

(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 07ATEX0204 X** Issue Number: 1

(4) Equipment: **LED Lamp of the P861 series and
Giant LED Cluster of the DA180 series**

(5) Manufacturer: **RTK Instruments Ltd**

(6) Address: **St James Business Park, Knaresborough, HG5 8PJ North Yorkshire, England**

(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 211233000.

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

EN 60079-0 : 2006

EN 60079-11 : 2007

(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 2 G Ex ia IIC T4

This certificate is issued on 14 April 2008 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.



P.T. van Nijen
Certification Manager





(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 07ATEX0204 X** Issue No. 1

(15) **Description**

The LED Lamp of the P861 series is an illuminator using LED's as lighting medium.
The LED Lamp of the P861 series is provided with a standard miniature lamp foot and can be fitted into a lamp holder, for instance a switch assembly.

When the LED Lamp of the P861 series is fitted into a Giant LED Cluster, the type identification becomes DA180.

Ambient temperature range -20 °C to +60 °C.

Electrical data

Supply circuit (P861 series centre and side of lamp foot; DA180 two screw terminals):

In type of protection intrinsic safety Ex ia IIC, for connection to a certified intrinsically safe circuit, with the following maximum values.

$I_i = 2 \text{ A}$; $P_i = 1 \text{ W}$; $C_i = 0 \text{ nF}$; $L_i = 0 \text{ mH}$;

$U_i = P_i / I_i$ for a supply circuit with non-linear current limiting;

$U_i = 4P_i / I_i$ for a supply circuit with linear current limiting.

(16) **Test Report**

KEMA No. 211233000.

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

1. General:

1.1 The terminations of the lamp holder shall be marked as intrinsically safe in accordance with clause 12.2 of EN 60079-11, when also non-intrinsically safe circuits are installed in the same enclosure (for instance circuits connected to terminals in type of protection increased safety Ex e).

1.2 When more than one intrinsically safe circuit is installed in the same enclosure and/or also non-intrinsically safe circuits are installed in that same enclosure, the separations between the circuits have to be assured in accordance with EN 60079-11, taking into account a possible addition of the voltage of the circuits.

2. LED Lamp of the P861 series (including fittings):

2.1 When the LED Lamp of the P861 series is mounted in a lamp holder containing other circuits, the lamp holder shall be fitted in an enclosure providing an ingress protection of at least IP20 in accordance with EN 60529.

When a higher ingress protection is required this has to be achieved by an enclosure, which is suitable for the applicable environmental conditions, in accordance with EN 60079-11.



(13) **SCHEDULE**

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2.2 For the illuminated push-button assembly as specified in the test documentation listed at (19), the special conditions for safe use are met when all the circuits connected to it are intrinsically safe, have a maximum total peak voltage of 375 V and the required ingress protection has been taken into account.

This illuminated push-button assembly has an ingress protection of IP20 in accordance with EN 60529.

This assembly consists of the following parts (or equivalent): Lamp holder DA170-LH, switches DA170-SW on either side of the lamp holder, which are fitted on Body DA170-BD and operated by actuator DA170-AC.

3. Giant LED Cluster of the DA180 series:

3.1 When more than one Giant LED Cluster of the DA180 series is mounted on an enclosure or the enclosure contains also other circuits, the enclosure shall provide a degree of ingress protection in accordance with EN 60529 suitable for the applicable environmental conditions and comply with EN 60079-11.

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

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 211233000.