IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx PTB 13.0003**

Certificate history:
Issue 3 (2018-05-03)
Issue 2 (2017-01-02)
Issue 1 (2015-07-31)
Issue 0 (2013-08-07)

Status: **Current**

Issue No: 4

Date of Issue: 2020-01-27

Applicant: **R. STAHL Schaltgeräte GmbH**
Am Bahnhof 30, 74638 Waldenburg
Germany

Equipment: **Linear light fitting for fluorescent lamps type series 6001/...**

Optional accessory:

Type of Protection: **Flameproof Enclosures “d”, Increased Safety “e”, Protection by Enclosure “t”**

Marking: Ex db eb IIC T4 Gb
Ex tb IIIC T80 °C Db

Approved for issue on behalf of the IECEx Certification Body: **Dr. F. Lienesch**

Position: **Head of department 3.6 "Explosion Protection in Sensor Technology and Instrumentation"**

Signature:
(for printed version)

Date:

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Certificate issued by:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

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Manufacturer: **R. STAHL Schaltgeräte GmbH**
Am Bahnhof 30, 74638 Waldenburg
Germany

Additional manufacturing locations:

R. STAHL (P) LTD. Plot No.- 5
Malrosapuram Road, Sengundram Indl. Area
Singaperumal Koil, Kanacheepuram Dist.
Talmilnadu – 603 204
India

R. STAHL Schaltgeräte GmbH
Nordstraße 10
99427 Weimar
Germany

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DE/PTB/ExTR13.0034/04

Quality Assessment Report:

DE/BVS/QAR10.0002/15

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The linear light fitting of type 6001 is an explosion-protected light fitting for use in Zone 1, Zone 2, Zone 21 and Zone 22. It is available for wall, ceiling or pole mounting. The linear light fitting consists of an enclosure made of polyester resin and a light-transmitting protective cover made of polycarbonate.

The joint surface between the enclosure and the cover is fitted with a seal, thus making it water- and dust-tight.

The series 6001 linear light fitting is available in the following versions:
Single or double lamp 18 W (IEC 60081) or 17 W (ANSI IEC C78.81)
Single or double lamp 36 W (IEC 60081) or 32 W (ANSI IEC C78.81)
Single or double lamp 58 W (IEC 60081) or 40 W (ANSI IEC C78.81)
LED-modules 28 W resp. 52 W.

SPECIFIC CONDITIONS OF USE: NO

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
According to ExTAG DS 2014/001 we declare:

The components certificates numbers of the components along with the editions of the standards are listed in the IEC Ex Test Report Cover with the ExTR Reference Number DE / PTB ExTR 13.0034/03.

The statement according item b) iii. of the ExTAG DS 2014/001:

The changes of the current edition of the standard IEC 60079-0:2017 Ed.7 compared to the previous Edition of this standard IEC 60079-0:2011 Ed.6 according to the table of changes “Explanation of the significant changes” have been reviewed and it was found that they are not relevant for the listed components.

The changes of the current edition of the standard IEC 60079-1:2014 Ed.7 compared to the previous Edition of this standard IEC 60079-1:2007 Ed.6 according to the table of changes “Explanation of the significant changes” have been reviewed and it was found that they are not relevant for the listed components.

The most changes of the current edition of the standard IEC 60079-7:2017 Ed.5.1 compared to the previous Edition of this standard IEC 60079-7:2006 Ed.4 according to the table of changes “Explanation of the significant changes” have been reviewed and it was found that they are not relevant for the listed components. For the change C4 the relevant tests were carried out.

The changes of the current edition of the standard IEC 60079-31:2013 Ed.2 compared to the previous Edition of this standard IEC 60079-31:2008 Ed.1 according to the table of changes “Explanation of the significant changes” have been reviewed and it was found that they are not relevant for the listed components.

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Additional information:
Additional information see attachment

Annex:

6001_Attach_CoC_13_0003iss04_2019.pdf

Description of equipment

The linear light fitting of type 6001 is an explosion-protected light fitting for use in Zone 1, Zone 2, Zone 21 and Zone 22. It is available for wall, ceiling or pole mounting. The linear light fitting consists of an enclosure made of polyester resin and a light-transmitting protective cover made of polycarbonate.
The joint surface between the enclosure and the cover is fitted with a seal, thus making it water- and dust-tight.
The series 6001 light fitting is available in the following versions:

Single and double lamp 18 W (IEC 60081) or 17 W (ANSI IEC C78.81)
Single and double lamp 36 W (IEC 60081) or 32 W (ANSI IEC C78.81)
Single and double lamp 58 W (IEC 60081) or 40 W (ANSI IEC C78.81)
LED-modules (28 W resp. 52 W)

The linear light fitting features a flameproof electronic control gear (6042/14., 6042/2., 6042/9. and 6045/1.) and, optionally, can be fitted with contact element of type 8080 and/or with a control device of type 6048.
All components have been certified separately.
The ambient temperature range, depending on the assembly of the used components

Nomenclature

Light fitting 6001/abc-defg-hi-jkl

a version
- 1 = LED
- 2 = LED (-40 °C)
- 5 = with lamp holder G13

b light source / nominal power
- 1 = 28 W (LED)
- 2 = 18 W
- 3 = 17 W
- 4 = 36 W
- 5 = 32 W
- 6 = 58 W
- 7 = 40 W
- 8 = 52 W (LED)

c Light distribution
- 1 = one lamp
- 2 = two lamps
- 4 = 120° x 120°
- 8 = 120° x 120° with diffusor

d Interface /control unit
- 1 = one ballast + 6048
- 2 = two ballasts + 6048
- 3 = two ballasts
- 6 = LED (with DALI)
- 7 = LED (without DALI)
- 8 = one ballast (with DALI)
- 9 = one ballast (without DALI)

e to l numerals or letters without influence on explosion-protection

The maximum surface temperature is T80 °C; the temperature class is T4.

Additions to the light fitting, such as breathing plugs, metal entries, bi-pin fluorescent lamps (G13) with a diameter ≤ 38 mm to (IEC 60081 or ANSI C78.81) are permissible. The linear light fittings are suitable for use in explosive gas atmospheres and in combustible dust atmospheres. Depending upon the assembly parts and the additional features, the light fitting shall be used in accordance with the marking.

Rated cross section: 0,75 mm² to 4 mm² / 6 mm², depending on the used connection terminals.

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Technical data

Type	**6001/1; 6001/2**	
Input power	28 W (6401/.1.) 52 W (6401/.8.)	
LED Control gear	6045/111-11.	
Control device	without	6048/1
Nominal input voltage	110 … 240 V AC 110 … 250 V DC	220 … 240 V AC 200 … 250 V DC
Input voltage range	99 … 264 V AC 99 … 275 V DC	198 … 264 V AC 180 … 275 V DC
Line frequency (AC)	50 … 60 Hz	50 … 60 Hz
Through wiring	three wires loaded with I ≤ 16 A (2,5 mm²/ 4 mm²) (see restrictions within the ambient temperature range)	
Ambient temperature range (Type 6001/1.)	-30 … +50 °C -30 … +60 °C [1)]	-20 … +50 °C -20 … +60 °C [1)]
Ambient temperature range (Type 6001/2.)	-40 … +50 °C -40 … +60 °C [1)]	

[1)] with through wiring, three wires loaded with I ≤ 10 A (2,5/ 4 mm²)

Type	**6001/52.**			
Lamp	IEC 60081			
Lamp power	2 x 18 W			
Through wiring	three wires loaded with I ≤ 16 A (2,5 mm²) or I ≤ 20 A (4 mm²) (see restrictions within the ambient temperature range)			
Control gear	6042/2.	6042/92.	6042/14.	6042/91.
Nominal input voltage	220 … 240 V AC (50 … 60 Hz) 196 … 240 V DC		220 … 240 V AC (50 … 60 Hz) 196 … 246 V DC	110 … 240 V AC (50 … 60 Hz) 116 … 240 V DC
Input voltage range	198 … 264 V AC (50 … 60 Hz) 176 … 264 V DC		198 … 264 V AC (50 … 60 Hz) 176 … 270 V DC	99 … 264 V AC (50 … 60 Hz) 104 … 264 V DC
Ambient temperature range	-30 … +50 °C -30 … +55 °C [1)] -30 … +60 °C [3)]	-30 … +50 °C -30 … +55 °C [2)] -30 … +60 °C [3)]	-30 … +50 °C -30 … +55 °C [2)]	-30 … +40 °C -30 … +45 °C [2)]
Deviations in variations with control device 6048/1				
Nominal input voltage	220 … 240 V AC 196 … 240 V DC			
Input voltage range	198 … 264 V AC 176 … 264 V DC			
Ambient temperature range	- 20 °C			

[1)] with through wiring, three wires loaded with I ≤ 10 A (2,5/ 4 mm²)
[2)] with through wiring, three wires loaded with I ≤ 8 A (2,5 mm²) or I ≤ 10 A (4 mm²)
[3)] with through wiring, three wires loaded with I ≤ 4 A (2,5/ 4 mm²)

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Type	**6001/54.**			
Lamp	IEC 60081			
Lamp power	2 x 36 W			
Through wiring	three wires loaded with I ≤ 16 A (2,5 mm²) or I ≤ 20 A (4 mm²) (see restrictions within the ambient temperature range)			
Control gear	6042/2.	6042/94.	6042/14.	6042/98.
Nominal input voltage	220 … 240 V AC (50 … 60 Hz) 196 … 240 V DC		220 … 240 V AC (50 … 60 Hz) 196 … 246 V DC	110 … 240 V AC (50 … 60 Hz) 116 … 240 V DC
Input voltage range	198 … 264 V AC (50 … 60 Hz) 176 … 264 V DC		198 … 264 V AC (50 … 60 Hz) 176 … 270 V DC	99 … 264 V AC (50 … 60 Hz) 104 … 264 V DC
Ambient temperature range	-30 … +50 °C -30 … +55 °C[1)]	-30 … +50 °C -30 … +55 °C [2)]	-30 … +50 °C -30 … +55 °C [2)]	-30 … +40 °C -30 … +45 °C [3)]
Deviations in variations with control device 6048/1				
Nominal input voltage	220 … 240 V AC 196 … 240 V DC			
Input voltage range	198 … 264 V AC 176 … 264 V DC			
Ambient temperature range	- 20 °C			

[1)] with through wiring, three wires loaded with I ≤ 10 A (2,5/ 4 mm²)
[2)] with through wiring, three wires loaded with I ≤ 8 A (2,5 mm²) or I ≤ 10 A (4 mm²)
[3)] with through wiring, three wires loaded with I ≤ 8 A (2,5/ 4 mm²)

Type	**6001/53.**	**6001/55.**	**6001/57.**	**6001/56.**
Lamp	ANSI C78.81			IEC 60081
Lamp power	2 x 17 W	2 x 32 W	2 x 40 W	2 x 58 W
Through wiring	three wires loaded with I ≤ 16 A (2,5 mm²) or I ≤ 20 A (4 mm²) (see restrictions within the ambient temperature range)			
Control gear	6042/93.	6042/95.	6042/97.	6042/96.
Nominal input voltage	120 … 277 V AC (50 … 60 Hz) 125 … 267 V DC			220 … 240 V AC (50 … 60 Hz) 196 … 264 V DC
Input voltage range	108 … 305 V AC (50 … 60 Hz) 113 … 294 V DC			99 … 264 V AC (50 … 60 Hz) 104 … 264 V DC
Ambient temperature range	-30 … +40 °C	-30 … +40 °C	-20 … +40 °C	-20 … +50 °C -20 … +55 °C [1)]
Deviations in variations with control device 6048/1				
Nominal input voltage	220 … 240 V AC 196 … 240 V DC			
Input voltage range	198 … 264 V AC 176 … 264 V DC			
Ambient temperature range	- 20 °C			

1) with through wiring, three wires loaded with I ≤ 8 A (2,5 mm²) or I ≤ 10 A (4 mm²)

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