

Installation Instructions: Aqua Connect Emergency Pack Code: 70201

Read these instructions before installation and retain for future reference. This equipment should be installed by a competent electrician

Important Information

We recommend that luminaires are installed by a qualified electrician ensuring the installation complies with current IEE wiring regulations BS7671:2018 & local building control.

- All tests should be carried out in accordance to EN 50172:2004.
- BELL will not accept responsibility for any claims arising from poor installation.

Important User Advice

- The ambient room temperature should not exceed 35°C.
- Ensure that there is adequate free air ventilation around the fitting.
- Always switch off mains supply before installing.

This product may contain substances that can be hazardous to the environment if not disposed of properly. Electrical and electronic equipment should never be disposed of with general household waste but must be separated for its correct treatment and recovery. Where possible recycle your packaging.



Standard and Self-Test 2 in 1 Internal Emergency Module (EM) for LED Surface Luminaires

Please read the instructions thoroughly, including the installation instructions for the luminaire and retain for future reference.

- This EM is provided with self-test mode as default. It is classified as ATS type S. It is a stand-alone, self-contained emergency module with localised automatic testing and reporting facilities requiring manual inspection to record the results.
- The EM will perform an automatic weekly functional test and an annual or semi-annual full duration test at a random time during a 24 hours period, reporting any faults found with the battery or load.
- The EM is suitable for luminaires with integrated LEDs and separate LED drivers. The electrical specification is given below. Compatibility with luminaires should be verified before committing to an installation.

Safety Information

- Installation must be carried out in accordance with national building and wiring regulations.
- If you are in any doubt about installing this product, please consult a qualified electrician.
- Before commencing installation or maintenance, turn off and isolate the circuit to be worked on by removing the fuse or switching the circuit breaker off at the distribution board.
- This EM is suitable for connection to a 220-240Vac 50/60Hz supply.
- This EM is an **IP20 built-in** driver relying on the enclosure for protection.
- Do not use the emergency module if the cable is damaged.
- The EM is not suitable for use on a battery supply with a trickle or intermittent re-charging circuit.
- The EM is not protected against supply voltage polarity reversal.
- Insulation between the emergency module supply and battery circuit is double insulation.
- The recharging device will recharge the battery normally after removal of a battery short-circuit.
- When cutting holes, drilling or screwing take care not to damage existing wiring or pipework.

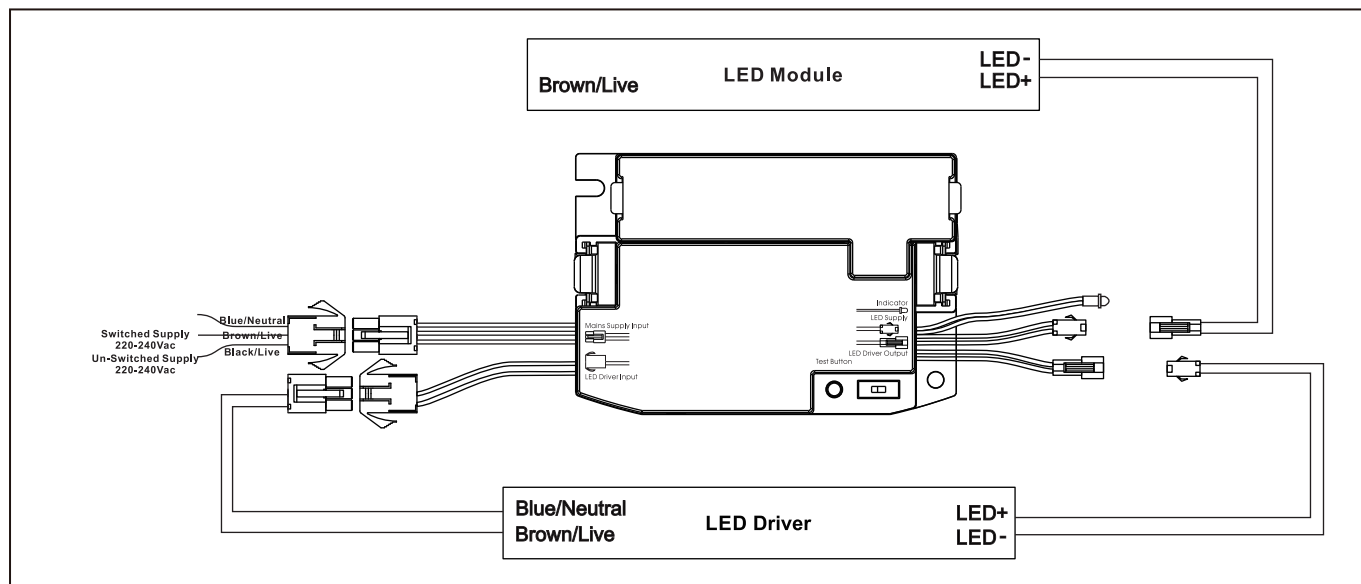
General Installation Information

- Follow the luminaire instructions to access the correct installation area inside the batten.
- The diagram below shows a typical installation. Specific details may vary from one compatible batten model to another.
- The optional emergency module provides power in the event of a cut in the supply and must be wired to the un-switched permanent supply through the un-switched Live terminal.
- Write the commissioning date on the battery label.
- Stick the Maintained or Non-Maintained emergency luminaire label on the luminaire where it can be seen.
- Ensure that all electrical connections are tight with no loose strands.
- Reconnect the supply.

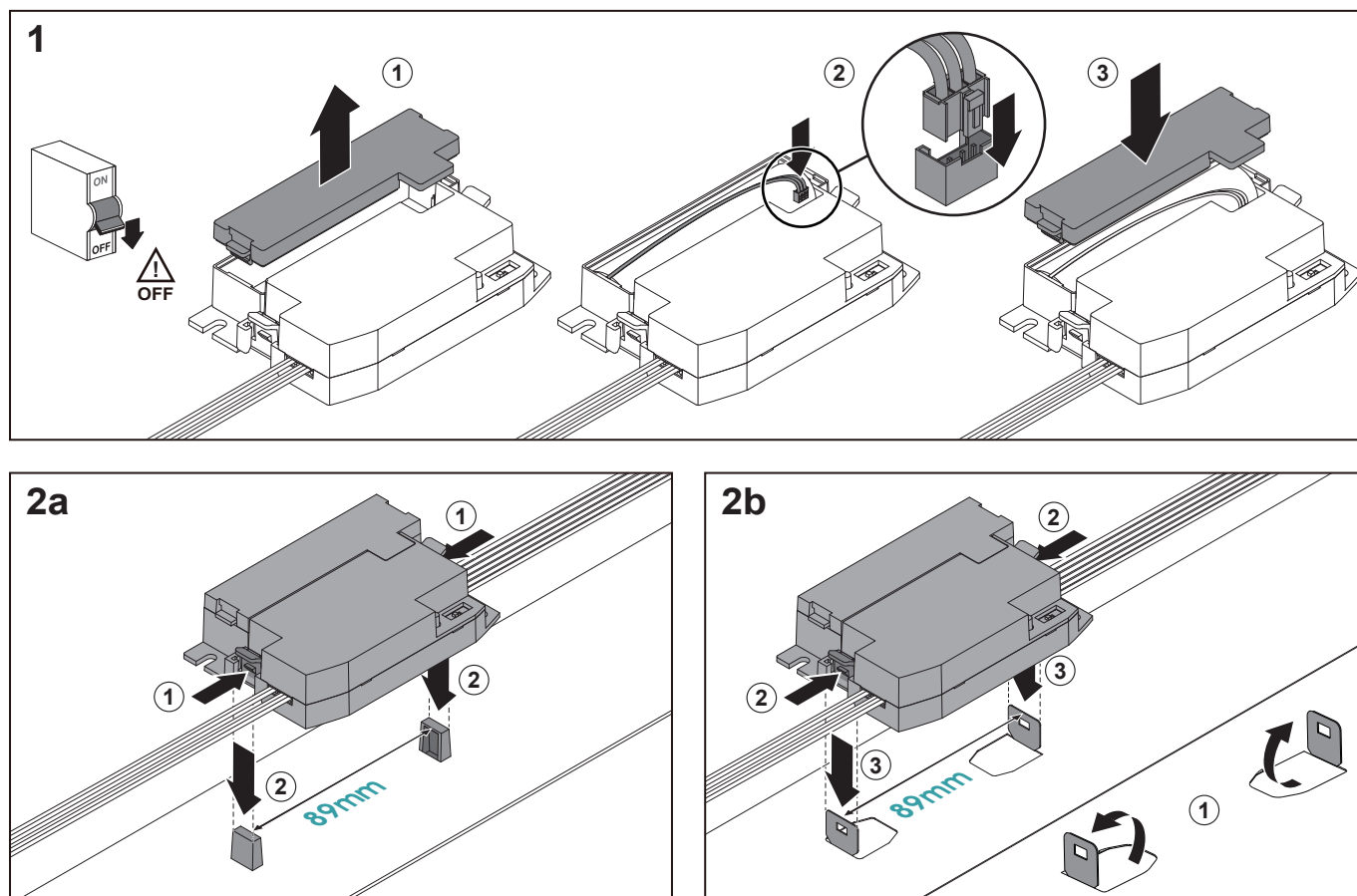
Specifications

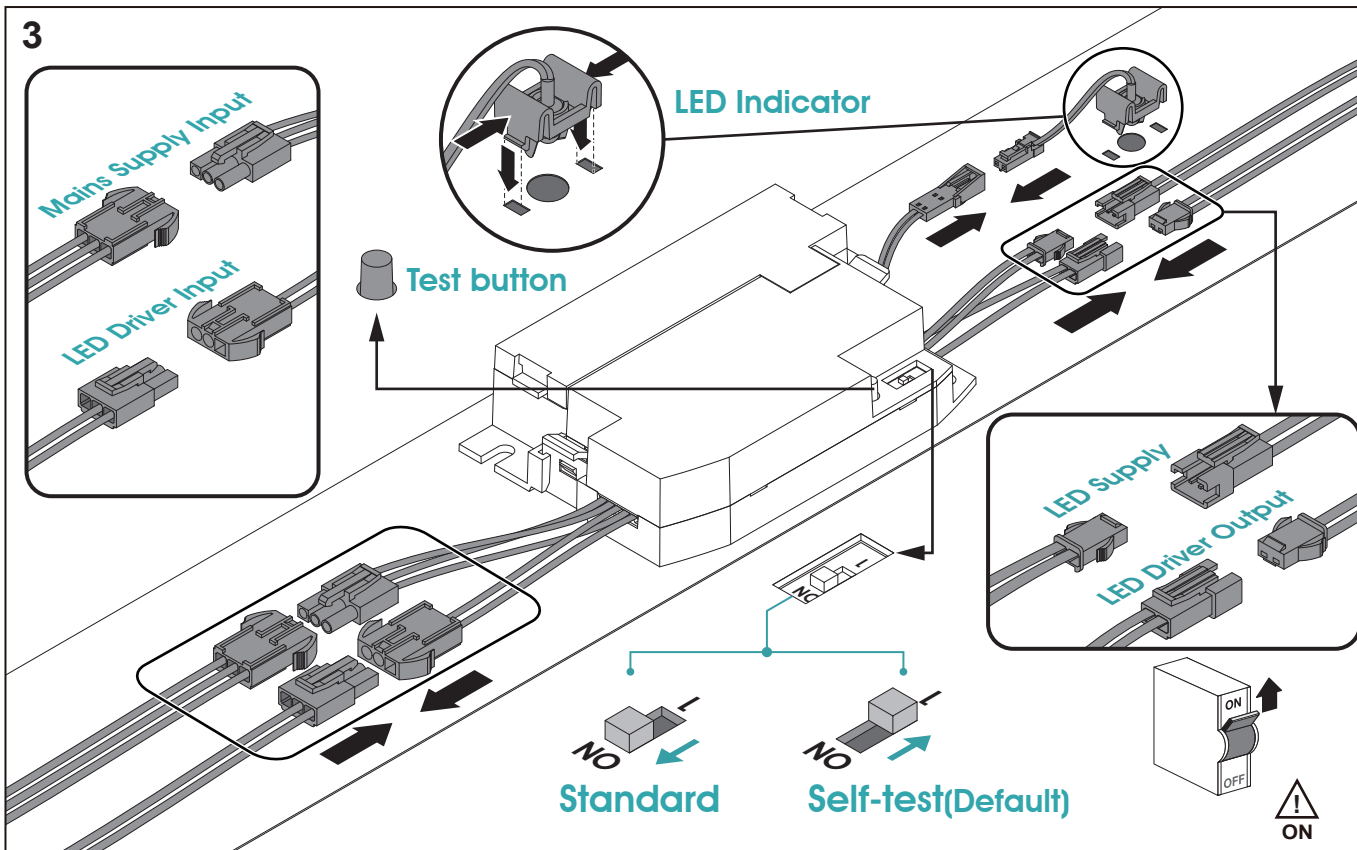
| | |
|------------------------------------|---------------------------------|
| Order Code | ACC01-30/SS |
| Input Voltage | 220-240 Vac 50/60 Hz |
| Input Current | 16 mA |
| Battery Output Wattage(max) | 1.5W |
| Output Voltage | 24-190 Vdc |
| Output Current | 5-40 mA |
| Open Circuit Voltage | 200 Vdc |
| Maximum Working Voltage | 200 Vdc |
| Protection | IP20, For built-in installation |
| Input to Output Protection | Double Insulation |
| Battery | 11FpR19/66 1.8Ah 3.2V |
| Battery Voltage | 3.2 V |
| Battery Capacity | 1800 mAh |
| Battery Charge Voltage | 3.65±0.1V |
| Battery Charge Current | Max.170mA |
| Battery Discharge Voltage | 2.5-3.6 Vdc |
| Battery Discharge Current | 450-480mA |
| Charging Time | 24 h |
| Battery Life | 5 Years at 50 °C |
| Emergency Conversion Time | 1 s |
| Emergency Operation Time | >3 h |
| Test Function | Automatic and Manual |
| Length x Width xDepth | 97 x 65 x 22.5mm |
| Maximum Case Temperature | 75 °C |
| Ambient Temperature Range | 0 to 50 °C |

Wiring Schematic

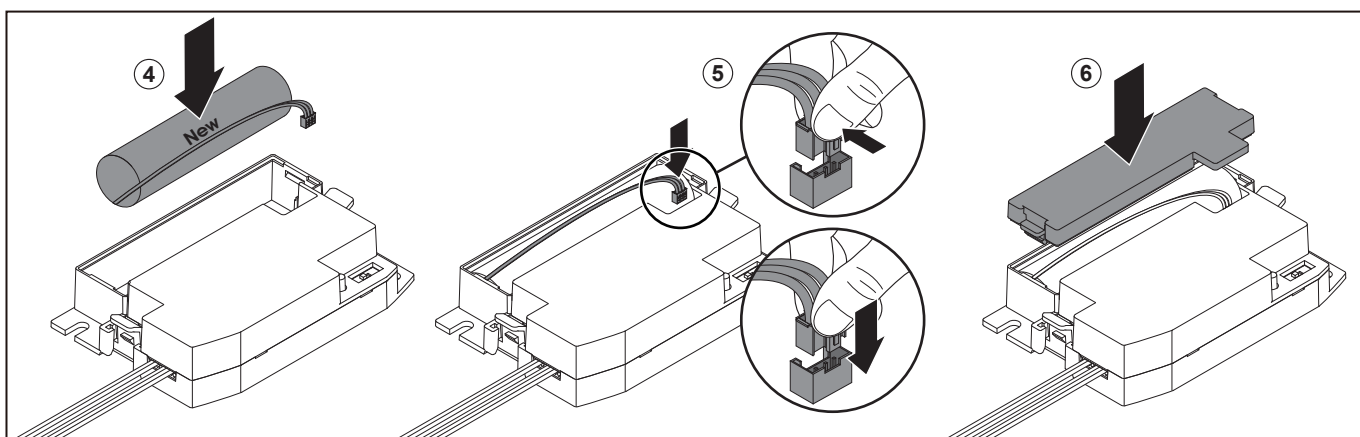
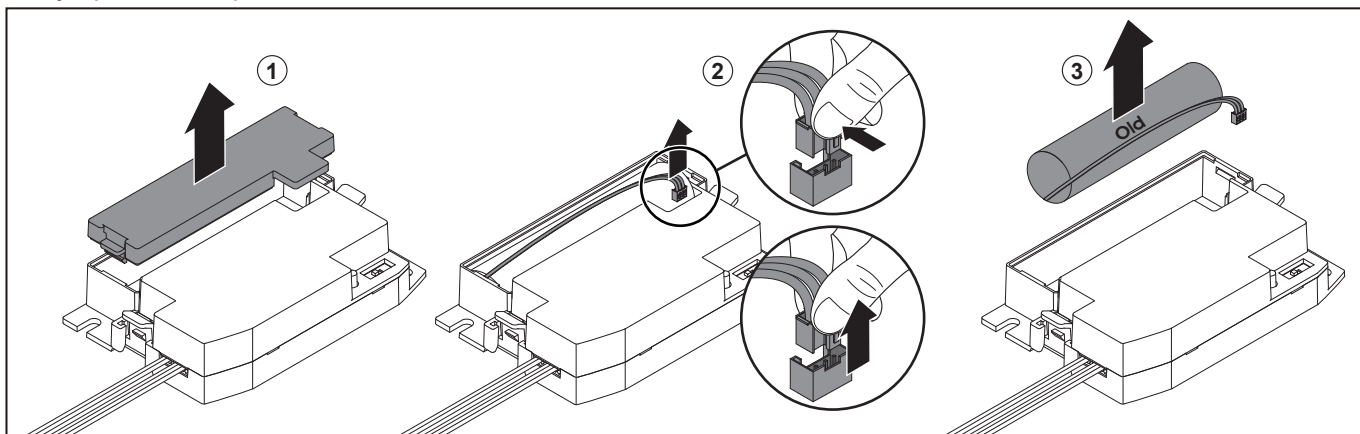


Installation Instruction / Instructions d'installation / Istruzioni di installazione





Battery Replacement / Remplacement de la batterie / Sostituzione della batteria



Self-Test Mode: Automatic / Manual Testing User Guide

Commissioning

- Commissioning takes place by connecting the battery and then the un-switched supply. The battery must be connected first.
- The green LED will immediately flash 1 x second to indicate that there is a pending duration test.
- A functional test will occur at 5 minutes after commissioning to allow 5 minutes for battery charging to ensure there is some charge in the battery.
- A duration test will occur at a random point between 24 hours and 48 hours after commissioning to allow 24 hours for battery charging.
- Any faults found in the functional and duration testing will be reported via the LED indicator, as detailed below.
- Disconnecting the un-switched supply and then the battery resets the emergency module, clears all fault reports and forces a re-commission when the battery and then the un-switched supply are reconnected.
- If the un-switched supply of an emergency lighting circuit is switched OFF/ON twice within 5 seconds, the schedule for all the emergency units in the emergency lighting circuit is reset (to the current time).

Duration Testing (3 hours)

- An automatic duration test will occur at a random point between 24 hours and 48 hours after commissioning to allow for battery charging.
- An automatic duration test will occur semi-annually or annually at a random point in the 26th or 52nd week of each year.
- A duration test will occur once the battery is fully charged after pressing the manual test button for 5-10 seconds.
- A duration test may be delayed by other events, such as a power cut that interrupts the test or a lack of charging time, in which case the green LED will flash 1 x second to indicate there is a pending duration test that the emergency module has rescheduled.
- Any faults found in the duration testing will be reported via the LED indicator, as detailed below.
- A functional test will not override any faults reported by a duration test. A full duration test or re-commissioning is required to clear any faults.

Functional Testing (<2 minutes)

- A 5 seconds automatic functional test will occur at 5 minutes after commissioning.
- A 108 seconds automatic functional test will occur every 7 days.
- A manual 108 seconds functional test will start immediately after pressing the manual test button for 1-2 seconds.
- Any faults found in the functional testing will be reported via the LED indicator, as detailed below.
- A functional test will not override any faults reported by a duration test. A full duration test or re-commissioning is required to clear any faults.

Manual Testing

- Manual functional test: Press the manual test button for 1-2 seconds. A manual functional test lasting <2 minutes will start immediately.
- Manual duration test: Press the manual test button for 5-10 seconds. A manual duration test will occur once the battery is fully charged after pressing the manual test button for 5-10 seconds.

Pending Duration Testing

- A duration test may be delayed by other events, such as a power cut that interrupts the test or charging period, in which case the green LED will flash to indicate there is a pending duration test that the emergency module has rescheduled until charging is complete.

Lamp or Luminaire Fault

- Turn off the supply and replace or correct the fault with the lamp or luminaire, and then reconnect the supply.
- Press the manual test button for 5-10 seconds. A manual duration test will occur once the battery is fully charged.
- If the battery and power have been disconnected the EM will re-commission and automatically test the replacement.
- A successful functional test will not override any faults reported by a duration test. A full duration test or re-commissioning is required to clear fault reports.

Battery Fault

- Turn off the un-switched supply to the EM and replace the battery, and then reconnect the supply.
- If the fault was because the battery was not connected, the un-switched supply must still be turned off when connecting the battery to clear the battery fault.
- The EM will re-commission and so automatically test the replacement at a random point between 24 and 48 hours after commissioning to allow for battery charging.

Standard Mode: Manual Testing User Guide


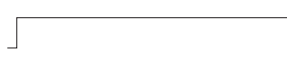

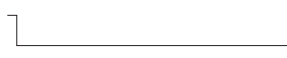
















- The battery leaves the factory in a semi-charged state but may take up to 24 hours to fully charge for a 3-hour test. Charge for 5 minutes before performing a functional test to ensure there is some charge in the battery.
- A quick functional test can be performed by pressing the test button for 1-2 seconds.
- To fully test the emergency function, the un-switched supply will need to be turned off. Alternatively press the manual test button for 5-10 seconds. A manual duration test will occur once the battery is fully charged. A duration test may be delayed by a lack of charging time, in which case the green LED will flash 1 x second to indicate there is a pending duration test that the emergency module has rescheduled.

Rest Mode

- Emergency operation is automatically started when the mains supply is switched off. Rest mode can be activated during emergency mode by doubling press the manual test button. The discharging of the battery will be minimized by switching off the LED output. The rest mode will be exited automatically after reconnect the supply.


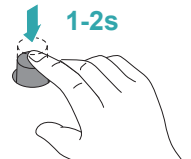

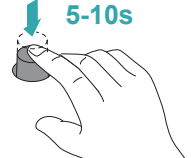

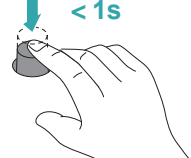

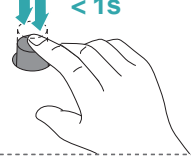


LED Indicator

System status is locally indicated by a bi-colour indicator LED.

| LED indication | | Description | Status | Standard Mode | Self-test Mode |
|---|---|---|--|---------------|----------------|
|  |  | Green Permanently On | System Healthy | ✓ | ✓ |
|  |  | Permanently OFF | Emergency Mode: Mains failure or mains disconnected | ✓ | ✓ |
|  |  | Green Slow Flash (0.5s on-0.5s off) | Duration Test Pending | ✓ | ✓ |
|  |  | Green Medium Flash (0.25s on-0.25s off) | Duration Test Running | ✓ | ✓ |
|  |  | Green Fast Flash (0.125s on-0.125s off) | Functional Test Running | ✓ | ✓ |
|  |  | Red Permanently On | Battery Charging Fault | ✓ | ✓ |
|  |  | Red Medium Flash (0.25s on-0.25s off) | Battery Duration Fault | ✓ | ✓ |
|  |  | Red Fast Flash (0.125s on-0.125s off) | Lamp or Luminaire Fault | ✓ | ✓ |
|  |  | OFF 1s then Red Stay On 5s | 26 Weeks Duration Test Interval | N/A | ✓ |
|  |  | OFF 1s then Red Fast Flash 5s (0.125s on-0.125s off) | 52 Weeks Duration Test Interval | N/A | ✓ |

Functionality of the test button

The test button enables you to make a series of settings manually.

| Test button | | Description | Function | Standard Mode | Self-test Mode |
|---|---|---|---|---------------|----------------|
|  |  | Press 1-2s | Manual functional test | ✓ | ✓ |
|  |  | Press 5-10s | Manual duration test | ✓ | ✓ |
|  |  | Press <1s | Confirm the current duration test interval | N/A | ✓ |
|  |  | Double press <1s | Set the duration test interval | N/A | ✓ |
|  |  | Double press <1s during emergency mode | Rest mode activated | ✓ | ✓ |