Services, products and expertise in: Concept, design and manufacturing of electronics and complex mechatronic systems

DU’s control extensions
Monitor Data Logger

Concept, design and integration of electronics and mechatronic systems

**electronics-lis**

wireless mesh as **Monitor and Data Logger** (Node)

**Application**

- Humidity sensor accuracy: ± 2%, range: 0 to 100%
- Temperature sensor accuracy: ± 0.2°C, range: 0 to 65°C
- Gas sensing (optional): ethanol accuracy: 15%, range: 0 to 1000 ppm
- Air quality (optional, TVOC): resolution 1 to 32 ppb, range: 0 to 60000 ppb
- Light density (optional): photovoltaic voltage
- Optional sensor: dust, methane, CO2 etc.

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**Technical description**

- Extrem low power leading to long life supply (few years): different configurations and cell technology, two AAA batteries
- Modular design: large extension possibilities
- USB interface applied as user's interface and battery's charge
- Power harvesting possibility (optional) based on photovoltaic cell
- Long batteries life
- Batteries state monitoring
- Additional EEPROM memory

**WiMi**

- Mesh configuration (multi-hop routing)
- Sub-GHz: 915 or 868 MHz
- Optional low power ZigBee protocol: IEEE802.15.4
- Output power: 10 dBm
- Sensitivity: -113 mVpp
- Range: few hundred meters in function of building structure and programmed power

**Mechanical description**

- External dimensions: 96 x 47 x 24 mm
- Weight: 350 g
- Different implementations

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Monitor Data Logger

Concept, design and integration of electronics and mechatronic systems

wireless mesh as Monitor and Data Logger (Access)

User access: World Wide
Data in the Clouds (optional)
- Configuration defined by customer based on the services and tools proposed by Google, Amazon, Microsoft etc. related to local requirements and restrictions
- Specific solution based on the Private Data Base

Data
- Defined by customer:
  - List of parameters
  - Measurement timing
  - Editing form as Excel, text, chart etc.
- Configuration including number of nodes, required measurement and timing programmable by user via Web interface
- Data protection
- Programmable alert by SMS sending

User access: local/direct
- Local WiFi
- USB connection
- Android application
- Apple application (optional)
- Web page access to download results and configure monitoring network
- LoRa technology (optional) long range greater than 15 km

WiFi
- Mesh configuration (multi-hop routing)
- IEEE 802.11 b/g/n network controller
- Single-band 2.4 GHz
- Output power: 19 dBm
- Sensitivity: -98 dBm
- Large memory size: max 3 MB (flash)
- Security protocols: WPA/WPA2, TLS, SSL
- Range: few hundred meters in function of building structure, programmed power and communication charge

Deliverable
- Requested number of nodes and access (minimum one) points
- Android application including download and mesh configuration facilities
- Necessary documentation and user manual
- Optional HW devices and accessories
- Optional services and tools leading to additional costs in relation with chosen IoT (Clouds) solution

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