AXIS Sensor Metrics Dashboard

User manual

About the application

AXIS Sensor Metrics Dashboard is pre-installed on all AXIS F91 Main Units. The application allows you to collect and visualize data from sensors connected to your main unit in a structured manner, as well as store data on the main unit's SD card.

For a list of supported devices, see *axis.com/products/axis-sensor-metrics-dashboard#compatible-products*.

Supported sensors

The application supports the following sensor types:

- Axis built-in accelerometer
- Satellite navigation systems using serial port mode
- All single register data holder Modbus devices over IP or serial port mode

Note

You have to select which serial port mode to use.

The Modbus data sources read from only one register. To access more registers, add more data sources.

Configuration

Add a data source

To collect and visualize data, add data sources to your device.

1. In AXIS Sensor Metrics Dashboard, go to **Source**.
2. Click **+ Add data source**.
3. Add a name for the source.
4. In the **Source** drop-down menu, select the type of sensor you want to add.
5. Under **Sensor**, enter sensor type and unit for the sensor output.
6. Configure the sensor type-specific settings.
7. Click **Save**.
8. To start reading data from the sensor, toggle **Start**.

The name, type and unit that you have specified for the sensor is visualized in the **Dashboard** tab. For more information, see *View live sensor data in the dashboard, on page 3*.

Edit a data source

1. Go to **Source**.
2. Click ⋮ on the source you want to edit.
3. Select **Edit** in the drop-down menu and edit the sensor-specific settings.

Choose what sensors to show on the dashboard

1. Go to **Dashboard**.
2. Click **Edit**.
3. Click **–** to hide a sensor.
4. Click **+** to show a sensor.
5. Click **Save**.

View live sensor data in the dashboard

1. Go to **Source**.
2. Go to the sensor you want to view data from and make sure you have toggled **Start**.
3. To view the latest read data from the sensor, go to **Dashboard**.

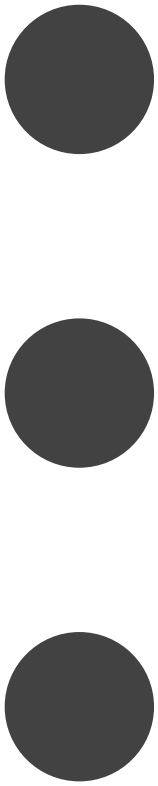
The name, type and unit that you have specified for the sensor is shown in the **Dashboard** tab. If you want to edit any of the settings, see *Edit a data source, on page 3*.

Display sensor data as video overlay

Before you can display live sensor data as an overlay, you need to enable it in your data source configuration:

1. In AXIS Sensor Metrics Dashboard, go to **Source**.

2. Click **+ Add data source**, or click



on an existing data source and select **Edit**.

3. Go to **Video overlay** in the data source configuration.
4. Turn on **Enable output to video overlay**.
5. Note the D number assigned to this sensor (for example, D1). You'll need this number to set up the overlay.
6. Choose what to include in the overlay:
   - **Name** to show the sensor name.
   - **Type** to show the sensor type.
   - **Unit** to show the unit of measurment.
7. Click **Add** or **Save**.

To add the overlay to your video:

1. Make sure AXIS Sensor Metrics Dashboard is running. To start it, go to **Source**, select your data source, and toggle **Start**.
2. Go to **Video > Overlay.**
3. Select **Text**.

4. Click **+** to add an overlay.
5. Enter the D number from your sensor configuration to display the sensor data (for example, #D1).
6. Optionally, add other modifiers from the **Modifiers** list, such as date and time.
7. Adjust the overlay appearance.

Edit or remove an overlay

- To edit an overlay, click on it and make your changes.
- To remove an overlay, click

.

Note

If you turn off the AXIS Sensor Metrics Dashboard while overlays are configured, the overlays will show the last recorded data instead of live data.

Download data from a data source

You can download sensor metrics data to a file for expanded usability in applications such as Microsoft® Excel. The file format is CSV.

1. Go to **Source**.

2. Click ⋮ on the source you'd like to download data from.
3. Select **Download data** in the drop-down menu.
4. Select a file from the drop-down menu.
5. Click **Download**.

The file is downloaded to your downloads folder, and is also available under **Data files** from where you can download it again at a later stage.

To download the csv file from **Data files**:

1. Go to **Data files**.
2. Select the file you'd like to download.
3. Click the download icon next to the filename.

Download could take a while depending on the file size.

Note

The GPS data columns for longitude and latitude are represented in radians.

Remove a data source

You can remove sensor metrics data sources that you no longer require. Data from the removed source will no longer be collected, but it doesn't affect stored data.

1. Go to **Source**.
2. Click ⋮ on the source you'd like to remove.
3. Select **Remove** in the drop-down menu.
4. Click **Yes** to confirm.

Remove application data

If you uninstall the application, its data isn't automatically deleted from the SD card.

To securely remove all application data:

- Remove the SD card from the device and connect it to a computer. Delete the `metric` folder on the SD card.

or

- Reformat the SD card from the device's system settings. This also erases all other data on the card, including video recordings.

Connect sensors

You can connect sensors to the main unit using either the network or the serial port.

Modbus over IP:

Connect the sensor to the same Wi-Fi network as the camera. Be sure to assign an IP address that is within the same subnet as the camera.

Modbus over Serial:

Connect a Modbus serial (RS485) device to the camera serial port. A description of the pin configuration of the F9114/F91111 serial port can be found *in the F9114 user manual.*

GPS:

Connect a GPS to the correct pins of the serial port of the camera. A description of the pin configuration of the F9114/F9111 serial port can be found *in the F9114 user manual.*

Examples

Add a serial Modbus data source

In this example, we are going to add a Modbus data source over a serial connection.

1. Click **+ Add data source**.
2. Type the name of the source.
3. Select **Modbus over serial** in the **Source** drop-down menu.
4. Click the link **Current serial port configuration on main unit** to configure your serial port to match the requirements of your modbus device.
5. Back in the application, set a **Sample time** and select a unit of time.
   The sample time determines how often the application reads data from the sensor, updates the values in the dashboard, and writes the values to the CSV file.
6. To show the sensor data in the dashboard, add **Type** and **Unit**.
7. Configure the **Device ID**. Consult the modbus vendor manual if necessary.
8. Configure which **Register** to read from. Typically this can also be found in the vendor manual.
9. Specify **Scaling** and **Offset**.
   The values can be used to do a measurement unit conversion of the sensor data.
10. Click **Test read** to see what sensor value is being read.
    This is a quick way to confirm that the device is configured and wired correctly.
11. Turn on **Threshold** and add a threshold value which, when crossed, will be used as a trigger in event management.
12. Set a **Retention time**.
    The retention time specifies for how the created data files remain on the SD card before they're automatically deleted.
13. Click **Add**.
14. Click **Start** to start reading from the data source.

Note

In the section **Write to Modbus device**, it is possible to change the value of certain registers. That could be for example changing the baud rate of the modbus sensor. Another use case is if you have multiple identical devices, you need to assign different Device IDs to them to be able to communicate with them in parallel.

Add a GPS data source

In this example, we are going to add a GPS device connected over the serial connection.

1. Click **+ Add data source**.
2. Type the name of the source.
3. Select **Satellite navigation (GPS)** in the **Source** drop-down menu.
4. Click the link **Current serial port configuration on main unit** to configure the serial port of the camera to match the requirements of your GPS device. Consult the GPS vendor manual if necessary.
5. Back in the application, set a **Retention time**.
   The retention time specifies for how long the created datafiles will remain on the SD card. After the specified time they will be automatically deleted.
6. Click **Add**.
7. Click **Start** to start reading from the data source.

Activate logging of events (optional):

1. Go to the data source configuration.

2. To enable the speed event functionality, toggle **Speed event**.
3. Select an appropriate threshold value.
4. To use the event as a condition in a rule, perform steps 7-14 of *Use sensor data in event management, on page 8*.

Use sensor data in event management

In this example use case we will flash a LED based on data from a device's accelerometer.

Go to the app in the device web interface.

1. Go to **Sources**.
2. Go to **Accelerometer** and click on the ... menu.
3. Select **Edit** in the drop down menu.
4. Enable **Shock event**.
5. Set the **Shock trigger level** to a threshold value that will trigger an event when exceeded.
6. Click **Save**.
7. Go to **System > Events**.
8. Click on **+Add a rule**.
9. Type a name for the rule.
10. Under **Condition**, select **AXIS Sensor Metrics Dashboard: Shock** in the drop-down menu.
11. Under **Action**, Select **Flash status LED**.
12. Select color.
13. Select duration of the flash.
14. Click **Save**.

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