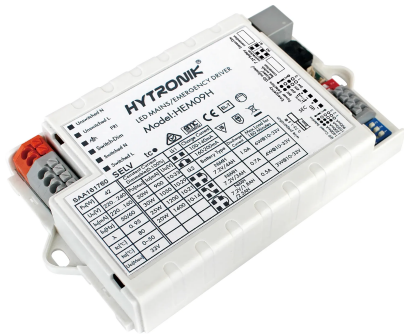


HEM09H

Emergency Driver Max.30w | Constant Current | Attachable sensor heads

HYTRONIK[®]
SENSORS & LIGHTING CONTROL



Benefits

Compact: Emergency driver with self-test optional remote

3 in 1: LED Driver + Emergency control + Sensor heads

Flexible: Multiple current selection/Emergency power via DIP-Switches

Applications

Luminaire Built-in Emergency integration

Utility / Back of house (Bulkhead)

Offices, Classrooms

Check Out the Complete System Solution on the Website:

<https://www.hytronik.com/product/HEM09H>



Product Description

Emergency conversion units to provide constant power output in emergency mode. 1-10V and Switch-Dim, or controlled by SAM7 and SAM7/FM.

Functions and Features

See additional details at the end of datasheet



0/1-10V Dimming



5-Year Warranty



Multiple Current



Over-Heat Protection



Short-circuit Protection



Synchronization Control



Thermal Management

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Properties

- Properties Self-contained Emergency & LED drivers combination
- Mains & Emergency output (6W/4W/3W) selection via DIP switch
- It is dimmable via switch - dim
- SELV classified (indicator LED, battery pack, test switch)
- Customized manual test switch (single press, long press)

Specifications

Main Capabilities

Dimming (Output) Interface	1-10V, Switch-Dim
----------------------------	-------------------

Electrical Data

Output Voltage	220~240VAC 50/60Hz
Output Uout Max.	62V
Power Factor (Max.)	0.95
In-rush current	16.6 A
In-rush current time	119.0 µs
Mains output power (Max.)	37W
EM output power (Max.)	6 W

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Specifications

Technical	
Product weight	134.0 g
Product height	23.0 mm
Product length	140.6 mm
Product width	79.2 mm
Mounting hole	4.1 mm
Storage temperature	70 ~ +10 °C
Humidity max	10 ~ 90%
Case Temp.max	80.0 °C
IP Rate	IP20

Standard	
EMC	EN 55015, EN 61000, EN 61547
LVD	EN 60669-1, EN 61347-1

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Output configuration

LED Current Selection

1400mA	● ● ●	
1200mA	● ● ○	
1050mA	● ○ ○	
900mA	○ ○ ○	
	1 2 3	

LED Current Selection

Output Power	30W	25W	28W	30W	30W	20W
Emergency Power Selection	1400mA	1200mA	1050mA	1400mA		

Typical Corresponding Parameters for Emergency Power Selection

Output Power	6W	4W	3W
Output Current	100mA	70mA	50mA
Output Voltage	10-52V	10-52V	10-52V

Warning: Please make sure the correct current and power are selected before starting the Emergency driver!

Circuit breaker information

Automatic circuit breaker type	16A	10A	13A	20A	15A
Number of EM Drivers	51	31	41	63	79

Environmental factors (such as temperature) will also influence the maximum number of the drivers. Please refer to the MCB manufacturer's datasheet for loading and derating factors.

LED and Buzzer Diagnostics

Indicator Colour / Describe	Buzzer beep	Status
RED	Slowly flashes once in 3 seconds	Buzzer beeps 10 seconds every hour
	Flashes twice in 3 seconds	Buzzer beeps 10 seconds every hour
	Flashes 3 times in 3 seconds	Buzzer beeps 10 seconds every hour
	Flashes 3 times in 3 seconds	Buzzer beeps 10 seconds every hour
	Flashes 4 times in 3 seconds	Buzzer beeps 10 seconds every hour
	Rapidly flashes 5 times in 3 seconds	Buzzer beeps 10 seconds every hour
	Rapidly flashes 6 times in 3 seconds	Buzzer beeps 10 seconds every hour
Green	Constantly on	/
	Slowly flashes once every second	/
	Slowly flashes once in 3 seconds	/
	Flashes twice in 3 seconds	/
	Quickly flashes 3 times in 3 seconds	/
RED/GREEN OFF	/	/

If you want to see the diagnostic report, please go to the APP or web platform to see the full report and analysis

Battery Specifications - battery selection

Battery Selection		
Battery pack	Battery Type	Size L×W×H(mm)
BPC30	SC NiCd	175×50×30
BPC31	SC NiMH	190×33×30

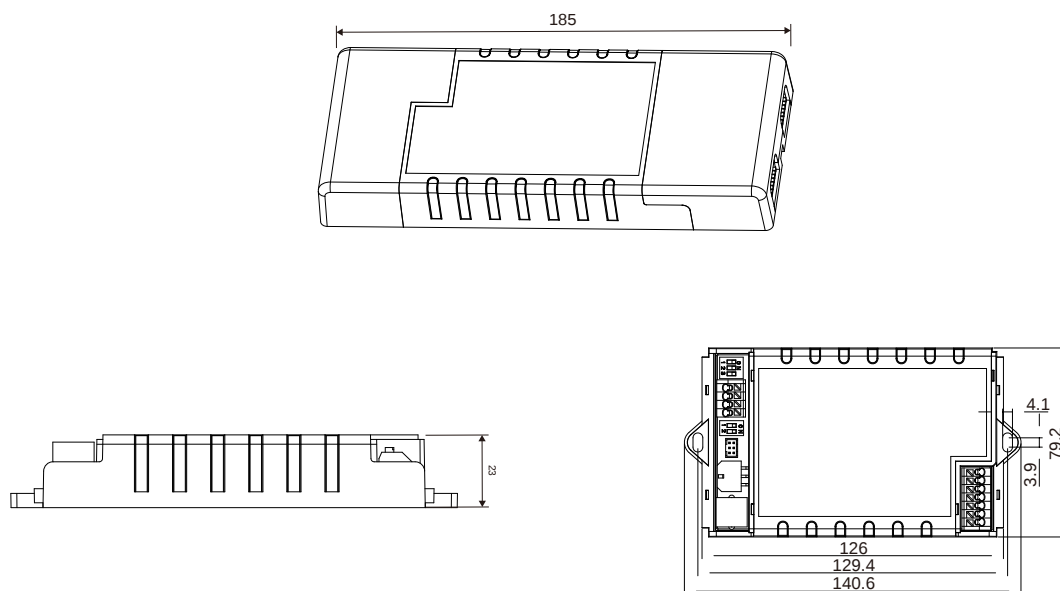
Battery Charge / Discharge Data				
Battery pack	Max. load / Discharge hour	Discharge Current	Charge Current	Recharge Time
BPC30	1A, 6W@10 - 52V / 3H	7.2V, 4AH	0 - 500mA	24H
	0.7A, 4W@10 - 52V / 3H			
	0.5A, 3W@3 - 8V / 3H	7.2V, 1.8AH or 2.5AH	0 - 500mA	24H
BPC30	1A, 6W@10 - 52V / 3H	7.2V, 4AH	0 - 500mA	24H
	0.7A, 4W@10 - 52V / 3H			
	0.5A, 3W@3 - 8V / 3H	7.2V, 1.8AH or 2.5AH	0 - 500mA	24H

Battery safeguarded from overcharge, deep discharge, and overheating
 5 years design life for battery (up to 30°C ambient temperature)
 2 years guarantee (For battery compatibility refer to the Battery datasheet)
 · NiCd - Continuously rated 55 degrees for 4 years design life
 · NiMH - Continuously rated 40 degrees for 4 years design life
 Charge new battery for 24hours before use.
 In compliance with IEC61951-1 (Nid type), IEC61951-2 (NiMH type).

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Technical Drawing



Application Example



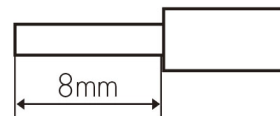
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Wire Preparation

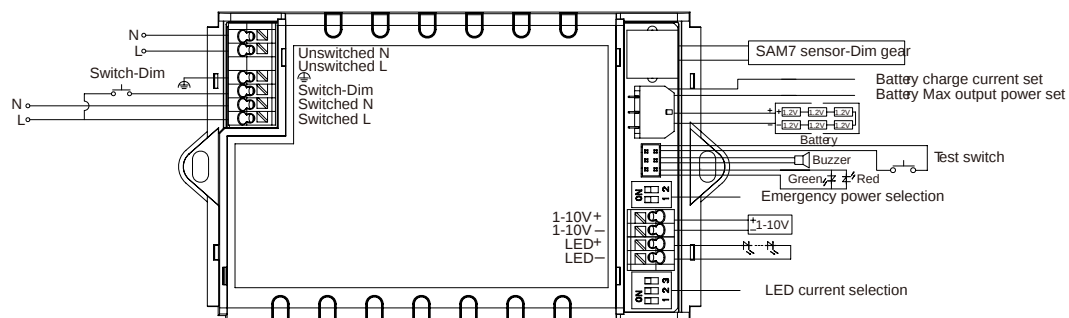


0.5 - 1.5mm²



Solid or Stranded wire type 0.75 - 1.5mm² To make or release the wire from the terminal, use a screwdriver to push down the button.

Wiring Diagram



Commissioning Instructions and Precautions

A. Installation Preparations

1. This product should be installed by a qualified electrician.
2. Please select the correct power and current before turning on the device.

B. Avoid residual LED glow on standby

Hytronik LED drivers are designed to suit protection class II luminaires. Please kindly note that in case whereby such LED drivers are used in protection class I luminaires, it may cause residual LED glow during standby operation due to capacitive leakage currents from the LED module onto earthed luminaire parts such as heat sink. If the driver has to be used in such class I luminaires, the residual LED glow can be minimized by applying insulation between the LED gear tray and driver housing.

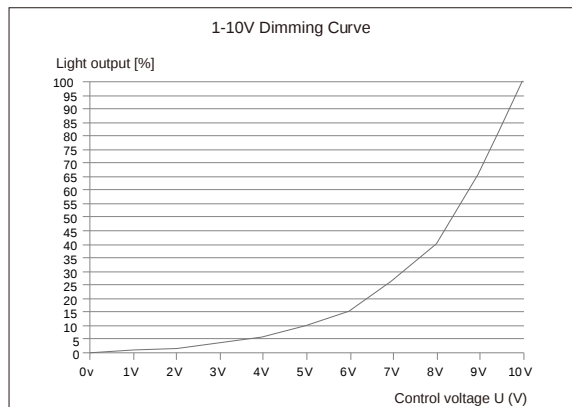
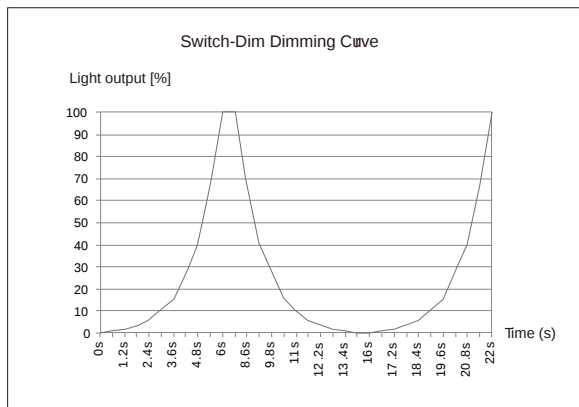
Warning: For additional important documents, including installation precautions, product guidelines, and guarantee conditions, please refer to the official downloads.

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

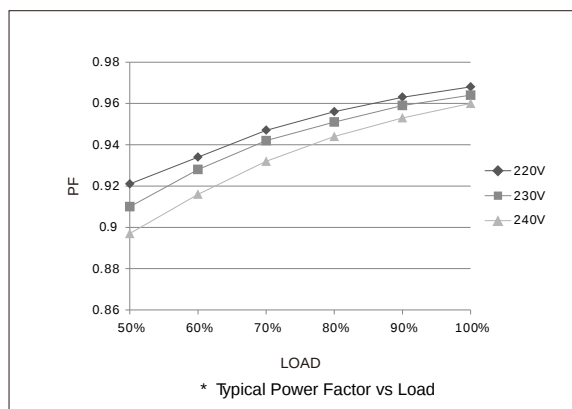
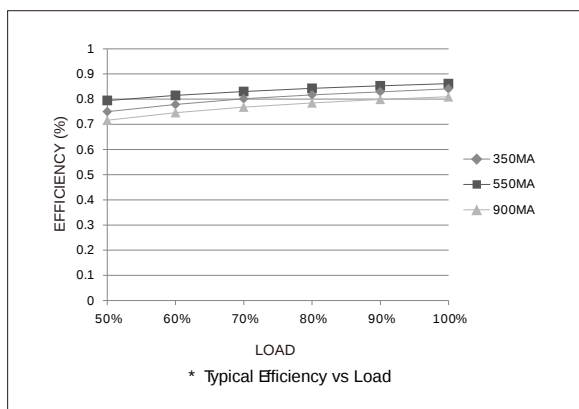
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Performance characteristics



Dimming characteristics



Dimming Interface Operation Notes

Synchronization

We recommend the number of drivers connected to a switch does not exceed 25 pieces. The maximum length of the wires from push to driver should be no more than 20 meters.

1-10V

Note: In the unlikely event that the LED driver be used with the Switch-Dim or interface prior to using the 1-10V interface, the 1-10V interface may need to be re-set. This is achieved by placing a short circuit across the 1-10V terminals until the light returns to full brightness (approx. 3-5 seconds).

Switch-Dim

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
1-10V	1-10V rotary wall switches System central dimming controllers	1-10V Dimming
Switch-Dim	Short press (0.1-0.4 second).	Toggle light on / off
	Long press (>0.4 second)	Toggle dim light / increase brightness
	Long press (>=1 second)	- Dimming - Colour tuning - Do nothing
Synchronization	Long press (>15 second)	Toggle dim light / increase brightness

Emergency Self-Test Functions

Self-testing Feature

Carrying out routine test on emergency lighting and holding records of the test result are required by law. (IEC62034, EN50172). Hytronik advanced LED emergency control model HEM09 has an internal clock, programmed at pre-determined intervals to perform the:

- Self-test starts after the luminaires are connected to an un-interrupted mains supply for between 24 hours.
- Permanently monitors battery and charge condition
- Dual fault indication: faults are clearly identified on the luminaire by red LED and buzzer.

Manual Testing

This product provided with a test switch which performs the following functions:

Monthly Test / Fault reset

- Short push (<5s): Green LED flashes once, then goes to monthly 3 minute test mode. Providing the battery has sufficient charge, any fault indications that have been rectified will be cleared.

6-month test initiation

- Long push (>5s <10s): The buzzer beeps twice and the battery will start charging for 24h. After the re-charge period a 6-month duration test will

be performed. The green LED will flash 2 times every 3 seconds during this discharge period.

Full duration test initiation

- Long push (>10s): The buzzer beeps three times and a full duration discharge is initiated. The green LED will flash 3 times every 3 seconds

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Options

Included Accessories



LED indicator | Used to display the status of the product



Test switch | For checking the device function

Compatible products (for full functionality)



BPC30

Battery | SC NiCd with 7.2V | 1800mAh
www.hytronik.com/product/BPC30



SAM7

HF Lowbay | Tri-level dimming | RJ12 connector to control body
www.hytronik.com/product/SAM7



BPC31

Battery | SC NiMH with 7.2V | 1800mAh | Emergency lighting
www.hytronik.com/product/BPC31



SAM7/FM

HF Lowbay | Tri-level dimming | RJ12 connector to control body
www.hytronik.com/product/SAM7-FM

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.



5-Year Warranty

All Hytronik products are supplied with a 5-year warranty covering defects in materials and workmanship, applicable to electronic control gear manufactured and supplied by Hytronik and valid for the original purchaser only. The warranty is non-transferable, and compatibility with external components and system integration remain the responsibility of the luminaire or system manufacturer. A universal warranty policy is provided with support through Hytronik's regional offices or authorised partners worldwide, regardless of purchase location, with a 24-hour response policy for all warranty claims. The full warranty terms are available upon request or on our website.



Multiple Current

The product supports multiple selectable output current levels, which can be adjusted via DIP switch or the Koolmesh app to match different luminaire requirements. This flexibility simplifies system design and ensures optimal performance and reliability across various load conditions.



Over-Heat Protection

The product incorporates an internal thermal switch that protects critical components from excessive temperature. When the internal temperature reaches the defined threshold, the driver automatically shuts down to prevent damage. Normal operation resumes once the temperature drops back within the safe range, ensuring reliable and protected performance.



Short-Circuit Protection

This product incorporates short-circuit protection that automatically disables the output in the event of a short circuit. Normal operation is restored automatically once the fault condition is removed, protecting the device and connected components from damage.



Synchronization Control

The product supports synchronized operation across multiple sensors, allowing several units to control the same luminaires reliably in both wired and wireless applications. Synchronization can be achieved through high-voltage sync terminals, parallel L'connections or wireless communication methods such as Bluetooth mesh or RF (433 MHz / 868 MHz FSK). The hardware and software are designed to filter electrical noise and communication interference, ensuring stable and consistent performance when multiple sensors operate together.



Thermal Management

This product incorporates intelligent thermal management that continuously monitors the internal temperature of the driver. When abnormal temperature rise is detected, the driver automatically reduces output or enters a protection state to prevent overheating, safeguard electronic components, and ensure reliable operation during both mains and emergency modes.

Check out for further explanation of features

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

Additional Notes

Qualified Personnel Only

This product must be installed, commissioned, and maintained only by a qualified electrician in accordance with applicable national and local electrical regulations, standards, and safety requirements. Improper installation may result in electric shock, fire hazard, malfunction, or damage to the product and connected equipment.

Verification of Electrical Ratings

Before connecting the device to the mains supply, ensure that the rated input voltage, output power, and output current of the LED driver are compatible with the connected LED module(s). Exceeding or mismatching these values may lead to overheating, reduced lifetime, abnormal operation, or permanent damage to the LED driver and LED load.

Power Isolation Before Installation

Always disconnect the mains power supply before installation, wiring, or maintenance work. Ensure that the power cannot be accidentally reconnected during installation. Use appropriate lock-out and tag-out procedures where required.

Wiring and Polarity

All wiring must be carried out in accordance with the wiring diagram provided by the manufacturer. Observe correct polarity for DC output connections. Incorrect wiring may cause malfunction or irreversible damage to the driver and LED modules.

Environmental Conditions

Install the LED driver only in environments that comply with the specified operating temperature, humidity, and ventilation requirements. Adequate airflow must be ensured to prevent overheating. Do not install the driver in locations exposed to excessive heat, moisture, corrosive substances, or direct sunlight unless explicitly specified.

Mechanical Installation

Secure the LED driver firmly to prevent vibration or mechanical stress. Ensure that mounting surfaces are stable and suitable for the driver's weight and thermal characteristics. Avoid placing mechanical strain on cables or terminals.

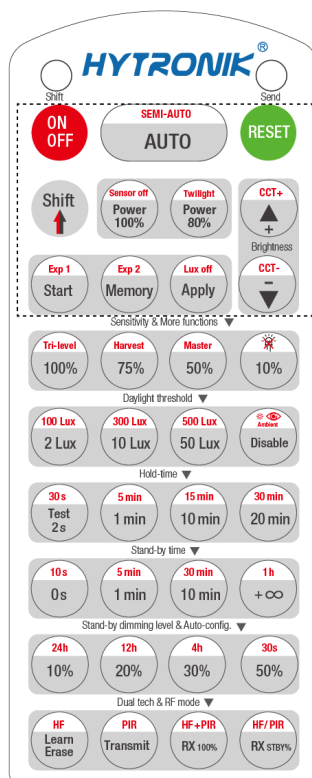
Inspection Before Power-Up

Prior to switching on the device, recheck all electrical connections, insulation clearances, and mounting arrangements. Confirm that no conductive objects or loose wires are present inside the luminaire housing.

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Additional Diagram



HRC-11

ON OFF	Press button "ON/OFF" to select permanent ON or permanent OFF mode. * Press button "AUTO" / "RESET" to exit this mode.
RESET	Press button "RESET", all settings go back to default. The default settings are: Auton mode; Detection range 100%; Hold-time 5min; Daylight threshold disable; Lux off activated;
Shift	Press button "Shift", the LED on the top left corner is on to indicate mode selection. All values / settings in RED are valid for 20 seconds.
AUTO	Press button "AUTO" to initiate automatic mode. The sensor starts working and all settings remain as before the light is switched ON/OFF;
SEMI-AUTO	1. Press button "Shift", the red LED on. 2. Press button "SEMI-AUTO" to initiate Semi-auto mode. The sensor is only activated with the manual press of push switch. To exit this mode, simply press button "AUTO". <i>For Sensor LED indicator references: Remains on 2s, initiate "Semi-auto" mode from "Auto" mode.</i>
Power 100% 80%	This key is not applicable on this product.
Sensor off Twilight	This key is not applicable on this product.
▲ ▼	This key is not applicable on this product.
CCT+ CCT-	This key is not applicable on this product.
Start Memory Apply	1. Press button "Start" to program. 2. Select the buttons in "Detection range", "Daylight threshold", "Hold-time", "Stand-by time", to set all parameters. 3. Press button "Memory" to save all the settings programmed in the remote control. 4. Press button "Apply" to set the settings to each sensor unit[s]. <i>For example, to set detection range 100%, daylight threshold Disable, hold-time 5min, stand-by time +∞, the steps should be:</i> <i>Press button "Start", button "100%", "Disable", "Shift", "5min", "Shift", "+∞", "Memory".</i> <i>By pointing to the sensor unit(s) and pressing "Apply", all settings are passed on the sensor(s).</i>
Lux off	The "Lux off" function is activated as default. When the ambient lux level exceeds the target level continuously for more than 5 minutes, the lights will be turned off. In AUTO /SEMI-AUTO/Twilight modes, to disable "Lux off": 1. Press "Shift" button first, the red LED on. 2. Press "Lux off" button, the "Lux Off" function will be deactivated. The lights will not turn off even when the ambient lux level exceeds the target lux level but will dim down the brightness to the stand-by time level. <i>For Sensor LED indicator references: 1.Fast flash 1s, "Lux off" function activated.</i> <i>2.Remains on 2s, "Lux off" function deactivated.</i>
Exp 1 Exp 2	"Exp" refer to Expansion, these two buttons are reserved functions and pending future development.