



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX DEK 14.0065X** Page 1 of 4 [Certificate history:](#)
Issue 0 (2016-03-18)

Status: **Current** Issue No: 1

Date of Issue: 2021-05-07

Applicant: **Hans Turck GmbH & Co. KG**
Witzlebenstrasse 7, 45466 Mülheim an der Ruhr
Germany

Equipment: **Two-wire Proximity Sensors, Types .i...-18-Li.-Exi.-....., .i...-30-Li.-Exi.-....., WIM...-Q25L-Li-Exi... , BIM-G18-Y1/
S926 and Ri...P.-DSU35...-ELi-EXi**

Optional accessory:

Type of Protection: **Ex ia**

Marking: Ex ia IIB/IIC T4...T6 Ga or
Ex ia IIC T4...T6 Gb and
Ex ia IIIC T85 °C...T115 °C Db

Approved for issue on behalf of the IECEx
Certification Body:

R. Schuller

Position:

Certification Manager

Signature:
(for printed version)

Date:

2021-05-07

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2. This certificate is not transferable and remains the property of the issuing body.
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Meander 1051
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Netherlands





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Manufacturer: **Hans Turck GmbH & Co KG**
Witzlebenstrasse 7
45466 Mülheim an der Ruhr
Germany

Additional manufacturing locations: **Werner Turck GmbH & Co. KG**
Goethestraße 7, 58553 Halver
Germany

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[NL/DEK/ExTR14.0071/01](#)

Quality Assessment Report:

[DE/PTB/QAR06.0012/05](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Two-wire Proximity Sensors Types .i.-.18-Li.-Exi-...., .i.-.30-Li.-Exi-.... and WIM...-Q25L-Li-Exi... are used for signalling distance-, resp. position-values being detected. A 4 to 20 mA supply and output signal provides feedback.

Two-wire Proximity Sensor, Type BIM-G18-Y1/S926, is used as a magnetically actuated sensor, e.g. used for the detection of the number of revolutions. A NAMUR supply and output signal provides feedback.

Two-wire Proximity Sensor, Type Ri...P.-DSU35...-ELi-Exi, is used to measure the angle of e.g. an actuator. An internal switch is connected to the teach-input, for defining the upper- and lower-scale angles of the actuator. A 4 to 20 mA supply and output signal provides feedback.

The Proximity Sensors can optionally be provided with a permanently connected cable.

SPECIFIC CONDITIONS OF USE: YES as shown below:

For the ambient temperature range and electrical data, see the Annex to this certificate.

The Proximity Sensors shall not be installed in an explosive atmosphere requiring the use of equipment protection level Ga, if the ambient temperature is higher than 80 °C.

The Proximity Sensors, Type .i.-.30-Li.-Exi-...., shall not be used in an explosive atmosphere of group IIC where the use of equipment protection level Ga is required.

If Proximity Sensors, Type WIM...-Q25L-Li-Exi...., are applied for EPL Ga group IIA/IIB/IIC, or EPL Gb group IIC, or EPL Gc Group IIC, electrostatic charging of the non-metallic parts of the enclosure shall be avoided.

If the Proximity Sensors, Type WIM...-Q25L-Li-Exi..., are installed in an explosive atmosphere requiring the use of equipment protection level Ga, they must be installed such, that ignition sources due to impact and friction sparks are excluded.

If Proximity Sensors, Type Ri...P.-DSU35...-ELi-Exi, are:

- installed in an explosive atmosphere of group IIC, or
- installed in an explosive atmosphere of group IIA/IIB, requiring the use of equipment protection level Ga, electrostatic charging of the enclosure and the associated positioning element shall be avoided



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Change in BIM-G18-Y1/S926 ambient temperature range.
Assessed per IEC 60079-0 Ed. 7.

Annex:

[Annex to IECEx DEK 14.0065X, iss1_1.pdf](#)

Annex 1 to Certificate of Conformity IECEx DEK 14.0065 X
Annex 1 to IECEx test report NL/DEK/ExTR14.0071/01

Thermal and electrical data

Minimum ambient temperature:

for Sensor Type .i.-.18-Li.-Exi-.... and type BIM-G18-Y1/S926: -40 °C
 and for all other types: -25 °C.

Two-wire Proximity Sensors Types .i.-.18-Li.-Exi-.... and .i.-.30-Li.-Exi-....:

Supply and output signal:

in type of protection intrinsic safety Ex ia IIB/IIC or Ex ia IIIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 30 \text{ V}$; $I_i = 120 \text{ mA}$; $C_i = C_{\text{cable}} = 120 \text{ pF/m}$; $L_i = L_{\text{cable}} = 1 \text{ }\mu\text{H/m}$.

The relation between temperature class, maximum surface temperature, ambient temperature and P_i , can be taken from the table below:

Maximum ambient temperature	Temperature class	Maximum surface temperature	P_i (mW)
+ 90 °C	T4	T115 °C	1000
+ 75 °C	T5	T100 °C	1000
+ 68 °C	T6	T85 °C	600
+ 64 °C	T6	T85 °C	800
+ 60 °C	T6	T85 °C	1000

Two-wire Proximity Sensors Type BIM-G18-Y1/S926:

Supply and output signal:

in type of protection intrinsic safety Ex ia IIB/IIC or Ex ia IIIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 16 \text{ V}$; $I_i = 20 \text{ mA}$; $P_i = 200 \text{ mW}$; $C_i = C_{\text{cable}} = 120 \text{ pF/m}$; $L_i = L_{\text{cable}} = 1\text{ }\mu\text{H/m}$.

The relation between temperature class, maximum surface temperature and the ambient temperature, can be taken from the table below:

Maximum ambient temperature	Temperature class	Maximum surface temperature
+ 100 °C	T4	T115 °C
+ 91 °C	T5	T100 °C
+ 76 °C	T6	T85 °C

Two-wire Proximity Sensors Type WIM...-Q25L-Li-Exi....:

Supply and output signal:

in type of protection intrinsic safety Ex ia IIB/IIC or Ex ia IIIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 30 \text{ V}$; $I_i = 120 \text{ mA}$; $P_i = 675 \text{ mW}$; $C_i = C_{\text{cable}} = 120 \text{ pF/m}$; $L_i = L_{\text{cable}} = 1\text{ }\mu\text{H/m}$.

The relation between temperature class, maximum surface temperature and the ambient temperature, can be taken from the table below:

Maximum ambient temperature	Temperature class	Maximum surface temperature
+ 96 °C	T4	T115 °C
+ 81 °C	T5	T100 °C
+ 66 °C	T6	T85 °C

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Annex 1 to IECEx test report NL/DEK/ExTR14.0071/01

Two-wire Proximity Sensors Type Ri...P.-DSU35...-ELi-Exi:

Supply and output signal (terminals 1 and 2 or permanently connected cable):
 in type of protection intrinsic safety Ex ia IIB/IIC or Ex ia IIIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 30 \text{ V}$; $I_i = 120 \text{ mA}$; $P_i = \text{see table}$; $C_i = C_{\text{cable}} = 120 \text{ pF/m}$; $L_i = L_{\text{cable}} = 1 \mu\text{H/m}$.

Teach input (terminal 3 and 4):

in type of protection intrinsic safety Ex ia IIB/IIC or Ex ia IIIC, only for connection to a passive switch.

Terminals 5 and 7, resp. terminals 6 and 8 only function as internal wire bridges, that are infallibly separated from the other circuits.

The relation between temperature class, maximum surface temperature, ambient temperature and P_i , can be taken from the table below:

Maximum ambient temperature	Temperature class	Maximum surface temperature	P_i (mW)
+79 °C	T4	T106 °C	1000
+73 °C	T5	T100 °C	1000
+66 °C	T6	T85 °C	600
+62 °C	T6	T85 °C	800
+58 °C	T6	T85 °C	1000

Nomenclature

Type BIM-G18-Y1/S926 xxM

xxM or blank: xxM cable length in meters (max. 30m), blank corresponds to standard cable length 2m

Type (a)i (b)- (c)30(d)-Li-Exi-(f)

(a): B or N, B: embeddable, N: nonembeddable.

(b): Measuring distance in mm

(c): Housing design, M, G and H metal barrel.

M: continuous thread, G: partial thread and H: smooth barrel.

with attachment E for stainless steel and T for teflon coated.

30 or 18: Barrel diameter in mm

(d): Barrel length K, E or blank

K: short design, E: long design, blank: Standard length

(f): Connection type:H1141, xxM or blank

Plug connector: e.g. H1141, xxM: Cable length xx in meters (max. 30m), blank: Cable length 2 m

Type WIM(a)-Q25L-Li-Exi-(b)

a: Measuring range 30, 100, 160 and 200mm

b: Connection type: H1141, xxM or blank

Plug connector: e.g. H1141, xxM: Cable length xx in meters (max. 30m), blank: Cable length 2 m

Type Ri (a) P(b) – DSU35 (c) –(d)Li-Exi(e)(f)

(a): 0...360 = Measuring angle

(b): 0= only sensor, 1= sensor + actuator P1-Ri-DSU35, 2= sensor + actuator P2-Ri-DSU35,

3= sensor + actuator P3-Ri-DSU35, etc.

(c): without= plug or cable design, TC = connection boxes

(d): E= Easy Teach

(e): -H1141, -H1151, xxM or blank (e.g. H1151 plug connector, xxM: Cable length xx in meters (max. 30m),

blank: Cable length 2 m)

(f): /Sxxxx (special number for customized designs)