

## MRD-124S

### SmartDALI Sensor



### OVERVIEW

The MRD-124S is a miniature SmartDALI sensor packed with multiple occupancy and vacancy sensing control capabilities for commercial lighting control. Through easy plug-in cable connection with specific power pack, this remote sensor is capable of providing bi-level StepDIM or continuous SmartDIM control to the integrated luminaire by sensing the local occupancy status and ambient light level.

This low profile sensor can be integrated with commercial luminaire, or remotely mounted on the ceiling with a recess mounting bracket to control LED panel lights. A 2-way remote programmer (SRP-280) can be used to configure control scheme and parameters or download the existing settings of an operating sensor on the floor.

Through the PPU-109DA power pack connected, the sensor can control the luminaire powered by DALI or 0-10V driver. Simple DALI broadcast control can be achieved via coupling with PPU-100DP power supply unit. A momentary push button contact signal can be connected to enable vacancy sensing control (absence detection) with manual on/off and dimming control. This sensor can also directly control DALI driver with integrated bus power\* (Ex. SR, DEXAL, and D4i certified drivers) to enable a cost effective smart lighting.

\*SR/DEXAL/D4i is registered trademark of Signify/OSRAM/DiiA respectively

### FEATURES

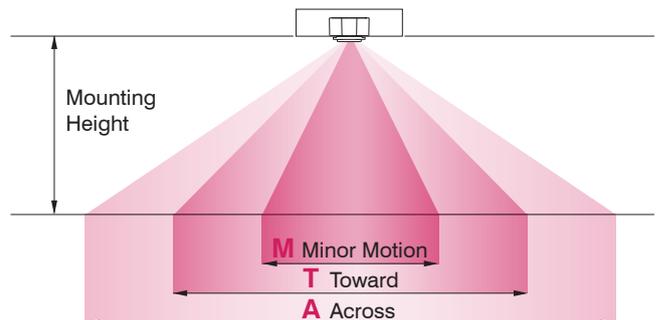
- Omni-directional quad element digital PIR sensor
- Luminaire integration or ceiling recess mounting
- Direct control DALI driver with integrated bus power
- Various power packs available for different controls
- Sensor control setting via an IR remote programmer
- Occupancy/vacancy sensing control programmable
- SmartDIM or multi-level high/low StepDIM control
- Available for Troffer, LED panel or linear luminaire

### APPLICATION

- Occupancy Sensing Control
- Vacancy Sensing Control

The MRD-124S can be recess mounted on the ceiling or integrated with Troffer or linear luminaire, and provide occupancy/vacancy sensing control through connecting with specific power supply unit or momentary button.

### DETECTION PATTERN



Mounting Height		2.4 m (8 ft)	3.0 m (10 ft)	3.6 m (12 ft)	6.0 m (20 ft)
Coverage Diameter	<b>M</b> Minor Motion	1.0 m (3 ft)	2.0 m (7 ft)	3.0 m (10 ft)	--
	<b>T</b> Toward	3.0 m (10 ft)	4.0 m (13 ft)	5.0 m (16 ft)	6.0 m (20 ft)
	<b>A</b> Across	5.0 m (16 ft)	6.0 m (20 ft)	7.0 m (23 ft)	9.0 m (30 ft)

### SPECIFICATIONS

Power supply	DALI bus power
Power consumption	<20 mA with DALI bus
Infrared sensor	Digital quad-element pyroelectric sensor
Photo sensor	Digital ambient light sensor
Control output	DALI Broadcast
Detectable speed	0.15 ~ 3 m/sec. (0.5~10 ft./sec.)
Mounting height	2.4~6m (8~20 ft)
Detection range	4.8~9m diameter with motion across
Op. humidity	Max. 95% RH
Dimensions	Ø40 x H24mm (Ø1.57" x H0.94")

## MRD-124S

### SmartDALI Sensor

### CONTROL MODES

The sensor can be programmed by a handheld remote to provide different control schemes as below. For more details of specific control, please visit [www.irtec.com](http://www.irtec.com) or contact an IR-TEC team member directly.

Mode	Status	Day*	Night*	Remarks
OSLA	Vacant	OFF	Auto LD	SD: SmartDIM LD: Low Dim, HD: High Dim
	Occupied	SD/OFF <sup>1</sup>	SD/HD	
OSLATO	Vacant	OFF	LD-OFF	Low dim during Time Off (TO) delay
	Occupied	SD/OFF <sup>1</sup>	SD/HD	
VSC	Vacant	OFF	OFF	Require connecting momentary button contacts to PPU-10x.
	Occupied	Manual	Manual	

**OSLA** : Occupancy Sensing at Low Ambient

**OSLATO** : Occupancy Sensing at Low Ambient with Time-Off delay

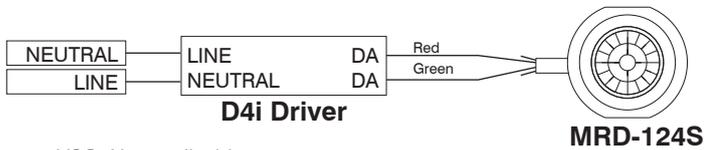
**VSC** : Vacancy Sensing Control

\*Day/Night: While the ambient light level is Higher/Lower than the threshold set.

<sup>1</sup>Sensor will inhibit the light if the ambient light level is 200% higher than the SmartDIM level set.

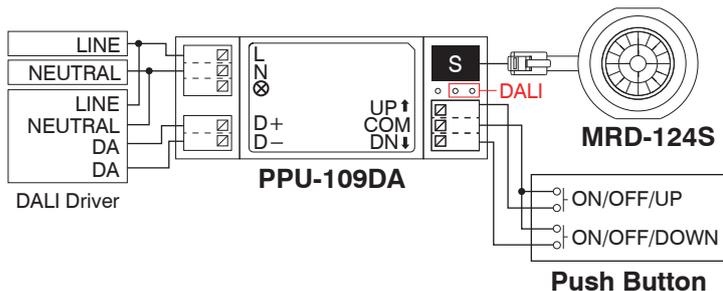
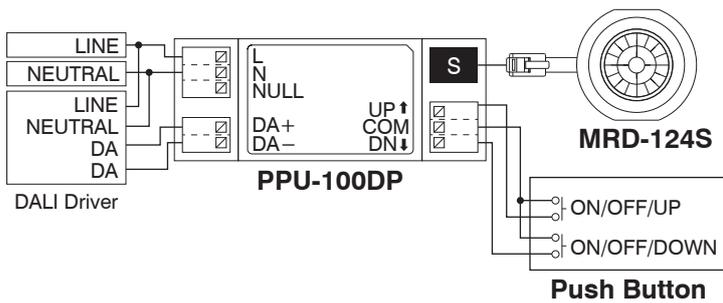
### WIRING DIAGRAM

#### 1. D4i driver control

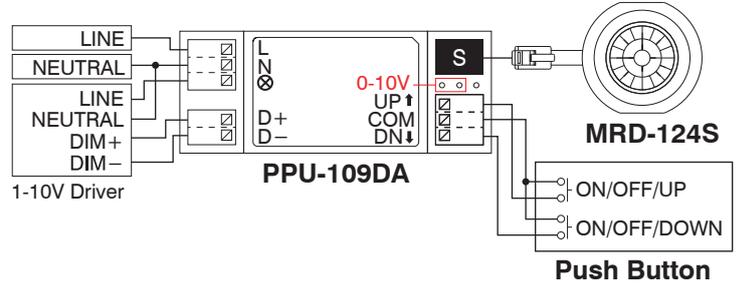


VSC: Not applicable

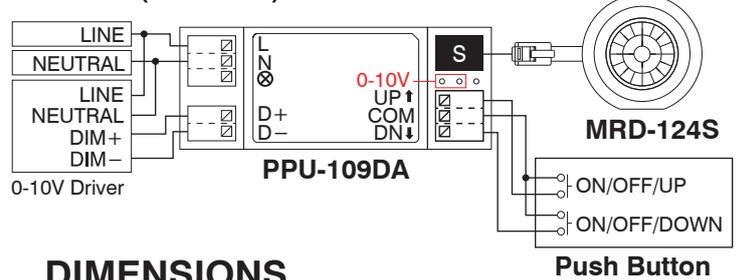
#### 2. DALI driver control



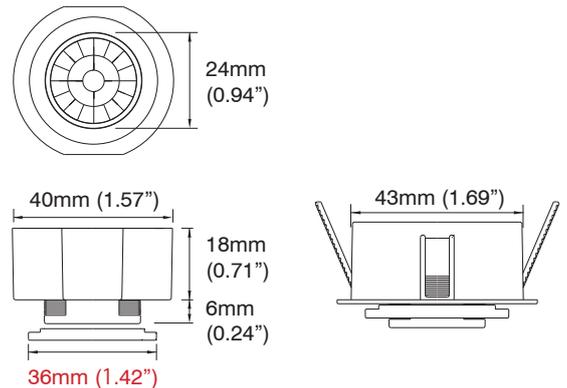
#### 3. 1-10V driver control



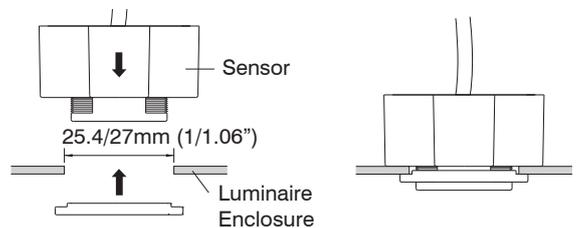
#### 4. 0-10V(dim-to-off) driver control



### DIMENSIONS



#### Luminaire Assembly (Inside-out)



#### Ceiling Recess Mount

