

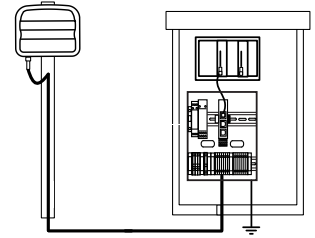
SmartSensor V

INSTALLER QUICK-REFERENCE GUIDE



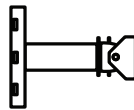
Introduction

Complete steps 1–9 to integrate the Wavetronix SmartSensor V into your traffic application. If you need technical support or have questions, please contact Wavetronix Technical Services at (801) 734-7200. For more information, see the *SmartSensor V User Guide*.



1 Ensure that all necessary components are available

The components below, all of which can be ordered from Wavetronix, may be needed to install your SmartSensor V; for more information on any of these, see the *Wavetronix product catalog*.



Mount bracket



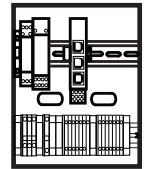
Sensor



Sensor cables



Home-run cable



Preassembled cabinet

2 Select a mounting height

Determine the offset by measuring the distance from the nearest detection lane to the pole the sensor is mounted on.

Find the recommended mounting height by using this table.

The range of ideal offsets is highlighted in gray.

Offset from first Detection Lane (ft / m)	Recommended Mounting Height (ft / m)	Minimum Mounting Height (ft / m)	Maximum Mounting Height (ft / m)
9 / 2.7	12 / 3.7	9 / 2.7	15 / 4.6
15 / 4.6	15 / 4.6	12 / 3.7	18 / 5.5
20 / 6	18 / 5.5	15 / 4.6	20 / 6
25 / 7.6	20 / 6	17 / 5.2	25 / 7.6
30 / 9.1	22 / 6.7	19 / 5.8	30 / 9.1
35 / 10.7	23 / 7	20 / 6	35 / 10.7
40 / 12.2	25 / 7.6	22 / 6.7	40 / 12.2
45 / 13.7	27 / 8.2	23 / 7	45 / 13.7
50-80 / 15-24	30 / 9.1	25 / 7.6	must be < offset

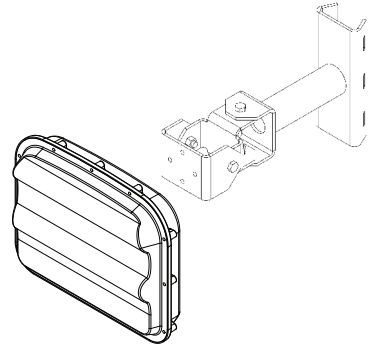
3 Attach the sensor and mount bracket to the pole

Attach the mount bracket to the pole

- 1 Insert the stainless steel straps through the slots in the mount bracket.
- 2 Position the mount on the pole so that the head of the mount is pointing towards the middle of the lanes of interest.
- 3 Tighten the strap screws.

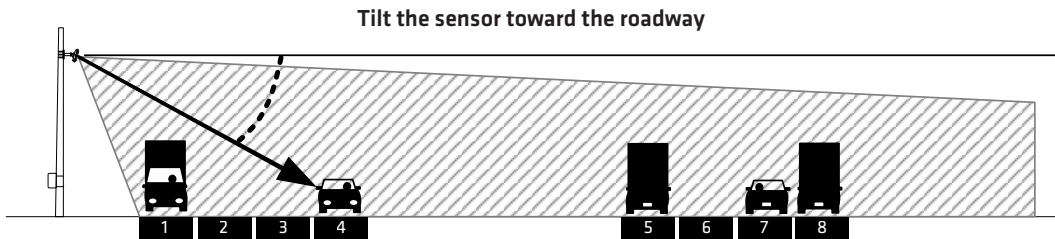
Attach the sensor to the mount bracket

- 1 Align the bolts on the back of the SmartSensor V with the holes on the mounting bracket. The large 26-pin connector on the SmartSensor V should be pointing towards the ground.
- 2 Place the lock washers onto the bolts after the bolts are in the mounting bracket holes.
- 3 Thread on the nuts and tighten.



4 Align the sensor to the roadway

- 1 Tilt the sensor down so that the front is aimed at the center of the detection area.
- 2 Adjust the side-to-side angle to within approximately 2° of perpendicular to the flow of traffic.
- 3 Tighten the mounting bracket bolts.



5 Attach the 8-conductor cable

- 1 Tear the tab off the tube of silicon dielectric compound and squeeze about 25% of the silicon into the connector at the base of the SmartSensor. Wipe off any excess compound.
- 2 Insert the cable into the connector and twist clockwise until you hear it click into place.
- 3 To avoid undue movement from wind, strap the cable to the pole or run it through a conduit, but leave a small amount of slack at the top of the cable to reduce strain.



The SmartSensor V has internal surge protection, but the sensor must be properly grounded for the surge protection to be effective. To achieve a good earth ground to the sensor follow the following steps:

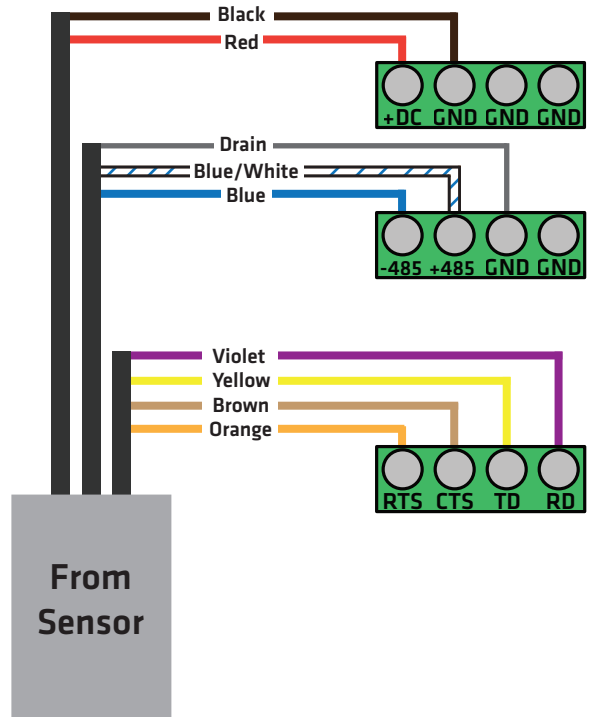
- 1 Connect a grounding wire to the grounding lug on the bottom of the sensor.
- 2 Connect the other end of the grounding wire to the earth ground for the pole the sensor is mounted on. If the pole is earth grounded, this can be done by drilling/tapping a hole in the pole and terminating the grounding wire into this hole using a bolt, ensuring that a good electrical connection is achieved. The grounding wire can also be terminated to a grounding rod at the base of the pole. Do not run the grounding wire back to the main traffic cabinet.

6 Connect surge protection and power

If you bought a preassembled backplate, simply mount it in the main traffic cabinet, then route the sensor's cable into the cabinet and terminate the wires into the blocks according to color. If you don't have a preassembled backplate, follow these steps to connect power and comms to your sensor.

- 1 Disconnect the Click 200 from the DIN rail.
- 2 Disconnect the green screw terminals on the PROTECTED side (top) of the Click 200 and wire the sensor cable as shown in the diagram.
- 3 Mount the Click 200 on the DIN rail.
- 4 Connect the ground terminal to the DIN rail and the earth ground wire to the lug bolt on the bottom of the pole-mount box.
- 5 Connect the exterior lug bolt to earth ground.
- 6 Connect 10–30 VDC to the +DC and –DC terminals on the UNPROTECTED side (bottom) of the Click 200.

Note. Refer to Chapter 2 of the SmartSensor User Guide for detailed information on the sensor's electrical connections.



7 Install the SmartSensor Manager (SSM) software

- 1 Find the setup program from the Wavetronix website by going to www.wavetronix.com, clicking on the **Support** tab, choosing the **SmartSensor** product line, and choosing **SmartSensor V** from the drop-down menu.
- 2 To install, simply download the file to your local machine.
- 3 Double-click on the SSM icon to open SmartSensor Manager.

8 Make a connection

- 1 Attach a serial cable to the RS-232 or RS-485 port of a surge protection module.
- 2 Once SmartSensor Manager is open, select the type of connection you want to make (Serial, Modem or Internet).
- 3 Click **OK**.

After you are connected, the Lane Configuration page will appear, allowing you to automatically configure the SmartSensor V.

