

INTRODUCTION

The Light Sensor is a photo-sensitive sensor that may be used as an input to indicate the presence or absence of light at the sensor location by a change in resistance. The Light Transmitter option is a light Sensor coupled with a transmitter. The Transmitter option produces a 4-20 mA output signal. There is an optional weatherproof enclosure that the sensor may be mounted into.

BEFORE INSTALLATION

Read these instructions carefully before installing and commissioning the temperature transmitter. Failure to follow these instructions may result in product damage. Do not use in an explosive or hazardous environment, with combustible or flammable gases, as a safety or emergency stop device or in any other application where failure of the product could result in personal injury. **Do not exceed the device ratings.**

MOUNTING

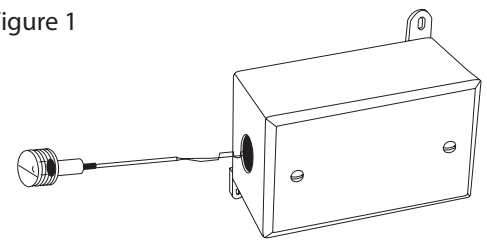
The Light Sensor/Transmitter is to be mounted out of direct sunlight in a permanently shaded location as direct exposure to UV light will permanently cause a sensor shift and eventual failure. Once a suitable mounting spot is selected, thread the 1/2" NPT clear lens into a weatherproof enclosure or conduit coupling using Teflon tape or pipe dope to maintain a tight waterproof seal.

Terminate the non-polar wiring to the transmitter or building automation system analog input. See Figure 3 for the approximate light to resistance performance values. The sensor is designed for determining day or night levels but does not have the accuracy for precision light level measurement.

Complete wiring as per Figure 4.

Once wiring is complete, mount the enclosure in the selected spot using the two integrated mounting tabs on the supplied enclosure should it be present. The mounting tabs facilitate two #10 size screws. See Figure 2.

Figure 1



Typical mounting using a weatherproof enclosure

Figure 2

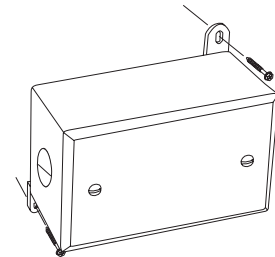


Figure 3

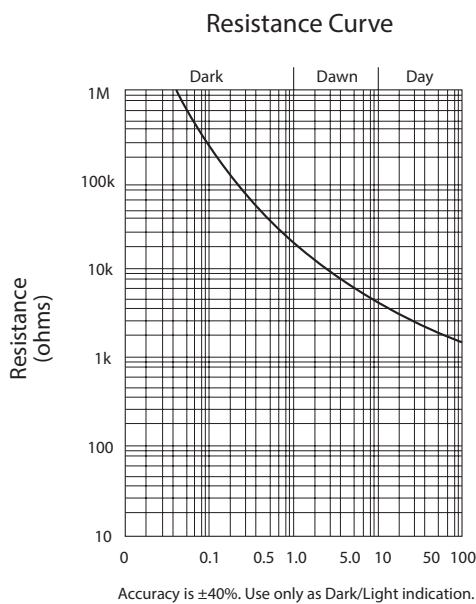
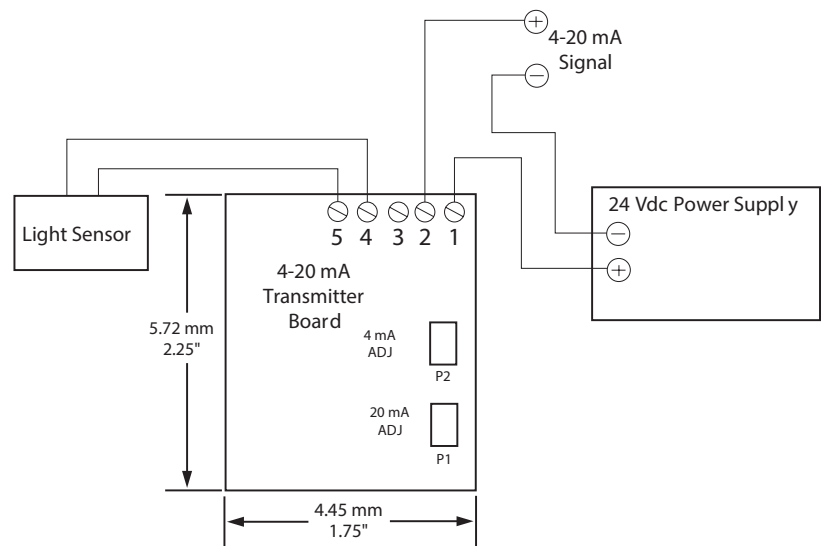


Figure 4



OPERATION

Due to the wide tolerance and non-linear nature of the low-cost device, the values for the resistance versus light level (or mA versus light level) cannot be predicted accurately. As stated in the data sheet, it is not intended for control of lighting levels in occupied spaces.

However, an installed device will give very repeatable performance through its span. Note the following procedure is required for each individual model installed, as interchangeability is not guaranteed.

- Install the device in its intended location and connect to the controller. Preferred direction of mounting is due north toward the sky or toward a location where the sun can never appear.
- Arrange for the sensed lighting to be darkened to the control point that is desired, using a reliable light level meter is recommended. For outdoor lighting, the most common on/off control points are turn lights on at a point between 1 and 3 foot candles. Without a light meter, the lowest level (on point) can be estimated by observation on a cloudless day at about 5 minutes prior to sunset, or about 5 minutes after sunrise. The high (off point) level can be estimated by observation on a cloudless day at about 15 minutes prior to sunset time for your locality on a given day may be obtained at www.srrb.noaa.gov.
- Record the value (Ohms or mA) at which each lighting control point is reached.
- While the method is NOT recommended for analog control of lighting level in occupied spaces, the same procedure may be employed to control artificial lighting in areas that otherwise illuminated by skylights or other overwhelming sources of natural light.
- Any exposure to direct sun may allow the temperature of the device to approach or exceed 75°C (167°F) limit. **Mounting in direct sunlight will deteriorate the sensor to failure.**

APPLICATION

The Light Sensor model has a resistance in darkness in excess of 1 MΩ and a resistance in bright light of less than 1.5 kΩ. The Light Transmitter models indicate the presence or absence of light. The should not be used for footcandle control of occupied spaces. The Light Transmitter model without the S/S enclosure included is calibrated for 4 mA in bright light (>100 footcandles) and 20 mA in darkness (0.1 footcandles).

SPECIFICATIONS

LIGHT SENSOR

Output.....>1mΩ in dark & <1.5kΩ in bright light

Temperature Range.....-25 to 75°C (-13 to 167°F)

LIGHT TRANSMITTER

Power12-35 Vdc

Max Current Draw22 mA

Output.....4-20 mA (current limited to 22 mA)

Temperature Range.....-25 to 75°C (-13 to 167°F)

Optional EnclosureCast aluminum IP64 (NEMA 3X)

114.3mm W x 72mm H x 53.9mm D
(4.5" x 2.85" x 2.15")

DIMENSIONS

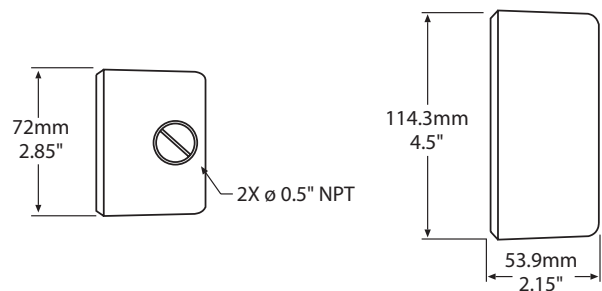
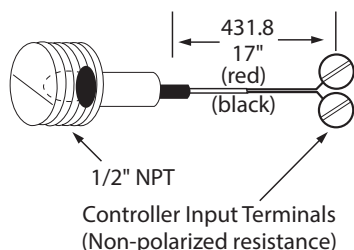


Figure 4

Power Derating Curve

