IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[1] EU-TYPE EXAMINATION CERTIFICATE

[2] equipment and protective systems intended for use in potentially explosive atmospheres, directive 2014/34/EU

[3] EU-Type Examination Certificate Number **IBExU17ATEX1050 X** | Issue 0

[4] Equipment: **Limit-switch-box**
Type: DRA and DRIA

[5] Manufacturer: ROTECH Antriebselemente GmbH

[6] Address: Im Katzentach 16-18
76275 Ettlingen
GERMANY

[7] This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

[8] IBExU Institut für Sicherheitstechnik GmbH, Notified Body number 0637 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential test reports IB-17-3-0027 and IB-17-3-0027/1.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:
EN 60079-0:2012+A11:2013 **EN 60079-1:2014** **EN 60079-11:2012** **EN 60079-31:2014**
except in respect of those requirements listed at item [18] of the annex.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule/annex to this certificate.

[11] This EU-type examination certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

Type DRA: **Ex II 2G Ex db IIB T6 Gb** **Ex II 2D Ex tb IIIC T80°C Db**
-60 °C or -40 °C ≤ T_a ≤ +60 °C

Type DRIA: **Ex II 2G Ex ia/ib IIC T6/T5/T4 Gb** **Ex II 2D Ex ia/ib IIIC T80/95/130°C Db**
-60 °C or -40 °C ≤ T_a ≤ +60 °C, +75 °C or +85 °C

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By order

Dipl.-Ing. (FH) Henker

- Seal -
(Notified Body number 0637)

Freiberg, 20 September 2017

Certificates without seal and signature are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

[13] **Schedule**

[14] **Certificate Number IBExU17ATEX1050 X** | Issue 0

[15] **Description of product**

The Limit-switch-box type DRA serves to report and control the position of valves with mechanical micro-switches or inductive sensors as well as the possibility to connect separately certified explosion protected operating magnets of pneumatic valves. It consists of a two-part, flameproof aluminium enclosure from with actuation shaft and fastening bracket. The electric connection is carried out via direct Ex-d cable glands.

Technical data (type DRA)

- Rated voltage:	up to 250 V
- Rated current:	up to 4 A
- Rated cross section:	up to 4 mm²
- IP-degree of protection according to EN 60529:	IP 65
- Ambient temperature range:	-60 °C or -40 °C up to +60 °C
- Property class fastening screws:	8.8 (A2-70)

Only intrinsically safe fed switches or separately certified intrinsically safe sensors are used at the Limit-switch-box type DRIA.

Intrinsically safe values (type DRIA)

- Minimum ambient temperature:	-60 °C or -40 °C				
- Maximum ambient temperature:	+60 °C (T6), +75 °C (T5) or +85 °C (T4)				
- Voltage U_i (switches, max.):	24 V	30 V	40 V	50 V	60 V
- Current intensity I_i (switches, max.):	160 mA	100 mA	57 mA	38 mA	25 mA
- Inner values of the switches:	C_i =1 nF, L_i=1 µH				
- Typical voltages of the sensors:	8 V DC				

The accurate values of the used sensors are listed in the operating instruction.

[16] **test report**

The test results are recorded in the confidential test reports IB-17-3-0027 of 20 September 2017 and IB-17-3-0027/1 of 20 September 2017. The test documents are part of the test reports and they are listed there.

Summary of the test results

The Limit-switch-box type DRA fulfils the requirements of explosion protection for equipment of Group II, Category 2G, type of protection flameproof enclosure "db" and Category 2D, type of protection dust ignition protection by enclosure "tb".

The Limit-switch-box type DRIA fulfils the requirements of explosion protection for equipment of Group II, Category 2G and 2D, type of protection intrinsic safety.

[17] **Special conditions for use**

- Repairs of the flameproof joints at the type DRA must be made in compliance with the constructive specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in table 2 of EN 60079-1.
- The cable glands and connection cables have to be selected according to the ambient temperature range. The cable glands must be suitable and certified for this temperature range. Also, the corresponding requirements in EN 60079-14, paragraph 10.6 have to be noticed.
- Unused openings for cable entries have to be closed durably with suitable screw plugs, which are confirmed for explosion protection according to EN 60079-1 for Group IIB.

- At type DRIA, the interconnection of intrinsically safe circuits must be tested and certified separately. The detailed characteristic values are specified in the operating instruction. An isolating switch amplifier according to the specification of the sensor manufacturer must be used.
- The temperature class at type DRIA depends to the used sensors and the maximum ambient temperature.

[18] **Essential health and safety requirements**

In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:

- not applicable -

[19] **Drawings and documents**

The documents are listed in the test report.

By order

Freiberg, 20 September 2017

Dipl.-Ing. (FH) Henker