

# Mxx3421 & Mxx3500 High Detection Microwave Sensors

## Technical Data Sheet

The Mxx3421 & Mxx3500 High Detection Microwave Sensors offer high performance presence detection using Microwave technology combined with a photocell to monitor total light levels to maintain desired light levels.

Supplied as flush mount sensors. They can be converted to surface mount using the SURFMT kit and can be configured to suit site specific requirements using the QuickSet Pro. The Mxx3500 series are suitable for corridors whereas the Mxx3421 series are sensitive to movement and are ideally suited to large spaces.

Microwaves are sensitive to movement and we recommend mounting on rigid surfaces. We do not recommend microwave sensors for use where there are large areas of metal such as metal ceiling panels as unpredictable sensitivity may result.

Dimming – 'D' models enable the luminaires to be dimmed. Switching 'R' models have a switch input (mains) that can be used to switch lights ON/OFF .

The volt-free output can be used to switch equipment ON/OFF depending on the occupancy state.

- In presence mode the controlled lights will turn ON/OFF automatically when movement is detected
- In absence mode the controlled lights are switched ON by a wall switch/infrared remote and will turn OFF automatically when no movement is detected.

Room level controls is achieved via lighting scenes which can be configured and recalled via an infrared remote, allowing local user override. Entry and Exit scenes can be programmed as required. A configurable off delay (10s to 12 hours, forever) allows for a delay in turning the lights OFF after the last movement is detected.

The integral photocell can be set to Passive or Active mode depending on the site-specific requirements

- Passive mode - will hold the lights OFF when there is sufficient natural light,
- Active mode the lights turn ON/OFF as required when natural light levels fluctuate, and area is occupied. The sensors connect to the luminaires directly or via a DALI bus.

## FEATURES & BENEFITS

- 360° degree and directional microwave detection variants
- Surface and flush mount options
- Local control from an infrared remote
- Configurable off delay(s)
- Switch output(s) dependent on occupancy state and ambient light level
- 24hr (Washroom) mode
- Lighting scenes



When channel mode is set to 24hr, if no movement is detected in a 24-hour period the load connected to relay output will be switched ON once a day for the duration of the OFF delay. This enables it to operate as a urinal control when used with an SV3 solenoid valve unit for use in washrooms.

### Commissioning

Configuration is performed using an infrared programming tool (QuickSet Pro).

### Mxx3421

The Mxx3421 variants offer 360-degree microwave presence detection.

### Mxx3500

The Mxx3500 variants offers directional microwave presence detection.

### Product Comparison

Part Number	Flush Mount	Switch Input (Mains)	Switched Live Output	Volt free output	Connect to MLS	DALI (broadcast) output	360 degree sensing	Directional Sensing	24hr mode	Lighting scenes	OneSwitch dimming
MLS3421DRF	•	•		•	•	•	•		•	•	•
MLS3500DRF	•	•		•	•	•	•	•	•	•	•
MR3500DRF	•	•		•	•	•	•	•	•	•	•
MR3500RF	•	•		•	•	•	•	•	•	•	•
MR3421R2F	•		•	•			•		•	•	•

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## ELECTRICAL

**Power input:** 220V to 240V 50/60 Hz

**Quiescent power Consumption**

MLS3421DRF: 1W

MS3421R2F: 1W

MLS3500DRF: 1W

MR3500DRF: 1W

MR3500RF: 1W

**Switch capacity:** 10 Amps max, max inrush 200 A

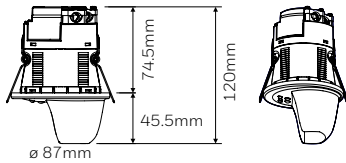
**Load Rating**

DALI: 50 mA, 25 DALI Ballasts/Drivers

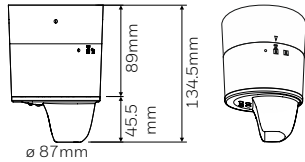
## MECHANICAL

**Dimensions**

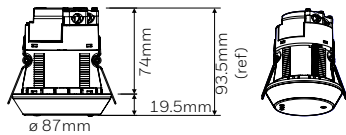
**Mxx3500 Flush Mount:** Height 92.8mm, diameter 87mm



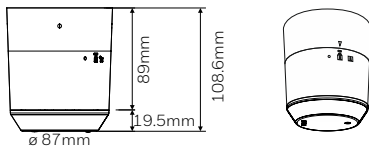
**Mxx3500 Surface Mount:** Height 107.6mm, diameter 93mm



**Mxx3421 Flush Mount:** Height 93.5mm, diameter 87mm



**Mxx3421 Surface Mount:** Height 108.5mm, diameter 87mm



**Cut out diameter:** 73mm

**Fascia Colour:** White (RAL9010)

**Weight:**

Mxx3421 Flush Mount: 154g

Mxx3421 SurfaceMount: 259g

Mxx3500 Flush Mount: 154g

Mxx3500 SurfaceMount: 259g

**Material:** Flame retardant PC/ABS

**Terminal Type**

DALI: Rising cage screw clamp

Power: Rising cage screw clamp

MLS: Screw less with release lever

Switch input (Mains): Rising cage screw clamp

Volt-free output: Rising cage screw clamp

Switched Live Output: Rising cage screw clamp

**Cable**

DALI: 2 core 0-2.5mm<sup>2</sup>

Power: Derive from appropriate wiring regulations

MLS: 1.5mm<sup>2</sup> unscreened twisted pair

Switch input (Mains): Derive from appropriate wiring regulations

Volt-free output: 2 core 1.5-2.5mm<sup>2</sup>

Switched Live Output: 2 core 1.5-2.5mm<sup>2</sup>

**Terminal Capacity:**

DALI: 1 x 0.5-1.5mm<sup>2</sup> solid or stranded

Power: 1 x 0.5-2.5mm<sup>2</sup> solid or stranded

MLS: 1 x 0.5-1.5mm<sup>2</sup> solid or stranded

Switch input (Mains): 1 x 0.5-2.5mm<sup>2</sup> solid or stranded

Volt-free output: 1 x 0.5-2.5mm<sup>2</sup> solid or stranded

Switched Live Output: 1 x 0.5-2.5mm<sup>2</sup> solid or stranded

**Max Cable Length**

DALI: Up to 300m - If using 1.5mm<sup>2</sup> cable

Power: Derive from appropriate wiring regulations

MLS: Up to 1500m - If using 1.5mm<sup>2</sup> unscreened twisted pair cable

Switch input (Mains): Derive from appropriate wiring regulations

## ENVIRONMENTAL

**Operating temperature:** 0°C to 50°C

**Storage temperature:** -20° C to 80° C

**Humidity:** 20% to 80% non-condensing

**IP Rating:** IP20

## SENSING

**Technology**

Presence detection: Microwave

Light level detection: Photocell

**Photocell:** Passive/Active/Regulating adjustable 50-5000 lux

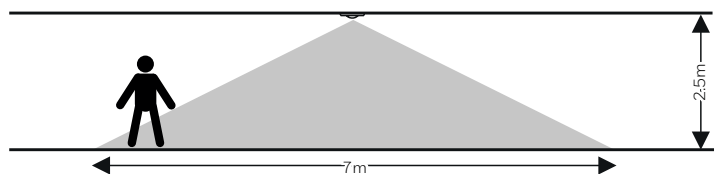
**Max recommended mounting height:**

Mxx3421: 3m

Mxx3500: 3.5m

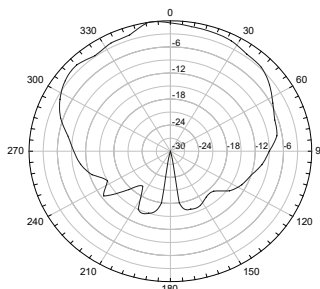
**Coverage:**

Mxx3421: 360° Cone-shaped detection pattern, diameter (at floor level) = 2.8 x mounting height

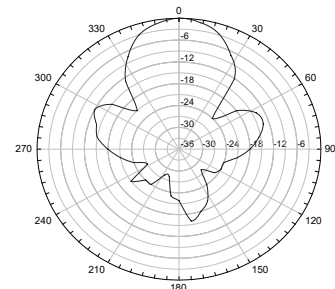


Mxx3500: Adjustable up to 20m

**Horizontal**



**Vertical**



**CONFORMITY**

**Conformity:** EMC–2014/30/EU, LVD  
– 2014/35/EU, RoHS–2011/65/EU,  
RED2014/53EU, Human exposure standard  
EN 62479:2010.

Regulation (EC) No 1907/2006  
According to Article 33 of REACH Regulation  
be informed that this product may contain  
components with Lead (CAS Number: 7439-  
92-1) above the threshold level of 0.1% by  
weight.

**ORDER CODES**

<b>MLS3421DRF</b>	Connect Digital compact DALI dimming/switching 360° microwave presence/absence detector, 2-channel, ceiling, flush mounted
<b>MLS3500DRF</b>	Connect Digital compact DALI dimming/switching directional microwave presence/absence detector, flush mounted
<b>MR3500DRF</b>	Compact DALI/DSI dimming/switching directional microwave presence/absence detector, flush mounted
<b>MR3500RF</b>	Compact switching directional microwave presence detector, 1 volt free output, flush mounted
<b>MR3421R2F</b>	Compact switching 360° microwave presence detector, ceiling, flush mounted, 1 Switched live output, 1 volt free contact, flush mounted
<b>SURFMT</b>	Surface mounting kit
<b>Commissioning &amp; End User Tools</b>	
<b>QuickSetPro</b>	Digital 2 Way Programming Tool.

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