



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **KIWA 16ATEX0051X** Issue: **2**

4 Equipment: **Two-Wire Proximity Sensors, Model ...-.....-Y1 ...-...../.....**

5 Applicant: **Hans Turck GmbH & Co. KG**

6 Address: **Witzlebenstraße 7
45472 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 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-11:2012

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 1G Ex ia IIC T6...T4 Ga
II 2G Ex ia IIC T6...T4 Gb
II 1D Ex ia IIIC T₂₀₀ 95°C or T₂₀₀ 115°C Da

Project Number 80102878

Signed: J A May

Title: Director of Operations

CSA Group Netherlands B.V.
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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

KIWA 16ATEX0051X
Issue 2

13 DESCRIPTION OF EQUIPMENT

Two Wire Proximity Sensors are used for initiation of signalling or switching functions once a pre-set distance value from the sensor has been reached. The apparatus has a digital output signal.

The apparatus model codes are listed in table 1.

Type groups and design

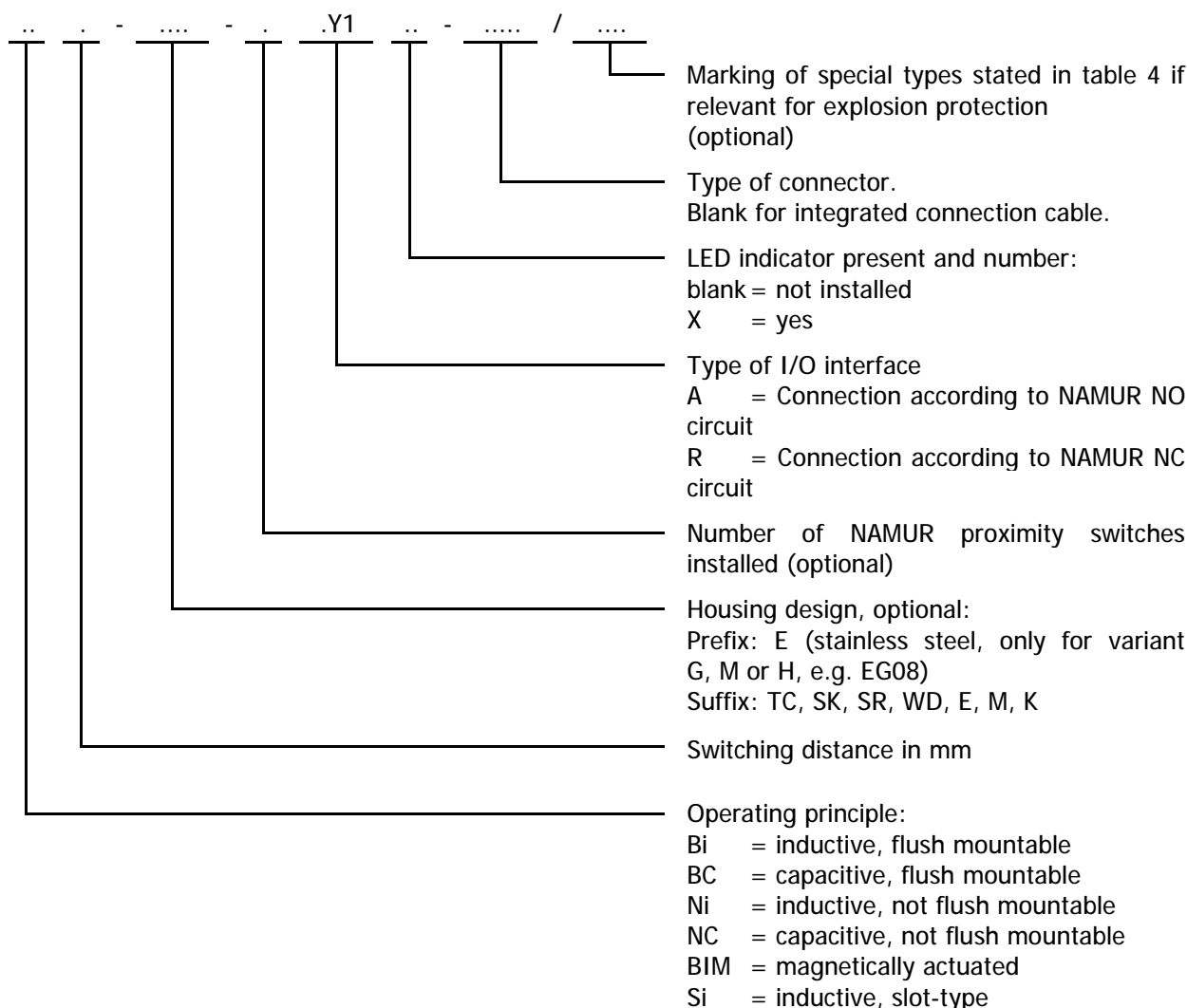


Table 1. Model code breakdown.

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EU-TYPE EXAMINATION CERTIFICATE

**KIWA 16ATEX0051X
Issue 2**

The apparatus has various constructional variants divided into seven type groups. The type group is related to the constructional variant as can be determined from table 2.

Design	Type group	Design	Type group	Design	Type group	Design	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 2. Type group in relation to the design.

Equipment category 1G (Equipment Protection Level only applies to the constructional variants included in table 3.

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 3. Designs of device with equipment category 1G

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

KIWA 16ATEX0051X
Issue 2

The ambient temperature range of special apparatus types is included in table 4.

Equipment Category	Type code	Ambient temperature range
<u>Equipment Category</u>	...-...-.Y1.-..... / S80	-25 °C ... +80 °C
<u>1G, 2G</u>	...-...-.Y1.-..... / S85	-25 °C ... +85 °C
<u>2G</u>	...-...-.Y1.-..... / S97	-40 °C ... +70 °C
<u>1G, 2G</u>	...-...-.Y1.-..... / S100	-25 °C ... +100 °C

Table 4. Exceptions for ambient temperature range.

The ambient temperature range for all other apparatus types is -25 °C ... +70 °C

For explosive gas atmospheres, the temperature class for different sensor models, depends on the following parameters: maximum ambient temperature, values of I_i and P_i . The temperature class can be determined from tables 2 and 5 to 8.

Technical Data

In type of protection intrinsic safety Ex ia IIC and Ex ia IIIC, only for connection to a certified intrinsically safe circuit. Maximum values:

$U_i = 20$ V; I_i and $P_i =$ see table 5 to 8; $C_i = 180$ nF; $L_i = 350$ μ H.

For dual sensors with two electrically isolated circuits, which are classified into type groups BD, LD or ND the parameters U_i and I_i apply to each sensor circuit and parameter P_i to the combined circuits. The values for C_i and L_i must be doubled.

Tables 5 to 8 list the temperature class, respectively the maximum surface temperature in relation to maximum ambient temperature, EPL and values of circuit parameters I_i and P_i .

Table 5. Temperature class and circuit parameters for type groups B and BD.

Maximum ambient temperature	<u>Equipment Category</u>	Temperature class	I_i (mA) (resistance limited)	P_i (mW)
+100 °C	<u>2G</u>	T4	60	200
+85 °C	<u>2G</u>	T5	60	200
+80 °C	<u>1G, 2G</u>	T5	60	200
+70 °C	<u>1G, 2G</u>	T6	60	200
+70 °C	<u>1D</u>	T95 °C	60	200

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

KIWA 16ATEX0051X
Issue 2

Table 6. Temperature class and circuit parameters for type groups N and ND

Maximum ambient temperature	Equipment Category	Temperature class	I _i (mA) (resistance limited)	P _i (mW)
+100 °C	<u>2G</u>	T4	60	200
+85 °C	<u>2G</u>	T5	60	130
+80 °C	<u>1G, 2G</u>	T5	60	130
+70 °C	<u>1G, 2G</u>	T6	60	130
+70 °C	<u>1D</u>	T95 °C	60	130

Table 7. Temperature class and circuit parameters for type groups L and LD.

Maximum ambient temperature	Equipment Category	Temperature class	I _i (mA) (resistance limited)	P _i (mW)
+100 °C	<u>2G</u>	T4	60	200
+80 °C	<u>1G, 2G</u>	T4	60	200
+85 °C	<u>2G</u>	T5	60	80
+80 °C	<u>1G, 2G</u>	T5	60	80
+70 °C	<u>1G, 2G</u>	T5	60	200
+70 °C	<u>1G, 2G</u>	T6	60	80
+70 °C	<u>1D</u>	T95 °C	60	80
+60 °C	<u>1G, 2G</u>	T6	60	150
+60 °C	<u>1D</u>	T95 °C	60	150

Table 8. Temperature class and circuit parameters for type group BX.

Maximum ambient temperature	Equipment Category	Temperature class	I _i (mA) (resistance limited)	P _i (mW)
+100 °C	<u>2G</u>	T4	50	200
+80 °C	<u>1G, 2G</u>	T4	50	200
+70 °C	<u>1G, 2G</u>	T4	60	200
+85 °C	<u>2G</u>	T5	20	200
+80 °C	<u>1G, 2G</u>	T5	20	200
+70 °C	<u>1G, 2G</u>	T5	40	200
+70 °C	<u>1G, 2G</u>	T6	20	200
+70 °C	<u>1D</u>	T95 °C ¹⁾	60	200
+70 °C	<u>1D</u>	T115 °C ²⁾	60	200

Note 1) Versions with internal LED indicator

Note 2) Versions with external LED indicator

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

KIWA 16ATEX0051X
Issue 2

Variation 1 - This variation introduced the following changes:

- i. Following appropriate assessment to the latest technical knowledge, EN 60079-0:2012 was replaced by EN IEC 60079-0:2018.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
1	11 April 2017	161001581.	The release of the prime certificate.
2	18 January 2022	R80102879A	The introduction of Variation 1.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

- 15.1 Refer to manufacturer's instructions for precautions against the risk of electrostatic charging. Apparatus to which this applies are provided with a warning marking.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF MANUFACTURE

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Certificates.
- 17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

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Certificate Annexe



Certificate Number: KIWA 16ATEX0051X

Equipment: Two-Wire Proximity Sensors, Model ...-...-..Y1 ..-...../....

Applicant: Hans Turck GmbH & Co. KG

Issue 1: Refer to the report stated in section 14.2

Issue 2

Drawing	Sheets	Rev.	Date (Stamp)	Title
Approval Documentation	1 to 28	2	16 Dec 21	Approval Documentation inc. Marking Label etc

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