EMX INDUSTRIES, INC.

RAVEN
Microwave Motion Sensor

QuickStart Guide with Remote Control

Mounting

1.	Loosen the hinge screw to remove the mounting bracket from the sensor housing.
2.	Install the mounting bracket at a height between 8-23 ft (2.5-7 m).
3.	Reattach the sensor to the mounting bracket and adjust the sensor to the desired angle (15 – 45°), tighten the hinge screw to lock the sensor into place.

Wiring

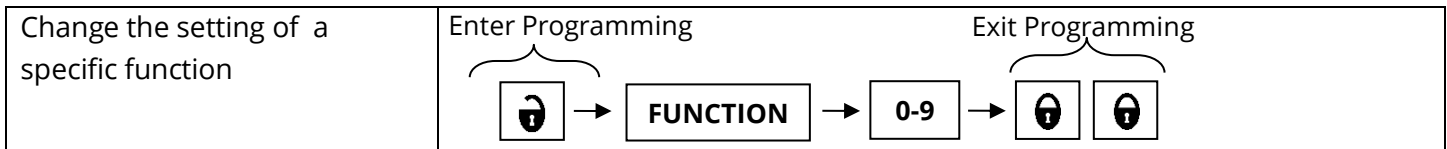|	
1.	Connect power (12-36 VDC or 12-28 VAC) to the brown and green wires. They are not polarity sensitive.
2.	Wire the vehicle detection relay (white/yellow wires) into the door/gate operator. If human only detection is desired, use the human detection relay (gray/pink wires) instead.
NOTE:	Both relays can be used at the same time if desired. The vehicle detection relay can be reconfigured to include both human and vehicle detections.

Programming with Remote Control

1.	Press the remote control **Unlock Key** 🔓 to enter programming mode. If the sensor already has a 4-digit security code, enter it after pressing the unlock button.
2.	Press the key of the function to be changed, followed by the numeric value you would like to enter. Pressing the **Question Key ?** after selecting a function will show the current setting by flashing the green LED. The number of LED flashes is equal to the currently programmed setting.
3.	To exit programming mode, press the **Lock Key** 🔒 twice quickly.

Change the setting of a specific function	🔓 → FUNCTION → 0-9 → 🔒 🔒
Enter programming mode with security key	🔓 → X X X X
Checking the current setting of a function	🔓 → FUNCTION → ?

Change the setting of a specific function	Enter Programming Exit Programming
	🔓 → **FUNCTION** → **0-9** → 🔒 🔒

Configuring the Sensitivity Parameters

1. Enter Programming Mode using the **Unlock Key** 🔓.
2. **Sensitivity Function** – Press the **SENS** button. Now press a number for the desired setting **(1-9)** are valid. Raising the value increases the detection area size, lowering shrinks the area.
3. **Car Sensitivity Function** – Press the **CAR** button. Now press a number for the desired value **(1 -3)**. Lower this setting if vehicles are being detected as pedestrians. Raise this setting if pedestrians are detected as vehicles.
4. **Pedestrian Sensitivity Function** – Press the **PER** button. Now press a number for the desired value **(1-7)**. Selecting any setting other than '1' will enable cross-traffic rejection. Lowering this value will make the sensor less sensitive to the movement of pedestrians.
5. **Responsiveness Function** – Press the **STEP** button. Now press a number for the desired values **(1-3)**. Increasing this value will make the distinction between vehicle and pedestrian traffic more reliable but will make the sensor slower to react to objects in the detection field.
6. Exit Programming Mode by pressing the **Lock Key** 🔒 twice. Test the setup to ensure vehicle and human detection is reliable.

Configuring the Relay Parameters

1. Enter Programming Mode using the **Unlock Key** 🔓.
2. **Vehicle Detection Relay Function** – Press the **OCAR** button. Now press a number for the desired value **(1-6)** are valid. This parameter will set the directional detection mode of the vehicle detection relay and what objects it will activate for. Refer to pg. 5 of manual for a table of possible settings. The default setting will have vehicles detected only when moving towards the sensor.
3. **Pedestrian Detection Relay Function** – Press the **OPER** button. Now press a number for the desired value **(1-6)**. This parameter will set the directional detection mode of the human detection relay and what objects it will activate for. Refer to pg. 6 of manual for a table of possible settings. The default setting will have pedestrians detected only when moving towards the sensor. If this relay is not connected to an operator, this step is not needed.
4. **Relay Hold Time Function** – Press the **TIME** button. Now press a number for the desired value **(1-9)**. This parameter will adjust the hold-on time of both relays. Lower values will have a shorter hold-time and higher values will extend this time. The hold time can be configured between 0.5 – 300 seconds.
5. **Relay Configuration Function** – Press the **OUT** button. Now press a number for the desired value **(1 or 2)**. This parameter will change the default position of both the relays. The default setting (1) will have the relays be normally open (NO). Changing the setting to '2' will make the relays normally closed (NC).
6. Exit programming mode by pressing the **Lock Key** 🔒 twice. Ensure the door/gate operator reacts properly when a detection occurs.