



### PD

#### Linear Photodiode Sensors for PLC-MultiPoint Controllers

#### DESCRIPTION

The **PLC-MULTIPOINT PD** is a Class 2, low voltage light sensor designed to provide input to **PLC-MULTIPOINT** controllers. The **PD** sensor may also serve as input into analog scaling boards used in energy management systems. **PD** sensor models are available in a wide variety of light sensing ranges and housing styles.

The **PD** allows the **PLC-MULTIPOINT** controllers to switch banks of lights on and off, or provide continuous signals to electronic dimming ballasts for fluorescent fixtures.

#### ADJUSTABILITY

The sensor sensitivity is adjustable. **PD** sensor adjustments are made remotely at the controller board, not at the sensor head. The sensor measures dark at 0 VDC and maximum light level at 9 VDC and provides an output selection range at 9 VDC of 750, 2,500, 4,000 or up to 10,000 FC.

#### CONSTRUCTION

To achieve the highest degree of performance and reliability, all components are of computer grade quality and are assembled on a fiberglass epoxy circuit board. The electronic circuit of all exterior sensor models is encased in a clear, glass-like epoxy and sealed with an electronic grade, non-corrosive urethane resin. Skylight and outdoor models are housed in Cynolac T (TM) for UV stabilization.

#### SENSORS FOR ALL APPLICATIONS

All indoor sensors have a flat Fresnel lens that looks downward in a 60 degree cone of reference to measure actual light on the work surface. The Fresnel lens is used to reduce the influence of stray light striking the sensor from nearby windows or incidental side lighting.

The Outdoor sensor is enclosed in a weatherproof housing with a visor for shading and lens protection.

The Atrium and Skylight sensors both use diffusing dome lenses to provide a 180 degree angle of photodiode response.



#### FEATURES

- Adjustable maximum output voltage for high resolution in 10-7,500 FC range.
- Remote sensor calibration.
- Indoor sensor with 60 degree clear Fresnel Lens, Adhesive mounting to ceiling, facing down. Sensor range 0/5-750 FC.
- Outdoor sensor with flat clear lens. Two sensors ranges: 0/5-750FC and 0/500-2500FC. 1/2" IPT connection for horizontal mounting. Weather proof housing.
- Atrium sensor with opaque dome lens filters 33% of light level in upper atrium. Sensor range 2/200-4,000 FC. 1/2" IPT connection for horizontal mounting.
- Skylight sensor with dark dome lens filters 90% of light level in skylight. Sensor range: 10/1,000-10,000 FC in skylight. 1/2" IPT connection to for upward vertical mounting.
- Interface with LC3X PLC-MULTIPOINT controller.
- New high temperature suturing process combines LEAD FREE parts & premium circuit boards offers same level of performance.
- Fully patented technology.
- 2 year warranty.



# PLC-MULTIPOINT, INC.

## PHOTO LIGHTING CONTROL & SYSTEMS

DATA SHEET

### PD TECHNICAL DATA

<b>Accuracy:</b>	+/-1% at 70 F (21 C) Derated to +/-5% at 120 F or at 0 F (-18 C to 49 C)
<b>Operating Temp:</b>	13 F to +140 F. (-11 C to 60 C)
<b>Sensor Type:</b>	Blue-enhanced Photo Diode
<b>Sensor Ranges:</b>	<u>Minimum</u> <u>Adjustable</u> <u>Max</u>
<b>PD1 - Indoor</b>	0 Fc                      2-750 Fc
<b>PD5 - Outdoor</b>	0 Fc                      2-750 Fc
<b>PD5D - Outdoor</b>	5 Fc                      500-2,500 Fc
<b>PD9 - Atrium</b>	2 Fc                      200- 4,000 Fc
<b>PD9D - Skylight</b>	10 Fc                      1,000-10,000 Fc
<b>PD9DT - Tunnel</b>	10 Fc                      1,000-10,000 Fc
<b>Input Voltage:</b>	12VDC from controller
<b>Output Voltage:</b>	0 at darkness to 9 VDC at full output
<b>PC Input Controls:</b>	<b>LC3X-3X/PD, LC6, LC7B4, LC7B6, PD-SIM</b>
<b>Wiring:</b>	4 conductor 18 ga. stranded Cable. Red: Signal Black: +12VDC Yellow: Remote gain adjust Green: DC common
<b>ROHS:</b>	Directive 2002/95/EC on the Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equip- ment (RoHs)

### SPECIFICATION

#### PHOTODIODE SENSOR

The photoelectric device shall be a Class 2, low voltage, ambient light sensor designed to interface directly with the analog input of the controller. The sensor shall supply an analog signal to the controller system proportional to the light measured. The sensor shall be capable of a fully adjustable response in the range between 0 and 10,000 footcandles with a +/-1% accuracy at 70 degrees F (21 deg. C).

The sensitivity adjustment shall be remote at the controller. The sensor housing shall be constructed from GE Cyclocac (R) ABS, shall be flame retardant and meet UL 94 HB standards.

#### INDOOR

Indoor sensors shall have a Fresnel lens, with a 60 degree cone of response. Indoor sensors shall only require a penetration hole in the ceiling of 3/8" dia. and the sensor shall mount to the ceiling using adhesive tape. The indoor sensor range shall be between 0 and 750 FC. The indoor sensor shall be **PLC-MULTIPOINT PD1**.

#### OUTDOOR

Outdoor models shall have a hood over the aperture to shield the sensor from direct sunlight. The outdoor sensor circuitry shall be completely encased in an optically clear epoxy resin. Outdoor sensors shall mount to a standard threaded 1/2" conduit or fit a 1/2" knockout. The Outdoor sensor shall have two ranges: between 0 and 750 FC or 5 and 2500 FC. The outdoor sensor shall be **PLC-MULTIPOINT PD5 or PD5D**.

#### ATRIUM or SKYLIGHT

The Atrium or Skylight sensors shall have a translucent dome with a 180 degree field of view. Atrium or Skylight sensors shall mount to standard threaded 1/2" conduit or fit a 1/2" knockout. Atrium sensor range shall be from 2 to 4,000 FC. Skylight sensor range shall be between 10 and 10,000 FC. The Atrium or Skylight sensors shall be **PLC-MULTIPOINT PD9 or PD9D**.

### PD SENSOR SELECTOR

<u>SENSOR</u>	<u>LENS</u>	<u>FILTER</u>	<u>MOUNTING</u>	<u>ORIENT</u>	<u>Height</u>	<u>Dia.</u>
PD1	Fresnel	Clear	Ceiling	Down	2.00"	1.23"
PD5	Flat	Clear	1/2" IPT	Horiz.	1.85"	1.28"
PD5D	Flat	Dark	1/2" IPT	Horiz.	1.85"	1.28"
PD9	Dome	Opaque	1/2" IPT	Horiz	2.25"	1.28"
PD9D	Dome	Dark	1/2" IPT	Up	2.25"	1.28"
PD9DT	Dome	Dark	1/2" IPT	Horiz	2.25"	1.28"

