



DLC-PC-I/DLC-PC-O/DLC-PC-A/DLC-PC-S Daylighting Control Photocell Sensors

DESCRIPTION

MYTECH's daylighting control photocell sensor series, the DLC-PC-, belong to a sensor family that monitor either task or ambient light levels precisely. The light level measurement is converted to an analog signal that is sent to the controller of the Energy Management Systems (EMS).

The DLC-PC-series allow the Heating Ventilation and Conditioning Energy Management System (HVAC/EMS) to control area lighting by switching banks of lights on and off, or provide continuous signals to electronic dimming ballasts for fluorescent fixtures.

ADJUSTABILITY

The sensor sensitivity is adjustable. The maximum output voltage can be matched to the maximum light level, in order to provide the highest resolution signal to EMS. Model measurements ranges include 0 to 750, 2,500 or 7,500FC. The CES sensor is available in several input voltages (5, 10, 12 & 24 VDC) The voltage output is available in either 5 or 10 VDC, and can be ordered with a zero or one volt minimum. (See selector table)

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™ 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 to 7,500 FC range.



Daylighting Controls Photocell Sensors

pictured top clockwise, Indoor Photocell Controller (DLC-PC-I), Outdoor Photocell Controller (DLC-PC-O) and the Atrium Photocell Controller (DLC-PC-A).

- Output minimum voltage selection of zero or offset.
- Indoor sensor with flat clear lens. Sensor range: 0/5-75FC ½" IPT connection for horizontal mounting. Weatherproof housing.
- Atrium sensor with opaque dome lens filters 33% of light level in upper atrium. Sensor range 2/200-2,500Fc. ½" IPT connection for upward mounting.
- Skylight Sensor with dark dome lens filters 90% of light level in skylight. Sensor range: 10/1,000 to 7,500 FC in skylight. ½" IPT connection to for upward vertical connection.
- Interfaces with any EMS equipment.
- Sensor matched to human eye response range.
- Fully patented technology.
- 2 year warranty.

TECHNICAL DATA

Accuracy: +/-1% at 70°F (21°C) Derated to +/-5% at 120°F or at) F (-18°C to 49°C)

Operating Temperature: 13°F to 140°F (-11°C to 60°C)

Sensor Type: Blue-enhanced photo Diode.

Sensor Ranges:	Housing	Minimum	Adjustable	Maximum
DLC-PC-I	Indoor	0FC	5-750FC	
DLC-PC-O	Outdoor	0FC	5-750FC	
DLC-PC-A	Atrium	2FC	200-2,500FC	
DLC-PC-S	Skylight	10FC	1,000-7,500FC	

Input Voltage: 5,10,12,24,VDC (See ordering example)

Output Voltage: 5VDC or 10 VDC full output

Output Offset: 0VDC or 1 VDC as total darkness

Wiring: Three conductors 18ga. Standard cable

Red: Pos. DC input

Black: DC common

Yellow: Output to EMS

DLC-PC-SENSOR SELECTION

Product	Lens	Filter	Mounting	Housing	Orientation	Height	Diameter
DLC-PC-I	Fresnel	Clear	Ceiling	Indoor	Down	2.00"	1.23"
DLC-PC-O	Flat	Clear	½" IPT	Outdoor	Horiz	1.85"	1.28"
DLC-PC-A	Dome	Opaque	½" IPT	Atrium	Up	2.25"	1.28"
DLC-PC-S	Dome	Dark	½" IPT	Skylight	Up	2.25"	1.28"



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SPECIFICATION

Photodiode Sensor

The photo electric device shall be a Class 2, low voltage, ambient light sensor designed to interface directly with the analog input of the Energy Management System. The sensor shall supply an analog signal to the EMS system proportional to 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 ° F (21° C).

The sensitivity adjustments shall be at sensor body, and outside of the sensor's viewing angle. The sensor housing shall be constructed from GE Cylolac ® ABS, shall be flame retardant and meet UL 94HB 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 750FC.

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 ½" conduit or fit a ½" knockout. The Outdoor sensor range shall be between 0 and 750FC.

Atrium or Skylight

The Atrium or Skylight sensors shall have a translucent dome with a 180 degree field of view. Atrium or skylight sensors circuitry shall mount to a standard threaded ½" conduit or fit a ½" knockout. Atrium sensors range shall be from 2 to 2,500 FC. Skylight sensor range shall be between 10 and 7,500 FC.

Daylighting Control Photocell Sensor Schematic

