Application Note ArduiTouch MKR Weather Monitor
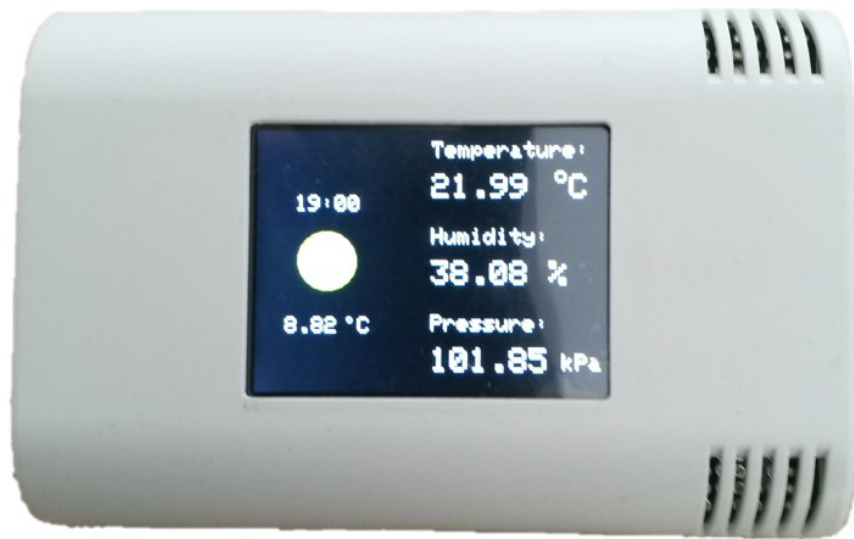
Rev.	Date	Description
A	2019-04-02	First release

1. Introduction

This application note will show you how to make a simple weather monitor with a weather forecast via WiFi and measuring of the indoor temperature, humidity and airpressure.
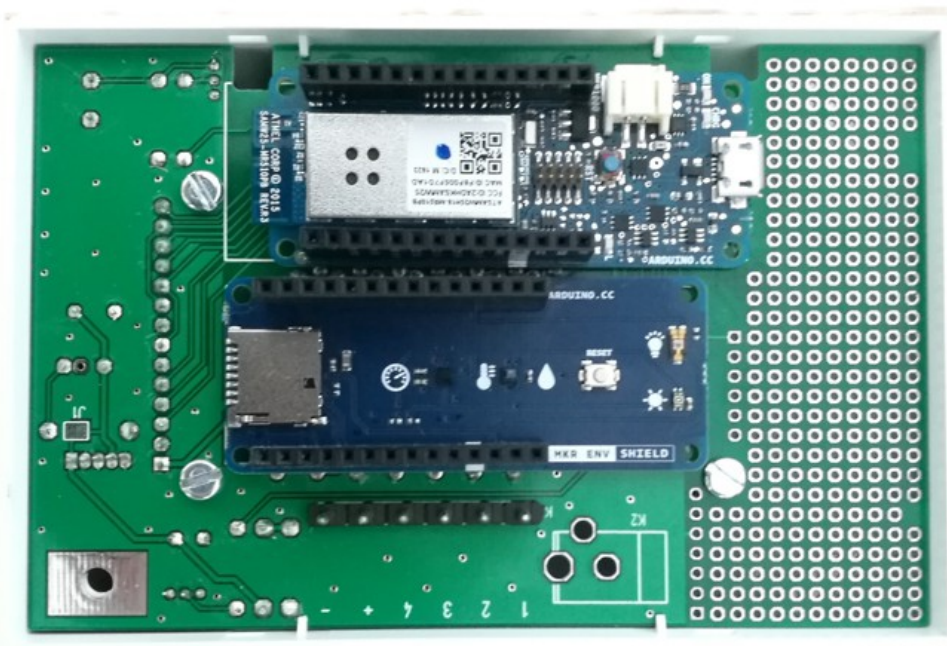
2. Bill of Material

- Arduino MKR 1010 or 1000
- Arduino MKR ENV shield
- ArduiTouch MKR kit

3. Assembly

A detailed assembly instruction for the ArduiTouch MKR kit can be found on our website.

After the assembly of the ArduiTouch Kit itself you have to plug the Arduino MKR 1010 and the MKR ENV Shield on the backside of the pcb

4. Programming

4.1 Installation of additional libraries

Install the following libraries through Arduino Library Manager

Adafruit GFX Library
https://github.com/adafruit/Adafruit-GFX-Library/archive/master.zip

Adafruit ILI9341 Library

https://github.com/adafruit/Adafruit_ILI9341

Arduino JSON Library 5.x
https://github.com/bblanchon/ArduinoJson/tree/5.x

You can also download the library also directly as ZIP file and uncompress the folder under

yourarduinosketchfolder/libraries/

After installing the Adafruit libraries, restart the Arduino IDE.

4.2 Source Code

You will find the source code on our website.
https://www.hwhardsoft.de/english/projects/arduitouch-mkr/

4.3 Custom settings

Some changes in the source code are required for customisation:

WiFi: Please enter the SSID and password in the lines 63 and 64

```
char* ssid     = "yourssid";      // SSID of local network
char* password = "yourpassword";  // Password on network
```

Account for OpenWeatherMap:

To receive later data by the platform OpenWeatherMap you will need an own account.

Sign up here to get an API key: *https://openweathermap.org/appid*

Enter your API key in line 71:

    String APIKEY = "your_api_key";

Your location:

Go to *https://openweathermap.org/find?q=* and search for a location. Go through the result set and select the entry closest to the actual location you want to display data for. It'll be a URL like https://openweathermap.org/city/2657896. The number at the end is what you assign to the constant below. Enter the number of your location in line 72

    String CityID = "your_city_id";

Time: Please choose your timezone in line 73

    int TimeZone = 1;

4.4 Run the demo

Please open this sample in the Arduino IDE. Compile and upload it.