



4300 WINDFERN RD SUITE 100 HOUSTON TX 77041-8943
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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 # A1/4MLEDW/IND V17471

SERIAL # _____

PURCHASE DATE _____

PURCHASED FROM _____

PROJECT LG&E/KU CANE RUN 7 NGCC
TAG NO: 1SGA-CPL –1001 &
2SGA-CPL – 2001

A1/4MLEDW/IND CONTROLLER

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WARRANTY & RETURN POLICY

RETURN MERCHANDISE AUTHORIZATION (RMA) FORM

A1/4MLEDW/IND CONTROLLER

APPENDIX

CHASSIS COMPONENT LAYOUT	1287-R V17471
SCHEMATIC LAYOUT	1287-S V17471
PHOTOCELL HOUSING DETAIL.....	100239 (REV B)
TOWER LIGHTING KIT CONDUIT RUN	T1547
LED BEACON CURRENT SENSORS.....	100694 (REV G)
LED BEACON2 ASSEMBLY.....	100761 (REV A)
JUNCTION AND STRAIN RELIEF BOXES.....	100089 (REV A)

1.0 **GENERAL INFORMATION**

The TWR Lighting®, Inc. (TWR®) A1/4MLEDW/IND Controller is for A4 lighting of towers 1,050' to 1,400' AGL in accordance with the FAA Advisory Circular 70/7460-1K. The LED beacons should be placed at the top of the structure.

The flash rate of the LED beacons is 30 per minute.

A by-pass switch (SW1) allows the controller to be turned on during daylight hours without covering the photocell. Also, indicator PL1 will illuminate.

This is particularly helpful since the controller can be mounted indoors while the photocell is outdoors. SW1 can be operated by turning the toggle switch up to the "On" position.

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

Power supplied to the controller shall be 120V AC single phase.

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

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

POWER FAILURE	Monitors 120V AC to the controller. Alarms in the event of power failure or tripped circuit breaker.
LIGHTS "ON"	Gives an indication whenever the controller is activated. Also, indicator PL1 will illuminate.
LED BEACONS	Will give an alarm in the event any of the LED beacons fail, along with visual <u>red</u> indicator for that particular circuit.
FLASHER FAILURE	Will give an alarm in the event of failure of flasher.

2.0 INSTALLATION INSTRUCTIONS

2.1 MOUNTING THE CONTROL CABINET

(Refer to Drawing 1287-R V17471)

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 1287-R V17471. 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 "W," the black wire is connected to the socket terminal marked "B," and the red wire is connected to the socket terminal marked "R." Care must be taken to assure that the photocell does not "see" any ambient light that would prevent it from switching into 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. As above, the photocell should be positioned so that it does not "see" ambient light, which would prevent it from switching to the nightmode. The photocell wiring is the same as in 2.1.1.

2.1.3 The wiring from the photocell, the service breaker, and the LED beacons 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 breakers located at the bottom of the chassis. These connections are made as follows:

2.2 EXTERNAL PHOTOCELL WIRING

(Refer to Drawing 1287-R V17471)

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 1287-R V17471)

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

2.3.2 Circuit breaker needs to be rated at 10 amps.

2.3.3 Connect incoming 120V AC “Hot” to terminal block TB1 marked “L.”

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

2.3.5 Connect the AC ground to the grounding lug on the aluminum mounting plate.

2.4 LED BEACONS ALARM WIRING

(Refer to Drawings 1287-R V17471 and 1287-S V17471)

2.4.1 Alarm relays K1-K3, and alarm Modules M2 through M5, are provided for independent contact closures for: Power Failure, Lights “On,” Flasher Failure, and LED Beacons #1 - #4 Burnout.

2.4.2 Alarm Wiring: To utilize all of the red light alarms, the customer will need seven (7) pairs of wires to interface with his alarm device. One (1) wire from each of the seven (7) pairs will terminate at TB5 terminals 1-4 marked common (C). The remaining wires from each pair will terminate as follows:

Power Failure Alarm: Connect to TB5-5, for normally open, (OR) TB5-6, for normally closed monitoring.

Lights “On” Alarm: Connect to TB5-7, for normally open, (OR) TB5-8, for normally closed monitoring.

Flasher Failure: Connect to TB4-1, for normally open, (OR) TB4-2, for normally closed monitoring.

“B1” Burnout: Connect to TB4-3, for normally open, (OR) TB4-4, for normally closed monitoring.

“B2” Burnout: Connect to TB4-5, for normally open, (OR)
TB4-6, for normally closed monitoring.

“B3” Burnout: Connect to TB4-7, for normally open, (OR)
TB4-8, for normally closed monitoring.

“B4” Burnout: Connect to TB4-9, for normally open, (OR)
TB4-10, for normally closed monitoring.

2.4.3 Alarm Testing: To test alarms, follow the procedures using an “ohm” meter between alarm common and alarm points.

Power Failure: Pull circuit breaker at electrical panel.

Lights “On”: Operate photocell by-pass switch SW1 or cover the photocell.

LED Beacons: Trip breakers on the controller panel.

3.0 THEORY OF OPERATION

3.1 POWER SUPPLY

120V AC enters the controller from the circuit breaker panel. Line “L” sits at the PRD, waiting to be switched, and also keeps the power failure relay K1 energized. When the 6390-FAA photocell is activated, line “SSR” energizes the coil of the PRD and K2 “Lights On” relay. This also can be accomplished by using the photocell by-pass switch (SW1). Also, PL1 indicator will illuminate.

3.2 LED BEACONS

Line LDB is sent to Modules M1-M5. M1 is the primary flasher for all the LED beacons. LDB is also sent through the current sensing modules M2-M5, then to the circuit breaker outputs marked “B1 – B4.” If Modules M2-M5 detect a LED beacon burnout, then that module will provide a contact closure along with a visual red indication for that particular circuit.

Relay K3 is a flasher failure relay for the LED beacons. If Relay K3 detects a flasher failure, it will then provide a contact closure for the flasher circuit.

4.0 MAINTENANCE

4.1 RED OBSTRUCTION LIGHTING

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

TOOLS REQUIRED: NONE

4.2 L-864 LED BEACON REPLACEMENT

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

4.3 L-864 CONTROLLER

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

4.4 PHOTOCELL

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

5.0 MAJOR COMPONENTS PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	6390-FAA	120V – 240V Photocell
1	PF-250	120V – 240V Solid State Flasher (M1)
1	PRD7AG0	Mechanical Load Contactor (PRD)
7	PB27E122	Octal Sockets
2	KRPA5AG120V	SPDT Relay (K1 & K2)
1	STJ01002	Switch (SW1)
1	VJ1816HWPL2	Enclosure
7	8WA1204	Terminal Block (TB1 & TB2)
3	8WA1802	Rail Link
2	8WA1808	Terminal Block End Stop
4	S261D1	1 amp Circuit Breakers (B1 – B4)
1	Q8P1BXXG110E	Power ON Indicator (PL1)
4	Q8P1BXXR110E	LED Beacon Failure Indicators (PL2-PL5)
4	RM4JA31MW	LED Beacon Current Sensors (M2-M5)
1	TERMBLK141-10	Terminal Block (TB4)
2	TERMBLK141-8	Terminal Block (TB3 & TB5)
1	SPEC224	5 Second Delay Relay (K3)
4	KRPA11AG120V	DPDT Relays (K4-K7)

6.0 SUGGESTED SPARE PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	6390-FAA	120V – 240V Photocell
1	PF-250	120V – 240V Solid State Flasher (M1)
1	KRPA5AG120V	SPDT Relay (K1 & K2)
1	RM4JA31MW	LED Beacon Current Sensors (M2 – M5)
1	KRPA11AG120V	DPDT Relay (K4-K7)
1	S261D1	1 amp Circuit Breakers (B1-B4)



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 Lighting®, Inc. (“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 Lighting®, Inc. (“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 150/5345-43G dated 09/26/12. 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:

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



Warranty & Return Policy (continued)

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:

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

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 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.

- x Product(s) that is deemed defective and/or unrepairable and covered under warranty - a credit will be issued to the customer's account.
- x 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.
- x Product(s) under warranty, which the customer does not wish returned, the customer will be issued a credit against the replacement invoice.



Warranty & Return Policy (continued)

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.

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 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 NO.: _____ **DATED:** _____

DESCRIPTION OF PROBLEM: _____

SIGNED _____ **DATE NEEDED** _____

RETURN ADDRESS: _____

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

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: _____

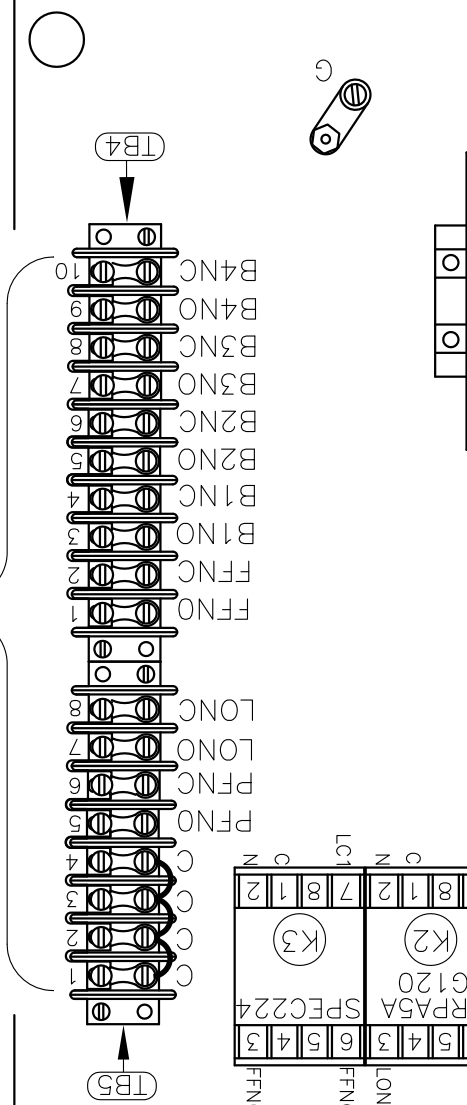
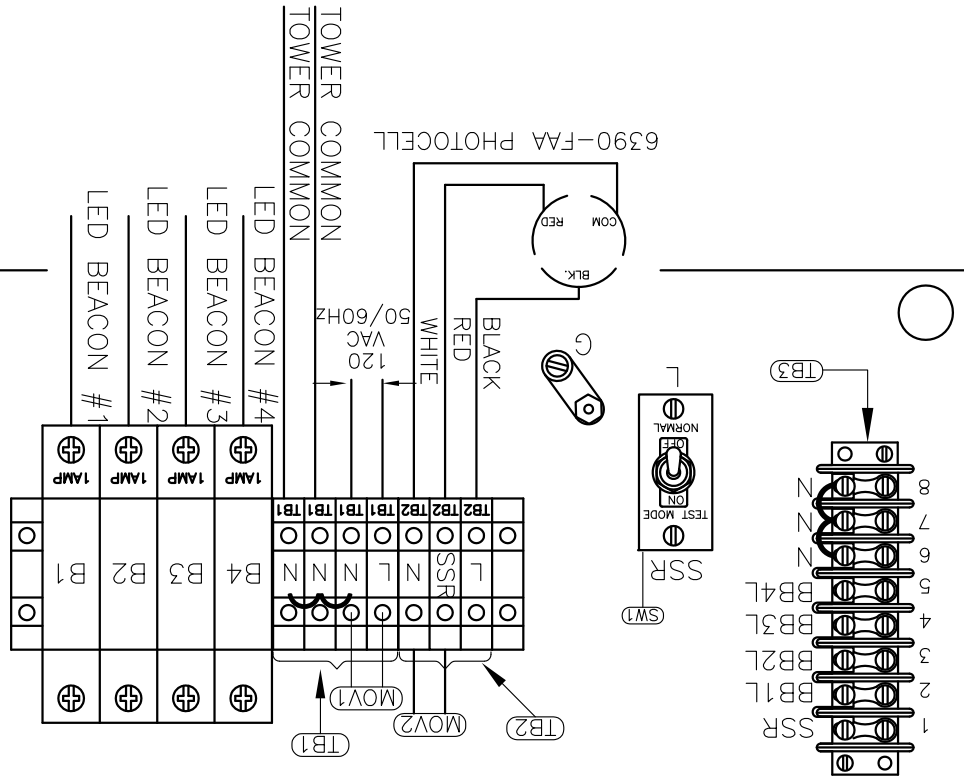
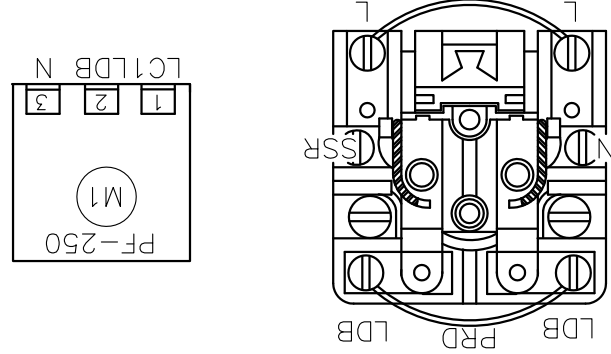
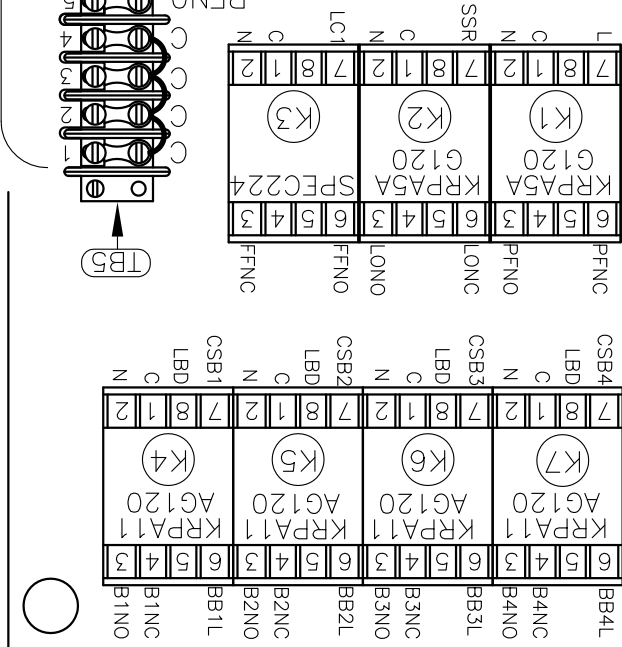
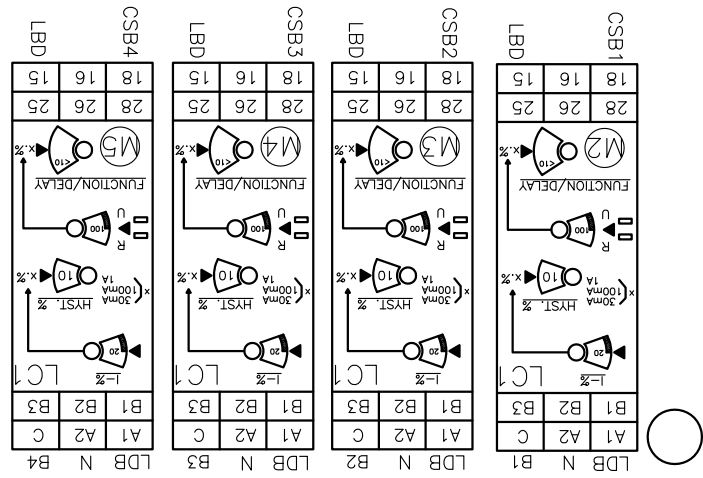
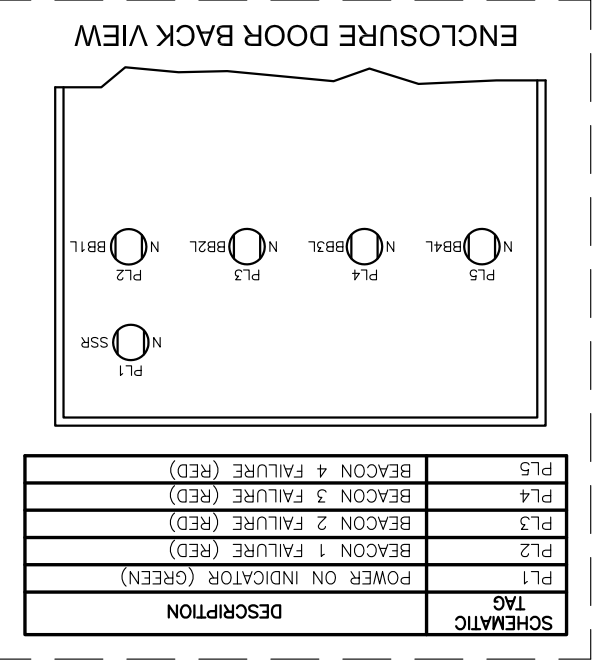
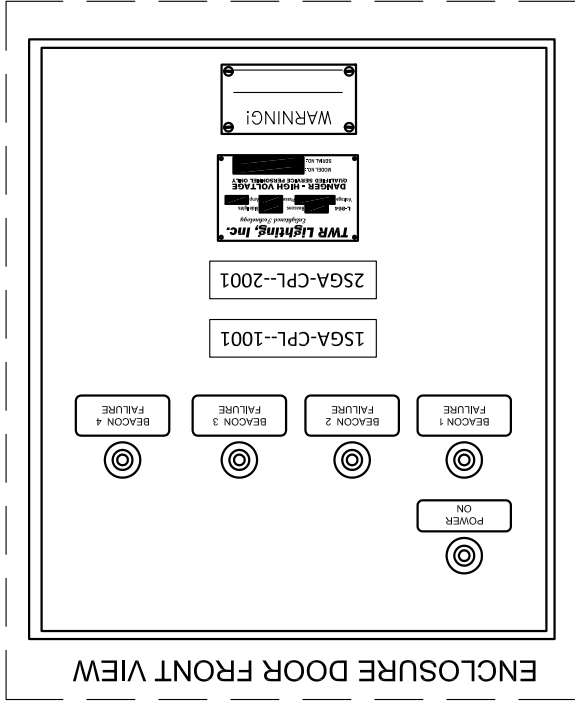
PLEASE RETURN PRODUCT TO: 4300 WINDFERN RD #100 HOUSTON TX 77041-8943

*CUSTOMER ALARM POINTS

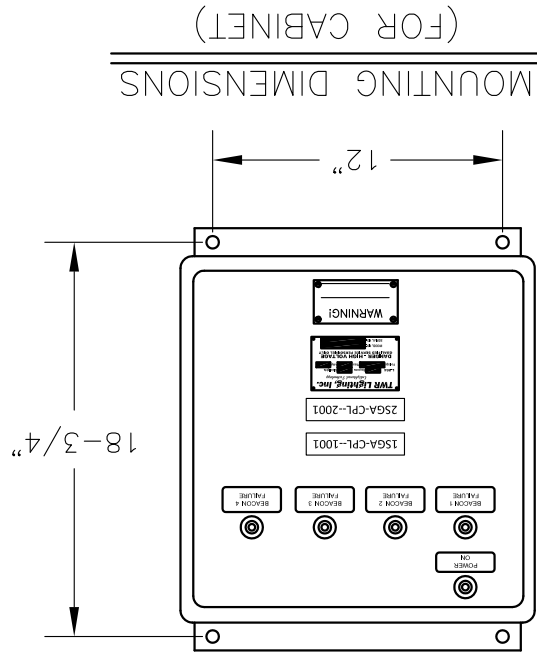
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C = ALARM
COMMON
PFNO/PFNC = POWER FAILURE
LONO/LONC = LIGHTS "ON"
FFNO/FFNC = FLASHER FAILURE
B1NO/B1NC = BEACON #1 BURNOUT
B2NO/B2NC = BEACON #2 BURNOUT
B3NO/B3NC = BEACON #3 BURNOUT
B4NO/B4NC = BEACON #4 BURNOUT
*ALARM OUTPUTS ARE FORM C.

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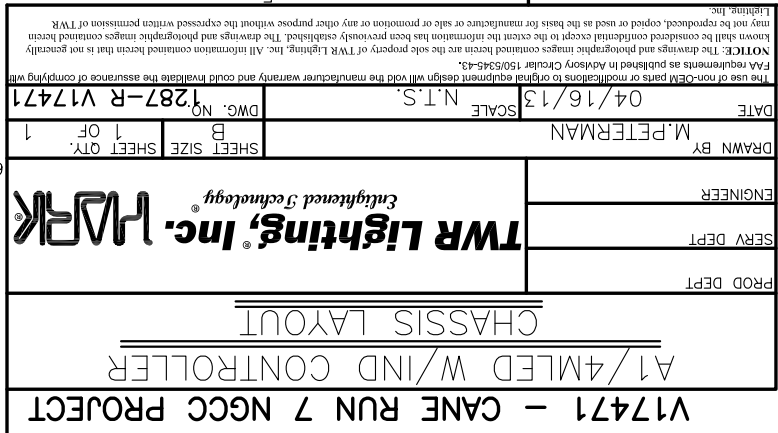


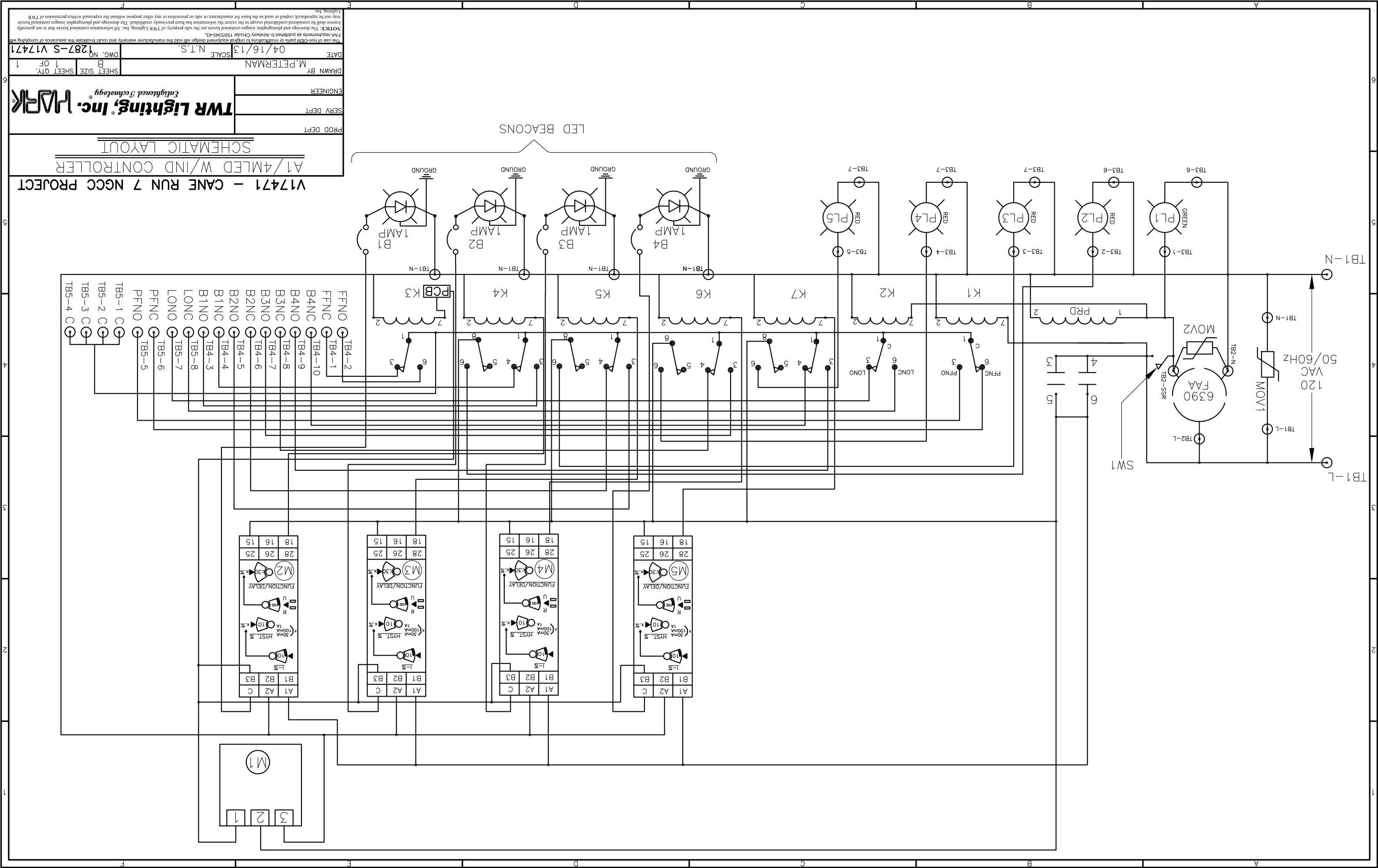
- NOTES:
1. WHEN USE H MODULE
 2. PLUG 43109 TWIST
 3. WIRES LETTER

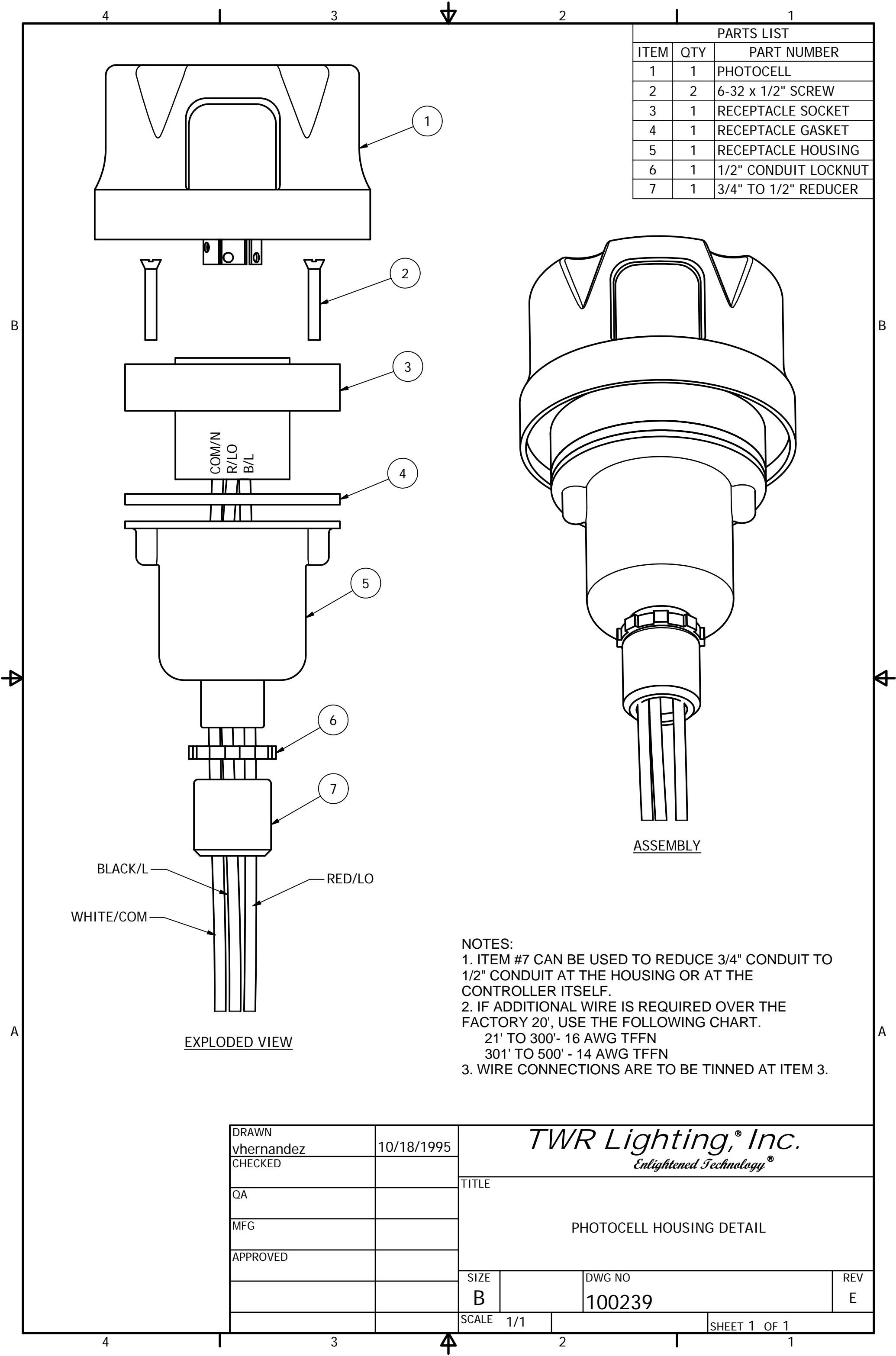


MOUNTING DIMENSIONS (FOR CABINET)

1. WHEN REPLACING METAL BASE MODULES
USE HEAT SINK COMPOUND BETWEEN
MODULE AND ALUMINUM PLATE.
2. PLUG 6390-FAA PHOTOCELL INTO
43109 TWIST LOCK RECEPTACLE AND
TWIST TO LOCK.
3. WIRES ARE CONNECTED LETTER TO
LETTER. (EXAMPLE) B1 TO B1 TO B1.







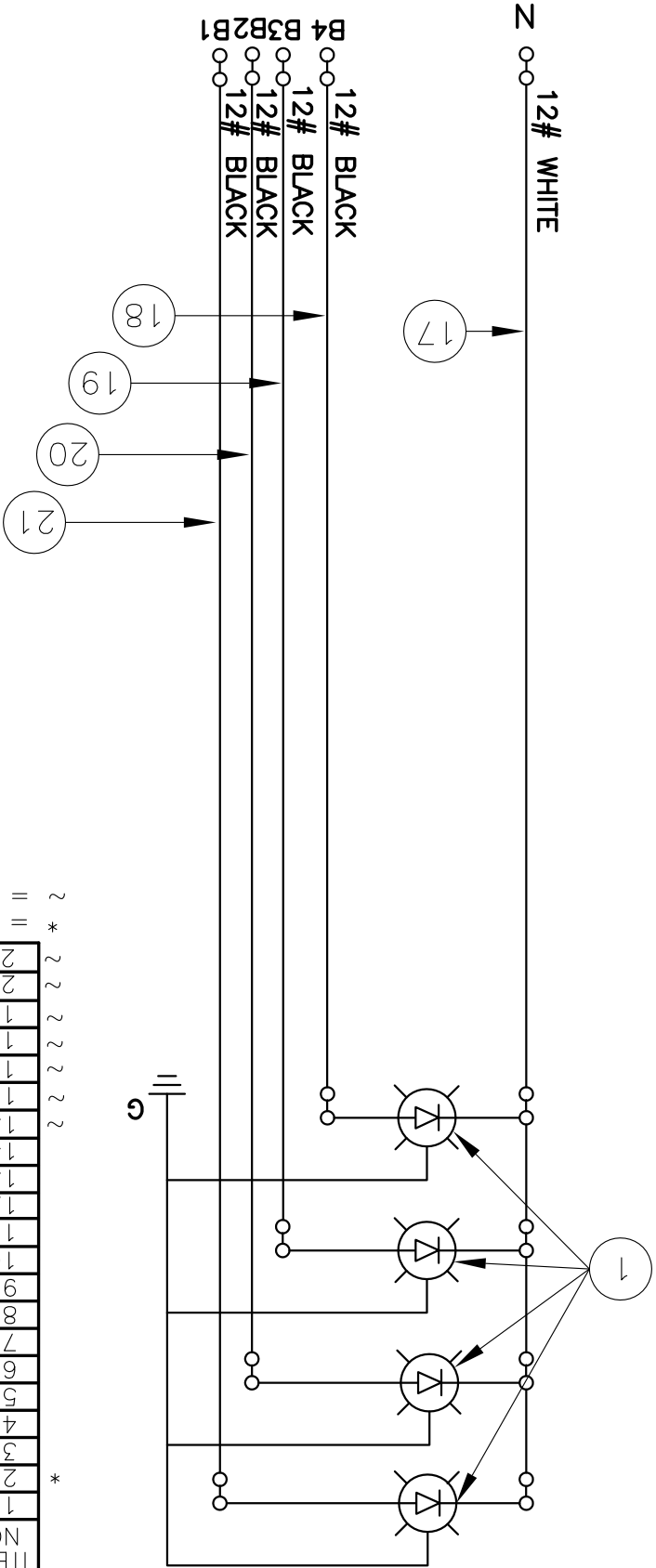
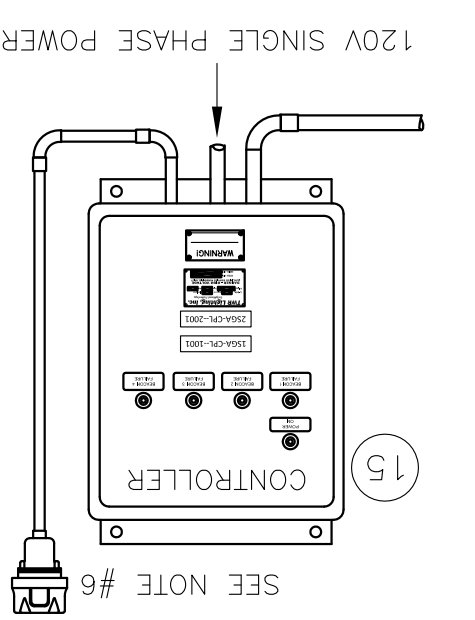
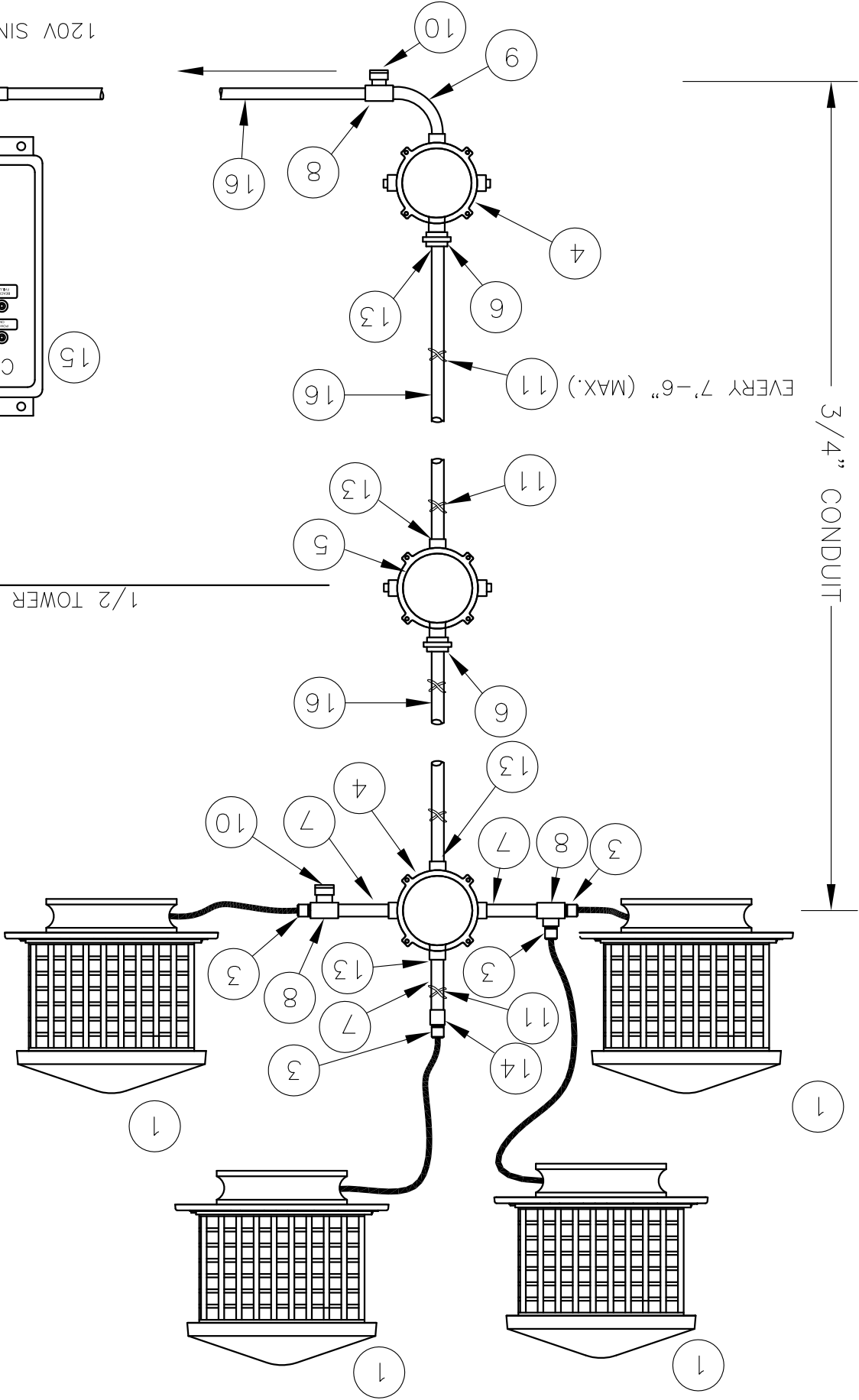
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	PHOTOCELL
2	2	6-32 x 1/2" SCREW
3	1	RECEPTACLE SOCKET
4	1	RECEPTACLE GASKET
5	1	RECEPTACLE HOUSING
6	1	1/2" CONDUIT LOCKNUT
7	1	3/4" TO 1/2" REDUCER

EXPLODED VIEW

ASSEMBLY

- NOTES:
- 1. ITEM #7 CAN BE USED TO REDUCE 3/4" CONDUIT TO 1/2" CONDUIT AT THE HOUSING OR AT THE CONTROLLER ITSELF.
 - 2. IF ADDITIONAL WIRE IS REQUIRED OVER THE FACTORY 20', USE THE FOLLOWING CHART.
21' TO 300'- 16 AWG TFFN
301' TO 500' - 14 AWG TFFN
 - 3. WIRE CONNECTIONS ARE TO BE TINNED AT ITEM 3.

DRAWN vhernandez	10/18/1995	<i>TWR Lighting,® Inc.</i> <i>Enlightened Technology®</i>			
CHECKED		TITLE PHOTOCELL HOUSING DETAIL			
QA					
MFG					
APPROVED					
		SIZE B		DWG NO 100239	REV E
		SCALE 1/1		SHEET 1 OF 1	



NOTES:

- 1) CONDUIT SIZE BASED ON USING TYPE THHN WIRE.
- 2) USE RIGID GALVANIZED STEEL CONDUIT.
- 3) BREAKTHERS ALLOW FOR CIRCULATION OF AIR TO PREVENT CONDENSATION.
- 4) EACH LEVEL OF LIGHTS SHOULD BE SPACED 90°.
- 5) BEACONS TO HAVE 50' PIGTAILS.
- 6) PHOTOCELL AND PIGTAIL PROVIDED WITH CONTROLLER. PHOTOCELL IS TO BE MOUNTED OUTDOORS TEEING OF CONDUIT RUN TO BREAKER BOX.

* = ITEMS NOT SHOWN
~ = ITEMS QUANTITY CALCULATED ACCORDING TO STRUCTURE HEIGHT.

ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	4	LEDBEACON2	LED BEACON RED
2	4	BMSIDE-1	UNIVERSAL BEACON SIDEMOUNT
3	4	CGB2955A	3/4" CORD CONNECTOR
4	2	JB5	3/4" CAST JUNCTION BOX
5	1	JB0	3/4" CAST STRAIN RELIEF JUNCTION BOX
6	2	UNY205	3/4" UNION
7	3	N34T12	3/4" X 12" CONDUIT NIPPLE
8	3	T27CG	3/4" CONDULET W/COVER AND GASKET
9	2	EL34SW90	3/4" 90° SWEEP ELBOW
10	2	5012902	3/4" BREAKTHRU
11	1	SS10012	WRAPLOCK
12	1	PIPDOP	4 oz. PIPE DOPE
13	7	A314	3/4" CONDUIT LOCKNUTS
14	1	CPLG34	3/4" CONDUIT COUPLING
15	1	AA4MLEDWIND	AA4MLEDWIND 120V CONTROLLER
16	~	CONDUIT34	3/4" CONDUIT (TOWER HT. + 30')
17	~	12THHNWHT	#12 THHN WHT. WIRE (TOWER HT.+40')
18	~	12THHNBK	#12 THHN BLK. WIRE (TOWER HT.+40')
19	~	12THHNBK	#12 THHN BLK. WIRE (TOWER HT.+40')
20	~	12THHNBK	#12 THHN BLK. WIRE (TOWER HT.+40')
21	~	12THHNBK	#12 THHN BLK. WIRE (TOWER HT.+40')

BILL OF MATERIALS

120V

V17471 - CANE RUN 7 NGCC PROJECT

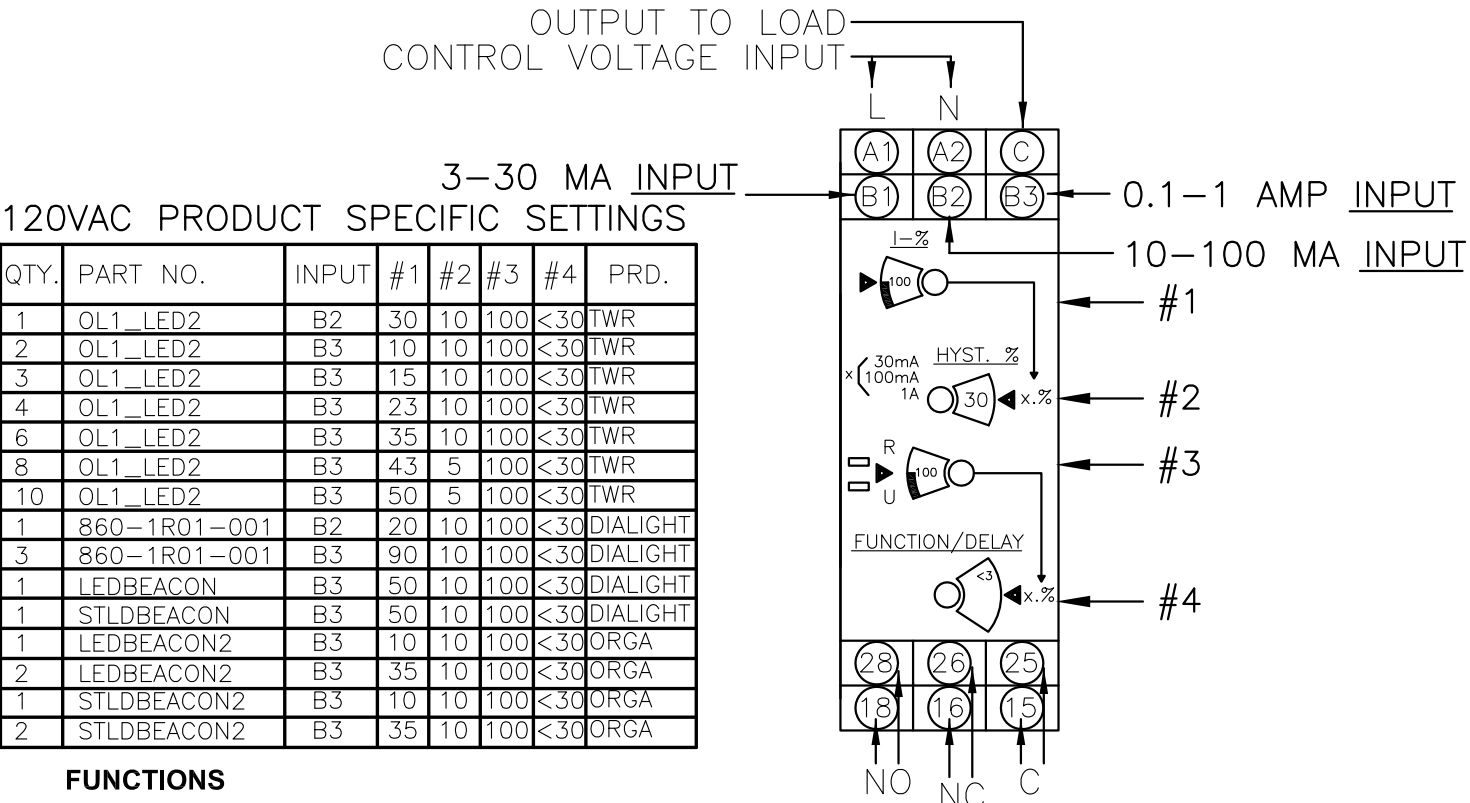
A1/4 LED TOWER LIGHTING KIT

PROD DEPT
SERV DEPT
ENGINEER
DRAWN BY M.PETERMAN
SHEET SIZE B
SHEET QTY. 1 OF 1
DWG. NO. T1547

DATE 04/11/13
SCALE N.T.S.

NOTICE: The drawings and photographs contained herein are the sole property of TWR Lighting, Inc. All information contained herein that is not generally known shall be considered confidential except to the extent the information has been previously established. The drawings and photographs contained herein 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.

AC UNITS CURRENT MEASUREMENT—RM4JA31M



QTY.	PART NO.	INPUT	#1	#2	#3	#4	PRD.
1	OL1_LED2	B2	30	10	100	<30	TWR
2	OL1_LED2	B3	10	10	100	<30	TWR
3	OL1_LED2	B3	15	10	100	<30	TWR
4	OL1_LED2	B3	23	10	100	<30	TWR
6	OL1_LED2	B3	35	10	100	<30	TWR
8	OL1_LED2	B3	43	5	100	<30	TWR
10	OL1_LED2	B3	50	5	100	<30	TWR
1	860-1R01-001	B2	20	10	100	<30	DIALIGHT
3	860-1R01-001	B3	90	10	100	<30	DIALIGHT
1	LED Beacon	B3	50	10	100	<30	DIALIGHT
1	STLDBEACON	B3	50	10	100	<30	DIALIGHT
1	LED Beacon2	B3	10	10	100	<30	ORGA
2	LED Beacon2	B3	35	10	100	<30	ORGA
1	STLDBEACON2	B3	10	10	100	<30	ORGA
2	STLDBEACON2	B3	35	10	100	<30	ORGA

FUNCTIONS

- 1 Adjustment of current threshold as % of setting range.±5%
- 2 Hysteresis adjustment from 5 to 30 % ▲.
- 3 Fine adjustment of time delay as % of setting range max. value.
- 4 10-position switch combining
 - selection of the timing range: 1 s, 3 s, 10 s, 30 s, no time delay.
 - selection of overcurrent (>) or undercurrent (<) detection. See table below.
- R Yellow LED: indicates relay state (Off for de-energized relay, On for energized).
- U Green LED: indicates that supply to the RM4 is present.

Overcurrent Control	Overcurrent or Undercurrent Control ■	Measuring Range
Yes	Yes	3 MA - 1,000 MA

Detailed Positions for Switch 4

Switch Position	Function	Time Delay (t)
< 0	Undercurrent detection	No time delay
< 1	Undercurrent detection	0.05 to 1 s
< 3	Undercurrent detection	0.15 to 3 s
< 10	Undercurrent detection	0.5 to 10 s
< 30	Undercurrent detection	1.5 to 30 s
> 0	Overcurrent detection	No time delay
> 1	Overcurrent detection	0.05 to 1 s
> 3	Overcurrent detection	0.15 to 3 s
> 10	Overcurrent detection	0.5 to 10 s
> 30	Overcurrent detection	1.5 to 30 s

■ = Selection by switch on front face
▲ = Value of current between energization and de-energization of the output relay (% of the current threshold to be measured).

*Due to current draw tolerances slight adjustments to setting #1 may be needed for proper alarming.

Sign:_____

DATE: 9/29/00

LTR. (A)

UPDATED NOTES

REVISION

Lighting, Inc.

DATE: 07/26/93

SCALE: N.T.S.

DWG. NO. 100089

DRAWN BY: G.D. SEBEK

SHEET SIZE: B

SHEET QTY: 1 OF 1

ENGINEER

SERV. DEPT.

PROD. DEPT.

TWR Lighting, Inc.

Enlightened Technology®

JUNCTION AND STRAIN RELIEF BOXES

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

2) THE NATIONAL ELECTRICAL CODE-ARTICLE 300-19-B3 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.

AWG

MAX. NUMBER

MAX. NUMBER

WIRE SIZE

WIRE IN 3/4" CONDUIT

WIRE IN 1" CONDUIT

WIRE AREA

SQ. INCHES

WIRE WEIGHT PER 100 FEET

12 THHN

10 THHN

8 THHN

6 THHN

4 THHN

2

4

7

4

26

17

9

7

4

0.0117

0.0184

0.0373

0.0519

0.0845

2.50

4.10

6.70

10.30

16.20

NOTES:

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

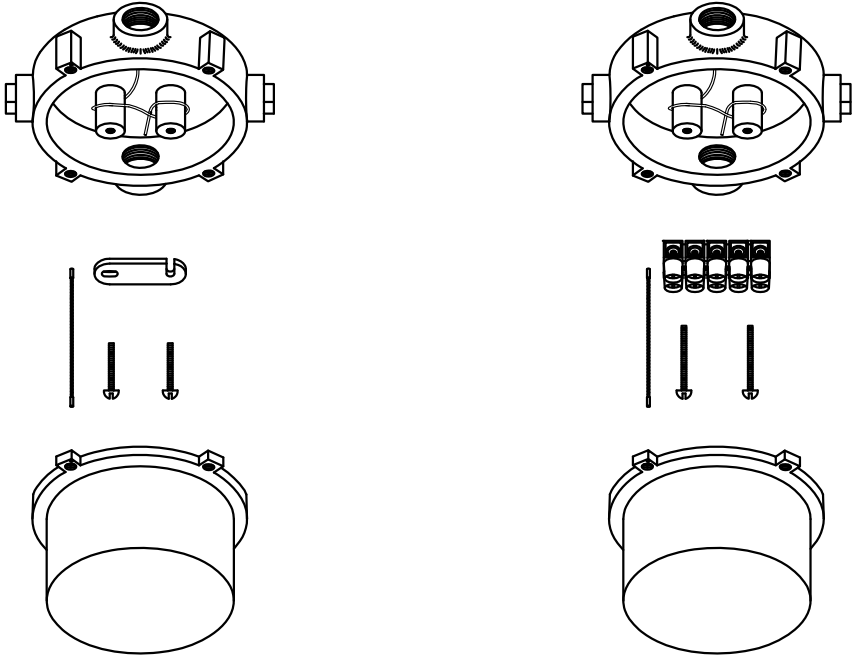
2) THE NATIONAL ELECTRICAL CODE-ARTICLE 300-19-B3 REQUIRES CONDUCTORS IN A VERTICAL CONDUIT BE SUPPORTED TO RELIEVE STRAIN ON TERMINAL BLOCK CONNECTIONS.

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.

JB-5 AND JB-0

3/4" JUNCTION BOX



JB-8 AND JB-8SR

1" JUNCTION BOX

