



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 99 ATEX 1434

(4) Equipment or Protective System: transmitter type Cond I7100/2X*

(5) Manufacturer: Mettler Toledo GmbH

(6) Address: CH-Urdorf, Im Hackacker 15

(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°99/PX10691.

(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 2 (1) G EEx ib [ia] IIC T6

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

Hannover, 1999-06-04

Head of the
Certification Body





(13)

SCHEDULE

(14) **EC-TYPE EXAMINATION CERTIFICATE N° TÜV 99 ATEX 1434**

(15) Description of equipment or protective system

The transmitter type Cond I7100/2X* is used for the recognition and processing of electrochemical quantities.

The maximum permissible ambient temperature is 55°C.

Electrical data

Current loop..... in type of protection "Intrinsic Safety" EEx ib IIC
(terminals 10, 11) only for the connection to a certified intrinsically safe circuit with

the following maximum values:

$$U_i = 30 \text{ V}$$

$$I_i = 100 \text{ mA}$$

$$P_i = 0.8 \text{ W}$$

effective internal capacitance $C_i = 20 \text{ nF}$

effective internal inductance $L_i = 0.2 \text{ mH}$

Conductivity measuring loop..... in type of protection "Intrinsic Safety" EEx ia IIC resp. EEx ib IIC
(terminals 1, 2, 3, 4, 5) Maximum values:

$$U_o = 7.5 \text{ V}$$

$$I_o = 63 \text{ mA}$$

$$P_o = 80 \text{ mW}$$

$$R_i = 80 \text{ } \Omega$$

Characteristic: linear

effective internal capacitance $C_i = 3 \text{ nF}$

The effective internal inductance is negligibly small.

max. permissible external capacitance $C_o = 11.1 \text{ } \mu\text{F}$

max. permissible external inductance $L_o = 9 \text{ mH}$

or

for the connection to the electrodeless conductivity sensor type
SE654 X resp. type 871EC-SPO

Maximum cable length: 30 m

Temperature measuring loop.... in type of protection "Intrinsic Safety" EEx ia IIC
(terminals 7, 8) Maximum values:

$$U_o = 5 \text{ V}$$

$$I_o = 3.5 \text{ mA}$$

$$P_o = 5 \text{ mW}$$

$$R_i = 1590 \text{ } \Omega$$

Characteristic: linear

effective internal capacitance $C_i = 250 \text{ nF}$

The effective internal inductance is negligibly small.



max. permissible external capacitance $C_o = 100 \mu\text{F}$
max. permissible external inductance $L_o = 1 \text{ H}$

EP for the connection to the equipotential bonding system
(Terminal 9)

The current loop is safely separated from the conductivity measuring loop and the temperature measuring loop up to a voltage of 60 V. The conductivity measuring loop and the temperature measuring loop are galvanically connected.

(16) Test documents are listed in the test report No. 99/PX10691.

(17) Special condition for safe use

none.

(18) Essential Health and Safety Requirements

no additional ones

Translation

1. SUPPLEMENT to

EC-TYPE EXAMINATION CERTIFICATE No. TÜV 99 ATEX 1434

Equipment: transmitter type Cond Ind 7100e/2X*
Manufacturer: Mettler Toledo GmbH
Address: CH-8902 Urdorf
Im Hackacker 15

In the future, the transmitter type CondI 7100/2X* may also be operated according to the test documents listed in the test report.

The changes refer to the electrical data of the transmitter as well as to the type designation. For the transmitter according to this 1. supplement this reads Cond Ind 7100e/2X*.

Electrical data

Conductivity measuring loop in type of protection "Intrinsic Safety" EEx ia IIC
(terminals 1, 2, 3, 4, 5, 6)
Maximum values:
 $U_o = 8 \text{ V}$
 $I_o = 99 \text{ mA}$
 $P_o = 124 \text{ mW}$
 $R_i = 50,7 \Omega$
Characteristic: linear
effective internal capacitance $C_i = 3 \text{ nF}$
The effective internal inductance is negligibly small.
max. permissible external capacitance $C_o = 8,4 \mu\text{F}$
max. permissible external inductance $L_o = 4 \text{ mH}$

Temperature measuring loop in type of protection "Intrinsic Safety" EEx ia IIC
(terminals 7, 8)
Maximum values:
 $U_o = 5 \text{ V}$
 $I_o = 3.5 \text{ mA}$
 $P_o = 5 \text{ mW}$
 $R_i = 1590 \Omega$
Characteristic: linear
effective internal capacitance $C_i = 250 \text{ nF}$
The effective internal inductance is negligibly small.
max. permissible external capacitance $C_o = 100 \mu\text{F}$
max. permissible external inductance $L_o = 1 \text{ H}$

1. Supplement to EC-Type Examination Certificate No. TÜV 99 ATEX 1434

Conductivity/temperature

measuring loop
(terminals 1, 2, 3, 4, 5, 6, 7, 8)

in type of protection "Intrinsic Safety" EEx ia IIC

Maximum values:

$$U_o = 8 \text{ V}$$

$$I_o = 102,5 \text{ mA}$$

$$P_o = 129 \text{ mW}$$

$$R_i = 49,1 \text{ } \Omega$$

Characteristic: linear

effective internal capacitance $C_i = 250 \text{ nF}$

The effective internal inductance is negligibly small.

max. permissible external capacitance $C_o = 8,4 \text{ } \mu\text{F}$

max. permissible external inductance $L_o = 4 \text{ mH}$

The conductivity measuring loop and the temperature measuring loop are galvanically connected.

The transmitters type CondI 7100/2X* and type Cond Ind 7100e/2X* also meet the requirements of
EN 50 014:1997 +A1+A2 EN 50 020:2002

All other details remain unchanged for this 1. supplement.

(16) The test documents are listed in the test report N° 05 YEX 552150.

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones

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Hannover, 2005-07-20



Head of the
Certification Body