



Translation

**EC TYPE-EXAMINATION CERTIFICATE**



- (1)
- (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**

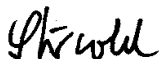
**EN 50 020: 1994**

- (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**



## SCHEDULE

(13)

(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



## 1. ERGÄNZUNG

zur Bescheinigungsnummer: **TÜV 02 ATEX 1833**

Gerät: Elektrodenrelais Typ ER-142.... und ER-143....

Hersteller: E.L.B.-Füllstandsgeräte Bundschuh GmbH + Co.  
Anschrift: An der Hartbrücke 6  
64625 Bensheim  
Deutschland

Auftragsnummer: 8000555210  
Ausstellungsdatum: 31.08.2009

### Änderungen:

Es wird eine Variante des Gerätes hinzugefügt, die für eine weitere Versorgungsspannung geeignet ist. Diese darf entsprechend der eingereichten Prüfungsunterlagen gefertigt und betrieben werden. Weiterhin werden die, für die Beurteilung der Geräte herangezogenen Normenstände aktualisiert, die Kennzeichnung ändert sich dementsprechend.

Alle weiteren Angaben gelten unverändert für diese Ergänzung, die elektrischen Daten werden wie folgt ergänzt:

### Elektrische Daten

Versorgungsstromkreis ..... U = 24 V DC, U<sub>m</sub> = 26,4 V DC  
(Klemmen A1 und A2)


Das Gerät incl. dieser Ergänzung erfüllt die Anforderungen der folgenden Normen:

**EN 60079-0:2006**

**EN 60079-11:2007**

**EN 60079-26:2007**

Die Kennzeichnung lautet:

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

(16) Die Prüfungsunterlagen sind im Prüfbericht Nr. 09 203 555210 aufgelistet.

(17) Besondere Bedingungen

keine

1. Ergänzung zur Bescheinigungsnummer TÜV 02 ATEX 1833

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(18) Grundlegende Sicherheits- und Gesundheitsanforderungen

keine zusätzlichen

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, akkreditiert durch die Zentralstelle der Länder für Sicherheitstechnik (ZLS), Ident. Nr. 0044, Rechtsnachfolger der TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

Der Leiter der Zertifizierungsstelle

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

Schwedt

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