

(1) EC-TYPE EXAMINATION CERTIFICATE**(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 09ATEX0018 X** Issue Number: **1**

(4) Equipment: **Indicator Model H61 Series**

(5) Manufacturer: **Macnaught PTY Ltd.**

(6) Address: **41-49 Hendersonstreet, Turrella NSW 2205, Australia**

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

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.

The examination and test results are recorded in confidential test report number 212166400/2.

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

EN 50014 : 1997 + A1, A2 EN 50020 : 2002 EN 50281-1-1 : 1998 + A1 EN 50284 : 1999

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment 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, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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



II 1 GD EEx ia IIB/IIC T4 T 100 °C

This certificate is issued on March 6, 2009 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.


C.G. van Es
Certification Manager

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 09ATEX0018 X** Issue No. 1

(15) **Description**

The range of Indicators Series H61 includes the basic models with their variations as indicated in Annex 1.

The enclosure of the indicator provides a degree of protection of at least IP65 in accordance with EN 60529.

Ambient temperature range -40 °C to +70 °C.

The maximum temperature of the enclosure T 100 °C is referred to an ambient temperature of 70 °C and is applicable to a maximum dust layer thickness of 5 mm.

Electrical data

See Annex 1 for electrical data.

Installation instructions

When two or more active intrinsically safe circuits are connected to the indicator, in order to prevent voltage and/or current addition, applicable to the external circuits, precautions must be taken to separate the intrinsically safe circuits in accordance with EN 50020.

To maintain the degree of protection of at least IP 65 in accordance with EN 60529, certified cable entries in accordance with EN 50281-1-1 must be used and correctly installed. Unused openings must be closed with a suitable blanking element.

(16) **Test report**

KEMA No. 212166400/2.

(17) **Special conditions for safe use**

Normally, the indicator is classified as group IIB. However, classification of the indicator as group IIC is possible, only under the conditions indicated in annex 1.

In addition the installation instructions of the manufacturer must be observed.

When the enclosure of the Indicator is made of aluminium alloy, when used in a potentially explosive atmosphere requiring apparatus of equipment category 1 G, the Indicator shall be installed so, that even in the event of rare incidents, an ignition source due to impact or friction between the enclosure and iron/steel is excluded.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 212166400/2.

(1) EC-TYPE EXAMINATION CERTIFICATE

(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC

(3) EC-Type Examination Certificate Number: **KEMA 09ATEX0017 U** Issue Number: **1**

(4) Component: **Intrinsically safe non-rechargeable Battery Type MAC-LiBAT-...**

(5) Manufacturer: **Macnaught PTY Ltd.**

(6) Address: **41-49 Hendersonstreet, Turrella NSW 2205, Australia**

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

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this component 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.

The examination and test results are recorded in confidential report no. 212166400/1.

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

EN 60079-0 : 2006

EN 60079-11 : 2007

EN 60079-26 : 2007

(10) The sign "U" placed after the certificate number indicates that this certificate describes components and must not be mistaken for a certificate intended for an equipment or protective system. This EC-Type Examination Certificate may be used as a basis for certification of an equipment or protective system.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified component according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.


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



II 1 G Ex ia IIC

This certificate is issued on March 6, 2009 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.


C.G. van Es
Certification Manager

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Experience you can trust.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 09ATEX0017 U** Issue No. 1

(15) **Description**

Intrinsically safe non-rechargeable Battery Type MAC-LiBAT-... for the supply of intrinsically safe apparatus. The battery is intended to be used inside the hazardous area.

The cell used is an inorganic lithium cell of one of the following types:

- type SL-2770 manufactured by Sonnenschein Lithium;
- type SL-2770 or type TL-5920 manufactured by Tadiran Batteries;

Ambient temperature range -40 °C to +70 °C.

Electrical data

Output circuit (connector):

in type of protection intrinsic safety Ex ia IIC, with the following maximum values:

$U_o = 3.9 \text{ V}$; $I_o = 35 \text{ mA}$; $P_o = 35 \text{ mW}$; $C_o = 100 \text{ }\mu\text{F}$; $L_o = 25 \text{ mH}$

(16) **Report**

KEMA No. 212166400/1

(17) **Special conditions for safe use**

1. The battery must be installed so, that charging of the battery is prevented or limited to a reverse current of maximum 50 mA.
2. The maximum temperature of the cell when short circuited is 110 °C at 70 °C ambient temperature.
3. When used under the specified maximum ambient and electrical conditions, the temperature class of the battery is T4. For other conditions, the temperature class may be determined during the certification of the apparatus in which the battery is used.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 212166400/1.