Alarm: Connect to relay K2, terminal #3, for

normally closed, (or) terminal #4, for

normally open monitoring.

2.5.3 Testing: To test alarms, follow the procedures using the "ohm" meter between alarm common and alarm points.

Power Failure Open 24V DC circuit.

Lights "ON" Operate photocell by-pass switch (SW1)

or cover the photocell.

Obstruction Fixture Trip S1 and S2 circuit breakers on the

controller panel.



3.0 THEORY OF OPERATION

3.1 POWER SUPPLY

24V DC enters the controller from the power source. Line sits at the 6589C-FAA photocell waiting to be switched and also keeps the power failure relay K1 energized. When the 6589C-FAA photocell is activated, line SSR energizes K2 "Lights On" relay. This can also be accomplished by using the photocell by-pass switch (SW1).

3.2 DOUBLE OBSTRUCTION LIGHTS

SSR is being sent to Modules M1 and M2, then to the circuit breakers "S1" and "S2." Module M1 is the current sensor for the first double obstruction fixture. Module M2 is the current sensor for the second double obstruction fixture. If one (1) LED light burns out within any of the double obstruction lights, it will send a contact alarm for that particular circuit.



4.0 MAINTENANCE GUIDE

4.1 RED OBSTRUCTION FIXTURE

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

4.2 **CONTROLLER**

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

4.3 PHOTOCELL

The photocell is a sealed unit. No maintenance is needed or required other than replacement as necessary.



5.0 MAJOR COMPONENTS PARTS LIST

QUANTITY	PART NUMBER	DESCRIPTION
1	6589C-FAA	Photocell 12-48V DC
1	VJ1210HWPL2	Enclosure
2	PB27E122	Octal Sockets (K1 & K2)
6	8WA1204	Terminal Blocks (TB1 & TB2)
2	S261-D1	1 amp Circuit Breakers (S1 & S2)
2	8WA1808	End Stop
1	KRPA11DG24V	DPDT Relay (K1 & K2)
1	SSPIGTAILDC	20' Photocell Pigtail
1	STJ01002	15 amp SPDT Switch (SW1)
2	RM4JA31MW	Current Sensors (M1 & M2)



6.0 SUGGESTED SPARE PARTS LIST

QUANTITY	PART NUMBER	DESCRIPTION
1	6589C-FAA	Photocell 12-48V DC
1	KRPA11DG24VDC	24V DC DPDT Relay



Warranty & Return Policy

TWR Lighting®, Inc. (TWR®) warrants its products (other than "LED Product") 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.

TWR® warrants its "LED Product" against defects in design, material and workmanship for a period of five (5) years from the date of shipment. TWR®, at its sole option, will, itself, or through others, repair, replace or refund the purchase price paid for "LED Product" that TWR® verifies as being inoperable due to original design, material or workmanship. All warranty replacement "LED Product" is warranted only for the remainder of the original warranty of the "LED Product" replaced. Replacement "LED Product" will be equivalent in function, but not necessarily identical, to the replaced "LED Product."

TWR® warrants its "LED Product" against light degradation for a period of five (5) years from the date of installation. TWR®, at its sole option, will, itself, or through others, repair, replace or refund the purchase price paid for "LED Product" that TWR® verifies as failing to meet 70% of the minimum intensity requirements as defined in the FAA Advisory Circular 150/5345-43E dated 10/19/95. All warranty replacement "LED Product" is warranted only for the remainder of the original warranty of the "LED Product" replaced. Replacement "LED Product" will be equivalent in function, but not necessarily identical, to the replaced "LED Product."

Replacement parts (other than "LED Product") 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
- Non-OEM Parts

The use of non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could invalidate the assurance of complying with FAA requirements as published in Advisory Circular 150/5345-43.

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 Service Representatives.

Return Policy



Return Terms – You must first contact our Customer Service Department at **713-973-6905** to acquire a Return Merchandise Authorization (RMA) number in order to return the product(s). Please have the following information available when requesting an RMA 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(s)
- The serial number(s) (if any)
- A description of the problem
- The billing information
- The Ship To address

This RMA number must be clearly visible on the outside of the box. If the RMA 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 RMAs must be received by TWR LIGHTING®, INC., 4300 WINDFERN RD #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 product(s) returned by the customer. It is TWR®'s sole discretion to determine the disposition of the returned item(s).

<u>Replacements</u> – 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 Merchandise Authorization (RMA) 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 unrepairable and covered under warranty a credit will be issued to the customer's account.
- Product(s) 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 unrepairable, 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.

<u>Return to Stock</u> – 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.

<u>Credits</u> – 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.

<u>Freight</u> – 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 PRODUCT(S) TO OPERATE FOR ANY TIME, AND ALL OTHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING ALL PERSONAL INJURY OR PROPERTY DAMAGE DUE TO ALLEGED NEGLIGENCE, OR ANY OTHER LEGAL THEORY WHATSOEVER. THIS WARRANTY IS MADE BY TWR® EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED. WITHOUT LIMITING THE GENERALITY OF THE FORGOING, TWR® MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS OF THE PRODUCT(S) FOR ANY PARTICULAR PURPOSE. TWR® EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES.



RETURN MERCHANDISE AUTHORIZATION (RMA) FORM

RMA#:	DATE:
CUSTOMER:	
CONTACT:	PHONE NO.:
ITEM DESCRIPTION (PART	NO.):
MODEL NO.:	SERIAL NO.:
ORIGINAL TWR INVOICE N	O.:DATED:
DESCRIPTION OF PROBLE	M:
SIGNED:	DATE NEEDED:
RETURN ADDRESS:	



RETURN MERCHANDISE AUTHORIZATION (RMA) FORM

RMA#:	_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:	













