Anchor
Fixed Unit for Positioning
Rev. 01 – 14/03/2024   **Product Data Sheet**

1   Product profile

1.1   General description

Fixed unit with Ultra-Wide Band (UWB) radio in an easy-to-mount plastic enclosure. Not for stand-alone operation, works with FloWide Central Unit only.

1.2   Features

- Decawave UWB radio for high accuracy RTLS
- optional Bluetooth LE radio
- powerful Silicon Labs 32-bit MCU
- power, communication and clock on a single Cat6A network cable
- remote clocking for excellent positioning performance
- on-the-wire firmware update

1.3   Applications

- real-time indoor localization
- wireless sensor network

2 Feature description

2.1 Positioning

The UWB radio is useful for precise positioning: accuracy may be up to 10 centimeters, depending on the environment. For this excellent performance the FloWide Anchors are synchronized to a common clock supplied on wire.

2.2 Wireless sensor network

The main task of the device is to create input for the positioning engine. Moreover, it forwards data from tags (e.g.: battery level, sensor data) to the back-end and vice-versa. With this UWB gateway function FloWide tags and infrastructure hardware together function also as an industrial wireless sensor network.

2.3 Bluetooth LE

FloWide Anchors can be equipped with a Bluetooth Low Energy (BLE) expansion module. In this case with FloWide software the device will act as a remote BLE modem, which can be mounted in a Linux system as a standard Bluetooth device.

2.4 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 typ.	28 V
power consumption typ.	2.5 W
communication type	UART 460800 baud
wired sync clock frequency	38.4 MHz
connector	RJ45 8p8c (shielded)
connection wire type	Cat6A S/FTP network cable
connection wire length	up to 70 m
UWB frequency bands	3...7 GHz (1,2,3,4,5,7)
maximum UWB transmit power	–40 dBm/MHz
BLE expansion module	
modem type	Laird BT860-SA
BLE frequency	2.45 GHz
maximum BLE transmit power	+10 dBm

3.2 Mechanical & environmental data

Parameter	Value
size (with flanges)	146 x 65 x 40 mm (L x W x H)
weight	140 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