



## (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

Braunschweig, July 28, 2003

By order:

(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

(13)

## SCHEDULE

(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 ≤ 35 V DC  
(plug connector PS1 or PS2) I ≤ 250 mA  
U<sub>m</sub> = 250 V

Profibus DP ..... U<sub>m</sub> = 250 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<sub>o</sub> = 3.71 V  
I<sub>o</sub> = 129 mA  
P<sub>o</sub> = 120 mW

linear characteristic

U<sub>i</sub> = 4.2 V

L<sub>i</sub> negligibly low

C<sub>i</sub> negligibly low

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

Maximum values:

U<sub>o</sub> = 3.71 V  
I<sub>o</sub> = 129 mA  
P<sub>o</sub> = 120 mW

linear characteristic

$$U_i = 4.2 \text{ V}$$

$L_i$  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:

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

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

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:

Braunschweig, July 28, 2003

*(signature)*

Dr.-Ing. U. Gerlach  
Regierungsrat

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

**Remote – I/O – System excom® PROFIBUS-DP - Segmentkoppler (RS485-IS) /**  
**PROFIBUS-DP - segment coupler (RS485-IS)**

Type: SC12EX

auf die sich die Erklärung bezieht, den Anforderungen der folgenden EU-Richtlinien durch Einhaltung der  
folgenden harmonisierten Normen genügen:

to which this declaration relates are in conformity with the requirements of the following EU-directives by compliance with the following  
harmonised standards:

EMV – Richtlinie / EMC Directive **2014 / 30 / EU** **26. Feb. 2014**  
EN 61326-1:2013

Richtlinie / Directive ATEX **2014 / 34 / EU** **26. Feb. 2014**  
EN 60079-0:2012 EN 60079-11:2012

Weitere Normen, Bemerkungen  
additional standards, remarks

Das Produkt stimmt mit den Anforderungen der Richtlinie 2014/34/EU überein. Eine oder mehrere in  
der zugehörigen EG-Baumusterprüfbescheinigung genannten Normen wurden bereits durch neue  
Ausgaben ersetzt. Der Hersteller erklärt für das Produkt auch die Übereinstimmung mit den neuen  
Normenausgaben, da die veränderten Anforderungen der neuen Normenausgaben für dieses Produkt  
nicht relevant sind.

The product complies with the directive 2014/34/EU. One or more standards mentioned in the respective EC type examination  
certificate were already replaced by new ones. The manufacturer declares that the product complies with the new standards, as  
the changed requirements mentioned there are not relevant for the product.

Zusätzliche Informationen:  
Supplementary information:

Angewandtes ATEX-Konformitätsbewertungsverfahren / ATEX - conformity assessment procedure applied:  
Modul B + Modul E (enthalten in Modul D) / module B + module E (part of module D)

EU-Baumusterprüfbescheinigung (Modul B) PTB 03 ATEX 2115 / EC-type examination certificate (module B):

ausgestellt von / issued by: **Physikalisch Technische Bundesanstalt, Kenn-Nr. / number 0102,**  
**Bundesallee 100, D-38116 Braunschweig**

Zertifizierung des QS-Systems gemäß Modul D durch:  
certification of the QS-system in accordance with module D by :

**Physikalisch Technische Bundesanstalt, Kenn-Nr. / number 0102,**  
**Bundesallee 100, D-38116 Braunschweig**

Mülheim, den 20.04.2016

i.V. U. Vix, CE-Koordinatorin / CE Coordinator

Ort und Datum der Ausstellung /  
Place and date of issue

Name, Funktion und Unterschrift des Befugten /  
Name, function and signature of authorized person