

## HOW TO INSTALL THE XCM Z10 MODULE

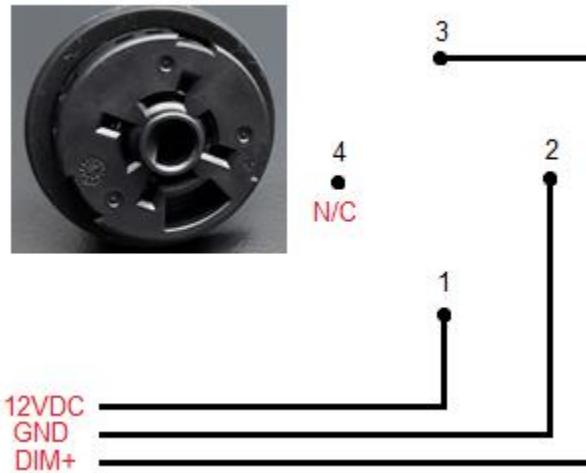
**! READ AND FOLLOW ALL SAFETY INSTRUCTIONS !  
SAVE THIS GUIDE FOR FUTURE REFERENCE**

**! WARNING!**

Risk of Electric Shock.  
Turn power off before installation  
or servicing.

You will need a Z10 keyed receptacle wired correctly to your lighting fixture. There are Z10 receptacles that exist as non-keyed, but ensure it is a keyed model otherwise it will not fit a XCM Z10 module.

A Z10 receptacle will require 3 pins: +12VDC, Ground, and 0-10Vdc output. 12V is an input and a minimum of 100mA is required to power a XCM Z10 module; we recommend 200mA capability for headroom. The wiring output of the Z10 socket is shown below:



XCM Z10 devices are easy to install. Just line up the key of the module base with the key socket of the Z10 receptacle. Push the Z10 device in and twist until it locks. Carefully move your hand away to ensure that the module doesn't drop to the ground. Give it a gentle pull to ensure that it is securely fitted.



Power up the light fixture's main power and the auxiliary 12V power should power up your Z10 module.



## **XCM Z10 MODULE TECHNICAL DETAILS**

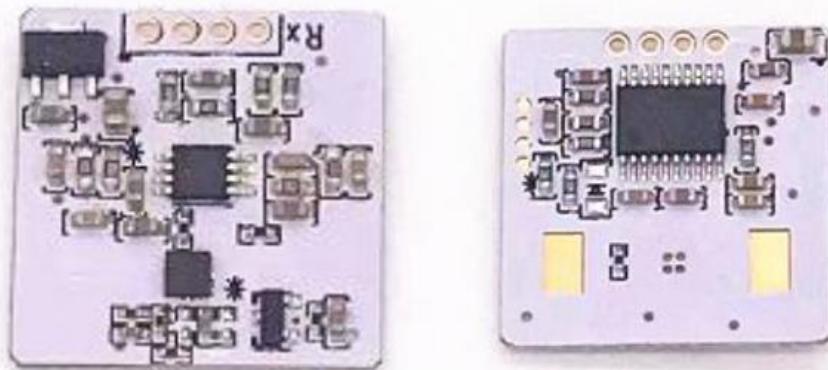
The Z10 module has its own integrated antenna. No configuration is necessary, and the antenna is contained entirely inside the module housing. The housing is IP66 rated and suitable for outdoor installation. Reorientation or adjustment of the antenna in relation to the module is impossible. The antenna is intended to be mounted pointing down, with the antenna perpendicular to the floor.

In order to verify the antenna is functioning properly, you should use a spectrum analyzer and when the module is powered properly, check that it emits a strong 433MHz signal when the center button on the Xi-Fi remote is pressed (See User Guide for details).

Below is a spec of the Antenna properties.

| Antenna Characteristics |                           |
|-------------------------|---------------------------|
| Frequency Range         | 433MHz                    |
| Antenna Type            | Integrated monopole helix |
| Gain                    | 2dBi                      |
| Impedance               | 50Ω                       |
| Termination type        | Thru-hole board mount     |
| VSWR                    | ≤2.0                      |
| Polarization            | Omni Directional          |
| Max Power               | 50W                       |
| Humidity                | 5~95%                     |
| Operation Temperature   | -40°C~+60°C               |
| Weight                  | 2g                        |
| Size                    | Φ6mm*27mm                 |

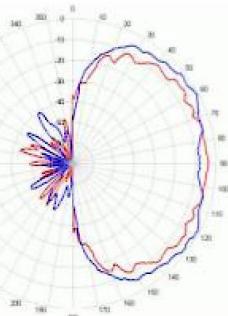
The device also includes a 24GHz microwave doppler effect motion sensor with a surface trace antenna. The device operates at 24 GHz and uses an exposed transmission pad and receiving pad with accompanying amplifier electronics in order to function.



In order to verify the motion sensor is functioning properly, you should use a spectrum analyzer and when the module is powered properly, check that it emits a strong 24GHz signal when you wave your hand in front of it.

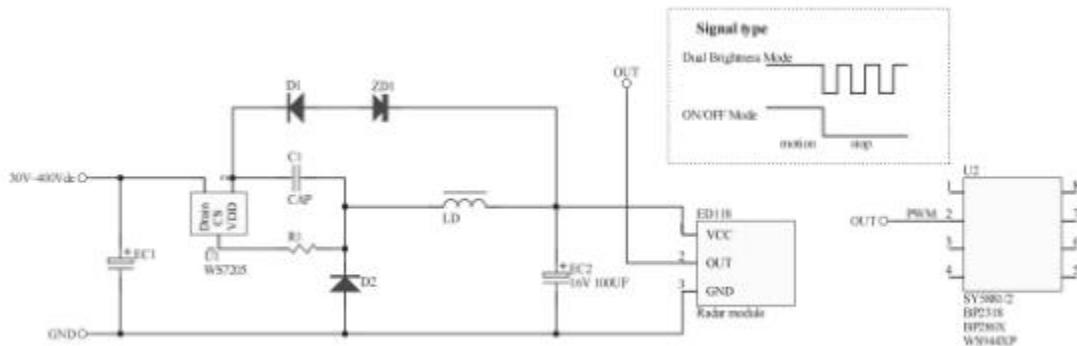
Specifications for the 24GHz Motion sensor:

| Parameter                | Minimum | Typical | Maximum | Units          |
|--------------------------|---------|---------|---------|----------------|
| Transmit frequency       | 24      | 24.125  | 24.25   | GHz            |
| Input voltage            | 5       |         | 12      | V              |
| Output high level        | 3       | 3.15    | 3.3     | V              |
| Output low level         |         |         | 0.5     | V              |
| Working current          | 55      | 60      | 65      | mA             |
| 3db Point Angle          |         | 60      |         | deg - XZ Plane |
|                          |         | 70      |         | deg - YZ Plane |
| Antenna gain             |         | 6       |         |                |
| Sensing distance         | 4       | 5       | 6       | M              |
| Delay time               | 290     | 300     | 310     | S              |
| Photosensitive net value |         | 7       |         | Lux            |
| Operating Temperature    | -25     |         | 85      | Celsius        |
| Storage Temperature      | -50     |         | 125     | Celsius        |



The microwave motion sensor is permanently fixed to the internal electronics and is fully enclosed by the housing. The motion sensor is intended to be pointed down toward the floor from an elevated position. The angle of detection spread is very wide and is shown in the image to the left.

A schematic for the motion sensor control electronics is below:



According to Title 47 § 1.1310 Radiofrequency radiation exposure limits, and the referenced ANSI C95.1-1992 Section 4.1 there are no specified limits for RF exposure to users when the RF exceeds 400MHz. These modules operate at 433MHz and 24GHz and have no federally mandated nor FCC recommended exposure limitations.

The device is only FCC authorized for the module. Final compliance of any combined product requires Part 15 Subpart B compliance testing with module installed into the product.