



Translation

**EC-Type Examination Certificate**

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**- Directive 94/9/EC -  
Equipment and protective systems intended for use  
in potentially explosive atmospheres**

**BVS 09 ATEX E 092 X**

**Equipment: Signal lamp type Expertline-LED**  
**Manufacturer: FHF Funke + Huster Fernsig GmbH**  
**Address: 45478 Mülheim an der Ruhr, Germany**

The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.

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 09.2107 EG.


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

EN 60079-0:2006	General requirements	EN 61241-0:2006	General requirements
EN 60079-7:2007	Increased safety 'e'	EN 61241-1:2004	Protection by enclosures 'tD'
EN 60079-11:2007	Intrinsic safety 'i'	EN 61241-18:2004	Protection by Encapsulation 'mD'
EN 60079-18:2004	Encapsulation 'm'		

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.

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

The marking of the equipment shall include the following:

 **II 2G Ex e mb [ib] IIC T4**  
**II 2D Ex mbD tD A21 IP66 T130°C**

**DEKRA EXAM GmbH**  
Bochum, dated 11<sup>th</sup> August 2009

Signed: Dr. Eickhoff

Signed: Leiendecker

Certification body

Special services unit

(13) Appendix to

(14) **EC-Type Examination Certificate**

**BVS 09 ATEX E 092 X**

(15) 15.1 Subject and type

Signal lamp type Expertline-LED

15.2 Description

The signal lamp consists of a plastic enclosure with a calotte for visual inspection. The signal lamp is electrically connected inside a connecting compartment (IP66) complying with the type of protection Increased Safety. Additionally, this compartment also accommodates the DIP-switch (four poles) and a programming connector complying with the type of protection Intrinsic Safety.

15.3 Parameters

(terminals X100 and X101)

Rated voltage	DC	24	V
Input voltage range permitted	DC	19.2 ... 28.8	V
Projected short circuit current $I_k$ of external source of power supply		100	A

Ambient temperature range -40 °C up to +65 °C resp. -20 °C up to +65 °C

(16) Test and assessment report

BVS PP 09.2107 EG as of 11.08.2009

(17) Special conditions for safe use

17.1 Inside the potentially explosive atmosphere the signal lamp type Expertline-LED may only be cleaned with a damp cloth.

17.2 The projected short circuit current  $I_k$  of the external source of power supply may not exceed 100 A.

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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.

44809 Bochum, 11.08.2009  
BVS-Schu Ar A 20090046

**DEKRA EXAM GmbH**

  
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Certification body  
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Special services unit



## 1st Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

### to the EC-Type Examination Certificate BVS 09 ATEX E 092 X

**Equipment:** Signal lamp type ExpertLine-LED AC  
**Manufacturer:** FHF Funke + Huster Fernsig GmbH  
**Address:** 45478 Mülheim an der Ruhr, Germany

#### Description

The signal lamp can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report and gets the denomination:

**type Expertline-LED AC**

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2006 General requirements  
EN 60079-7:2007 Increased safety 'e'  
EN 60079-11:2007 Intrinsic safety 'i'  
EN 60079-18:2004 Encapsulation 'm'  
EN 61241-0:2006 General requirements  
EN 61241-1:2004 Protection by enclosures 'tD'  
EN 61241-18:2004 Protection by Encapsulation 'mD'

The marking of the equipment shall include the following:

 **II 2G Ex e mb [ib] IIC T4**  
**II 2D Ex mbD tD A21 IP66 T130°C**

#### Parameters

1	Electrical parameters for type ExpertLine-LED AC (terminals L and N)	
	Nominal voltage	AC 230 V / 50 ... 60 Hz
	Voltage range	AC 175 V ... 253 V
	resp.	
	Nominal voltage	AC 115 V / 50 ... 60 Hz
	Voltage range	AC 85 V ... 127 V
	Loop through current	8 A
2	Ambient temperature range	-40 °C ≤ Ta ≤ +60 °C

Special conditions for safe use

- 1 For type ExpertLine-LED  
Not changed.
- 2 For type ExpertLine-LED AC  
Within the hazardous area, the signal lamp type Expertline-LED AC shall only be cleaned with a wet cloth.

Test and assessment report

BVS PP 09.2107 EG as of 15.11.2010

**DEKRA EXAM GmbH**  
Bochum, dated 15 November 2010

Signed: Dr. Franz Eickhoff

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Certification body

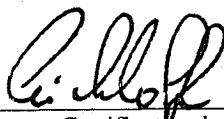
Signed: Dr. Michael Wittler

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Special services unit

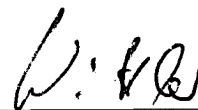
We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 15.11.2010  
BVS-Schu/Her A 20100334

**DEKRA EXAM GmbH**



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Certification body



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Special services unit

Translation

(1) **2<sup>nd</sup> Supplement to the EC-Type Examination Certificate**

(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC Supplement accordant with Annex III number 6

(3) No. of EC-Type Examination Certificate: **BVS 09 ATEX E 092 X**

(4) Equipment: **Signal lamp type ExpertLine-LED and type ExpertLine-LED AC**

(5) Manufacturer: **FHF Funke + Huster Fernsig GmbH**

(6) Address: **45478 Mülheim an der Ruhr, Germany**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.

(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 09.2107 EG.

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

- EN 60079-0:2006 **General requirements**
- EN 60079-7:2007 **Increased safety 'e'**
- EN 60079-11:2007 **Intrinsic safety 'i'**
- EN 60079-18:2004 **Encapsulation 'm'**
- EN 61241-0:2006 **General requirements**
- EN 61241-1:2004 **Protection by enclosures 'tD'**
- EN 61241-18:2004 **Protection by Encapsulation 'mD'**

(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 supplement to the 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 e mb [ib] IIC T4**  
**II 2D Ex mbD tD A21 IP66 T130°C**

DEKRA EXAM GmbH  
Bochum, dated 17.06.2011

Signed: Simanski

Signed: Dr. Eickhoff

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Certification body

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Special services unit

(13) Appendix to

(14) **2<sup>nd</sup> Supplement to the EC-Type Examination Certificate  
BVS 09 ATEX E 092 X**

(15) 15.1 Subject and type

Signal lamp type ExpertLine-LED and type ExpertLine-LED AC

15.2 Description

The signal lamp can be modified according to the descriptive documents as mentioned in the pertinent Test and Assessment Report; the circuitry of the signal lamp type ExpertLine-LED AC will be modified.

15.3 Parameters

15.3.1 Type ExpertLine-LED  
(terminals X100 and X101)

Rated voltage	DC	24	V
Input voltage range permitted	DC	19.2 .. 28.8	V
Projected short circuit current $I_k$ of external source of power supply		100	A
Ambient temperature range		-40 °C up to +65 °C resp. -20 °C up to +65 °C	

15.3.2 Type ExpertLine-LED AC  
(terminals L and N)

Nominal voltage	AC	230 V / 50	60	Hz
Voltage range	AC	175 V .. 253		V
resp.				
Nominal voltage	AC	115 V / 50	60	Hz
Voltage range	AC	85 V .. 127		V
Loop through current			8	A
Ambient temperature range		-40 °C ≤ Ta ≤ +60 °C		

(16) Test and assessment report

BVS PP 09.2107 EG as of 17.06.2011

(17) Special conditions for safe use

17.1 For type ExpertLine-LED

Inside the potentially explosive atmosphere the signal lamp type ExpertLine-LED may only be cleaned with a damp cloth.

The projected short circuit current  $I_K$  of the external source of power supply may not exceed 100 A.

17.2 For type ExpertLine-LED AC

Within the hazardous area, the signal lamp type ExpertLine-LED AC shall only be cleaned with a damp cloth.

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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, 17.06.2011  
BVS-Schu/Sch A 20110444



Certification body



Special services unit