CERTIFICATE

(1) EC-Type Examination

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 04ATEX1152 X** Issue Number: **5**

(4) Equipment: **Two Wire Proximity Sensors with digital output signal Type ...-....-.AY1..-..... / .... And Type ...-....-.RY1..-..... / ....**

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

(6) Address: **Witzlebenstrasse 7, 45466 Mülheim an der Ruhr, Germany**

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

(8) DEKRA Certification B.V., notified body number 0344 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 confidential test report number 213387300.

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

EN 60079-0 : 2009 **EN 60079-11 : 2012** **EN 60079-26 : 2007**

(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 according 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 1 G Ex ia IIC T4 ... T6 Ga or
II 2 G Ex ia IIC T4 ... T6 Gb or
II 1 D Ex ia IIIC T 95 °C or **T 115 °C Da** or
II 2 D Ex ia IIIC T 95 °C or **T 115 °C Db**

This certificate is issued on 23 March 2012 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

DEKRA Certification B.V.

C.G. van Es
Certification Manager

PRODUCTS RvA C 007

All testing, inspection, auditing and certification activities of the former KEMA Quality are an integral part of the DEKRA Certification Group

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(13) # SCHEDULE

(14) **to EC-Type Examination Certificate KEMA 04ATEX1152 X** Issue No. **5**

(15) **Description**

Two Wire Proximity Sensors with digital output signal Type ...-….-.AY1..-….. / …. and Type ...-….-.RY1..-….. / …. are used for initiation of signalling or switching functions on a preset distance value being reached.
The model code of the range of Two Wire Proximity Sensors Type ...-….-.AY1..-….. / …. and Type ...-….-.RY1..-….. / …. is table 1 of attachment 1.
The range of Two Wire Proximity Sensors Type ...-….-.AY1..-….. / …. and Type ...-….-.RY1..-….. / …. consists of various constructional variants classified into six Type Groups. The identification of the applicable Type Group is related to the Constructional Variant and can be determined from table 15.1 of annex 1.

Category II 1 G only applies to the Constructional Variants shown in table 15.2 of annex 1.

Ambient temperature range -25 ℃ to +70 ℃ for all models, with the exceptions shown in table 15.3 of annex 1.
The temperature class of the different Sensor models, depending on ambient temperature, Ii and Pi, can be determined from tables 15.4 till 15.7 (see annex 1), using table 15.1 in annex 1 for the type group designation.
For explosive dust atmospheres, the maximum surface temperature T for the Two Wire Proximity Sensors in Type Groups BX is 115 ℃ and for all other Two Wire Proximity Sensors T is 95 ℃ at a maximum ambient temperature of 70 ℃.

Electrical data

See annex 1.

Installation instructions

The instructions provided with the equipment shall be followed in detail to assure safe operation.

(16) **Test Report**

No. 213387300.

(17) **Special conditions for safe use**

For application in explosive atmospheres, where category 2 G apparatus is required:
If part of the enclosure is made of plastic and the projected surface area is greater than 20 cm², the sensor is accompanied with a warning to avoid static charging. This warning applies only when the sensor is used as group IIC apparatus. In this case precautions have to be taken that the risk of electrostatic charging of the enclosure is excluded.

For application in explosive atmospheres, where category 1 G apparatus is required:
If part of the enclosure is made of plastic and the projected surface area is greater than 4 cm² for group IIC apparatus, 25 cm² for group IIB apparatus or 50 cm² for group IIA apparatus, the sensor is accompanied with a warning to avoid static charging. In this case precautions have to be taken that the risk of electrostatic charging of the enclosure is excluded.

(13) # SCHEDULE

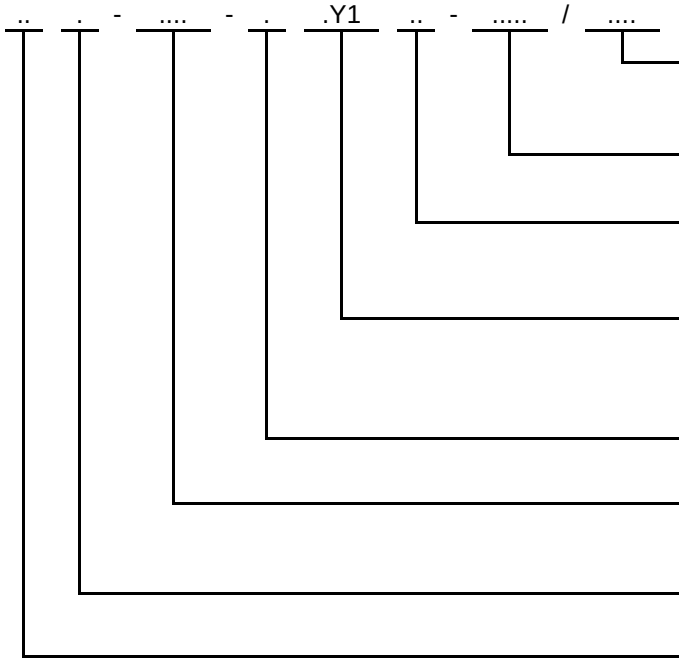
(14) **to EC-Type Examination Certificate KEMA 04ATEX1152 X** Issue No. **5**

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 213387300.



Identification of special variant, listed in table 15.3 where relevant for the type of protection (optional)

Type of connector.
Blank for integral cable.

LED Indicator present:
Blank: None installed
X: Yes

Type of I/O interface
A: NAMUR active current connection (NO)
R: = NAMUR deactive current connection (NC)

Number of NAMUR proximity switches installed (optional)

Constructional Variant optional:
Prefix: E
Suffix: TC, SK, SR, WD, E, M, K

Switching distance in mm

Principle of functioning:
Bi = inductive, for flush mounting
BC = capacitive, for flush mounting
Ni = inductive, for non flush mounting
NC = capacitive, for non flush mounting
BIM = magnetically operated
Si = inductive, slot style

Table 1 Type Group related to the Constructional Variant

Constructional Variant	Type Group	Constructional Variant	Type Group	Constructional Variant	Type Group	Constructional Variant	Type Group
AKT	B	G19….Y1…	B	K14	B	PST	N
BKT	BD	G19….Y1X..	BX	K20….Y1…	B	Q06	N
BRY	BD	G28	B	K20….Y1X..	BX	Q08	N
CA25	B	G30….Y1…	B	K30	B	Q10	B
CA40	B	G30….Y1X..	BX	K33	B	Q10S	B
CK40	B	G47	B	K34	B	Q11	N
CP40	B	GS880	N	K40	B	Q11S	B
CP80	B	H04	L	K90….Y1…	B	Q12	B
DS13,5	BD	H08	N	K90….Y1X..	BX	Q14	B
DS20	BD	H12	B	M12….Y1…	B	Q20	B
DSC26	ND	H14	B	M12….Y1X..	BX	Q25	B
DSU26	BD	H6,5	L	M12EE	B	Q30	B
DSU35	BD	H6,5-2	LD	M18….Y1…	B	Q5.5	L
FMG	LD	HLM	N	M18….Y1X..	BX	Q6.5	L
FST	N	HS540	L	M30….Y1…	B	Q42	B
G05	L	HS865	N	M30….Y1X..	BX	Q80	B
G08	N	IKE	B	MP ….Y1…	B	QF5,5	L
G10	N	IKT	B	MP ….Y1X..	BX	QN26	B
G12….Y1…	B	INT	L	NST	N	QST	N
G12….Y1X..	BX	ISM	B	P12….Y1…	B	S12….Y1…	B
G13	B	K08	N	P12….Y1X..	BX	S12….Y1X..	BX
G14….Y1…	B	K09	N	P18….Y1…	B	S18….Y1…	B
G14….Y1X..	BX	K10	N	P18….Y1X..	BX	S18….Y1X..	BX
G18….Y1…	B	K11….Y1…	B	P30….Y1…	B	S30….Y1…	B
G18….Y1X..	BX	K11….Y1X..	BX	P30….Y1X..	BX	S30….Y1X..	BX
G180	B	K11….Y1X..	BX	P30….Y1X..	BX	T12	B
G181	B	K12	B	PSM	N	UNT	L
G182	B						

Table 15.1 Relation between Constructional Variant and Type Group.

Constructional Variant		Constructional Variant		Constructional Variant		Constructional Variant
DS20		G30…Y1X..		INT		M12…Y1X..
FMG		GS880		ISM		M18…Y1…
G05		H04		K08		M18…Y1X..
G08		H08		K09		M30…Y1…
G10		H12		K10		M30…Y1X..
G12…Y1…		H14		K11		Q10S
G12…Y1X..		H6,5		K12		QF5,5
G18…Y1…		H6,5-2		K14		UNT
G18…Y1X..		HLM		K20		
G30…Y1…		HS540		M12…Y1…		

Table 15.2 Constructional Variants of equipment Category II 1 G.

Category	Model code	Ambient temperature range
II 1 G, II 2 G	...-….-.Y1.-….. / S80	-25 ℃ … +80 ° C
II 2 G	...-….-.Y1.-….. / S85	-25 ℃ … +85 ℃
II 1 G, II 2 G	...-….-.Y1.-….. / S97	-40 ℃ … +70 ° C
II 2 G	...-….-.Y1.-….. / S100	-25 ℃ … +100 ℃

Table 15.3 Exceptions in ambient temperature range.

Electrical data

Supply and output circuit:
in type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to a certified intrinsically safe circuit, with following maximum values:
U_i = 20 V; I_i and P_i = See table 15.4 to 15.7; C_i = 180 nF; L_i = 350 µH.

For Dual Sensors with two galvanically seperated circuits, which are in Type Groups BD, LD or ND, the listed parameters U_i, I_i, C_i and L_i apply per sensor circuit and the parameter P_i for both circuits combined.

For Dual Sensors with two galvanically connected circuits, which are in Type Groups BD, LD or ND, the listed parameters U_i and I_i apply per sensor circuit and the parameter P_i for both circuits combined. The values of C_i and L_i shall be doubled.

Type Groups B and BD:

Maximum ambient temperature	Category	Temperature class	I_i (mA) (resistively limited)	P_i (mW)
+100 ℃	II 2 G	T4	60	200
+85 ℃	II 2 G	T5	60	200
+80 ℃	II 1 G, II 2 G	T5	60	200
+70 ℃	II 1 G, II 2 G	T6	60	200
+70 ℃	II 1 D	-	60	200

Table 15.4 Temperature class and circuit parameters for Type Groups B and BD.

Type Groups N and ND:

Maximum ambient temperature	Category	Temperature class	I_i (mA) (resistively limited)	P_i (mW)
+100 ℃	II 2 G	T4	60	200
+85 ℃	II 2 G	T5	60	130
+80 ℃	II 1 G, II 2 G	T5	60	130
+70 ℃	II 1 G, II 2 G	T6	60	130
+70 ℃	II 1 D	-	60	130

Table 15.5 Temperature class and circuit parameters for Type Groups N and ND.

Type Group L and LD:

Maximum ambient temperature	Category	Temperature class	I_i (mA) (resistively limited)	P_i (mW)
+100 ℃	II 2 G	T4	60	200
+80 ℃	II 1 G, II 2 G	T4	60	200
+85 ℃	II 2 G	T5	60	80
+80 ℃	II 1 G, II 2 G	T5	60	80
+70 ℃	II 1 G, II 2 G	T5	60	200
+70 ℃	II 1 G, II 2 G	T6	60	80
+70 ℃	II 1 D	-	60	80
+60 ℃	II 1 G, II 2 G	T6	60	150
+60 ℃	II 1 D	-	60	150

Table 15.6 Temperature class and circuit parameters for Type Group L and LD.

Type Group BX:

Maximum ambient temperature	Category	Temperature class	I_i (mA) (resistively limited)	P_i (mW)
+100 ℃	II 2 G	T4	50	200
+80 ℃	II 1 G, II 2 G	T4	50	200
+70 ℃	II 1 G, II 2 G	T4	60	200
+85 ℃	II 2 G	T5	20	200
+80 ℃	II 1 G, II 2 G	T5	20	200
+70 ℃	II 1 G, II 2 G	T5	40	200
+70 ℃	II 1 G, II 2 G	T6	20	200
+70 ℃	II 1 D	-	60	200

Table 15.7 Temperature class and circuit parameters for Type Group BX.

EU-Konformitätserklärung Nr. 5022M

EU Declaration of Conformity No.:

TURCK

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

Zweidraht Näherungsschalter mit Rechteckausgangssignal
Typ ...-....-.AY1..-...../.... und Typ ...-....-.RY1..-...../....

Two Wire Proximity Sensors Type ...-....-.AY1..-...../.... und Type ...-....-.RY1..-...../....

auf die sich die Erklärung bezieht, den Anforderungen der folgenden EU-Richtlinien durch Einhaltung der folgenden Normen genügen:
to which this declaration relates are in conformity with the requirements of the following EU-directives by compliance with the following standards:

EMV – Richtlinie / EMC Directive	2004 / 108 / EG	15. Dez.2004 [1]
EMV – Richtlinie / EMC Directive	2014 / 30 / EU	26. Feb. 2014 [2]
EN 60947-5-6:2000		
Richtlinie / Directive ATEX 100a	94 / 9 / EG	23. März 1994 [1]
Richtlinie / Directive ATEX	2014 / 34 / EU	26. Feb. 2014 [2]
EN 60079-0:2012	EN 60079-11:2012	

[1]: bis zum / until 19. April 2016 [2]: ab / as from 20. April 2016

Weitere Normen, Bemerkungen
additional standards, remarks

Das Produkt stimmt mit den Anforderungen der Richtlinie 94/9/EG 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 94/9/EG. One or more norms mentioned in the respective EC type examination certificate were already replaced by new ones. The manufacturer declares that the product complies with the new valid norms, 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 D / E / module B + module D / E

EU-Baumusterprüfbescheinigung (Modul B) KEMA 04 ATEX 1152 X / EC-type examination certificate (module B):
ausgestellt von / issued by: DEKRA Certification B.V., Kenn-Nr. / number 0344,
Utrechtseweg 310, NL-6812 AR Arnhem

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 01.04.2016

i.V. Dr. M. Linde, Leiter Zulassungen / Manager Approvals

Ort und Datum der Ausstellung / Place and date of issue

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