

BPD-500 series

Low Voltage Daylight Sensor



OVERVIEW

The BPD-500 series member of the TRANS family is a low voltage daylight sensor designed to provide digital and analog output for automatic daylight controls through the connected Power Pack or panel system.

This closed loop daylight sensor employs a cutting edge digital ambient light sensor (ALS) with an advanced algorithm to constantly measure the ambient light level in the controlled area. When the ambient light level is lower/higher than the set value for a period of time, the sensor will automatically engage/disengage its isolated dry contact output to turn the connected light ON/OFF.

In addition to the digital output, the sensor also provides 5 different 0-10V analog output ranges pre-settable via Accu-Set potentiometer to report the local ambient light level in timely basis for BMS control.

FEATURES

- Digital data control ambient light sensor
- Human-eye matching spectral response
- Sensor operation LED indicator built-in
- 12~24VDC low voltage power operation
- Isolated dry contact for ON/OFF switching
- 0~10V present ambient light level output
- Accu-Set digital ON/OFF threshold settings
- Available with variety of mounting options
- 5 different measuring ranges selectable

APPLICATION

The BPD-500 series daylight sensor can be used in various applications to meet the requirements for daylight harvesting in areas defined as daylight control zones.

- Educational
- Industrial/retail
- Public Buildings
- Commercial

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TRANS

OPERATION

The BPD-500 series is a closed loop daylight sensor operated by 12-24VDC to provide digital and analog outputs for automatic daylighting control. The sensor can be applied to control lights in areas that receive sufficient daylight, thus the electric lights can be reduced or switched OFF via IR-TEC Power Pack or panel system. The isolated dry contact will be activated when the ambient light level is lower than the ON setpoint. The relay output will be disengaged when the ambient light level is higher than the OFF setpoint.

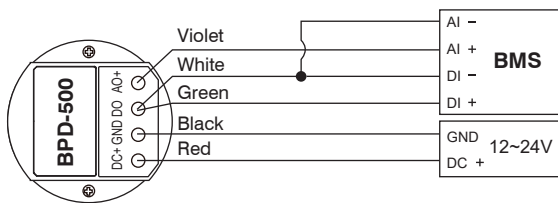
Mounting Options

The BPD-500SX series can be mounted into the ceiling or attached to a fixture. The mounting options are available by combining a specific mounting bracket from the chart below. The bracket will be shipped with the sensor when ordered with the respective code.

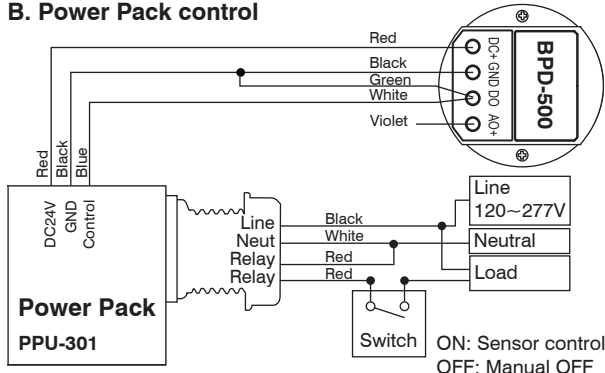
Code	Mounting Option	Mounting Bracket
F	Fixture Integrated	---
W	IP-66 Fixture Integrated	---
E	Fixture External	EMB-500
P	IP-66 Fixture External	PMB-500
S	Ceiling Surface	SMB-500
C	Junction Box	CMB-500
R	Ceiling Recess	RMB-500

Wiring Diagram

A. Building Management System control



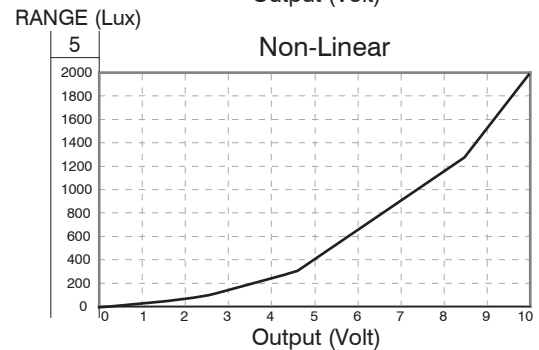
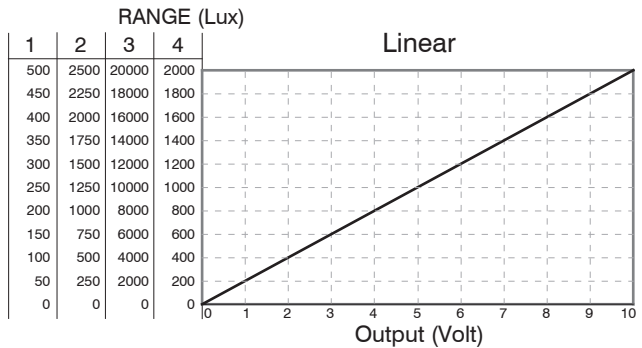
B. Power Pack control



RANGE - Output vs Ambient Light Level

5 different sensing ranges are available for setting via Accu-Set digital potentiometer. Following charts indicate respective output vs ambient light level ranges at different setting positions of potentiometer marked RANGE.

The lux level ranges are typical data obtained from lab test. Actual performance may vary with different installation site. On-site calibration may be required if precise control is desired.



SPECIFICATIONS

Power supply	12~24 VDC \pm 5%
Photo sensor	Digital data control ambient light sensor
Current drain	15mA typical
Digital output (DO)	Isolated dry contact, max. 1A
Analog output (AO)	0-10V
Sensing range	5 range Accu-Set digital potentiometer
Mounting height	8~12 ft. (2.4~3.6m)
Field of view	Approx. 80°
ON/OFF threshold	7-level Accu-Set digital potentiometer
Op. humidity	Max. 95% RH
Op. temperature	-40°F ~ 131°F (-40°C ~ 55°C)
Dimensions	Ø2.56" x H1.77" (Ø65 x H45mm)