



WideSky® Hub 1P-AC

The WideSky® Hub 1P-AC is a wireless IoT data collection and control device that operates on the 2.4GHz ISM band using IEEE 802.15.4 communications.

Features

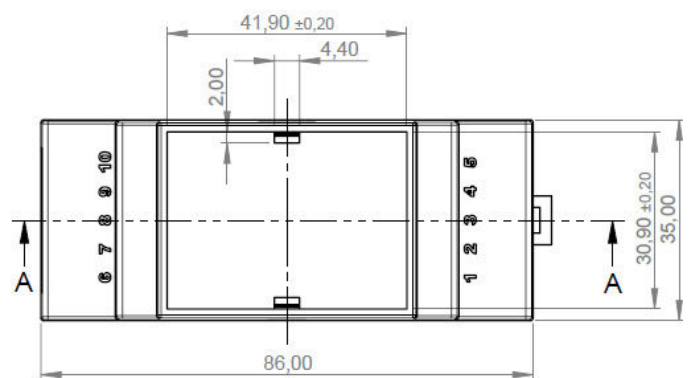
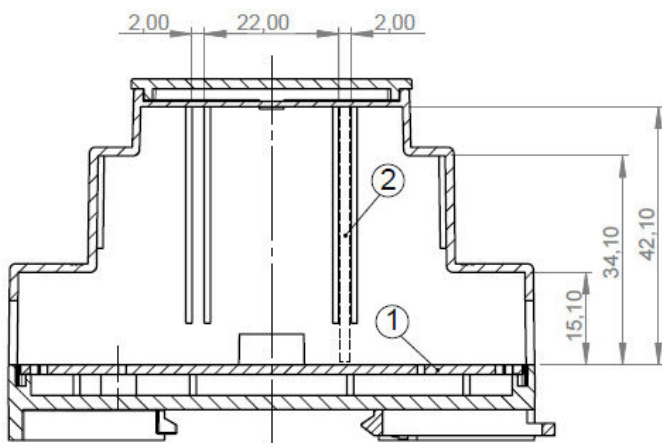
- ▶ Supports a node-to-node distance of up to 200m line of sight, or links through two office building floors
- ▶ One RS-485 port that can be used for Modbus RTU logging or as a Serial-to-Ethernet gateway in conjunction with a border router
- ▶ One digital input typically used with pulse output meters

The firmware is designed with open standards to maximize interoperability by using:

- ▶ CoAP for data transmission and the WideSky® Cloud interface
- ▶ Open Thread Protocol and IPv6 for networking and security
- ▶ NTP for time synchronisation

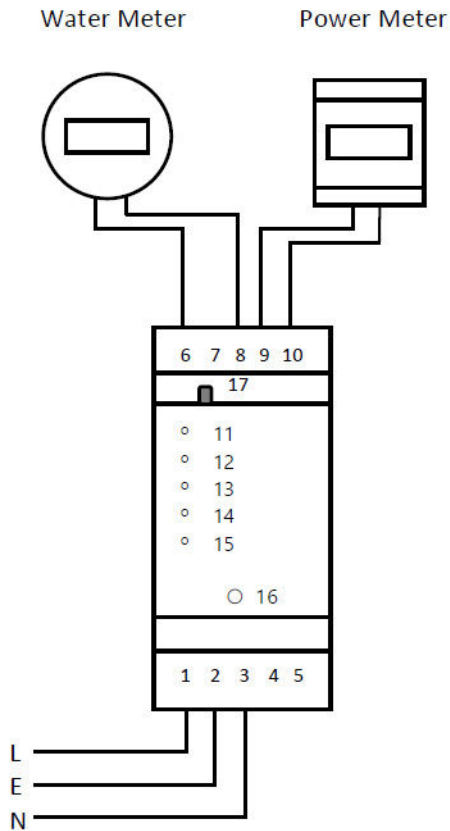
All WideSky® Hubs are centrally maintained from WideSky® Cloud with configuration downloads and OTA firmware updates.

Enclosure Dimensions



Connections and Indicators

This diagram shows a hub connected to a pulse output water meter and a smart power meter using the serial interface and pulse connector.



No	Description
1	Line
2	Protective Earth
3	Neutral
4	Not Used
5	Not Used
6	Pulse Common
7	Not Used
8	Pulse In
9	RS485: D-
10	RS485: D+
11	Power Indicator
12	Thread Network Connect Indicator
13	RS485 Transmit Indicator
14	RS485 Receive Indicator
15	Pulse Indicator
16	Join Thread Mesh Network Button
17	Antenna Connector

Ratings

Electrical	
Input Voltage	100Vac - 240Vac
Frequency	50/60 Hz
Max Current	0.15A
Radio	
Standard	IEEE 802.15.4
Security	AES 128/256 SHA2, Thread (pre-certified)
Operation Frequency	2400 - 2483.5 MHz ISM band
No of Channels	16
Max Transfer Rate	250kbps
Modulation	O-QPSK
Max Transmit Power	Automatic limitation to regional regulatory limitations (e.g. for US (FCC) 20dbm, Europe (CE) 10dbm)
Antenna	
Frequency	2.4 – 2.5 GHz
Gain(dBi)	2.0
Impedance	50 Ohm
VSWR	<= 2.0
Polarization	Vertical
Electrical Length	¼ Dipole
Radiation	Omni Directional
Connector	SMA Female
Mechanics	
Enclosure	Top: Polycarbonate
	Bottom: Polyphenylene Oxide
	Both UL 94 V-0
Mounting	DIN-Rail
Dimensions	35x57x86mm (WxHxD)
Weight	0.3kg
Environment	
Operating Temp.	-20 to +70 °C
Humidity	5-95% RH
Elevation	2000m or less
IP Rating	IPX0
Standards Compliance	
FCC, IC, CE, ACMA, UL, Thread Certified	

Compliance

Standard	Description
EN 300 328 V2.2.2	Harmonized Standard for the Radio Equipment Directive
ETSI EN 301 489-1 V2.2.3:2019	Electromagnetic Compatibility
ETSI EN 301 489-17 V3.2.4:2020	Electromagnetic Compatibility
IEC 61000-4-2:2008/ EN 61000-4-2:2009	Immunity, Electrostatic Discharge
IEC 61000-4-3:2006/ EN 61000-4-3:2016 + A1:2007/8 + A2:2010	Immunity, Radiated
IEC 61000-4-4:2012/ EN 61000-4-4:2012	Immunity Fast Transients
IEC 61000-4-5:2014/ EN 61000-4-5:2014	Surge Immunity
IEC 61000-4-6:2013/ EN 61000-4-6:2014	Conducted Immunity
IEC 61000-4-11:2004/ EN 61000-4-11:2004	Voltage Interrupt Immunity
IEC 61000-3-2:2014/ EN 61000-3-2:2014	Emissions, Harmonic Current
IEC 61000-3-3:2013 EN 61000-3-3:2013	Emissions, Low Voltage Fluctuation
FCC CFR 47 Part 15: Subpart B, Class B ICES-003: Issue 7	Unintentional Radiated and Conducted Emissions
FCC CFR 47 Part 15: Subpart C, Class B RSS-247 Issue 2	Intentional Radiators
UL 62368-1, 2nd Ed, 2014 + A11:2017	Audio/Video, Information and Communication Technology Equipment
IEC/BS/EN 62368-1, 2014 + A11:2014 CAN/CSA C22.2 N62368-1-14, 2nd ED, 2014	UL Component Recognition
EN/IEC 62311:2020 47 CFR FCC Part 2.1091	Human RF Exposure
RSS-102 Issue 5, Amendment (2021-02)	
Open Tread Certification	Thread Interoperability Certificate

Compliance Declarations

Federal Communications Commission FCC-ID: 2A4CG-GC285686

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Industry Canada IC-ID: 28179-GC285686

This device complies with Industry Canada license-exempt RSSs. Operation is subject to the following two conditions:

- This device may not cause interference, and
- This device must accept any interference, including interference that may cause undesired operation of the device.

Industrie Canada IC-ID : 28179-GC285686

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- l'appareil ne doit pas produire de brouillage;
- l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body.

Déclaration d'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

European Conformity

This device complies with the

- Harmonized Standard for the Radio Equipment Directive
- Assessment of Electronic and Electrical Equipment related to human exposure restrictions for Electromagnetic Fields Standard
- Radiocommunications EMC standards.

Australian Communications and Media Authority

This device complies with the

- Radiocommunications (Electromagnetic Compatibility) Standard
- Radiocommunications (Short Range Devices) Standard
- Radiocommunications (Electromagnetic Radiation Human Exposure) Standard
- Audio/Video, Information and Communication Technology Equipment Part 1: Safety Requirements Standard.

Dispose according to local regulations for Electrical and Electronic Waste.