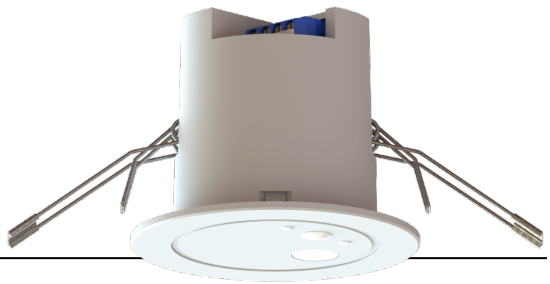
CBU-THFLDALI12V

Next Generation Advanced Presence, Human Count & Location Detector



DATASHEET

INTRODUCTION

This flush mounted CBU-THFLDALI12V is the next generation of advanced sensing. Utilising a Passive Infra-Red (PIR) and the latest innovation in thermal sensing with embedded Artificial Intelligence (AI) it offers world's first 100% privacy protective human count, location detection for real time occupancy data capture. This product includes a programmable radio transceiver for low-data bandwidth, low power IOT mesh networks, and DALI control lines.

BENEFITS AND APPLICATIONS

- Reduce energy consumption by utilizing highly accurate human occupancy data and thermal mapping of environment for HVAC and lighting optimization.
- Space optimization through granular utilization data and door counting (line crossing count) capability.
- Evacuation support with human presence and hazardous hotspot location data.
- Increase security with tailgate detection for access control and/or intruder detection in non-visible conditions.
- Increase safety with hazardous hotspot and fire location detection.

FUNCTIONALITY

- 100% privacy protective low-resolution thermal sensor with on-edge artificial intelligence integrated behind visually non-transparent white opaque plastic film.
- PIR motion sensor and photocell included.
- DALI control lines output, refer to wiring diagram for details.
- Programmable radio transceiver for IOT mesh networks.
- Easy installation, configuration and commissioning.
- Ideal mounting height between 2.4m - 4.0m.
- Optional Wi-Fi capability for streaming raw low resolution thermal data.
- 100-240VAC 50/60Hz to 12VDC power adapter optional.
- Conforms with EMC and environmental standards.

FEATURED DATA OUTPUT

- PIR captured motion (capture up to 5…7 m diameter).
- Actual human presence, count and location with 100% privacy.
- People count through/at set line/zone (door counting).
- Hot object count, location and temperature data.
- Thermal mapping of scenery with up to ±0.5 ˚C accuracy.
- Future firmware releases will include fall detection and more.

5 YEAR WARRANTY

CBU-THFLDALI12V comes with a 5 year warranty from the date of manufacture and is CE marked.

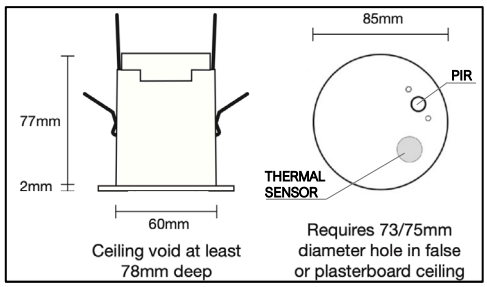
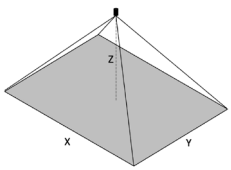


DIAGRAM 2: DIMENSIONS

TECHNICAL DETAILS

INPUT	
Voltage:	12 VDC
Max. mains current @ 240V: (Wi-Fi streaming disabled)	<10 mA
OUTPUT	
Output:	DALI 18 VDC (via DALI20)
Output current:	40 mA (maximum 20 ballasts)
OPERATING CONDITIONS Note: The temperature difference between the detection target and the background must be at least 0.5 °C (Thermal Sensor) and 4 °C (PIR)	
Ambient temperature:	0... +40 °C
Storage temperature:	-10... +50 °C
Max. relative humidity:	0... 80%, non cond.
THERMAL SENSOR	
Resolution:	28 x 15 IR pixels
Spectral detection range:	8…12 µm (LWIR)
Field of view:	X: 140˚, Y: 100˚
Framerate	4 Hz
RADIO TRANSCEIVER	
Operating frequencies:	2.4... 2,480 GHz
Max. output power:	+4 dBm
MECHANICAL DATA, CONNECTORS	
Dimensions:	79mm x 85mm x 85mm
Weight:	97g (unpacked)
Material (casing):	Flame-retardant polycarbonate
Degree of protection / class:	IP40, Built-in Class 2
Finish / Colour	Matt /White (RAL 9003)
Terminal block wire size:	0.5mm² - 2.5mm² solid or stranded
Wire strip length:	6…7 mm



Z (ceiling height) [m]	X (length) [m]	Y (width) [m]
2.0	6.0	3.0
2.5	7.0	4.0
2.7	7.5	4.5
3.0	8.0	5.0
3.5	9.0	6.0
4.0	10.0	7.0

DIAGRAM 1: THERMAL SENSOR ACTIVE AREA

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DANLERS

DALI / DSI Power Supply Unit

DBPSU

DALI / DSI Power Supply Unit (DBPSU) is designed for use with DANLERS DALI or DSI dimmable devices.

The DALI / DSI Power Supply Unit is rated at 40mA (DALI standard allows 250mA maximum). The controls interface of a DALI ballast normally sources at 2mA.

Individual DALI / DSI circuits must not exceed 40mA.

Standard 2-core mains cable of minimum guage 1.5mm^2 is recommended.

The maximum cable length of the DALI / DSI signal wires must not exceed 300m or drop more than 2V on the signal line voltage.

To minimise voltage drop on the cable, the DBPSU can be installed at the middle of the system so the cable is split into 2 equal lengths.

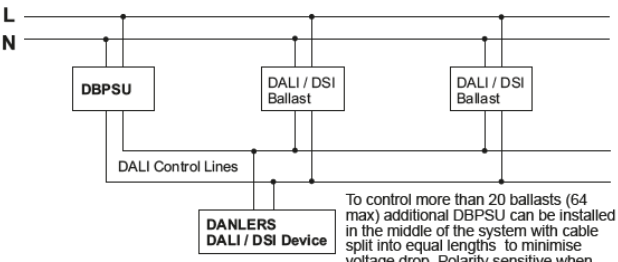
Technical Data

Supply Voltage:	120-240V
Supply Frequency:	50/60Hz
Supply Load:	4W maximum
Output:	DALI / DSI
Output Current:	40mA
Output Voltage Load Off:	18V maximum
Ambient temperature:	0-50 ºC maximum permitted.

Glow wire test: According to EN 60598-1 passed.

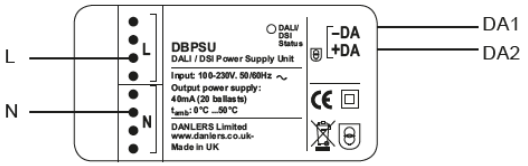
DALI standard: DALIPS is designed to supply control gear with DALI standard IEC 60929 (DALI VO) and IEC 62386 (DALI V1).

Circuit Diagram



To control more than 20 ballasts (64 max) additional DBPSU can be installed in the middle of the system with cable split into equal lengths to minimise voltage drop. Polarity sensitive when installing multiple DBPSU.

Wiring connections



Precautions and Warranty

This product conforms to EN 60598-1 and DALI standard IEC 60929 (DALI VO) and IEC 62386 (DALI V1).

Please ensure the most recent edition of the appropriate local wiring regulations are observed and suitable protection is provided (protected with the appropriate MCB) 1kV over voltage. Please ensure that this device is disconnected from the supply if an insulation test is made.

This product is covered by a warranty which extends to 5 years from the date of manufacture.