



EC TYPE EXAMINATION (MODULE B)
CERTIFICATE No. MED316824WS/001

***This is to certify** that RINA Services S.p.A. (Notified Body No. 0474) did undertake the relevant type approval procedures for the equipment identified below, which was found to be in compliance with the Life-Saving appliances requirements of Marine Equipment Directive (MED) 2014/90/EU, including the requirements and testing standards of Regulation (EU) 2023/1667.*

<i>MED Item N°</i>	MED/1.2a
<i>USCG Category N°</i>	161.101
<i>Description</i>	Position-indicating lights for life-saving appliances: (a) for survival craft and rescue boats
<i>Type</i>	LNK-LR-01A; LNK-LR-02C; LNK-LR-03A; LNK-LR-05A; LNK-LBL1/LNK-LBL2
<i>Applicant</i>	XIAMEN LONAKO Inc. XIAMEN, CHINA
<i>Testing standards</i>	IMO Res. MSC.81(70), as amended, IEC 60945:2002 incl. IEC 60945 Corr. 1:2008, ISO 24408: 2005.
<i>Reference standards</i>	SOLAS 74 Reg.III/34, IMO Res.MSC.36(63)-(1994 HSC Code) 8, IMO Res.MSC.48(66)-(LSA Code) I, IMO Res.MSC.48(66)-(LSA Code) IV, IMO Res.MSC.97(73)-(2000 HSC Code) 8, IMO MSC.1/Circ.1630.

Issued in Shanghai on
June 28, 2024

This Certificate is valid until
June 27, 2029

This Certificate consists of this sheet plus an attachment



Qiang Sun

RINA Services S.p.A.



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Manufacturer

XIAMEN LONAKO Inc.

Place of Manufacturer

XIAMEN
CHINA

Name & place of Authorised Representative

Mr. Johannes Graf Strachwitz
Walhallastraße 38, 80639 München, Germany
GERMANY

Product description

Model of light :

- LNK-LR-01A, fixed light for internal and flashing light for external in accordance with IMO Res.MSC 218(82), IMO Res.MSC 207(81) and IMO Res.MSC 226(82) for liferaft use;
- LNK-LR-02C, fixed light for internal and flashing light for external in accordance with IMO Res.MSC 218(82), IMO Res.MSC 207(81) and IMO Res.MSC 226(82) for liferaft use;
- LNK-LR-03A, fixed light for internal and flashing light for external in accordance with IMO Res.MSC 218(82), IMO Res.MSC 207(81) and IMO Res.MSC 226(82) for liferaft use;
- LNK-LR-05A, fixed light for internal and flashing light for external in accordance with IMO Res.MSC 218(82), IMO Res.MSC 207(81) and IMO Res.MSC 226(82) for liferaft use;
- LNK-LBL1 - Power switch activation flashing light for lifeboat external use, fixed installation on top of the boat;
- LNK-LBL2 - Power switch activation steady light for lifeboat Internal use, fixed installation in the boat cabin.

Main characteristics for above lights:

LNK-LR-01A:

Description:

The light comprises two items, internal light with battery and external light connected each other by a wire with locking ring.

The battery powers separately both internal and external lights.

The external and internal light will be activated when the liferaft inflates. Both lights are activated at the same time.

Each lights can be turned on or off by pressing manually switches separately.

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TYPE OF LIGHT	LNK-LR-01A	
	(External use)	(Internal use)
Characteristics	Flash rate: 50 ~ 70 flashes per minute Intensity: ≥ 4.3 cd	Flash rate: steady Intensity: ≥ 0.5 cd
Dimension of body	$\Phi 38 \times 19$ mm	68.6*56*39mm
Light source	3*white SMD LED	1*white SMD LED
Battery	1x 3.6v lithium battery ER26500	
Material of body	PC	
Color of Lampshade	Semi-Transparent Upper shell	
Color of body	Customer request (to be of international or vivid reddish orange, or a comparably highly visible color on all parts where this will assist detection at sea)	
Total weight	134 g (Contain light line)	
Storing temperature	$-30^{\circ}\text{C} \sim +65^{\circ}\text{C}$	
Working temperature	$-30^{\circ}\text{C} \sim +65^{\circ}\text{C}$	
Working time	$>12\text{h}$	

LNK-LR-02C:

Description:

The light comprises three items: the battery body, the external light with wire and the internal light with wire.

When the liferaft is inflated, the battery is automatically activated by pulling out the activation pin connected to the liferaft, both lights are activated at the same time.

Each lights can also be switched off and on manually.

The above light is manufactured with following characteristics:

- Dimension of battery body: 62 x 73 x 33.5 mm;
- Dimension of external lights: diameter 62.5 mm, height 42 mm;
- Color of dome : Transparent or Semi-transparent;
- Type of battery: 1 x 3.6 volts lithium battery ER26500M;
- Internal light: 1 x LED Straw Hats white Φ 5mm or 1 x white SMD LED (60mA, 3.0v),
External light: 3 x white LED Φ 5mm (1W, 300 mA) or 3 x white SMD LED (150mA, 3.0v);
- Flash rate : about 50~70 flashes per minute;
- Material of body: polycarbonate;
- Total weight: 223 grams.

LNK-LR-03A:

Description:

The light comprises two items: Internal Light with battery and the External Light with wire.

When the liferaft is inflated, the battery is automatically activated by pulling out the Switch Pin connected to the liferaft, both lights are activated at the same time.

Each lights can also be switched off and on manually.

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The above light is manufactured with following characteristics:

- Dimension of battery body: 71.5 mm x 44.7 mm x 28 mm;
- Dimension of external lights: diameter 62.5 mm, height 41.75 mm;
- Type of battery: 2 x 3.6 volts Lithium battery ER14505M;
- Internal light: 1*white SMD LED;
- External light: 3*white SMD LED;
- Material of body: ABS + PC;
- Flash rate: 50 ~ 70 flashes per minute;
- Total weight: 120 grams.

LNK-LR-05A:

Description:

The light comprises two items, internal light with battery and external light connected each other by a wire with locking ring.

The battery powers separately both internal and external lights.

The external and internal light will be activated when the liferaft inflates. Both lights are activated at the same time.

Each lights can be turned on or off by pressing manually switches separately.

TYPE OF LIGHT	LNK-LR-05A	
	(External use)	(Internal use)
Characteristics	Flash rate: 50 ~ 70 flashes per minute Intensity: ≥ 4.3 cd	Flash rate: steady Intensity: ≥ 0.5 cd
Dimension of body	$\Phi 38 \times 19$ mm	71.5 mm x 44.7 mm x 28 mm
Light source	3*white SMD LED	1*white SMD LED
Battery	Lithium battery ER14505M*2	
Material of body	PC+ABS	
Color of Lampshade	Semi-Transparent Upper shell	
Color of body	Customer request (to be of international or vivid reddish orange, or a comparably highly visible color on all parts where this will assist detection at sea)	
Total weight	100 g (Without Buckle)	
Storing temperature	-30°C ~ +65°C	
Working temperature	-30°C ~ +65°C	
Working time	>12h	





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LNK-LBL1/LNK-LBL2:

TYPE OF LIGHT	LNK-LBL1	LNK-LBL2
	(External use)	(Internal use)
Characteristics	Power: ≤ 5 Watt Flash rate: 50 ~ 70 flashes per minute Intensity: ≥ 4.3 cd	Power: ≤ 1.5 Watt Flash rate: steady Intensity: ≥ 0.5 cd
Dimension of body	$\Phi 96 \times 90$ mm	
Light source	7*LED, white	
Input power	DC 12V/24V	
Material of body	PC	
Color of Lampshade	Transparent	Semi-Transparent
Color of body	Customer request (to be of international or vivid reddish orange, or a comparably highly visible color on all parts where this will assist detection at sea)	
Total weight	280g \pm 10g (incl.cable)	
Water proof	IP67	
Storing temperature	-30°C ~ +65°C	
Working temperature	-30°C ~ +65°C	
Working time	>12h	

Reference documents

LNK-LR-01A:

- BOM issued by XIAMEN LONAKO INDUSTRY & TRADE CO., LTD and approved by RINA with No.: SHFP-19704;
- Booklet of technical drawings issued by XIAMEN LONAKO INDUSTRY & TRADE CO., LTD and approved by RINA with No.: SHFP-19705;
- Technical specification issued by XIAMEN LONAKO INDUSTRY & TRADE CO., LTD and approved by RINA with No.: SHFP-19711;
- Marking issued by XIAMEN LONAKO INDUSTRY & TRADE CO., LTD and approved by RINA with No.: SHFP-19715;
- Operation and Maintenance Instructions issued by XIAMEN LONAKO INDUSTRY & TRADE CO., LTD and filed by RINA with No.: SHFP-19713.

LNK-LR-02C:

- Bill of Material edited by Xiamen Lonako Industry & Trade CO., Ltd and approved by RINA with No.: SHFP-21560.
- Technical drawing edited by Xiamen Lonako Industry & Trade CO., Ltd and approved by RINA with No.: SHFP-21500.
- Operation and Maintenance Instructions edited by Xiamen Lonako Industry & Trade CO., Ltd and filed by RINA with No.: SHFP-21501.
- Technical specification edited by Xiamen Lonako Industry & Trade CO., Ltd and approved by RINA with No.: SHFP-21502.

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LNK-LR-03A:

- Booklet of Technical Drawings issued by Xiamen LONAKO Industry & Trade Co., Ltd and approved by RINA with No.: SHFP-9363;
- Bill of Material issued by Xiamen LONAKO Industry & Trade Co., Ltd and approved by RINA with No.: SHFP-9364;
- Specification of Battery and filed by RINA with No.: SHFP-9365;
- Operation and Maintenance Instructions issued by Xiamen LONAKO Industry & Trade Co., Ltd and filed by RINA with No.: SHFP-9366;
- Technical Specification issued by Xiamen LONAKO Industry & Trade Co., Ltd and approved by RINA with No.: SHFP-20218.

LNK-LR-05A:

- BOM issued by XIAMEN LONAKO Inc. and approved by RINA with No.: SHFP-22672;
- Booklet of technical drawings issued by XIAMEN LONAKO Inc. and approved by RINA with No.: SHFP-22678;
- Technical specification issued by XIAMEN LONAKO Inc. and approved by RINA with No.: SHFP-22674;
- Operation and Maintenance Instructions issued by XIAMEN LONAKO Inc. and filed by RINA with No.: SHFP-22673.

LNK-LBL1 / LNK-LBL2:

- BOM issued by Xiamen LONAKO Industry & Trade Co., Ltd and approved by RINA with No.: SHFP-18112;
- Booklet of technical drawings issued by Xiamen LONAKO Industry & Trade Co., Ltd and approved by RINA with No.: SHFP-18113;
- Technical specification issued by Xiamen LONAKO Industry & Trade Co., Ltd and approved by RINA with No.: SHFP-18331;
- Operation and Maintenance Instructions issued by Xiamen LONAKO Industry & Trade Co., Ltd and filed by RINA with No.: SHFP-18329;
- Labeling issued by Xiamen LONAKO Industry & Trade Co., Ltd and approved by RINA with No.: SHFP-18330.

Tests carried out

LNK-LR-01A:

- PC Mould Growth Test Report (Ref. No.: 20092277) dated 25/01/2010 issued by Center of Analysis & Measurement of Shanghai Institute of Industrial Microbiology and filed by RINA with No.: SHFP-19706;
- PE Mould Growth Test Report (Ref. No.: 2015057) dated 30/01/2015 issued by Wuhan Testing Center of Marine Life-saving Appliances and filed by RINA with No.: SHFP-19707;
- PVC Mould Growth Test Report (Ref. No.: 20092276) dated 25/01/2010 issued by Center of Analysis & Measurement of Shanghai Institute of Industrial Microbiology and filed by RINA with No.: SHFP-19708;
- Additional Evaluation and Test Report (Ref. No.: 2020LR01A) dated 10/04/2020~28/04/2020 issued by XIAMEN LONAKO INDUSTRY & TRADE CO., LTD in accordance with IMO Res. MSC.81(70) as amended and Chapter 8.3, 8.5, 8.6, 8.9 and 11.2 of IEC 60945:2002 incl. IEC 60945 Corr.1:2008, Chapter 5.3.2, 5.3.3, 5.3.4, 6.1.3, 6.1.4 and 6.2.2 of ISO 24408:2005 and filed with No.: SHFP-19709;
- Inspection report (Ref. No.: 2010YW030) issued by National Supervision and Testing Center of Fishery Machinery and Instrument and filed by RINA with No.: SHFP-19710;
- Routine Test Report issued by XIAMEN LONAKO Inc. and filed with No.: SHFP-27402.





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LNK-LR-02C:

- Evaluation and test report edited by RINA Shanghai Office in accordance with IMO Res. MSC.81(70) and MSC/Circ.980 and filed with No.: CSST 5833.
- Inspection report (Ref. No.: 2010YW033) edited by National Supervision and Testing Center of Fishery Machinery and Instrument and filed by RINA with No.: SHFP-21457.
- Test report (Ref. No.: 20092275 / 20092276 / 20092277) dated 25/01/2010 edited by Center of Analysis & Measurement of Shanghai Institute of Industrial Microbiology and filed with No.: SHFP-21508.
- Additional Evaluation and Test Report (Ref. No.: 2022LR-02C) edited Xiamen Lonako Industry & Trade CO., Ltd according to Chapter 8.3, 8.5 and 11.2 of IEC 60945:2002 incl. IEC 60945 Corr.1 (2008) and filed by RINA with No.: SHFP-21470;
- Additional Evaluation and Test Report (Ref.: No. 2022LR-02C-02) edited by Xiamen Lonako Industry & Trade CO., Ltd according to ISO 24408:2005 and filed by RINA with No.: SHFP-21454;
- Routine Test Report edited by Xiamen Lonako Industry & Trade CO., Ltd and filed by RINA with No.: SHFP-21505;
- Routine Test Report issued by XIAMEN LONAKO Inc. and filed with No.: SHFP-27403.

LNK-LR-03A:

- Evaluation and Test Report (Survival Craft Position Indicating Lights) (Ref No.: 2016056) issued by Wuhan Testing Center of Marine Life-saving Appliances and filed by RINA with No.: SHPF-9361 & 20202;
- Mould Growth Test Report (ABS) (Ref No.: 2015059) issued by Wuhan Testing Center of Marine Life-saving Appliances and filed by RINA with No.: SHPF-9383;
- Mould Growth Test Report (PVC Wire) (Ref No.: 20092276) issued by Center of Analysis & Measurement of Shanghai Institute Of Industrial Microbiology and filed by RINA with No.: SHPF-9384;
- Mould Growth Test Report (PC Plastic) (Ref No.: 20092277) issued by Center of Analysis & Measurement of Shanghai Institute Of Industrial Microbiology and filed by RINA with No.: SHPF-9385;
- Chromaticity Test and Light Intensity Datas issued by Wuhan Testing Center of Marine Life-saving Appliances and filed by RINA with No.: SHPF-9386 & 9387;
- Additional Evaluation and Test Report (Ref.: No.2022LR-03A) edit by XIAMEN LONAKO INDUSTRY & TRADE CO., LTD according to Chapter 8.3, 8.5, 8.6, 8.9 and 11.2 of IEC 60945:2002 incl. IEC 60945 Corr.1 (2008) and filed by RINA with No.: SHFP-20205;
- Additional Evaluation and Test Report (Ref.: 2022LR-03A-02) edit by XIAMEN LONAKO INDUSTRY & TRADE CO.,LTD according to IMO Res. MSC.81(70) and ISO 24408:2005 and filed by RINA with No.: SHFP-20206;
- Routine Test Report issued by XIAMEN LONAKO Inc. and filed with No.: SHFP-27404.

LNK-LR-05A:

- PC Mould Growth Test Report (Ref. No.: 20092277) dated 25/01/2010 issued by Center of Analysis & Measurement of Shanghai Institute of Industrial Microbiology and filed by RINA with No.: SHFP-22755;
- ABS Mould Growth Test Report (Ref. No.: 2015059) dated Jun.30.2015 issued by Wuhan Testing Center of Marine Life-saving Appliances and filed by RINA with No.: SHFP-22751;
- AB GUM Mould Growth Test Report (Ref. No.: 20092275) dated Jan.25.2010 issued by Center of Analysis & Measurement of Shanghai Institute of Industrial Microbiology and filed by RINA with No.: SHFP-22750;
- PVC Mould Growth Test Report (Ref. No.: 20092276) dated Jan.25.2010 issued by Center of Analysis & Measurement of Shanghai Institute of Industrial Microbiology and filed by RINA with No.: SHFP-22756;
- Additional Evaluation and Test Report (Ref. No.: 2020LR01A) dated 10/04/2020~28/04/2020 issued by XIAMEN LONAKO INDUSTRY & TRADE CO., LTD in accordance with IMO Res. MSC.81(70) as amended and Chapter 8.3, 8.5, 8.6, 8.9 and 11.2 of IEC 60945:2002 incl. IEC 60945 Corr.1:2008, Chapter 5.3.2, 5.3.3, 5.3.4, 6.1.3, 6.1.4 and 6.2.2 of ISO 24408:2005 and filed with No.: SHFP-22748;

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- Inspection report (Ref. No.: 2010YW030) issued by National Supervision and Testing Center of Fishery Machinery and Instrument and filed by RINA with No.: SHFP-22749;
- Evaluation and Test Report (Survival Craft Position Indicating Lights) (Ref No.: 2016056) issued by Wuhan Testing Center of Marine Life-saving Appliances and filed by RINA with No.: SHPF-22754;
- Additional Evaluation and Test Report (Ref.: No.2022LR-03A) edit by XIAMEN LONAKO INDUSTRY & TRADE CO., LTD according to Chapter 8.3, 8.5, 8.6, 8.9 and 11.2 of IEC 60945:2002 incl. IEC 60945 Corr.1 (2008) and filed by RINA with No.: SHFP-22753;
- Additional Evaluation and Test Report (Ref. No.: 2022LR-05A-1) dated on Dec.19.2022 issued by XIAMENLONAKO Inc. in accordance with ISO 24408:2005 and filed with No.: SHFP-22671;
- Additional Evaluation and Test Report (Ref. No.: 2022LR-05A-2) dated Dec.5~Dec.19.2022 issued by XIAMEN LONAKO Inc. in accordance with IMO Res. MSC.81(70) as amended and filed with No.: SHFP-22752;
- Routine Test Report issued by XIAMEN LONAKO Inc. and filed with No.: SHFP-27405.

LNK-LBL1 / LNK-LBL2:

- Evaluation and Test Report (Survival Craft Position Indicating Lights) (Ref. No.: 2021058) edit by Wuhan Testing Center of Marine Life-saving Appliances in accordance with IMO Res. MSC.81(70) as amended by Res. MSC.226(82) & ISO 24408:2005 and filed by RINA with No.: SHPF-18273;
- Test Report of PVC Wire Mould Growth (Ref. No.: 20092276) issued by Center of Analysis & Measurement of Shanghai Institute Of Industrial Microbiology and filed by RINA with No.: SHPF-18117;
- Test Report of PC Plastic Mould Growth (Ref. No.: 20092277) edit by Center of Analysis & Measurement of Shanghai Institute Of Industrial Microbiology and filed by RINA with No.: SHFP-18116;
- Test Report of Exposed Materials Parts (Ref. No.: 2010YW036) edit by The National Supervision and Testing Center of Fishery Machinery and Instrument and filed by RINA with No.: SHFP-18115;
- EMC Test Report (Ref. No.: 2021EC-WJ0045) edit by Xiamen Products Quality Supervision & Inspection Institute according to Chapter 9.3, 10.4 and 10.9 of IEC 60945:2002 incl. IEC 60945 Corr.1:2008 and filed by RINA with No.: SHFP-18118;
- Additional Evaluation and Test Report (Ref. No.: 2021LBL) edit by XIAMEN LONAKO INDUSTRY & TRADE CO. LTD according to MSC.81(70) and Chapter 8.3, 8.5, 8.6, 8.9 and 11.2 of IEC 60945:2002 incl. IEC 60945 Corr.1:2008 and filed by RINA with No.: SHFP-18119.
- Routine Test Report issued by XIAMEN LONAKO Inc. and filed with No.: SHFP-27400.

Field of application

LNK-LR-01A, LNK-LR-02C, LNK-LR-03A and LNK-LR-05A: External and internal light for inflatable liferafts use.

LNK-LBL1 / LNK-LBL2: External light (type: LNK-LBL1) and internal light (type: LNK-LBL2) for lifeboat use.

Marking of Product

The product is to be indelibly marked as per IMO Res. MSC.48(66)-(LSA Code), item 1.2.2.9, clause 4.9 of IEC 60945:2002 incl. IEC 60945 Corr.1:2008 and clause 4.3 of ISO 24408: 2005.

Notes

This certificate annuls and replaces the below certificates due to client requests:

- MED071120WS/002 for LNK-LR-01A dated April 1, 2022 and valid until March 31, 2027;
- MED326822WS/001 for LNK-LR-02C dated November 9, 2022 and valid until November 8, 2027;
- MED161922WS/002 for LNK-LR-03A dated April 15, 2022 and valid until April 14, 2027;
- MED052123WS for LNK-LR-05A dated March 1, 2023 and valid until February 29, 2028;
- MED144721WS for LNK-LBL1 / LNK-LBL2 dated June 21, 2021 and valid until June 20, 2026.

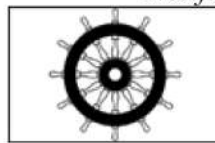
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*The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production control phase module (D, E or F) of Annex II of the Directive is fully complied with a written inspection agreement with a
Notified Body*



XXXX/YYYY

"WHEELMARK FORMAT"

XXXX *Notified Body number undertaking surveillance module*
YYYY *The year in which the mark is affixed*

USCG Approval marking

This equipment is covered by the scope of the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment signed February 27th, 2004 and amended by Decision No. 1/2018 dated February 18th, 2019 according to U.S. Coast Guard approval category **161.101**.

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F) as allowed by the MED.

General conditions for the approval

- a) The initial conditions verified by RINA at the time of the approval are to be maintained
- b) Any changes to the initial conditions are to be promptly communicated to RINA, which reserves the right to repeat the relevant assessment
- c) This certificate will not be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with RINA
- d) RINA personnel are to be allowed to witness during the performances of activities, upon their request
- e) The activities are to be carried out in compliance with the RINA Rules and/or other applicable Rules
- f) Should the specified regulations or standards be amended during the validity of this certificate, the product is to be reapproved prior to it being placed on board vessels to which the amended regulations or standards apply.



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