



Instruction Manual

H-251 A



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### **1. Introduction**

Providing an intense bright inspection light beam, the intrinsically safe rechargeable handlamp type H-251A is certified for use in Ex-hazardous areas classified as either Zone 1 or 2 and also Zone 21 or 22 according to IEC/CENELEC.

### **2. Safety information**

Safe operation of the equipment is maintained providing that all instructions and warnings contained in this manual are fully observed.

In case of doubt (due to translation and/or printing errors) reference should be made to the original German instruction manual.

### **3. Faults and damage**

If there is any reason to suspect that the safety of the unit has been affected then it must be immediately withdrawn from use and precautionary measures taken in order to prevent any further use of in the hazardous area.

The safety and integrity of the unit may be compromised by, for example:

- External damage to the housing
- Exposure to excessive loads
- Incorrect storage of the unit
- Damage sustained in transit
- Correct certification is illegible
- Functioning errors occur
- The permitted limitations are exceeded

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

The use of the intrinsically safe H-251A meets the requirements of the regulations providing that the user observes and applies the requirements as laid down in the regulations and that improper and incorrect use of the unit is avoided.

- The device must not be opened within the Ex-hazardous area.
- The battery must only be changed outside of the Ex-hazardous area.
- The use of any other type of battery pack in the Ex-hazardous area is not permitted.
- The battery pack may only be charged outside of the Ex-hazardous area by using either units type C-251 HVE or C-251 LV.
- The use of any other type of battery is strictly forbidden in that it will invalidate the Ex-Data certification and presents a safety risk.
- Only batteries supplied by ECOM are permitted.

#### **5. Ex-Data**



EC-Certificate of conformity -Nr.: BAS 01 ATEX 2188

Ex-marking:  II 2 GD EEx e ib IIC T4  
IP 66, T135°C

Authorised for Zone 1 and 2, Equipment groups II, Gas group C hazardous gases, vapour or fog, Temperature class T4.

Authorised for Zone 21 and 22, Equipment groups II, Gas group C, hazardous dust, Temperature class T4.

## **6. Technical Data**

|                         |  |
|-------------------------|--|
| Working temperature Ta: | -20 ... +40°C  |
| Storage temperature:    | -20 ... +40°C  |
| Operating time:         | 7 hours  |
| Dimensions:             | 190 x 130 (L x Diameter)   |
| Weight:                 | approx. 1750 g (with battery)  |
| IP-Rating:              | IP 66  |
| CE-marking:             | CE 0102  |
| Power supply:           | Ex-battery pack type "H-66"  |
| Battery data:           | 4V, 5Ah: 500 charge cycles<br>With deep discharge and<br>short circuit protection                        |
| Bulb:                   | Krypton at least. 3,6 Volt<br>and max. 1,0 Ampere<br>Halogen at least. 3,75 Volt<br>and max. 0,75 Ampere |

## **7. Operating instructions**

### **7.1. Handlamp**

Please read through the following operating instructions in order to help enable the optimisation of all functions of the handlamp type H-251A.

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

#### **7.1.1. Before use**

Before use in the Ex-hazardous area, ensure that the handlamp head is screwed fully closed to the main casing. The handlamp can now be switched on and off with the sliding switch.

### **7.1.2. Opening**

Warning: Do not open the handlamp within the Ex-hazardous area. Before opening, switch to OFF.

The handlamp head is removed by turning anticlockwise from the main casing – please note, that as the handlamp head is fitted with a high integrity seal, this action can be difficult to start. To replace the handlamp head, reverse the procedure – ensuring that the handlamp head is screwed fully closed.

### **7.1.3. Bulb replacement**

With the handlamp head removed the bulb is accessed by unscrewing - in an anticlockwise direction - the bulb retention socket. Please ensure that only correctly specified bulbs are used.

### **7.1.4. Battery replacement**

When the battery recharging capacity is becoming exhausted and needs replacing only batteries as specified by ECOM can be used.

With the handlamp head removed the battery pack is removed by sliding it out of the cavity of the main casing.

Replace in reverse procedure – ensuring that the contacts are clean.

### **7.1.5. Battery charging**

After engaging the handlamp into the charging station, LED's indicate the status and condition of operation. The handlamp can be removed from the charging station at any time.

### **7.1.6. Emergency light mode**

When the handlamp is switched on and then engaged in the charging station, the emergency light mode function is automatically activated. If the power supply to the charging station is then interrupted, the handlamp switches on automatically - for a duration of approximately 7 hours (when fully charged). Likewise, when then removed from the charging station the handlamp switches on automatically.

## **7.2. Charging station**

The main switch for the charging station is located on the back of the unit. After switching on the handlamp, the charging process begins immediately. When charging is completed, the unit automatically reverts to trickle charge mode.

The LED indicates the following operating status:

|  |                                 |
|--|---------------------------------|
| Constant red:                                  | no handlamp / contact           |
| Constant green:                                | charging in process             |
| Shortly before transition to trickle charging: | constant green and flashing red |
| Constant red and green:                        | trickle charging                |

The batteries must be fully recharged at least once every 6 months.

Please note: only use ECOM charging equipment when charging ECOM handlamps.

Ambient temperature  $T_a$ : +10...+25 deg C.

Only operate in dry, well-ventilated rooms, outside of the Ex-hazardous area.

There are two different types of charging stations available for the H-251 A.

### **7.2.1. C – 251 HV**

This charging station is designed for a supply voltage of 220-240 Volts AC with 50-60 Hz. A voltage of 100-120 AC Volts can be switched manually to 50-60Hz.

90% battery charging capacity is reached after 6-7 hours.

After approximately 9 hours of charging, the battery should be completely recharged.

**WARNING** - an incorrect voltage can damage the equipment, therefore please take care to ensure that the correct voltage is selected.

### **7.2.2. C – 251 LV**

This charging station is designed for a supply voltage of 12-32 Volts DC. Complete recharging using a 12-Volt DC supply should be completed in approximately 20-24 hours, using a 24 Volts DC supply reduces this time to approximately 10-12 hours.

Correct connection of the cable wires is as follows:

Red: + terminal  
Black: - terminal

### **8. Repairs**

The general terms and conditions of ELEX V apply to repair work. The manufacturer must carry out the repair work in order to check for the safe functioning of the protective circuits.

### **9. Cleaning**

The equipment should only be cleaned using a cloth or sponge dampened with water. The use of cleaning solutions or scouring agents is not advised.

### **10. Guarantee and liability**

The instrument parts and functions are guaranteed for two years, starting from the date of delivery. This guarantee remains valid if defective components are submitted. We reserve the right to exchange, modify or repair the equipment.

The company ECOM Rolf Nied GmbH is responsible for the granting of the guarantee. It takes no responsibility for damages, expenses or losses resulting from the use or purchase of the equipment. Neither is ECOM liable for damages, expenses or losses arising from any special or subsequent damages.

Further, any use other than that as described in section 1 is not permitted. ECOM is not liable for any damages resulting from any differing or excessive use. The user carries this risk alone.



In those countries where the restriction of a legal guarantee (e.g. the exclusion or limitation of subsequent damage) is not permitted, it could be that the above mentioned limitations and exclusions are not valid for each purchase. Should any clause of this guarantee be found ineffective or unacceptable before a court, then the effectivity or enforcement of any other part of this guarantee should be unaffected by such claims.

#### **11. EC-Declaration of conformity**

This product fulfils all relevant guideline regulations 94/9/EG for equipment and protective systems in potentially explosive areas. The granted EC certificate of conformity confirms that the product complies with all relevant norms and fundamental health and safety regulations.

Decisive harmonised norms:

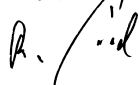
|                          |  |
|--------------------------|--|
| <b>EN 50014:1997</b>     | Electrical means of production for hazardous areas general regulations.        |
| <b>EN 50019:2000</b>     | Electrical means of production for hazardous areas increased safety "e".       |
| <b>EN 50020:1994</b>     | Electrical means of production for hazardous areas intrinsic regulations, "i". |
| <b>EN 50281-1-1:1998</b> | Electrical means of production for hazardous areas flammable dusts.            |

This product has the CE indicator to confirm that all relevant guidelines are fulfilled.



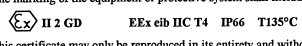


ECOM Rolf Nied GmbH

Assamstadt, November 2001

Rolf Nied  
Managing Director



12. EC-Certificate of conformity

|  |  |
|--|--|
|   |    |
| <b>EC-TYPE EXAMINATION CERTIFICATE</b>   |  |
| <b>Equipment or Protective System Intended for use<br/>in Potentially Explosive Atmospheres<br/>Directive 94/9/EC</b>  |  |
| 3  | EC-Type Examination Certificate Number : <b>BAS01ATEX2188</b>  |
| 4  | Equipment or Protective System: <b>HANLAMP H-251A</b>  |
| 5  | This Certificate is held by: <b>ECOM ROLF NIED GmbH</b>  |
| 6  | Address: <b>Industriestrasse 2, D-97959 Assamstadt, Germany</b>  |
| 7  | This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.   |
| 8  | The Electrical Equipment Certification Service, notified body number 600 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential 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.<br><br>The examination and test results are recorded in confidential Report N°<br><br>01(C)0295 dated 14 May 2001 |
| 9  | Compliance with the Essential Health and Safety Requirements has been assured by compliance with:<br><b>EN 50014: 1997 + Amds 1 &amp; 2 EN 50019: 2000 EN 50020: 1994 + Amd 1 EN 50281-1-1: 1998</b><br>except in respect of those requirements listed at item 18 of the Schedule.   |
| 10   | If the sign "X" is placed after the certificate 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. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.  |
| 12   | The marking of the equipment or protective system shall include the following:-<br><br>   |
| This certificate may only be reproduced in its entirety and without any change, schedule included.   |  |
| File No: EECS 4206/03/001  |  |
| <small>This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.</small> |  |
|   |    |
| Electrical Equipment Certification Service<br>Health and Safety Executive<br>Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom<br>Tel: 01298 282000 Fax: 01298 282444  |  |
| <b>I M CLEARE</b><br>DIRECTOR<br>21 May 2001   |  |



13 Schedule

14 EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX2188

15 Description of Equipment or Protective System

The Handlamp H-251A is a portable light with a moulded anti-static plastic case and lens ring, and a toughened glass lens. The lens is sealed to the lens ring and the lens ring is sealed to the case by nitrile, neoprene or EPDM O-rings/seals. The lens ring screws onto the body and as an option may be locked in place by a socket head lock screw. The lock screw prevents switch slider mechanism operation until the lens ring is locked in place.

The impact resistant enclosure provides an ingress protection rating of IP66.

The switch slider mechanism contains a magnet which operates an internal hermetically sealed reed switch.

Power is provided by means of a rechargeable battery pack containing two sealed lead acid cells and an active current limiting device. Two metal studs passing through the wall of the enclosure allow the torch to be placed on charging apparatus with connections aligning with the two studs. The studs align internally with the battery pack connections. The studs are sealed to the wall of enclosure and maintain the ingress protection provided by it.

A 3.6 volt (minimum) 1.0 amp (maximum) bulb is used. Alternatively a 3.75 volt (minimum) 0.75 amp (maximum) halogen bulb type HPR may be used.

16 Report No.

01(C)0295 dated 14 May 2001

17 Special Conditions For Safe Use

None

18 Essential Health and Safety Requirements

All requirements are covered by compliance with EN 50014: 1997 + Amds 1 & 2, EN 50019: 2000, EN 50020: 1994 + Amd 1 and EN 50281-1-1: 1998.

19 DOCUMENTS

| Number        | Sheet  | Issue | Date   | Description          |
|---------------|--------|-------|--------|----------------------|
| EW-911        | 1 of 1 | 1     | 4/5/01 | Label                |
| BAS00ATEX2176 |        |       | 2/1/01 | Original Certificate |

This certificate may only be reproduced in its entirety and without any change, schedule included.

BASEEFA List Keywords  
2HANDLUM



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