

LoRaWAN™ HUB'O M2M MULTIPROTOCOL GATEWAY



HUB'O is a multiprotocol M2M communication gateway that gathers up to 100 LORAWAN™ sensors on a single point, in order to communicate with a supervisor, a GTB, a local automate ModBus, or a distant server.

APPLICATIONS

- GTB - GTC: remote monitoring and control of a set of sensors in buildings and industrial installations
 - Alarms (Failure, abnormal stoppage, measurement exceeding a threshold ...)
 - States (equipment operation, position, order feedback ...)
 - Measures (temperature, operating time, remote meter reading water / gas / electricity / energy, number of failures ...)
 - Actions (start / stop machines, Dynamic load control ...)

BENEFITS & KEY FEATURES

- Management of 100 sensors
- LAN connection: LoRaWAN™, ModBus
- WAN connection: 2G / 3G / Ethernet
- Easy installation and use
- Remote antenna
- IP65 housing: wall or DIN rail clip mounting

CERTIFICATION

- CE, RoHS



M2M LoRaWAN™ HUB'O Gateway is able to:

- Transmit configurations to the LoRaWAN™ sensors on site
- Pass on recorded data from the sensor
- Transmit commands to LoRaWAN™ sensors
- Transfer almost immediately alarms to the remote server

HUB'O is a multi-protocol M2M gateway and has both LAN (LoRaWAN™, ModBus) and WAN (2G / 3G, Ethernet) access points.

HUB'O cooperates with the LoRaWAN™ nke Watteco sensor range. On the basis of interoperability tests, LoRaWAN™ sensors from other brands can be added to the environment

Installation and commissioning are fast, simple and do not require any special qualifications. The gateway includes:

- A DHCP server
- A NFC identification tag (serial number, serial number, production batch)

Putting a sensor into service can be done through HUB'O Gateway "Plug and Play".

- The installer reads the QR code (or nfc tag) and transmits the keys and identifiers of the sensor to the remote server from any mobile terminal (tablet, smartphone) and with an application developed by the end user.
- The installer requests the sensor to be paired with the server.
- The HUB'O gateway transmits the pairing request, the key and identifiers of the requested sensor.
- The distant server accepts the procedure if it recognizes the sensor.
- Locally, the installer is informed on both sensor (thanks to a buzzer or an indicator depending on the type of sensor) and gateway (buzzer and display of the sensor identifier) which have just been paired. As soon as the sensor is paired, it is possible to reconfigure it from a file transmitted by the Server through the HUB'O gateway.
- The sensor is functional: it carries out the measures and transmits the data to the gateway which saves them temporarily (except the alarms). The data is then sent to a file at the configured polling frequency.

NKE WATTECO, YOUR PARTNER IN SMART SENSORS & ACTUATORS

We are a European leader in designing and manufacturing highly reliable and low power consumption smart sensors, actuators and multiprotocol remote data solutions.

nke Watteco is a member of the LoRa® Alliance.

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KEY FEATURES

LoRaWAN	
Protocol	LoRaWAN™, Class C – Embedded server
Simultaneous reception	On 3 frequencies: 868.1MHz, 868.3MHz, 868.5MHz
Number of supported sensors	Up to 100 sensors
Activation Method	Activation by Personalization (ABP) Over-The-Air Activation (OTAA)
Modulation	On SF12 fixed to ensure the maximum reach
Data encryption	AES128
Frequency of transmission and reception	Defined in the configuration file

COMMUNICATION WITH DISTANT SERVER	
Protocols	RF: LoRaWAN™, 2G/3G, Wired: Ethernet, optional ModBus485 ModBus TCP
Client-server protocol	HTTPS with configurable polling frequency: <ul style="list-style-type: none"> - Configuration file of the gateway and each sensor: identifier and use. An ETag mechanism optimizes the number of downloads by limiting only to files modified by the distant server - Data files coming from the sensors - Exceeded threshold alarms. (note: the alarm is transmitted immediately after appearance)
Internet Protocol	IPv4 (possibility of evolution towards IPv6)
Embedded file update	Via FTPS protocol
IP addressing	DNS Service and DHCP Management
Clock synchronization	SNTP client started on every connection to the distant server
Firewall	Embedded.


MATERIAL CONFIGURATION	
Processor	ARM 9 accepting a LINUX BSP 3.18 distribution
Flash / RAM memory	256 Mo / 128 Mo
Clock - Calendar	PSTN component: keeps the clock and allows time stamping of messages in the event of a network failure.

POWER	
Tension	Main: 230VAC, 50Hz, class II insulation Secondary: 7-18VDC
Battery	3.6V - 3.6Ah Lithium for transmitting a power failure alarm

INTERFACE	
Antennas LoRa / 2G / 3G	Integrated antennas Optional possibility to deport the antenna to improve RF coverage
Ethernet	TCP / IP network connection
USB	Local update of embedded software and Hub'O configuration file
LCD Screen	Remote server communication, sensor recording / pairing, alarms
Push button + Buzzer	Pairing - unpairing on the public or private network LoRaWAN™
NFC Tag	Product number, serial number, batch number
Optional Inputs / Outputs	1 digital input - 1 TIC input -1 analog input - 1 static output

ANALOG BOX	
Dimension (mm)	180 x 80 x 60
IP Class	IP55 - wall or DIN rail clip mounting

ENVIRONMENT	
Operating temperature(°C)	0 °C / +50°C
Storage : Temperature (°C)	-100°C / +70°C

DIRECTIVES & STANDARDS	
EN, 61000-4-2 EN 300-220-1 V2-4-1, EN 301 489 V1-6-1 CE, RoHS	

PRODUCT REFERENCE

REFERENCE	DESCRIPTION
50-70-075	LoRaWAN™ Hub'O - LoRaWAN™ M2M MULTIPROTOCOL GATEWAY