Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

(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 13 ATEX 2014

(4) Equipment: Excom Module, type TI41Ex...

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

(6) Address: Witzlebenstraße 7, 45472 Mülheim an der 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 test report PTB Ex 13-23029.

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

EN 60079-0:2012 **EN 60079-11:2012**

(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 (1) G Ex ib [ia Ga] IIC T4 Gb and II (1) D [Ex ia Da] IIIC
alternatively
II 2 (1) G Ex ib [ia] IIC T4 and II (1) D [Ex ia] IIIC

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, September 30, 2013

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 56

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 13 ATEX 2014

(15) Description of equipment

The Excom Module, type TI41Ex... is used for the acquisition of measured values. Thermocouples, resistance thermometers or other sensors with defined quantities of resistance and direct voltage are connected alternatively as measuring sensors.

The Excom Module, type TI41Ex... is a part of the *Excom* fieldbus system. It is plugged and operated in the subrack with backplane of the *Excom* fieldbus system certified under PTB 00 ATEX 2194 U . The degree of protection of IP20 according to IEC 60529 is guaranteed in connection with the enclosure of the subrack.

The equipment is intended for application inside the hazardous area.

The permissible range of the ambient temperature is: -20 °C up to +70 °C.

Electrical data

I.) AC-supply circuit..... type of protection Intrinsic Safety Ex ib IIC
only for connection to the certified intrinsically safe circuit according to PTB 00 ATEX 2194 U

Maximum values:

U	=	20	V AC (amplitude)
f	=	300	kHz ... 314 kHz
P	=	1	W (power consumption)

C_i negligibly low
L_i negligibly low

The intrinsically safe AC-supply circuit is safely electrically isolated from ground and from all other intrinsically safe circuits up to a peak value of the nominal voltage of 100 V.

II.) Signal circuit (CAN-BUS)
(system-internal intrinsically safe circuit without external connection facilities)

III.) Module adressing
(system-internal intrinsically safe circuit without external connection facilities)

The intrinsically safe signal circuit (CAN-BUS) and the module addressing are safely electrically isolated from ground and electrically interconnected.

IV.) Field circuits ..... type of protection Intrinsic Safety Ex ia IIC
or Ex ia IIIC

Terminals on the system-subrack:

channel 1: 1...4
channel 2: 5...8
channel 3: 9...12
channel 4: 13...16

Maximum values per channel:

U_o = 5.3 V
I_o = 4.5 mA
P_o = 6 mW
linear characteristic

C_i = 1 µF
L_i = 2 mH

For relationship between explosion group and external reactances, reference is made to the table. Existing internal reactances are considered with the tabulated values.

	IIC	IIB
L_o [mH]	C_o [µF]	C_o [µF]
3	1.6	12
2	2	15
1	2.5	18
0.5	3	22
0.2	4	29
0.1	5.1	37

The intrinsically safe field circuits are safely electrically isolated from ground and – up to a peak value of the nominal voltage of 50 V – from each other and from the intrinsically safe signal circuit (CAN-BUS) and the module addressing.

(16) Test report PTB Ex 13-23029

(17) Special conditions for safe use

none

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

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On behalf of PTB:

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EU-Konformitätserklärung Nr. 5012M

EU Declaration of Conformity No.:

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® Modul / module
Type: TI41EX

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:

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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 13 ATEX 2014 / 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