

# Provolt™ Series Dual Relay Multi-Technology (M/T) Occupancy Sensors



Light Pipe

## DESCRIPTION

The Leviton Provolt™ Series Dual Relay Occupancy sensors combines line voltage occupancy sensors and photocells into a self-contained unit. The integrated design alleviates the need for separate power pack and occupancy sensor wiring making it a low-cost, efficient energy solution for new construction and retrofits. For true daylight harvesting applications, an integrated photocell provides consistent daylight design levels by actively switching the connected load(s) ON and OFF in response to available natural light to maximize energy savings. Vacancy timers continually analyze and adjust to changing conditions using the latest microprocessor-based technology to optimize performance. Auto-ON/ auto-OFF automatically turns lights ON and keeps them ON when occupancy is detected and automatically turns lights OFF when the space is vacant or unoccupied. Wire terminals allow for simple connection to a line-voltage circuit and are ideal for existing buildings with limited access to wiring and new construction.

## APPLICATIONS

- Can be used to comply with ASHRAE 90.1 and 2016 Title 24, Part 6 occupancy/vacancy sensing, automatic shut-off, daylight harvesting and stairwell control requirements
- Auto-ON/auto-OFF
- Manual-ON/auto-OFF
- Dual Relay Modes Include:
  - Fan control
  - Auto-ON/manual-ON
  - Stairwell control
  - Step dimming—alternating daylighting levels
  - Step dimming - load 1 primary

## FEATURES

- Sensors combine both PIR and U/S technology for unrivaled performance and reliability
- Sensors use PIR technology to initially turn lights ON, and use U/S technology to keep the lights ON
- Exclusive false-detection software assures lights are ON only when needed
- Auto temperature adjusts tech sensitivity for optimal detection/operation
- Auto-adapting: time delay and sensitivity are continually adjusted to occupancy pattern of use
- Vacancy sensing time outs
  - Delayed OFF timer
  - Exclusive walk-through feature
- False detection timer: (M/T) PIR scans for movement and shuts lights off after 31 minutes without movement, preventing false triggers from HVAC systems
  - Time delay and saved settings are protected during power outages and will return to the last known state
- Output short circuit protection
- Industry-exclusive self-configuring local manual switch input: momentary or maintained switches are supported
- Presentation mode allows user to turn lights OFF and keep them OFF while the room is occupied
- Adjustable time delay: 30s, 5min, 10min, 20min, 30min
- Test mode for simplified commissioning
- Manual switch and Emergency Override are Class 1 and Class 2 circuits. Class 2 circuits provided for flexibility
- Industry-exclusive “fail-safe” circuitry: In the event of product failure, return-to-closed feature causes the relay to default ON which eliminates life safety concerns

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## PRODUCT DATA

### FEATURES

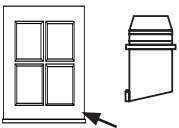
- Industry-exclusive H.I.S. (High Inrush Stability) technology designed to handle today's high inrush electronic ballast loads and offer unmatched durability and service
- Robust and reliable mechanically held latching relay provides dependability and robust performance for all load types and provides energy savings over electronically held relays
- Field of view: units from 500 to 2,000 square feet available
- Lenses are easily replaceable and color-coded—red (mid-range), black (extended range) and blue (high density) for contractors and end-users to easily identify lenses from the ground
- Visual LED indicators for all states:
  - Red—blinks when infrared is detecting motion and during photocell manual calibration; solid during device malfunction
  - Green—blinks when U/S is detected; solid during auto calibration
  - Yellow—blinks during test mode; solid with emergency/BMS input
  - Blue—blinks when knob settings are changed and during photocell override

### RATINGS AND TESTING

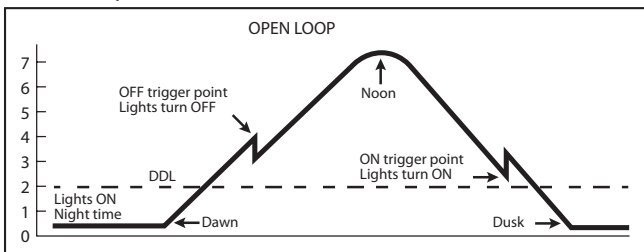
- Zero-crossing circuitry for extended life of the relay
- Tested to exceed 1 million switching cycles under standard loads
- Multiple compliance and regulatory UL testing—consult factory for details
- Passed rigorous NEMA 410 testing for electronic ballast rating
- BMS Input/Emergency Override: UL 924 listed for Emergency and Egress lighting control

### PHOTOCELL OPERATION

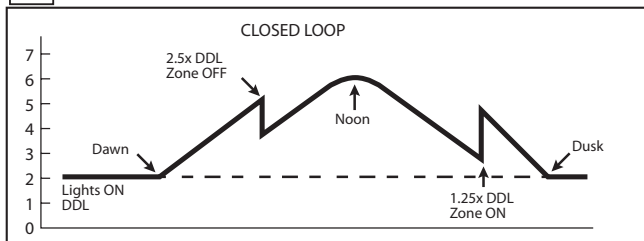
#### Open Loop - Angled Light Pipe



Note: Long side of angled light pipe must face toward natural light source (window)



#### Closed Loop - Flat Light Pipe



### Photocell Features

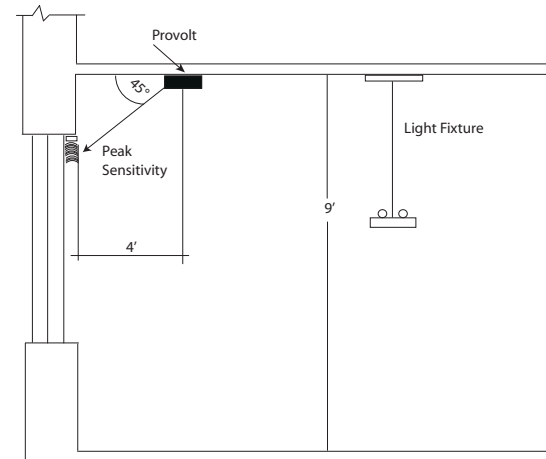
- Daylight harvesting applications:
  - Auto-calibration (automatic daylight calibration): photocell intelligently measures light levels to determine optimal daylight design levels for closed loop applications
  - Closed loop: photocell detects total photometric light from daylight or electric sources in the space
  - Open loop: photocell detects measurement of natural light only (sunlight from window or skylight)
- Adjustable daylight design levels: Normal (OFF), Manual (ON/OFF) and Auto Calibration
- Integrated photocell tested to less than 1 Fc accuracy

### INSTALLATION

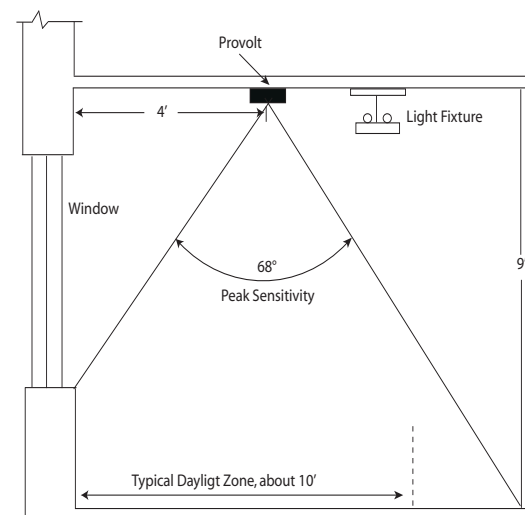
- Easy installation into junction boxes with Leviton-exclusive screw guides, coasters and terminal blocks
- Front cover snaps on and off for ease of installation

### PHOTOCELL PLACEMENT\*

#### Open Loop Application - Angled Light Pipe

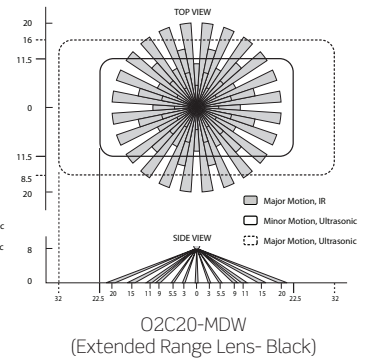
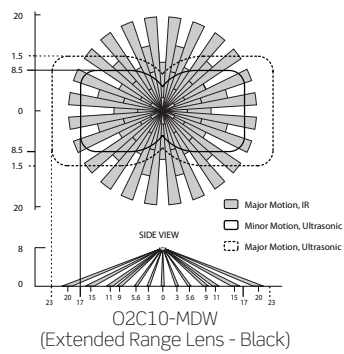
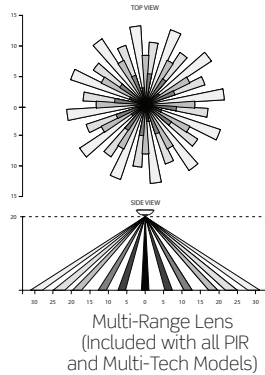
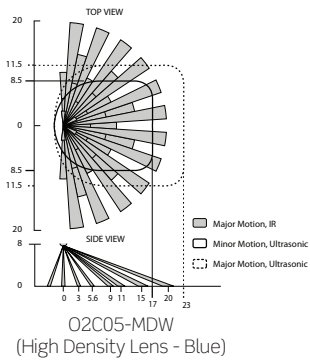


#### Closed Loop Application - Flat Light Pipe

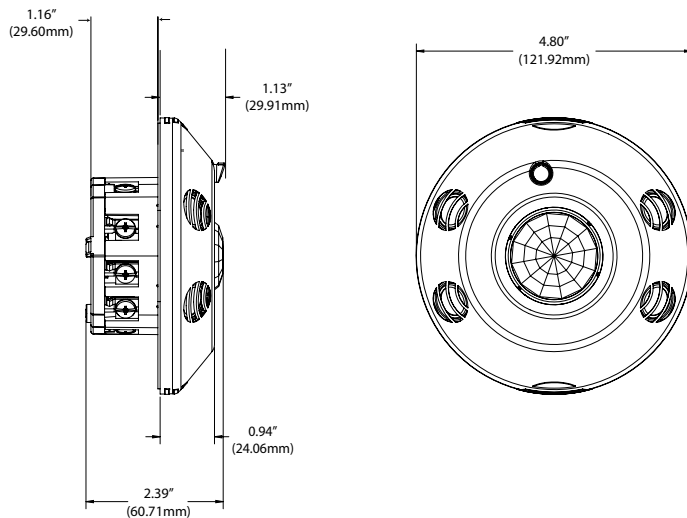


\*May require more than one occupancy sensor for total room coverage

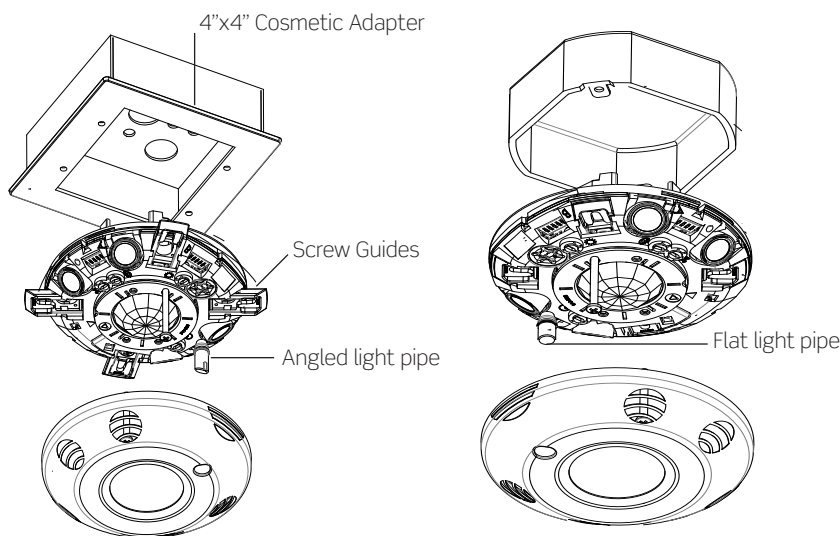
**FIELD OF VIEWS**



**DIMENSIONS**



**INSTALLATION**



Sensors conveniently mount to a standard 4" x 4" square or octagon electrical box per NEC standards.

**Leviton Manufacturing Co., Inc. Global Headquarters**

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## PRODUCT DATA

### SPECIFICATIONS

ELECTRICAL			
<b>Input Voltage</b>	120V, 50/60Hz	230V, 50Hz	277V, 50/60Hz
<b>Load Rating</b>	8A, Electronic Ballast, 800W, Tungsten, 800VA Ballast, 1/4 HP Motor	6A/6AX, Electronic Ballast, Magnetic Ballast, Tungsten, 1/3 HP Motor	5A, Electronic Ballast, 1200VA Ballast, 1/3 HP Motor
<b>Current Consumption</b>	60-30ma		
ENVIRONMENTAL			
Operating Temperature	32-104° F (0-40° C)		
Storage Temperature	-15-160° F (-26-71° C)		
Relative Humidity	0-90% non-condensing		
OTHER			
Listings	Can be used to comply with ASHRAE 90.1 and 2016 Title 24, Part 6 occupancy/vacancy sensing, automatic shut-off, daylight harvesting and stairwell control requirements, UL 773A (Occupancy Standard), UL 924 (Emergency Equipment), cUL listed, CE compliant, NOM certified, RoHS compliant, NY LLC48 compliant		
Warranty	5-Year Limited Warranty		

### ORDERING INFORMATION

CAT. NO.	DESCRIPTION
<b>02C05-MDW</b>	Multi-Technology Ceiling Mount Line Voltage Dual Relay Occupancy Sensor w/Integrated Photocell, 500SF, 120-277V, extended range lens installed
<b>02C10-MDW</b>	Multi-Technology Ceiling Mount Line Voltage Dual Relay Occupancy Sensor w/Integrated Photocell, 1,000SF, 120-277V, extended range lens installed
<b>02C20-MDW</b>	Multi-Technology Ceiling Line Voltage Dual Relay Mount Occupancy Sensor w/Integrated Photocell, 2,000SF, 120-277V, extended range lens installed, mid-range included

#### Leviton Manufacturing Co., Inc. Global Headquarters

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#### Visit our Website at: [www.leviton.com/provolt](http://www.leviton.com/provolt)

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