LoRa Anchor

Stand-alone Fixed Unit

Rev. 01 – 14/03/2024 **Product Data Sheet**

1 Product profile

1.1 General description

Stand-alone fixed unit with Ultra-Wide Band (UWB) and LoRa 2.4 GHz radio in an easy-to-mount plastic enclosure.

1.2 Features

- Decawave UWB radio for high accuracy RTLS
- Semtech LoRa 2.4 GHz radio
- powerful Silicon Labs 32-bit MCU
- standard Ethernet interface with passive PoE
- on-the-wire firmware update

1.3 Applications

- real-time outdoor localization
- wireless sensor network

2 Feature description

2.1 Positioning

The FloWide On-Board Units send GNSS position information on LoRa radio. LoRa Anchor collects these packets and forwards them to the FloWide software.

2.2 Wireless sensor network

The main task of the device is to collect GNSS position information. Moreover, it forwards other data from tags (e.g.: battery level, sensor data) to the back-end and vice-versa on both radio interfaces. With this UWB & LoRa gateway function FloWide tags and infrastructure hardware together function also as an industrial wireless sensor network.

2.3 Firmware update

On-the-wire firmware update can be performed remotely with a FloWide application.

3 Technical specifications

3.1 Electrical & radio data

Parameter	**Value**
power supply voltage	12..48 V
power consumption typ.	2 W
power supply method	passive PoE
communication type	Ethernet 10BASE-T
connector	RJ45 8p8c
connection wire type	Cat5e network cable
connection wire length	up to 100 m
UWB frequency bands	3...7 GHz (1,2,3,4,5,7)
maximum UWB transmit power	–40 dBm/MHz
LoRa frequency range	2.4...2.5 GHz
maximum LoRa transmit power	+12.5 dBm

3.2 Mechanical & environmental data

Parameter	**Value**
size (with flanges and antenna)	146 x 90 x 40 mm (L x W x H)
weight	150 g
operating temperature range	–20...+50 °C
operating humidity range	20...80 % r.h. (non-condensing)
ingress protection level	IP41
with optional extra case	IP67