

HEM09

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/HEM09>

Product Description

HEM09 is a self-contained Emergency & LED driver with a maximum of 30W main power and a maximum of 6W EM output. It supports 1-10V and Switch-Dim control, and when connected the sensor head it enables daylight and motion detection.

Hardware Features

See additional details at the end of datasheet



1-10V Dimming



5-year Warranty



Multiple Current



Over-heat
Protection



Over load
Protection



Self Testing
Emergency



Short-circuit
Protection



Synchronization
Control



Thermal
Management

HEM09

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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
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Electrical Data

Operating Voltage	220-240 VAC 50/60 Hz
Input Current	0.2~0.15A
Output Uout Max.	62V
Power Factor	0.95
In-rush current	16.6 A
In-rush current time	119.0 µs
Mains power (Max.)	37W
EM Power (Max.)	6 W

HEM09

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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	-20 ~ +70 °C
Humidity max	10 ~ 90%
Case Temp.max	80.0 °C
IP Rate	IP20

Standard	
EMC	EN 55015, EN 61000-3-2, EN6100-3-3, EN 61547
LVD	EN 61347-1, EN 61347-2-7, EN 62493

HEM09

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Output configuration

LED Current Selection

900mA	● ● ●	
750mA	○ ● ●	
700mA	● ● ○	
550mA	○ ● ○	
500mA	● ○ ○	
350mA	○ ○ ○	
	1 2 3	

LED Current Selection						
Output Power	18W	26W	28W	30W	30W	23W
Output Current	350mA	500mA	550mA	700mA	750mA	900mA
Output Voltage	10-52V	10-52V	10-52V	10-43V	10-40V	10-25V

Emergency Power Selection

6W	● ○	
4W	○ ●	
3W	○ ○	

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	10A	13A	16A	20A	25A
MCB Type B	32	41	51	63	79
MCB Type C	53	68	87	106	132

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	Battery voltage too low
	Flashes twice in 3 seconds	Buzzer beeps 10 seconds every hour	Battery open-circuit
	Flashes 3 times in 3 seconds	Buzzer beeps 10 seconds every hour	Battery short-circuit
	Flashes 3 times in 3 seconds	Buzzer beeps 10 seconds every hour	Battery reverse connection
	Flashes 4 times in 3 seconds	Buzzer beeps 10 seconds every hour	LED load open-circuit
	Rapidly flashes 5 times in 3 seconds	Buzzer beeps 10 seconds every hour	LED load short-circuit
	Rapidly flashes 6 times in 3 seconds	Buzzer beeps 10 seconds every hour	Battery voltage too high
Green	Constantly on	/	Healthy condition
	Slowly flashes once every second	/	Battery charge
	Slowly flashes once in 3 seconds	/	Monthly test
	Flashes twice in 3 seconds	/	6 months test
	Quickly flashes 3 times in 3 seconds	/	12 months test
RED/GREEN OFF		/	Emergency mode

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

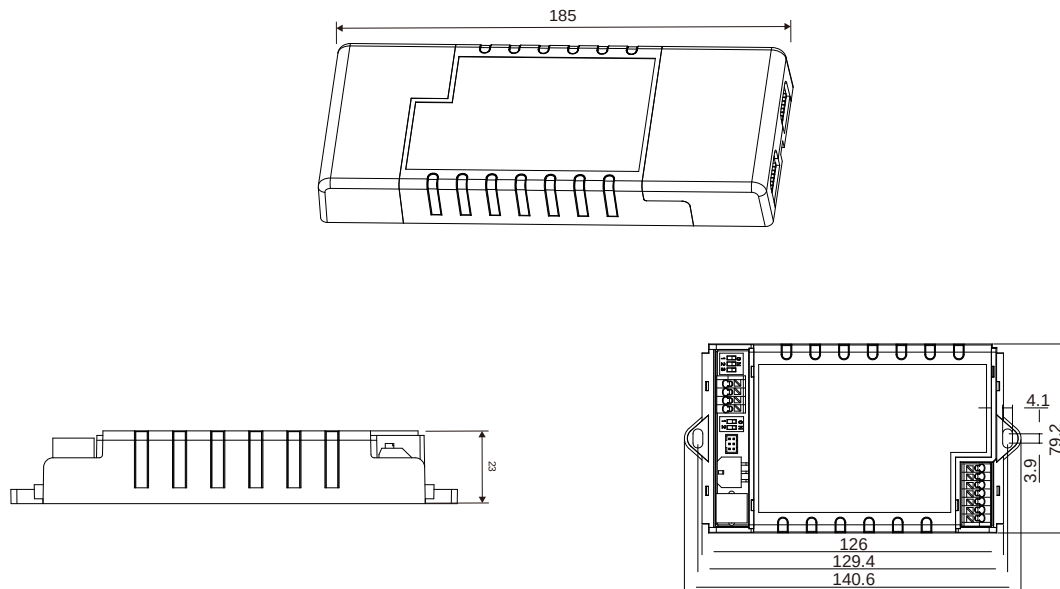
Battery Charge / Discharge Data				
Battery pack	Max. load / Discharge hour	Discharge Current	Charge Current	Recharge Time
BPC30	1A, 6W@10 - 52V / 3H	7.2V, 4AH	0 - 500mA	24H
	0.7A, 4W@10 - 52V / 3H	7.2V, 3AH		
	0.5A, 3W@3 - 8V / 3H	7.2V, 1.8AH or 2.5AH		
BPC31	1A, 6W@10 - 52V / 3H	7.2V, 4AH	0 - 500mA	24H
	0.7A, 4W@10 - 52V / 3H	7.2V, 3AH		
	0.5A, 3W@3 - 8V / 3H	7.2V, 1.8AH or 2.5AH		

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 (Nicc type), IEC61951-2 (NiMH type).

HEM09

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Technical Drawing



Note: BAT NTC terminal is reserved for enhanced battery monitoring in the upgraded version.
Current version does not support this function.

Picture Application Example



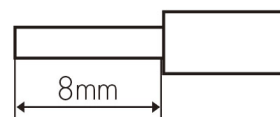
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Emergency Driver Max.30w | Constant Current | Attachable sensor heads

Wire Preparation

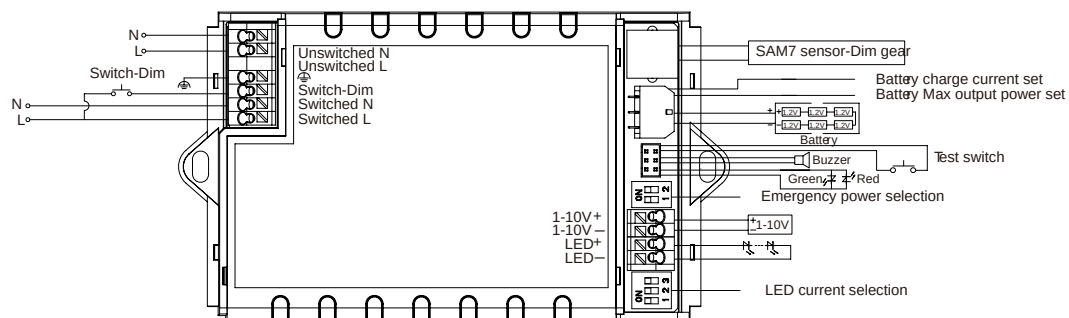


0.5 - 1.5mm²



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.

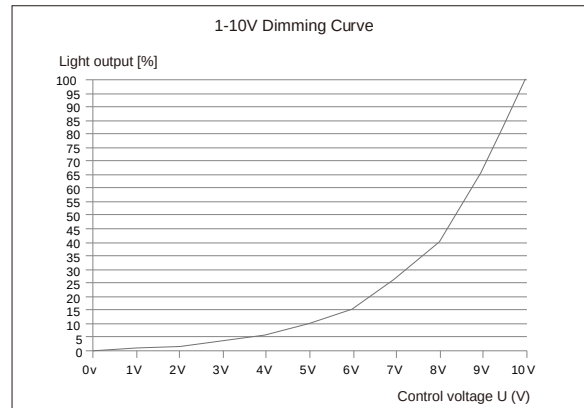
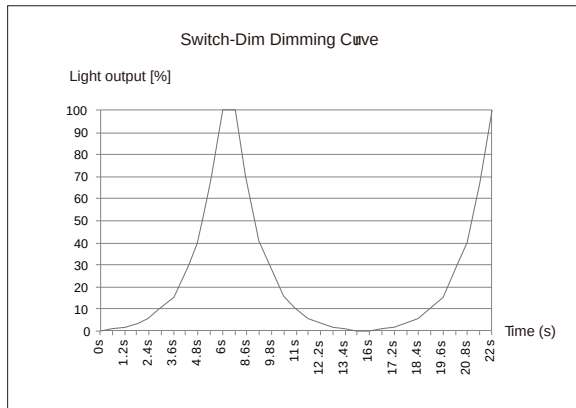
Warning: For additional important documents, including installation precautions, product guidelines, and guarantee conditions, please refer to the official downloads.

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

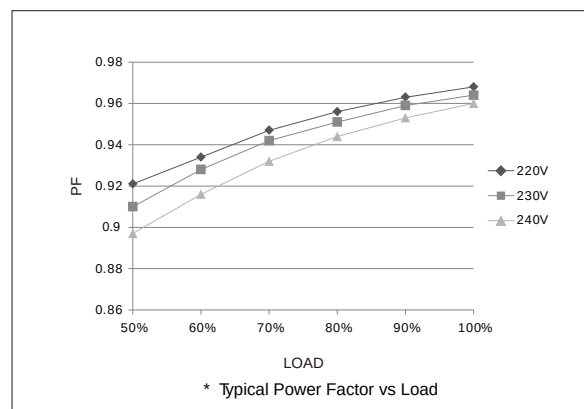
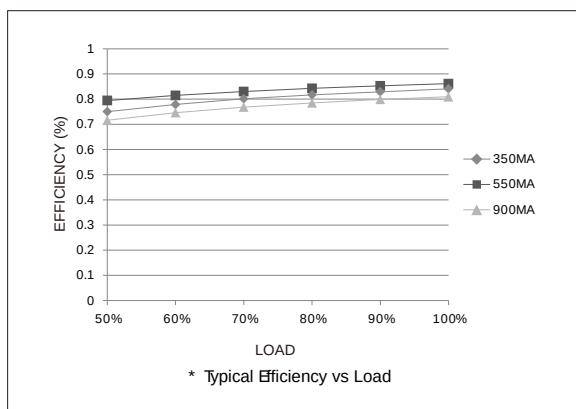
HEM09

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Performance characteristics



Dimming characteristics



Dimming Interface Operation Notes

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.

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 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.
- Automatic random test to avoid adjacent luminaires being tested together, leaving the occupied space unprotected.

Manual Testing

HEM09 is 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

HEM09

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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

HEM09

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

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.

Check out for further explanation of features

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