



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

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**



(3) EC-type-examination Certificate Number:

PTB 00 ATEX 2063

(4) Equipment: Electrical signal output, type ESKII and ESK3-PA

(5) Manufacturer: Krohne Meßtechnik GmbH & Co. KG

(6) Address: 47058 Duisburg, Germany

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

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC 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 confidential report PTB Ex 00-20092 .

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

EN 50014:1997

EN 50020:1994

(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 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 shall include the following:

II 2 G EEx ia IIC T6

Zertifizierungsstelle Explosionsschutz

Braunschweig, May 19, 2000

By order:

(signature)

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

3 pages, correct and complete as regards content.

By order:

Dr.-Ing. U. Gerlach
Oberregierungsrat



Braunschweig, July 18, 2008

sheet 1/3

SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 2063**

(15) Description of equipment

The electrical signal output, type ESKII or ESK3-PA is suitable for the installation in display units intended for the application in hazardous areas.

For relationship between the permissible ambient temperature ranges and the temperature class, reference is made to the following table.

Temperature class	T1 through T4	T5	T6
Ambient temperature for ESKII	-40 °C...85 °C	-40 °C...75 °C	-40 °C...60 °C
Ambient temperature for ESK3-PA	-40 °C...85 °C	-40 °C...65 °C	-40 °C...50 °C

Electrical data

Type ESK II

Supply and signal circuit
(terminals 11 and 12)

type of protection Intrinsic Safety EEx ia IIC or EEx ib IIC
only for connection to certified intrinsically safe circuits

Maximum values:

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

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

$$P_i = 1.0 \text{ W}$$

$$C_i = 20 \text{ nF}$$

$$L_i \text{ negligibly low}$$

Type ESK3-PA

Supply and signal circuit
(terminals 11 and 12)

type of protection Intrinsic Safety EEx ia IIC or EEx ib IIC/IIB
only for connection to certified intrinsically safe circuits
(FISCO-model) with the maximum value:

$$U_i = 24 \text{ V}$$

$$C_i \text{ negligibly low}$$

$$L_i \text{ negligibly low}$$

(16) Test report PTB Ex 00-20092

(17) Special conditions for safe use

none

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz

Braunschweig, May 19, 2000

By order:

(signature)

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

1. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 2063

(Translation)

Equipment: Electrical signal output, type ESKII and ESK3-PA

Marking:  II 2 G EEx ia IIC T6

Manufacturer: Krohne Meßtechnik GmbH & Co. KG

Address: Ludwig Krohne Straße 5, 47058 Duisburg, Germany

Description of supplements and modifications

In the future the electrical signal output, type ESKII or ESK3-PA may also be manufactured and operated according to the test documents listed in the test report. The modifications concern the introduction of the new variant electrical signal output, type ESK 2A as well as the revision of the variant, type ESK3-PA concerning that part of the circuitry which is not safety-relevant.

The temperature specifications and the "Electrical data" of the electrical signal output, type ESK 2A are as follows:

Temperature class	T1 bis T4	T5	T6
Ambient temperature range for ESK 2A	-40 °C...85 °C	-40 °C...75 °C	-40 °C...60 °C

Electrical data

Type ESK 2A

Supply and signal circuit (terminals 11 and 12) type of protection Intrinsic Safety EEx ia IIC or EEx ib IIC only for connection to certified intrinsically safe circuits

Maximum values:

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

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

$$P_i = 1.0 \text{ W}$$

$$C_i = 20 \text{ nF}$$

$$L_i \text{ negligibly low}$$

Braunschweig und Berlin

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 2063

All other electrical data and specifications of the EC-type examination certificate apply without changes also to this 1st supplement.

Applied standards

EN 50014:1997

EN 50020:2002

Test report: PTB Ex 06-26023

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, March 07, 2006

(signature)

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

2 pages, correct and complete as regards content.

By order:



Dr.-Ing. U. Gerlach
Oberregierungsrat



Braunschweig, July 18, 2008

2. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 2063

(Translation)

Equipment: Electrical signal output, type ESKII, ESK 2A and ESK3-PA

Marking:  II 2 G EEx ia IIC T6

Manufacturer: Krohne Meßtechnik GmbH & Co. KG

Address: Ludwig Krohne Straße 5, 47058 Duisburg, Germany

Description of supplements and modifications

In the future the electrical signal output, type ESKII, ESK 2A or ESK3-PA may also be manufactured and operated according to the test documents listed in the test report. The modifications concern the adaption to the current state of the standard series EN 60079-** and, therefore, the marking of the equipment as well as technical modifications of the electrical signal output, type ESK3-PA. For this type some components of the input circuitry and the metallisation of the plastic enclosure will be dispensed with. The functional area of the circuitry which is not safety-relevant has been revised completely. The electrical data are changed / supplemented as follows:

Electrical data

Electrical signal output, type ESK II, ESK 2A

Supply and signal circuit (terminals 11 and 12) type of protection Intrinsic Safety Ex ia IIC or Ex ib IIC only for connection to certified intrinsically safe circuits

Maximum values:

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

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

$$P_i = 1.0 \text{ W}$$

$$C_i = 20 \text{ nF}$$

$$L_i \text{ negligibly low}$$

Electrical signal output, type ESK3-PA

Supply and signal circuit (terminals 11 and 12) type of protection Intrinsic Safety Ex ia IIC or Ex ib IIC/IIB
only for connection to a certified intrinsically safe circuit according to
the FISCO-model

Maximum values:

$$\begin{aligned}U_i &= 24 \text{ V} \\I_i &= 380 \text{ mA} \\P_i &= 5.32 \text{ W}\end{aligned}$$

FISCO field device

The marking will be in future:

 II 2 G Ex ia IIC T6

All other specifications of the EC-type examination certificate and the 1st supplement apply without changes also to this 2nd supplement.

Applied standards

EN 60079-0:2006

EN 60079-11:2007

EN 60079-27:2006

Test report: PTB Ex 08-28081

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, July 18, 2008


Dr.-Ing. U. Gerlach
Oberregierungsrat

