

MST-2W

Passive Infrared Motion sensor

Manual version 1



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Introduction

The MST-2W is a “passive infrared” motion sensor that is well suited to work directly with the Sprite video repeater. The sensor will detect warm body motions crossing its view and output a TTL “High” pulse. It can operate on 5 Volts DC from the Sprite’s IO port with minimal power use and directly trigger the Sprite with no other electronics needed. It is available as a sensor only without wires, or in packages with wires, plugs and enclosures. The range of the sensor is about 20 feet with about 120° field of view, but can vary by ambient conditions. In example, if the room temperature is close to body temperature, the sensor may not detect motion well.

Operation

When first powered on, the sensor will need a minute or two to calibrate itself to the room. During this time there will be no trigger output. The sensor then “watches” for heat moving across its path from one zone to another. With this in mind, the sensor may not easily detect a person walking directly toward it, and is more likely to detect a person walking across its view. You can experiment with the sensor location and aim.

If using the MST-2W with the Sprite video repeater, you should set the Sprite Play Mode to “Video Control Mode” for video files, or “Audio Control Mode” for audio files. Then set the Control Mode to the “Trigger High No Interrupt” setting. You will need 2 files on the SD memory card (or USB drive) named 000 and 001. The 000 file will loop continuously when power is applied until there is a trigger event. The MST-2W will cause a trigger event when it detects motion, and the Sprite will play the file named 001. Both files should be longer than 5 seconds. We recommend 30 seconds or longer for the loop file. The loop can be a black video or a silent audio file if you want it to be un-noticed before the trigger event. You can add some extra time or black space to the end of the 001 file as a delay to allow the person to walk away before a new trigger occurs.

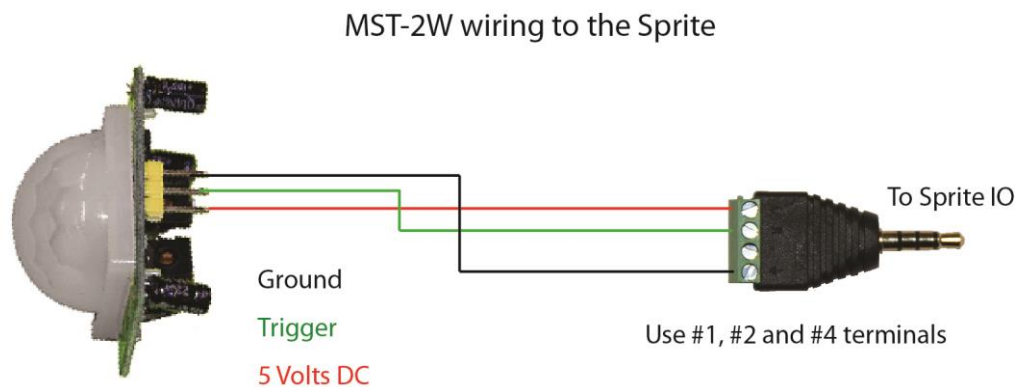
Wiring

If wiring direct to the Sprite:

Set the Sprite to the “Trigger High No Interrupt” option.

If wiring to the 8X78:

Follow the directions in the 8X78 manual.



You can attach the 3 wires to the MST-2W in a few different ways.

The header pins are spaced at 2.54mm (0.1 inch). You can use available connectors such as the servo type 3 wire plugs used for model RC planes boats and cars.

You can also solder the wires directly to the MST-2W

Any wire size is ok to use. Just keep in mind that very small wires can break easier and the big sizes may not fit into the terminals. Size 22 AWG to 26 AWG are good choices. Multi-stranded wire is more flexible and less likely to break due to vibration or moving, while solid single core wire may be less expensive.

Adjustments

You may need to experiment with the location and angle of the sensor for best results. Sometimes mounting on a wall is best, for other applications the ceiling is best. You can also limit the view of the sensor by partially blocking it with black tape or some other obstruction. Most uses will not require any other adjustments, however the MST-2W bare sensor has 2 adjustments on the circuit board, Sensitivity and Delay. Normally the Sensitivity is at maximum, and the delay is at minimum. For certain applications you may want to reduce the sensitivity. We suggest you leave the Delay at minimum and add delay to your video file 001 as required to allow the person time to exit the area before allowing a new trigger event.

Mounting

The MST-2W bare sensor can be mounted in an enclosure in various ways using glue, RTV silicone, tape, or the 2 small holes in the circuit board. It will require a 23mm (29/32") hole for the sensor dome.

Support

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Custom Orders

We offer value added options such as:
Adding wire in various lengths
Adding the plug for the Sprite IO port
Installing in a plastic enclosure
Sealing for outdoor applications

Contact sales for a custom quote.
sales@teamkingsley.com