Intellitect 360™

High Definition 360 degree PIR Sensor

FAQ

Q1
What is the effective sensing range of the 360° PIR?

For a person walking (Major Movement) the range is 3.5 meters from the sensor, for a person sitting and carrying out normal office work (Minor Movement) the range is 1.75 meters from the sensor.

Q2
What is Major Movement?

WD 7-2011 (a standard for PIR manufacturers) defines Major Movement as a 60kg person walking at greater than 1m per second across the detection area (ie not directly towards the sensor) with a background temperature of 20°C.

Q3
What is Minor Movement?

WD 7-2011 (a standard for PIR manufacturers) defines Minor Movement as a forearm being moved through 90° in less than 1.5 seconds with a background temperature of 20°C.

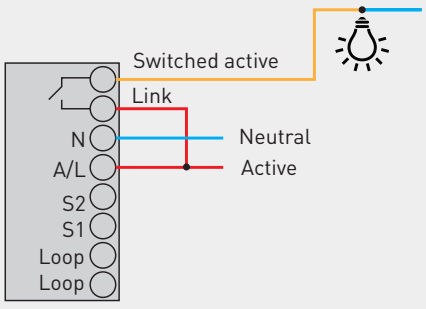
Q4
Why is my light not working?

There can be a number of reasons for this, as simple as a faulty or unconnected load, but more likely a wiring issue. First check that there is 240V connected to the Active/Live (A/L) terminal, then check that there is either a separate Active connected to one of the terminals of the relay or that you have made a wire link from the A/L terminal to one of the relay terminals. Finally check the wiring from the switched Active output of the relay through to the load, safely take Voltage reading at each connection/terminal to ensure that power is available

Q5
Why do I need to link one of the Relay terminals to Mains?

In order to cover the widest range of applications both the 1 relay (R1) and 2 relay (R1 & R2) versions have Volt Free (AKA Dry) relay contacts, this allows them to be used to switch loads that are not connected to the same 240V circuit as the one supplying the Sensor – for example a circuit on a different circuit/phase or an ELV circuit to interface with some other system (HVAC, Security, BMS etc). If you are switching the same circuit as the supply to the Sensor then simply connect the incoming Active to the Active/Live (A/L) terminal and then link across to one of the relay terminals and take the switched Active to the load from the other relay terminal

Linking Active to the Relay
Diginet Intellitect 360™ & Pierlite Smart Scan



Diginet Intellitect 360™ & Pierlite Smart Scan ranges are supplied with Voltage Free contacts to allow the most flexibility in load switching. In many cases the most convenient way to power the load is to take a link from the Active terminal to the relay.

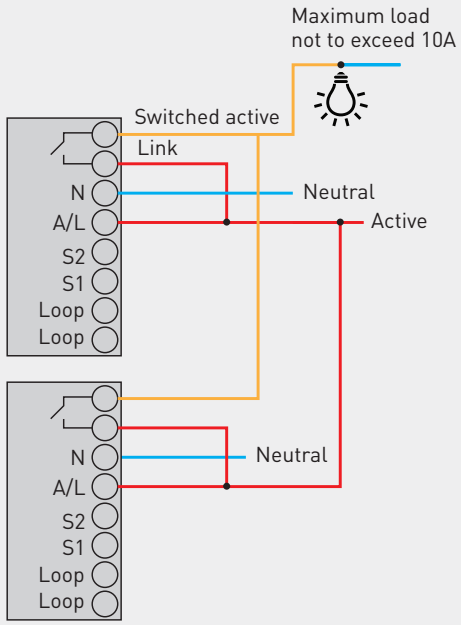
Q6

Can I control lights with multiple Intellitect 360™ High Definition 360 degree PIR Sensors?

Yes this is quite achievable (as long as all the lights and relay contacts are wired to the same lighting circuit). The un-switched active should be taken to one side of the relay on each PIR and the switched Active output from each PIR taken to the load. The maximum lighting load remains at 10A. If any of the PIR's are triggered on the light load will be turned on, if multiple PIR's are on the lights will stay on until the last PIR Delay Time times out

Parallel Relay Wiring

Diginet Intellitect 360™ & Pierlite Smart Scan



Two or more Diginet Intellitect 360™or Pierlite Smart Scan PIR sensors can have their relays wired in parallel so that if either / any PIR detects movement the load will be switched on. Both /all PIR's will have to have timed out before the load will switch off. (Both / all must be wired to the same lighting circuit).

Q7

What types of Loads can be switched by the Relays?

The relays are capable of switching up to 10AX of lighting including incandescent, fluorescent and LED. The '10AX' rating refers specifically being able to switch load with a capacitive component mainly fluorescents and to a lesser extent LED's. This is achieved by using a relay with two separate contacts with one making just before the other, the first contact is formed of Tungsten that will reduce the arcing that can occur when switching capacitive loads and the second contact is made of low resistance Silver Cadmium Oxide that can efficiently carry the full load current. Electric motors can also be switched but at a lower power rating of 5A

Q8

What may the second Relay (R2) be used for on the model that has 2 relays?

The second relay always times out 5 mins after Relay 1 – this is particularly useful for exhaust fans in bathrooms, toilets, laundries, meeting rooms etc. When movement is detected both relays come on and when movement is no longer detected Relay 1 switches off after the set delay time, and Relay 2 times out 5 minutes later. Note Relay 2 is not affected by the Light Level setting or by the override switch – useful for when there is plenty of light in a room but you still want the HVAC or Exhaust Fan to run even if the lights don't need to come on

Q9

What should I set the Time Delay to?

It depends on the location and use of the area, the user manual lists some typical areas that particular time settings will suit but with PIR's no two sites are the same and some adjusting may be necessary once the owner is using the area – fortunately the changes are easily made by the end user themselves if required by gently pressing the sensor lens surround in the head drops down to reveal the Time Delay controls, once re set the head can be gently pressed in to latch back in place – remember that on the 2 relay version, once no movement is detected Relay 1 will time after the delay time passes and Relay 2 will time out 5 mins after that

Q10

Is the Intellitect 360™ High Definition 360 degree PIR Sensor compatible with C-bus?

The contacts of the sensor are voltage free so it is possible to interface them to the C-bus BusCoupler or the Auxiliary Input unit etc – check with the specific C-bus documentation for details on wiring and connection as well as the programming requirements of those products

Q11
What should I set the Light Level Threshold to?

This sets the ambient light level above which the PIR will not turn on the light load ie when artificial light is not required to achieve sufficient illumination - it depends on what the location and use of the area are. The user manual lists some typical areas that particular Light Level settings will suit but with the Light Level Threshold setting on PIR's no two sites are the same and some adjusting may be necessary once the owner is using the area – fortunately the changes are easily made by the end user themselves if required by gently pressing the sensor lens surround in the head drops down to reveal the Light Level Threshold controls for adjustment, once re set the head can be gently pressed in to latch back in place – remember that the on the 2 relay version that Relay 2 is not affected by the setting or status of the Light Level Threshold – this allows exhaust fans etc to be controlled irrespective of ambient light levels

Q12
What is the 'Override Off' function and how should I connect to it?

The Override Off allows you to disable/turn off Relay 1 (but not Relay 2 on the 2 relay model), there are 2 options to wire up this function, firstly to connect a Volt Free mains rated N/O rocker switch wired across terminals S1 and S2, secondly to connect a Switched Active (from the same circuit as the supply to the Sensor) via a mains rated N/O rocker switch to S1 only. In either case when the rocker switch is closed the Relay 1 will not turn on and if already on will turn off, Relay 2 will not be affected.

Q13
How many sensors can be overridden off with one switch?

Up to 10 PIR's can be connected together to allow disabling of multiple sensors

Q14
How many switches can be connected to the override input?

There is no limit on the number or switches but there is a limit of 20m on the total length of cable that be used irrespective of the number of PIR's or the number of switches

Q15
Why is the maximum cable length to the override switch?

A total cable length greater than 20m may cause RF interference to be picked up by that length of cable and this would interfere with the electronics in the sensor controls and override to relay(s) off at all times irrespective of the override switch state

Q16
Why can't I just turn off the power to the sensor to override the sensor off?

When you switch the power back on the sensor it will go through an approx 45 sec 'warm up' period during which the load will remain off and full detection range will not be reached for a further 2 or 3 minutes. If you use an override switch the PIR will function as normal as soon as the override is turned off. Also when you turn off the power both Relay 1 and Relay 2 will be turned off – it is often required (in meeting rooms etc) to turn the lights off for a presentation etc but leave the exhaust fan load or HVAC control connected to Relay 2 still working

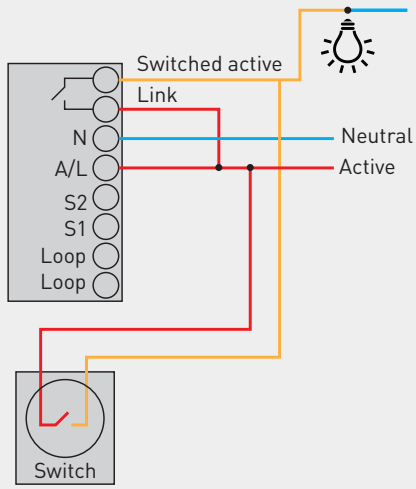
Q17
Is there a minimum load that the sensor can switch?

There is no minimum load requirements, the loads on Relay 1 and Relay 2 are switched by a set of contacts rather than solid state switches that often require a minimum load to operate correctly

Q18
Is it possible to override the load to ON?

Yes it is possible, wire a standard wall switch in parallel with the relay contacts. When the switch is closed the load will be on even if the PIR has not detected motion. When the switch is off the load will be on when the PIR senses movement and will turn off when no movement has been detected for the set Delay Time.

How to wire an external override ON switch
Diginet Intellitect 360™ & Pierlite Smart Scan



When the switch is activated, the load will stay on. When the switch is deactivated the sensor will turn the load on when movement is detected and turn the load off when there is no movement.