



**ecom**  
instruments

mobile experts



# Lite-Ex

15 / 20 / 23 / 25

Operating Instructions



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### **Note:**

The current operating instructions, the Declaration of EC Conformity and the ex-certificate are available for download from the relevant product page under [www.ecom-ex.com](http://www.ecom-ex.com), or alternatively they can be requested directly from the manufacturer.

## **1. Application**

Lite-Ex is a robust and easy-to-use electric torch designed for use in explosion endangered areas of zones 1 and 2 in accordance with Directive 1999/92/EC (ATEX 137).

## **2. Safety instructions**

This Owner's Manual contains information and safety regulations which must be followed to ensure safe and reliable operation of the unit under the described conditions.

Failure to follow the information and instructions contained in this manual can have dangerous consequences or may violate applicable legislation. Please take the time to carefully read through the owner's manual before you start using the unit. In the event of any doubt or discrepancies (e.g. due to errors in translation), the German version of the Owner's Manual shall prevail.

## **3. Errors and load restrictions**

If there is any risk that the safety or integrity of the unit has been compromised, then the unit should be taken out of operation immediately and removed from the ex-zone without delay. Action must be taken to prevent the unit from being accidentally taken into operation again. We recommend that the unit should be sent to the manufacturer to be examined.

The safety and reliability of the unit may be at risk if, for example:

- visible damage is evident on the housing,
- the unit has been subjected to excessive loads for which it is not designed,
- the unit has been improperly stored,
- the unit has been damaged in transit,
- inscriptions or lettering on the unit are illegible,

- malfunctions occur,
- permitted tolerances or threshold values have been exceeded.

#### **4. Safety regulations**

Any person using the unit must observe the standard safety regulations to prevent incorrect operation or abuse of the unit.

The following additional safety regulations must also be observed:

- The unit must not be opened within the ex-zone.
- The batteries must only be changed outside the ex-zone.
- Additional or spare batteries must not be carried in the ex-zone.
- Always use the specified type of battery.
- The bulb must only be changed outside the ex-zone.
- Only type-approved bulbs may be used.
- Only accessories approved by ecom instruments GmbH may be used.

#### **4.1 Additional safety precautions**

- When the torch is switched on, do not put it down on its head or transport/store/put it down in coat pockets or similar.

#### **5. Ex-data**

EC-type-examination certificate no.:

TÜV 99 ATEX 1409

Ex-identification:  II 2 G EEx e ia IIC T4

Approved for zones 2 and 1, device group II, gas group C potentially explosive gases, vapours or mist, temperature class T4.

## 6. Technical data and specifications

| Battery<br>Bulb  | Length of operation<br>Weight   |
|--|---------------------------------|
| Lite-Ex 15   |                                 |
| 2 x LR6/IEC<br>Ampercell AC2640/BB                                       | approx. 4.5 h<br>approx. 70 g   |
| Lite-Ex 20   |                                 |
| 3 x LR6/IEC<br>Ampercell AC2300/BB                                       | approx. 5.0 h<br>approx. 82 g   |
| Lite-Ex 23   |                                 |
| 2 x LR14/IEC<br>Ampercell AC2C/2D/BB<br>Sonca KPR 102<br>Philips KPR 104 | approx. 9.0 h<br>approx. 270 g  |
| Lite-Ex 25   |                                 |
| 2 x LR20/IEC<br>Ampercell AC2C/2D/BB                                     | approx. 17.0 h<br>approx. 400 g |

(depending on the type of torch, replacement bulbs are contained in the end cap)

Ambient temperature  $T_a$ : -20 ... +40°C

IP rating: IP 54

CE label:  0102

## 7. Functional description / operating information

Please take the time to carefully read through this Owner's Manual to ensure that you are familiar with all of the functions of your Lite-Ex and know how to use all of the functions.

For your own safety and information, please read through the information on the following pages.

### 7.1 Taking the unit into operation

Before the torch can be used in the ex-zone, first make sure that the end cap is properly attached, and that there is a good seal between the end cap and the housing. The lamp can be subsequently

switched on and off using the pressure switch (Lite-Ex 23, 25) or rotary switch (Lite-Ex 15, 20). Then the pushbutton can be used to switch the torch on and off. The torch is supplied with the batteries already installed.

## **7.2 Changing the batteries**

The batteries should be replaced immediately once the torch stops delivering the required amount of light. We recommend replacing all of the batteries together. Only use the approved type of battery (refer to the list of approved battery types in the table in section 6. Technical data and specifications). To change the batteries, unscrew the end cap from the torch in an anti-clockwise direction. Then take out the old batteries.

Before inserting the new batteries, clean the contacts on the batteries and in the torch. Once the new batteries have been inserted, re-fit the end cap to seal the torch.

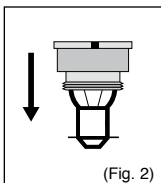
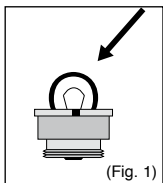
### **Battery replacement**

- Always replace all of the batteries together.
- Make sure that the polarity of the inserted batteries is correct.
- Please ensure that all used batteries are properly disposed of in an environmentally-friendly manner.

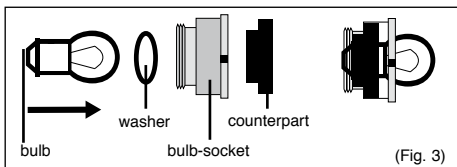
## **7.3 Bulb replacement, Lite-Ex 15 + 20**

- Unscrew the end cap and remove the batteries.
- Twist the head of the torch clockwise until it reaches the stop.
- Carefully unscrew the reflector mounting on the head of the torch and take off the reflector.
- Using pointed pliers, carefully unscrew the bulb holder (working anti-clockwise).
- Press the spent bulb down through the base (Fig. 1 and Fig. 2).

**Caution: The washer will be required again later.**



- Fit the washer to a new bulb (refer to the list of bulbs in section 6. Technical data and specifications) and press it from underneath into the base.
- Reassemble the torch in the reverse order.



#### **7.4 Bulb replacement, Lite-Ex 23 + 25**

- Unscrew the end cap and remove the batteries.
- Twist the head of the torch clockwise until it reaches the stop.
- Carefully unscrew the reflector mounting on the head of the torch and take off the reflector.
- Unscrew the union nut.
- Insert a new bulb (refer to the list of bulbs in section 6. Technical data and specifications).
- Reassemble the torch in the reverse order.

#### **8. Repairs**

Repairs are subject to the nationally valid regulations and directives. We therefore recommend

that such work be performed by ecom instruments GmbH, Germany, as all repairs must be examined to ensure functional safety.

### **9. Disposal**

Old electrical equipment and „historic“ old electrical equipment from ecom instruments GmbH will be disposal obligation and disposed of at no cost in accordance with the EC Directive 2002/96/EC and the German Electrical and Electronic Equipment law of 16/03/2005.

The costs of the transport of the equipment to ecom instruments GmbH are borne by the sender.

In accordance with “Directive 2006/66/EC on batteries and accumulators and waste batteries” we are obligated to provide you with the following information:

Your device contains an alkaline battery.

Depleted batteries should never be disposed of along with normal or household waste. Old batteries can contain harmful substances that are hazardous to health and damaging to the environment. Please return the batteries. Return is free of charge and required by law. Please only dispose of discharged batteries in the designated containers.

Note: The battery used in this unit poses a fire hazard and can cause chemical injuries if it is used improperly. Neither the battery nor the battery cells should be opened or disassembled and they should not be burned or exposed to temperatures exceeding 100°C.

If the battery needs to be disposed of, it can be



removed as described under point (7.2). The disposal regulations specified above are also applicable for old devices.

All batteries can be recycled. Precious raw materials such as iron, zinc and nickel can therefore be reused.

The symbol  has the following meaning:

Batteries and rechargeable batteries should not be disposed of along with normal or household waste.

### **10. Cleaning, maintenance and storage**

Only use a suitable cloth or sponge to clean the unit. Do not use solvents or abrasive cleaning agents to clean the unit.

We recommend having the function and the accuracy of the device checked by the manufacturer every two years.

The batteries should be taken out of the unit if it is to be stored for a long time.

The storage temperature should be within the permitted range of  $-40^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$ .

### **11. Warranty and liability**

Under the general terms and conditions of business, ecom instruments GmbH offers a two-year warranty for functioning and materials for this product when used under the specified operating and maintenance conditions. This does not apply to wearing parts (such as rechargeable batteries and LED's).

This warranty does not extend to products that have been used improperly, altered, neglected, damaged by accident or subjected to abnormal operating conditions or improper handling.

In the event of a warranty claim, the faulty device should be returned. We reserve the right to re-calibrate, repair or replace the device.

The above warranty terms represent the sole rights of the purchaser to compensation and apply exclusively and in place of all other contractual or statutory warranty obligations. ecom instruments GmbH does not accept liability for specific, direct, indirect, incidental or consequential damages or losses, regardless of whether they are caused by breach of warranty, lawful or unlawful actions, actions in good faith or other actions.

If in certain countries the restriction of statutory warranty and the exclusion or restriction of incidental or consequential damages is unlawful, then it may be possible that the above restrictions and exclusions do not apply for all purchasers. If any clause in these warranty terms is found to be invalid or unenforceable by a competent court, then such a judgement shall not affect the validity or enforceability of any other clause contained in these warranty terms.

## 12. EC-type-examination certificate



### (1) EC TYPE-EXAMINATION CERTIFICATE

(2) Equipment or Protective System intended for use in potentially explosive atmospheres - **Directive 94/9/EC**

(3) EC-Type Examination Certificate Number

**TÜV 99 ATEX 1409**



(4) Equipment or Protective System: **Explosion proofed torch type Lite-Ex\***

(5) Manufacturer: **ECOM Rolf Nied GmbH**

(6) Address: **Industriestraße 2  
D-97959 Assamstadt**

(7) This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate.

(8) The TÜV Hannover/Sachsen-Anhalt e.V., TÜV Certification Body N° 0032 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Basic Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential report N° 99/PX06690.

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

**EN 50 014 : 1997**

**EN 50 019:1994**

**EN 50 020 : 1994**

(10) If the sign "X" is placed after the certification number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type examination certificate relates only to the design and construction of the specified equipment or protective system according to Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and placing on the market of this equipment or protective system.

(12) The marking of the equipment or protective system must include the following:

 **II 2 G EEx e ia IIC T4**

TÜV Hannover/Sachsen-Anhalt e.V.

TÜV CERT-Zertifizierungsstelle

Am TÜV 1

D-30519 Hannover

Head of the  
Certification Body

Hannover, 1999-04-09



(13) **SCHEDULE**(14) **EC-TYPE EXAMINATION CERTIFICATE N° TÜV 99 ATEX 1409**

## (15) Description of equipment or protective system

The torches type Lite-Ex\* are lights with adjustable focusing for the use in the close-up area and may be used in the explosion hazardous area.

Electrical data

Supply..... in type of protection "Intrinsic Safety" EEx ia IIC  
(internal battery)

The batteries and lamps to be used in dependence of the type of the torch have to be taken from the following table:

| type            | Lite-Ex15              | Lite-Ex20              | Lite-Ex23               | Lite-Ex25               |
|-----------------|------------------------|------------------------|-------------------------|-------------------------|
| number of cells | 2 pcs.                 | 3 pcs.                 | 2 pcs.                  | 2 pcs.                  |
| battery         | LR6 according to IEC   | LR6 according to IEC   | LR14 according to IEC   | LR20 according to IEC   |
| lamp            | AMPERCELL<br>AC2640/BB | AMPERCELL<br>AC2300/BB | AMPERCELL<br>AC2C/2D/BB | AMPERCELL<br>AC2C/2D/BB |

The batteries may only be replaced outside of the explosive hazardous area (information plate).

(16) Test documents are listed in the test report No. 99/PX06690.

(17) Special condition for safe use

none

(18) Basic Health and Safety Requirements

no additional ones

**1st ADDENDUM**  
**to**  
**EC-Type Examination Certificate No. TÜV 99 ATEX 1409**

Company: ECOM Rolf Nied GmbH  
Industriestraße 2  
D-97959 Assamstadt

The flashlights in the Lite-Ex\* range may be manufactured in the future according to the documents listed in the inspection report.

Electrical data

Supply in ignition protection class Intrinsic Safety EEx ia IIC  
(internal battery)

The batteries and bulbs that are to be used subject to the flashlight type must be inferred from the following table:

| Type            | Lite-Ex15                  | Lite-Ex20                  | Lite-Ex23                   | Lite-Ex25                   |
|-----------------|----------------------------|----------------------------|-----------------------------|-----------------------------|
| Number of cells | 2-pce.                     | 3-pce.                     | 2-pce.                      | 2-pce.                      |
| Battery         | LR6 in accordance with IEC | LR6 in accordance with IEC | LR14 in accordance with IEC | LR20 in accordance with IEC |
| Bulb            | AMPERCELL AC2640/BB        | AMPERCELL AC2300/BB        | AMPERCELL AC2C/2D/BB        | AMPERCELL AC2C/2D/BB        |

(16) Test documents are listed in inspection report No. 99/PX15090.

(17) Special conditions

none

(18) Fundamental health and safety requirements

no additional requirements

TÜV Hannover/Sachsen-Anhalt e.V.  
TÜV CERT-Zertifizierungsstelle  
Am TÜV 1  
D-30519 Hannover

Hanover, 30.06.1999

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**2nd ADDENDUM  
to**

**EC-Type Examination Certificate No. TÜV 99 ATEX 1409**

Company: ECOM Rolf Nied GmbH  
Industriestraße 2  
D-97959 Assamstadt

The flashlights in the Lite-Ex\* range may be manufactured in the future according to the documents listed in the inspection report.

**Electrical data**

Supply in ignition protection class Intrinsic Safety EEx ia IIC  
(internal battery)

The batteries and bulbs that are to be used subject to the flashlight type must be inferred from the following table:

| Type            | Lite-Ex15                  | Lite-Ex20                  | Lite-Ex23   | Lite-Ex25                   |
|-----------------|----------------------------|----------------------------|---|-----------------------------|
| Number of cells | 2-pce.                     | 3-pce.                     | 2-pce.  | 2-pce.                      |
| Battery         | LR6 in accordance with IEC | LR6 in accordance with IEC | LR14 in accordance with IEC                         | LR20 in accordance with IEC |
| Bulb            | AMPERCELL AC2640/BB        | AMPERCELL AC2300/BB        | AMPERCELL AC2C/2D/BB, KPR102 Sonca, KPR104 Phillips | AMPERCELL AC2C/2D/BB        |

(16) Test documents are listed in inspection report No. 01 PX 04810.

(17) Special conditions

none

(18) Fundamental health and safety requirements

no additional requirements

TÜV Hannover/Sachsen-Anhalt e.V.  
TÜV CERT-Zertifizierungsstelle  
Am TÜV 1  
D-30519 Hannover

Hanover. 13.01.2001

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**3rd ADDENDUM**  
**to**  
**EC-Type Examination Certificate No. TÜV 99 ATEX 1409**

Company: *ecom instruments GmbH*  
Industriestraße 2  
D-97959 Assamstadt

formerly ECOM Rolf Nied GmbH  
Industriestraße 2  
D-97959 Assamstadt

The flashlights in the Lite-Ex\* range may be manufactured in the future according to the documents listed in the inspection report.

The changes relate to the mechanical configuration.

The electrical data and all other details remain unchanged for this addendum.

Test documents are listed in inspection report No. 03 YEX 550275

TÜV NORD CERT GmbH & Co. KG  
TÜV CERT-Zertifizierungsstelle  
Am TÜV 1  
D-30519 Hannover  
Tel.: 0511 986-1470  
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Hanover, 02.01.2003

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