MCU temperature and humidity sensor
[sHuTemp]

It contains an integrated ESP8266 chip which offers a complete wireless network solution in a compact version of the ESP-01 module cooperating in combination with various digital sensors such as DHT11, DHT22 or DS12B20 enabling sensing of ambient temperature and humidity powered by a photovoltaic panel with an integrated power supply.

ESP-01 module parameters:

- Integrated 32-bit RISC processor
- 802.11 b/g/n wireless standards
- encryption and security of WEP, WPA, WPA2, TKIP, AES
- integrated TCP/IP stack
- QOS management & I2S interface

DHT11 sensor parameters:

- operating voltage: 3 - 3.6V DC
- temperature measuring range: 0 - + 50 °C
- temperature measurement accuracy: ± 2 °C
- relative humidity measuring range: 20 - 90%
- accuracy of relative humidity measurement: ± 5%
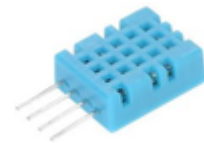
DHT22 sensor parameters:

- operating voltage: 3.3 - 6V DC
- temperature measuring range: -40 - +80°C
- temperature measurement accuracy: ± 0,5°C
- relative humidity measuring range: 0 - 100%
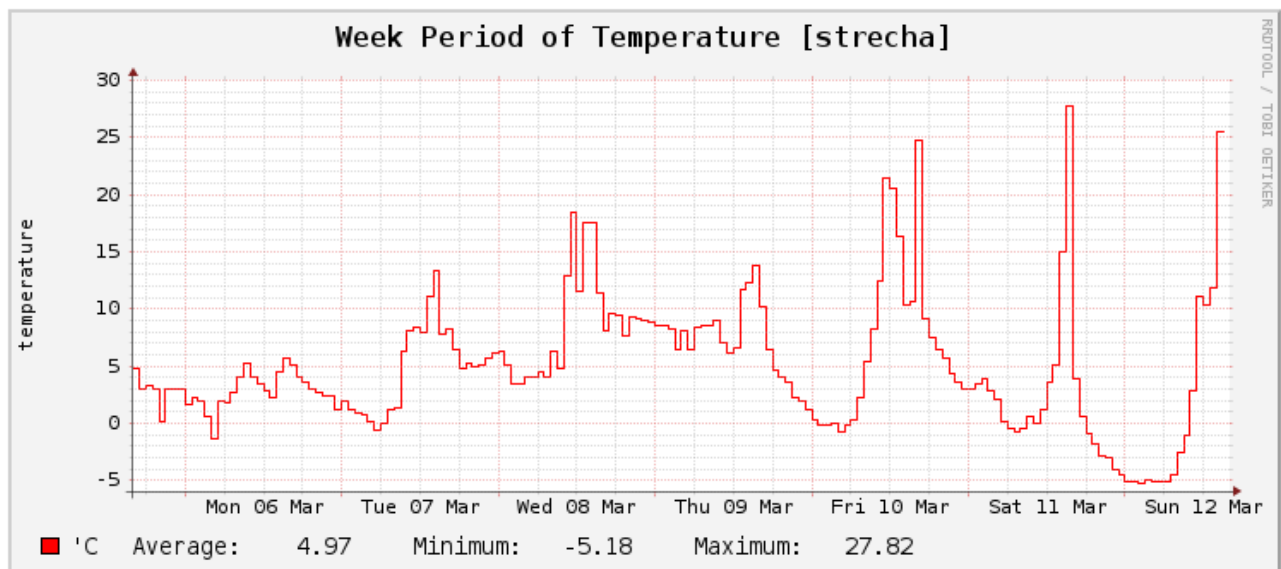- accuracy of relative humidity measurement: ± 2%

sHuTemp MQTT (publisher) client:

- uses asynchronous MQTT protocol
- generates compact messages for MQTT (broker)
- is intended for operation in unstable connection conditions
- supports several levels of quality of service (QoS)
- easily integrates new devices
- **requires MQTT (broker) for full functionality**

sHuTemp model provides:

- temperature and humidity sensor with integrated web interface
    - Processor 80-160MHz (Xtensa LX106) 32bit
    - Storage 1MB QSPI
    - Wireless network (10/100/150Mbps)
- Possible power supply through the PVP photovoltaic panel
    - Power supply PVP 06-30V
    - Consumption 0.1W
- Universal plastic case
    - width 80mm
    - height 110mm
    - depth 40mm
- All Components have been tested by the FCC

http://shutemp.doit.sk

FCC - Federal Communications Commission
PVP - Photo Photovoltaic Panel
MCU - Microcontroller
MQTT - Message Queue Telemetry Transport