

MRD-124S/MRD-124W

SmartDALI Sensor



OVERVIEW

The MRD-124S/MRD-124W 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

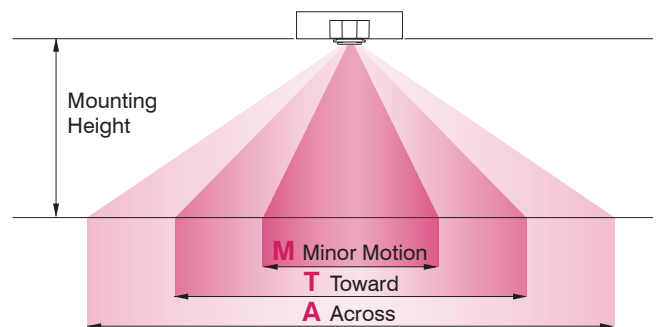
APPLICABLE REMOTE (order separately)

Model	Description	Remarks
SRP-280	TRANS Remote Programmer	Full functionality
URP-100	User Remote	Manual ON/OFF TIME/LUX setting

FEATURES

- Omni-directional digital pyroelectric infrared 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

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)	MRD-124S	M 1.0 m (3 ft)	2.0 m (7 ft)	3.0 m (10 ft)	--
		T 3.0 m (10 ft)	4.0 m (13 ft)	5.0 m (16 ft)	6.0 m (20 ft)
		A 5.0 m (16 ft)	6.0 m (20 ft)	7.0 m (23 ft)	9.0 m (30 ft)
	MRD-124W	T 4.0 m (13 ft)	3.0 m (10 ft)	2.0 m (7 ft)	--
		A 12.0 m (39 ft)	14.0 m (46 ft)	16.0 m (52 ft)	--

NOTE: High ambient temperature (above 28°C/82°F) could reduce the coverage of PIR sensor. If ambient temperature at the covered area are expected to be high sometimes, consider adding more sensors or reduce the mounting height, if possible.

SPECIFICATIONS

Power supply	DALI bus power
Power consumption	<20 mA with DALI bus
Infrared sensor	Omni-directional pyroelectric
Photo sensor	Digital ambient light sensor
Control output	DALI Broadcast
Detectable speed	0.15 ~ 3 m/sec. (0.5~10 ft./sec.)
Mounting height	MRD-124S: 2.4~6 m (8~20 ft) MRD-124W: 2.4~3.6m (8~12 ft)
Op. humidity	Max. 95% RH
Op. temperature	-20°C~50°C (-4°F~122°F)
Dimensions	Ø40 x H24mm (Ø1.57"x H0.94")

MRD-124S/MRD-124W

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 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 ¹	SD/HD	
OSLATO	Vacant	OFF	LD-OFF	Low dim during Time Off (TO) delay
	Occupied	SD/OFF ¹	SD/HD	
VSC	Vacant	OFF	OFF	Require connecting momentary button contacts to PPU-109DA/PPU-100DP
	Occupied	Manual	Manual	

OSLA : Occupancy Sensing at Low Ambient

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

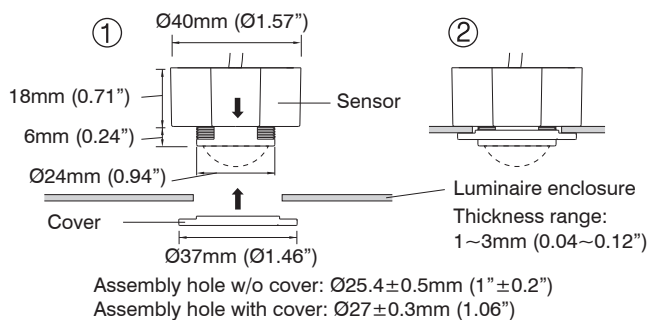
VSC : Vacancy Sensing Control

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

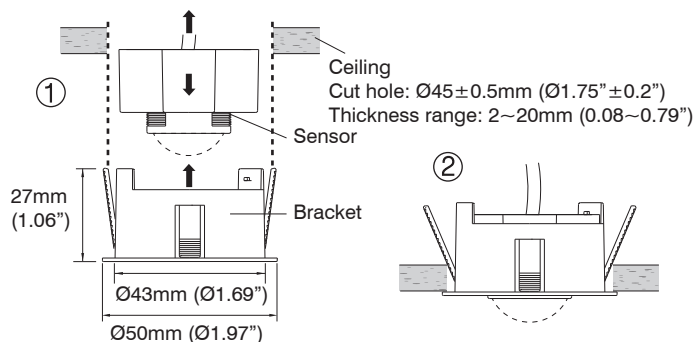
¹Sensor will inhibit the light if the ambient light level is 200% higher than the SmartDIM level set.

MOUNTING & DIMENSIONS

Luminaire Assembly (Inside-out)



Ceiling Recess Mount (Outside-in)



APPLICATION

☒ Occupancy Sensing Control

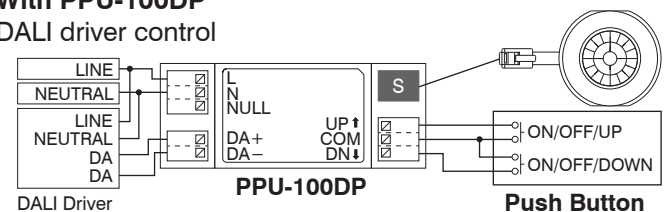
☒ Vacancy Sensing Control

The MRD-124S/MRD-124W 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.

WIRING DIAGRAM

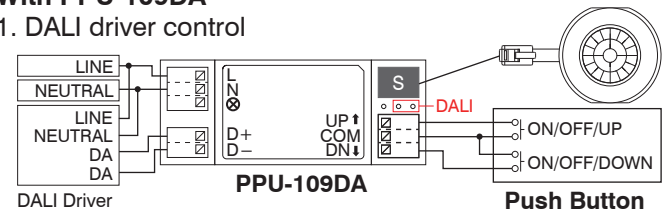
With PPU-100DP

DALI driver control

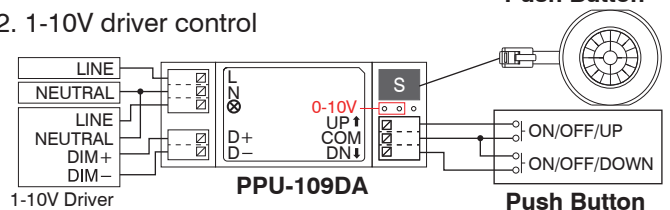


With PPU-109DA

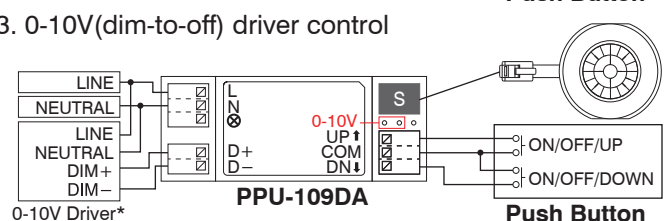
1. DALI driver control



2. 1-10V driver control

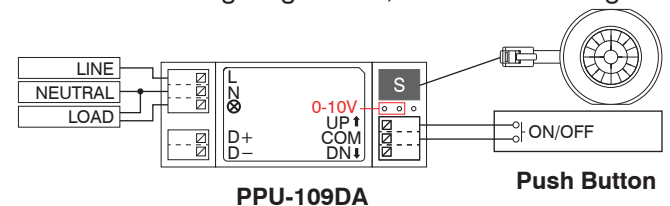


3. 0-10V(dim-to-off) driver control



*Note: for the driver that cannot turn off the light at 0V, please try wiring diagram 2 above.

4. Non-dimmable lighting control, ON-OFF switching



ASSOCIATED DEVICES

PPU-100DP DALI Power Supply Unit

PPU-109DA DALI/0-10V Power Pack