HayStat 1.0

Wireless Temperature and Humidity over Haystack
Let's get to the point!
Date: 8/1/2013

HayStat Installation

1. Screw the backplate to the wall.
2. To power the HayStat, you can supply 5 volts DC power to the terminal block on the device, or you can power it using the micro USB port. Do NOT use both at the same time!
3. To factory reset your HayStat, hold the button labelled 'Boot' for ten seconds.
4. Re-install the faceplate of the HayStat, then partially unscrew the two hex/allen screws at the bottom of the enclosure to lock the faceplate to the backplate.
5. With your phone, pc, laptop or tablet, connect to the Wi-Fi access point labeled `tempsensor-sn` where `sn` is the serial number of the device, using the password `haystack`.
6. Once connected, go to `192.168.4.1` in a web browser on your device.
   ○ On some Android devices, you may have to wait for the message saying this access point is not connected to the internet before going to the configuration page at `192.168.4.1`.
7. Go through the configuration wizard and enter your network information, haystack login information, device name, optional MQTT settings, and temperature offsets.
   a. If using our hosted SkySpark instance, click the "Use Hosted SkySpark" button on the MQTT configuration page.
   b. To calculate what you need to offset the temperature by, check the current actual temperature of the sensor with an external sensor, and subtract that number from the temperature the sensor was reading.
      • Example: If the real temperature is 70°F and the sensor is reading 71°F, enter -1.
8. Press the `Submit` button at the end of the configuration wizard. The device should be available on your Wi-Fi network within thirty seconds.
9. To find the IP of your HayStat, we recommend using a tool like `Advanced IP Scanner` and scanning your network for devices from `Espressif Systems`. You can also use the command line utility "ARP -a" before and after adding the sensor to see the new dynamic address that is added to the table.

Using HayStat with SkySpark®

1. Log into SkySpark as a user with `su` privileges.
2. Check if the Haystack connector is enabled.
   a. Open the `Settings` application, and go to the `Exts` tab. (This is usually opened by default.)
   b. Select the `Haystack` extension and click `Enable` at the top.
3. Add a Haystack connector for your HayStat.
   a. Open the `Connectors` application and click `Connectors` under `Haystack` on the sidebar.
   b. Click `New` on the top of the screen and fill out the form that pops up.
      ▪ `dis`: Enter a user-friendly name here.
      ▪ `uri`: Enter `http://haystat_ip/haystack` here, replacing `haystat_ip` with the IP of the HayStat.
      ▪ `username/password`: Enter the username and password you set while configuring the HayStat here.
4. Pull points into SkySpark from the HayStat
   a. Open the `Builder` application and click `Connectors` on the top right.
   b. Click the arrow next to the connector you just added, and make sure the device ID that shows up in the navigation tree is correct.
      3. Click the arrow next to the device ID that shows up, then click the `+` symbol next to the point(s) you want to add.

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Using HayStat with SkySpark® over MQTT

Note: These instructions assume you have an existing MQTT broker and your device has been configured to connect to it.

1. Log into SkySpark as a user with `su` privileges.
2. Go to the `Host | Install` view, click `Install`, search for `pahoMqtt`, and install `pahoMqttExt` and `pahoMqtt`.
3. Create a new function in SkySpark with the code at https://haystat.io/axon/haystatMqttParser.axon and the name `haystatMqttParser`.
4. Enable the MQTT connector by going to `Settings | Exts`, selecting `pahoMqtt`, and clicking `Enable` at the top.
5. Add a new MQTT connector to SkySpark
6. Open the `Connectors` application and click `Connectors` under `Paho MQTT` on the sidebar.
   a. Click New at the top of the screen and fill out the form that pops up.
      - `dis`: Enter a user-friendly name here.
      - `pahoMqttBroker`: Enter the URI to your MQTT broker, including the port number.
      - `username`/`password`: Enter the username and password for a user that has read access to `haystat/#` on the MQTT broker.
      - `pahoMqttParser`: Set this to `haystatMqttParser`
      - `pahoMqttCleanSession`: Set this to `True`
7. Pull points into SkySpark from the HayStat
   a. Create a new function in SkySpark with the code at https://haystat.io/axon/haystatMqttImport.axon and the name `haystatMqttImport`
   b. Open the `Builder` application and create a new site (or choose an existing site) and get it's ID
   c. Create a new CSV file with the following columns, with one row per haystat, and save it in the SkySpark project's `io` folder as `haystat.csv`:
      - `chipId` – Chip ID of the haystat
      - `macAddr` – MAC Address of this haystat (can be blank)
      - `navName` – Name of the equip to create for this haystat (defaults to it's chip ID)
      - `tempF` – If a point for the temperature in Fahrenheit should be created
      - `tempC` – If a point for the temperature in Celsius should be created
      - `hum` – If a point for the humidity should be created
      - `dryContact` – If a point for the dry contact input should be created.
   d. Go to Tools | Shell and run the following function:
      - `haystatMqttImport(`io/haystat.csv`, read(site and id==@p:myProject:r:mySiteId), read(pahoMqttExt))`
   e. Your HayStats should now show have equips and points created in SkySpark

Please contact Customer Service at 954-727-3404 with any questions or comments.

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