SMART EXTERNAL PRESENCE DETECTION GUIDE

PRESENCE DETECTION OF THE SENSOR

There are two different sensors available:

Standard Smart External Sensor – for use up to 6m
High Level Smart External Sensor – for use up to 12m

MOTIONLINE

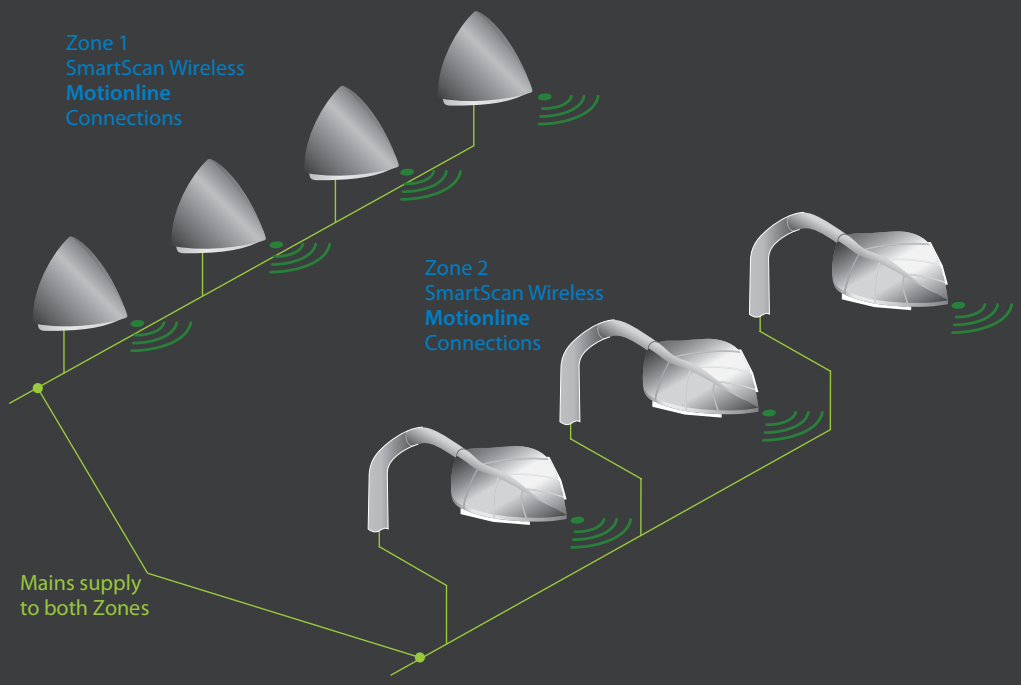
Smart External luminaires utilise a wireless mesh network to form Motionline groups. This ensures effective group control and extends presence detection coverage.

MOUNTING HEIGHT

As the mounting height increases, so does the amount of movement needed to trigger the sensor. Hand movement may not be sufficient for sensors mounted higher than 6m therefore the person may need to be walking to be detected.

POSITIONING OF THE SENSORS

Where possible, Smart External luminaires should be positioned in such a way that the detection areas overlap. The Smart External system has a sensor in each luminaire ensuring that the optimum detection level is easily achieved using conventional spacing.



SMART EXTERNAL SENSOR

MOUNTING HEIGHTS UP TO **6m**

Modern lighting schemes for external spaces are based on minimising light pollution but ensuring that public walkways and roads are well lit. Smart External luminaires have been designed so that the detection area of the sensor is central to the light distribution of the luminaire.

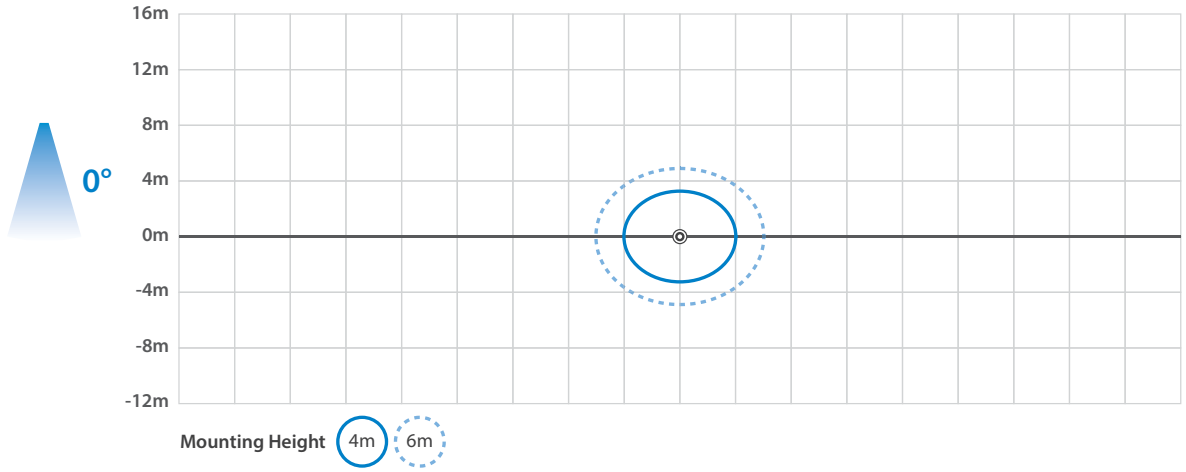
In areas where trees or bushes are present please ensure that any foliage is trimmed back behind the luminaire to ensure optimal movement detection and lighting efficiency.

Smart External uses a passive infra-red (PIR) movement sensor built into each luminaire. Infra-red technology is commonly used for lighting control, but when used externally a number of factors are increasingly important.

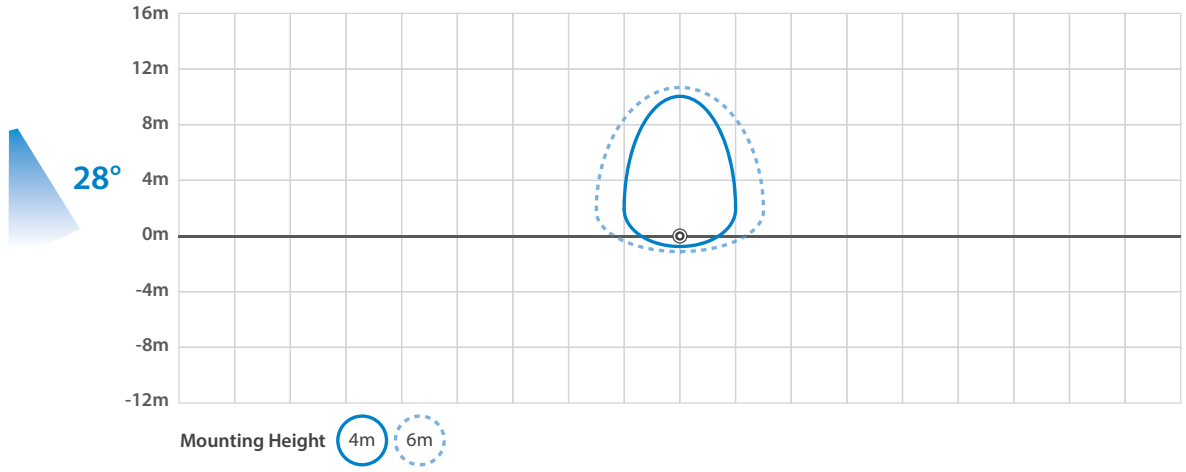
ANGLE OF THE SENSOR

The majority of Smart External luminaires are wall or column mounted, projecting the light away from the wall or column. The sensor is angled at 28° from the horizontal to focus the presence detection within the lit area, providing little detection coverage behind the column. Some Smart External luminaires are designed for use in canopies and therefore the sensor is directed at 0° towards the floor.

Smart External Sensor - Detection Area - 0°

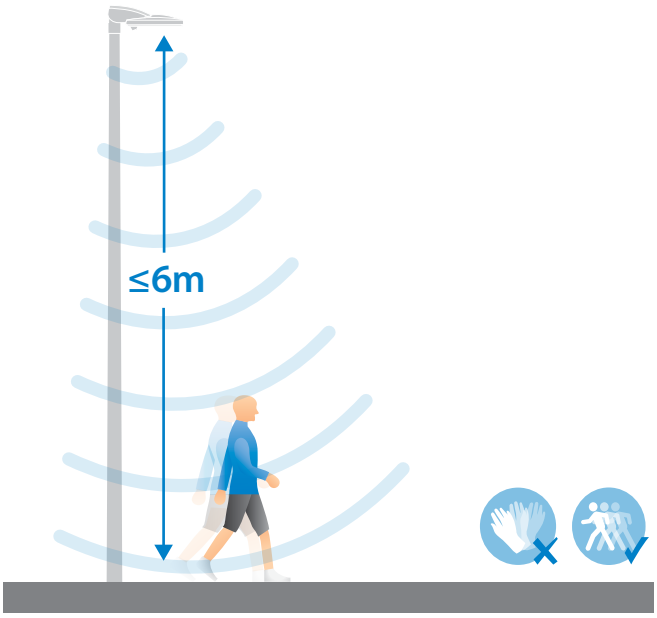


Smart External Sensor - Detection Area - 28°



SMART EXTERNAL SENSOR

MOUNTING HEIGHTS UP TO **6m**



AMBIENT TEMPERATURES

The PIR within the Smart External sensor relies on detecting the heat of a person moving across the detection area. For best reliability the temperature of the person should be at least 4°C different from the background, in this case the floor.

As the ambient temperature drops people wear more layers or coats to keep warm. This insulates the body, therefore a larger movement must be made in order for presence to be detected, or presence may not be detected at the extremities of the detection area.

The amount of time that an individual has been outside can also vary detection sensitivity. Clothing will chill to match the outside temperature. The sensor is more likely to detect a person leaving a building on a cold day than somebody that has been outside for long periods. Therefore they may not be detected until closer to the centre of the detection area.

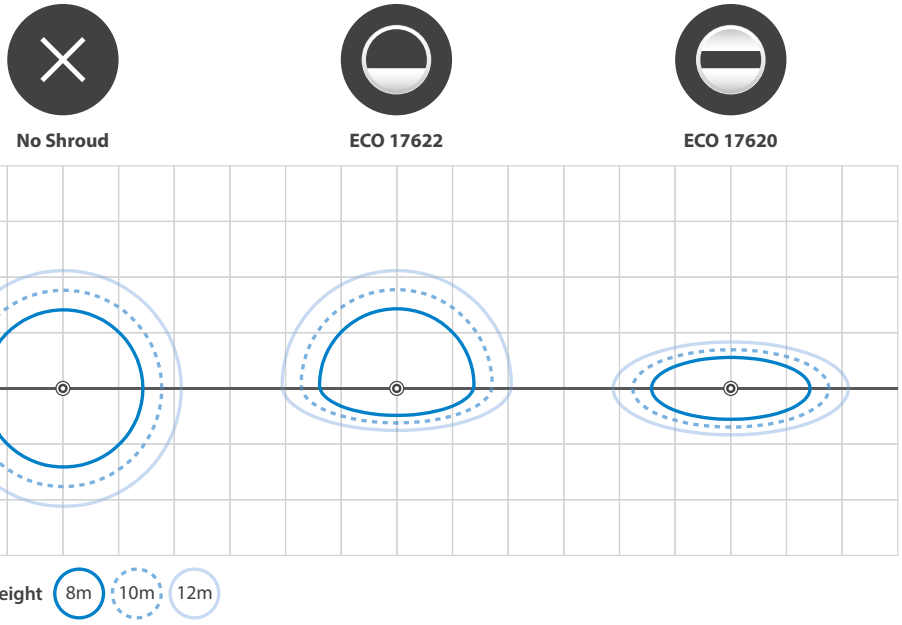
The detection patterns detailed opposite are based on optimum conditions; the total area may reduce depending on the factors described above.

HIGH LEVEL SMART EXTERNAL SENSOR

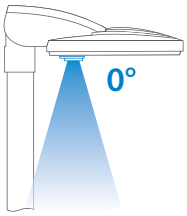
MOUNTING HEIGHTS UP TO **12m**

Optional shrouds can be fitted to the sensor to restrict the detection area if required.

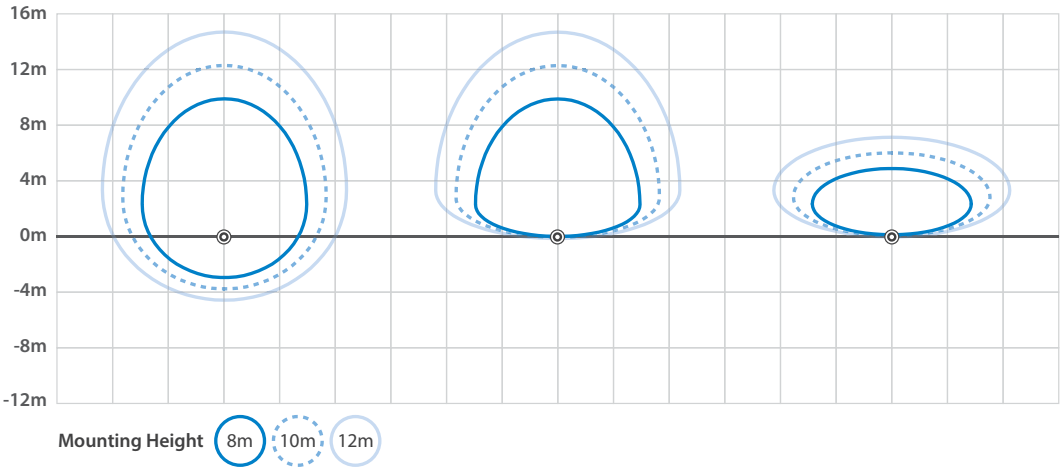
High Level Smart External Sensor - Detection Area - 0°



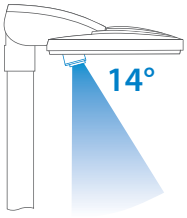
Roadway Version



High Level Smart External Sensor - Detection Area - 14°



Area Version



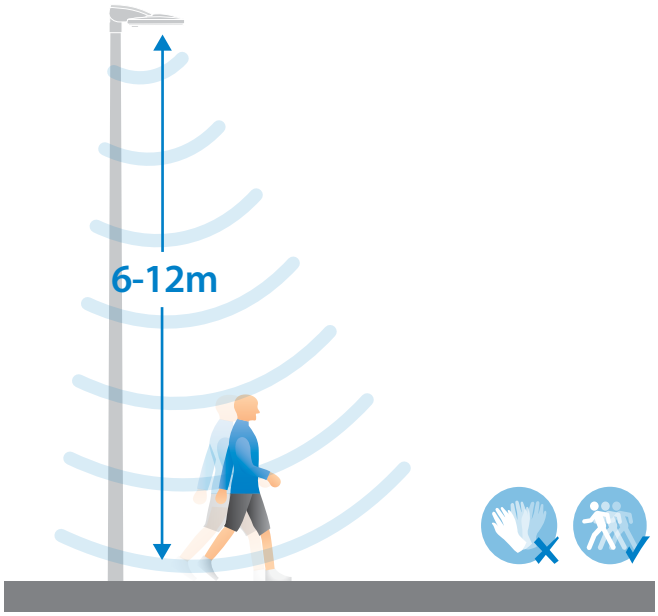
NOTE:

The detection areas above detail maximum values. The criteria described on page 4 is also applicable to the High Level Smart External Sensor.

For best presence detection it is recommended that luminaires are grouped using Motionline. In external and retrofit applications SmartScan Platform 1 provides a wireless Motionline signal so removes the need for any additional cabling. Upgrading to Platform 2 with the addition of a SmartScan Gateway allows users to set operational times of Smart External luminaires.

HIGH LEVEL SMART EXTERNAL SENSOR

MOUNTING HEIGHTS UP TO **12m**



HIGH LEVEL SMART EXTERNAL SENSOR MOUNTING HEIGHT

The High Level Smart External Sensor is designed to be used in applications up to 12m.