



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 00 ATEX 1604

(4) Equipment or Protective System: Electrode Relays type ER-144/A/EX._._ and ER-145/A/EX._._

(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 Hannover/Sachsen-Anhalt e.V., TÜV Certification Body N° 0032 in accordance with Article 9 of the Council Directive 94/9/EC of March 23, 1994, 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 confidential report N° 00PX15900.

(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 certification 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 and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

(12) The marking of the equipment or protective system shall include the following:

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

Hanover, 2001-09-05

TÜV Hannover/Sachsen-Anhalt e.V.
TÜV CERT-Zertifizierungsstelle
Am TÜV 1
D-30519 Hannover

Head of the
Certification Body





(13) **SCHEDULE**

(14) **EC-TYPE EXAMINATION CERTIFICATE N° TÜV 00 ATEX 1604**

(15) Description of equipment or protective system

The Electrode Relays type ER-144/A/EX._._ and ER-145/A/EX._._ 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°C ... 60°C.

Electrical Data

Supply circuit $U_n = 240V$ a. c., $U_m = 264$ V a. c. resp.
 (Connections A1 und A2) $U_n = 230V$ a. c., $U_m = 253$ V a. c. resp.
 $U_n = 127V$ a. c., $U_m = 135,7$ V a. c. resp.
 $U_n = 115V$ a. c., $U_m = 126,5$ V a. c. resp.
 $U_n = 48$ V a. c., $U_m = 52,8$ V a. c. resp.
 $U_n = 42$ V a. c., $U_m = 46,2$ V a. c. resp.
 $U_n = 24$ V a. c., $U_m = 26,4$ V a. c.
 $f = 48 \dots 62$ Hz
 $S = 1,5$ VA

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

Maximum values:

$U_o = 13,1$ V
 $I_o = 5$ mA
 $P_o = 65$ mW

Characteristic line: linear

EEx ia/ib	IIC	IIB
max. perm. external inductance	0,9 H	1 H
max. perm. external capacitance	0,97 μ F	6 μ 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 $I = 5$ A
 21, 22 and 24) $S = 100$ VA $P = 50$ W

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. PX15900.

(17) Special condition for safe use

none

(18) Essential Health and Safety Requirements

no additional ones

Translation

1. SUPPLEMENT

to Certificate No. TÜV 00 ATEX 1604

Equipment: Electrode Relays type ER-144/A/EX._._ and ER-145/A/EX._._

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

Order number: 8000555207
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 V d.c., U_m = 26.4 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:

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

(16) The test documents are listed in the test report No. 09 203 555207.

(17) Special conditions for safe use

none

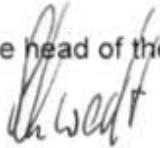
1. Supplement to Certificate No. TÜV 00 ATEX 1604

(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 00 ATEX 1604

Equipment: Electrode Relays type ER-144/A/EX._._ and ER-145/A/EX._._

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

Address: An der Hartbrücke 6
64625 Bensheim
Germany

Order number: 8000406478

Date of issue: 2012-02-17

Amendments:

In the future the Electrode Relays type ER-144/A/EX._._ and ER-145/A/EX._._ 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 099258.

(17) Special conditions for safe use

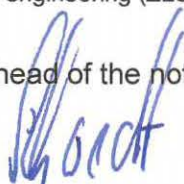
none

(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