

## MHub - 2023 Gateway, Hub, Central unit:



- For further options and developer info, see:
  - <https://www.cosesy.com/iot-in-projects-and-iot-in-products/data-collection/>
- Power supply: 5V USB
- Connectivity: Wifi,
- Connectivity Pro: RJ45, Cellular (in addition to Wifi, only for Pro edition)
- Pairing and Provisioning: Bluetooth (BLE)
- IC: Espressif ESP32, 16MB flash
- Maximum accessory count: 125 pcs (Pro edition: up to 65000)
- Radio#1: Si4455
  - Range: >300m, free field.
  - Frequency for Security devices (burglar alarm features): European ECC Rec. 70-03, Annex 4 approved band for alarms, i.e. 868.6–868.7 MHz (i.e. NOT 868.42MHz used in z-wave, zigbee toys etc).
  - Frequency for Safety devices (e.g. smoke alarms): 869.65MHz.
  - Safety first - security devices does not jam or disturb safety devices
  - Encryption standard for radio transmissions: AES-128 (applicable for relevant accessory)
  - Security authentication for radio transmissions: Challenge–response authentication (applicable for relevant accessory, required for arm/disarm)
  - RF Certificate authority in cloud (no pre-installed certificates).
- Radio#1: NeoMesh (optional, Pro only)
- Connectivity for cloud operation and app access:
  - Encryption standard: SSL/TLS
  - MQTT
  - Options: matter protocol standard (from the “connectivity standards alliance”)
- Cellular connectivity:backup: Pro edition only. Quectel modem with nano-sim. LTE-M, NB-IoT..
- Offline capabilities (internet disconnected):
  - Alarm activation (a burglary triggers alarm sirens no matter what)
  - Alarm operation with RF accessory (e.g. by remote control)
  - Owners are warned about internet drops due to missing keep-alive
- CMS and alarm monitoring central
  - Free automated 24/7 cloud based alarm monitoring
- Firmware updates: Yes, OTA. Optional with containers, edge and side-loading.
- Jamming protection: see European ECC Rec. 70-03, Annex 4 approved band for alarms
- Vandalism and destruction protection: heartbeat monitoring, stealth mode to avoid locating it by sound, install out of sight.
- Power backup: Low end UPS can provide days of power backup, more sustainable. A cheap 10000mAh power bank can provide up to 12 hours.
- Cyber security standards: Yes
  - ETSI EN 303 645 V2.1.1 (2020-06)
- Standards expected for Declared Conformity:
  - CE, RoHS, ETSI EN

- ETSI EN 303 645 V2.1.1 (2020-06)
- EN-62311:2008
- EN-62368-1:2014 + A11:2017
- EN 50130-4
- EN 50131-x (some manufacturers has this option)
- EN 55032:2015
- EN 55035:2017
- EN IEC 61000-3-2:2019, EN 61000-3-3:2013+A1:2019
- EN 301 489-1 V2.2.3
- EN 301 489-3 V2.1.1
- EN 300 220-1 V3.1.1
- EN 300 220-2 V3.1.1
- TBD 2023: new versions of Wifi and BLE standards.

