

# KSC POLAND Sp. z o.o.

## (1) EU-TYPE EXAMINATION CERTIFICATE

(2) **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres  
Directive 2014/34/EU**

(3) EU-Type Examination

Certificate No.:

**KSCP 24ATEX0019X**, Issue: 2

(4) Product:

**Intrinsically safe LED ADALIT Portable pivotable torch  
Family ADALIT L-4000**

(5) Manufacturer:

**Adaro Tecnología, S.A.**

(6) Address:

**Parque Científico Tecnológico – Calle Jimena  
Fernández de la Vega, 38 – Edificio Adaro, 33203  
Gijón – Asturias, Spain**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) KSC POLAND Sp. z o.o., Notified Body number 2877, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **KSCP/AR/24/Q00389  
Issue 2**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN IEC 60079-0:2018**

**EN 60079-11:2012**

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU – Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:



**I M1**

**Ex ia I Ma**



**II 1G**

**Ex ia IIC T4 Ga**

**II 1D**

**Ex ia IIIB T<sub>200</sub>166°C Da**



Signature  
President of the Board

Katowice, 24<sup>th</sup> February, 2025

**KSC POLAND Sp. z o.o., Products Certification Body, accredited by PCA, No. AC 216**

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## SCHEDULE

**CERTIFICATE No.: KSCP 24ATEX0019X, Issue: 2**

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(15) Description of Product:

The Intrinsically safe LED ADALIT Portable pivotable torch Family ADALIT L-4000, for use into Explosives Atmospheres, is composed by a junction of two main parts: body and pivotable head part. Both parts are assembled by a 110° rotary system. Body part is the fixed one at the bottom of the equipment, where the slot for a rechargeable or alkaline battery pack is located. Main charge/discharge PCB is also located into this part. For the rotary head, 110° angle is composed by 5 fixed positions (-20°, 0°, 30°, 60°, 90°) display information, pushbuttons and light source are also located into it. The light output is formed by a special optic into the head. Indication for burning time and other user's information is made by an OLED display. In the rear part, there's a hook for attachment the equipment to the proper device.

**The product model rule is according to the following:**

L-4000	L-4000RD	L-4000GR	L-4000BL	L-4000YL
L-4000A	L-4000ARD	L-4000AGR	L-4000ABL	L-4000AYL

First line references (L-4000; L-4000RD; L-4000GR; L-4000BL; L-4000YL) are the standard one, valid for Rechargeable Battery and Alkaline Battery.

Second line references (L-4000A; L-4000ARD; L-4000AGR; L-4000ABL; L-4000AYL) are valid only for Alkaline Battery.

First column (L-4000; L-4000A) are with optic with all LEDs with the same color (White).

Second column (L-4000RD; L-4000ARD) is for options with two LEDs in Red color; the others with the same white LED.

Third column (L-4000GR; L-4000AGR) is for options with two LEDs in Green color; the others with the same white LED.

Fourth column (L-4000BL; L-4000ABL) is for options with two LEDs in Blue color; the others with the same white LED.

Fifth column (L-4000YL; L-4000AYL) is for options with two LEDs in Yellow color; the others with the same white LED.

All references have the same enclosure, only optics and Power supply option are different.



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### Rating:

Supply	<ul style="list-style-type: none"> <li>• Battery primary cells are LR6 (AA) size alkaline batteries (3S), Models: <ul style="list-style-type: none"> <li>• AA DURACELL TYPES: MN1500, MX1500</li> <li>• AA PROCELL TYPES: PC1500, PX1500</li> <li>• AA ENERGIZER TYPES: E91, EP91, EN91, L91</li> <li>• AA PANASONIC TYPES: POWERLINE, PROPOWER</li> <li>• AA VARTA TYPES: 4006, ENERGY 4106, LONGLIFE 4106, LONGLIFEPOWER 4906, MAX TECH 4706</li> </ul> </li> <li>• Battery secondary cells are Li-ION (2P), Models: <ul style="list-style-type: none"> <li>• SAMSUNG INR18650-25R,</li> <li>• LG INR18650F1L,</li> <li>• Samsung INR18650-30Q</li> </ul> </li> </ul> <p>– Recharging circuit <math>U_m = 9\text{ V}</math></p>
Ingress protection	IP5X

Possible list of cell use as follows:

Type name	Cell type	Nominal Ratings	Max. Open-circuit voltage (V)	Temperature range specified on battery data sheet	Equipment ambient temperature range	Manufacturer
INR-18650-25R	LI-ION	3.6 V	4.2V	Charge: 0 – 50°C Discharge: -20°C – 75°C	-20°C – 40°C	SAMSUNG
(*) INR18650-30Q	LI-ION	3.6V	4.2V	Charge: 0 – 45°C Discharge: -20°C – 60°C	-20°C – 40°C	SAMSUNG
(*) INR18650 F1L	LI-ION	3.6V	4.2V	Charge: 0 – 45°C Discharge: -20°C – 50°C	-20°C – 40°C	LG
MN1500	Primary, LR6	1,5V	1,6V	-20°C to 54°C	-20°C to 40°C	DURACELL
MX1500	Primary, LR6	1,5V	1,6V	-20°C to 54°C	-20°C to 40°C	DURACELL
PC1500	Primary, LR6	1,5V	1,6V	-20°C to 54°C	-20°C to 40°C	PROCELL
PX1500	Primary, LR6	1,5V	1,6V	-20°C to 54°C	-20°C to 40°C	PROCELL
E91	Primary, LR6	1,5V	1,6V	-18°C to 55°C	-20°C to 40°C	ENERGIZER
EN91	Primary, LR6	1,5V	1,6V	-18°C to 55°C	-20°C to 40°C	ENERGIZER
EP91	Primary, LR6	1,5V	1,6V	-18°C to 55°C	-20°C to 40°C	ENERGIZER
L91	Primary, LR6	1,5V	1,6V	-40°C to 60°C	-20°C to 40°C	ENERGIZER



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POWERLINE	Primary, LR6	1,5V	1,6V	-20°C to 45°C	-20°C to 40°C	PANASONIC
PROPOWER	Primary, LR6	1,5V	1,6V	-20°C to 45°C	-20°C to 40°C	PANASONIC
4006	Primary, LR6	1,5V	1,6V	-20°C to 50°C	-20°C to 40°C	VARTA
ENERGY, 4106	Primary, LR6	1,5V	1,6V	-10°C to 50°C	-20°C to 40°C	VARTA
LOGLIFE, 4106	Primary, LR6	1,5V	1,6V	-10°C to 50°C	-20°C to 40°C	VARTA
LOGLIFE POWER 4906	Primary, LR6	1,5V	1,6V	-20°C to 50°C	-20°C to 40°C	VARTA
MAX TECH, 4706	Primary, LR6	1,5V	1,6V	-20°C to 50°C	-20°C to 40°C	VARTA

(16) Report Number:

– **KSCP/AR/24/Q00389 Issue 2**

(17) Specific Conditions of Use:

- Batteries cannot be charged or replaced in hazardous area.
- Batteries and alkaline cells may only be of the type and brand indicated by the manufacturer. Replace all the primary batteries together and use always the same type and brand.
- The L-4000 optical cover is coated with ESD coating. This part must be inspected regularly according to the manufacturer safety instructions.
- The secondary batteries can only be charged in an ambient range 0 °C to +40 °C.

(18) Essential Health and Safety Requirements:

Essential Health and Safety Requirements are ensured by conformity with standards listed at item 9 of this certificate.

(19) Drawings and Documents:

- Documentation agreed, provided by manufacturer:

Title:	Drawing No.:	Rev. Level:	Date:
Serial number stick L4000	853	01	2023-09-28
Electrical Schematic PCB.88.14	861	07	2025-01-02



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Layout PCB.88.14	862	07	2025-01-02
Electrical Schematic PCB.91.11	863	08	2025-01-02
Layout PCB.91.11	864	07	2025-01-02
Electrical Schematic PCB.92.4	865	02	2024-04-01
Layout PCB.92.4	866	01	2023-06-22
Electrical Schematic PCB.93.9	867	07	2025-01-02
Layout PCB.93.9	868	07	2025-01-02
Electrical Schematic PCB.95.16	871	05	2024-11-26
Layout PCB.95.16	872	05	2024-11-26
Electrical Schematic PCB.97.3	875	02	2024-02-29
Layout PCB.97.3	876	02	2024-02-29
Main body L4000	878	02	2025-01-27
Main body cover L4000	879	01	2023-09-28
Closing screw L4000	880	01	2023-09-28
Rotary support L4000	881	01	2023-09-28
Rotary cover L4000	882	01	2023-09-28
Hook L4000	883	01	2023-09-28
Hook support L4000	884	01	2023-09-28
Head L4000	885	01	2023-09-28
Axis L4000	886	01	2023-09-28
Head cover L4000	887	02	2024-06-17
Head cover Photoluminiscent	887A	00	2025-02-04
Electrical schematic PCB.111.0	896	00	2024-10-31
Layout PCB.111.0	897	00	2024-10-31
Rechargeable battery pack L4000	1015	02	2024-11-04
Alkaline battery pack L4000	1016	01	2024-11-04
L4000 - Block Diagram	1500	06	2025-01-20
Charger L4000- Block Diagram	1501	01	2025-01-21
Encapsulated fuse with 9510 epoxy potting compound	1502	00	2024-04-04
PCB.111.0 – Encapsulated fuse with 9510 epoxy potting compound	1506	00	2024-11-05
L4000 - Assembly	2000	01	2025.02.07

– Product instruction:

Title:	Document No.:	Rev. Level:	Date:
L-4000 Safety manual	Safety manual	04	2024.11

A detailed list of documents necessary to identify the approved type is included in the Report referred to in point 16 of this certificate.



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(20) Certificate history:

Issue	Issue date	Notes
0	3 <sup>rd</sup> July, 2024	Initial certification
1	27 <sup>th</sup> November, 2024	<ul style="list-style-type: none"> <li>Two new secondary batteries are included as alternative to the previously approved SAMSUNG INR18650-25R, these batteries are the LG INR18650F1L, Samsung INR18650-30Q. The batteries are all from the same size and provide same conditions for their assembly.</li> <li>The marking for combustible dust was updated from EPL Db to EPL Da. The new marking is: II 1 D Ex ia IIIB T<sub>200</sub>166°C Da</li> <li>A new encapsulated fuse is included. This assembly allow a soldered connection to the battery through leads soldered connection.</li> <li>Product description is changed to Intrinsically safe LED ADALIT Portable pivotable torch Family ADALIT L-4000.</li> <li>New "X" condition included: "The secondary batteries can only be charged in an ambient range 0 °C to +40 °C"</li> </ul>
2	24 <sup>th</sup> February, 2025	<ul style="list-style-type: none"> <li>Inclusion of another variant for the main charge PCB, the rechargeable battery pack and the alkaline battery pack. Main PCB changes from PCB.91.10 to PCB.91.11. Rechargeable battery pack PCB changes from PCB.88.13 to PCB.88.14, and Alkaline battery pack changes from PCB 93.8 to PCB.93.9. Only connector has modification, no one component has been modified</li> <li>Remove the adhesive marking label instead Pad printing (Tampography) into main body.</li> <li>Add another assembly option for the head cover, changing black plastic material instead photoluminescent plastic material.</li> <li>Add another option material for O-ring: VQM (Silicon Rubber).</li> </ul>



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