

1W to 5W Adjustable 3hrs Emergency Power Module



- Universal LED emergency supply unit for LED lighting running on contactless power.
- Works in conjunction with a large variety of standard LED fixtures and turns them into self-contained maintained emergency fixtures.
- iEscape device (battery charger/monitor and current regulator) comes with an integral status indicator and is supplied with a suitably rated battery pack.

Features and Benefits

- Clips onto Isotera's iBus, the mains supply to the hub needs to be non-switched
- Extremely long service life as iEscape doesn't contain electrolytic capacitors.
- Completely tool-free installation
- Features EN62034 compliant Self-Test and automatic Rest Mode
- Comes with an easy to install bi-colour status indicator
- Doesn't form part of the fixture, so no need to re-certify the fixture
- 3 hrs rated duration

In normal mode power from an Isotera iClip passes through iEscape to the LED fixture. iEscape extracts power from the iBus by contactless power transfer to charge the connected battery. In case of a mains power failure iEscape no longer detects power on the iBus and automatically switches into emergency mode, supplying the right level of power from the battery to the fixture. When mains power comes back on, iEscape recharges the battery.

Automatic Commissioning

When first connected to the powered iBus the iEscape will go through an automatic commissioning process and then start the monthly/annual Self-Test schedules at random periods in accordance with EN62034. This ensures that emergency fixtures will never go into self-test at the same time.

When first powered-up iEscape goes through a 24 hour charge period. The unit then carries out a full duration test. After successfully passing this test the LED status indicator will show a healthy condition. Then the internal microprocessor starts the standard programmed Self-Test schedule. The 24 hours recharge and automatic commissioning process also occurs if a new battery is connected or the iEscape unit comes out of the Rest Mode condition.

The self-test involves powering the LED luminaire, so the lights may stay on, even if they are dimmed to OFF by control for the duration of the test. If the lights are already ON then the emergency driver will add its power to that being supplied.

Rest Mode

iEscape has an automatic and a manual Rest Mode. Automatic mode is triggered by a low battery voltage with no iBus power, Manual mode is set with the switches as defined in the section Selectable Emergency Power Level.

If the battery voltage drops below safe limits it is disconnected to avoid deep discharge and auto rest mode is enabled.

As soon as the charger circuit detects iBUS power the battery connection is automatically restored and the battery fully recharged.

Protection And Status Indicator

To facilitate fault diagnosis, iEscape has a bi-colour (red & green) status indicator. To make the human detection of the indicator as easy as possible high brightness wide beam angle LEDs are used. Mounting of the indicator requires a mounting hole with 9.0mm diameter, is tool-free and works with a variety of ceiling panels.

LED status indicator	Description
Steady Green	Battery Charged or Trickle Charging
Flashing Green	Pre-charge phase of the Initial discharge test
Green 1 Flash with 4 second Pause	Emergency Mode. Battery Voltage of 5.3V or lower. Battery may be getting old.
Green 2 Flashes with 4 second Pause	Rest Mode, No emergency function
Green 3 Flashes with 4 second Pause	Initial Discharge Test
Green 4 Flashes with 4 second Pause	Self Test in Progress
No LED indicator	Normal Emergency Mode
Steady Red	Unit Failure. Contact Isotera
Flashing Red	Failed or Failing Battery. During self test battery voltage dropped below set limits.
Red 2 Flashes with 4 second Pause	Output to Luminaire is open or short circuit
Red 4 Flashes with 4 second Pause	Battery Failing. Fails to reach full charge
Red 7 Flashes with 4 second Pause	Unit Over Temperature >80C
Red and Green Steady OR Steady Green with Flashing Red	Battery Voltage >8.5V. Check if battery is fitted. May have failed open circuit.

Self-Test

iEscape conducts self-tests in accordance with the pre-set default times in EN 62034 and as recommended in BS5266 and EN50172. The Self-Test circuit utilises an accurate clock programmed to initiate emergency lighting tests at set intervals. Although manual records will still be required the Self-Test system ensures that every emergency lighting luminaire and iEscape unit is fully tested and that all failures are clearly indicated via the status indicator.

Functional test - The default setting is a 3 minute test every 30 days.

Duration test - The default setting is a 30 minutes duration test conducted after 6 months and a full duration test (3 hours) once every 12 months.

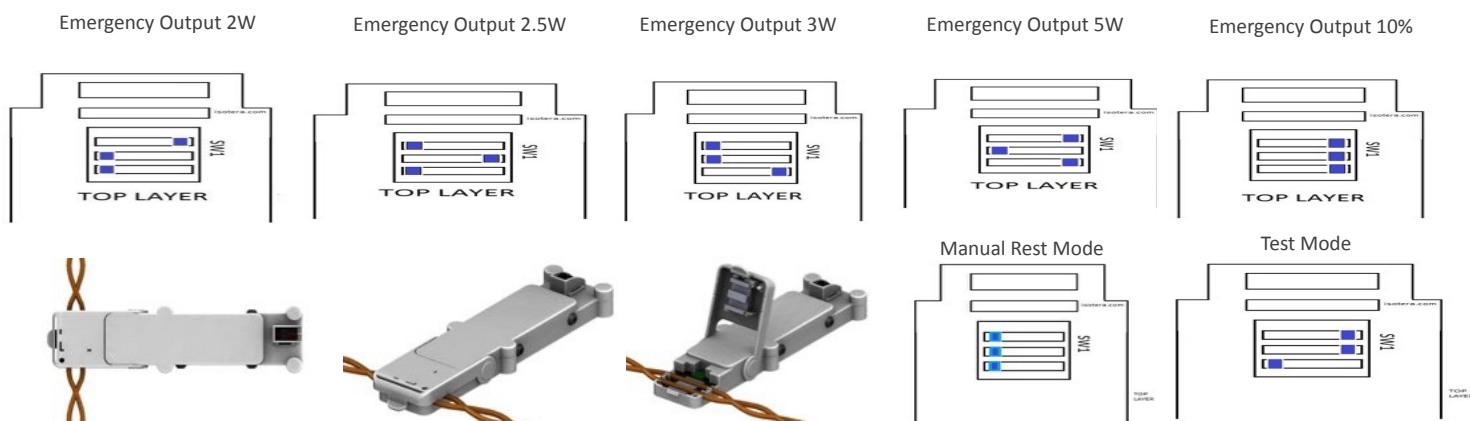
Continuous monitoring - The built-in real time intelligence ensures that faults such as charge failure, battery failure etc will be indicated immediately.

Selectable Emergency Power Level

Output power level of iEscape during Mains-OFF mode depends on the setting of the DIP switches in the iEscape unit. These are accessible in the lift up section where the IBUS connects.

iEscape can be set to provide 1W, 2W, 2.5W, 3W or 5W to the lamp. Alternatively, iEscape can be set to provide 10% of the normal lamp power level.

If set in "Rest Mode" iEscape will not provide any power to the lamp. This setting is optional as iEscape will go automatically into "Rest Mode" in the event of long mains outage. Switch settings show below are visible by opening the clam shell where the iBus cable is inserted.

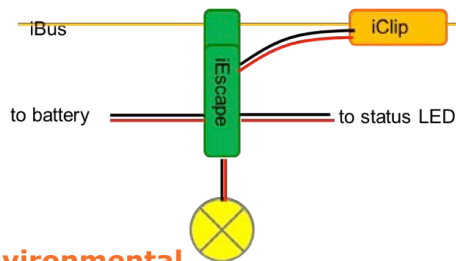


Technical Data

Rated supply current	1.9A
Supply frequency	50 kHz
Power consumption	60mW
Minimum LED forward bias Vf	3V
Maximum LED forward bias Vf	81V
Overvoltage protection	85V
Battery charging time	24 hrs
Charge current, power charge	200mA
Charge current, trickle charge	36mA
Leakage current (PE)	< 0.5mA

Wiring type

- iClip lead**
 - Integral to iEscape module
 - 1 red and 1 black DC wire
 - Lead length: 0.5M
 - Insulation rating: 90 °C
- LED fixture lead**
 - Supplied with LED fixture
 - LED connector as iClip
- Battery leads**
 - 1 red and black wire, 1300mm long
 - Wire type: 0.8 mm² solid conductor
 - Insulation rating: 90 °C
- Status indicator cable and LED**
 - 1 red and black wire, 300mm long
 - Wire type: 0.5 mm² solid conductor
 - Insulation rating: 90 °C



Environmental

Parameter	Min	Max
Operating Temp	0C	40C
Non Operating Temp	-18C	70C
Storage temperature	-18C	70C
Max Case Temperature		70C
Ingress Rating IP20	0%	85%

Protection Features

The iEscape has a unique power regulation circuit; this is designed to limit the total power drawn from the battery in the event of using LEDs with excessively high forward voltages (Vf).

In such cases the unit will reduce the LED current in order to maintain an acceptable drain current from the battery and hence meet the required duration time.

Battery protection features

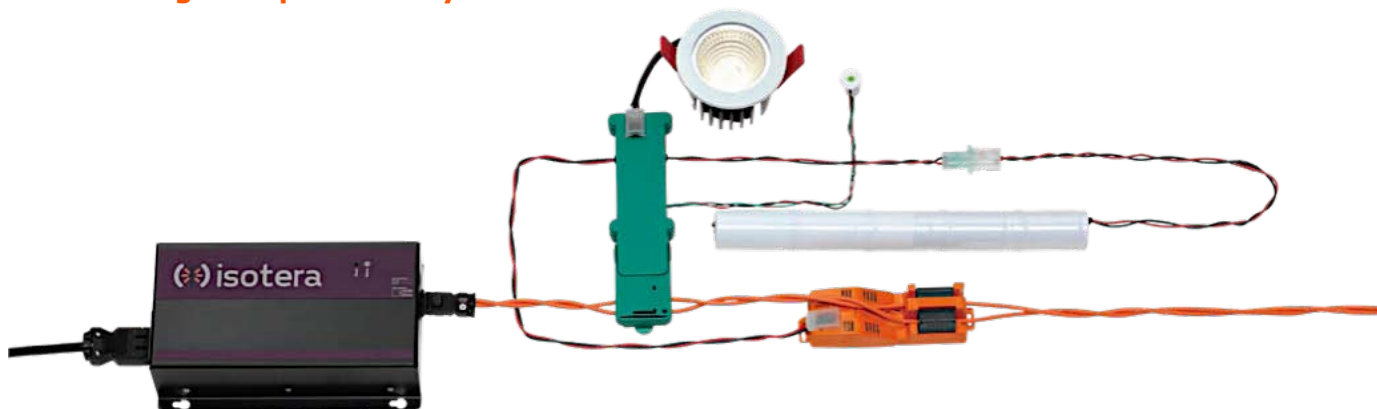
- Electronic reverse polarity protection for battery
- Locking polarity controlled connector to battery pack
- Over Charge Protection
- Deep Discharge Protection
- Open Circuit Battery Detection and Protection
- Automatic protection and recovery from short circuit and open circuit loads.

Batteries

NiCad Battery	SAFT NICD "VNT D U"
NiMH Battery	SAFT NIMH "VHT 7/5 Cs U"

iEscape comes in 2 versions: one that operates with Nickel Cadmium batteries and one with Nickel Metal Hydride batteries. Both batteries have a warranty period of 4 years subject to case temperatures maintained below 55C

Connecting iEscape to the System



Compliance. According to EN 50172 and 60598-2-22

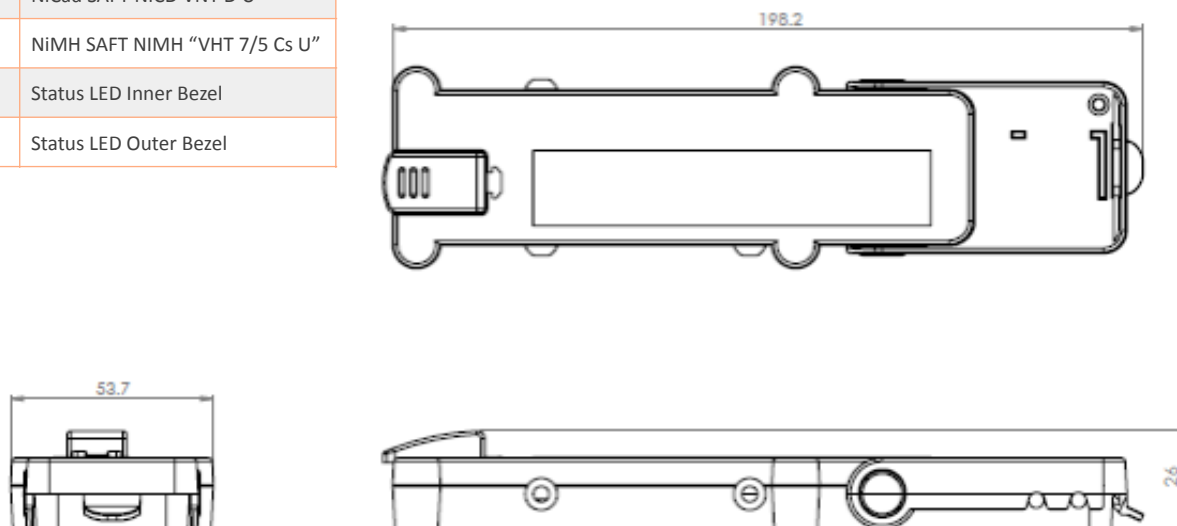
Casing meets 650 °C and 850 °C glow-wire test to EN 60598-1. iEscape has demonstrated industry leading low levels of electromagnetic interference

Title	Description	Edition/Date
EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	2006 + A2:2009
EN61547	Specification for equipment for general lighting purposes. EMC immunity requirements	2009
EN61000	Harmonic Current Emissions	EN61000-3-2:2006 & EN61000-3-3:2008 EN61000-6-1:2007 & EN61000-6-3:2007 & A1:2011
EN61347	Safety requirements for electronic control gear for use on DC supplies up to 250 V and AC supplies up to 1 000 V at 50 Hz or 60 Hz and at an output frequency which can deviate from the supply frequency, associated with LED modules.	EN61347-2-13:2006 used in conjunction with EN61347-1:2008. 61347-2-7 and Annex J of 61347-2-3
EN62493	Human Exposure To electromagnetic fields	EN62493:2010

Part Numbers

Isotera part number	Description
IS-H-EPM-NiCAD	NiCad Device
IS-H-EPM-NiMH	NiMH Device
IS-H-BAT-NiCAD	NiCad SAFT NICD VNT D U
IS-H-BAT-NiMH	NiMH SAFT NIMH "VHT 7/5 Cs U"
HCA-005-1035	Status LED Inner Bezel
HCA-005-1036	Status LED Outer Bezel

Mechanical Dimensions



Disclaimer. The specifications contained herein are believed to be correct at the time of publication and are subject to change without notice.