Introduction

Figure 1: Dust sensor

The AxisTech dust sensor consists of three units; sensor unit, main unit, and power supply. The sensor unit contains the actual dust sampling element. A low-power fan draws the surrounding air into the sampling chamber. The particulate matters are measured using laser scattering technology, and the data is sent to the main unit.

The main unit consists of an interface to talk to the sensor unit and a Sigfox link to send data to our server. This unit has a high-precision GPS unit to synchronize the internal device clock with the GPS UTC data and time. GPS can also be used to locate the device in case it is moved from place to place. There is also a backup battery that will keep the device operating in case of a power outage or moving the unit to a new location. The battery takes about six hours to fully charge and powers the device for 24 hours.

The power supply is a standard AC power adapter that plugs into a 10A AC outlet. The maximum power draw is 3W, and the average operating power is 1W.

Pre-Installation Steps

1. Fully charge the device before installing. You do not need to connect the sensor unit at this stage. A complete charging cycle will take about 6 hours.

2. After a few hours of charging, take the main unit outside in an open area with a good view of the sky and reset it. Please check "How to reset S95 devices" topic on the next page. This step is crucial to get the internal clock to sync with the UTC data & time and determine the device's active reporting period.

3. You can continue charging if the device had been on charge for less than three hours or go to the next step.

4. Prepare an extension cable if an AC power outlet is not within 1 meter of the intended installation point. This unit's power draw is very low, average 1W only, so you do not need a heavy-duty cable.

5. The sensor unit will need a well-circulated air sample for accurate measurement, so there shouldn't be any object directly in front of the sensor's air inlet within 1 meter.

Installation Steps

1. Install the mounting frame with the controller (image below) onto your chosen pole.

2. Gently insert the male connector plug from the sensor unit into the main unit's female socket, and hand tighten the locking nut. Please do not use excessive force or any pliers or spanners to tighten this nut. This nut is an IP68 rated connector, so there is no need to use extra sealant around this connector or over-tighten it.

3. Finally, plug in the power supply into a standard 10A AC outlet.

For more information on our devices, visit <u>axistech.co</u> or send us an email at <u>info@axistech.co</u>