

# HIVE TRAFFIC SENSOR

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## Installation Manual



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# Order of Installation Work

The best and fastest installation process for on-site installation of a HIVE+ Traffic Sensor, is achieved by following the order of activities listed below and as described in this document:



Once this process is completed successfully, FSI Support will undertake the final work of sensor configuration and commissioning, as well as data management and final handover to the client.

## 1. Preparation Before On-site Installation

HIVE+ Traffic Sensor is pre-configured and tested prior to delivery in terms of power, settings, and connectivity. There is no need to open this sensor prior or during installation.

Before the installation work is initiated, please prepare as per following to make the process as fast and easy as possible – with the right preparation the HIVE+ Traffic Sensor can be installed and commissioned in a matter of few minutes:

Make sure you understand the location and the traffic scenario to be achieved for each sensor installation. What traffic or incidents are intended to be captured? where? which directions? If you do not have this information available from the client, then you can obtain the site design and sensor purpose description from Felicity Support (See contact info further below).

Is the power installation at the site AC or DC? – check that the HIVE unit label corresponds with the power source expected to be at the site.

Please make sure you have valid login credentials to this website: [www.felicityconnect.com](http://www.felicityconnect.com)

- If this have not been provided to you in advance – please contact Felicity Support (See contact info further below).

Tools – please ensure to bring the following tools to the installation site:

- ✓ Phillips Screwdriver
- ✓ Electrical screwdriver
- ✓ Plier cutter
- ✓ Smartphone with internet connection
- ✓ Power/Multimeter
- ✓ Tools and equipment to splice a power cable.

## 2. Install HIVE+ Traffic Sensor on Pole

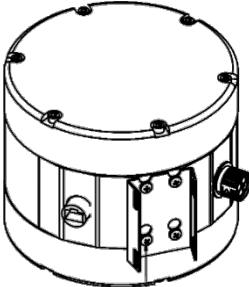
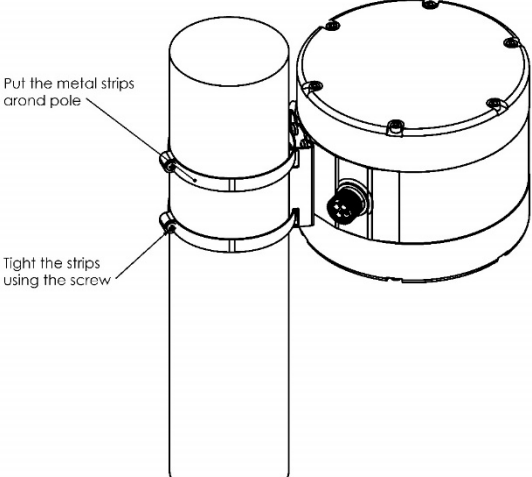
The ideal installation height for HIVE+ Traffic Sensor is 6-9m from ground level. However other heights may also work depending on traffic detection intention and scenario.

The direction of installation on the pole should be in the general direction of the area/scenario intended for traffic detection.

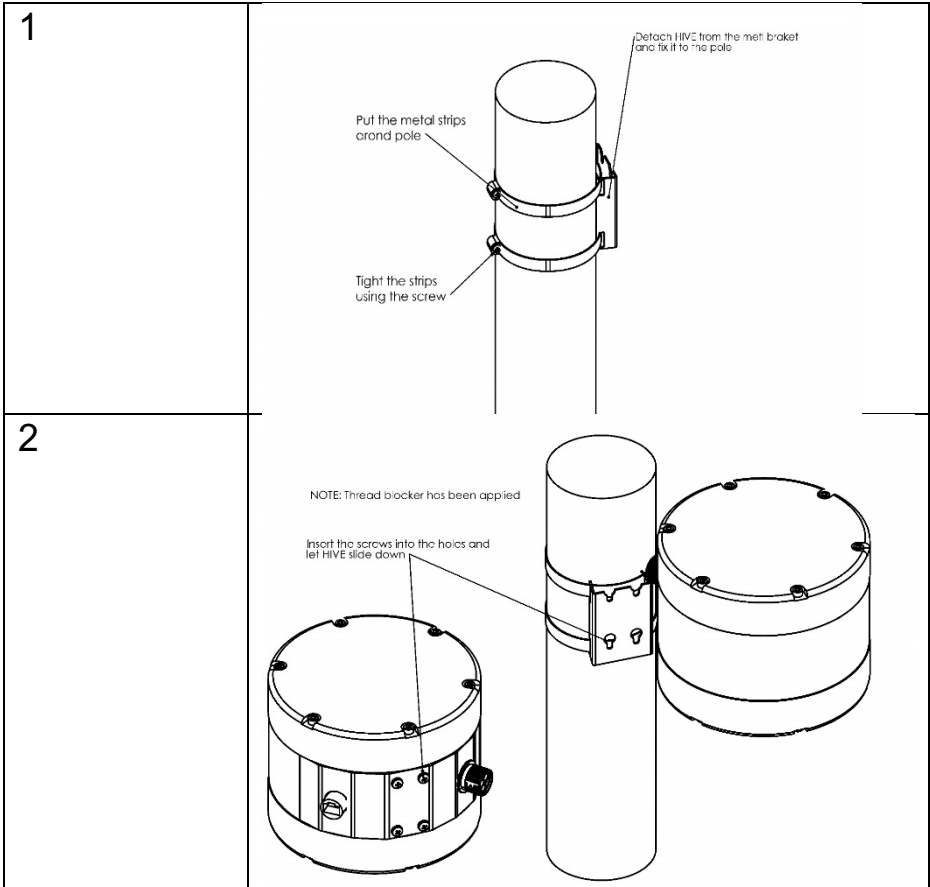
The adjustable pole rings will accommodate dimensions from Ø30mm to Ø150mm – any excess metal band can be cut off with a pair of pliers.

The pole mount system for HIVE+ Traffic Sensor is available in two different versions A-Fixed or B-Mobile – choose according to your needs. **Those instructions are also valid for Battery version.**

## Pole mount – type A- Fixed

1	 <p>Tight the 4 screws properly NOTE: Thread blocker has been applied</p>
2	 <p>Put the metal strips around pole</p> <p>Tight the strips using the screw</p>

## Pole mount – type B- Detachable



### 3. Connect Power to HIVE+ Traffic Sensor

Check the label of the HIVE+ Traffic Sensor to identify, which type of power source it is intended for:

- 220 VAC – Class I
- 220 VAC – Class II
- **12 VDC**
- 220 VAC NEMA Extender cable



#### HIVE+ TRAFFIC SENSOR

Model Name: HTS-LTE-W-DC  
 Voltage: 12V DC  
 Power: <10W  
 IP: **IP66**  
 Connectivity: LTE 4G  
 Sensor Lens: 2.8mm (W)



Please note the HIVE+ Traffic Sensor requires constant power feed for the period it is intended to operate.

In case the HIVE traffic sensor is delivered with a battery a cable is also included.

The instruction below is also valid for the HIVE+ Battery Pack (HTB) products

See power connection instructions for AC and DC version of these power versions of the HIVE+ Traffic Sensor below.

Look at the plug mounting instruction to insert the cable:

The below table shows the corresponding numbers on the connectors.

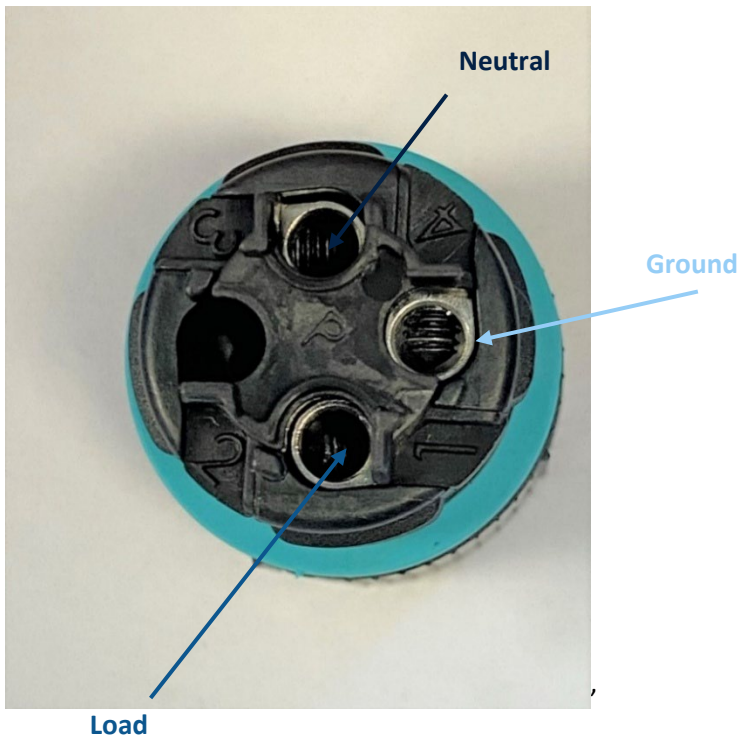
Poles	AC	DC
1	L	+
2	/	/
3	N	-
4	GND	

**Note: Do not shred/strip the cable wires – simply insert the cable wire in each connector and tight the screw.**



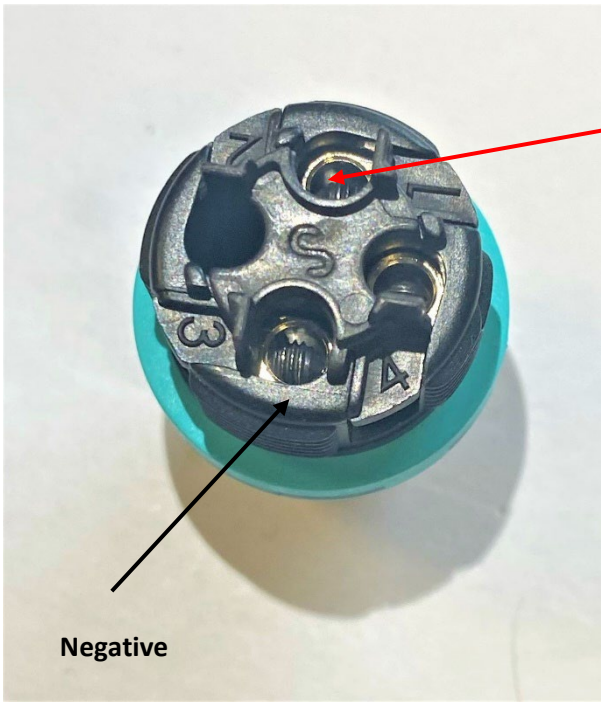
## Wiring for AC

The picture with numbers where the wires connected according to the number.



## Wiring for DC

The picture with numbers where the wires connected according to the number



### 3.1. Cable

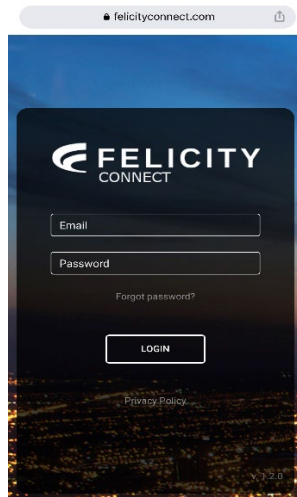
One cable is provided only in case HIVE traffic is order with its own battery pack:



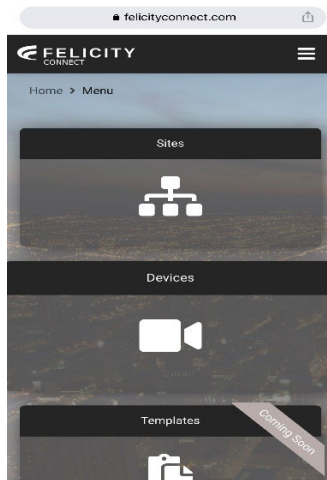
HIVE+ Traffic Sensor with HIVE+ Powerpack with cable included.

## 4. Confirm Platform Connectivity

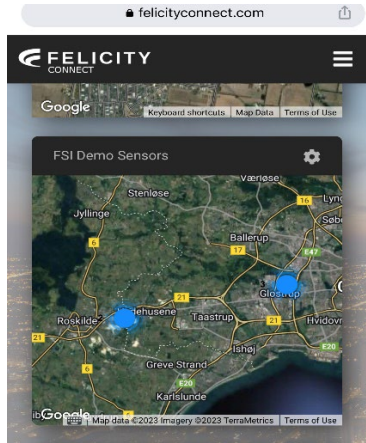
Login to Felicity Connect platform.



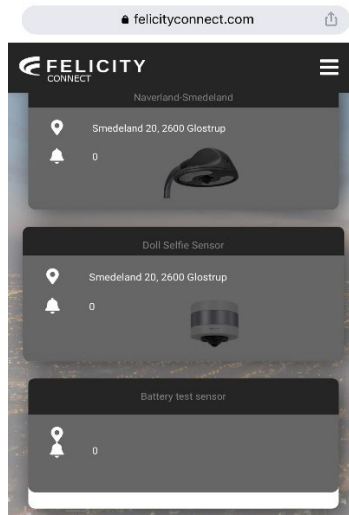
Once you have logged in you should arrive at the dashboard.



Select sites and it should be directed to the different sites.



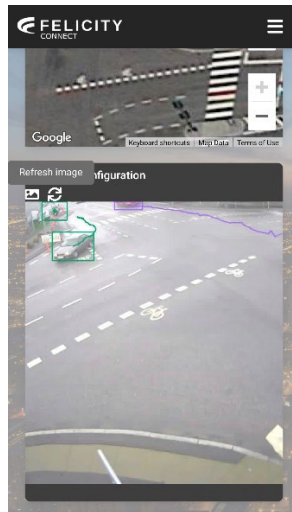
Once you are landed on this page as shown in the picture below, select the sensor according to your installation location.



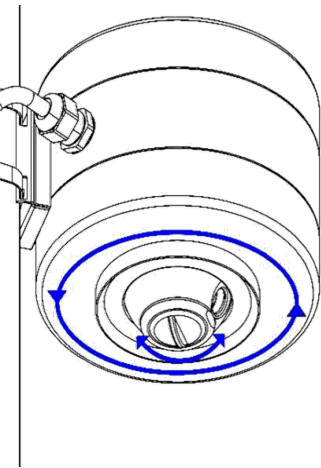
Select the sensor configuration widget and click on the video icon as indicated in the picture with the arrow



Once you click the video icon, it will show the current Field of view of the sensor.



## 5. Adjust Sensor’s Field of View (FOV)



In order to achieve the planned traffic detection result, you must now adjust the sensor’s Field of View to best capture the area/scenario required.

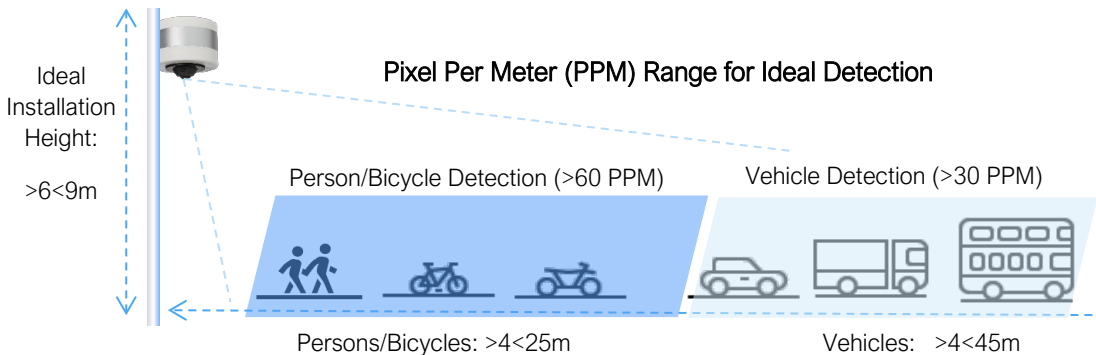
To achieve this, you must first know what the intention of the sensor installation is: is this for detection traffic on an open road? or passengers waiting on a bus? a pedestrian crossing? or counting origination and destination traffic in an intersection – or something else. Typically, each location will have an ideal FOV that matches the purpose. Ideally you are briefed on all this for each sensor during the preparation process.

In order to adjust the FOV you can now use your hand to manually adjust the direction sensor “ball” and thereby the FOV. The “ball” rotates 360 degrees in the horizontal plane and +/- 10 degrees in the vertical plane.

Every time you have adjusted the direction, *you can refresh the sensor image view on the Felicity Connect platform on your phone and gauge the achieved change.*

To achieve the best detection result, please follow a few tips.

1. Imagine the sensor's FOV as a pair of eyes of a person looking straight forward – a person almost has a 180-degree FOV, but will only really see and identify an object in motion once it is within the middle of the FOV. The sensor works the same way.
2. Try to make sure the location or area of where the counting registration is intended, is roughly in the middle of the image. This way the sensor has time to identify, track and count the object before it leaves the FOV again.
3. Try to make sure that the intended traffic objects are viewed from above, roughly at a 45-degree angle so that multiple objects cover each other as little as possible when passing each other. Looking straight down is also not ideal, as it makes object identification difficult.
4. Make sure that the location or area where the tracking and counting registration is intended, is not obstructed by tree branches, wires, signs, and similar.
5. Finally, keeping this distance guide will also assist you to adjust the FOV during installation:



## 6. Send Location Photo to FSI Support

As the final action and completion of installation, please take a photo of the installation from as close as possible to the installation pole and send to [support@felicitysi.com](mailto:support@felicitysi.com)

The photo will contain the GPS location coordinates needed to display a final map location of the sensor in the Felicity Connect platform.

## FSI Installation Support and Contact Information

During planning, please feel free to contact our support team for any clarification or information regarding the specific project.

For assistance during installation please provide 2 days' notice, with information on the installation work time window. Once affirmed—our support team will be available for live voice/online support during your onsite installation if and when required.

**Email: [support@felicitysi.com](mailto:support@felicitysi.com)**