



(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 03 ATEX 2115

(4) Equipment: Segment coupler, type SC 12 Ex ...

(5) Manufacturer: Hans Turck GmbH & Co. KG

(6) Address: Witzlebenstr. 7, 45472 Mülheim/Ruhr, 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 03-23173.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014:1997 + A1 + A2 **EN 50020:2002**

(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 D [EEx ib] IIC

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, July 28, 2003

(signature)

Dr.-Ing. U. Gerlach
Regierungsrat

3 pages, correct and complete as regards content.

By order:



Dr.-Ing. Gerlach
Regierungsrat

Braunschweig, July 1, 2005

sheet 1/3

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2115**

(15) Description of equipment

The segment coupler, type SC 12 Ex ... is used for the data transfer between intrinsically safe and non-intrinsically safe Profibus circuits.

The segment coupler is intended for installation outside of hazardous areas.

The permissible ambient temperature is 70 °C.

Electrical data

Supply circuits $U \leq 35 \text{ V DC}$
(plug connector PS1 or PS2) $I \leq 250 \text{ mA}$
 $U_m = 250 \text{ V}$

Profibus DP $U_m = 250 \text{ V}$
(plug connector RS485)

The non-intrinsically safe supply circuits and the non-intrinsically safe Profibus DP-circuit are safely electrically isolated from the intrinsically safe circuits up to a peak value of the nominal voltage of 375 V.

Profibus DP Ex1 type of protection Intrinsic Safety EEx ib IIC
(plug connector RS485-IS (a))

Maximum values:

$U_o = 3.71 \text{ V}$
 $I_o = 129 \text{ mA}$
 $P_o = 120 \text{ mW}$

linear characteristic

$U_i = 4.2 \text{ V}$

L_i negligibly low
 C_i negligibly low

Profibus DP Ex2 type of protection Intrinsic Safety EEx ib IIC
(plug connector RS485-IS (b))

Maximum values:

$U_o = 3.71 \text{ V}$
 $I_o = 129 \text{ mA}$
 $P_o = 120 \text{ mW}$

linear characteristic

sheet 2/3

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$U_i = 4.2 \text{ V}$

L_i negligibly low

C_i negligibly low

The intrinsically safe circuits, Profibus DP Ex1 and DP Ex2 are safely electrically isolated from each other up to a peak value of the nominal voltage of 30 V.

External RS485-fieldbus system type of protection Intrinsic Safety SYST EEx ib IIC

Maximum values for each pair of terminals:

$U_i = 4.2 \text{ V}$

Maximum value for all pairs of terminals in total:

$I_i = 4.8 \text{ A}$

Cables:

cable, type A or B acc. to EN 50039 with the following reactances per unit length:

$L'/R' \leq 15 \text{ } \mu\text{H}/\Omega$ (loop resistance)

$C' \leq 250 \text{ nF/km}$

strand diameter: $\geq 0.2 \text{ mm}$

Lumped external inductances and capacitances along the cable run of the RS485-fieldbus system are not permissible.

Additional note:

The specifications of the maximum permissible external inductances and capacitances for the fieldbus terminals of bus-sharing units connected to the external RS 485 fieldbus network are not applied within the scope of this system-description.

(16) Test report PTB Ex 03-23173

(17) Special conditions for safe use

none

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz

By order:

(signature)

Dr.-Ing. U. Gerlach
Regierungsrat

Braunschweig, July 28, 2003

sheet 3/3

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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Konformitätserklärung Declaration of Conformity

Nr. 3102 M



Diese Konformitätserklärung entspricht der Europäischen Norm EN 45014 "Allgemeine Kriterien für Konformitätserklärungen von Anbietern". Die Grundlage der Kriterien sind internationale Dokumente, insbesondere ISO/IEC Leitfad 22, 1982: "Information on manufacturer's declaration of conformity with standards or other technical specifications".

This "Declaration of Conformity" complies with the European Standard EN 45014 "General criteria for a supplier's declaration of conformity". These criteria are based on the relevant international documentation, particularly the ISO/IEC Guide 22, 1982: "Information on the manufacturer's declaration of conformity with standards or other technical specifications".

Wir / We **HANS TURCK GMBH & CO KG**
WITZLEBENSTR. 7, D - 45472 MÜLHEIM A.D. RUHR

erklären in alleiniger Verantwortung, dass die Produkte
declare under our sole responsibility that the products

Eingabestation Typ ESK 8*-Ex

auf die sich die Erklärung bezieht, mit den folgenden Normen übereinstimmen
to which this declaration relates are in conformity with the following standards

EN 61326 / 1998; A1 / 1999

und wo anwendbar
and where applicable

EN 60947-5-2 / 1997

EN 50014 + A1 + A2 / 1997 EN 50020 / 1994

Gemäß den Bestimmungen der Richtlinie (falls zutreffend)
Following the provisions of Directive (if applicable)

EMV - Richtlinie	/ EMC Directive	89 / 336 / EWG	3. Mai 1989
Richtlinie ATEX 100a	/ Directive ATEX 100a	94 / 9 / EG	23. März 1994

Weitere Normen
additional standards

Aussteller der EG-Baumusterbescheinigung:

EXAM BBG Prüf- und Zertifizier GmbH

Dinnendahlstr. 9, D-44809 Bochum

Kenn-Nr. 0158, Registriernummer: BVS 03 ATEX E 200

Mülheim, den 31.07.03

Ort und Datum der Ausstellung /
Place and date of issue

(H. W. Stoll)

Name und Unterschrift des Befugten /
Name and signature of authorized person

Form/L 04/12/01.03.01/KONFORMITÄTSEKRLÄRUNG.DOT

31.07.03/3102M.doc