

HEM06-T / HEM07-T



Applications

Emergency conversion units to provide constant power output in emergency mode. 2 case sizes - insulated terminal cover with cord restraint for external mounting, suitable for LED panels etc. and aluminium housing giving excellent thermal properties for built-in to fixture applications.

- LED panels and downlights
- Bulkhead / Utility luminaires
- IP65 / Tri-proof
- Decorative / linear systems

Use for retrofit upgrades & new luminaire designs.

Features

- Emergency
 - Self-Testing
 - Dual Wattage
 - Active PFC Design
 - Over-heat Protection
 - Short Circuit Protection
 - Over-load Protection
- } All with Auto-restart
- 5 Year, 50,000hr Warranty (driver only)

- Dual wattage and duration selection:
HEM06-T: 3W @ 3hrs; 6W @ 1h / HEM07-T: 3W @ 3hrs; 3W @ 1h
- Built-in MCU programed self-testing, maintenance free
- Wide range of LEDs in series (HEM06-T: 12~70V / HEM07-T: 12~55V)

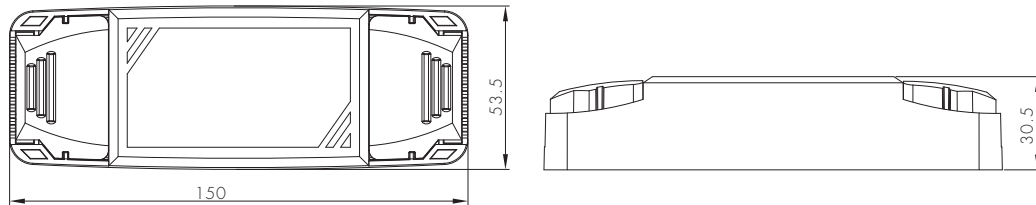
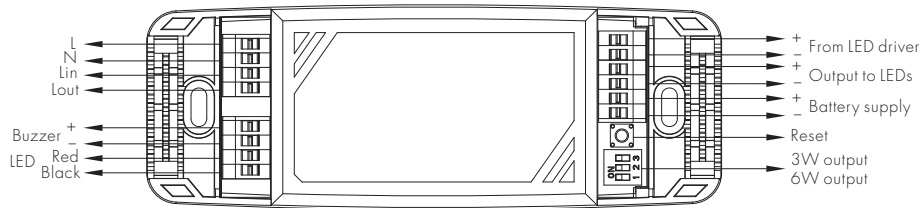
- Automatic output current adjustment
- Deep discharge protection
- Constant current charger
- High temperature NiMH/Nicd cells



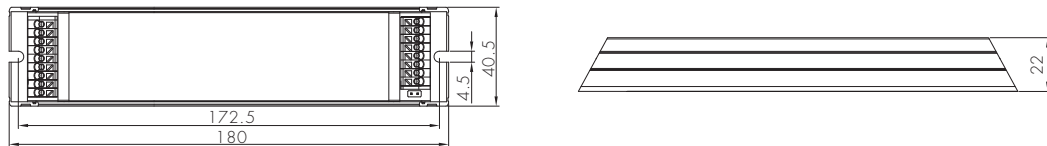
Model No.	HEM06-T	HEM07-T
Mains voltage	220~240VAC 50/60Hz	220~240VAC 50/60Hz
Mains current	13mA - 16mA	19mA - 15mA
Mains power	3.5W	4W
Output voltage(U-out Max.)	75VDC	65VDC
Power factor	0.75	0.75
Operation temperature	0~+50°C	0~+50°C
Battery charge voltage	6V~8.5V	3V~5.3V
Battery charge current	200mA (Max.)	200mA (Max.)
Battery pack	BPC05, BPC14, BPC20	BPC01, BPC02, BPC10, BPC11
Mains Switch-over voltage range	150VAC~180VAC	150VAC~180VAC
Output LED current	3W- 260mA~40mA (12~70VDC); 6W- 350mA~80mA (12~70VDC)	40mA (55VDC)~230mA (12VDC)
Battery duration	1 hour @ 6W/3 hours @3W	3 hours @3W/ 1 hour @3W
Charge period	24 hours	
Max. case temp.	75°C	
Over-heat protection	Over-heat protection with auto-reset.	
EMC standard	EN55015 , EN61547	
Safety standard	EN50172, EN61347-2-7, EN61347-2-13 , IEC62034 ,BS5266	
Certifications	Semko, CB, RCM, CE , EMC	
Dielectric strength	Input→output: 3750VAC	
IP grade	IP20	

Dimensions and Terminals

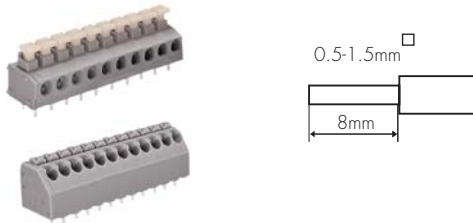
Model: HEM06-T



Model: HEM07-T



Wire Preparation



Solid or Stranded wire type 0.5 - 1.5mm²

To make or release the wire from the terminal, use a screwdriver to push down the button.

Loading and In-rush Current

Model	HEM06-T	HEM07-T
In-rush Current (I _{max.})	1.9A	1.9A
Pulse Time	520µs	400µs

Number of Drivers Based upon 16A Circuit Breaker

Cct Breaker Type	HEM06-T	HEM07-T
Type B	30	30

Conversion table for max. quantities of drivers on other types of Miniature Circuit Breaker

MCB Type	Rating	Relative number of drivers	MCB Type	Rating	Relative number of drivers
B	16A	100% (see table in last page)	C	10A	104%
B	10A	63%	C	13A	135%
B	13A	81%	C	16A	170%
B	20A	125%	C	20A	208%
B	25A	156%	C	25A	260%

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

Ballast Lumen Factor %:

HEM06-T @3W	Luminaire Power	5W	7W	10W	12W	15W	20W	25W	30W	35W	40W	45W	50W
		60%	43%	30%	25%	20%	15%	12%	10%	9%	8%	7%	6%

HEM06-T @6W	Luminaire Power	7W	10W	12W	15W	20W	25W	30W	35W	40W	45W	50W	60W
		85%	60%	50%	40%	30%	24%	20%	18%	16%	14%	12%	10%

HEM07-T @3W	Luminaire Power	5W	7W	10W	12W	15W	20W	25W	30W	35W	40W	45W	50W
		60%	43%	30%	25%	20%	15%	12%	10%	9%	8%	7%	6%

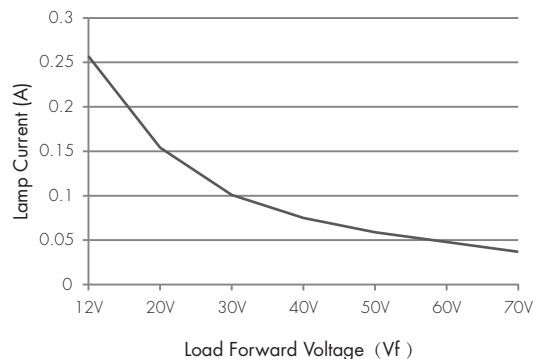
The driver is supplied as standard in conversion kit form, with the following parts:

- 500mm Green & Red charge healthy LED indicator and mounting collar.
- AMP Irreversible battery connector.
- External 5V Buzzer indicator for failure report.

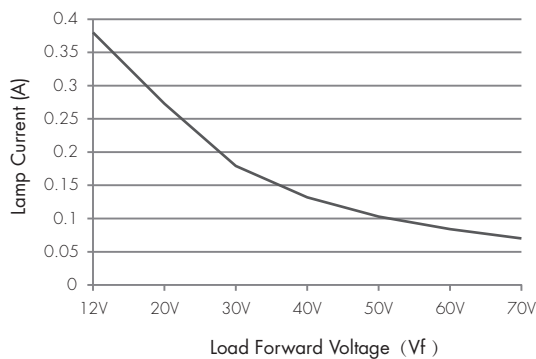
Performance Characteristics

HEM06-T

3W Output Current vs Forward Voltage

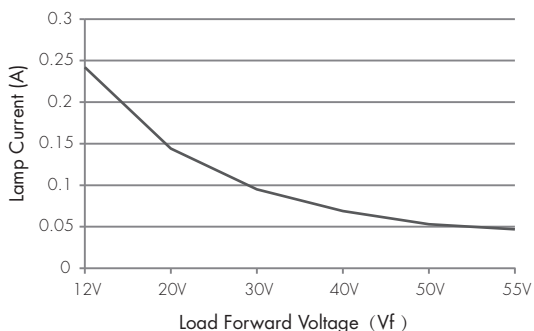


6W Output Current vs Forward Voltage



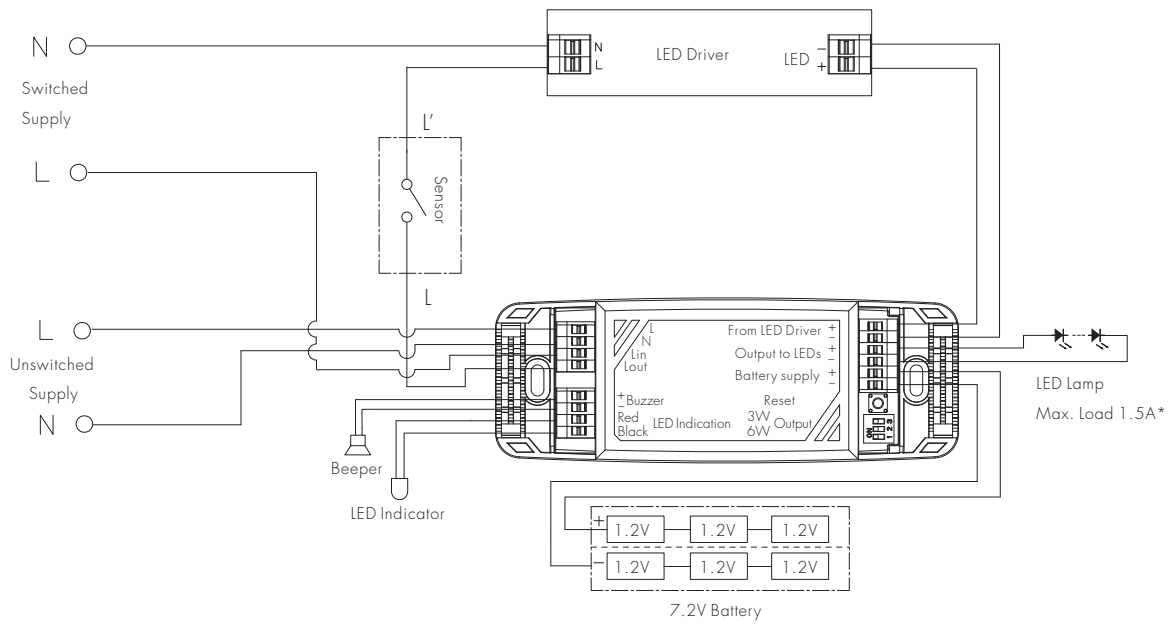
HEM07-T

Output Current vs Forward Voltage

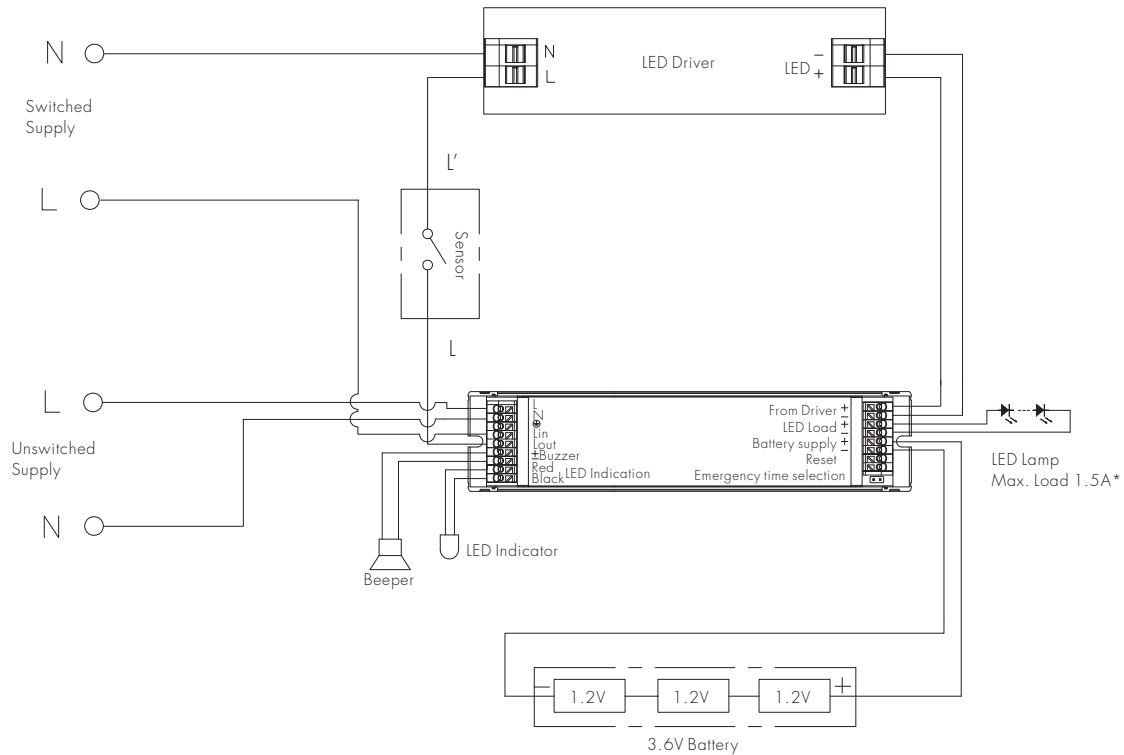


Wiring Diagram

Model: HEM06-T



Model: HEM07-T



*Higher Loads may be attached by making a common connection of LED driver and Emergency Driver Outputs to the LED Lamp (relay by-pass). Compatibility of the LED driver to work with HEM07-T or HEM06-T MUST be checked first. Please contact our technical department for further information.

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 HEM06-T / HEM07-T has an internal clock, programmed at pre-determined intervals to perform the requested routine testing: 3min. functional test every month, and 3h functional test every 6 months.

- Self-test starts after the luminaires are connected to an un-interrupted mains supply for between 24-32 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

HEM06-T / HEM07-T 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.






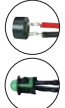

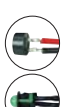
Full duration test initiation

* 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 during this discharge period.

Bi-Colour LED Diagnostics

Status	Buzzer beep & LED flash mode	Visual indication	Buzzer
Battery failure	Red LED slowly flashes once in 3 seconds; buzzer beeps 10 seconds every hour.	● ○ ○	
LED lamp failure	Red LED rapidly flashes twice in 3 seconds buzzer beeps 10 seconds every hour.	● ● ○	
Emergency LED driver failure	Red LED rapidly flashes 3 times in 3 seconds buzzer beeps 10 seconds every hour.	◐ ◐ ◐	
Healthy condition	Green LED is constantly on	—●—●—●—●—●—	
Battery charge	Green LED slowly flashes once every second	◐◐◐◐◐◐◐◐◐◐	
Battery discharge	/	/	
Monthly test	Green LED slowly flashes once in 3 seconds	● ○ ○	
6 month test	Green LED flashes twice in 3 seconds	● ● ○	
12 month test	Green LED quickly flashes 3 times in 3 seconds	◐ ◐ ◐	

HEM07-T Battery options

Package code	Picture	Spec.	Size(mm)	Duration	
BPC01			3 cells, C type, high temperature NiMH battery, 3.6V, 4.0AH	235x22x22	3 hours
BPC02			3 cells, C type, high temperature NiMH battery, 3.6V, 4.0AH	77x50x28	3 hours
BPC10			3 cells, D type, D4000, high temperature Nicd battery, 3.6V, 4.0AH	215x37x37.5	3hrs@3W
BPC11			3 cells, D type, D4000, high temperature Nicd battery, 3.6V, 4.0AH	100x65x36	3hrs@3W


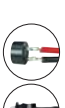




NiCd - Continuously rated 55 degrees for 4 years design life

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).

HEM06-T Battery options

Package code	Picture	Spec.	Size(mm)	Duration	
BPC05			6 cells, SC type, high temperature NiMH battery, 7.2V, 2.5AH	168x50x28	3hrs@3W
BPC14			6 cells, SC type, SC1800,high temperature Nicd battery, 7.2V, 1.8AH	165x46x27	3hrs@3W
BPC20			6 cells, D type, D4000,high temperature Nicd battery, 7.2V, 4.0Ah	230x72.5x39.5	3hrs@6W

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).