

# PD SENSORS

**INSTALLATION AND MAINTENANCE MANUAL (IMM)**



205\_PD\_R.1\_6-14-10



# PD SENSORS INSTALLATION AND MAINTENANCE MANUAL (IMM)

## GENERAL

1. *Please read these instructions carefully to prevent any possible injury or equipment damage.*
2. *Installer must be a qualified and experienced service technician.*
3. *Verify the product ratings to confirm that this product will satisfy your requirements and application.*

## INTRODUCTION

*PD sensors are available in 6 different ranges depending on the application with one Indoor, two Outdoor, one Atrium one Skylight and one Tunnel version. Each sensor will function with a variety of PLC-Multipoint controller products. For mounting locations and recommendations. (See Figures 1A-1F)*

**Styles Include:** *Indoor, Outdoor, Atrium and Skylight*  
**Fixed Range:** *0 - 9VDC*

*The MAS sensors require 18-30VDC input power to operate properly. The four different styles of MAS sensors have different mounting and installation requirements. For mounting locations and recommendations. (See Figures 1A-1F)*

## INSTALLATION

### 1. Indoor Sensor (Ceiling)

*Mount the Indoor sensor in a 1/2" hole in the false ceiling tile using the adhesive backing. For most general applications the sensor should be mounted between 6-8 feet of the window area, central to the area illuminated by the electrical lighting that will be controlled. In all cases the sensor must be mounted so that it looks at reflected light only and not at any direct light. (See Fig. 1A).*

### 2. Indoor Sensor (Reflecting Wall)

*Mount the Indoor/Low sensor at reflecting wall. When sconces are in place in the light well, make sure not to mount sensor in direct level as the sconces. Place sensor 18" from the bottom corner of the ceiling. Remember, the Fresnel lens will see light with a field of view that is 1.15 times the distance to the wall. No direct lighting should be within the field of view. (See Fig. 1C).*

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### 3. Outdoor Sensor

Mount the Outdoor sensor in a standard threaded 1/2" conduit or 1/2" knockout. Locate the sensor on the roof or somewhere that is exposed to full daylight and is not shadowed or directly exposed to any nighttime illumination. Sensor must be mounted horizontally, facing North, with the hooded portion on top. **(See Fig. 1E)**

### 4. Atrium Sensor

Mount the Atrium Sensor in a standard threaded 1/2" conduit or 1/2" knockout. Locate the sensor at the opposite side of the window mounting the sensor against the wall or ideally in the middle of the Atrium glass facing towards the Atrium glass. **(See Fig. 1B)**

### 5. Skylight Sensor

Mount the Skylight sensor in a standard threaded 1/2" conduit or 1/2" knockout. Locate the assembly near the center of the skylight well (at least 12" from the side) that is exposed to full daylight and is not shadowed. For the best results, use unistrut with a 1/4" angle support, making sure the top of the light sensor is level with top of skylight curb. Sensor must be mounted vertically with the domed portion facing up. **(See Fig. 1D)**

## CONNECTIONS

Connect the PD sensor to the controller board. Use at least 18 AWG, four-conductor, shielded cable with a drain wire. Do not run sensor wires near any high voltage area or near anyplace with high electrical noise. Clip back the drain wire at the sensor and connect the other end near the controller to a good ground. Refer to the installation and maintenance manual (IMM) for each controller board for specific connection terminals. Observe the following PD sensor polarity:

BLACK:	12VDC
RED:	Signal Voltage
YELLOW:	Gain
GREEN:	Return

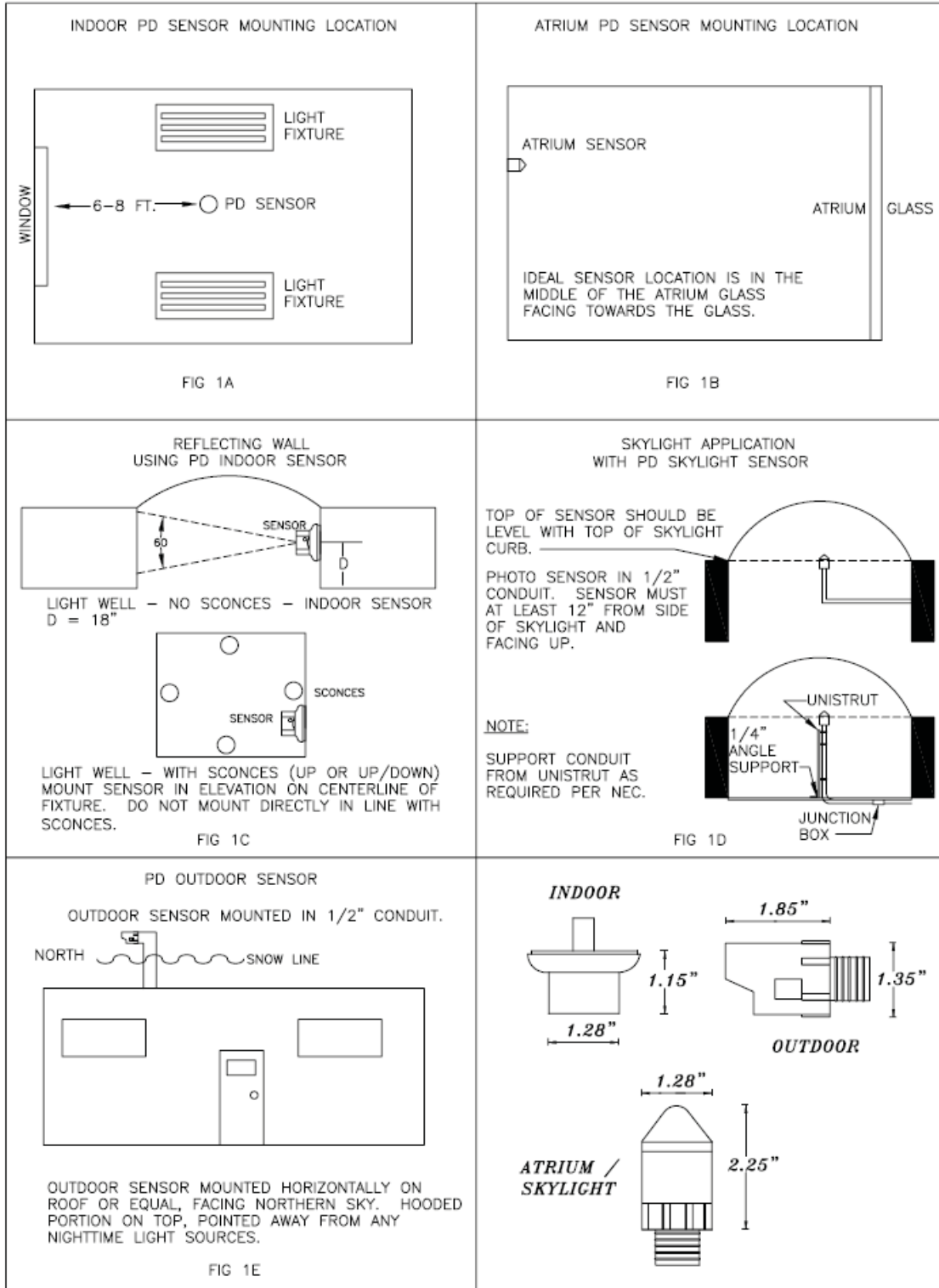
## CALIBRATION

The PD sensors themselves can not be calibrated. All calibration and adjustments are done on the controller boards. Refer to the IMM for each controller board for a detailed procedure.

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## OPERATION

The PD sensor is functioning when the controller board is activated. There are no switches or other user controls on the sensor.

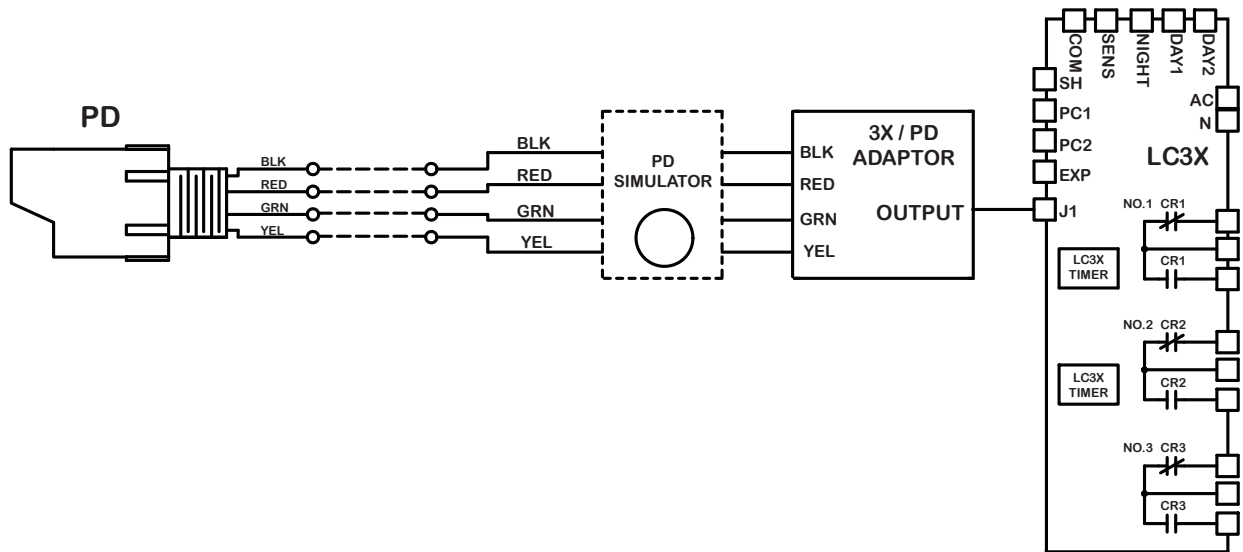


**FIGURES: 1A - 1E PD SENSOR LOCATION**

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## MAINTENANCE

Every 2 months wipe the lens clean with a non-scratching clean cloth and ensure that no foreign debris remains. Check the housing for damage such as cracks, burns or other deformations. Check that no moisture has penetrated the sensor, as this will likely render it inoperable.



**FIGURE 2: CONNECTION DRAWING**