

HBTD15S

Bluetooth Dimmer | DALI Broadcast | Zhaga Book 18 Standard



Benefits

Compact: Complying with Zhaga Book 18 for easy luminaire integration

Reliable: Ensuring stable wireless dimming and tunable white

Efficient: Enabling quick setup via Koolmesh app

Applications

DALI Application

Outdoor/Street lights

Warehouse/ Logistic

Check out the complete system solution on the website:

<https://www.hytronik.com>



Product Description

HBTD15S is a Zhaga Book 18 compliant Bluetooth DALI broadcast dimming controller designed for smart luminaires. It enables seamless wireless communication between drivers and luminaires, allowing precise dimming and color tuning without additional wiring, which simplifies installation and enhances the value of each fixture. The controller features an onboard FPC antenna for stable connectivity and supports pairing with standard DALI-2 or D4i drivers. All configuration and commissioning can be quickly completed via the Koolmesh app.

Hardware Features

See additional details at the end of datasheet



5-year Warranty



Photocell Advance

Functions and Features

See additional details at the end of datasheet



Tunable White
/ HCL



Koolmesh
(See bluetooth control
features below)

Specifications

Main Capabilities

Dimming (Output) Interface	DALI
Voltage Type	DC

Bluetooth Transceiver

Bluetooth frequency	2.4 GHz - 2.483 GHz
Bluetooth transmit power	4 dBm
Bluetooth range	10~30m
Bluetooth system	Koolmesh

Electrical Data

Operating voltage	12~36V
DALI Input voltage	9.5-22.5V
DALI Current Consumption	2mA
Warming-up	20s
Lux range	0~1000lux

Technical

Ambient temperature	Ta: -20°C - +50°C
Storage temperature	Ta: -35°C - +55°C
Humidity	20% - 90%
IP rate	IP65
Insulation	Class II

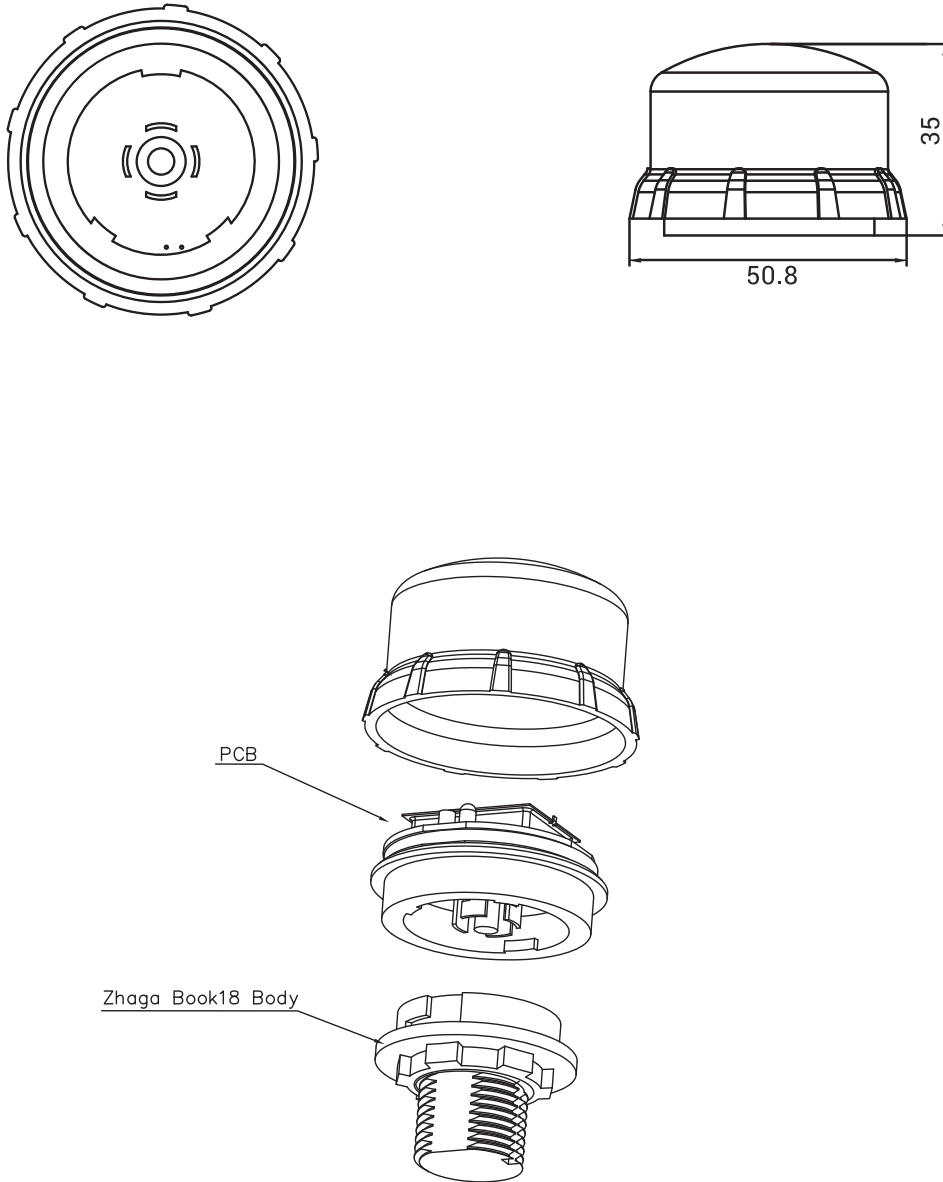
Standards

EMC	EN55015, EN61547, EN61000-3-2/-3-3
LVD	EN 61347-1, EN 61347-2-11, EN62493
RED	EN300328, EN301489-, EN301489-17, EN50663

HBTD15S

Bluetooth Dimmer | DALI Broadcast | Zhaga Book 18 Standard

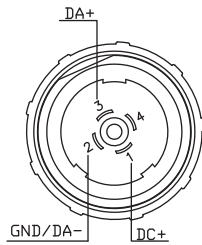
Dimension Drawing



HBTD15S

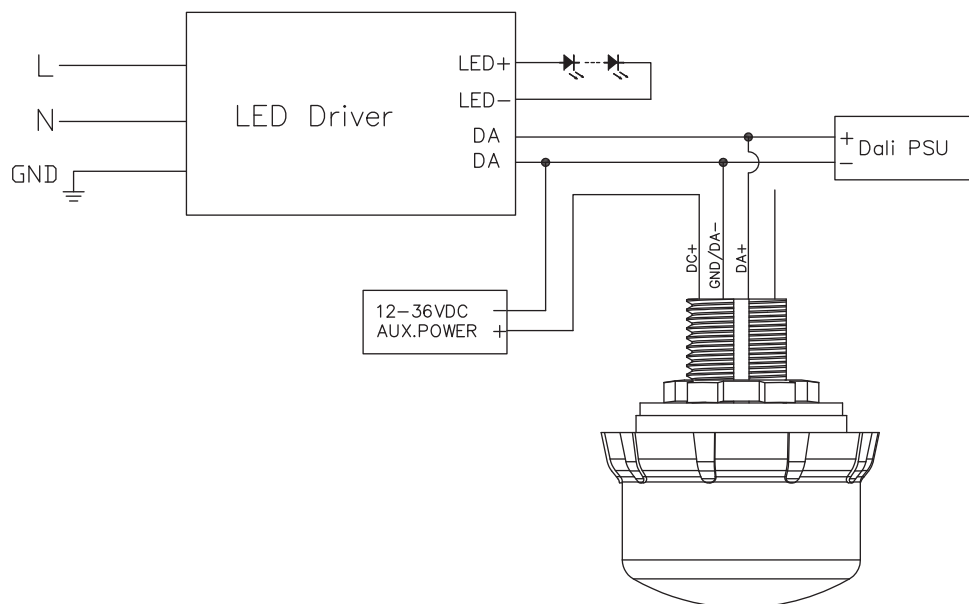
Bluetooth Dimmer | DALI Broadcast | Zhaga Book 18 Standard

Wiring Diagram



- Terminal block 4 is left unpopulated by default. No wiring required.

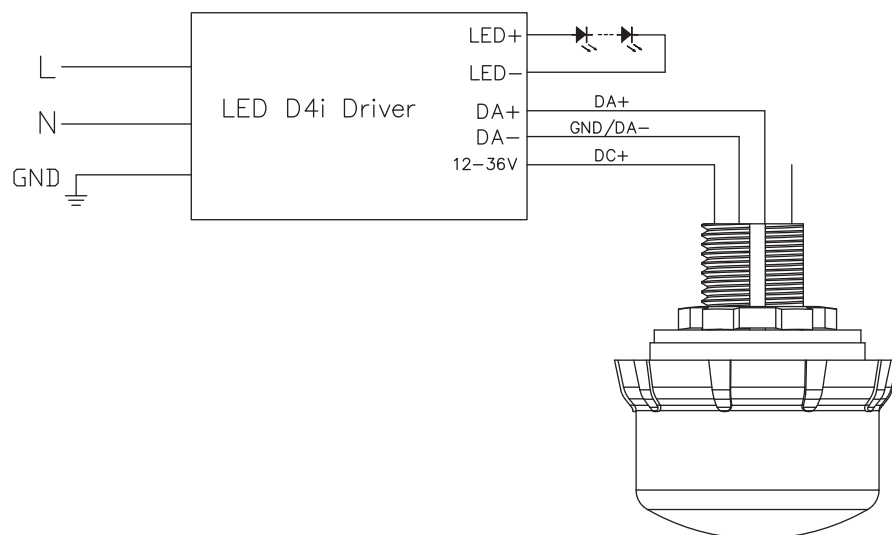
Standard Driver with External AUX & PSU



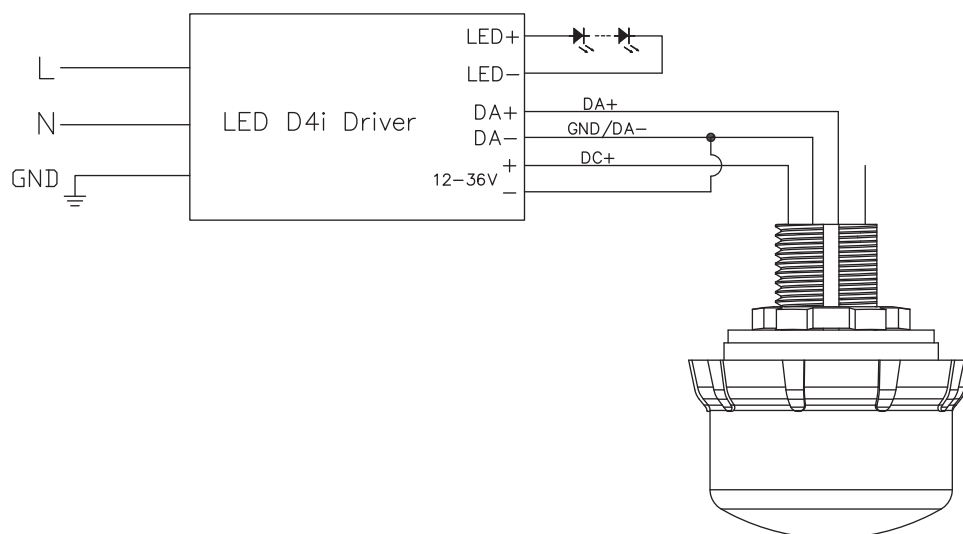
HBTD15S

Bluetooth Dimmer | DALI Broadcast | Zhaga Book 18 Standard

Standard Driver with Common Negative



D4i Driver with Isolated Negative



HBTD15S

Bluetooth Dimmer | DALI Broadcast | Zhaga Book 18 Standard



Commissioning Instructions and Precautions

A. Installation Preparations

1. This product should be installed by a qualified electrician.

Warning: For additional important documents, including installation precautions, product guidelines, and guarantee conditions, please refer to the official downloads.

<https://hytronik.com/service/downloads>

Dimming Interface Operation Notes

The provided Switch-Dim interface allows for a simple dimming method using commercially available non-latching (momentary) wall switches. Detailed Push switch configurations can be set on Koolmesh app.

Switch Function	Action	Descriptions
Push switch	Short press (<1 second)* Short press has to be longer than 0.1s, or it will be invalid.	- Turn on/off - Turn on only - Turn off only - Recall a scene - Quit manual mode - Do nothing
	Double push	- Turn on only - Turn off only - Recall a scene - Quit manual mode - Do nothing
	Long press (≥ 1 second)	- Dimming - Colour tuning - Do nothing

Options

Customized text: The HA18SKT receptacle is designed to be compatible with HBTD15. It provides a Zhaga Book 18 standard interface, suitable for roadway lighting, area lighting, and occupancy lighting applications.

Accessories



HA18SKT

Receptacle | Zhaga Book 18 Standard | Black Color

www.hytronik.com/product/ha18skt

Koolmesh - Operating guide

Bluetooth 5.0 SIG Mesh



Smartphone(ios)



Smartphone (Android)



iPad



Web

For additional information, including project and network, device, and scenes, please refer to: <http://faq.koolmesh.com/faq/en/index.html>

Shared Koolmesh App Features

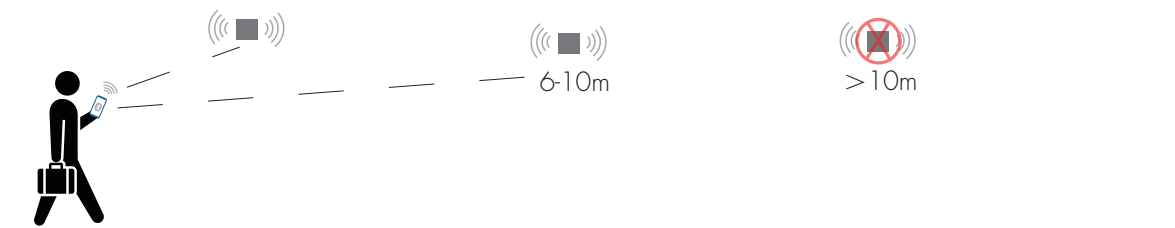
- | | |
|---|--|
|  Quick setup mode & advanced setup mode |  Power-on status (memory against power loss) |
|  Web platform for project deployment & data analysis |  Offline commissioning |
|  Koolmesh Pro iPad for on-site configuration |  Bulk commissioning (copy and paste settings) |
|  Floorplan feature to simplify project planning |  Different permission levels via authority management |
|  One-key device replacement |  Network sharing via QR code or keycode |
|  Device social relations check |  Interoperability with Hytronik Bluetooth product portfolio |
|  Staircase function for quick setup |  Internet-of-Things (IoT) featured |
|  Remote control via Hytronik gateway & touch screen HPAD-TSJASE1 |  Device firmware update over-the-air (OTA) |
|  Heat map |  Alert for excess lux / temperature / humidity via multi-meter HBLM01 |
|  Grouping luminaires via mesh network |  Seamless integration with BMS via Hytronik BMS gateway |
|  Scenes |  Test mesh network connection quality |
|  Schedule |  Compatible with Shelly energy metering |
|  Astro timer (sunrise and sunset) |  Continuous development in progress... |

Device-specific Koolmesh App features

- | | |
|---|---|
|  DALI-2 and D4i supported |  Motion sensor range test |
|  Dynamic daylight harvest auto-configuration |  Displays Luminaire Status & Energy Consumption Data |
|  Dusk/Dawn photocell (Twilight function) |  Troubleshooting & Diagnosis |
|  Detailed motion sensor settings |  Push switch configuration |
|  Motion sensor trigger diagnosis |  Compatible with EnOcean kinetic switches |

Smart Phone to Device Range

1. The smart device with the installed App typically has a range of 10m, which may vary between devices.
2. During the commissioning process, the installer must be within range of the devices while searching for them to add to the network.
3. Once the devices are added to the network via the App, they will begin communicating within the wireless mesh.
4. After the network is complete, all devices can be accessed from the smart device within a 20m range of a single point.



Bluetooth Network Components



HBGW02

Gateway | Remote access/monitoring | www.iot.koolmesh.com
www.hytronik.com/product/HBGW02



HBGW03/R

Gateway | Remote access/monitoring | www.iot.koolmesh.com
www.hytronik.com/product/HBGW03/R



HBKS01/W

Bluetooth Kinetic Switch | One-gang | White Color
www.hytronik.com/product/HBKS01-W



HBKS02/W

Bluetooth Kinetic Switch | Two-gang | White Color
www.hytronik.com/product/HBKS02-W



HBKS01D/W

Bluetooth Kinetic Switch | Single Rocker | White Color
www.hytronik.com/product/HBKS01D-W



HBKS02D/W

Bluetooth Kinetic Switch | Double Rocker | White Color
www.hytronik.com/product/HBKS02D-W



HBKS03/W

Bluetooth Kinetic Switch | Three-gang | White Color
www.hytronik.com/product/HBKS03-W



HBAQ01

Bluetooth Air quality sensor
www.hytronik.com/product/HBAQ01



Switch (EnOcean) - HBES01/B

Bluetooth Kinetic Switch | Single Rocker | White Color
www.hytronik.com/product/HBES01/B



Switch (EnOcean) - HBES01/W

Bluetooth Kinetic Switch | Three-gang | White Color
www.hytronik.com/product/HBES01/W



HBLM01

Multi-meter | Bluetooth & NFC | Lux Measurements
www.hytronik.com/product/HBLM01



HPAD-TSJASE1

Bluetooth Touch Tablet | Gateway Integrated | Switch Boxes
www.hytronik.com/product/HPAD-TSJASE1

Functions and Features

5-year Warranty



All Hytronik products are supplied with a 5-year warranty against defect in design or manufacture. The warranty applies to all electronic control gears supplied by Hytronik and is applicable to the party to which the sale was made. The warranty is not transferable to a 3rd party and compatibility with external components are the responsibility of the finished goods manufacturer. With today's multi-national sourcing strategies, we offer an unrivalled universal warranty with support available in regions where Hytronik has its own office or authorized representation, regardless of where the Hytronik product was purchased. Furthermore, we operate a 24-hour response policy to any claim. The full warranty policy is available upon request or from our website.

Tunable White / HCL



Lighting can reduce energy bills, it also can boost productivity and promote the wellbeing of humans in artificially lit environment. Hytronik has added to its de-centralised tunable white LED driver range with a new concept of time keeping for the most cost effective Circadian Rhythm Lighting. Different from other complex lighting systems, Hytronik circadian rhythm system offers a simple de-centralized human centric lighting solution for offices, schools and hospitals with the tunable white feature.

Photocell Advance



This advanced daylight sensing function accurately measures ambient light without interference from the luminaire itself, automatically switching lights on at dusk and off at dawn, ensuring daylight takes priority over motion detection, and dynamically adjusting brightness according to natural light levels to deliver comfort and energy efficiency.

Check out for further explanation of features

<https://hytronik.com/solutions/lighting-control-features>