Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

(1) # EU-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

PTB 06 ATEX 2005 **Issue: 2**

(4) Product: Signalling Ex-LED-column, type 741.1 XX.55

(5) Manufacturer: WERMA Signaltechnik GmbH + Co. KG

(6) Address: Dürbheimer Str.15
78604 Rietheim-Weilheim, Germany

(7) This product and any acceptable variation thereto is 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 17 of the 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 Report PTB Ex 19-29027.

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

EN 60079-0:2012 + A11:2013	**EN 60079-7:2015**	**EN 60079-11:2012**
EN 60079-18:2015	**EN 60079-28:2015**	**EN 60079-31:2014**

(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 to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. 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:

II 2 G Ex eb [ib] mb op is IIC T6 Gb **or**
II 2 D Ex [ib] op is tb IIIC T80°C Db

Konformitätsbewertungsstelle, Sektor Explosionsschutz Braunschweig, July 1, 2019
On behalf of PTB:

Dr.-Ing. F. Lienesch
Direktor und Professor

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(13) # SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 06 ATEX 2005, Issue: 2**

(15) Description of Product

The signalling Ex-LED-column, type 741.1 XX.55 serves for visual representation of the operating status of systems. The equipment consists of three assemblies, the terminal housing with built-in limiting electronics and the bolted signal column. The terminal housing is separately certified to types of protection Ex eb and Ex tb. It houses the terminal clamps and the electronic circuitry for limitation of the LED-circuits that is completely encapsulated except for the terminal clamps. The terminal clamps as well as the cable glands are also separately certified. The bolted LED-column can be designed as 2-stage or 3-stage version and with different signalling colours.

Three parallel non-intrinsically safe circuits which are electrically interconnected via GND and PA serve for voltage supply. In case of a fault in the SELV-supply the limiting stage protects the downstream circuitry in order to guarantee Intrinsic Safety up to a maximum voltage of U_m = 120 V DC. The limiting electronics circuitry generates three internal intrinsically safe LED-circuits to supply the luminous stages. They are electrically interconnected and connected to GND and PA.

The permissible range of the ambient temperature is: -20 °C ... +50 °C.

Electrical data

Voltage supply	from a stabilized, fused voltage source (e.g. SELV) U_N = 26.4 V DC for each circuit U_m = 120 V DC
Internal LED-circuits	type of protection Intrinsic Safety Ex ib IIC Maximum values per circuit: U_i = 17.2 V DC I_i = 27 mA Rectangular characteristic Common total current: $\sum I_i$ = 50 mA L_i negligibly low C_i negligibly low

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 06 ATEX 2005, Issue: 2

Changes with respect to previous issues

- Editorial revision of the documentation (with new revision status)
- Application of different types of LED´s (different colour) for 2-stage variant
- Supplementation of the documents for the 2-stage variant by drawings
  No. 300.741.042 AA,
  No. 740.741.042 ZU
  and bill of components No. 740.741.042 AB
- Revision of the operating instructions manual

(16) Test Report PTB Ex 19-29027

(17) Specific conditions of use

None

Notes for manufacture and operation

The terminal housing of the signalling Ex-LED-column, type 741.1 XX.55 shall be connected electrostatically conductive to the negative pole of the electronic circuitry. It shall be ensured that strong charge-generating processes on the surface of the terminal housing (e.g. fast moving particles or hydraulically driven liquids and droplets or pneumatically conveyed dusts and bulk materials or charge spraying in electrostatic coating processes) are excluded.

The negative pole of the electronic circuitry shall be connected to the local equipotential bonding conductor.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

According to Article 41 of Directive 2014/34/EU, EC-type examination certificates which have been issued according to Directive 94/9/EC prior to the date of coming into force of Directive 2014/34/EU (April 20, 2016) may be considered as if they were issued already in compliance with Directive 2014/34/EU. By permission of the European Commission supplements to such EC-type examination certificates and new issues of such certificates may continue to hold the original certificate number issued before April 20, 2016.

Konformitätsbewertungsstelle, Sektor Explosionsschutz Braunschweig, July 1, 2019
On behalf of PTB:

Dr.-Ing. F. Lienesch
Direktor und Professor