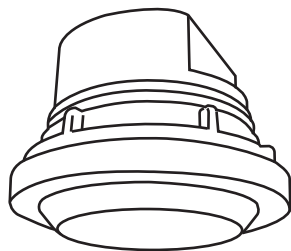


# TRANS

## BED-511 series

Low Voltage Daylight Sensor

## INSTALLATION INSTRUCTIONS



### ⚠️ WARNING & CAUTION

- Turn power OFF at circuit breaker before installing Power Pack or Sensors.
- Do Not Install To and/or Cover a Junction Box Having Class 1, 3 or Power and Lighting Circuits.
- Class 2 Device Wiring Only – Do Not Reclassify and Install as Class 1, 3 or Power and Lighting Wiring.
- Suitable wiring range 16-20 AWG solid copper wire only.

### ⚠️ AVERTISSEMENT & PRUDENCE

- Coupez l'alimentation au disjoncteur avant d'installer Power Pack ou capteurs.
- Ne pas installer ou couvrir une boîte de jonction ayant les classes 1 et 3 ou circuits de puissance et d'éclairage.
- Classe 2 Câblage de périphériques Seulement - Ne PAS reclasser et installer Classe 1, 3 ou alimentation et circuits d'éclairage.
- Convient gamme de câblage 16-20 AWG en cuivre massif seulement.

## OVERVIEW

The BED-511 series member of the TRANS family is 12~24VDC low voltage a remote programmable virtual midnight (VM) sensor designed to provide control signal for IR-TEC power pack to execute virtual midnight automatic lighting control.

This daylight sensor employs a cutting edge digital ambient light sensor (ALS) with an advanced algorithm to provide closed loop, dynamic ambient light level sensing capability. The sensor is able to determine a virtual midnight point based on the measured dusk and dawn points. A dry contact signal will be activated from the preset time point "before" VM to the preset time point "after" VM.

All sensor settings and adjustments can be programmed via an IR-TEC TRANS programmer (SRP-280) or OS-NET programmer (SRP-281) on the floor via simple and intuitive remote operation. This 2-way remote setting capability does away with the need for ladders, scissor lifts, bucket trucks or any other tools.

Like all TRANS family, the BED-511 sensor is also available in various mounting options. This feature offers a second-to-none design and installation flexibility to achieve virtual midnight lighting control.

## INSTALLATION NOTES

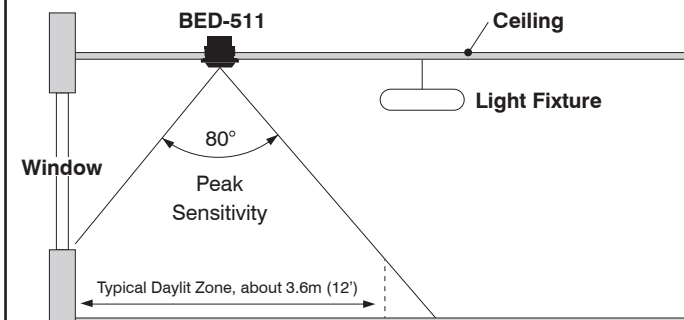
1. Care must be taken when selecting the mounting location of sensor. The ambient light level may vary greatly at different positions in the room, depending on the location of the windows, lighting fixtures, wall colors, floor material, desk top, etc.
2. It is recommended to mount the sensor directly above the work space, such as desk or conference table.
3. Note the path of shadows which may affect the sensor operation. Daylighting control may be problematic if part of controlled area is in shadows while other part has abundant daylight.
4. The sensor is designed to measure ambient light level by looking down from ceiling height. Sensing performance will vary if sensor is mounted to look out from wall. Avoid installing the sensor to directly look into the skylight, the daylight level will exceed the maximum threshold of sensor.
5. The ambient light level on the ceiling can be much lower than that at the windows, corners of the room, or especially the workplace level. Therefore, it is important to measure the light level over the workplace.

## SELECTING A LOCATION

The BED-511 series will automatically determine a so-called "Virtual Midnight" point by continuously measuring the daylight level defined as dusk and dawn. It is important to select a location for the BED-511 series where the representative daylight of the controlled area is available.

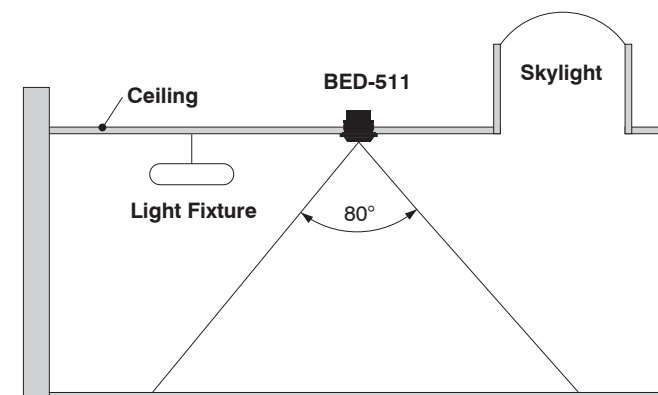
### Side-lighting area

If the primary daylight source is a window, the daylight sensor is typically mounted between the window and the first row of fixtures.



### Top-lighting area

If the primary daylight source is a skylight, the daylight sensor should be mounted on the ceiling between the skylight and fixtures, looking down at the floor.



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P/N: 058-51100-001

Printed in Taiwan

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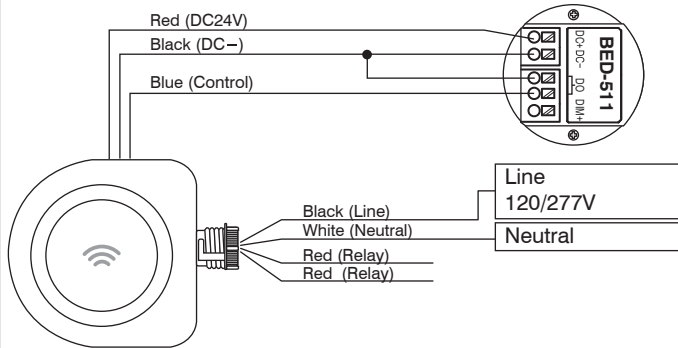


## INSTALLATION

The BED-511 series can be mounted onto the ceiling surface, recess mounted into the ceiling, installed in a 4" junction box, integrated or externally attached to a fixture via various mounting brackets. For more details of available mounting options, please refer to the separate instructions attached.

## WIRING DIAGRAM

Following diagrams are provided for wiring reference. Consult with an IR-TEC team member if a more complex wiring diagram is required.



## SENSOR SETTINGS

The followings are settings and options available with BED-511 that can be configured through the operation of SRP-280 or SRP-281 remote programmer.

Settings	Description	Options	Default
<b>CONTROL</b>	The mode that the sensor will control.	DSVM	DSVM
<b>AMBIENT LUX</b>	The ambient light level that sensor will perform the control.	10/20/40/60/100/200/400 LUX	10 LUX
<b>VM-TA</b>	Set the duration after Virtual Midnight.	0.5/1/1.5/2/2.5/3/3.5/4/4.5/5/5.5/6 Hour	4 Hour

## DSVM Operation

With 12-24VDC power applied, the sensor will automatically determine a so-called "Virtual Midnight" point by continuously measuring the daylight level defined as dusk and dawn for 3 days.

The control signal will be activated from the 30mins "before" VM (Tb) to the preset time point "after VM (Ta).

## SENSOR ACKNOWLEDGMENT

Acknowledgement	Sensor LED	Beep	Lighting
Full sensor setting upload completed	-	Long x 1	Flash x 2
Sensor resume to factory default	-	-	Flash x 2
Single setting ok	-	Short x 2	-
Sensor in operation - during warm up (5 min.)	Flash x 1 every 2 sec.	-	-
Sensor in operation	Flash x 1 every 15 sec.	-	-

## SPECIFICATIONS

Power supply	12~24 VDC±5%
Photo sensor	Digital data control ambient light sensor
Current drain	10/20 mA @ 24 VDC, standby/active
Digital output	Isolated dry contact, max. 1A, 48 VDC
Tb (Time before VM)	Fixed 30 mins.
Ta (Time after VM)	0.5-6 hours
Sensing range	Approx. 2~2,000 lux (0.2 ~ 200 fc)
Field of view	Approx. 80°
Op. humidity	Max. 95% RH, non-condensated
Op. temperature	-40°C~55°C (-40°F~131°F)
Dimensions	Ø65 x H45mm (Ø2.56" x H1.77" )

## WARRANTY

IR-TEC International Ltd. warrants this product to be free of defects in materials or workmanship for a period of five years from date of shipment. There are no obligations or liabilities on the part of IR-TEC International Ltd. for consequential damages arising out or in connection with the use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation or reinstallation.