



Translation

(1) **EC TYPE-EXAMINATION CERTIFICATE**

- (2) Equipment or protective system intended for use in potentially explosive atmospheres - **Directive 94/9/EC**
- (3) EC-Type Examination Certificate Number



**TÜV 02 ATEX 1833**

- (4) Equipment: Electrode Relays types ER-142.... and ER-143....
- (5) Manufacturer: E.L.B. Füllstandsgeräte Bundschuh GmbH + Co.
- (6) Address: An der Hartbrücke 6  
D-64625 Bensheim

(7) This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH & Co. KG, TÜV CERT-Certification Body, notified body number N° 0032 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system 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 confidential report N° 02 YEX 144380.

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

**EN 50 014: 1997**

**EN 50 020: 1994**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the 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 or protective system must include the following:

 **II (1) G [EEx ia] IIC**

TÜV NORD CERT GmbH & Co. KG  
TÜV CERT-Certification Body  
Am TÜV 1  
D-30519 Hannover  
Tel.: 0511 986-1470  
Fax: 0511 986-2555

Hanover, 2002-06-11

  
Head of the  
Certification Body



**TÜV NORD CERT**



(13)

## SCHEDULE

(14) **EC-TYPE EXAMINATION CERTIFICATE N° TÜV 02 ATEX 1833**

(15) Description of equipment or protective system

The Electrode Relays type ER-142.... and ER-143.... are used for the detection of conductive mediums by two electrode tips in the explosion hazardous area and for the safe galvanic separation of intrinsically safe and non intrinsically safe circuits, as well.

The ambient temperature range is  $-25^{\circ}\text{C} \dots 60^{\circ}\text{C}$ .

### Electrical Data

Supply circuit .....  $U_n = 240\text{V a. c.}, U_m = 264 \text{ V a. c. resp.}$   
 (Connections A1 und A2)  $U_n = 230\text{V a. c.}, U_m = 253 \text{ V a. c. resp.}$   
 $U_n = 127\text{V a. c.}, U_m = 135,7 \text{ V a. c. resp.}$   
 $U_n = 115\text{V a. c.}, U_m = 126,5 \text{ V a. c. resp.}$   
 $U_n = 48 \text{ V a. c.}, U_m = 52,8 \text{ V a. c. resp.}$   
 $U_n = 42 \text{ V a. c.}, U_m = 46,2 \text{ V a. c. resp.}$   
 $U_n = 24 \text{ V a. c.}, U_m = 26,4 \text{ V a. c.}$   
 $f = 48 \dots 62 \text{ Hz}$   
 $S = 2 \text{ VA}$

Control circuit ..... in type of protection "Intrinsic Safety" EEx ia/ib IIC  
 (Connections E0, E1 and E2) resp. EEx ia/ib IIB

Maximum values:

$U_o = 12,6 \text{ V}$

$I_o = 10 \text{ mA}$

$P_o = 31 \text{ mW}$

Characteristic line: linear

	EEx ia/ib	IIC	IIB
max. perm. external inductance		300 mH	1000 mH
max. perm. external capacitance		1,15 $\mu\text{F}$	7,4 $\mu\text{F}$

The effective internal inductances and capacitances are negligibly small.

Relay circuits .....	a. c. voltage	d. c. voltage
(Connections	U = 250 V	U = 150 V
11, 12 and 14	I = 5 A	I = 8 A
[ER142 and ER143]	S = 100 VA	P = 50W
21, 22 and 24		
ER143] )		

The intrinsically safe circuit is safely galvanically separated from the non intrinsically safe circuits up to the peak crest value of the voltage of 375 V.

(16) The test documents are listed in the test report no. 02YEX144380.

(17) Special condition for safe use

none

(18) Essential Health and Safety Requirements

no additional ones

Translation

## 1. SUPPLEMENT

to Certificate No. **TÜV 02 ATEX 1833**

Equipment: **Electrode Relays types ER-142.... and ER-143....**

Manufacturer: **E.L.B.-Füllstandsgeräte Bundschuh GmbH + Co.**  
Address: **An der Hartbrücke 6  
64625 Bensheim  
Germany**

Order number: **8000555210**  
Date of issue: **2009-06-07**

Amendments:

A new type is added which is suitable for a different supply voltage. The additional type may be manufactured and operated according to the test documents listed in the test report. The standards used for assessment had also been updated, the marking changes accordingly.

All other details remain unchanged, the electrical data are supplemented as follows:

### Electrical data

Supply circuit.....  $U = 24 \text{ V d.c.}$ ,  $U_m = 26.4 \text{ V d.c.}$   
(Connections A1 and A2)

The equipment incl. of this supplement meets the requirements of these standards:

**EN 60079-0:2006**

**EN 60079-11:2007**

**EN 60079-26:2007**

The marking changes as follows:

**⊕ Ex II (1) G [Ex ia] IIC**

(16) The test documents are listed in the test report No. 09 203 555210.

(17) Special conditions for safe use

none

1. Supplement to Certificate No. TÜV 02 ATEX 1833

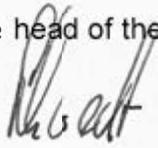
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(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body

A handwritten signature in black ink, appearing to read "Schwedt".

Schwedt

Hanover office, Am TÜV 1, 30519 Hanover, Tel.: +49 (0) 511 986-1455, Fax: +49 (0) 511 986-1590

Translation  
**2. SUPPLEMENT**

**to Certificate No.** TÜV 02 ATEX 1833

Equipment: Electrode Relays types ER-142.... and ER-143....

Manufacturer: E.L.B. Füllstandsgeräte Bundschuh GmbH & Co. KG

Address: An der Hartbrücke 6  
64625 Bensheim  
Germany

Order number: 8000406481

Date of issue: 2012-02-17

Amendments:

In the future the Electrode Relays types ER-142.... and ER-143.... may also be manufactured and operated according to the test documents listed in the test report.

The equipment was evaluated according to the newest standards.

All other data apply unchanged for this supplement.

The device will then be labeled as follows:

 II (1) G [Ex ia Ga] IIC

The equipment incl. of this supplement meets the requirements of these standards:

**EN 60079-0:2009**

**EN 60079-11:2012**

**EN 60079-26:2007**

(16) Test documents are listed in the test report No. 12 203 099320.

(17) Special conditions for safe use

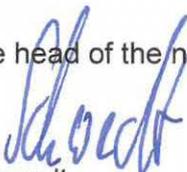
none

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body



Schwedt

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