Safety Signal™ Models SS0550 thru SS0554-02

Patent #6634139









340 Gateway Park Drive North Syracuse, NY 13212 Phone: 315-463-7348 Toll Free: 866-235-7468 Fax: 315-463-8559 Email: sales@dlmanufacturing.com www.dlmanufacturing.com This manual is used for multiple **Safety Signal™** models. The control board is programmed for each model's function. The description explains the differences between model types covered in this manual.

Model #	Part #	Description	
550	SS0550	Standard Safety Signal™	
550		No options: No outlets or interlocks	
551	SS0551	Powers & controls one outlet for dock light	
551	330331	Dock light turns off when door is closed	
552	SS0552	Powers & controls two outlets	
552		Dock light & fan turn off when door is closed	
552-02	SS0552-02	No Inside Red & Green Light	
		Powers & controls two outlets	
		Dock light & fan turn off when door is closed	
552-2PE	SS552-2PE	Powers & controls two outlets	
		Dock light & fan turn off when door is closed	
		2 Photo Eyes Sensors for the door	
553	SS0553	Powers & controls two outlets & interlocks	
		Electric/Hydraulic leveler	
		Dock light and fan turn off when door is closed	
		Leveler will not run when door is closed	
		Powers & controls two outlets & interlocks 120V Pneumatic leveler	
554	SS0554	Dock light and fan turn off when door is closed	
		Leveler will not run when door is closed	
		Fan turns off when leveler runs	
	SS0554-02	No Inside Red & Green Light	
554-02		Powers & controls two outlets & interlocks 120V Pneumatic leveler	
		Dock light and fan turn off when door is closed	
		Leveler will not run when door is closed	
		Fan turns off when leveler runs	

ELECTRICAL RATINGS:

INPUT VOLTAGE	120 VAC - 240VAC
INPUT FREQUENCY	60 HZ / 50HZ
MAXIMUM INPUT CURRENT	12 A
INPUT CURRENT WITH NO OUTLET(S) OR LEVELER LOAD	<.5 A (MODEL 550)
MAXIMUM OUTLET(S) CURRENT	12 A
MAXIMUM LEVELER LOAD CURRENT (J7 OR J8)	12 A
OUTSIDE LIGHT BOX VOLTAGE	12 VDC
MAXIMUM OUTSIDE LIGHT BOX LOAD CURRENT	1.25 A (12 V POWER SUPPLY CURRENT LIMIT)
SENSOR VOLTAGE (J2, J3 & J4)	12 VDC
MAXIMUM SENSOR CURRENT (J2, J3 & J4)	.2 A (J2, J3 & J4 PROTECTED BY PTC THERMISTOR)
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Door Opens

Outside light turns red Inside light turns green Interlock items now function

- Dock light
- Fan
- Leveler & OPT 1 Contacts close

Testing

Door Closes

Outside light turns green Inside light turns red Interlock items turn off

- Dock light
- Fan
- Leveler & OPT 1 Contacts open

Please Note: When dock door is closed the light will switch to red inside and green outside after a delay of approximately <u>10 seconds.</u>

WARNING!!!!

Do not use in hazardous or corrosive environments!

REQUIRED TOOLS

Drill bits, masonry bit for tap-con / wood bits 3/16" for pilot hole in dock seal

- □ Tape measure
- □ Wire strippers
- □ Hammer
- □ Felt tip marker

Precision flat blade screwdriver 1/8" wide
Wire labels

□ Hammer Drill

□ Drill screw gun

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YEARLY MAINTENANCE

- 1. Inspect inside connections for any damage
- 2. Inspect mounting bolts for tightness
- 3. Clean unit with compressed air
- 4. Clean Photo Sensor Lenses

Installer-supplied hardware & fasteners

Mounting Surface	Inside Light Box	Outside Light Box
Cement Block	(4) ¼" x 1¼" Tapcon	(4) #10 x 1" Tapcon
Tip up concrete panel	(4) ¼" x 1¼" Tapcon	(4) #10 x 1" Tapcon
Sheet Metal	Sheet metal walls are not thick enough to hold inside box	Sheet metal walls are not thick enough to hold outside box
Steel	(4) ¼" x ¾" self-drilling screws	(4) #10 x 1" Tapcon
Bollard	Use DL Manufacturing supplied fasteners	
Dock Seal		Use 1-1/4" x ¼" lag screws to attach dock seal bracket to dock seal.

Also needed:

Wiring the inside and outside box together	3 conductor 18 gauge wire	¹ / ₂ " flexible conduit with connector for 7/8 knockout
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Field Notes:

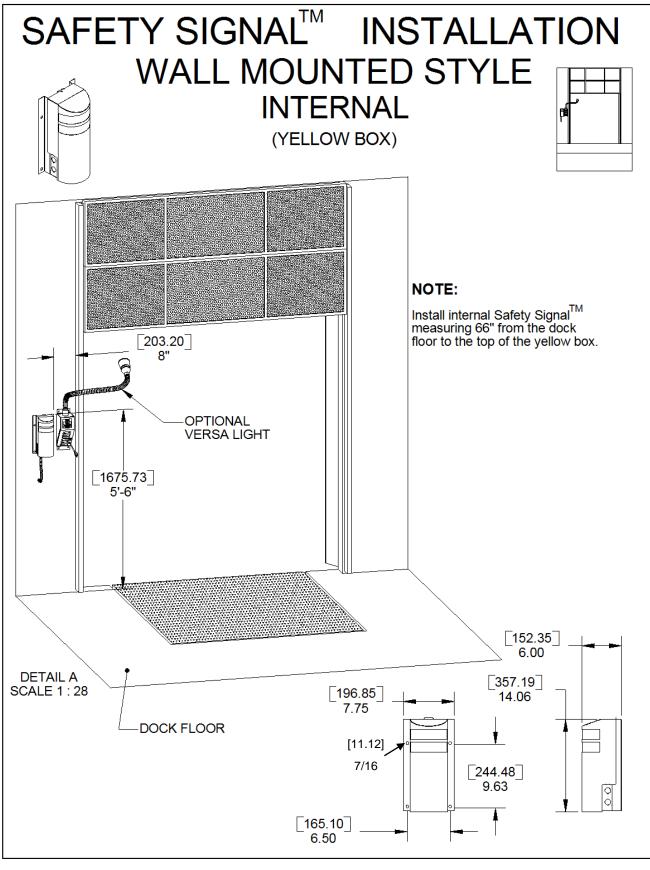
FOR SERVICE ASSISTANCE CALL DL MANUFACTURING TOLL FREE 866-235-7468

Safety Signal Model #:

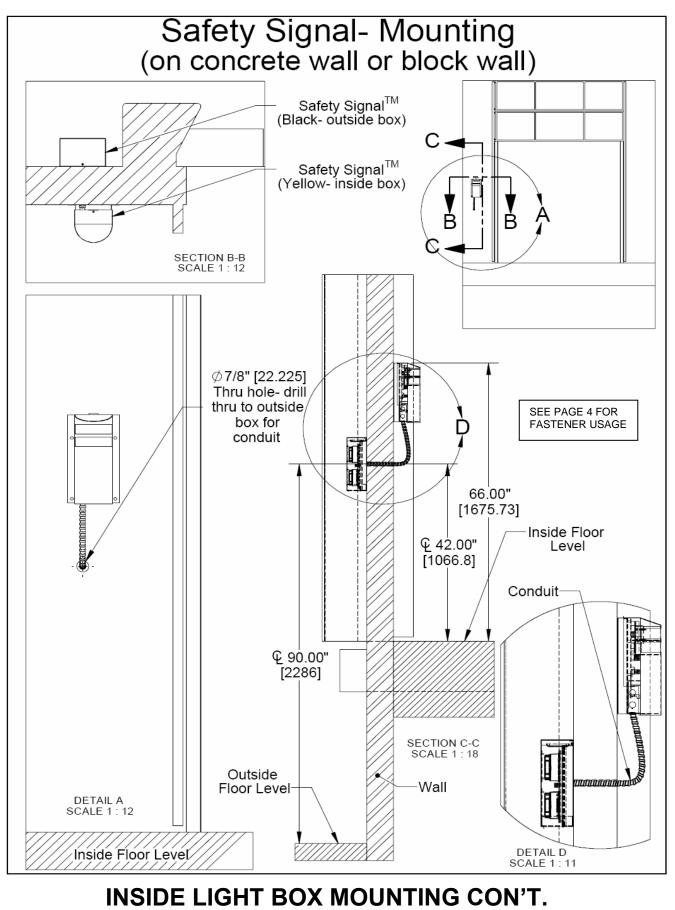
Safety Signal Serial #: (LOCATED LOWER PORTION OF CONTROL BOARD)

Door Location:

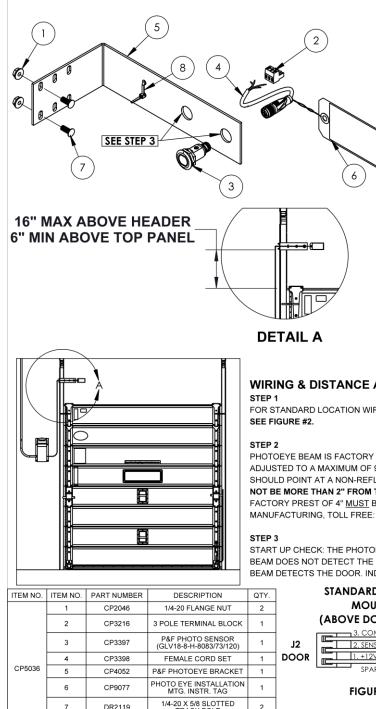
Customer:



INSIDE LIGHT BOX MOUNTING



PHOTOEYE INSTALLATION GUIDE



TRACK BOLT

4" x 1/8" TIE WRAP

VL2028

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STANDARD LOCATION (ABOVE DOOR HEADER) MOUNTING INSTRUCTIONS: STEP 1

LOCATE THE CENTER OF THE MOUNTING BRACKET A MINIMUM OF 6" ABOVE THE TOP PANEL OF THE DOOR AND A MAXIMUM OF 16" ABOVE DOOR HEADER. THE PHOTOEYE MUST BE READING THE CENTER OF A PANEL WHEN THE DOOR IS OPEN.

STEP 2

DRILL TWO HOLES IN ROLLER TRACK (USE 17/64" DRILL BIT).

STEP 3

USE MOUNTING HOLE THAT BEST LOCATES PHOTOEYE TO DETECT THE DOOR AND NO OTHER OBSTACLES, SUCH AS LIFTING CABLE. THE FACE OF THE PHOTO EYE SHOULD NOT BE MORE THAN 2" FROM THE FACE OF THE DOOR. CONTACT DL MANUFACTURING IF THIS IS NOT POSSIBLE, TOLL FREE: (866)235-7468

STEP 4

ORIENT PHOTOEYE SO DISTANCE ADJUSTMENT SCREW IS FACING TOWARDS THE FLOOR.

WIRING & DISTANCE ADJUSTMENTS:

FOR STANDARD LOCATION WIRING SEE FIGURE #1. FOR REVERSE LOCATION WIRING

PHOTOEYE BEAM IS FACTORY PRESET TO 4" DISTANCE. THIS DISTANCE CAN BE ADJUSTED TO A MAXIMUM OF 9". IMPORTANT: FOR BEST RESULTS, PHOTOEYE BEAM SHOULD POINT AT A NON-REFLECTIVE SURFACE. THE FACE OF THE PHOTO EYE SHOULD NOT BE MORE THAN 2" FROM THE FACE OF THE DOOR. ADJUSTMENTS BELOW THE FACTORY PREST OF 4" MUST BE SIGNED OFF ON BY DL MANUFACTURING. CONTACT DL MANUFACTURING, TOLL FREE: (866)235-7468

START UP CHECK: THE PHOTOEYE INDICATOR LIGHT SHOULD BE SOLID GREEN WHEN BEAM DOES NOT DETECT THE DOOR. THE INDICATOR LIGHT SHOULD BE YELLOW WHEN BEAM DETECTS THE DOOR. INDICATOR LIGHT WILL BLINK IE AN ERROR OCCURS.

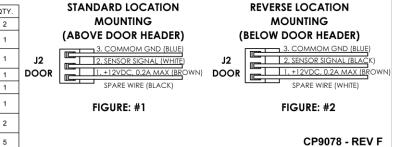
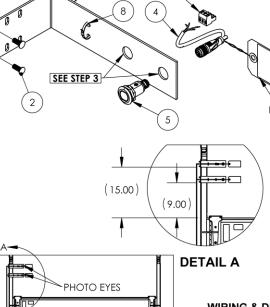


PHOTO EYE INSTALL - TYPICAL & MxV DOORS

DUAL PHOTOEYE INSTALLATION

GUIDE



B

CP5036 REPLACEMENT PHOTO EYE KIT

(INCLUDES BRACKET AND HARDWARE)

CP2046

CP3216

CP3397

CP3398

CP4052

CP9077

DR2119

VL2028

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CP5036

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STANDARD LOCATION (ABOVE DOOR HEADER) **MOUNTING INSTRUCTIONS:**

STEP 1

LOCATE THE FIRST MOUNTING BRACKET 9" ABOVE THE TOP PANEL OF THE DOOR

LOCATE THE SECOND MOUNTING BRACKET 15" ABOVE THE TOP PANEL OF THE DOOR

DO NOT SET PHOTO EYE TO READ THE JOINTS BETWEEN PANELS

THE PHOTO EYES MUST BE READING THE CENTER OF A PANEL WHEN THE DOOR IS OPEN.

STEP 2

DRILL TWO HOLES IN ROLLER TRACK (USE 17/64" DRILL BIT) FOR EACH BRACKET (FOUR HOLES IN TOTAL).

STEP 3

STEP 4

USE MOUNTING HOLE THAT BEST LOCATES PHOTO EYE TO DETECT THE DOOR AND NO OTHER OBSTACLES, SUCH AS LIFTING CABLE.

THE FACE OF THE PHOTO EYE SHOULD NOT BE MORE THAN 2" FROM THE FACE OF THE DOOR. CONTACT DL MANUFACTURING FOR APPROVAL OF ALTERNATE MOUNTING LOCATIONS IF THIS IS NOT POSSIBLE, TOLL FREE: (866)235-7468

ORIENT PHOTO EYE SO DISTANCE ADJUSTMENT SCREW IS FACING TOWARDS THE FLOOR.

WIRING & DISTANCE ADJUSTMENTS:

STEP 1

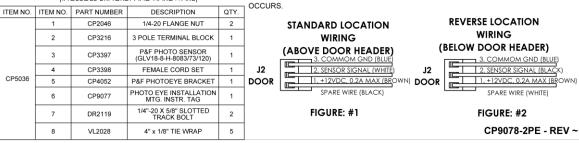
FOR STANDARD LOCATION WIRING SEE FIGURE #1. FOR REVERSE LOCATION WIRING SEE FIGURE #2.

STEP 2

PHOTOEYE BEAM IS FACTORY PRESET TO 4" DISTANCE. THIS DISTANCE CAN BE ADJUSTED TO A MAXIMUM OF 9". IMPORTANT: FOR BEST RESULTS, PHOTOEYE BEAM SHOULD POINT AT A NON-REFLECTIVE SURFACE. THE FACE OF THE PHOTO EYE SHOULD NOT BE MORE THAN 2" FROM THE FACE OF THE DOOR ADJUSTMENTS BELOW THE FACTORY PREST OF 4" MUST BE SIGNED OFF ON BY DL MANUFACTURING. CONTACT DL MANUFACTURING, TOLL FREE: (866)235-7468

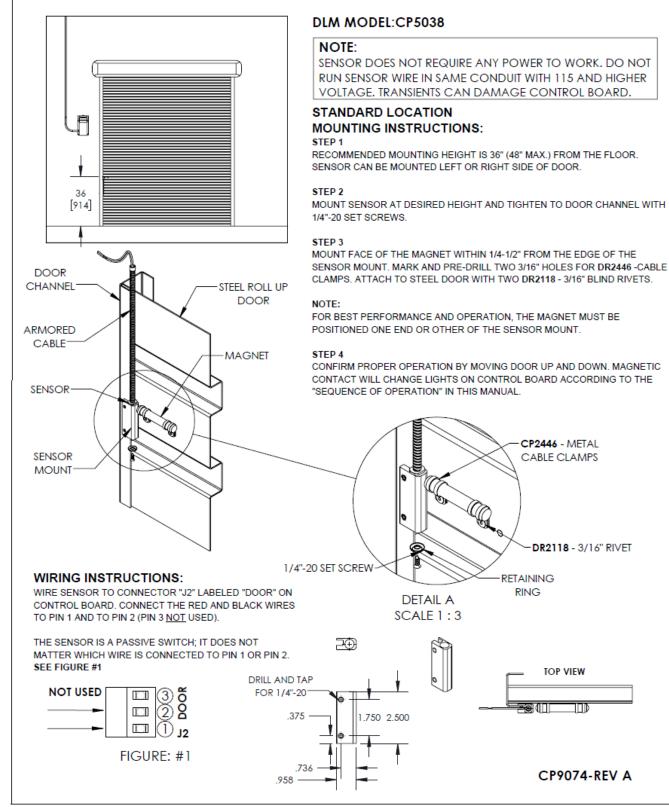
STEP 3

START UP CHECK: THE PHOTOEYE INDICATOR LIGHT SHOULD BE SOLID GREEN WHEN BEAM DOES NOT DETECT THE DOOR. THE INDICATOR LIGHT SHOULD BE YELLOW & GREEN WHEN BEAM DETECTS THE DOOR. INDICATOR LIGHT WILL BLINK IF AN ERROR

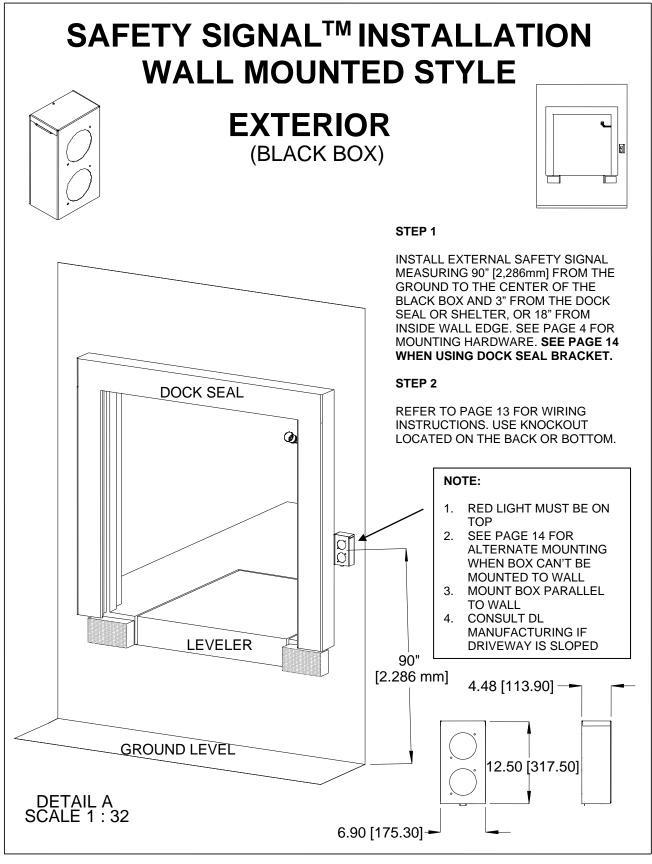


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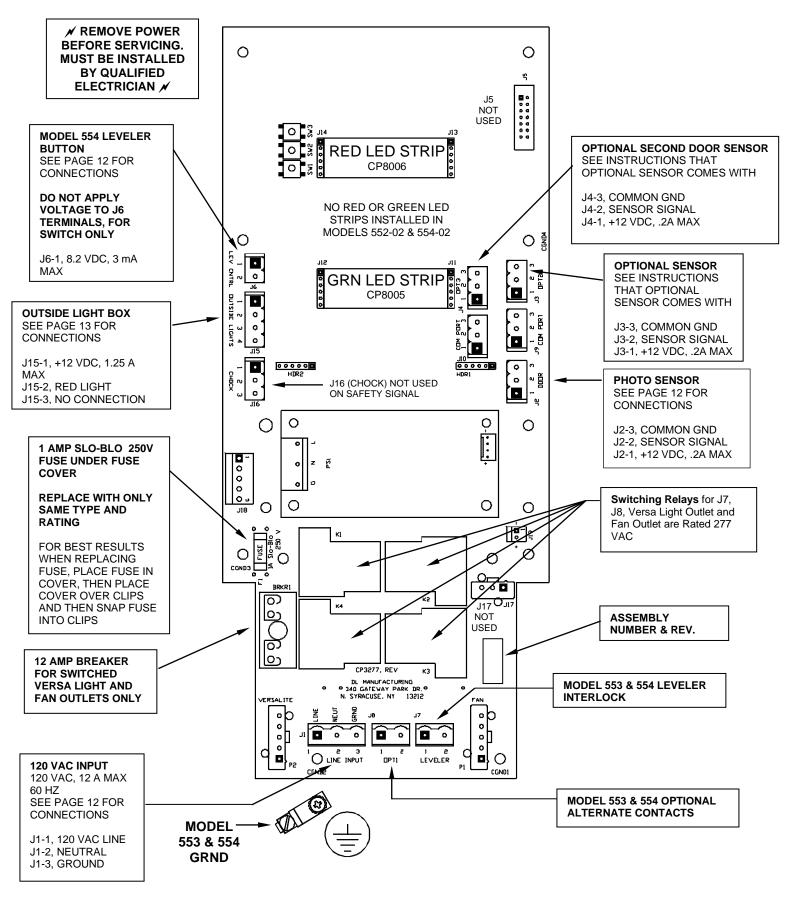
MAGNETIC SENSOR INSTALLATION GUIDE



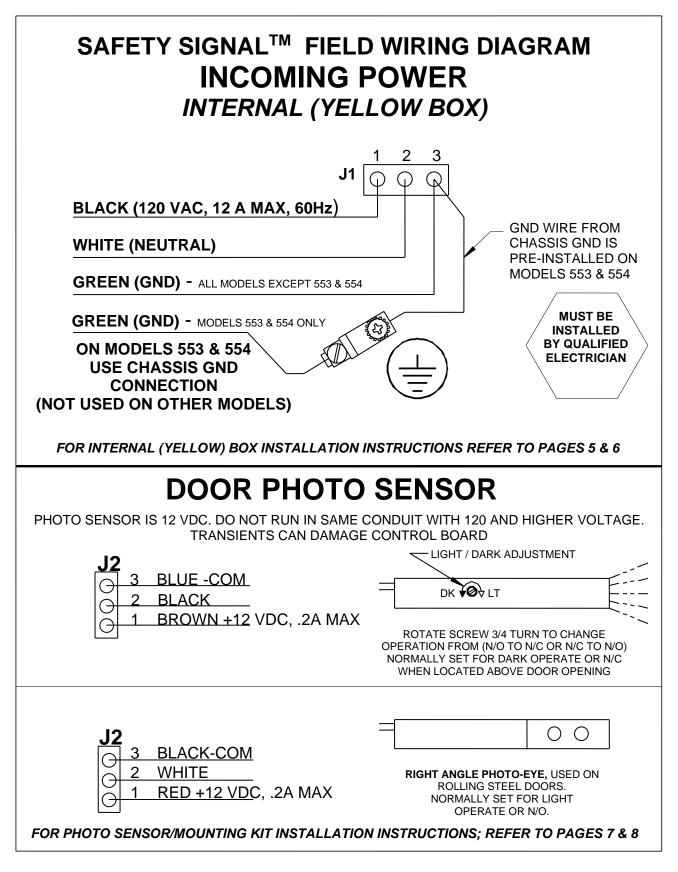
MAGNETIC CONTACT INSTALL - ROLLING STEEL DOORS



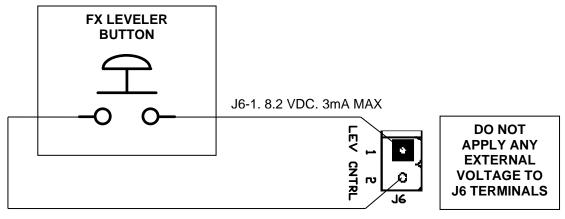
EXTERNAL BOX INSTALLATION



WIRING OVERVIEW / INDEX



SAFETY SIGNAL[™] FIELD WIRING DIAGRAM MODEL 554 LEVELER CONTROL SIGNAL



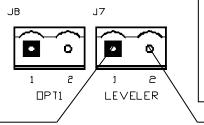
J6-2, COMMON GND

NOTE:

WHEN LEVELER SWITCH IS ACTIVATED, THE CONTROL SIGNAL WILL LET THE MICRO PROCESSOR KNOW TO SHUT THE FAN OFF. IT WILL THEN TURN ON THE LEVELER (J7) AND OPT1 (J8) AFTER A 2 SECOND DELAY. FAN WILL TURN ON WHEN LEVELER STOPS.

MODEL553 & 554 LEVELER INTERLOCK / OPT1

J8 (OPT1) CONTACTS CLOSE WHEN J7 (LEVELER) CLOSE. CONTACTS CONNECTED TO J7 & J8.

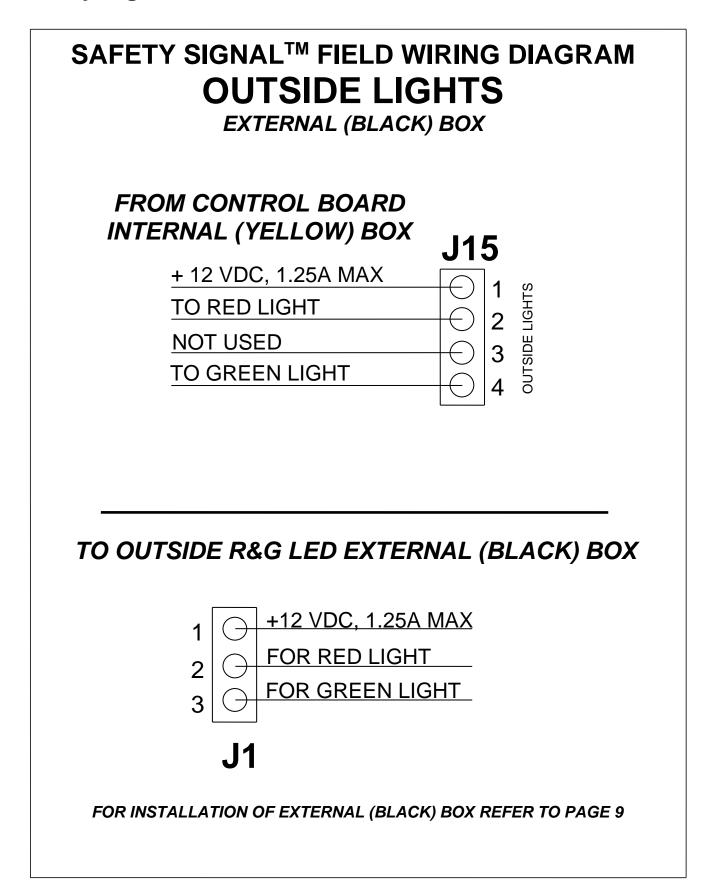


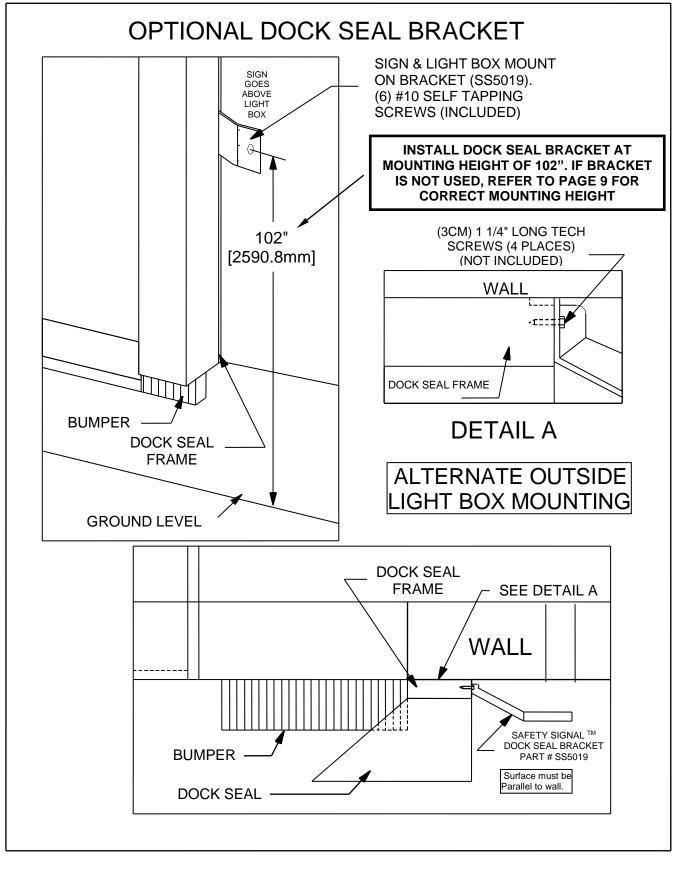
CONTACTS CONNECTED TO J7 & J8 ARE DRY CONTACTS (ISOLATED FROM INTERNAL CONTROL BOARD CIRCUITRY).

INPUT POWER

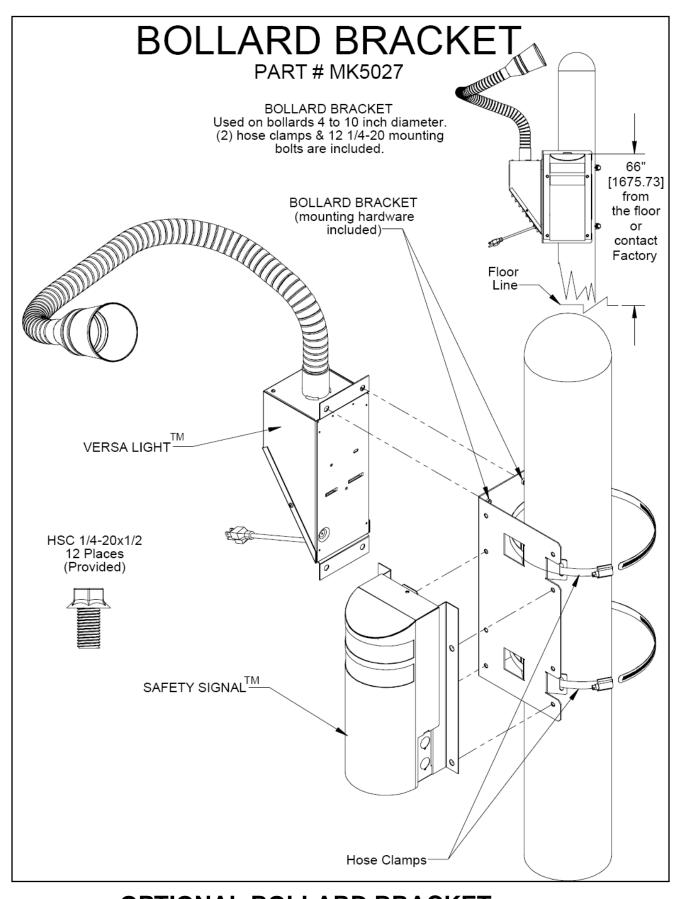
TO LEVELER MOTOR

WIRING DIAGRAM J6, J7 & J8





OPTIONAL DOCK SEAL BRACKET



OPTIONAL BOLLARD BRACKET

REPLACEMENT BOARD INFORMATION

The SS8553C, SS8554C, SC8653 and the SC8654 have been upgraded and are made with a CP8007 REV. D control board

In most cases the factory jumper settings for the Photo-eye will be correct and you should not see any differences from your older boards (CP8003 or CP8007 REV. A-C).

Jumper Settings of OPT2 (J3) & OPT3 (J4) on CP8007 Rev D Replacement Control Board

The CP8007 Rev D Replacement Control Board has been configured so it will work with a Photo Sensor set for either ⁽¹⁾ Light Operate or ⁽²⁾ Dark Operate without having to physically change the Sensor's setting. Jumpers are provided at the Control Board Headers OPT2 (J3) & OPT3 (J4) to compensate for the Sensor's setting.

• Replacement Board jumper settings for use with a Door Photo Sensor (No additional Sensor connected to PC Board Header at OPT2).

The CP8007 Rev D Replacement Control Board is shipped configured for use with a Door Photo Sensor mounted above the Door Opening and set for Light Operate. When replacing the Board simply reconnect the Sensor to the DOOR (J2) Header. If the lights are working opposite Red inside when the door is open the Photo Sensor is set for Dark Operate, move the jumpers in Terminal Blocks OPT2 (J3) & OPT3 (J4) from positions 1 to 2 to positions 2 to 3.

• Replacement Board jumper settings for use with a Door Photo Sensor and a Sensor connected to OPT2 (as when an additional Sensor is used to sense a Screened Door or a Recoil Strap).

If the Door Photo Sensor is set for Light Operate simply reconnect the Sensor to the DOOR (J2) Header. To reconnect the second Sensor, remove the Terminal Block in Header OPT2 (J3) and plug in Sensor.

If the Door Photo Sensor is set for Dark Operate simply reconnect the Sensor to the DOOR (J2) Header. To reconnect the second Sensor, remove the Terminal Block in Header OPT2 (J3) and plug in Sensor. Move the jumper in Terminal Block OPT3 (J4) from positions 1 to 2 to positions 2 to 3.

• Replacement Board jumper settings for use with a Door Photo Sensor physically connected in series with a second Sensor (as when an additional Sensor is used to sense a Screened Door or a Recoil Strap).

When replacing the Board simply reconnect the series Sensors to the DOOR (J2) Header. No jumper alterations are necessary.

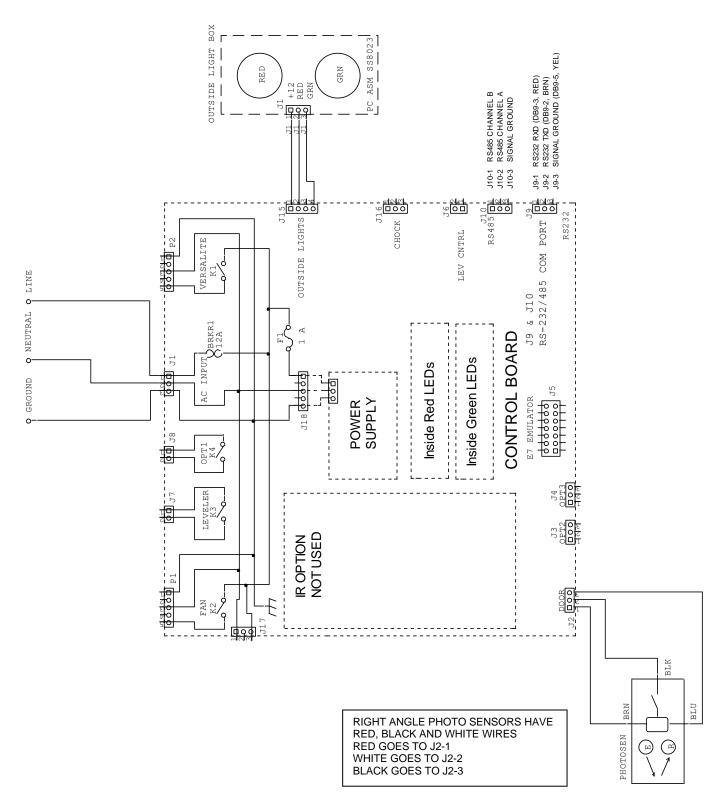
NOTES:

⁽¹⁾ Light Operate - The Sensor will send out a signal on its Black wire when it sees an object. An indicator on the back of Sensor will also illuminate when it sees this object.

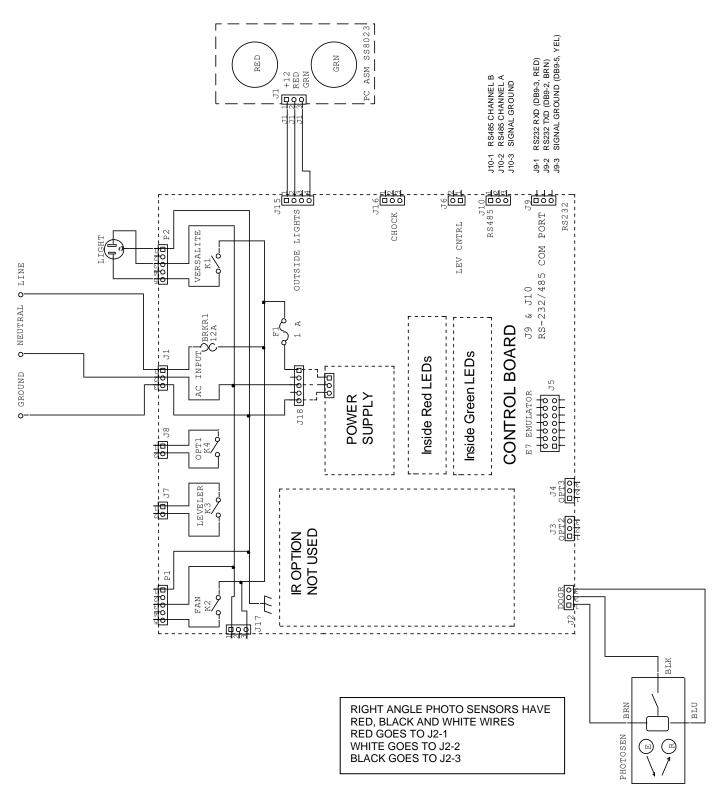
⁽²⁾ Dark Operate - The Sensor will send out a signal on its black wire when it **does not** see an object. An indicator on the back of the Tubular type Sensors will illuminate when it **does not** see an object and go out when it does. The indicator on the Rectangular type Sensors will always illuminate when an object is within its range regardless of whether it is set for Light or Dark Operate.

OPTIONAL TERMINAL BLOCK JUMPERS FOR OPT2 & OPT 3

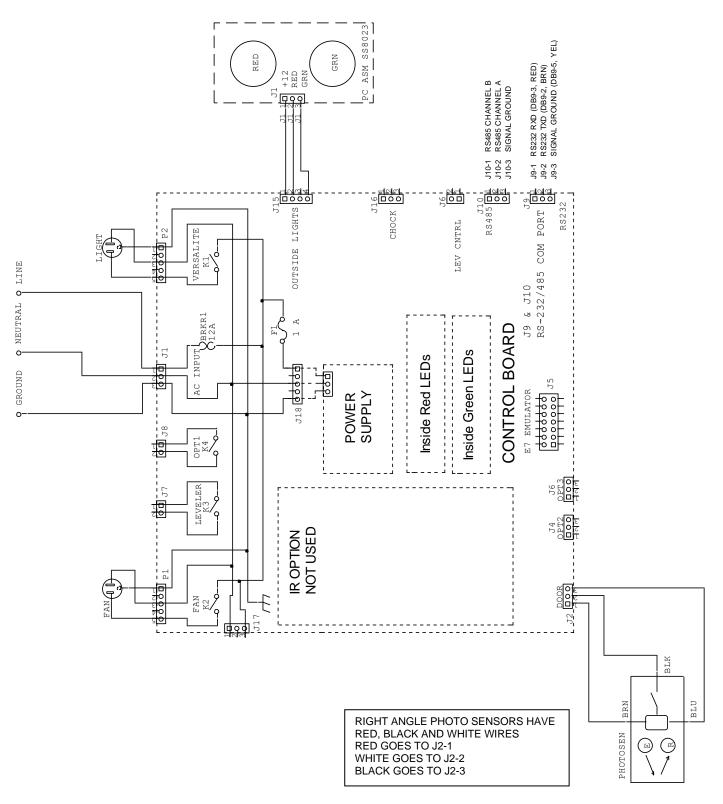
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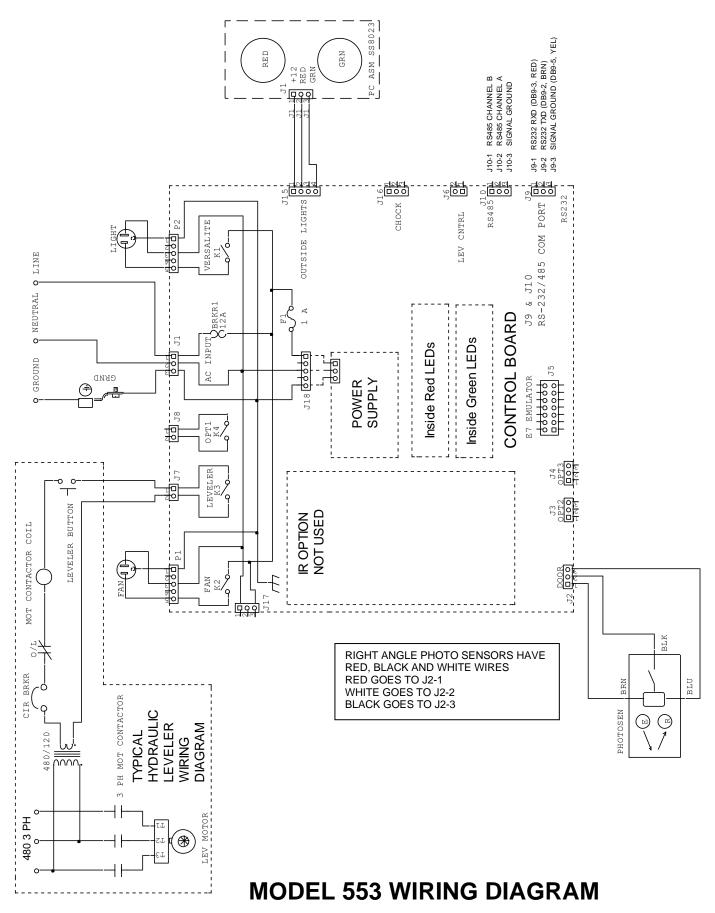
MODEL 550 WIRING DIAGRAM

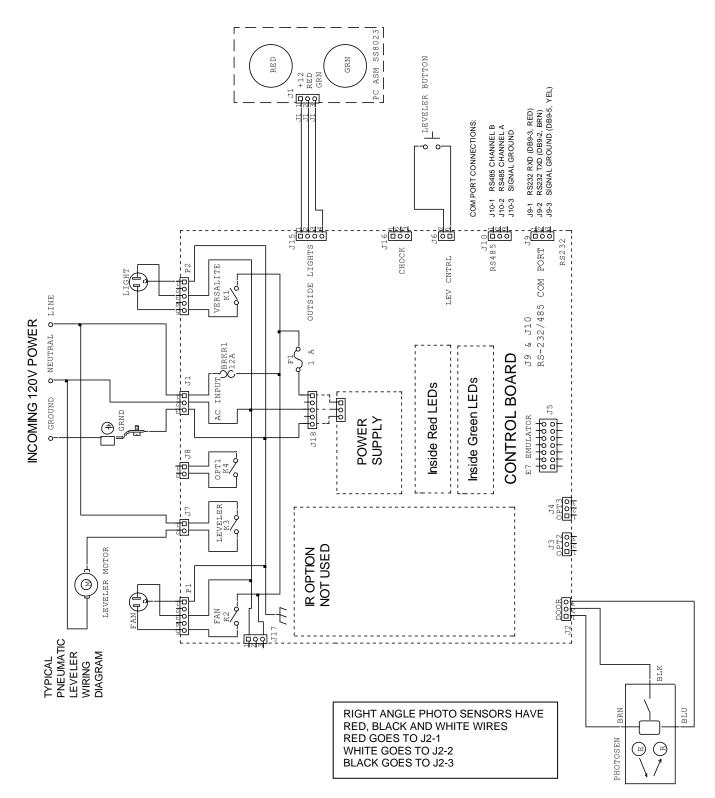


MODEL 551 WIRING DIAGRAM



MODEL 552 WIRING DIAGRAM





DL Manufacturing

Terms / Conditions/ Warranty

Shipping Times

~ Orders for stock items received by 3:00pm EST will be processed for shipment the next day. Orders requesting 2nd Day Air or Overnight Air received by 1:00pm will be processed for same day shipment.

Shipments / Freight

~ All DL Manufacturing orders will ship directly from our facility in North Syracuse, NY.

~ All parts will be shipped via UPS Ground unless you authorize a different service. UPS shipments are prepaid and the charges are added to your invoices.

~ For orders shipping by common carrier, the freight will be FOB, North Syracuse, NY. When "best way" is the preferred shipping method on your order, DL Manufacturing will choose the carrier, unless otherwise stated, for the orders shipping from this facility. No adjustments will be made after the order has shipped.

Returns

~ DL Manufacturing will issue a Returned Material Authorization (RMA) number for any product, parts and accessories. Products should not be returned without an RMA number.

~ Replacement parts will be invoiced at the time of shipping. Invoices will be credited upon receipt and inspection of Returned Material Authorization (RMA).

~ Freight for returns is paid for by the shipper unless otherwise specified by DL Manufacturing.

~ A restocking fee of 35% of net price

~ All replacement parts are warranted for a period of 90 days from shipment.

Cancellation Fees

~ Cancellation charges may be incurred on orders cancelled with DL Manufacturing. Please contact DL Manufacturing to discuss each situation.

Warranty Policy

~ All Products (excluding bulbs) manufactured by DL Manufacturing are warranted to be free from defects for a period of 12 months from the date of shipment, excluding doors, which have a warranty period of 12 months from date of installation or 18 months from shipment, whenever occurs first.

This warranty does not cover unreasonable/improper use or use beyond rated conditions, improper storage, negligence or accident; damage because of incorporated use of equipment with Goods, after Customer has or reasonably should have, knowledge of any defect; or improperly installed by any other Person that is unauthorized by DL Manufacturing.

This warranty is subject to customer covenants to inform all subsequent buyers of the Goods of the limitation on and exclusive of warranties provided for herein. Customer hereby indemnifies and agrees to hold DL Manufacturing harmless from and against all losses, costs and expenses, including reasonable attorney's fees incurred by DL Manufacturing as a result of any third-party claim relating to the purchase, sale or use of, or otherwise relating to, the Goods covered by this Agreement.

In no event, shall DL Manufacturing be required to repair, replace or reimburse Customer for more than the part or material that is found to be defective and DL Manufacturing's liability shall in such event be no greater than the invoiced price of the item and shall not include labor, shipping or other costs incurred in connection with the reshipment of defective Goods to DL Manufacturing or the reinstallation of such Goods after any repair or replacement. The remedy set forth in this paragraph is expressly agreed to be the sole and exclusive remedy for any breach of warranty. This warranty is exclusive and in lieu of all other warranties expressed or implied, including but not limited to any warranty of merchantability or of fitness for a particular purpose.

Limitation of Liability - In no event as a result of breach of contract, warranty or negligence shall DL Manufacturing be liable for special, or consequential damages including but not limited to loss of profits or revenues, loss of any equipment, cost of capital, cost of substitute equipment, facilities or services, downtime costs or claims of purchasers of the Customer for such damages. Additionally, DL Manufacturing will not be liable for any delay in the performance of contracts and orders, or in the shipment and

delivery of goods, or for any damage suffered by the Customer by reason of delay, when such delay is, directly or indirectly, caused by force majeure, including war, Government interference, strikes, embargoes, shortage of labor, fuel, fires, floods, or any other cause or cause whether or not similar in nature to any of those herein before specified beyond DL Manufacturing's control.

Service & Support Helpline: 866.461.1246 Service & Support Email: dlservice@dlmanufacturing.com