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 13 ATEX E 018 U**

(4) Component: **LED Module type LED-module *****

(5) Manufacturer: **Cooper Crouse-Hinds GmbH**

(6) Address: **Neuer Weg-Nord 49, 69412 Eberbach**

(7) The design and construction of this component 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 component 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 13.2121 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2012 General requirements
EN 60079-7:2007 Increased safety "e"
EN 60079-18:2009 Encapsulation "m"

(10) The sign "U" placed after the certificate number indicates that the certificate must not be mistaken for a certificate for equipment or a protective system. This certificate may only be used as the basis for the certification of equipment or a protective system.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified component in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.

(12) The marking of the component shall include the following:

II 2G Ex e mb IIC Gb
alternatively
II 2G Ex eb mb IIC

DEKRA EXAM GmbH
Bochum, dated 28th June 2013

Signed: Hans-Christian Simanski
Certification body

Signed: Dr. Michael Wittler
Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110 E-mail zs-exam@dekra.com

(13) Appendix to

(14) **EC-Type Examination Certificate**
BVS 13 ATEX E 018 U

(15) 15.1 Subject and type

LED module type LED-module ***

Asterisks	Description	
1...3	Variant of LED-module	
	400	2 LED bars 2x 13 W
	800	2 LED bars 2x 26 W

15.2 Description

The LED module type LED-module *** is designed in type of protection Increased Safety 'e' and Encapsulation 'm' for use in lighting fixtures instead of fluorescent lamps.

The variant of the LED module with a power of 2x13 W replaces the fluorescent lamps with a power of 2x18 W. The variant with a power of 2x26 W replaces the fluorescent lamps with a power of 2x36 W.

The LEDs are mounted to a printed circuit board that is fixed to an aluminium cooling element. The LEDs are protected by a transparent protective cover together with a potting material in type of protection Encapsulation 'm'. At least two of these stripes are fixed together. On both sides are end caps for the electrical and mechanical connection of the LED module to the lamp holder. Inside these end caps an EMV filter electronic and a rectifier electronic is mounted, protected by the same potting material as it is used for the LED stripes, in type of protection Encapsulation 'm'. Instead of end caps on both sides it is also possible to use a coupling housing on one side and to link two of these 2x13 W modules to one 2x26 W module.

The interconnection between the LED stripes, the different electronics, the connection in the coupling housing, the connection of the socket to the connection terminal and the connection of the LED module into the lamp holder are designed in type of protection Increased Safety 'e'.

15.3 Parameters

Electrical ratings

Type	Max. Voltage	Max. Current [1)]
LED-module 400	50 V	340 mA
LED-module 800	100 V	340 mA

[1)] The maximum current must be limited by the use power supply. The electronic ballast type EVG 09218 and EVG 09236 fulfil this requirement.

Thermal ratings

Operation temperature range of LED module	-25 °C ... 95 °C
Ambient temperature range of the LED module for use inside the lighting fixture type eLLK... and nIIK...	-25 °C ... 45 °C

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110 E-mail zs-exam@dekra.com

(16) Test and assessment report

BVS PP 13.2121 EG as of 28th June 2013

(17) Installation instructions

The temperature rise inside the complete lighting fixture has to be taken into account regarding the operation temperature range of the LED module.

It must be assured, that the LED module shall only be supplied by the electronic ballast type EVG 09218 for the 2x13 W variant or type EVG 09236 for the 2x26 W variant.

The LED module must be mounted inside a lighting fixture in type of protection Increased Safety 'e' for areas endangered by gas atmospheres and in type of protection Protection by Enclosure 't' for use in areas endangered by dust atmospheres.

The creepage and clearances distances have to be taken into account for the complete lighting fixture.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 28th June 2013
BVS-Kir/Ma A20111019

Certification body

Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110 E-mail zs-exam@dekra.com