EDV25P 系列产品使用说明书

EDV25P Series User Manual



深圳市易探科技有限公司

Shenzhen EasyDetek Technology Co., Ltd.

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第一部分 / Chapter 1
产品介绍 / Product Introduction

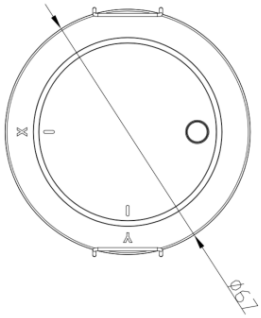


图 1.1: 正面视图
Fig1.1: Front View

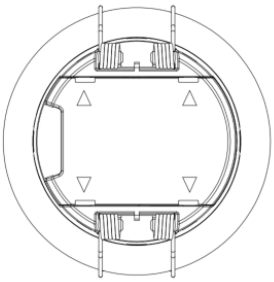


图 1.2: 背面视图
Fig1.2: Back View

1.1 产品概述 / Overview

EDV25P 系列产品，工作频段为 57.5-61.3GHz，主要面向跌倒检测与人体存在监测应用。单台设备可实现最大 3 米半径的人体存在检测与 3 米半径的跌倒检测，推荐安装高度 2.5-3.5 米。产品使用毫米波 FMCW 探测技术，实时识别有人/无人状态与跌倒事件（正常/疑似/确认三级），并内置数字光照传感器，支持光照联动控制。产品无图像采集，从根源保护用户隐私，适用于卧室、卫生间、医院病房、养老院等隐私敏感场景。

The EDV25P series products operate in the 57.5-61.3 GHz frequency band, primarily designed for fall detection and human presence monitoring. A single device supports human presence detection within a 3-meter radius and fall detection within a 3-meter radius, with a recommended installation height of 2.5 to 3.5 meters. Using millimeter-wave FMCW detection technology, the products identify presence status and fall events (normal/suspected/confirmed) in real time, and integrate a digital illuminance sensor for lighting linkage control. Free from image acquisition, the devices fundamentally protect user privacy, and are suitable for privacy-sensitive scenarios including bedrooms, bathrooms, hospital wards and nursing homes.

1.2 产品特点 / Features

- 跌倒检测：检测区域内人员跌倒事件实时识别，区分正常/疑似/确认三级状态，可联动告警与灯光。
  Fall Detection: Real-time identification of fall events in the detection area, distinguishing normal / suspected / confirmed three-level states, with alarm and lighting linkage support.
- 存在检测：静止人体亦可检测，存在检测半径最大 3 米，人员离开后按设定延时自动上报无人。
  Presence Detection: Stationary human bodies can also be detected, with a presence detection radius of up to 3 meters. No-person status is reported automatically after the preset delay when people leave.
- 光照联动：内置数字光照传感器，检测范围 0-65535 Lux，支持照度高/低场景联动控制灯光。

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Illuminance Linkage: Built-in digital illuminance sensor with a detection range of 0-65535 Lux, supporting high/low illuminance scene linkage for lighting control.

- 通讯方式丰富：支持 RS485 总线、KNX 总线及涂鸦 Zigbee 接入，可通过蓝牙小程序进行参数配置与调试。
  Multiple Communication: Supports RS485 bus, KNX bus and Tuya Zigbee access, and parameters can be configured and debugged via Bluetooth mini-program.
- 易安装部署：嵌入式吸顶安装，标准开孔 Φ55mm，施工便捷。
  Easy Installation: Embedded ceiling-mount installation with a standard opening diameter of Φ55mm, making construction very convenient.

1.3 应用场景 / Applications

- 智慧养老：常安装于卧室、卫生间等区域，实时监测跌倒事件并联动告警，守护独居老人安全。
  Smart Eldercare: Usually installed in bedrooms and bathrooms for real-time fall monitoring with alarm linkage, safeguarding the safety of elderly people living alone.
- 智能家居：与照明灯具联动，实现有人灯亮、无人灯灭及光照联动控制，节能省心。
  Smart Home: Linkage with lighting fixtures, lights on when occupied and off when vacant, with illuminance-based linkage for energy saving.
- 医院病房：安装于病房及卫生间区域，病患跌倒即时告警，减轻护理压力。
  Hospital Ward: Installed in wards and restrooms for immediate fall alerts, reducing nursing burden.

1.4 外形结构 / Appearance Structure

1.4.1 外形尺寸 / Dimension

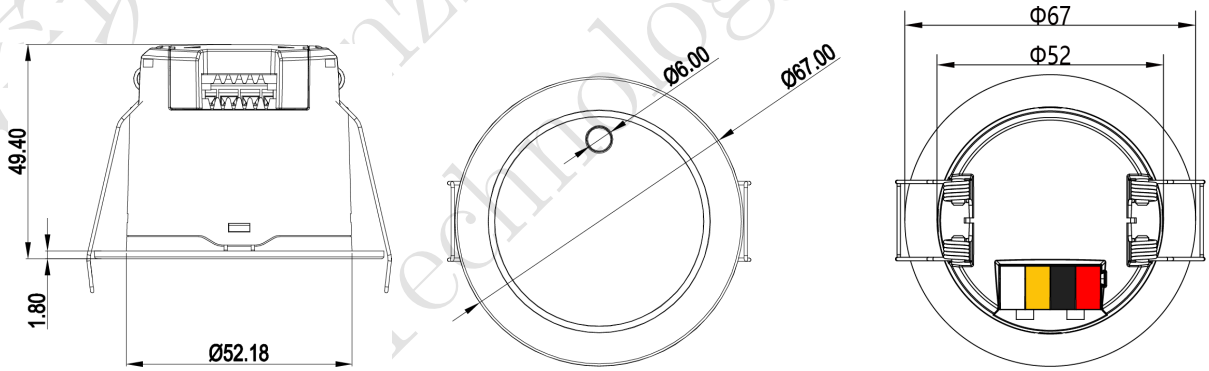


图 1.3: 单位（mm）
Fig1.3: Unit (mm)

*注： 整机尺寸公差 ±0.2mm，详细尺寸以三视图标注为准。
*Note: The overall dimension tolerance is ±0.2mm, and the detailed dimensions are subject to the three-view drawings.

1.4.2 接口说明 / Electrical Interface

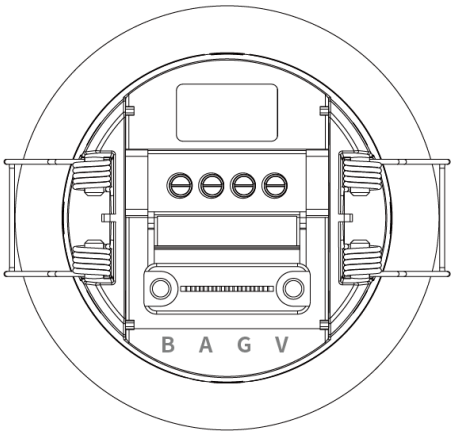


图 1.4: EDV25P-4 接口分布图
Fig1.4: EDV25P-4 Interface Distribution Diagram

表 1.1: EDV25P-4 接口功能表
Tab1.1: EDV25P-4 Interface Function Table

接口序号 Number	名称 Name	功能 Function
1	V	DC 12-30V 电源输入正极 DC 12-30V Power Input
2	G	电源负极/GND Power Negative / GND
3	A	RS485-A RS485-A
4	B	RS485-B RS485-B

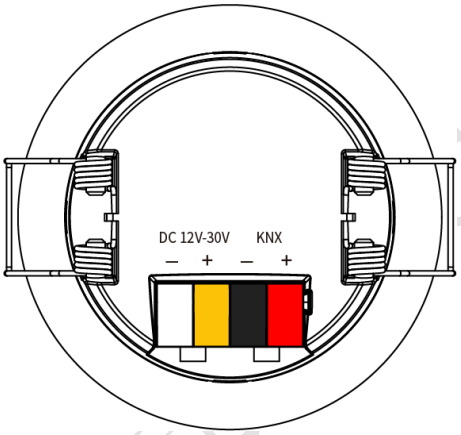


图 1.5: EDV25P-K 接口分布图
Fig1.5: EDV25P-K Interface Distribution Diagram

表 1.2: EDV25P-K 接口功能表
Tab1.2: EDV25P-K Interface Function Table

接口序号 Number	名称 Name	功能 Function
1	VCC	DC 12-30V 电源输入正极 DC 12-30V Power Input
2	GND	电源负极/GND Power Negative / GND
3	KNX+(红)	KNX 总线正极 KNX Bus Positive
4	KNX-(黑)	KNX 总线负极 KNX Bus Negative

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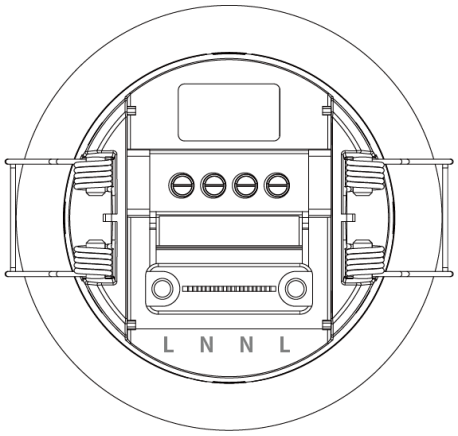


图 1.6: EDV25P-T 接口分布图
Fig1.6: EDV25P-T Interface Distribution Diagram

表 1.3: EDV25P-T 接口功能表
Tab1.3: EDV25P-T Interface Function Table

接口序号 Number	名称 Name	功能 Function
1	L	火线端口（AC 90-277V） Live Wire Port (AC 90-277V)
2	N	零线端口 Neutral Wire Port

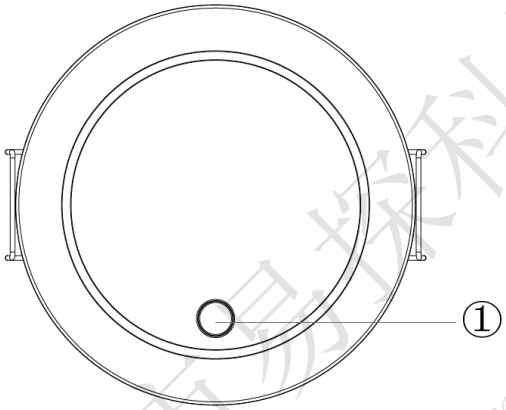


图 1.7: 按键分布图
Fig1.7: Button Distribution Diagram

表 1.4: 按键功能表
Tab1.4: Button Function Table

接口序号 Number	名称 Name	功能 Function
1	Set/Reset	配网/复位共用按钮 Pairing/Reset

1.5 性能参数 / Parameters & Performances

1.5.1 参数列表 / Parameters

表 1.5: 参数表
Tab1.5: Parameter Table

类别 Category	参数 Number	可配置? Configurable?	数值 Value	单位 Unit	说明 Remarks
雷达参数 RF Parameters	工作频段 Frequency	N	57.5-61.3	GHz	中值 60GHz Center 60 GHz
	发射功率 TX Power	Y	12/14/15/16	dBm	可配置 Configurable
	调制方式 Modulation	N	FMCW	-	调频连续波 FMCW
	3dB波束角 3dB Beam Angle	N	60	°	波束宽度 Beam width

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表 1.5: 参数表(续)
Tab1.5: Parameter Table(continued)

类别 Category	参数 Number	可配置? Configurable?	数值 Value	单位 Unit	说明 Remarks
性能参数 Specifications	存在检测半径 Presence Radius	Y	3 Max	m	最大存在检测半径 Max presence radius
	跌倒检测半径 Fall Radius	Y	3 Max	m	最大跌倒检测半径 Max fall radius
	推荐安装高度 Install Height	Y	2.5-3.5	m	默认 3.0m，可配置 Default 3.0m
	运动灵敏度 Move Sensitivity	Y	1-10	-	默认 10 Default 10
	存在灵敏度 Exist Sensitivity	Y	1-10	-	默认 10 Default 10
	延时时间 Delay Time	Y	1-65535	s	默认 30s Default 30s
	检测区域 Detect Area	Y	可配置	mm	X/Y：±3000 Z：0-3500
	光照检测范围 Illuminance	Y	0-65535	Lux	数字光照传感器 Digital sensor
	状态上报周期 Report Period	Y	500-65535	ms	雷达上报周期 Radar report period
电气参数 Electrical	工作电压 Operating Voltage	N	4/K：DC 12-30V T：AC 90-277V	V	4/K 直流供电 T 交流供电
	峰值电流 Peak Current	N	317	mA	12V 供电 At 12V supply
	平均电流 Average Current	N	124	mA	12V 供电 At 12V supply
	整机功耗 Power Consumption	N	<5	W	AC 220V（KNX <2W） AC 220V (KNX <2W)
	输出格式 Output Format	Y	可配置	-	协议输出格式可配置 Configurable output
物理参数 Physical Parameters	外形尺寸 Dimension	N	-	mm	详见三视图标注 See drawings
	重量 Weight	N	-	g	- -
	外壳材质 Housing Material	N	PC	-	聚碳酸酯 Polycarbonate
	安装方式 Installation	N	吸顶	-	嵌入式安装 Ceiling mount
	安装孔径 Mounting Hole	N	55	mm	标准开孔直径 Opening dia.
环境适应性 Environmental Adaptability	工作温度 Operating Temp.	N	-20-+85	℃	正常工作环境温度 Normal operating temp.
	储存温度 Storage Temp.	N	-20-+85	℃	存储环境温度 Storage temp.

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***注：** “可配置？”指的是是否提供接口供用户根据需要对该参数在允许范围内进行配置。
***Note:** ”Configurable?” means whether an interface is provided for users to set the parameter within the permissible range as required.

***注：** 以下情况不定义为跌倒事件：
***Note:** The following situations are not defined as fall events:

1. 坐倒（指坐在地上跌倒）不定义为跌倒。
   Sitting down (falling into a seated position on the ground) is not defined as a fall.
2. 靠坐（人没有完全倒下去）不定义为跌倒。
   Leaning back (without the body fully falling down) is not defined as a fall.
3. 蹲姿跌倒不定义为跌倒。
   Falling from a squatting position is not defined as a fall.

1.5.2 性能曲线 / Performances

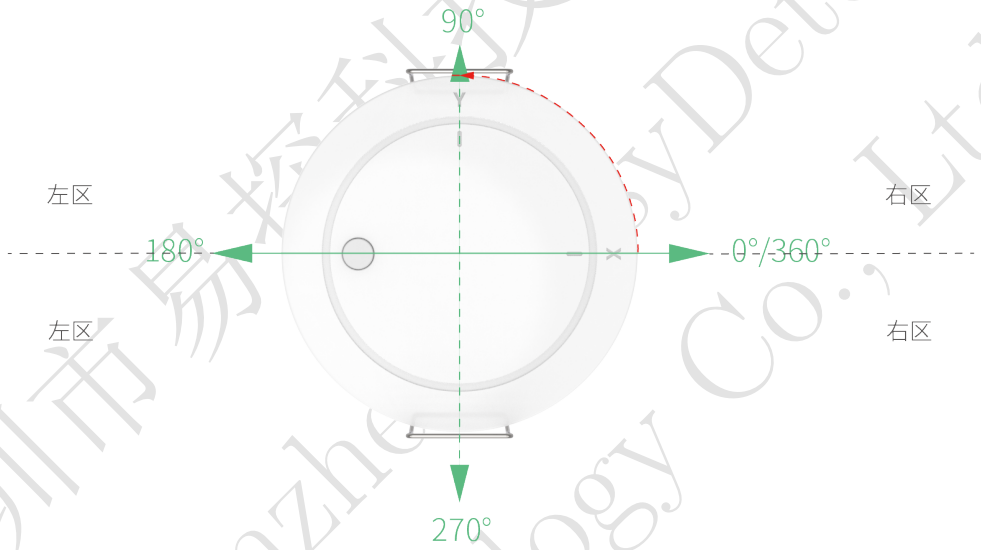


图 1.8: 安装方向与检测分区示意
Fig1.8: Mounting Orientation and Detection Zones

***注：** 在室内环境（5m×5m），安装高度 3m，X/Y 坐标范围 ±300cm 条件下测得感应性能曲线。
***Note:** The sensing performance curve is measured in an indoor environment (5m×5m) with an installation height of 3m and X/Y coordinate range of ±300cm.

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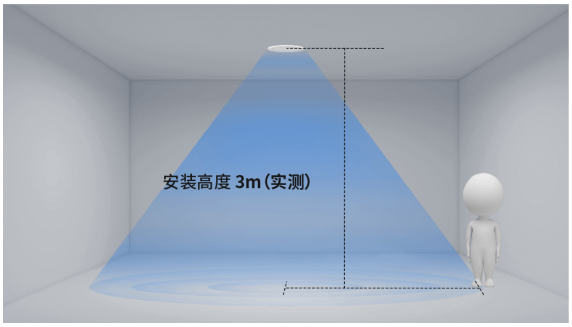


图 1.9: 挂高角度性能
Fig1.9: Installation Height Angle Performance

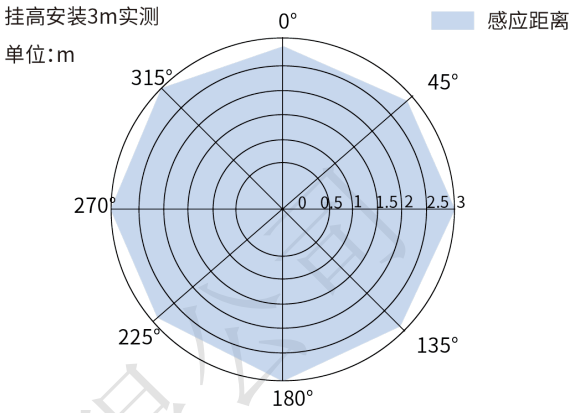


图 1.10: 感应性能
Fig1.10: Sensing Performance

***注：** 以上性能曲线仅供参考，具体以实际产品实测为准。
***Note:** The performance curves above are for reference only, subject to actual product measurement.

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第二部分 / Chapter 2
命名规范 / Naming Rules

制造商 Manufactur	频段 Frequency	大类别 Parent	子类别 Child	编号 Part No		扩展功能 Extended Functions		流水号 Serial No.
ED	V	2	5	-	-	-	-	-
易探 EasyDetek	**C** 5.8GHz	**1** 雷达模组 RD Module	**0** 超低功耗 low power consumption	0 ~ 9 A ~ Z	**Y** 有光敏 With Photosensitive	**A** Matter	**1** Cat-1	
	X 10.5GHz	**2** 独立传感器 Independent Sensor	**1** 旗舰 flagship		**N** 无光敏 Without Photosensitive	**C** Casambi	**2** 2.4G	
	Q 24GHz	**3** 天线&器件 Antennas & Devices	**2** 侧装 Side-mounted		**G** 干接点 Dry node	**D** Dali	**4** RS485	
	V 60GHz	**4** MCU	**3** 外置可调 External Adjustable		**S** AC开关 AC Switch	**K** KNX	**B** BLE	
	S 生态产品 Eco-products	**5** 配件 Accessories	**5** 通用 General			**M** Mi	**P** PLC	
		6 IC	**6** 户外 Outdoor			**T** Tuya	**R** RF433	
		7 AI传感 AI Sensor	**7** 保留 Reserved				**W** Wifi	
		8 组网 Networking	**8** 基础 Basic				**Z** Zigbee	
			9 高空 High Altitude					

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第三部分 / Chapter 3
使用指南 / User Guide

3.1 安装指南 / Installation Guide

3.1.1 安装前检查 / Pre-installation inspection

- 确认安装环境符合要求，避免周边有震动源（冰箱、空调外机、水泵等）。
  Confirm that the installation environment meets the requirements: avoid any vibration sources around (refrigerators, air conditioner outdoor units, water pumps, etc.).
- 检查感应范围内无晃动物体、大面积金属物品（吊灯、风扇、金属涂层镜子等）。
  Check that there are no moving objects or large metal items within the sensing range (chandeliers, fans, metal-coated mirrors, etc.).
- 确认供电电源纹波低于100mV，避免电源干扰。
  Confirm that the power supply ripple is lower than 100mV to avoid power supply interference.
- 如与其他雷达传感器同场使用，确保安装间距大于2米。
  If used in the same area as other radar sensors, ensure the installation distance is more than 2 meters.

3.1.2 安装步骤 / installation procedure

- 安装高度：推荐2.5-3.5米（默认3米），存在检测半径最大3米，跌倒检测半径最大3米。
  Installation height: Recommended 2.5 - 3.5 meters (default 3 meters), with a maximum presence detection radius of 3 meters and a maximum fall detection radius of 3 meters.
- 嵌入式暗装：开设Φ55mm标准安装孔，提前布设供电 / 通讯线缆。
  Embedded concealed installation: Open a standard installation hole with a diameter of 55mm, and pre-arrange power / communication cables.

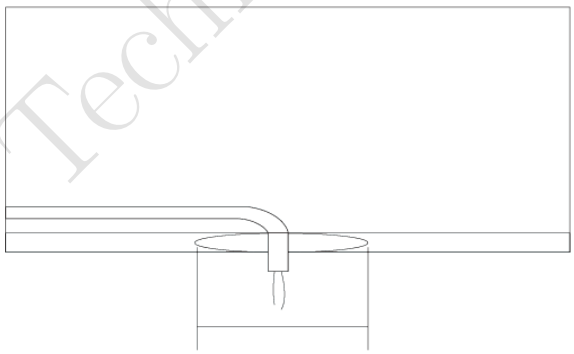


图 3.1: 天花板开孔Φ55mm
Fig3.1: Ceiling hole Φ55mm

- 接线操作：按照对应型号接口定义，连接电源线、通讯线，确认接线牢固。
  Connection operation: According to the interface definitions of the corresponding model, connect the power

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cord and communication cable, and ensure that the connections are secure.

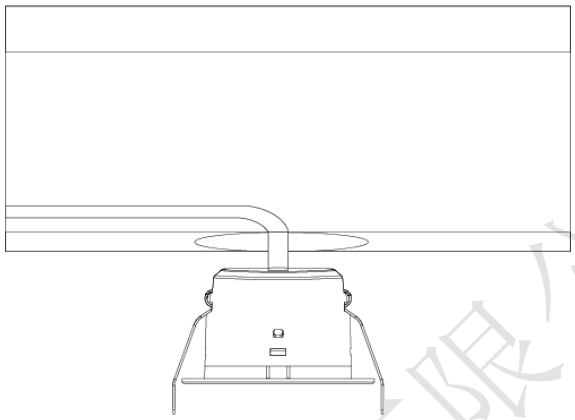


图 3.2: 设备与电源线连接
Fig3.2: Connect the equipment to the power cord.

- 卡扣调节：调整设备两侧安装卡扣，适配吊顶厚度。
  Adjustable clips: Adjust the installation clips on both sides of the equipment to fit the thickness of the ceiling.

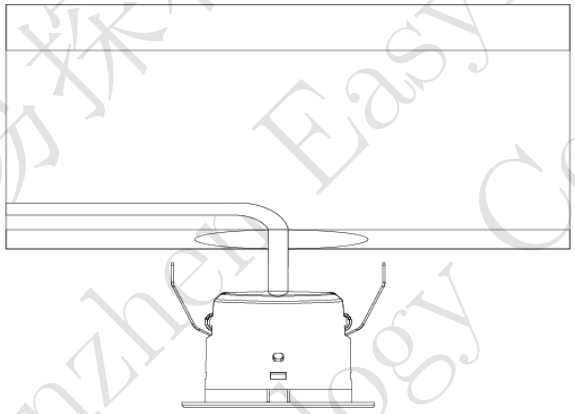


图 3.3: 调整安装卡扣
Fig3.3: Adjust the installation snap-on clips.

- 固定就位：将设备嵌入开孔，保持设备稳固，避免抖动，锁紧卡扣，完成安装。
  Fix and position: Insert the equipment into the opening, keep it stable, avoid shaking, lock the clips, and complete the installation.

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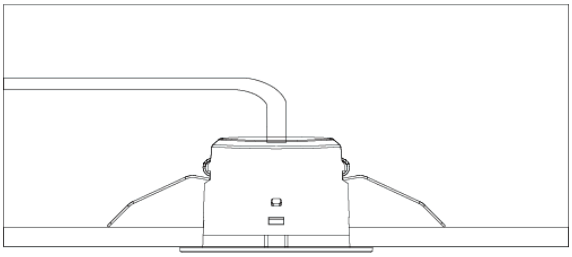


图 3.4: 嵌入固定，安装完成
Fig3.4: Embedded firmly, installation completed.

3.1.3 接线说明 / Connection Instructions

- EDV25P-4（RS485 版）：DC 12-30V 供电（V/G 端子），RS485 通讯接 RS485-A / RS485-B 端子，接主站（PLC/中控系统）时注意 RS485-A / RS485-B 极性对应。
  EDV25P-4 (RS485 version): DC 12-30V power supply (V/G terminals). For RS485 communication, connect to the RS485-A / RS485-B terminals, and pay attention to RS485-A / RS485-B polarity when connecting to the master station (PLC/central control system).

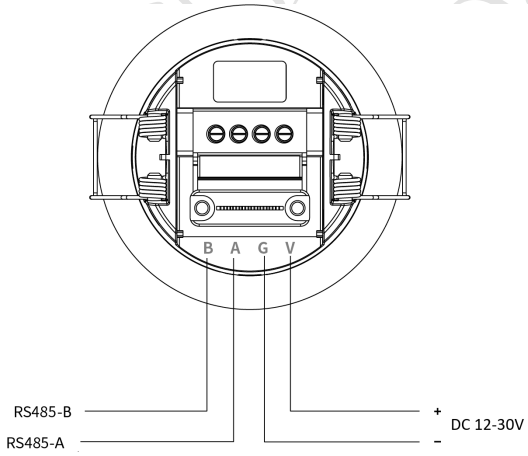


图 3.5: 供电范围：DC 12-30V供电，RS485通信接口（RS485-A / RS485-B 端子）
Fig3.5: Power supply range: DC 12-30V power supply, RS485 communication interface (terminals RS485-A / RS485-B)

- EDV25P-K（KNX 版）：DC 12-30V 供电（VCC/GND 端子），KNX+、KNX- 端子对接 KNX 系统专用通讯线路，注意极性对应。
  EDV25P-K (KNX version): DC 12-30V power supply (VCC/GND terminals). Connect the KNX+ and KNX- terminals to the dedicated communication lines of the KNX system, and pay attention to polarity.

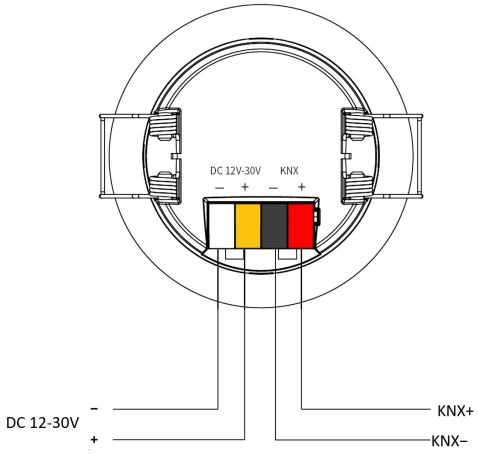


图 3.6: 供电范围：DC 12-30V供电，KNX通信接口（KNX+ / KNX- 端子）
Fig3.6: Power supply range: DC 12-30V power supply, KNX communication interface (terminals KNX+ / KNX-)

- EDV25P-T（涂鸦 Zigbee 版）：火线（L）与零线（N）接入 AC 90-277V 市电供电，接线时请断电操作。
  EDV25P-T (Tuya Zigbee version): Connect the live wire (L) and neutral wire (N) to AC 90-277V mains power supply. Please power off before wiring.

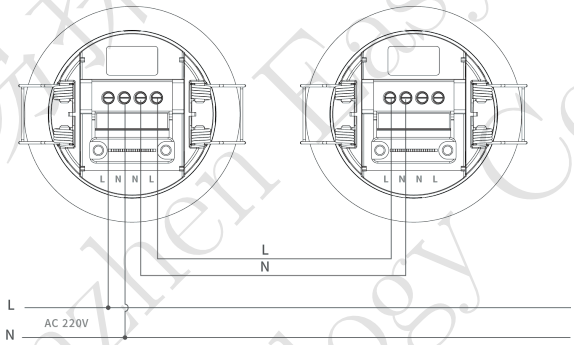


图 3.7: 供电范围：AC 90-277V供电
Fig3.7: Power supply range: AC 90-277V supply

3.2 功能时序 / timing sequence

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表 3.1: 全系列统一指示灯与功能时序
Tab3.1: Unified indicator lights & timing of the series

序号 Number	工作状态 Working condition	指示灯说明 Indicator Light Explanation
1	开机上电 Power-on	绿色指示灯常亮5秒 The green indicator light remains on for 5 seconds
2	正常运行 Normal operation	检测到有人时，绿色指示灯每10秒闪烁1次 When a person is detected, the green light flashes once every 10 seconds
3	进入配网模式 Pairing mode	长按配网键5秒后，1秒闪4次进入配网模式 After holding down the pairing key for 5 seconds, it flashes 4 times per second to enter pairing mode
4	配网中 Pairing	配网过程中每3秒闪烁1次 During pairing, it flashes once every 3 seconds
5	监测到人员跌倒 Fall detected	检测到跌倒事件时，绿色指示灯常亮3秒 When a fall event is detected, the green light remains on for 3 seconds

***注：** 长按按键10秒恢复出厂设置（参数恢复默认，涂鸦版本场景绑定保留）。
***Note:** Press and hold the key for 10 seconds to restore factory settings (parameters restored to defaults; scene bindings of the Tuya version are retained).

3.3 设置和调试指南 / Debugging and Setting

3.3.1 初始化与自学习 / Initialization and Self-learning

设备首次安装、更换安装环境后，建议断电重启一次，设备自动完成环境自学习，过滤墙体、固定家具等静态干扰，保障跌倒检测、存在检测的准确性；修改安装高度、检测区域等参数后，保存配置等待10秒算法生效，再现场测试检测效果。

After the equipment is first installed or the installation environment is changed, it is recommended to power off and restart the device once. The device will automatically complete the environment self-learning process, filtering out static interference such as walls and fixed furniture, ensuring the accuracy of fall detection and presence detection. After modifying parameters such as installation height and detection area, save the configuration and wait for 10 seconds for the algorithm to take effect, then conduct on-site testing of the detection effect.

3.4 小程序使用指南 / Mini Program User Guide

3.4.1 连接准备 / Connection Preparation

- 设备正常上电，开启手机蓝牙与定位，搜索对应设备蓝牙名称完成连接。
  The device is powered on normally. Turn on the Bluetooth and location of the mobile phone, search for the corresponding Bluetooth name of the device to complete the connection.
- 进入 EDV25P 设备控制主界面，查看设备基础信息。
  Enter the main interface of the EDV25P device control to view the basic information of the device.

3.4.2 主界面功能 / Main interface functions



图 3.8: 蓝牙小程序功能说明
Fig3.8: Function Description of Bluetooth Mini Program

人体存在状态显示:小程序首页显示人体存在状态，能直观区分"有人/无人"，用于快速判断当前检测区域内是否存在人员。

跌倒状态显示:小程序状态页显示跌倒状态（正常/疑似/确认），检测到跌倒事件时即时告警提示。

3.4.3 注意事项 / Notice

- 参数修改后建议同步保存配置，避免断电丢失。
  After modifying parameters, it is recommended to save the configuration synchronously to avoid loss in case of power failure.
- 蓝牙连接距离建议控制在 5 米以内，障碍物过多会导致连接不稳定。
  It is recommended that the Bluetooth connection distance be controlled within 5 meters. Excessive obstacles may cause unstable connection.
- 安装高度需与实际安装环境匹配，否则影响检测距离与灵敏度。
  The installation height must match the actual installation environment, otherwise the detection distance and sensitivity will be affected.

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第四部分 / Chapter 4
协议规范 / Protocol Specification

4.1 通信接口 / Communication Interface

表 4.1: 通信接口表
Tab4.1: Communication Interface Table

接口类型 Interface Type	EDV25P-4 (RS485)	EDV25P-K (KNX)	EDV25P-T (涂鸦 Zigbee)	功能说明 Functional Specification
蓝牙 BLE				小程序调试、参数配置 Mini-program debug & config
UART 串口 UART				本地调试、数据透传 Local debug, data passthrough
RS485 总线 RS485 Bus		×	×	工业/楼宇总线组网 Industrial/building networking
KNX 总线 KNX Bus	×		×	KNX 楼宇总线专用 Dedicated KNX building bus
涂鸦 Zigbee 协议 Tuya Zigbee Protocol	×	×		涂鸦 APP 联动 Tuya APP linkage

4.2 通讯协议 / Communication Protocol

- 蓝牙协议：私有蓝牙透传协议，供小程序配对、参数配置、实时数据查看。
  BLE Protocol: Private Bluetooth passthrough protocol for mini-program pairing, parameter configuration and real-time data viewing.
- RS485 协议：标准 Modbus 类总线协议，支持多设备组网、轮询读写状态与参数。
  RS485 Protocol: Standard Modbus-like bus protocol, supporting multi-device networking and polling read/write of status and parameters.
- KNX 协议：兼容标准 KNX 楼宇协议，适配 KNX 智能家居/楼宇自动化系统。
  KNX Protocol: Compatible with the standard KNX building protocol, adapted to KNX smart home / building automation systems.
- 涂鸦 Zigbee 协议：标准涂鸦 Zigbee 通讯协议，支持涂鸦 APP 配网、状态查看与参数配置。
  Tuya Zigbee Protocol: Standard Tuya Zigbee communication protocol, supporting Tuya APP pairing, status viewing and parameter configuration.

*注： 详细协议指令、寄存器地址、数据帧格式不在此文档中展开，请参考配套独立协议文档。
***Note:** Detailed protocol commands, register addresses and data frame formats are not covered in this document. Please refer to the accompanying standalone protocol documents.

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第五部分 / Chapter 5
售后服务 / Aftersale service

5.1 安全合规 / Safety Compliance

- 本产品符合室内智能传感设备安规标准，仅适用于室内环境使用。
  This product complies with the safety standards for indoor intelligent sensing devices and is only suitable for use in indoor environments.
- 电气接线严格遵循国标电气规范，非专业人员禁止拆机、改线。
  Electrical wiring strictly follows the national standard electrical specifications. Non-professionals are prohibited from disassembling the machine or modifying the wiring.
- 设备防护等级 IP67，仅适用于常规室内防潮环境，禁止长期浸泡、户外淋雨使用。
  The equipment has a protection grade of IP67 and is only suitable for regular indoor moisture-proof environments. Long-term immersion and outdoor rain exposure are strictly prohibited.

5.2 免责声明 / Disclaimers

- 因用户私自拆机、改装接线、违规供电造成的设备损坏、安全事故，本公司不承担保修及相关责任。
  Our company will not be held responsible for the warranty and related liabilities of equipment damage and safety accidents caused by users' private disassembly of the machine, modification of wiring, or illegal power supply.
- 未按照安装规范（间距、远离干扰源、避开金属区域）安装，导致设备误触发、检测异常，不在免费维保范围内。
  Failure to install the equipment in accordance with the installation specifications (spacing, distance from interference sources, and avoidance of metal areas), resulting in false triggering or abnormal detection of the equipment, is not covered by the free maintenance.
- 自然灾害、人为磕碰、外力损坏、进水进尘造成的故障，不予免费保修。
  Faults caused by natural disasters, human bumps, external force damage, water or dust ingress are not covered by free warranty.
- 产品固件、规格会持续迭代优化，更新版本不再单独通知，如需最新资料请联系销售人员。
  The product firmware and specifications will be continuously iterated and optimized. Updated versions will not be notified separately. If you need the latest information, please contact the salesperson.
- 测试参数为实验室标准环境数据，实际使用效果因现场环境、安装方式存在差异，不属于产品质量问题。
  The test parameters are standard environmental data from the laboratory. The actual usage effect may vary due to differences in on-site environment and installation methods, and does not fall under product quality issues.

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5.3 售后服务 / After-Sales Service

- 质保服务：产品按照行业标准提供质保，质保期内非人为质量问题可享受维修、更换服务。
  Warranty service: The product is covered by warranty in accordance with industry standards. During the warranty period, non-human-caused quality issues can be repaired or replaced.
- 技术支持：安装调试、参数配置、协议对接问题，可联系我司销售或 FAE 工程师提供技术支持。
  Technical support: For installation and commissioning, parameter configuration, and protocol integration issues, please contact our sales or FAE engineers for technical support.
- 定制服务：个性化功能、参数、接口定制，可对接商务团队评估方案与工期。
  Customized services: Personalized functions, parameters, and interface customization, which can be integrated with business teams to evaluate plans and project schedules.
- 资料获取：最新版规格书、协议文档、固件程序，请联系官方工作人员索取。
  For information acquisition: The latest version of the instruction manual, protocol documents, and firmware programs, please contact the official staff for them.

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附录 A　系列清单 / Series Family

EDV25P 系列共三个版本，硬件平台相同（57.5-61.3GHz 毫米波雷达、内置数字光照传感器），区别在于供电方式与通讯协议，详见下表。
The EDV25P series consists of three versions sharing the same hardware platform (57.5-61.3 GHz mmWave radar with built-in digital illuminance sensor), differing in power supply and communication protocol, as listed below.

表 A.1: EDV25P 系列型号清单
TabA.1: EDV25P Series Model List

型号 Model	供电方式 Power Supply	通讯协议 Communication Protocol	说明 Remarks
EDV25P-4	DC 12-30V	RS485 总线（标准 Modbus 类协议） RS485 Bus (Modbus-type protocol)	工业/楼宇总线组网 Industrial/building networking
EDV25P-K	DC 12-30V	KNX 总线（标准 KNX 楼宇协议） KNX Bus (standard KNX protocol)	KNX 智能家居/楼宇自动化 KNX smart home/building automation
EDV25P-T	AC 90-277V	涂鸦 Zigbee 协议 Tuya Zigbee Protocol	涂鸦 APP 联动 Tuya APP linkage

- 三版本共同特性：存在检测与跌倒检测半径最大 3m，推荐安装高度 2.5-3.5m（默认 3m）。
  Common features: maximum presence and fall detection radius of 3 m; recommended installation height of 2.5-3.5 m (default 3 m).
- 蓝牙 BLE 与 UART 串口为三版本通用接口，支持小程序调试/参数配置、本地调试/数据透传。
  Bluetooth BLE and UART are common interfaces for all three versions, supporting mini-program debugging / parameter configuration and local debugging / data passthrough.
- 内置数字光照传感器，支持光照联动控制。
  Built-in digital illuminance sensor supports lighting linkage control.

***注：** 型号命名规则详见第 2 章命名规范。
***Note:** Refer to Chapter 2 Naming Rules for model naming rules.

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附录 B　应用案例 / Application Cases

B.1　案例1 / CASE 1

B.2　案例2 / CASE 2

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