

iSense Multi-functional sensor

The iSense sensor integrates PIR, Light sensor and Controller functions in a compact unit for use with the Isotera LED lighting HFAC power distribution system.

- Presence / Absence detection (Auto-ON/Auto-OFF, Manual-ON/Auto-OFF Modes)
- PIR Movement sensor
- Daylight detection and Light Level Maintenance and control
- Dimming control of iCouplers and Luminaire
- On/off control of iCouplers and Luminaire
- Provides Interface for multiple switch/dimmers (See iSmooth data sheet)



Benefits

- Plug and Play, No mains wiring
- Flush fit, less than 60 mm deep for shallow ceiling voids
- Single RJ11 cable provides power, signalling and control system
- Same sensor can act as master and/or slave
- Easy to insert and remove
- Light weight

Indicators

- RED LED indicates PIR activity, GREEN LED used in set-up and commissioning

User Configuration Settings

- 8 dip switches – many user configuration settings
- 1 to 30 minutes rotary Exit Timer with automatic 5 minute session extend timer.
- 5 to 1000 Lux level rotary setting. Use in conjunction with a light meter.
- Blue, red and white plug provide different system control and functionality

Fixing

Push in self retaining
Ceiling hole diameter:- 40mm
Minimum ceiling panel depth:- 18mm

Configuration Switches

No.	Switch Name	Function
1	Manual-On/Auto OFF Enable (Presence/Absence selection)	If the switch is in the 'on' position, the Manual-On/Auto OFF mode is activated else Auto-ON/Auto-OFF is activated
2	Light Level Maintenance	Switch 'on' to enable the Light Level Maintenance function whereby the unit will attempt to control luminaire output to maintain the light level preset by the user.
3	Orientation-Night Light	Switch 'on' to enable the orientation mode whereby dimming below a preset level is inhibited. Luminaire ON/OFF control is still available
4	Inhibit manual dimming	Switch 'on' to inhibit manual dimming from switch/dimmers. Use this to prevent users from overriding or cancelling preset dimming levels - in Light Level Maintenance for example.
5	Enable RED Plug response	Switch 'on' to enable a unique 'slave' mode that allows some of the control and command function of one zone to be linked in.
6	Enable auxiliary OFF	If this switch is 'on', the 'Auxiliary OFF' signal is active on the WHITE plug. Use this to generate an additional controlled zone that has simple ON/OFF functionality in response to PIR or switch activity.
7	Inhibit External PIR response	Switch 'on' to ignore external PIR sensors. The default mode is to allow input from the PIR sensors of other connected iSense devices. (PIR Slave mode) It is especially useful to prevent Slave PIR response from a RED Plug enabled iSensor.
8	Inhibit Internal PIR response	Switch 'on' ignore the internal PIR sensor. Use this to split PIR and Light Level control of a zone or zones over several iSensors for example. Note that this does not prevent PIR signals being available externally.

Light Level Setting

This rotary control is used to prevent PIR triggering if there is sufficient ambient light or to set the target level for Light Level Maintenance. It can be disabled entirely if required.

Exit Timer Setting

This rotary control is used to set the value of a re-trigger-able timer in the range of 1 to 30 minutes. It is re-triggered by PIR or switch activity and can be set to 'continuous' if required.

There is also a unique Session Extension Timer feature whereby luminaire outputs are dimmed to a low level at the end of the Exit Time period for a further 5 minute period during which the Exit Timer may be re-triggered by PIR or switch activity. This usefully signals the imminent cessation of luminaire output and is especially useful in the Manual-ON/Auto-OFF mode.

Power

Consumption - 50mW Max.
Input voltage – 5.5 to 7V

Materials

All materials are fire retardant, low smoke and fume
Total weight:- Approximately 40 Grams

Environment

Normal Operating Temperature Range: -10°C to +40°C
Nominal Operating Temperature: 20°C
Storage: -18°C to +60°C
Cooling: By natural convection.
Humidity: 90% RH non-condensing
Installation Category: The device operates to IP20.

Using iSense

Blue RJ11 connector- Master, Red RJ11 connector - Slave, White RJ11 connector - (Contact Isotera Technical for direct Power Hub Control use)

All iSotera devices communicate via the iCon bus which comprises a simple inter-wiring system based on four core flat telephone cables and RJ11 type connectors. All devices are effectively connected in parallel on to the bus wiring by the use of iSotera Multi-Port connectors which 'T' into it at any point. For more information refer to the document iSotera Controls, Principles of Operation, which can be found on our web site.

In addition to as acting as a light level and movement sensor, the iSense can also be used to manually switch and dim groups of up to 40 LED fixtures by using one or more RED iSmooth devices connected in any sequence on the iCon bus using iCon cables and Multi Port connectors and making sure the control bus is to connected to the BLUE plug on the iSense. Either one pole and two pole RED iSmooth adapted switches can be used (see iSmooth documentation for more information) but the correct iSense version must be specified accordingly.

In general, BLUE coded plugs provide light level and on/off control in any one group or zone; there can only be ONE BLUE device per zone. RED coded plugs form paths for command signals and there can be as many RED coded connections as required in any one zone. For further advice please contact Isotera.

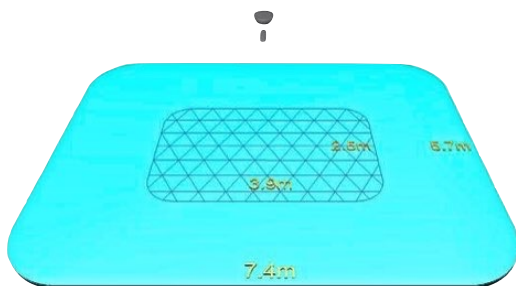
4 Way Multi Port Connector



iSense Range

Note that the raised bar on the face (label cut out) of the iSense points at the long side of the rectangular sensitivity field. The internal hatched rectangle has extra sensitivity to smaller movements.

Some PIRs are more sensitive to lateral rather than radial movement so expect less sensitive response when moving directly toward or away from the device, plan sensor placements accordingly.

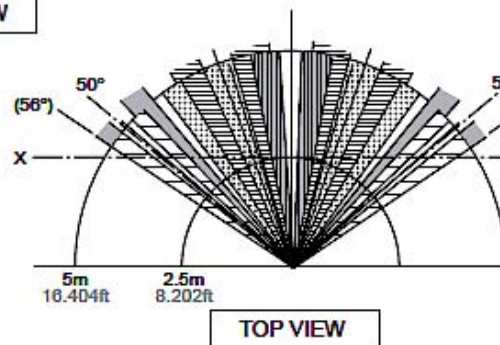
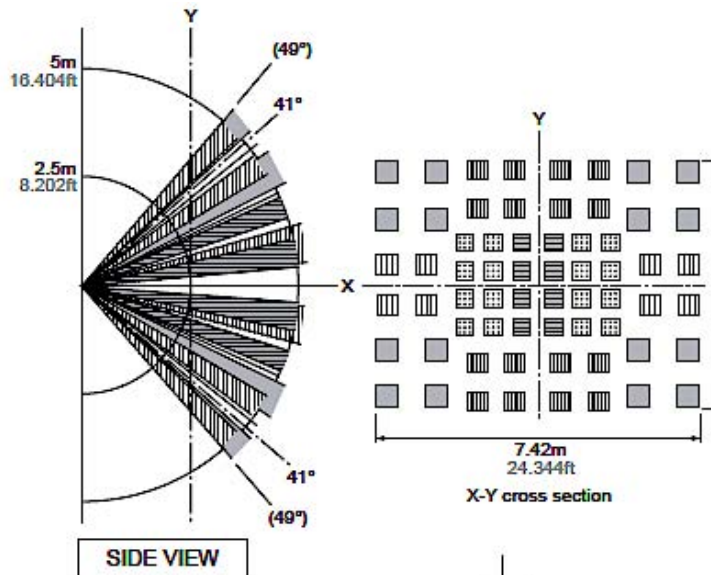
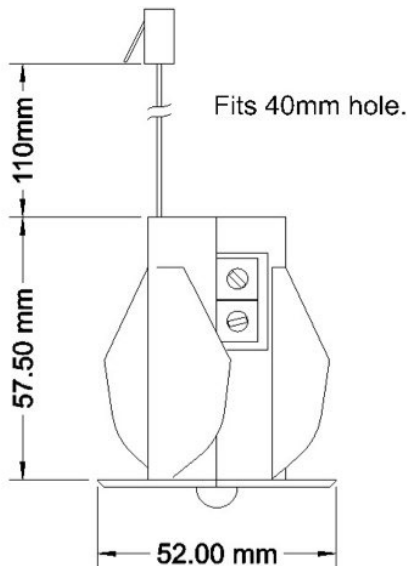


A point to consider is that the method of applying a multiplier so to get a detection area based on ceiling height only works for heights below about 3m.

It is best to assume that detection area, which is about 7.4m x 5.6m, is approximately constant between heights of 2.5m and 5m.

PIR sensitivity drops off with the radial distance from the sensor head

Mechanical Dimensions



Compliance

Title	Description	Edition/Date
EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	2006 + A2:2009
EN61547	Specification for equipment for general lighting purposes. EMC immunity requirements	2009
EN61000	Harmonic Current Emissions	EN61000-3-2:2006 @ EN61000-3-3:2008 EN61000-6-1:2007 & EN61000-6-3:2007 & A1:2011
EN61347	Safety requirements for use on DC supplies up to 250 V and AC supplies up to 1kV at 50- 60 Hz at a frequency which can deviate from the supply frequency, associated with LED modules.	EN61347-2-13:2006 used with EN61347-1:2008.
EN62493	Human Exposure To electromagnetic fields	EN62493:2010

Part Numbers

Isotera iSense Part Number	Product Description	Sleeving at bottom of RJ11 cables
IS-H-MS-Blue	Multi Sense 1 Pole No Dimming Memory	Blue
IS-H-MS-Yellow	Multi Sense 1 Pole with Dimming Memory	Yellow
IS-H-MS-Black	Multi Sense 2 Pole with No Dimming memory	Black
IS-H-MS-Green	Multi Sense 2 Pole with Dimming Memory	Green
IS-H-4WC	4 Way Multi Port Connector	

Remote Control

The Multi Sense will be available with a simple 4 button remote control option for ON, OFF, DIM UP and DIM Down May 2015.