

# INSTALLATION INSTRUCTIONS

## Harvard Linear Twin Batten

Product Codes: **HAR4/22-40/3CCT, HAR4/22-40/3CCT/DALI, HAR5/32-58/3CCT, HAR5/32-58/3CCT/DALI, HAR6/36-64/3CCT, HAR6/36-64/3CCT/DALI**

### Safety Warning



- The installation should be carried out by a qualified electrician in compliance with the current edition of the IEE Wiring Regulations.
- Prior to installation, carry out the necessary risk assessment considering the people who could be at risk, the level of risk and the precautions required to control the risk
- Ensure that the circuit supply is isolated either by the circuit supply fuse being removed or the applicable circuit breaker being turned off before installation or any maintenance.
- Check the total load on the circuit ensuring the luminaire does not exceed the rating of the circuit cable, fuse or circuit breaker.
- Long-term use and voltage fluctuations can reduce the life span of the fitting.
- If the fitting incorporates control gear, ensure careful sizing to avoid instances of nuisance tripping of the protective device used in the installation.
- Follow the provided installation instructions, using the fixings supplied or recommended.
- Keep out of reach of children.

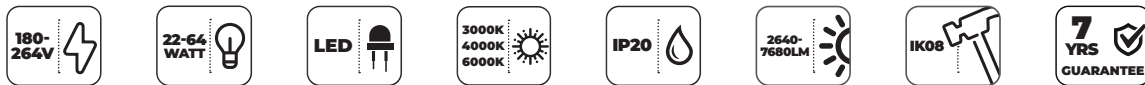
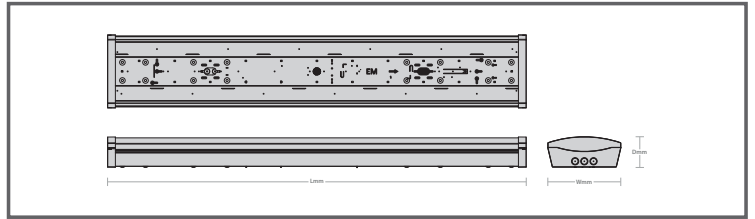


### Specification

#### Box Contents -

1 x Harvard Twin Batten & Fixings

<b>Dimensions:</b>	HAR4/22-40/CCT: L: 1178 x W: 205 x D: 87mm HAR5/32-58/3CCT: L: 1478 x W: 205 x D: 87mm HAR6/36-64/3CCT: L: 1778 x W: 205 x D: 87mm
<b>Material:</b>	Powder Coated Steel Body and Polycarbonate Diffuser
<b>Working Temperature:</b>	Standard: -20°C - 60°C



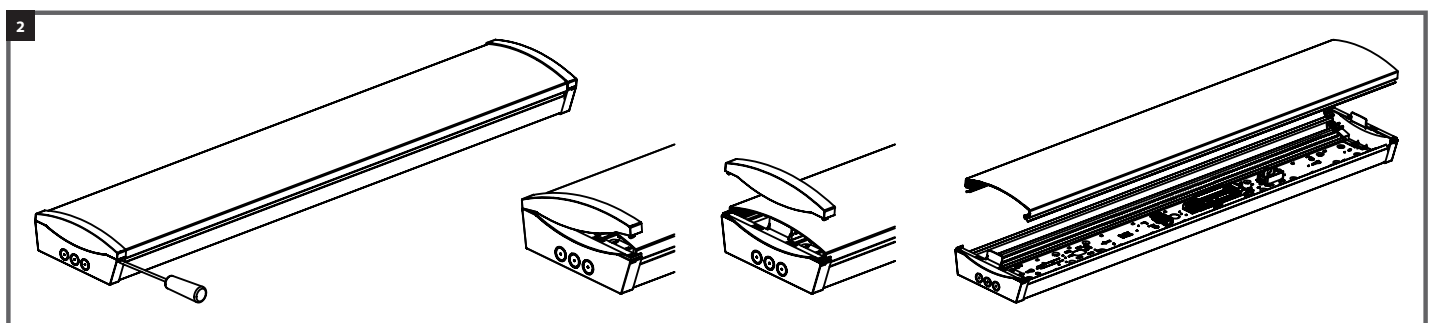
### MAXIMUM FITTINGS PER CIRCUIT

Automatic Circuit Breaker Type:	B6	B10	B13	B16	B20	C10	C13	C16	C20
<b>Rated Current:</b>	6A	10A	13A	16A	20A	10A	13A	16A	20A
<b>Cable (mm):</b>	1.5	1.5	1.5	2.5	2.5	1.5	1.5	2.5	2.5
<b>HAR4/22-40/3CCT</b>	7	11	14	18	22	18	24	30	37
<b>HAR5/32-58/3CCT</b>	6	11	14	17	22	18	23	29	36
<b>HAR6/36-64/3CCT</b>	6	11	14	17	22	18	23	29	36

### Installation Instructions

**Note: This is a Class I Luminaire - Earth connection is required**

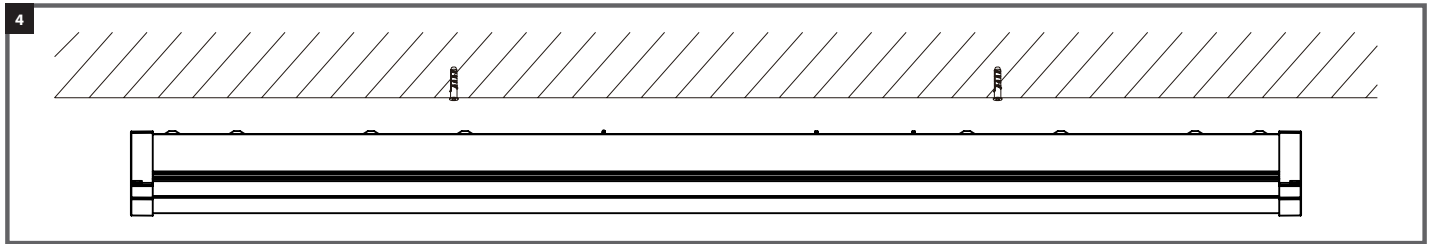
1. Isolate the mains supply before commencing with the installation.
2. Remove the diffuser from the base by inserting a flat headed screwdriver into the slots shown on both sides of the end caps. Gentle lift the diffuser end caps away from the base and unclick the diffuser from the base.



### Installation Notice

If installing plug and play emergency or microwave sensor suggest reading Emergency / Microwave Instruction guide and fitting at floor level. Emergency and microwave kits can be fitted when the luminaire is installed if required

3. The fitting can be mounted using the BESA box entries on 600mm centres or can be fixed to the mounting surface using the key hole slots on 700mm centres. The fitting can also be wire or chain suspended using the various fixing locations on the back of the housing.
4.
  - A. Feed the mains cable through one of the entries on the back of the housing, or through a drill out conduit entry located on each end cap. Use a suitable grommet to protect the cable.
  - B. Hold the fitting up to the ceiling / wall in the desired position and mark hole fixing centres.
  - C. Drill fixing holes and use suitable wall plugs.
  - D. Fix in position with fixings supplied.

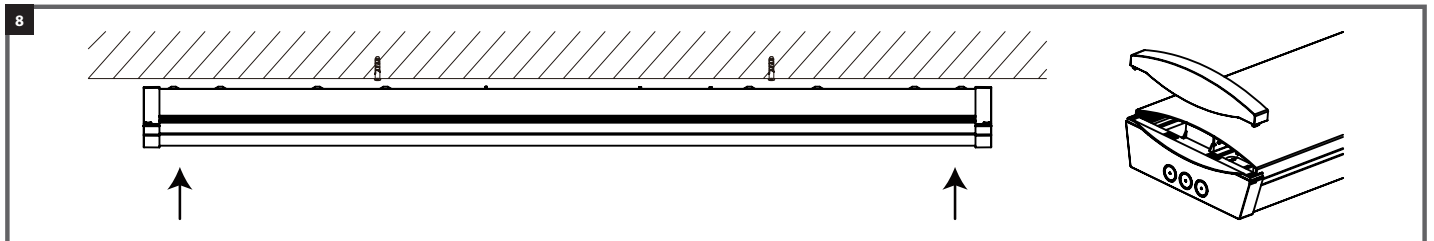


5. Route the mains supply cable to the terminal block on the body and terminate, ensuring correct polarity is observed. Ensure all conductors are fully sleeved and insulated.

**IMPORTANT NOTE:** Ensure all electrical cables and through wiring is securely fitted in the cable tidy bases to prevent dropping and causing shadows.

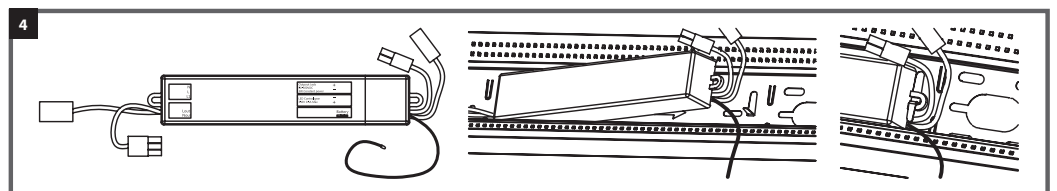
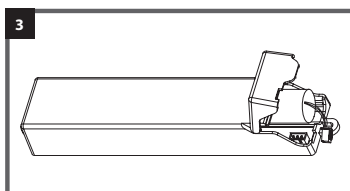
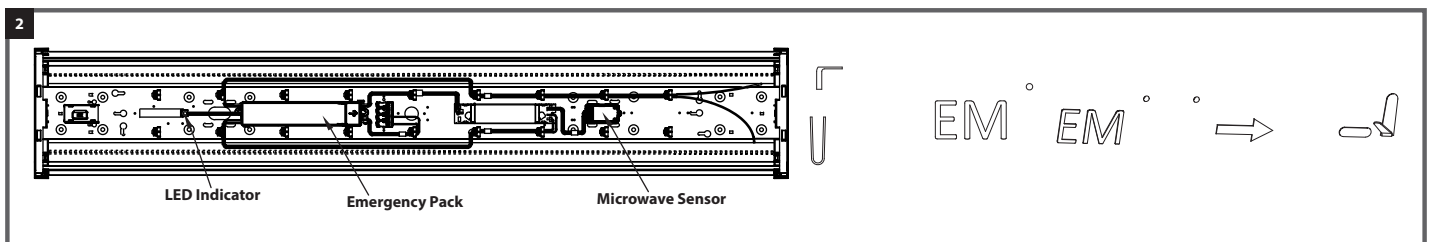


6. Select the desired wattage (located on the driver) and CCT using the dip switch (located at one end of the base).
7. Refit the diffuser to the base so this is loosely engaged, Ensure all DC power cables are tucked safely inside the clips and housing so that they are not trapped between module and base, then fit the end caps at both ends to secure diffuser into place with a 'Click' sound.
8. Restore the mains power supply, switch on and test for satisfactory operation.

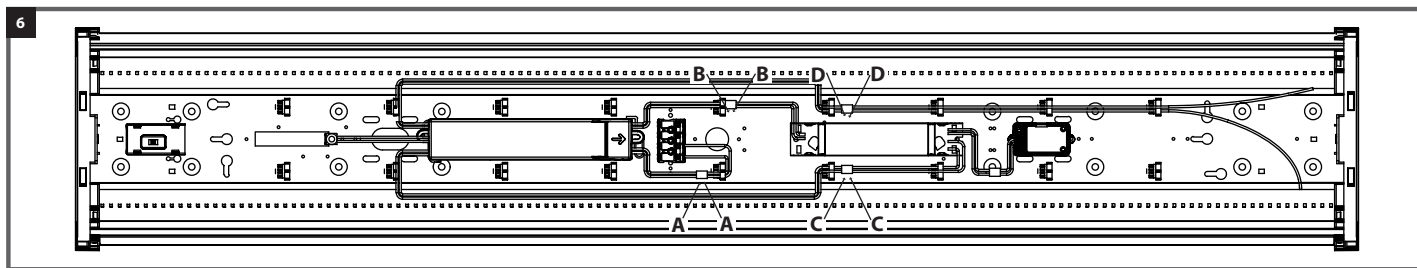


### Plug and Play Installation Instructions Self-Test / Standard Emergency kit

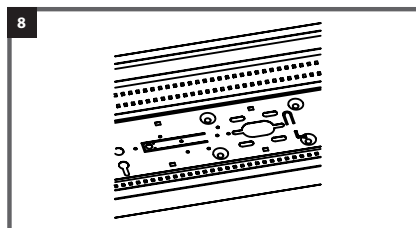
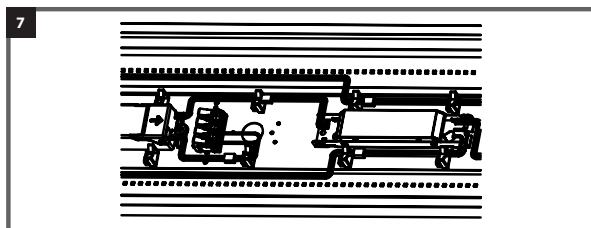
1. Follow steps 1-2 above to gain access into the luminaire.
2. Locating the Emergency mounting locations (shown as EM) fold the 2x tabs upright to locate the kit
3. Before installing the emergency kit ensure that the battery cell door is open to allow for connecting the battery once installed withing the luminaire. The kit will be supplied self-test as standard, if standard test mode is required change the jumper location as shown on the emergency kit before installing.
4. Noting the orientation of the emergency kit (shown with an arrow) fit over the folded tabs and fold down securing the emergency kit into position.



5. Releasing the locking arm first on each connector disconnect the A-B & C-D connectors.
6. Re connect all connectors following the below A-A, B-B, C-C, D-D ensuring all are securely connected and locking arm is engaged



7. Neatly secure all cables into the cable tidies ensuing no cables could become loose overtime as this will cause shadowing.
8. Fit the LED Indicator bezel into the aperture and then insert the LED Indicator into the bezel from the underside, ensuring a secure fit. Neatly secure the indicator cables into the cable tidies.



9. Connect the battery cell within the emergency kit and close the battery cell door.
10. Follow Steps 2 - 9 for installing the luminaire and terminating.

**Note:** Emergency luminaires require a secondary unswitched live supply as well as a switched supply. See step 5 for wiring configuration.

**Self-test**

- The Emergency kit will perform self-tests automatically to ensure its functionality.
- The self-test includes 4 types of tests:

**Initial test**

- When power supply is reconnected the emergency kit will carry out a 3-seconds functional test automatically.
- In case of a failure, the LED will turn permanent red. Otherwise, the charge mode will start.

**One-time test**

- When the power is first connected after installation the emergency kit will fully charge the batteries for 24hours.
- Then a one-time duration test will be performed.

**Functional test**







- Refers to charging, discharging and the functioning of load.
- This test will be performed for 10 seconds automatically every 30 calendar days.

**Duration test**

- Refers to the test of batteries capacity.
- This test will be performed at random intervals between every 170 - 180 calendar days. (This is to prevent all luminaires from performing a duration test at the same time)

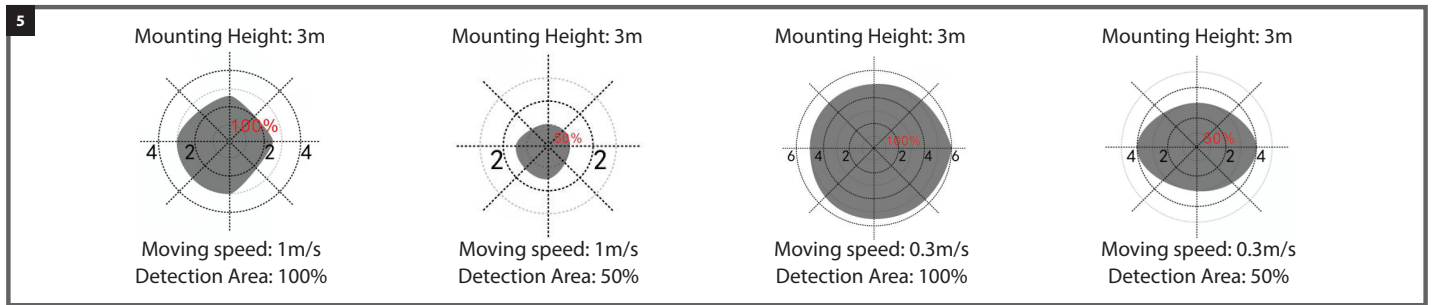
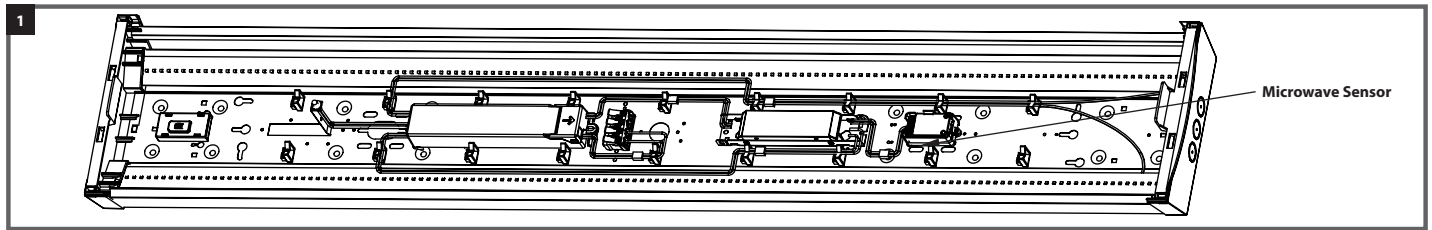
Self-test is performed in line with EN 62034.

**Explanation of LED Indicator**

LED Colour	LED Indication	Status	Comment
Green	 Permanent Green	Charging Mode Fully Charged	AC mode
	 Fast Flashing Green (0.1Sec On, 0.1 Sec Off)	Function Test Underway	
	 Slow Flashing Green (1 Sec On, 1 Sec Off)	Duration Test Underway	
Red	 Perminant Red	Load Failure	Open Circuit / Short Circuit LED failure (Emergency Mode)
	 Slow Flashing Red (1 Sec On, 1 Sec Off)	Battery Failure	Battery failed the duration test or function test / No battery
	 Green and Red Off	DC Mode	Battery operation (Emergency Mode)

## Microwave Sensor with Corridor Function

- Follow steps 1 - 6 for installing the emergency kit, Then locate the microwave sensor (As shown below).
- Install the Microwave sensor with the dip switches facing upwards.
- Connect the microwave sensor plug into the socket on the low voltage side of the driver and ensure fully engaged (As shown below).
- Set the microwave sensor using the dip switches located on the top of the sensor following below tables (Steps 6 - 9 below).
- The diagram is based on a maximum ceiling mounting height of 6m. Note that the lower the sensor is installed, the smaller the detection range will be. (The distances quoted are approximate and may vary depending on the surroundings).



Note: Do not site within 1m of forced air heating or ventilation. Do not fix to a vibrating surface

- Sensitivity** can be adjusted by selecting the required combination on dip switches 1 & 2 for different applications
- Hold time** refers to the time period that the light remains on if no more movement is detected. Set using dip switches 3 & 4.
- Different **Daylight** thresholds can be pre-set using dip switches 5 & 6. Light will always turn on upon movement if daylight sensor is disabled.
- Stand by time** refers to the time period that the light remains at a low level (approx. 20%) before it is completely turned off if the area continues not to be occupied. This can be set using dip switches 7 & 8.

6

	1	2	
I - 100%	●	●	100%
II - 75%	○	●	75%
III - 50%	●	○	50%
IV - 25%	○	○	25%

7

	3	4	
I - 5s	●	●	5s
II - 90s	○	●	90s
III - 3min	●	○	3min
IV - 10min	○	○	10min

8

	5	6	
I - +∞	●	●	+∞
II - 50Lux	○	●	50Lux
III - 15Lux	●	○	15Lux
IV - 5Lux	○	○	5Lux

9

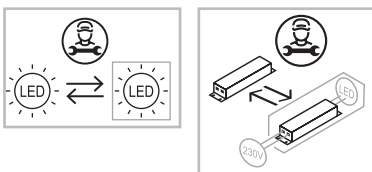
	7	8	
I - 0s	●	●	0s
II - 30s	○	●	30s
III - 10min	●	○	10min
IV - +∞	○	○	+∞

## Guarantee

This product is guaranteed for a period of 7 years from the date of purchase. The guarantee is invalid in the case of improper use, tampering, removal of the Q.C. date label, installation in an improper working environment or installation not according to the current edition of the I.E.E. Wiring Regulations (BS7671). The guarantee is also invalidated if the luminaire has been insulation tested. Should this product fail during the guarantee period it will be replaced free of charge, subject to correct installation and return of the faulty unit. We do not accept responsibility for any installation costs associated with the replacement of this product. Your statutory rights are not affected. We reserve the right to alter specifications without prior notice.

## Maintenance

- This fitting will require routine cleaning if used in adverse (dust, paint, welding, oils etc) environments. Do not use solvents, aggressive detergents or abrasives.
- The light source and driver in this luminaire can be quickly and easily replaced at end of life. This should be carried out by a competent person. Contact Red Arrow for details of replacements.



- When this fitting comes to the end of its life or you choose to replace it, please do not dispose of it with your normal household waste. Please recycle where the facilities exist, check with your local authority for suitable options.

INS/SURF/0008/HAR/V1