VDU02 UWB 信标规格书 /VDU02 UWB Beacon Datasheet

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目录/ Contents

1. 产品介绍/Product Introduction

UWB 信标，是基于 DW3000 芯片开发，结合 TOF 与 TDOA 算法，大幅度提高定位卡精度及鲁棒性，实测在空旷环境定位精度在 0.1m-0.5m，部署间距最大在 100 米。其特点在于外形小巧安装便捷；采用无线传输技术免布网线；核心模组轻量化适配降低成本；创新性将算量转移至服务器，本地算法由卡片直接输出坐标，部署更快速简便。

The UWB beacon is developed based on the DW3000 chip, combining TOF and TDOA algorithms to significantly improve the accuracy and robustness of the positioning card. In open environments, the positioning accuracy can reach 0.1m-0.5m, with a maximum deployment spacing of 100 meters. Its features include a compact design for easy installation, wireless transmission technology eliminating the need for network cables, a lightweight core module to reduce costs, and innovative transfer of computational load to the server, with local algorithms outputting coordinates directly from the card, making deployment faster and simpler.

UWB 信标信标达到 Exib IIC T6 Gb 标准，是具备所有防爆环境的防爆要求。同时 UWB 信标具有 IP68 防护等级，在室内潮湿或露天的环境中，可照常工作。准确定位人员和物资，精度可达到 10-50 厘米。

The UWB beacon meets the Exib IIC T6 Gb standard, fulfilling all explosion-proof requirements for hazardous environments. Additionally, the UWB beacon has an IP68 protection rating, allowing it to operate normally in indoor damp or outdoor environments. It accurately locates personnel and materials with a precision of 10-50 centimeters.

uwb 信标以 uwb 行业突破性融合算法，针对电池供电方案全新研发，让 uwb 信标达到蓝牙信标的使用年限，达到蓝牙信标的大小与安全防护性，综合性降低使用维护成本，为大面积推广 uwb 奠定了基础，uwb 信标设计理论寿命 10.5 年，实际使用可达到 7-8 年免维护持续工作。

The UWB beacon, with its breakthrough fusion algorithm in the UWB industry, is newly developed for battery-powered solutions, enabling the UWB beacon to achieve the lifespan, size, and safety protection of Bluetooth beacons, comprehensively reducing usage and maintenance costs, and laying the foundation for large-scale promotion of UWB. The theoretical design life of the UWB beacon is 10.5 years, with actual usage reaching 7-8 years of maintenance-free continuous operation.

常用在化工厂、电站、煤矿、养老院、医院、疗养中心、展厅、仓库等诸多场景，配合 UWB 定位标签，实现人员定位、车辆定位、设备定位等。

It is commonly used in various scenarios such as chemical plants, power stations, coal mines, nursing homes, hospitals, rehabilitation centers, exhibition halls, warehouses, etc., in conjunction with UWB positioning tags to achieve personnel positioning, vehicle positioning, and equipment positioning.

2 技术参数

名称/Name	规格参数/Specification
定位方式/Positioning Method	自研超低功耗融合性算法 /Self-developed ultra-low power fusion algorithm
定位精度/Positioning Accuracy	完全无遮挡情况下，最高可达 0.1 米 /Up to 0.1 meters in completely unobstructed conditions
覆盖范围/Coverage Range	完全无遮挡情况下，最高可达 100 米/Up to 100 meters in completely unobstructed conditions
UWB 频率/UWB Frequency	3.75-4.25GHz
发射功率/Transmission Power	可调发射功率: -39-23DB /Adjustable transmission power: -39 to 23 dB
内置电池/Built-in Battery	38Ah
使用时间/Usage Time	设计 10.5 年实际可达 7-8 年 /Designed for 10.5 years, actual usage can reach 7-8 years
天线类型/Antenna Type	内置全向天线/Built-in omnidirectional antenna
外壳材质/Housing Material	ABS+PC 混合 V0 级防火材料 /ABS+PC mixed VO-level flame-retardant material
产品尺寸/Product Dimensions	105*95*55mm（长宽高）/(LWH)
产品重量/Product Weight	500g
安装方式/Installation Method	壁挂/吊顶式轧带,螺丝，打胶等多种方式（支持摄像机支架安装）/Wall-mounted/ceiling-mounted with straps, screws, adhesive, etc. (supports camera bracket installation)
工作温度/Operating Temperature	-40℃～+85℃

3 操作指示说明/Operation Instructions

无线 UWB 定位基站安装方法

/Wireless UWB Positioning Base Station Installation Method

UWB 基站分为墙体安装和柱体安装两种方式，可根据现场环境选择，准备的安装套件以螺丝套料包为主。

The UWB base station can be installed on walls or columns, depending on the environment. The installation kit mainly includes a screw package.

①水泥墙体安装：取出螺丝套料包及支架和 UWB 基站主体，捕裹用螺丝将支架固定在墙体上。

Concrete Wall Installation: Take out the screw package, bracket, and UWB base station main body. Use screws to fix the bracket on the wall.

②钢结构墙体安装：可将支架用电焊焊接在钢结构墙体上，将 UWB 基站主体沿着支架卡槽位置滑动卡住卡槽即可。即可固定亦方便取下更换电池。

Steel Structure Wall Installation: Weld the bracket onto the steel structure wall. Slide the UWB base station main body along the bracket slot to lock it in place. This allows for easy removal and battery replacement.

③立柱安装：加装立柱，可在顶端焊接平面架，或自备抱箍用钢扎带固定于顶端，将铁抱箍穿过支架位置的圆孔并将抱箍收紧固定，即可。

Column Installation: Add a column and weld a flat frame at the top, or use a steel strap to fix it at the top. Pass the iron clamp through the round hole in the bracket position and tighten the clamp to secure it.

4 注意事项/Precautions

1.电子类产品请注意防摔。

Electronic products should be protected from falls.

2.为确保设备使用的安全性，用户在使用过程中请不要擅自拆卸设备，以避免引起内部器件的损坏，人为拆卸导致设备损坏，不在质保期报销范围内，所带来的影响由用户承担；

To ensure the safety of the equipment, users should not disassemble the device during use to avoid damage to internal components. Damage caused by unauthorized disassembly is not covered under warranty, and the user will bear the consequences.

3.如果产品在使用过程中发现定位飘移、无法测距等异常现象，请不要自行修理，及时联系厂商售后客服予以处理。

If abnormal phenomena such as positioning drift or inability to measure distance are encountered during use, do not attempt to repair it yourself. Contact the manufacturer's customer service for assistance.

5 包装与运输/Packaging and Transportation

配置清单/Configuration List

序号/No	名称/Name	数量/Quantity	单位/Unit
1	UWB 信标/UWB Beacon	1	台/Unit
2	信标安装底板 /Beacon Installation Base Plate	1	个/Unit
3	配套胀塞及螺母 /Matching Expansion Sleeve and Nut	2	套/Sets
备注：以上为整套产品的配置清单，以上范围之外的配件均需额外支付费用。 /Note: The above is the configuration list for the complete product. Any accessories beyond the above range will incur additional charges.			

6 联系我们/Contact Information

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