



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: IECEx DEK 16.0047X Issue No: 0 Certificate history:
Issue No. 0 (2016-09-19)
Status: Current Page 1 of 3
Date of Issue: 2016-09-19
Applicant: **Wise Control Inc.**
2022 Deogyong-daero, Giheung-gu, Yongin-si, Gyeonggi-do (17097)
Korea, Republic of
Equipment: **Temperature Sensor R950 Series (ETR10)**
Optional accessory:
Type of Protection: **Ex i**
Marking: Ex ia IIC T6 to T1 Ga/Gb

Approved for issue on behalf of the IECEx
Certification Body:

R. Schuller

Position:

Certification Manager

Signature:
(for printed version)

Date:

2016-09-19

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

DEKRA Certification B.V.
Meander 1051,
6825 MJ Arnhem
The Netherlands





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Manufacturer: **Wise Control Inc.**
2022 Deogyong-daero, Giheung-gu, Yongin-si, Gyeonggi-do (17097)
Korea, Republic of

Additional Manufacturing location(s):

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 electrical apparatus 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 : 2011 Explosive atmospheres - Part 0: General requirements

Edition:6.0

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

Edition:6.0

IEC 60079-26 : 2014-10 Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga

Edition:3.0

*This Certificate **does not** indicate compliance with electrical 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/ExTR16.0055/00](#)

Quality Assessment Report:

[DE/EPS/QAR12.0008/04](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Temperature Sensor Model R950 Series (ETR10) for temperature measurement, in different versions, consists of an insert, an optional connection head and optionally extension parts.

The inserts have one or two thermocouple or one or two RTD temperature sensing elements.

The sensor assembly is provided with terminals for connection to one or two external intrinsically safe circuits.

See Annex 1 for type designation (nomenclature), electrical and thermal data.

CONDITIONS OF CERTIFICATION: YES as shown below:

External connection facilities for the sensor assembly of non connection head types shall be installed in an enclosure which affords it a degree of protection of at least IP20 according to IEC 60529, or higher when the environment requires so.

In case the insert does not comply with the dielectric strength requirements of clause 6.3.13 of IEC 60079-11, the circuits shall be considered to be connected to ground.

Annex:

[219516900_DEK16.0047 X_Annex1.pdf](#)

Annex 1 to:
Certificate of Conformity IECEx DEK 16.0047X, issue 0
Test report NL/DEK/ExTR16.0055/00

Type designation

BASE MODEL - 1 st through 4 th characters	R951 : ETR10 Series Single Element(ATEX II 1/2G Ex ia IIC T6...T1 Ga/Gb) R952 : ETR10 Series Double Element(ATEX II 1/2G Ex ia IIC T6...T1 Ga/Gb) R953 : ETR10 Series Single Element(IECEx Ex ia IIC T6...T1 Ga/Gb) R954 : ETR10 Series Double Element(IECEx Ex ia IIC T6...T1 Ga/Gb)
Head type - 5 th character	A : Single Entry Head Type B : Dual Entry Head type C : Single Entry Head type & Spring load type D : Dual Entry Head type & Spring load type E : Single Entry Head type & Remote Mounting with Terminal Head Type F : Dual Entry Head type & Remote Mounting with Terminal Head Type G : Extended Lead Wire Type H : Extended Lead Wire with Steel Armored Tube Type
Element type - 6 th character	K : K type thermocouple E : E type thermocouple Q : Pt100Ω resistance thermometer - 3 wire type V : Pt100Ω resistance thermometer - 4 wire type
Sheath material - 6 th character	1 : 316SS 2 : Inconel 600(thermocouple only) 3 : 310SS - (thermocouple only) 6 : 321SS - (thermocouple 321SS) 7 : 316L SS
Sheath outer diameter - 8 th and 9 th character	D9 : 3.2 mm E9 : 4.8 mm F9 : 6.4 mm G9 : 8.0 mm
Conduit connection - 10 th character	1 : 1/2" PF 2 : 1/2" PT 3 : 1/2" NPT 5 : 3/4" PT 6 : 3/4" NPT 7 : M20 * 1.5 8 : None
Extension length & type - 11 th character	A : None - Remote Mounting with Terminal Head Type & Extended lead wire type only P : Com. fitting Type - Remote Mounting with Terminal Head & Extended lead wire type only Q : 100mm(Nipple union nipple) - Extended Direct Mounting with Terminal Head Type U : 100mm(Nipple) - Extended Direct Mounting with Terminal Head Type R : 150mm(Nipple union nipple) - Extended Direct Mounting with Terminal Head Type V : 150mm(Nipple) - Extended Direct Mounting with Terminal Head Type
Process connection - 12 th character	A : None E : 1/2" NPT & 304SS F : 3/4" NPT & 304SS R : 1/2" NPT & 316SS S : 3/4" NPT & 316SS
Insert length - 13 th character	A : 100 mm B : 200 mm C : 300 mm D : 400 mm E : 500 mm F : 600 mm G : 700 mm

Annex 1 to:
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NL/DEK/ExTR16.0055/00

	H : 800 mm J : 900 mm K : 1000 mm
Outer material of lead wire - 14 th character	A : PVC B : Teflon C : Non-Asbestos X : None
Option - 15 th character	0 : None 1 : Accessories 2 : Head material : ALDC 3 : Head material : 316SS 4 : Accessories & Head material : ALDC 5 : Accessories & Head material : 316SS

Thermal data

Ambient temperature range -40 °C to +65 °C.

If the sensor assembly is influenced by the temperature of the process medium, it shall be verified that the surface temperature of the connection head and the connection box does not exceed the specified maximum ambient temperature.

The maximum surface temperature due to process conditions (T_p) is the maximum surface temperature of any part of the assembly in contact with the explosive atmosphere.

The temperature class T6 ... T1 is depending on the process temperature and the input power P_i , in accordance with the following table:

Temperature class	$P_i \leq 50 \text{ mW}$	$P_i \leq 100 \text{ mW}$	$P_i \leq 200 \text{ mW}$	$P_i \leq 500 \text{ mW}$	$P_i \leq 650 \text{ mW}$	$P_i \leq 750 \text{ mW}$
	Max. allowed process temperature T_p (°C)					
T1	431	424	411	378	363	359
T2	281	274	261	228	213	209
T3	186	179	166	133	118	114
T4	121	114	101	68	53	49
T5	86	79	66	33	18	14
T6	71	64	51	18	3	0

Electrical data

Insert only with RTD sensing elements

Output circuits (terminals A and B):

in type of protection intrinsic safety Ex ia IIC, only to be connected to a certified intrinsically safe circuit, with the following maximum values for each sensing element:

$U_i = 30 \text{ V}$, $I_i = 100 \text{ mA}$, $P_i = 750 \text{ mW}$, $C_i = 0.1 \text{ nF}$, $L_i = 0.01 \text{ mH}$

Insert only with thermocouple sensing elements

Output circuits (terminals + and -):

in type of protection intrinsic safety Ex ia IIC, only to be connected to a certified intrinsically safe circuit, with the following maximum values for each sensing element:

$U_i = 30 \text{ V}$, $I_i = 100 \text{ mA}$, $P_i = 750 \text{ mW}$, $C_i = 0.1 \text{ nF}$, $L_i = 0.01 \text{ mH}$

Refer to the thermal data tables for the relation of P_i with the maximum process temperature, the temperature class and the maximum surface temperature