



Marine & Offshore
Division

Certificate number: 44259/A0 BV

File number: LSA 2477/04

Product code: 6004H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

ACR ELECTRONICS INC.

Fort Lauderdale - UNITED STATES OF AMERICA

for the type of product

LIFEJACKET LIGHTS

C-Light and C-Strobe

Requirements:

SOLAS 74 Convention as amended,

Reg. III/4,X/3,III/7,III/22,III/26,III/32 & III/34

IMO Res. MSC.48(66)-(LSA Code) amended by MSC.207(81),MSC.218(82),MSC.272(85),MSC.293(87),MSC.320(89) & MSC.368(93)

IMO Res. MSC.36(63)-(1994 HSC Code)8, IMO Res. MSC.97(73)-(2000 HSC Code)8

IMO Res. MSC.81(70) amended by MSC.200(80),MSC.226(82),MSC.274(85),MSC.295(87),MSC.321(89),MSC.323(89) & MSC.378(93)

IMO MSC/Circ.980

TP14612 & TP14475

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 08 Apr 2021

For BUREAU VERITAS,

At BV PORT EVERGLADES CENTRE, on 08 Apr 2016,

Flavio Rosas



This certificate is recognized by Transport Canada

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Position-indicating lights for lifejacket type:

Product Model	Type Designation	Activation Mode	Type of light
3962	C-Light H ₂ O	Automatic - Water activated	Fixed/Steady lights
3963	C-Light	Manual activated	Fixed/Steady lights
3964	C-Strobe H ₂ O	Automatic - Water activated	Flashing light (53 Flashes per minute)
3965	C-Strobe	Manual activated	Flashing light (53 Flashes per minute)

2. DOCUMENTS AND DRAWINGS :

- Drawings & Specification:

Number	Title	Revision	Date
A3-06-2940-	LED C-LIGHT & C-STROBE, BULK	B1	2016-04-05
ACR-C01	Handle Body	1	2015-10-25
ACR-C02	Top Body	1	2015-10-25
ACR-C03	Lampshade Cover	1	2015-08-07
ACR-C04	Below Negative Spring	1	2015-12-21
ACR-C05	LED PCB & Switch PCB	1	2015-09-01
ACR-C06	Main PCB	1	2015-09-01
ACR-C07	Water Sensors	1	2015-10-25
ACR-C08	PCB Support	B	2016-02-15
ACR-C09	Spring Support	B	2016-02-15
ACR-C11	Switch Cap	1	2015-08-07
ACR-C12	Plug	1	2015-10-25
ACR-C14	Upper Negative Spring	B	2016-02-15
ACR-C15	Top Body	1	2015-10-25
ACR-C16	Main PCB with LED	1	2015-09-01
ACR-C21	Positive Spring	1	2015-09-09
ACR-C22	Cushion	1	2015-09-01
ACR-C23	Spring for Water Sensors	1	2015-10-16

- Labels and Markings:

Number	Title	Revision	Date
A1-20-1882	LED C-Light & C-Strobe, Bulk	A	01/05/2016
A1-20-1883	Back Label, C-LIGHT	C	04/05/2016
A1-20-1884	Front Label, C-Light H ₂ O	A	01/05/2016
A1-20-1885	Back Label, C-Light H ₂ O	C	04/05/2016
A1-20-1886	Front Label, C-Strobe	A	01/05/2016
A1-20-1887	Back Label, C-Strobe	C	04/05/2016
A1-20-1888	Front Label, C-Strobe H ₂ O	A	01/05/2016
A1-20-1889	Back Label, C-Strobe H ₂ O	C	04/05/2016
A1-20-1890	MIC Label	B	03/21/2016

- Manual(s) for installation use and maintenance.

Number	Title	Revision	Date
Y1-06-0310	C-Light / C-Strobe, Instruction	A	01/04/2016

No departure from these documents is permitted without the prior consent of the Society.

3. TEST REPORTS :

DATE		TEST
2016/20/01	20359-1A	C-Strobe II H ₂ O Water Activated PFD Light (Part Number 3964)
2015/12/23	20359-2	C-Strobe II Manual Activated PFD Light (Part Number 3965)
2015/12/23	20359-3	C-Light II Water Activated PFD Light (Part Number 3962)
2015/12/23	20359-4	C-Light II Manual Activated PFD Light (Part Number 3963)
2016/03/22	20453-1	C-Strobe II H ₂ O Water Activated PFD Light (Part Number 3964)
2016/03/22	20453-2	C-Strobe II Manual Activated PFD Light (Part Number 3965)
2016/03/22	20453-3	C-Light II H ₂ O Activated PFD Light (Part Number 3962)
2016/03/22	20453-4	C-Light II Manual Activated PFD Light (Part Number 3963)

Type tests have been performed with following batteries:

Manufacturer	Panasonic
Item Number	LR6XWA
Designation	1.5V AA Alkaline Battery

4. APPLICATION / LIMITATION :

- As per requirements stated on front page of this certificate.
- The light assembly shall be replaced after 5 years shelf life or after use.

5. PRODUCTION SURVEY REQUIREMENTS :

Position Indicating Lights are to be supplied by **ACR Electronics, Inc, USA** in compliance with the type described in this certificate.

This type of product is within the category HBV of Bureau Veritas Rule Note NR320.

ACR Electronics, Inc, USA has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

The manufacturer shall institute a quality control procedure to ensure that position indicating Lights are produced to the same standard as the approved prototype and shall keep records of any production tests carried out in accordance with instructions given in IMO Resolution MSC.81 (70) Part 2.

Each equipment, or batch of equipment, is to be supplied with its Manual(s) for Installation, use & maintenance

For information concerning the production phase, **ACR Electronics, Inc, USA** has declared the following manufacturing place:

Xiamen Lonako Industry & Trade Co.,Ltd

N402, Weiye Building, China Pioneering Park for Overseas Chinese Scholars,

Xiamen 361009, P.R. China

6. MARKING OF PRODUCT :

Brief instructions or diagrams clearly illustrating the use of the Position-indicating lights for lifejackets shall be printed on the casing.

All necessary markings shall be in English and French.

The light shall be permanently and legibly marked :

- Manufacturer's name or Trademark
- Model Designation
- Date of manufacture (also to be considered as the lot number)
- BV TAC number: 44259/A0 BV
- Instructions on how to activate the light
- Due to the use of Disposable batteries, the words "CHANGE BATTERIES ANNUALLY".

The Disposable Power source shall:

- be permanently and legibly marked with the month and year of manufacture and expiration name or Trademark

7. OTHERS :

This approval is given on the understanding that the Society reserves the right to require check tests to be carried out at any time and that the Manufacturer will accept full responsibility for informing ship owners of proper methods of use, storing and maintenance of the lifejacket light and the conditions of approval.

*** END OF CERTIFICATE ***