

HC038V/BT

Control body | Bluetooth with 0/1-10V | Attachable sensor heads

HYTRONIK[®]
SENSORS & LIGHTING CONTROL



Benefits

Adaptable: Small control unit with strain relief

Versatile: Choose over many sensors options

Control through bluetooth your 0/1-10V luminaires

Applications

Master luminaire with sensor

Classrooms

Offices



Check Out the Complete System Solution on the Website:
<https://www.hytronik.com/product/HC038V-BT>

Product Description

HC038V/BT is a Bluetooth-enabled 0/1-10V control base with a built-in 30mA power supply, compatible with a wide range of microwave and PIR (Passive Infrared) sensor heads. It is more suitable for plastic luminaires, ensuring stable connectivity and performance in plastic lighting applications.

Functions and Features

See additional details at the end of datasheet



0/1-10V Dimming



Loop-in/Loop-out



Zero-Cross Relay
Operation

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Specifications

Main Capabilities

Dimming (Output) Interface	0/1-10V
Connector Type	Standard 2 cables

Electrical Data

Bluetooth frequency	2.4 GHz
Bluetooth range	10-30m
Bluetooth transmit power	4 dBm
Bluetooth system	Koolmesh
Operating voltage range	220-240 VAC 50/60 Hz
Warming-up	20 s
Max withstandable in-rush current	80A@160µs
Load capacitive	400.0 VA
Load resistive	800.0 W

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Specifications

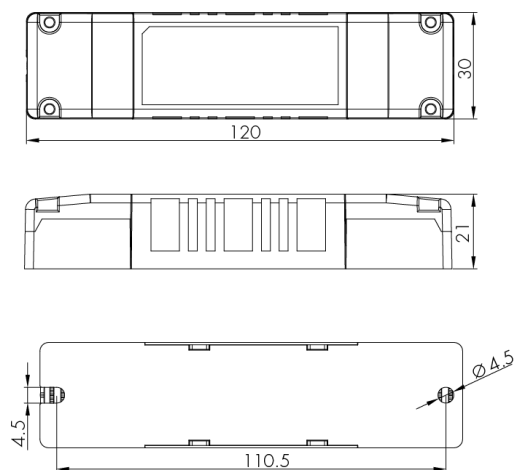
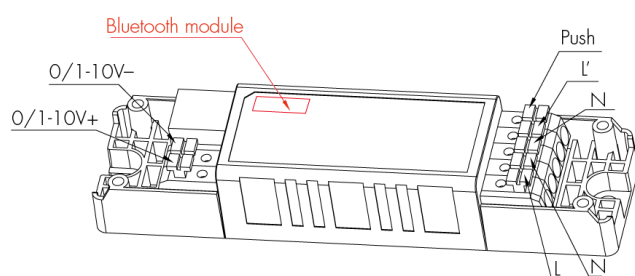
Technical	
Product weight	60.4 g
Product height	21.0 mm
Product length	120.0 mm
Product width	30.0 mm
Ambient temperature	-20 ~ +55 °C
Case Temp.max	75.0 °C
IP Rate	IP20

Standard	
EMC	EN 55015, EN 61000, EN 61547
LVD	EN 60669-1, EN 60669-2-1
RED	EN 300328, EN 301489-1/-17

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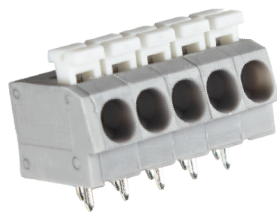
Technical Drawing



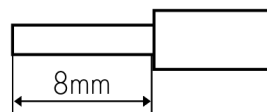
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Wire Preparation

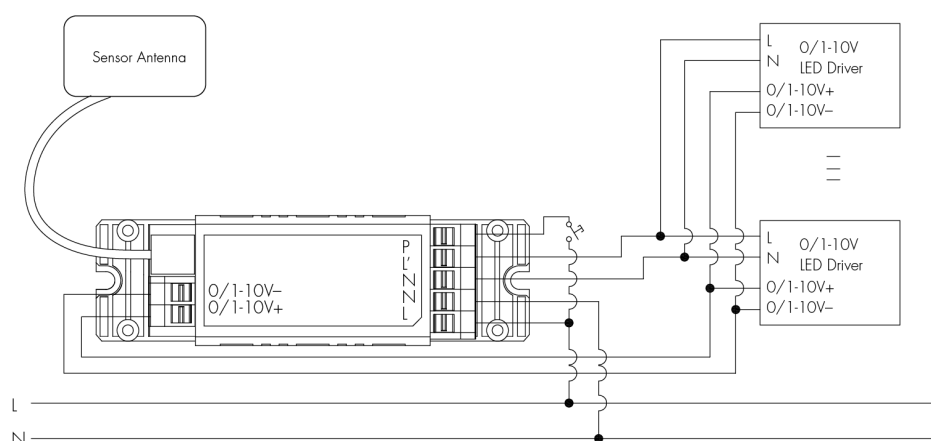


0.75~1.5mm²



To make or release the wire from the terminal, use a screwdriver to push down the button. 1. 200 metres (total) max. for 1mm² CSA (Ta = 50°C) 2. 300 metres (total) max. for 1.5mm² CSA (Ta = 50°C)

Wiring Diagram



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Commissioning Instructions and Precautions

A. Installation Note

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

B. Bluetooth Antenna Note

1. This product is equipped with a built-in Bluetooth antenna. When the device is installed in a ceiling or recessed environment, ensure that the sensor head remains exposed and is not covered by metal structures or dense building materials, as this may affect Bluetooth communication performance. For optimal signal reliability, avoid installing the device inside fully enclosed metal housings or areas with strong signal interference.

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

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

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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.

Note: Single press, double press, and press-and-hold actions can each be independently assigned to one function via the app. Once configured, each action triggers only its assigned function. Multiple functions cannot be activated by a single press action.

Switch function	Action	Descriptions
Emergency Self-Test Function	Single press (>0.1s) Double press Press and hold (>= 1s)	• Disable • Function test • Duration test • Erminated test
Fire Alarm Function	Refer to http://faq.koolmesh.com/docu/en/	• Able to connect the Fire Alarm system. • Once the fire alarm system is triggered, all the luminaries controlled by the Push Switch will enter the preset scene (normally it's full on), after the fire alarm system gives the ending signal, all the luminaries controlled by this Push Switch will revert back to normal status.
Normal PUSH (Retractive Switch)	Single press (> 0.1s) Double press Press and hold (>= 1s)	• ON/OFF • OFF only • Recall this scene • Sensor take over • Not in use
Sensor-Link	/	• Hold time/scene • Stand-by time/scene • Upgrade a normal on/off motion sensor to a Bluetooth-controlled motion sensor

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Options

Compatible products (for full functionality)



HA01/B

Reinforced Bluetooth Antenna | Easy installation | Black color
www.hytronik.com/product/HA01-B



HA01/W

Reinforced Bluetooth Antenna | Easy installation | White color
www.hytronik.com/product/HA01-W



HIR05

PIR Lowbay | Circadian Rhythm | RJ12 connector to control body
www.hytronik.com/product/HIR05



HIR07

PIR Lowbay | Photocell Advance | RJ12 connector to control unit
www.hytronik.com/product/HIR07



HIR11/AA

PIR Highbay | Adjustable Angle | RJ12 connector to control body
www.hytronik.com/product/HIR11-AA



HIR11/C

PIR Highbay | Circadian Rhythm | RJ12 connector to control body
www.hytronik.com/product/HIR11-C



HIR11/F

PIR Highbay | Circadian Rhythm | RJ12 connector to control body
www.hytronik.com/product/HIR11-F



HIR11/S

PIR Highbay | Circadian Rhythm | RJ12 connector to control body
www.hytronik.com/product/HIR11-S



HIR12

PIR Highbay | Circadian Rhythm | RJ12 connector to control body
www.hytronik.com/product/HIR12



HIR63

PIR Lowbay Sensor Head | RJ12 connector | Conduit Screws
www.hytronik.com/product/HIR63



HIR63/R

PIR Midbay Sensor Head | RJ12 connector | Conduit Screws
www.hytronik.com/product/HIR63-R



SAM20

HF Lowbay | Daylight Harvest | RJ12 connector to control body
www.hytronik.com/product/SAM20



SAM21

HF Lowbay | Circadian Rhythm | RJ12 connector to control body | IP65
www.hytronik.com/product/SAM21



SAM22

HF Lowbay | Circadian Rhythm | RJ12 connector to control body
www.hytronik.com/product/SAM22



SAM22/AA

HF Lowbay | Circadian Rhythm | RJ12 connector to control body
www.hytronik.com/product/SAM22-AA



SAM23

HF Highbay | Photocell Advance | RJ12 connector to control body
www.hytronik.com/product/SAM23

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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

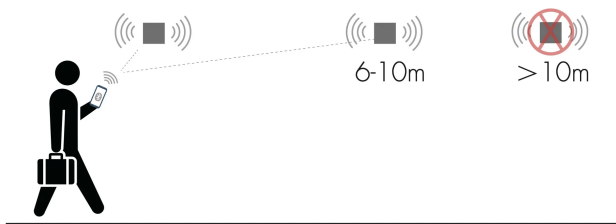
- | | |
|--|---|
|  Alert for excess lux / temperature / humidity via multi-meter HBLM01 |  Koolmesh Pro iPad for on-site configuration |
|  Astro timer (sunrise and sunset) |  Network sharing via QR code or keycode |
|  Bulk commissioning (copy and paste settings) |  Offline commissioning |
|  Compatible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

Device-specific Koolmesh App features

- | | |
|--|---|
|  Adjustable motion & static sensitivity & Adjustable sensing distance |  Dynamic daylight harvest auto-configuration |
|  Compatible with EnOcean kinetic switches |  Motion sensor range test |
|  Detailed motion sensor settings |  Motion sensor trigger diagnosis |
|  Dusk/Dawn photocell (Twilight function) |  Push switch configuration |

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

Bluetooth Mesh Gateway | Ethernet or Wi-Fi 2.4GHz | wall/flat surface mounting
www.hytronik.com/product/HBGW02



HBGW02/D

Bluetooth Mesh Gateway | Dual-band Wi-Fi | wall/flat surface mounting
www.hytronik.com/product/HBGW02-D



HBGW03/R

BACnet Gateway | Dual-band Wi-Fi or Ethernet | DIN rail/wall/flat surface mounting
www.hytronik.com/product/HBGW03-R



HBKS01/W

Bluetooth Kinetic Switch | One-gang | Wireless Control
www.hytronik.com/product/HBKS01-W



HBKS01D/W

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



HBKS02/W

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



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

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Functions and Features



0/1-10V Dimming

The product provides a 0/1–10V analog dimming output compatible with both 0–10V and 1–10V dimmable LED drivers. It delivers smooth, proportional dimming control across the full usable range of each driver type, ensuring stable performance and broad system compatibility in commercial and industrial lighting applications.



Loop-in / Loop-out

The product provides loop-in/loop-out terminals that allow mains wiring to pass through the device for quick and convenient daisy-chain installation. This simplifies on-site wiring, reduces junction box requirements, and enables efficient connection of multiple luminaires or drivers in a single circuit.



Zero-Cross Relay Operation

The product operates its relay at the AC zero-cross point, reducing inrush current through the relay contacts when switching the load. By minimising electrical stress during each switching event, this method supports higher load capability and extends the operational lifetime of the relay in practical lighting applications.

Check out for further explanation of features

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