



## ***IQ Home - Eco System***

*SIMPLY, WITHOUT WIRES...*

***Monitor and control  
your environment  
over DPA and MQTT protocols***

Dr. József Kopják

CEO, IQ Home Kft.

[kopjak.jozsef@iqhome.org](mailto:kopjak.jozsef@iqhome.org)

[www.iqhome.org](http://www.iqhome.org)



## ✓ IQ Home EcoSystem

# Ready to use IQRF Inside products together

- **IQRF Signal Range Tester** – Demonstration and testing *tool* to evaluate IQRF modules radio communication
- **IQ Home Sensors family** – Wireless Temperature and Humidity *sensors*
- **IQ Home Actuator family** – Wireless Relay Actuators
- **IQ Home Universal Gateway** – Open IQRF – Ethernet *gateway* for developers and integrators



## **Example solution:**

- **SensNET™** – Temperature and Humidity Sensing and Reporting solution



## **Building parts ( IQRF Inside products ):**

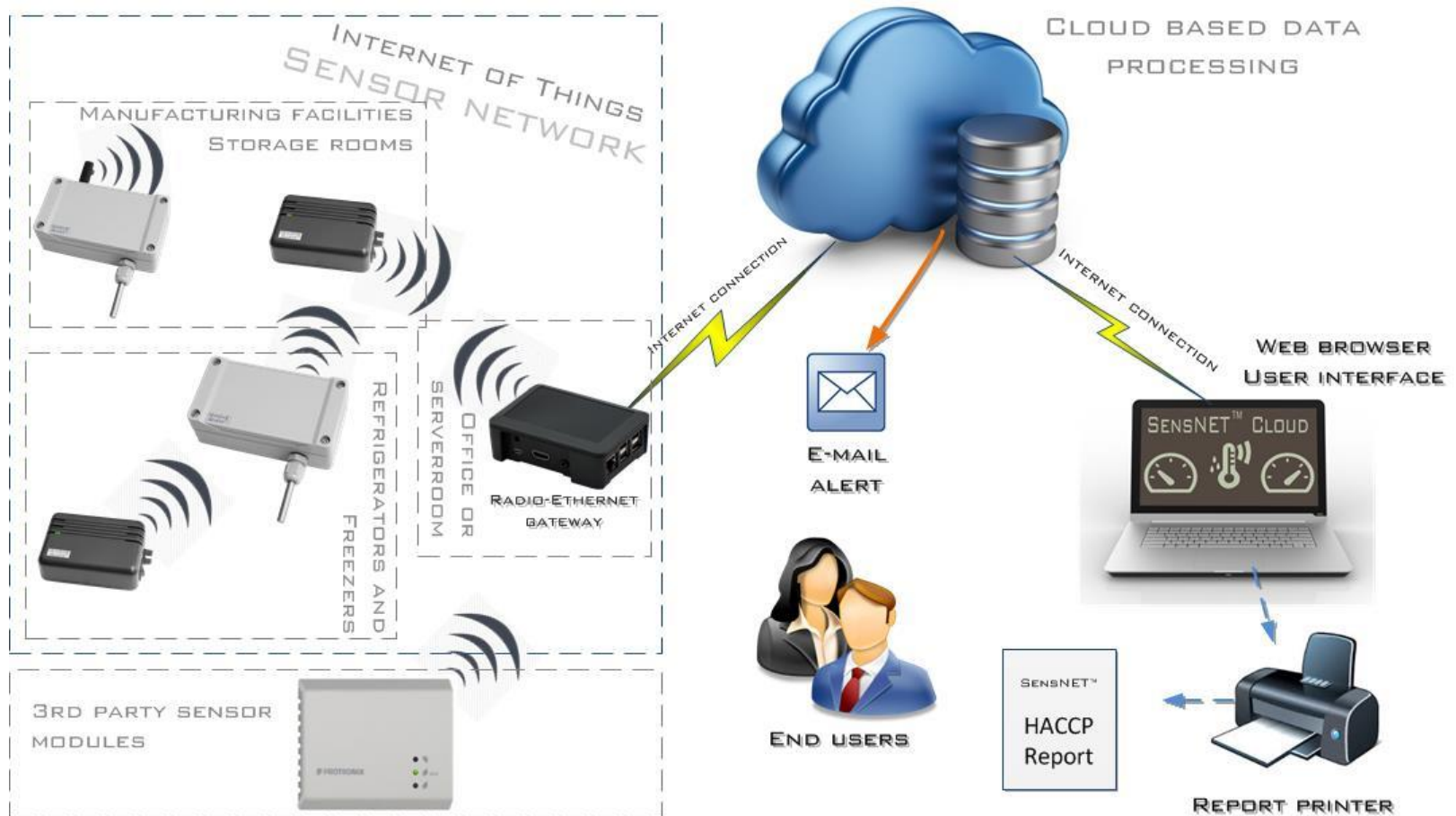
- **IQ Home Sensors**
- **IQ Home Universal Gateway**



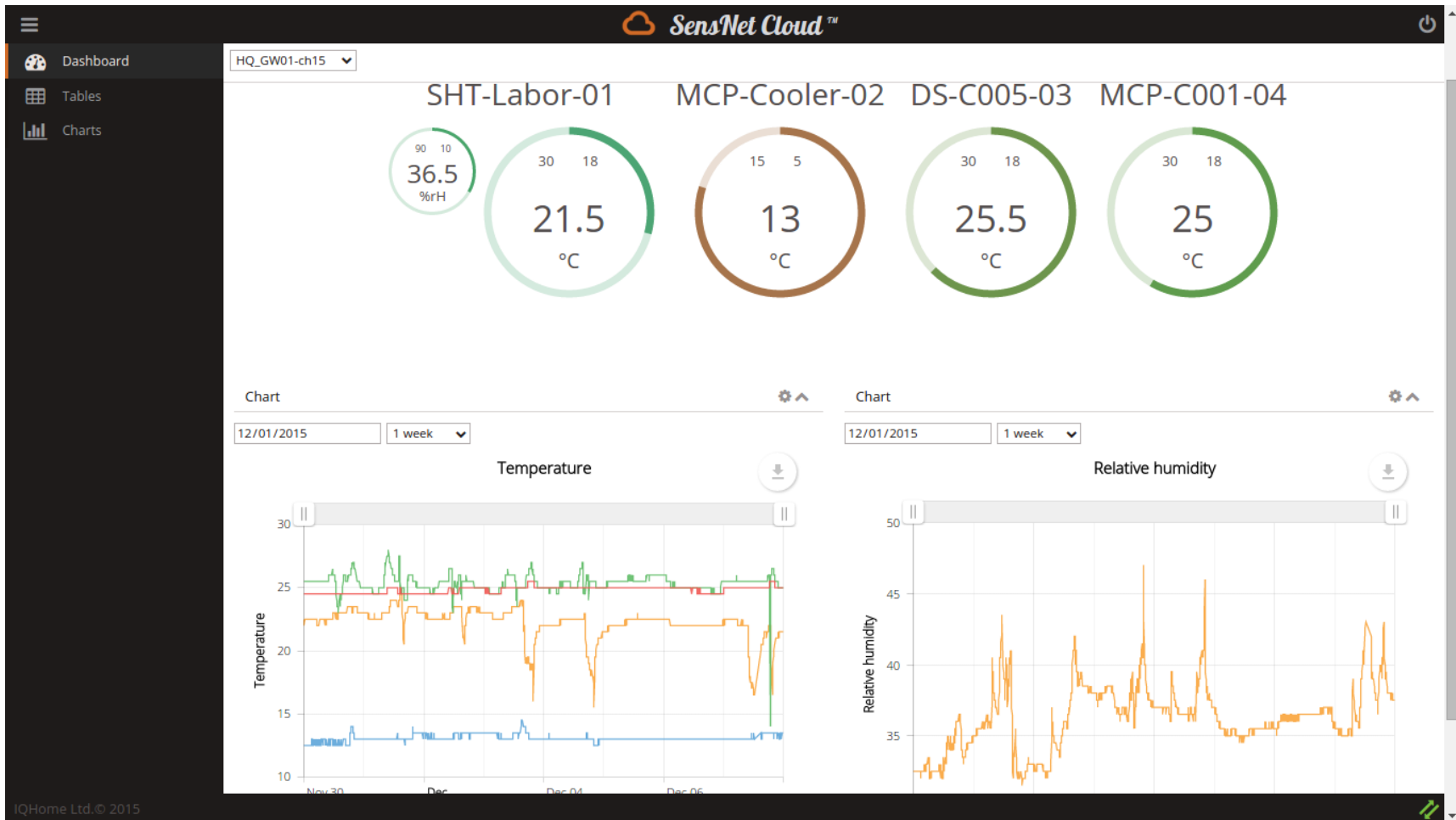
## **Software backend:**

- **IQ Home Cloud Solution**

## Putting the sensors, universal gateway and 3rd party sensors together to get full solution:



You have to write only some easy to use user interface:





# IQ Home Sensors family



- ✓ Temperature or Temperature + Humidity
- ✓ Built on IQRF DC-TR modules, DPA compatible
- ✓ Battery powered, fully wireless
- ✓ Open command set
- ✓ Customizable on request
- ✓ Available with local LCD



Type	Measures	Env. protection	Options
SN-TS01-B/W-S/L	Temperature	IP30	LCD
SN-TS02-B/W-S/L	Temperature +Humidity	IP30	LCD
SN-TS03-G-S/L	Temperature	IP65	External Antenna, Extended cable
SN-TS04-G-S/L	Temperature +Humidity	IP65	External Antenna, Extended cable

Color code: B=Black, W=White (light grey), G=Grey IP protected  
 Firmware code: S=Std, L=LP

## Technical data

Type	SN-TS01-X-Y SN-TS03-G-Y	SN-TS02-X-Y SN-TS04-G-Y
Temperature	X	X
Relative Humidity	-	X
Working range (Temperature)	-40°C ... +85°C : <b>0.0625°C</b> resolution -40°C ... <b>+125°C</b> : 0.0625°C* *WITH EXTERNAL SENSOR	
Working range (Humidity)	-	0 rH% ... 100 rH%, 0,5 % resolution
Options (on request)	LCD Display – With local minimum and maximum Extended sensor cable, Ext. Antenna	
Power supply	3.6V, AA size Lithium battery	





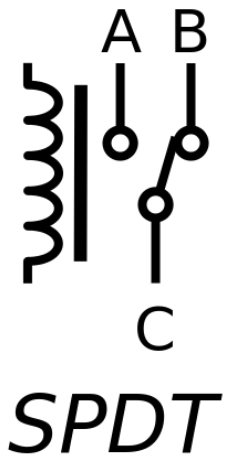
# IQ Home Actuator Family



- ✓ Bitmap control
  - ✓ Control up to 239 Relays with one RF Command
  - ✓ Maximum 952 Controllable relays in one network
  - ✓ Based on Acknowledged FRC command
- ✓ Typical application:
  - ✓ Industrial lighting
  - ✓ Outdoor lighting
  - ✓ Heating kontrol



- ✓ Two separate relay in on device
  - ✓ SPDT Relays up to 10 A or 16A
- ✓ Bitmap control
  - ✓ Control up to 239 Relays with one RF Command
- ✓ Timeout Control
  - ✓ To Prevent devices if the network connection is broken



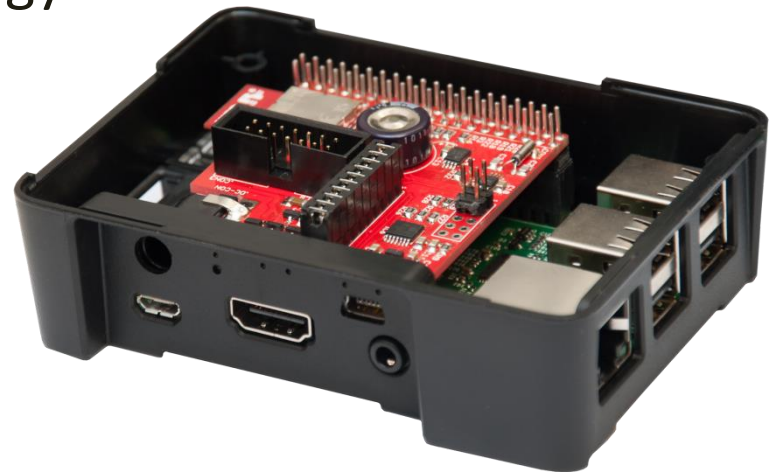


# Universal IQRF Gateway **With MQTT Support**

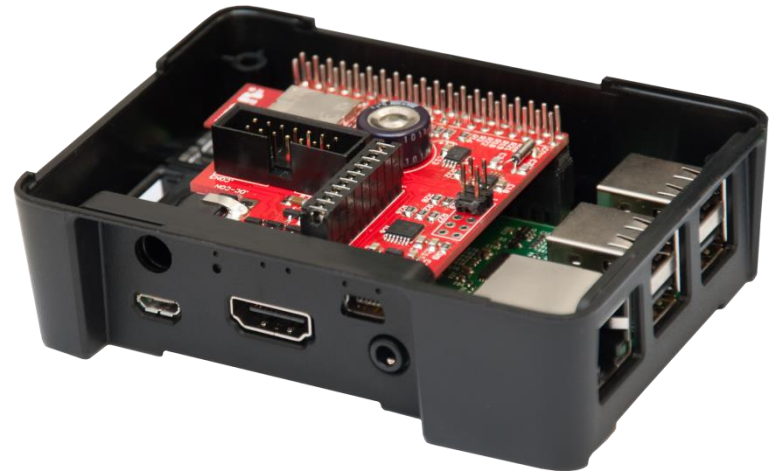


## Why use this gateway?

- ✓ Ready to use Gateway
- ✓ Easy way to integrate other alliance member's sensors
- ✓ Ready to use out-of-box
- ✓ Makes easy to learn IQRF technology
- ✓ Prebuilt code examples
- ✓ Standard, open hardware with many possibilities
- ✓ Can be extended as you need



- ✓ Based on Raspberry Pi B+
- ✓ RTC on board in case of power outage
- ✓ Supports SIM type and SMT IQRF modules
- ✓ Compatible with CK-USB-4A programmer
- ✓ IQRF IDE UDP communication support
- ✓ MQTT Support
- ✓ Custom extension board support
- ✓ On board EEPROM

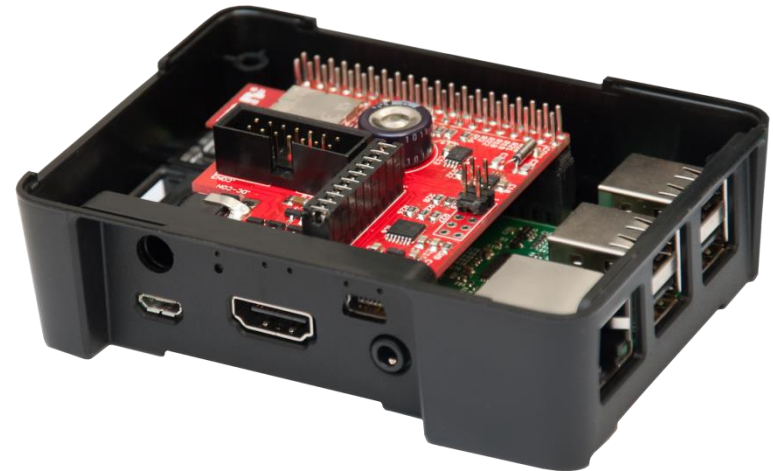


✓ Supported Cloud solutions:

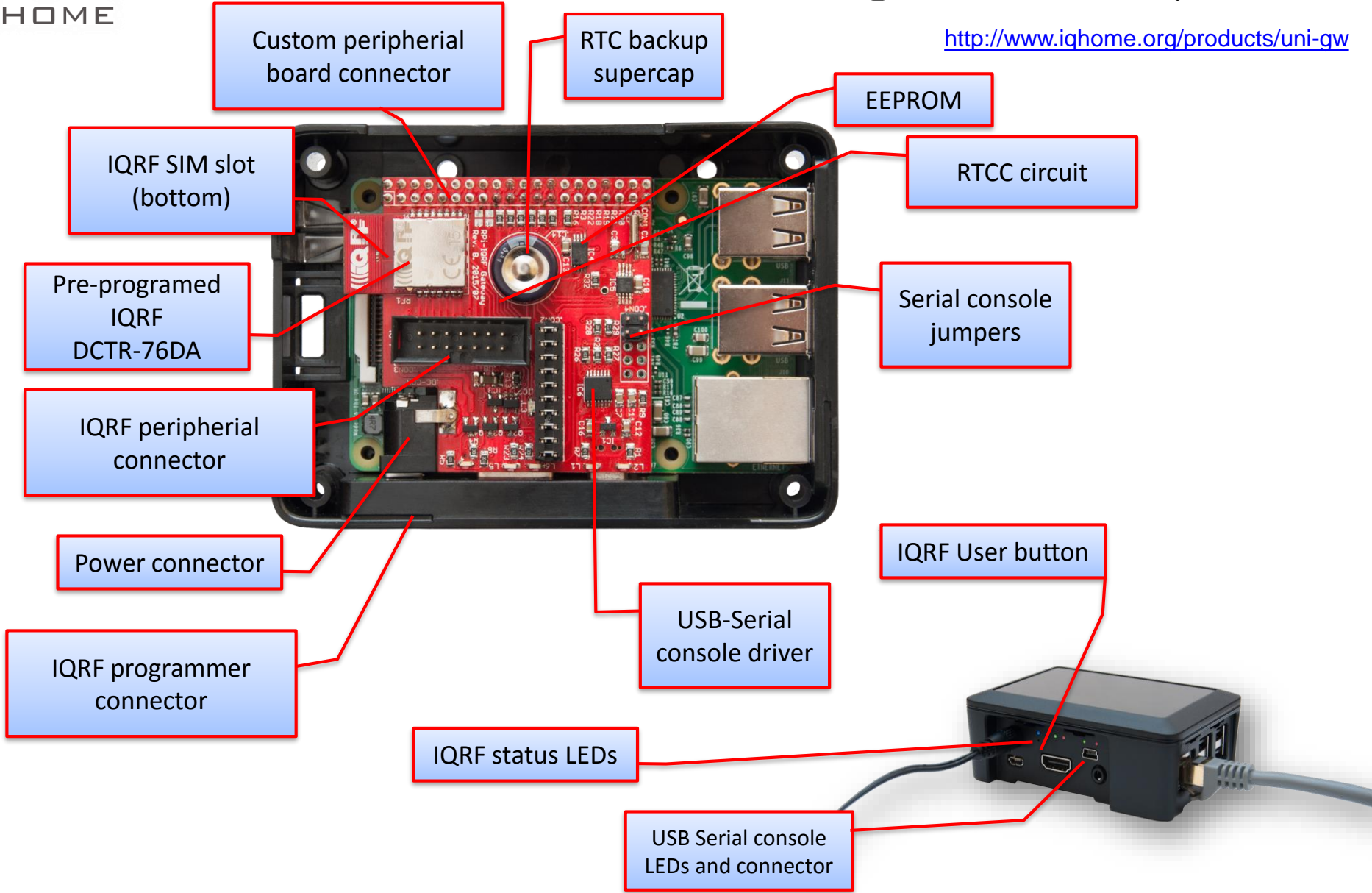


**Mosquitto**

An Open Source MQTT v3.1 Broker



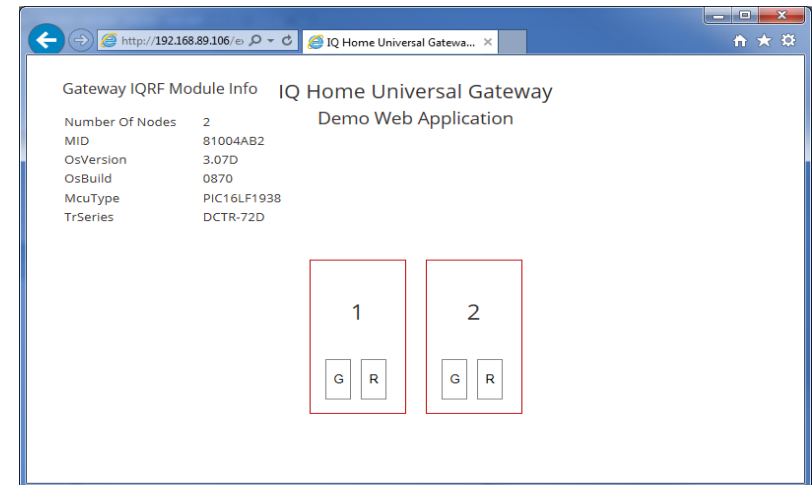






## You also get:

- ✓ Ready to use SD CARD images
  - ✓ Read/write image for developers
  - ✓ Read only image for industrial use
- ✓ IQRF management daemon
- ✓ Tested code examples
  - ✓ PHP, C, Python, Java
- ✓ IQRF IDE Integration
  - ✓ Programming, real-time monitoring
- ✓ All peripherals accessible via DPA commands
  - ✓ RTCC, EEPROM, SRAM
- ✓ Preinstalled demo environment
  - ✓ Add your nodes, and you can switch them from a web page



<https://github.com/iqhome/unigw>



You also get:

## IQ Home - Link It!

- ✓ Monitor your gateway over MQTT protocol
- ✓ Configure your gateway over MQTT protocol
- ✓ Run Scripts remotely
- ✓ Connect IQRF IDE to Universal Gateway over MQTT

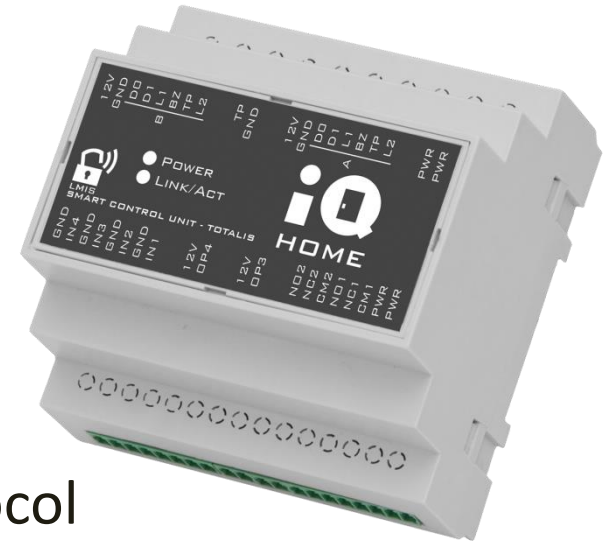
The image displays three overlapping screenshots of the IQ Home Link It! software interface. The top screenshot shows a file manager window with a directory tree on the left and a terminal window on the right containing system information like 'SYSINFO', 'IFS', 'UPTIME', etc. The middle screenshot shows the 'Instant Messaging' window with 'Subscribe' and 'Publish' fields, a message list, and a 'Messages' section. The bottom screenshot shows the 'MQTT Broker' configuration window with a table of gateways and various control buttons like 'Connect to Broker', 'Disconnect', and 'Restart Service'.



## Near future:

### Industrial and professional version of Universal Gateway

- ✓ Industrial solution
- ✓ Monitor your gateway over MQTT protocol
- ✓ Configure your gateway over MQTT protocol
- ✓ Run Scripts remotely
- ✓ Connect IQRF IDE to Universal Gateway over MQTT
- ✓ LTE and 3G support
- ✓ GPS Support
- ✓ Protected EEPROM and Flash storage





# IQRF Range Tester **For System Installers**



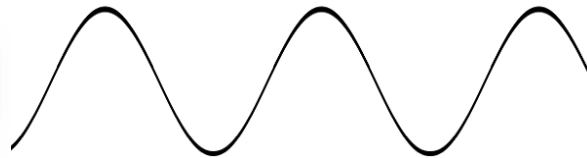
## Why use it?

- ? It's a common problem to find best places for installation.
- ? Hard to find out why the modules cannot communicate with each.
- ✓ IQRF Range tester can be used as a reference system.
- ✓ You can be sure, that your wireless appliance's radio communication will work without any problem caused by the environment!

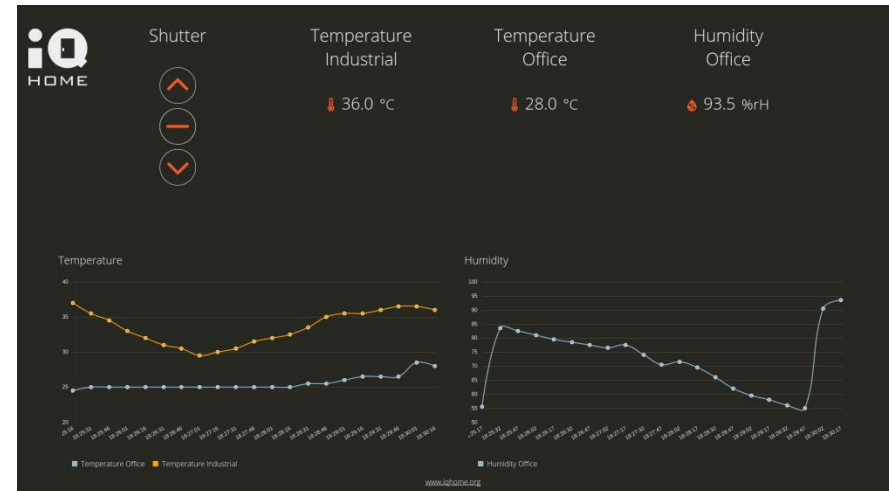


## Evaluate installation environment

- ✓ Can be placed on user application module's place
- ✓ Required RF channel, TX power and sensitivity configurable
- ✓ Battery powered, auto power off feature



## Let's see the live demos!



@ Home:

<https://sensnet.iqhome.org>

**User: demo**

**Password: demo**

@ Conference in Prague:

<https://demo.iqhome.org>

# Questions?

## Current Alliance Partners:







***Thank you!***

**[www.iqhome.org](http://www.iqhome.org)**