The Hub

Technical Datasheet



Intuitive IoT gateway





The Wattsense Hub: Universal connector

The Hub is an electronic device

- Created to connect all equipment from all buildings: loT sensors, meters, heating, air conditioning air handling systems, building management systems (BMS).
- Easy and quick to install:

 accessible for all. If the building already has a BMS, the HuB connects to the main bus as the third party. If there's no BMS, a BMS network is directly created by the Hub.
- Telemetry and controls: collects data and controls equipment.

- Smart Converter: unifies the field communication protocols.
- Connected to your system:
 connect your software to the
 Hub thanks to the protocols
 BACnet Server and MQTT client.
- Powerful IoT device:
 combines the functionality of a
 gateway, a PLC, a modem, and
 an edge device.
- Edge computing: hosts user plug-ins for local automation.

Power supply

- 24V DC +/-10%, 2A.
- The cable between the power supply and the Box: 2 wires (red, black), 22 AWG, minimum section: 0.35 mm².

The Hub is protected against overvoltage, undervoltage, overcurrent from the power supply with indication by LED: green LED when the power supply is compatible, red LED if it is not suitable.

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Hardware			
СРИ	528MHz ARM Cortex A7		
Memory	512MB RAM		
Storage	4GB Flash		
Consumption	5W		
Dimension	160 x 110 x 55 mm		
Weight	340g		
Operating temperature	From 0 ° C to + 45 ° C		
Humidity	5% to 95% humidity - No condensation		

Interfaces			
Type of interface	Number	Operating LEDs	
3G/4G Modem	1	Yes	
LoRaWAN module from 863MHz to 928MHz	1	No	
Ethernet	2	Yes	
RS485 RJ45	2	Yes	
USB	2	No	
Micro USB	1	No	
KNX	1	Yes	
M-Bus (3UL Max.)	1	Yes	
X-Bus (LPB)	1	Yes	

Protection of communication bus against ESD, short circuit, over consumption.

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Drivers

- BACnet IP
- BACnet IP Server
- Diematic
- KNX S et LTE
- LON FT10
- LON IP-852
- LPB
- LoRaWAN 1.0 Local private Frequency plans supported:
 AS_923_925, AU_915-928, EU_863_870, IN_865_867, US_902_928
- M-Bus (3UL Max.)
- Modbus RTU
- Modbus TCP/IP
- Modbus TCP/IP Server
- MQTT Client

Software

- Secured Linux Yocto distribution.
- Built-in drivers for all buses, protocols and building equipment.
- Onboard LoRaWAN server: decodes LoRaWAN data locally directly in the Box.
- Automatic discovery of equipment on BACnet.
- Remote and automated configuration.
- Secure server communication via MQTT.
- Automatic and secure software updates.

Security

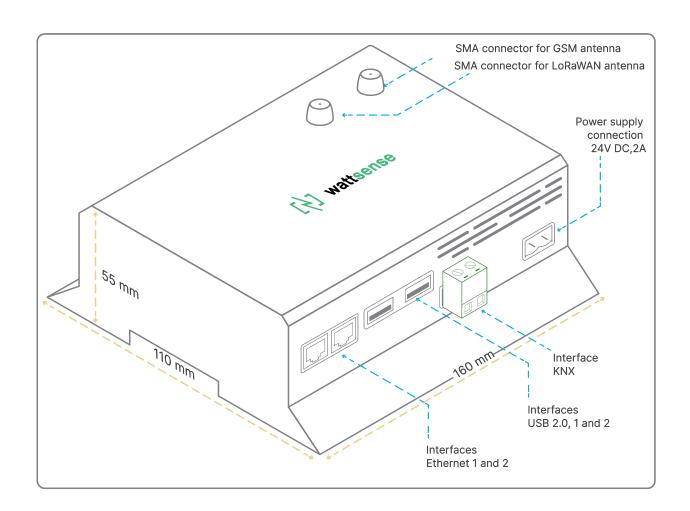
Enterprise-grade security based on SSL/TLS with the following properties:

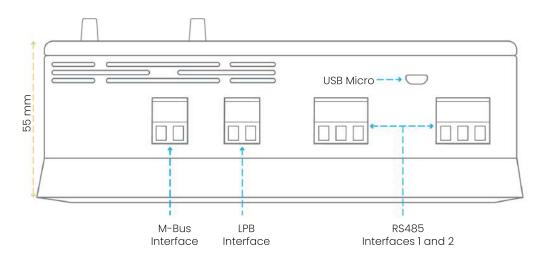
- Two-way authentication between Box and server with x509 certificates.
- End-to-end encryption.
- Message integrity checks.

Data frequency

Data is retrieved by default at a 10-minute interval, excluding IoT sensors that have their own frequencies to minimize battery consumption. Commands (downlink) are placed instantly.

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