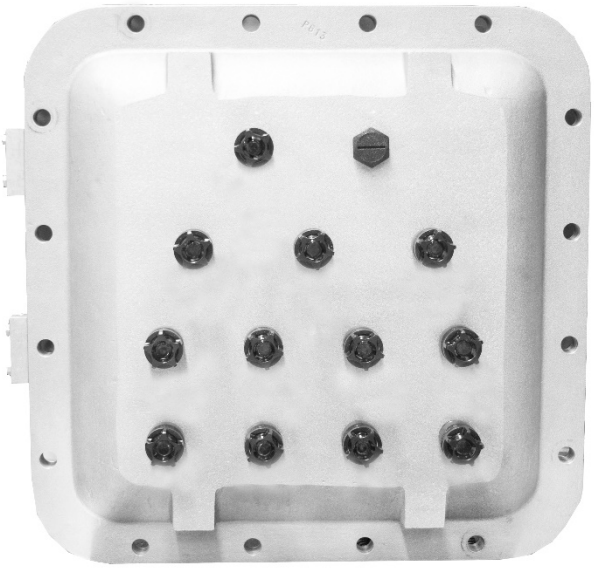
VIGILANT® SERIES
Dual Red/White (L-864/865)
White Lighting System (L-865)

DHZCCTD8C80x0 – C1D2 Controller

with
DHZBFHD4C – C1D2 Flashhead

DHZB6000PEC - Photocell



x = 3, 4, 6, or 8 – Total DHZBFHD4C Flashheads Controlled

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

- DO NOT let any supply cords touch hot surfaces higher than cord ratings.
- DO NOT mount near gas or electric heaters.
- Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommended by the manufacturer may cause unsafe conditions.
- DO NOT use this equipment for other than intended use.
- DO take pictures: Installation Photos Required for Warranty Coverage. (All electrical connections, bonding, system support and grounding)
- Refer to Quick Manual for list of required pictures and commissioning checklist.
- The cable information provided are for cable lengths less than 680 feet.
- The operation and maintenance must be conducted by authorized personnel.
- Repairs and Installation must only be conducted by a qualified electrician.

- SAVE THESE INSTRUCTIONS!!

- Only genuine Dialight replacement parts must be used when unforeseen repairs are required.
- Observe the national safety rules and regulations during installation!
- Earth Grounding is required throughout the install process. Failure to do so could void all warranties!
- No alterations should be done without agreement from Dialight Corp. Alterations other than written in this manual will void all warranties.
- The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person.
- Explosion Hazard – Do not disconnect equipment unless power has been switched off or area is known to be non-hazardous.
- Explosion Hazard - Do not remove or replace any components while circuit is live unless area is known to be free of ignitable concentrations.
- Explosion Hazard – Substitution of any components may impair suitability of Class I Division 2 Rating and void warranty.

- SAVE THESE INSTRUCTIONS!!

Table of Contents:

Introduction:

This manual is for orientation, general functionality, controller wiring and system configuration of the Controller.

Manuals are supplied for the Power Supply/Flashhead and Photocell of Dialight's SafeSite® Medium Intensity L864/L865 Dual Strobe System.

NOTE: For Power Supply and Flashhead connections and wiring refer to its manual.

Included in this manual:

- SYSTEM WARNINGS
- System Part Numbers
- System Overview
- Electrical & Environmental Specifications
- Dimensions for Mounting Controller & Photocell
- Internal Wiring connections to Controller
- Navigating the LCD Display
    - System Setup
    - User Screens
    - Event and Alarm Views and Meanings
- Internal Controller Status LED's
- System Spare Parts
- Display Events and Alarm Descriptions
- Technical Support

WARNINGS:

⚠ Warning

To avoid the risk of fire, explosion, or electric shock, this product should be installed, inspected, and maintained by a qualified electrician only, in accordance with all applicable National electrical codes.

⚠ Warning

To avoid electric shock:

- Be certain electrical power is OFF before and during installation and maintenance.
- The Controller must only be connected to Dialight Corp approved products.

⚠ Warning

To avoid explosion:

- Do not connect to equipment that the Controller is not intended for.
- Ensure the marked T Rating is less than the ignition temperature of the Hazardous Atmosphere.
- Do not operate in ambient temperatures above those indicated on the Product label.
- Do not operate if the fasteners are not properly tightened.
- Do not operate in Hazardous locations with the Enclosure cover open.
- EXPLOSION HAZARD- DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.
- DO NOT REMOVE OR REPLACE WHILE CIRCUIT IS LIVE UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITIBLE CONCENTRATIONS.
- THIS EQUIPMENT IS SUITABLE FOR USE IN HAZARDOUS OR NON-HAZARDOUS LOCATIONS ONLY. REFER TO PRODUCT FOR RATINGS.
- EXPLOSIONS HAZARD – DO NOT DISCONNECT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITABLE CONCENTRAITIONS.
- WARNING – EXPLOSION HAZARD – DO NOT REPLACE ANY COMPONENTS UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.
- WARNING – EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 1.

⚠ Warning

- DO NOT mount near gas or electric heaters.
- Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommend by the manufacture may cause an unsafe condition.
- DO NOT use this equipment for other than intended use.

⚠ Warning

The technical data indicated on the product label is to be observed.

- Changes to the design and modifications of the Controller are not permitted.
- Only genuine Dialight replacement parts are to be used when unforeseen maintenance is required. Consult factory at www.Dialight.com or authorized representative as required.

System Part Numbers:

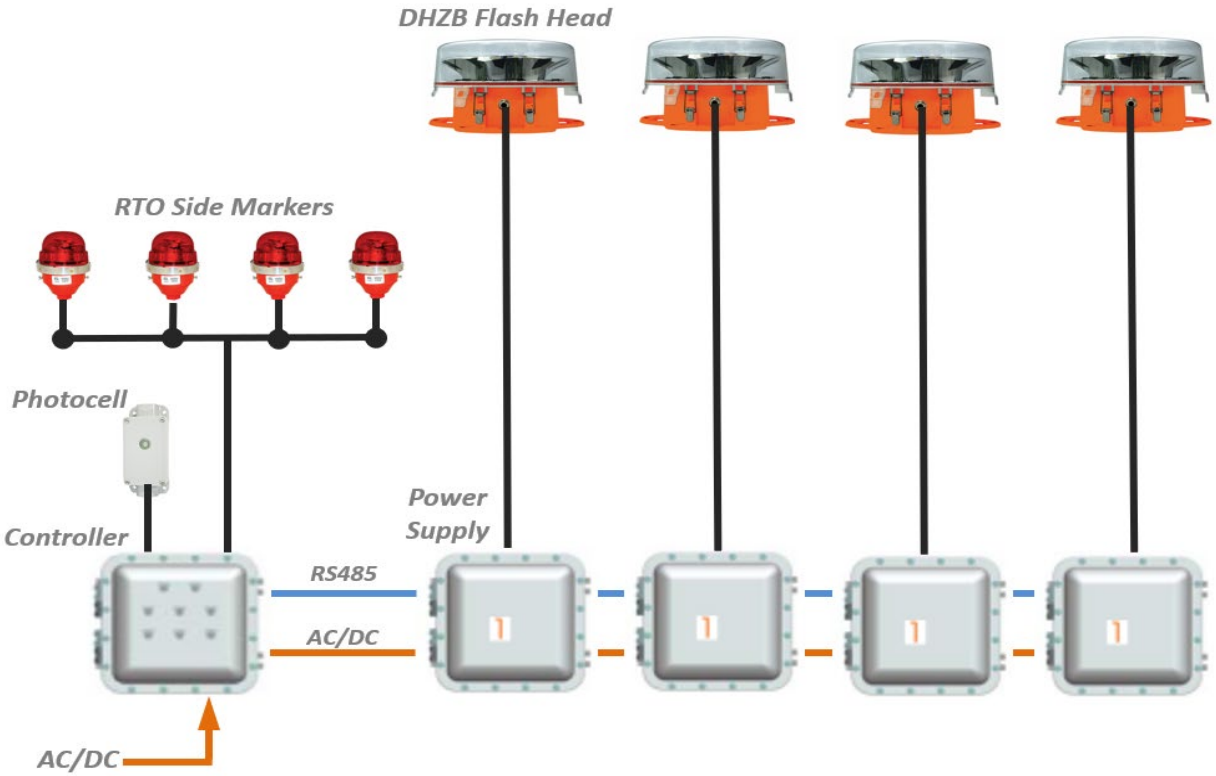
The following part numbers are available for use in Class I Division 2 hazardous locations.

DHZCCTD8C8030	C1D2 Controller, 120/277AC 50/60Hz or 125VDC Input Voltage Controls & monitors up to Four (4) RTO Sidelight Levels Controls & Monitors Up to Three (3) Power Supplies
DHZCCTD8C8040	C1D2 Controller, 120/277AC 50/60Hz or 125VDC Input Voltage Controls & monitors up to Four (4) RTO Sidelight Levels Controls & Monitors Up to Four (4) Power Supplies
DHZCCTD8C8060	C1D2 Controller, 120/277AC 50/60Hz or 125VDC Input Voltage Controls & monitors up to Four (4) RTO Sidelight Levels Controls & Monitors Up to Six (6) Power Supplies
DHZCCTD8C8080	C1D2 Controller, 120/277AC 50/60Hz or 125VDC Input Voltage Controls & monitors up to Two (4) RTO Sidelight Levels Controls & Monitors Up to Eight (8) Power Supplies
DHZCPSD4C8	Gen6 Dual Red/White C1D2 Power Supply 120/277AC 50/60Hz or 125VDC Input Voltage L-864/865 or L-865 flash head, 4 conductor cable required
DHZBFHD4C	Gen6 Dual Red/White w/4 conductor C1D2 Flash Head - Configured in controller as Dual Red/White or White Only
RTOER08001	C1D2 Low Intensity Red Obstruction Light, 24-48VDC, Single
RTOER08002	C1D2 Low Intensity Red Obstruction Light, 24-48VDC, Double
DHZB6000PEC	C1D2 Medium Intensity Photocell

System Overview:

The below diagram is a typical system layout that will utilize a central controller, four (4) RTO style L-810 side markers on one level, and four (4) DHZB style L-864/865 flashheads.

One additional tier of RTO sidelights along with up to four additional power supplies can be connected to a central controller *(total of eight)*.



Electrical Specifications:

DHZCCTD8C80x0 Controller – 15 Watts, 120-277 VAC 50/60Hz or 125VDC ±10%

- *Controller Only, No Sidelights connected*

DHZBPSD4C8 Power Supply – 85 Watts (Day), 25 Watts (Night)

- 120-277 VAC 50/60Hz or 125VDC ±10%

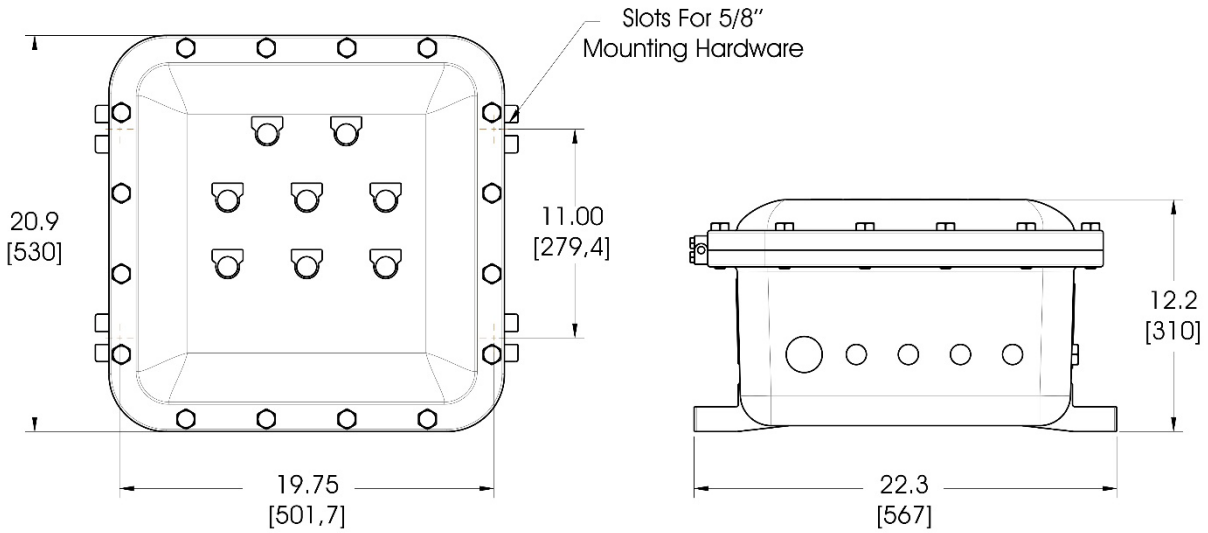
RTOER08001 Sidelight – 3.5 Watts, 24-48VDC

Environmental Specifications:

Panel Operating Temperature Range: -40°F to +130°F (-40°C to +55°C)
Humidity: 95% relative humidity
Wind: up to 150 mph (240kmph)
Protection: Class 1, Division 1 & 2, Groups B, C, D
Temperature Rating: See Enclosure Label
Weight: 180 lbs. (82 kg)
Equipment intended to be installed at an altitude of 2000m or less.
Reverse Polarity Protected

Dimensions for Mounting the Enclosure:

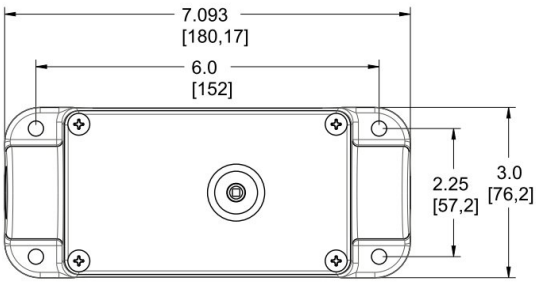
- Recommended mounting hardware diameter is 5/8” (15.875mm)
- Weight of the complete enclosure is approximately 180 lb. (82 kg)
- One (1) 1-1/2-inch NPT entrance hole provided on bottom left side of enclosure.
- Four (4) ¾-inch NPT entrance holes provided on bottom side of enclosure.
- Three (3) ¾”-inch NPT entrance holes provided on right side of enclosure *(not shown)*.



Hole Size	Use
1-1/2” NPT	AC or DC Main Input Voltage
¾” NPT *(far left)*	AC or DC Out to Power Supply 1
¾” NPT	C1D2 Photocell (DHZB6000PEC)
¾” NPT	RS485 Output to Power Supply 1
¾” NPT *(far right)*	L810 Sidelight Level(s) Connection
(3) ¾” NPT *(right side)*	Additional ports for other interconnections as needed

Dimensions for Photocell:

- One (1) ¾-inch NPT entrance hole provided on bottom side of photocell.



System Cable Specifications:

NOTE: Cables for AC/DC Input and remote monitoring are not supplied. Cable for the RS485, Photocell, Sidelight Level(s), and Flashhead(s) can be supplied upon request.

Specification for Input cable:

Requires three conductors for AC or DC Input.
- Typical 120-277VAC color code is Black, White, and Green.
- Typical 125VDC color code is Red, Black, and Green.

Earth Ground is required in the controllers.
A minimum of 14AWG is to be used.
Bonding ground wire when required is to be 6AWG.

Specification for RS485 Cable:

Requires three conductors of 18AWG, drain wire plus a braid for grounding.
Typical colors are Grey, Yellow, and Blue.

Specification for Photocell Cable:

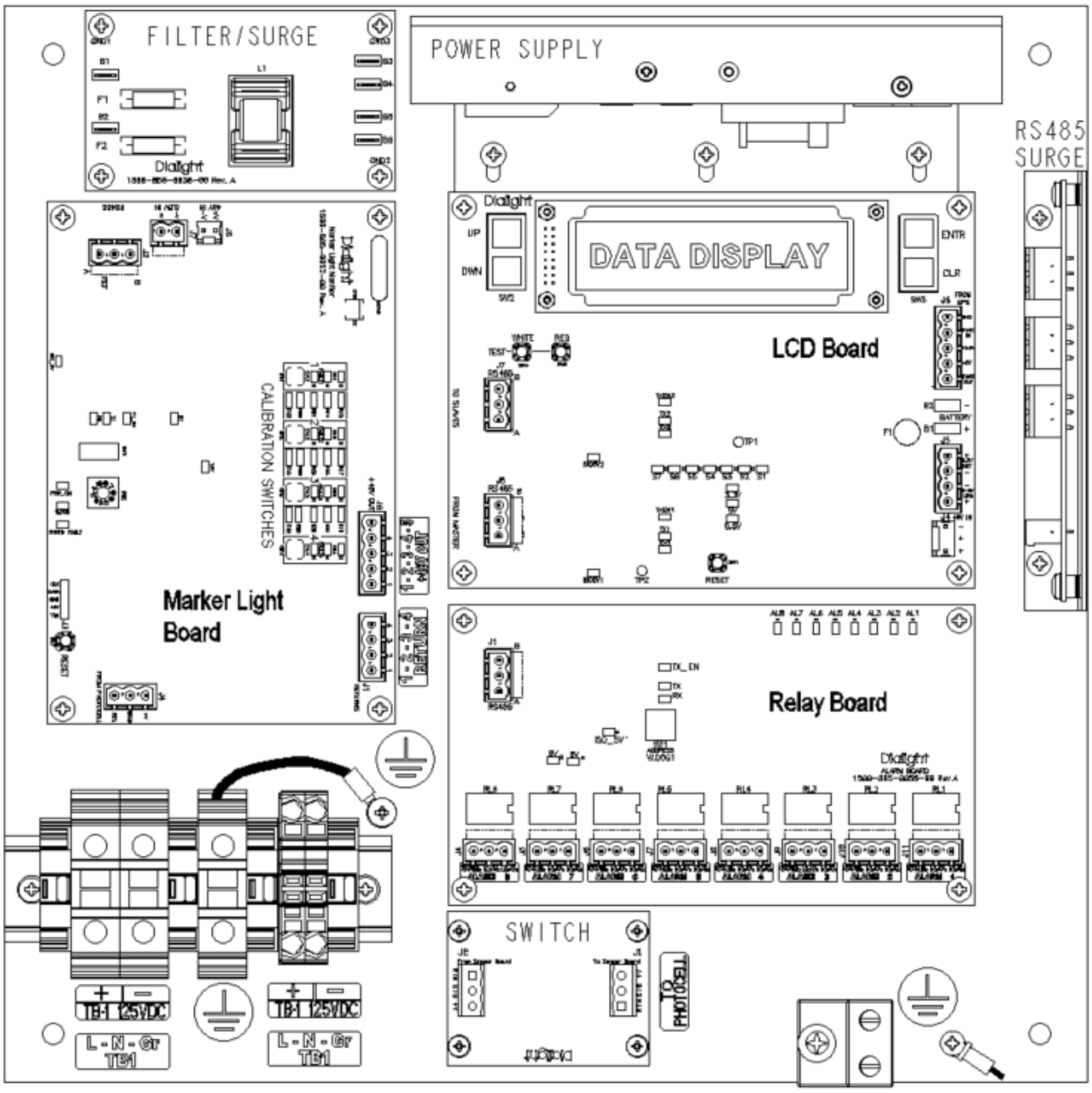
Requires three conductors of 18AWG.
Typical colors are Red, Black, and Green.
Maximum distance is 500 feet (152 meters).

Specification for 48Vdc L810 Side Marker Cable:

Requires three conductors of 18AWG.
Typical colors are Red, Black, and Green.

Individual wires can be used instead of cable but must be routed in conduit or seal tight that will meet required Hazardous Location specifications.

Controller Layout:



Main Input Power Connection:

Input cable or wire are NOT supplied with the system. Input power connected at terminals labeled TB1 (see below).

- The AC connection requires three conductors. Live, Neutral and Earth Ground. Input Voltage is 120/277 VAC 50/60Hz (100-305 VAC range).

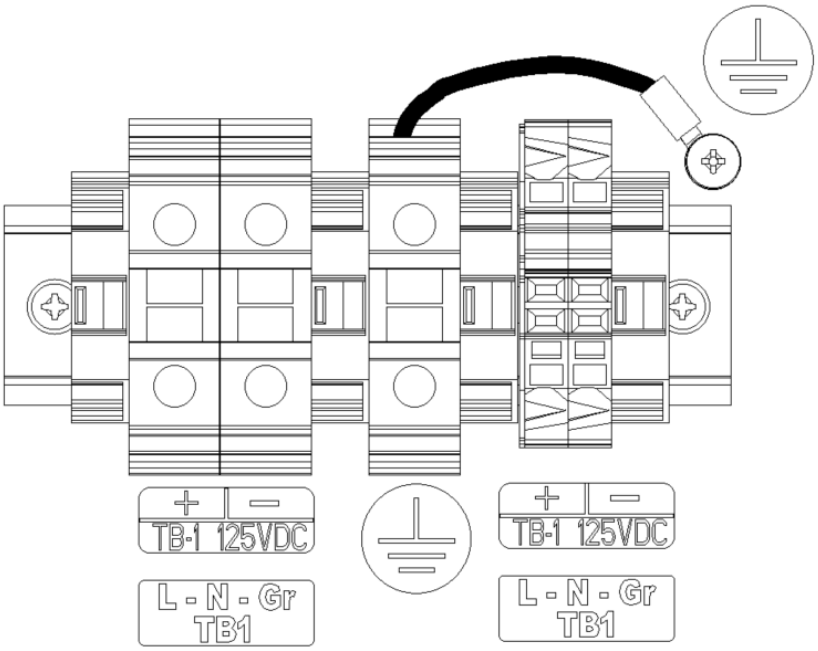
- The DC connection requires three conductors. Positive, Negative and Ground. Input Voltage is 125VDC ±10% (106-138 VDC range).

Individual wires can be used but must be fed through hazardous location approved seal tight or conduit. Earth ground connection is required to provide safety and proper operation of the system.

WARNING: Floating Neutrals are not permissible within the wiring of the system and the installer must verify the connections. This will "Void" all warranties and cause system failure when system is energized.

WARNING: No more than 305VAC measured from Live to Earth Ground or Live to Neutral on TB1, or 138VDC from Positive to Negative or Positive to Ground. This must be measured before powering up the system.

NOTE: The load and voltage loss of the cable must be quantified before selecting the cable size requirements. See electrical specifications for details.

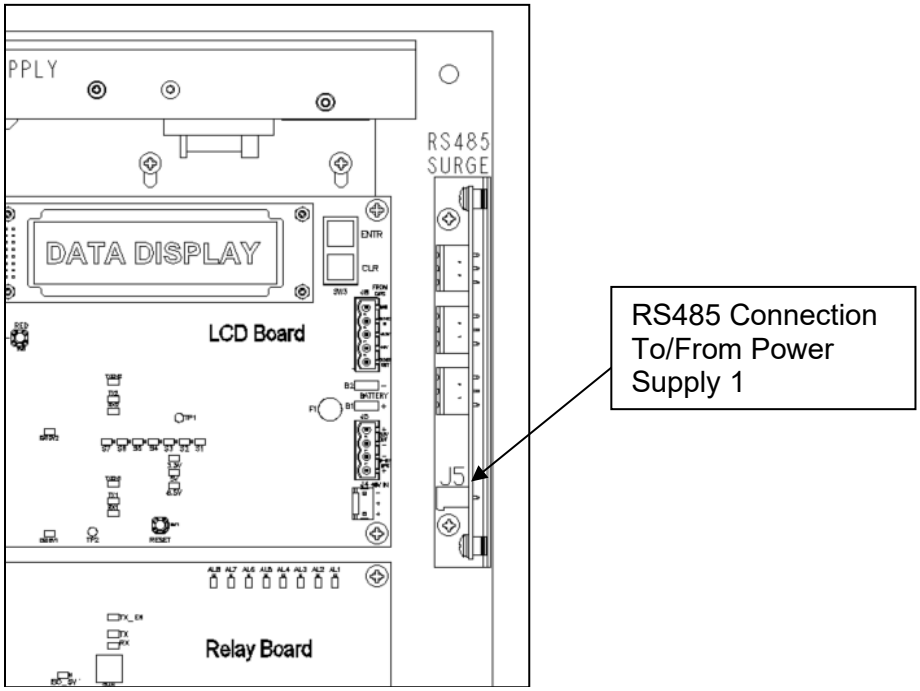


RS485 Connection:

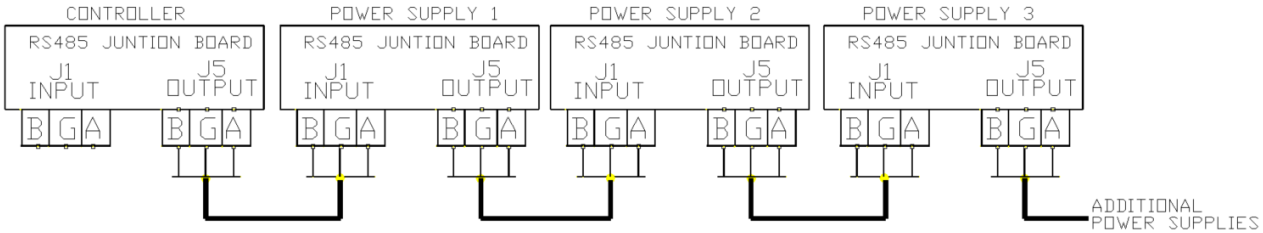
A 3-conductor cable with braid and foil is required for the interconnection of the RS485 between the main controller and power supplies at RS485 Connection Boards. The minimum size will be 18AWG. The connection between the units is vitally important to the operation of the system. All communication of mode, sync, alarms, and events are transmitted on this connection between units back to the main controller. The factory color code will be as follows:

Terminal	Description	Color Code
Label “A”	Communications “A”	Gray
Common	Common for RS485	Yellow
Label “B”	Communications “B”	Blue

Braid/Foil should be properly stripped back away from the terminal block. The bare drain wire should be connected to the internal ground lug within the power supply.



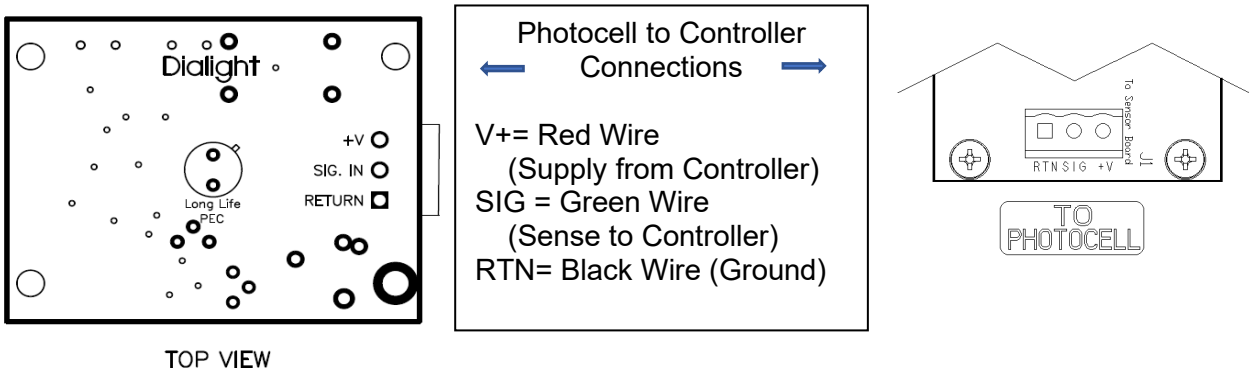
Interconnection between Main Controller and subsequent power supplies.



Photocell Connection:

One photocell is used for all Dialight Medium Intensity Controllers, p/n DHZB6000PEC. No other photocell can be used as it will damage the system and void the warranty. The photocell cable will be connected to the J1 terminal plug of the SWITCH board within the controller.

- Open supplied photocell enclosure by removing four screws.
  NOTE: Screws are not captive to the cover plate.
- Insert cable/wires through bottom port of housing.
- Strip back required length of jacket to allow connections.
- Remove green connector from circuit board.
- With screws shown – connect Red, Green, and Black wires.
- Completely reseat connector into circuit board.



NOTE: A zip tie is provided inside the photocell enclosure to secure the cable from falling out. A UL knot can also be used to prevent the cable from sliding down the conduit. Weight of cable should not be placed on terminal block alone.

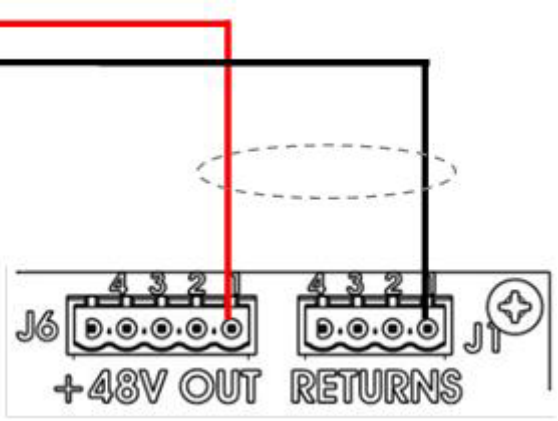
Cable Requirements:
Three conductor, 18AWG minimum with a max. distance of 500 feet from the controller.

Photocell must face north and be placed in a location without obstructions or excess ambient light (i.e. security light).

The photocell comes supplied with a ¾" NPT conduit hub. Conduit mounting is the recommended method for installing the photocell. If exposed cable is used in a hazardous location, the cable must have either a shield or braiding that is properly connected to the body of the photocell and to the controller enclosure. Failure to properly ground or use a cable without the shield or braid will void all warranties and the product could be subject to premature failures.

NOTE: Refer to Hazardous Location Photocell Manual for any additional information.

Sidelight (L810 RTO) Connection:



Connect the sidelight wires, if applicable, to the Marker Light Monitor Board in the Controller as shown in the diagram above. Connections are made to J6 (+48V OUT) and J1 (RETURNS) of the Marker Light Monitor Board. Connections must be made on the same pins at J1 & J6 (1-1, 2-2, 3-3 or 4-4).

WARNING: Low Voltage DC RTO Series are to be used for connecting to these ports. Do not connect 120VAC RTOs to the controller.

WARNING: Green earth ground wires MUST be connected and typically all connected together at the provided controller internal ground lug.

J6 Connections

Pin 1	+48Vdc	Voltage to L810 or Level 1
Pin 2	+48Vdc	Voltage to L810 or Level 2
Pin 3	+48Vdc	Voltage to L810
Pin 4	+48Vdc	Voltage to L810
Pin 5	+48Vdc	Spare +48Vdc

NOTE: A single Pin connection can power up to four (4) RTO L810's.

J1 Connections

Pin 1	-48Vdc	Return of L810 or Level 1
Pin 2	-48Vdc	Return of L810 or Level 2
Pin 3	-48Vdc	Return of L810
Pin 4	-48Vdc	Return of L810

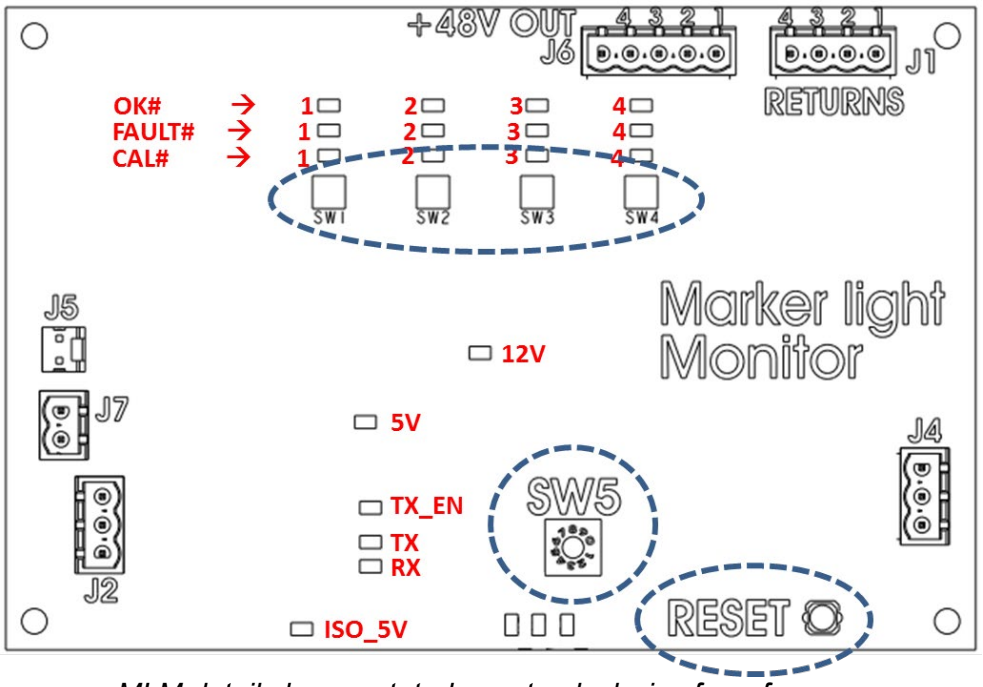
NOTE: A maximum of 1.2 amps can be monitored through each pin connection.

NOTE: Connections must be made on the same pins at J1 & J6 (1-1, 2-2, 3-3 or 4-4).

Manual Calibration of Side Lights:

The following steps must be taken to calibrate the Sidelight units/levels connected to the Marker Light Monitor Board (MLM).

STEP 1 – Cover Photocell to place system in Night Mode
STEP 2 - Hold down buttons SW1-4 at same time to clear old calibration
STEP 3 – FAULT LED's #1-4 will light up red
STEP 4 – Press "RESET" button (SW7) on SLM
STEP 5 – Each output will auto configure within 15 seconds based on load attached
STEP 6 – Verify Each output is correct:
- Green "OK" LED will illuminate GREEN for each RTO output that is present
- "OK", "FAULT", and "CAL" LED's will be OFF if RTO output is NOT present

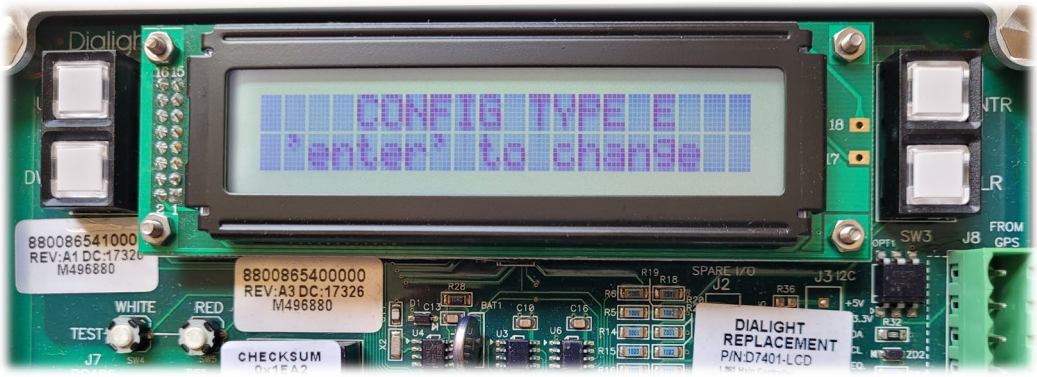


MLM detail shown rotated counterclockwise for reference.

System Configuration Screens:

Check all wiring connections for accuracy. Provide Input Voltage to the Controller and Power Supplies. On the Power Supplies, pull out the interlock switch first followed by the interlock switch on the Controller. The front panel LCD screen will turn on and display the Startup and Initializing screens automatically.

The following steps must be completed to ensure proper operation of the system.



On the left side of the display will be the “UP” and “DWN” buttons.
On the right side of the display will be the “ENTR” and “CLR” buttons.

The Startup Screen displays:

Dialight MI Ctrl REV. x Build: xx

NOTE: The Site Manager and Installer should take note of this screen including the REV number and the Build number if any future troubleshooting is required. x’s indicate revision levels and will appear as numbers on the display.

The Initializing Screen:
This screen shows a countdown for the initial 15 flashes for FAA E and D type systems.
For FAA Type A (Red only) the countdown starts at 45 flashes.

NOTE: This screen may go back to the Startup screen if synchronization fails.

Initial 15 Flashes In Process

Setup Screens:
The following screens will be used to properly configure the system based on the lighting system being installed. By using the “UP” and “DWN” buttons the user can view and edit the configuration as applicable by pressing the “ENTR” button after selecting the desired choice the next screen will be entered.

Configuration Type Screen:

A) To change the configuration of the controller, go to ‘Config Type’ screen and press “ENTR”. This will enable you to select either “E”, “A” or “D” tower type. Subcategories such as E1, E2 etc. will be addressed later in the configuration menu.

CONFIG TYPE X ‘Enter to change’

B) Use the “UP” and “DWN” buttons to scroll and select tower style E, A, or D. Then press “ENTR”.

NOTE: If ‘Tower Style D’ is selected, the system will automatically proceed to step F, skipping steps D and E since side markers (L810) are not used in D style configurations. Any information previously in the system as indicated in omitted steps will be changed to “0” if switched back to an E or A style configuration and will have to be re-entered to match what is installed on the tower.

NOTE: System will reset when tower style is changed.

Tower style = E ‘Enter’ to change

C) Select for the presence of an External GPS using the “UP” and “DWN” buttons.
“YES” indicates an external GPS is being used,
“NO” is the standard configuration without an external GPS.
Press “ENTR” after selection.

Ext GPS = NO
u/d=chg, enter=done

D) Select if RTO’s will be connected to the system and then press enter.
NOTE: If ‘NO’ is selected proceed to step G.

RTOs Present = YES
u/d=chg, enter=done

E) Select the number of Side Marker (L810 or RTO) Tiers that are connected to the system. The number input shall represent the number of tiers present. Zero to four can be selected. ‘1’ for a standard A-1 or E-1 lighting system.

Num of 810 TIERS=0
u/d=chg, enter=done

F) Select the number of Side Markers (L810’s, RTO’s) that will are connected to the Marker Light Board at J6 - Port 1 (P1 / Tier 1). 0 through 4 can be selected, then press “ENTR”
NOTE: Repeat for Port 2 through 4, if applicable.
NOTE: Each port represents one tier.

NUM 810 P1/T1= 0
u/d=chg, enter=done

G) Select the total number of beacons (L864/865, L-864 or L-865) connected to the system. Up to eight beacons can be supported. Press “ENTR”.
‘1’ typically selected for standard A/D/E-1 system.

Number of 864/5 = 1
u/d=chg, enter=done

H) Select the number of side light boards connected to the system.
‘1’ is standard configuration. Press “ENTR”.
NOTE: Additional sidelight monitor boards are available for special applications; most configurations will only have one board, and this will remain set to “1”

Number of SD BDs=1
u/d=chg, enter=done

I) Select the status of sidelights. Use “UP” and “DWN” buttons to change from STEADY, DISABLED and FLASHING, depending on the specific lighting requirements at the site.

NOTE: This global change will affect all tiers of sidelights; individual tiers are not able to have status changed.

L810 stat = STEADY
u/d=chg, enter=done

L810 stat = Disabled
u/d=chg, enter=done

L810 stat = Flashing
u/d=chg, enter=done

J) Select red mode flash rate of the beacons and sidelights when specified to be flashing as indicated in step H. Selections available are 20, 30, and 40. Use “UP” and “DWN” buttons to change, and press “ENTR”

NOTE: Factory default is 30fpm per FAA specifications.
NOTE: This global change will affect all tiers of sidelights at once.
NOTE: This change will not affect white flashes.

Flash per min = 30 **u/d=chg, enter=done**

K) Sidelights are to be calibrated at this time, use “UP” and “DWN” buttons to change from “NO” to “YES”, and then press “ENTR.” The system will reset, and the sidelight board will perform its calibration sequence.

NOTE: This step should only be selected if all tiers of sidelights are fully installed, operational and connected to the controller.

RECAL L810 = NO **u/d=chg, enter=done**

L) If the Photocell mode transition alarm (18-hour alarm) is not needed as an alarm this selection can disable it. Use “UP” and “DWN” buttons to change from “NO” to “YES”, and then press “ENTR.”

Selecting YES: If the photocell does not detect day or night transition after 18 hours, the system will alarm and will switch to Day mode. To clear this alarm the system requires a local reset, or a forced operation change locally or remotely.

Selecting NO: After 18 hours of not transitioning, the system will log an event in the system log but will continue to operate normally based on ambient light conditions. No alarm via dry contact or mod bus is generated.

Trans PEC Alrm = YES **u/d=chg, enter=done**

Trans PEC Alrm = NO **u/d=chg, enter=done**

M) Some non-FAA applications require the L-864 to operate in a Steady-state mode. The Beacon can be made steady burn in Red night mode by selecting 'YES'. Typical applications will be set to 'NO'.

BCN Steady RNite= NO
u/d=chg, enter=done

Once this selection for the Beacon is complete, the next screen to be displayed is the "Config Type".

After about 2 minutes, the system will reset on its own with the new configuration.

CONFIG TYPE X
'Enter to change'

Verify operation of the system with the photocell.

Ensure no alarms are present during Day and Night modes.

User Interface Screens:

Tower Type:

This screen displays the Base Controller configuration.
If the number of beacons configured does not match actually connected beacons, then an alarm will be generated as a “config” alarm. Only powered fixtures and power supplies connected to the controller via RS485 will be detected.

The “B y” in second line will indicate the firmware level of main controller.

Tower Style: X **X 86X , X 810 B y**

Mode of Operation: Day or Night

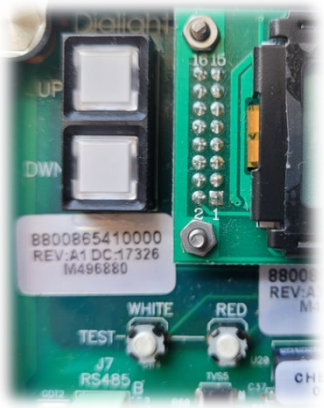
The mode changes according to the user’s photocell operation based on ambient light conditions. There are no options for preprogramming mode change times. Users can manually switch from Day to Night or Night to Day using the procedure below.

Mode: Options are Day or Night, T= controller temperature (C)
Active: Options are Wht or Red

MODE: Night T=X C **ACTIVE: RED 864**

MODE: Night Forced **‘Clear’ to restore**

On this screen, the controller can be forced in DAY or NIGHT using the push buttons located under the ‘DWN’ button marked WHITE (SW4) and RED (SW5).



NOTE: LED S3 will blink on the board until the system is set back to normal operation.

The system will automatically restore to normal operation after approx. 2 minutes.

Status Screen of Alarms:

This screen allows the user access to the Alarm Log. By pressing the “ENTR” button, both current and previous alarms are viewed, starting with the most current alarm. Alarms are viewed by using the “UP” and “DWN” buttons. Each alarm occurrence is dated and time stamped. Up to 999 alarm entries can be stored in the controller.

If an Alarm is present, the Status screen will change from “NORMAL” to “ALARM” thus indicating there is an active Alarm in the system.

By pressing “ENTR” you will be able to view alarm logs. Time stamps are actual times that the alarm occurred. Refer to interpretation of the logs for further details. Press the “CLR” to exit the log.

Status: Normal ‘Enter’ to view Alrm	Status: ALARM ‘Enter’ to view Alrm

NOTE: To erase all recorded events, press and hold the CLR button for 5 seconds. This is a permanent erase so only do so when instructed by technical support or during a new system installation.

Setting the Real Time Clock:

By selecting “ENTR” the user can set the actual time and date of the Base Controller.

Date and time settings are stored in the controller; if power is lost, internal battery backup ensures settings will not be erased.

MMM DD,YY “Time” ‘Enter’ to set Clock

Event Log:

This screen allows the user access to the Event Log. By pressing the “ENTR” button, current and previous events the system has encountered are able to be viewed, starting with the most current event. Events can be scrolled through using the “UP” and “DWN” buttons. Each event occurrence is dated and time stamped.

NOTE: While viewing the event log, to leave the log press the “CLR” button to exit the log and then press the “ENTR” key to return to log, indicating the latest recorded event.

Press ‘Enter’ Key to view event log.

NOTE: To erase all recorded events, press and hold the CLR button for 5 seconds. This is a permanent erase so only do so when instructed by technical support or during a new system installation.

Mains Power Resetting:

The Main Input Power should be reset when all Alarm and Error/Event logs have been cleared, the Power supplies have lost power, and/or RS485 communications have been shut down.

This procedure can be done when an alarm LED is lit, and verification of the alarm is required. If the alarm clears, then the system does not require any further action.

Push Button Reset on LCD Display Board:

The Reset Button is a firmware re-boot that causes the Controller to do a complete re-start. This reset is most often used when power is either lost or required to be shut down for a period of time.

This reset will go through the full warm up and the initial flash countdown menu.

Internal Controller Status LED's:

Status LED's (located on Main Controller Assembly with LCD Display)

STATUS LED ASSIGNMENTS

S7	S6	S5	S4	S3	S2	S1
COMM Failure RED	SYNC Failure RED	25% LED Failure RED	ALL 810 OFF Failure RED	Photocell Failure Day/Night RED	EXT SYNC Failure Flashes AMBER	Heartbeat GREEN

Relay Board #1 (Bottom) Alarm Dry Contact LED's:

STATUS LED/dry contact ASSIGNMENTS

AL8	AL7	AL6	AL5	AL4	AL3	AL2	AL1
Beacon 8 Failure	Beacon 7 Failure	Beacon 6 Failure	Beacon 5 Failure	Beacon 4 Failure	Beacon 3 Failure	Beacon 2 Failure	Beacon 1 Failure

Relay Board #2 (Top) Alarm Dry Contact LED's:

STATUS LED/dry contact ASSIGNMENTS

AL8	AL7	AL6	AL5	AL4	AL3	AL2	AL1
N/A	N/A	N/A	N/A	N/A	LIOL Failure	Photocell Failure	COMM Failure

Alarm Board Dry Contact Wiring:

A minimum of 22AWG wire should be used for connecting the relays.

1: The relays can be wired individually or multiplexed for alarm monitoring.
2: The relays can be wired as normally open or normally closed.

To monitor the dry contacts on the relay board, the dry contact readers will have to be wired into the relay contacts marked (COM, NO, and NC). Relays are marked as if there is no power is applied to the system.

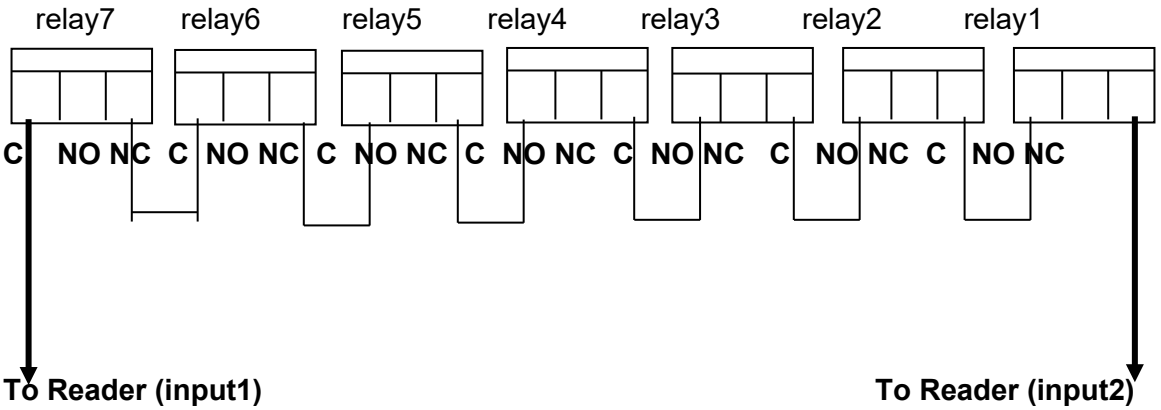
It is highly recommended that a multi-meter be used to measure the dry contacts for “open” or “closed” by using the OHM setting on the meter. The relays can be measured for open or closed with power applied to the base controller.

NOTE: If only one dry contact reader is present then the relays need to be multiplexed together to give one output as shown below:

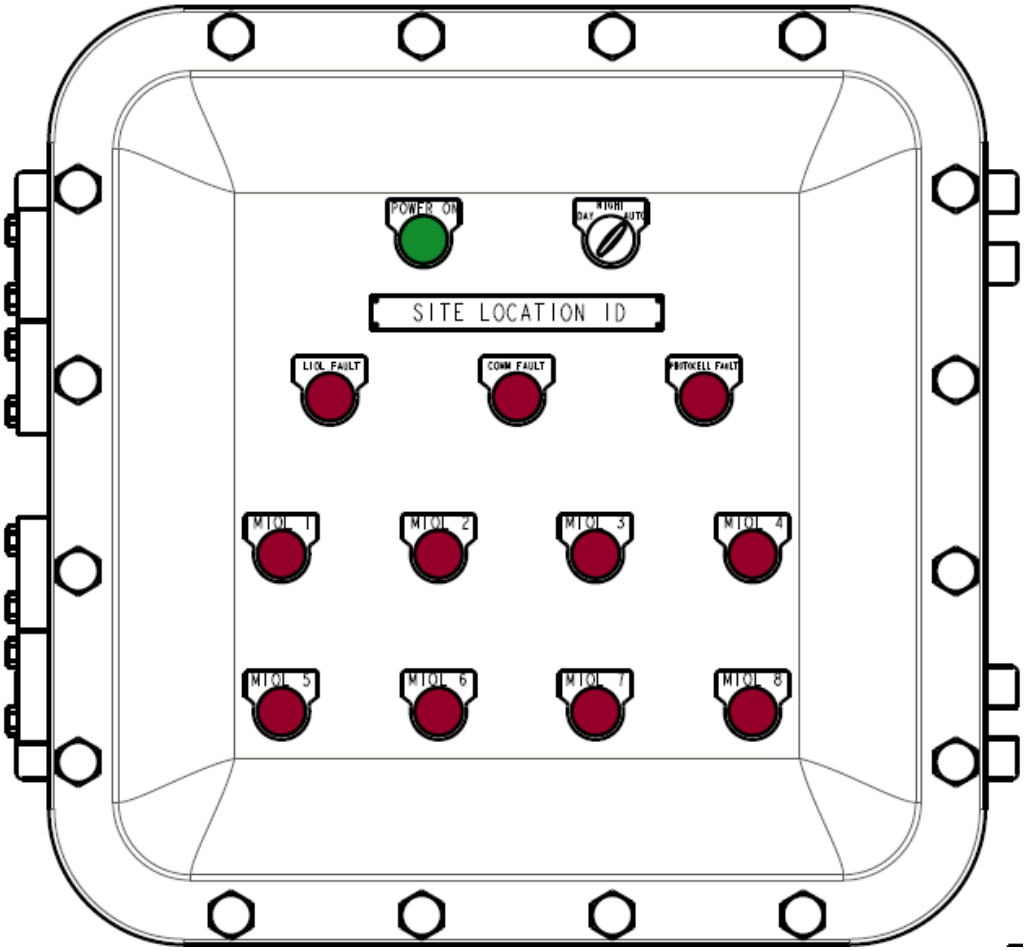
NOTE: If less than 7 dry contact readers then 1 or more dry contacts can be multiplexed together.

NOTE: Dry contact Relay 8 is only for Day and Night status and is not an Alarm relay but an indication of the mode the system is currently in.

Wiring for Multiplexing a single dry contact reader.



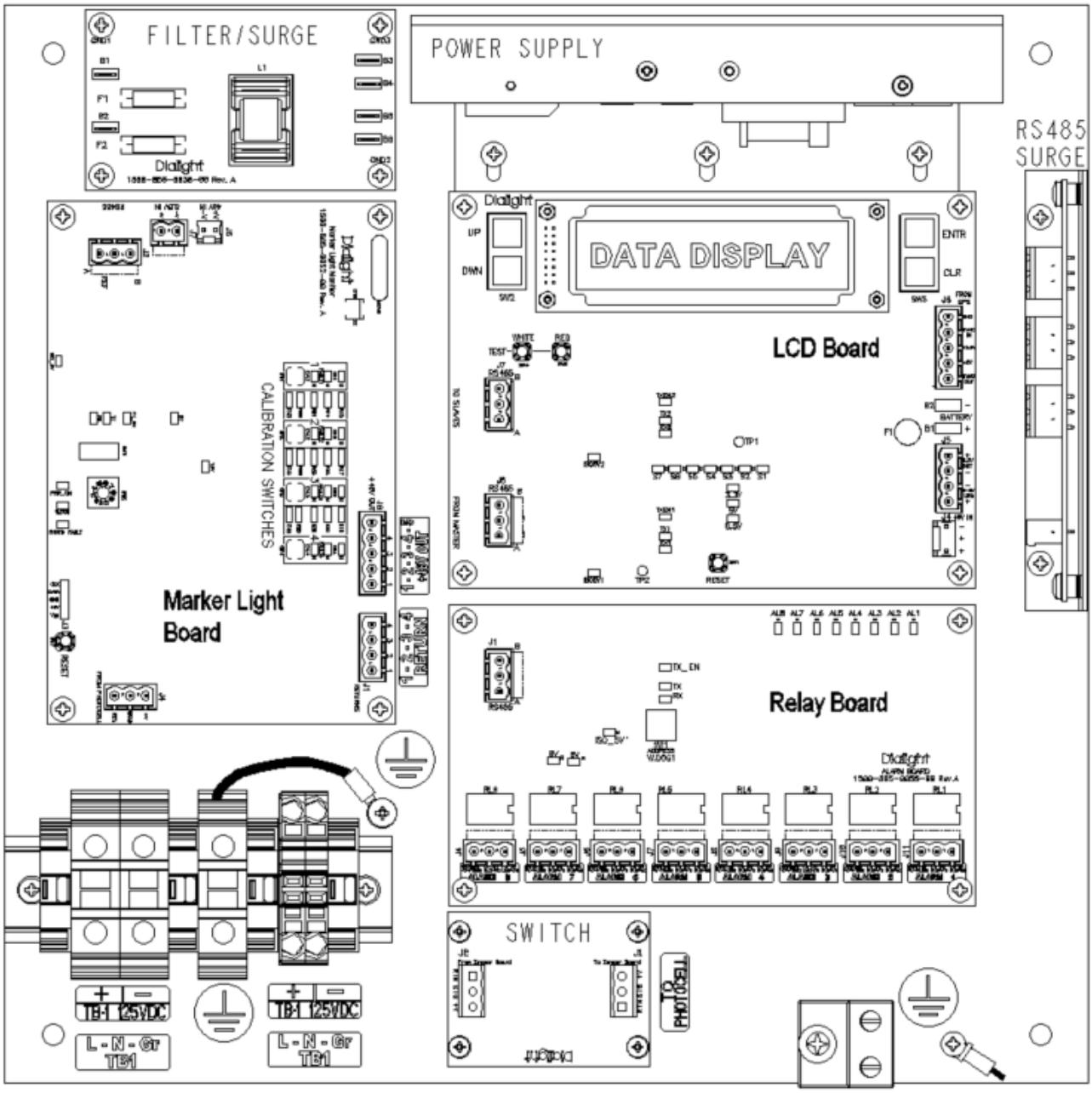
External Alarm and Indication LED's and Control:



Front View of Controller

Location	Status Indication	Installed Controller Type
Row 1 / 1	Power On	DHZCCTD8C8030/40/60/80
Row 1 / 2	Day/Night/Auto	DHZCCTD8C8030/40/60/80
Row 2 / 1	LIOL Fault	DHZCCTD8C8030/40/60/80
Row 2 / 2	Comm Fault	DHZCCTD8C8030/40/60/80
Row 2 / 3	Photocell Fault	DHZCCTD8C8030/40/60/80
Row 3 / 1	MIOL 1 Fault	DHZCCTD8C8030/40/60/80
Row 3 / 2	MIOL 2 Fault	DHZCCTD8C8030/40/60/80
Row 3 / 3	MIOL 3 Fault	DHZCCTD8C8030/40/60/80
Row 3 / 4	MIOL 4 Fault	DHZCCTD8C8040/60/80
Row 4 / 1	MIOL 5 Fault	DHZCCTD8C8060/80
Row 4 / 2	MIOL 6 Fault	DHZCCTD8C8060/80
Row 4 / 3	MIOL 7 Fault	DHZCCTD8C8080
Row 4 / 4	MIOL 8 Fault	DHZCCTD8C8080

Replacement Part Numbers:



Item	Description	Part Number
FILTER/SURGE	FILTER/SURGE BOARD	D7202SUR
POWER SUPPLY	VAC TO 48VDC POWER SUPPLY	D2669005RA
MARKER LIGHT	MARKER LIGHT BOARD	D7500SLM
LCD BOARD	LCD BOARD	D7403LCD
RELAY BOARD	RELAY/ALARM BOARD (x2)	D7600RLY
SWITCH	PHOTOCELL SWITCH BOARD	8800865510000
RS485 SURGE	RS485 JUNCTION BOARD	D7205SUR
PANEL ASSEMBLY	COMPLETE INTERNAL PANEL	DHZCTD8P8

Display Events and Alarm Descriptions:

Navigating the Display

Up/Down: Buttons scroll through menu options, or Log entries

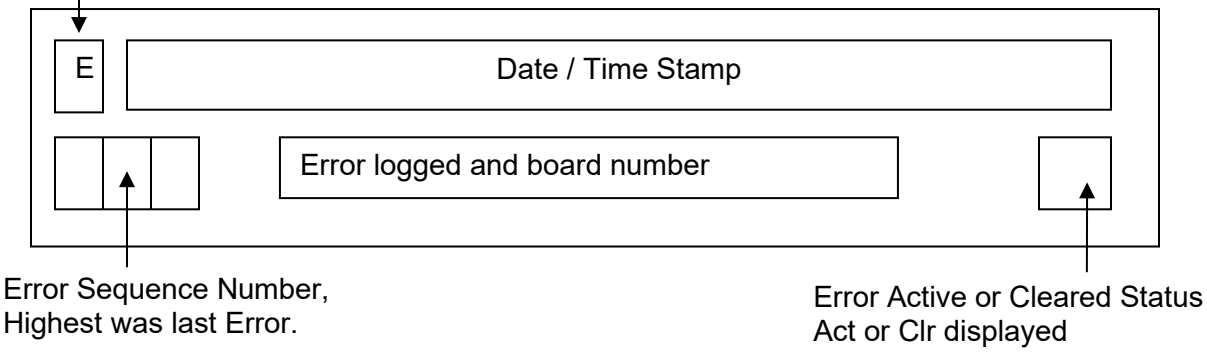
Enter: Selects a menu

Clear: Exits a menu and returns to previous screen
Clears error/alarm registers

Holding the Clear button for 5 seconds when in the Event or Alarm log clears the given Log data. The first recording will be displayed as “Logs Cleared”.

E= Event Log
A = Alarm Log

Interpreting Error/Event Logs



Error Sequence Number,
Highest was last Error.

Error Active or Cleared Status
Act or Clr displayed

Alarm List:

Error	LCD Alarm display	Possible Cause	Corresponding Dry Contact	LED Lit on Main Enclosure
D1RW COMM	TRNS Comm X X=Beacon #	RS485 Issue from the translator board in one/more Power Supplies	Relay Board1: AL1-AL8 Relay Board 2: AL1	LED Comm lights
Side Marker Communication	SDLT comm X X = Beacon #	RS485 Issue from the Marker light board	Relay Board 1: N/A Relay Board 2: AL1 & AL2	LED Side marker lights
No Photocell	PEC LOST	Photocell Failure or Cable Disconnected	Relay Board 1: N/A Relay Board 2: AL2	LED PEC Lights
No Internal RS-485 COMM	RLY COMM 1 RLY COMM 2 TRNS COMM X PEC LOST SDLT COMM X	RS485 Issue within Controller	Relay Board 1: All LEDs Relay Board 2: All LEDs	LED Comm Lights
Day to Night transition	Day to Nite	The system is in Day mode for more than 18 hours	Relay Board 1: N/A Relay Board 2: AL2	LED PEC Lights
Night to Day transition	Nite to Day	The system is in night mode for more than 18 hours	Relay Board 1: N/A Relay Board 2: AL2	LED PEC Lights
Side Markers out	ALL 810 TX	One or more RTO have failed	Relay Board 1: N/A Relay Board 2: AL3	LED Side Marker Lights
>25% White	X 865 W25% (1 or 2 or B) X= Beacon #	White Driver 1 or 2 have failed within Power Supply	Relay Board 1: AL1-AL8 Relay Board 2: N/A	LED 25% Lights LED for Beacon X Lights
>25% Red	X 864 R25% X= Beacon #	Red Driver has failed within Power Supply	Relay Board 1: AL1-AL8 Relay Board 2: N/A	LED 25% Lights LED for Beacon X Lights
D1_RS232	TRNS RS232 X X= Beacon #	RS232 Issue on Translator board within Power Supply	Relay Board 1: AL1-AL8 Relay Board 2: AL1	LED Comm lights LED for Beacon Lights
Relay Board 1 Communication	RLY Comm 1	RS485 Issue on Relay Board 1 in Controller	Relay Board 1: All dry contacts will all be tripped	LED Comm lights
Relay Board 2 Communication	RLY Comm 2	RS485 Issue on Relay Board 2 in Controller	Relay Board 2: All dry contacts will all be tripped	LED Comm Lights
D1RW Sync Alarm	865/864 SYNC X X= Beacon #	Translator board Issue within Power Supply	Relay Board 1: AL1-AL8 Relay Board 2: N/A	LED for Beacon X lights
Side Marker x off	X 810 OFF TX (Event logged)	RTO Failure	Relay Board 1: N/A Relay Board 2: AL3	LED for Side Marker Lights

Commissioning Photographs:

The following photographs should be taken at a minimum and supplied to system owner.

1. Internal wiring of the Controller
2. Exterior mounting of the Controller
3. Additional Earth bonding to the mounting structure. *(If applicable)*
4. Photocell mounting and internal wiring.
5. All serial number labels controller and photocell.

Technical Support:

Engineering Technical Support Contact Phone Number

844-436-5422

Press 1 for Medium Intensity

Press 3 for Product Information

Serial Number Coding:

The serial numbers of the fixtures being installed are located on the Dialight label. Dialight refers to the serial numbers as **Date Codes.** The date code is used to determine the warranty status of the unit. The Date Codes are set up as:

The following YY, DDD, S/N.

YY= the year it was produced
DDD= Julian day of the year
S/N= a number of either 3 or 4 digits.

REVISION HISTORY

REV	ECO No.	DRN	CKD	APP	QA	CM	DATE
A	14911	SA	DW	JLM	JP	JN	12-11-13
B	64575	TLD	AV	AR	YS	JN	11-27-19
C	71912	CV	AV	DW			8-7-20
D	116539	JAJ	ER	JC	YS	SA	4-11-24