

Translation

(1) EC-Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
- (3) No. of EC-Type Examination Certificate: **BVS 14 ATEX E 172 X**
- (4) Equipment: **Luminaire type ESL55LED-ALF-Ex**
- (5) Manufacturer: **F. H. Papenmeier GmbH & Co. KG**
- (6) Address: **Talweg 2, 58239 Schwerte, Germany**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 Test and Assessment Report BVS PP 14.2242 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2012 + A11:2013 General requirements
EN 60079-1:2007 Flameproof enclosure "d"
EN 60079-31:2009 Protection by Enclosure "t"

- (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 appendix to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to 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 2G Ex d IIC T6 Gb**
II 2D Ex tb IIC T80°C Db

DEKRA EXAM GmbH
Bochum, dated 2014-12-01

Signed: Schumann

Certification body

Signed: Dr. Eickhoff

Special services unit

(13) Appendix to

(14) **EC-Type Examination Certificate**
BVS 14 ATEX E 172 X

(15) 15.1 Subject and type

Luminaire type ESL55LED-ALF-Ex

15.2 Description

The luminaire type ESL55LED-ALF-Ex consists of a stainless steel enclosure and is suitable for use in both gas and dust hazardous areas of categories 2G and 2D. The luminaire serves the purpose of monitoring objects and of remote-controlling procedural processes in reactors, apparatuses, containers etc. Inside the luminaire, the input voltage is adjusted to the operating voltage of the LED illuminants by means of a power board. The illumination of zone 0 and 20 is also permitted with a metallic optical fibre due to the sight glass casing. The minimum length of the optical fibre is 40 cm.

Category 2G:

The luminaire type ESL55LED-ALF-Ex is manufactured according to the type of protection Flameproof Enclosure 'd'.

Category 2D:

The luminaire type ESL55LED-ALF-Ex is manufactured according to the type of protection Protection by Enclosures 'tb'.

15.3 Parameters

15.3.1 Electrical parameters

15.3.1.1 3-times LED

Voltage

24 V AC/DC

120 - 230 V AC/DC

Power

7 W

7 W

15.3.2 Thermal parameters

Ambient temperature range

-20 °C ... 50 °C

15.3.3 Cable entries (non-potted technique)

Type

RST Alpha X

HSK-INOX-PVDF-Ex-d

Certificate

IMQ 08 ATEX 021 X

KEMA 99 ATEX 6968 X

Clamping range [mm]

3-12

7-12

15.3.4 Cables (together with cable entries according to 15.3.3)

Type

Sinothem 110 H05GG-7

Sillflex UR AWG18

Ölflex Heat 180 H05SS-F

Ölflex Classic 110 Black

Cross section

3x 1.5 mm²

5x 1.0 mm²

3x 1.5 mm²

3x 1.5 mm²

Diameter [mm]

8.6

10.3

8.9

10.2

Cable length min. [m]

1

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(16) Test and Assessment Report

BVS PP 14.2242 EG as of 2014-12-01

(17) Special conditions for safe use

When used in explosive dust atmosphere:

The cable must be installed in a way that a risk from electrostatic discharge is avoided.

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Richard D.

Special services unit