



## (1) EC-TYPE-EXAMINATION CERTIFICATE (Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**



(3) EC-type-examination Certificate Number:

**PTB 10 ATEX 1061 X**

(4) Equipment: Limit switch module, type ALB ..... AZ...

(5) Manufacturer: Rotech Antriebselemente GmbH

(6) Address: Im Katzentach 16-18, 76275 Ettlingen, Germany

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

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 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 the confidential assessment and test report PTB Ex 11-10086 .

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with: **EN 60079-0:2009, EN 60079-1:2007, EN 60079-7:2007, EN 60079-31:2009**

(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 in accordance 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 e ia IIA, IIB, IIC T6 Gb or II 2 G Ex e d IIA, IIB, IIC T6 Gb**

**II 2 D Ex tb IIC T80°C Db IP65**

Zertifizierungssektor Explosionsschutz  
On behalf of PTB:

Braunschweig, May 24, 2011

Dr.-Ing. U. Klausmeyer  
Direktor und Professor



(13)

## SCHEDULE

(14)

### EC-TYPE-EXAMINATION CERTIFICATE PTB 10 ATEX 1061 X

(15)

#### Description of equipment

The ALB A ..... AZ ... limit switch module consists of an aluminium housing designed to Increased Safety "e" and Protection by Enclosure "tb" type of protection. The housing comes either with a closed cover or a cover with a cone-shaped inspection dome made from polycarbonate.

The housing accommodates switches of Flameproof Enclosure "d" type of protection or sensors of Intrinsic Safety "ia" type of protection, as well as an actuator shaft for position indication.

Actuating solenoids (separately certified) of pneumatic valves can be connected if necessary.

'Ex' cable glands are used for connection of electrical power from outside.

All installed and attached components are tested and certified with a separate examination certificate.

Version A: limit switch modules with sensors of Intrinsic Safety "ia" type of protection; connection of actuating solenoids of Intrinsic Safety "ia" type of protection.

Version B: limit switch modules with switches of Flameproof Enclosure "d" type of protection; connection of actuating solenoids of Flameproof Enclosure "d", Increased Safety "e" and Encapsulation "m" type of protection.

Version C: limit switch modules with sensors of Intrinsic Safety "ia" type of protection; connection of actuating solenoids of Flameproof Enclosure "d", Increased Safety "e" and Encapsulation "m" type of protection.

#### Technical data

##### **Electrical data for switches of Flameproof Enclosure "d" type of protection**

Rated voltage  $U_e$ : ..... up to 250 V  
Rated current  $I_e$ : ..... max. 4 A  
Rated cross section: ..... max. 4 mm<sup>2</sup>

##### **Electrical data for sensors of Intrinsic Safety "ia" type of protection**

Rated voltage  $U_e$ : ..... 8 V DC  
Rated current  $I_e$  measuring plate detected: .....  $\geq 3$  mA  
Rated current  $I_e$  measuring plate not detected: .....  $\leq 1$  mA

For the relationship between temperature class, the permissible ambient temperature range and the power rating of the intrinsically safe circuits, reference is made to the EC-Type-Examination Certificates for the sensors.

Ambient temperature range: ..... -25 °C to +60 °C

Protection against solid foreign objects, water and contact: ..... IP65 in accordance with EN 60529

(16) Assessment and Test Report PTB Ex 11-10086

(17) Special conditions for safe use

**Places with an explosive gas atmosphere:**

When the ALB A ..... AZ ... limit switch module is installed in places with explosive gas atmosphere, unacceptable electrostatic charging of the plastic elements of the housing must be prevented.

Gas group IIB: high charge producing processes must be prevented.

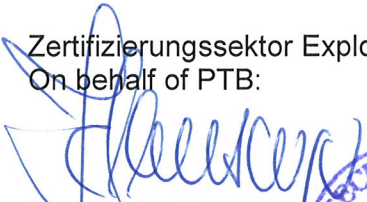
Gas group IIC: high charge producing processes and manual rubbing must be prevented. The housing shall carry a warning note "Only clean with a moist cloth".

(18) Essential health and safety requirements

Met by compliance with the afore-mentioned Standards.

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