



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

Ex COMPONENT CERTIFICATE

Certificate No.: **IECEX LCIE 17.0038U** Page 1 of 4 [Certificate history:](#)
Issue 0 (2017-11-21)

Status: **Current** Issue No: 1

Date of Issue: 2023-06-08

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

Ex Component: Coil end temperature detector and Bearing temperature sensor - Type: R840 series

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Ex eb**

Marking: Ex eb IIC Gb
(Refer to attachment for full marking)

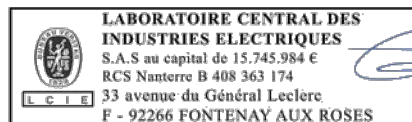
Approved for issue on behalf of the IECEx
Certification Body:

Julien GAUTHIER

Position:

Certification Officer

Signature:
(for printed version)



Date:
(for printed version)

2023-06-08

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 www.iecex.com or use of this QR Code.



Certificate issued by:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France





IECEX Certificate of Conformity

Certificate No.: **IECEX LCIE 17.0038U**

Page 2 of 4

Date of issue: 2023-06-08

Issue No: 1

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

Manufacturing
locations:

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 component 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 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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 component listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[FR/LCIE/ExTR17.0047/00](#)

[FR/LCIE/ExTR23.0021/00](#)

Quality Assessment Report:

[DE/EPS/QAR12.0008/11](#)



IECEX Certificate of Conformity

Certificate No.: **IECEX LCIE 17.0038U**

Page 3 of 4

Date of issue: 2023-06-08

Issue No: 1

Ex Component(s) covered by this certificate is described below:

These sensor devices, certified as Ex components, are platinum resistance temperature detectors. They are usually used for measurement and monitoring of temperatures of electrical machines such as motors or generators.

The sensitive element(s) of the coil end temperature detector is (are) enclosed in a molding in silicone covered in a heat-resistance contraction tube made of Teflon.

The bearing temperature sensor features a sensing tip made of stainless steel filled with epoxy resin.

(Refer to attachment for full description and electrical parameters).

SCHEDULE OF LIMITATIONS:

$-40^{\circ}\text{C} \leq T_{\text{Service}} \leq +180^{\circ}\text{C}$.

During installation, it has to be made sure that the insulation of the sensor device and the connecting leads do not get damaged. The temperature sensor shall be protected against mechanical load. High bending stresses as well as mechanical stress shall be avoided.

The sensor devices shall be mounted within an enclosure conforms with the requirements of relevant standards of IEC 60079 series and which provides IP54 ingress protection.

When installed in rotating electrical machines with type of protection increased safety 'e', the coil end temperature detector (models R841 to R844) shall be impregnated with the winding.

The bearing temperature sensors (models R845 to R848) shall be connected in accordance with IEC 60079-14. The metallic sensing tip of the sensor must be connected to earth.

The lead ends of conductors shall be permanently connected by means of suitable terminals certified for the intended used.

The connecting line of the sensor may only be connected to supply units for passive resistive sensors in accordance with the standard relevant for the resistive thermometer (IEC 60751). The supply unit shall provide a terminal board which corresponds to the method of connection of the sensor (3- or 4-wire connection). The maximum electrical values shall not be exceeded.

When installed in the stator winding of a rotating electrical machine, the coil end temperature detector shall be subjected to the dielectric strength tests required for stator windings of rotating electrical machines with the sensor connected to earth.



IECEX Certificate of Conformity

Certificate No.: **IECEX LCIE 17.0038U**

Page 4 of 4

Date of issue: 2023-06-08

Issue No: 1

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 01 :

Normative updates according to following standards:

- IEC 60079-0:2017 Ed. 7.0

- IEC 60079-7:2015 Ed. 5.1.

Add a new type style A, B, C, D and E.

Update of the certification file.

Annex:

[IECEX LCIE 17.0038U Annex.pdf](#)



Annex 01 to Certificate IECEx LCIE 17.3029U issue 01



FULL EQUIPMENT DESCRIPTION

These sensor devices, certified as Ex components, are platinum resistance temperature detectors. They are usually used for measurement and monitoring of temperatures of electrical machines such as motors or generators.

The sensitive element(s) of the coil end temperature detector is (are) enclosed in a molding in silicone covered in a heat-resistance contraction tube made of Teflon.

The bearing temperature sensor features a sensing tip made of stainless steel filled with epoxy resin.

Instructions: document n° C-QIM-2731-T13.

MARKING

WISE or **WISE**[®]
 Type : R840 series
 Model: R84*****
 Ex eb IIC Gb
 $-40^{\circ}\text{C} \leq T_{\text{Service}} \leq +180^{\circ}\text{C}$
 IECEx LCIE 17.0038U

RANGE DETAILS

Coil end temperature detector: 1 2 3 4 5 6 7 8

1	2	3	4	5	6	7	8			
								Option	0	None
								Outer material of lead wire	A B Z	PVC Teflon Other
								Lead wire length (m)	L1 L2 L3 L4 L5 L0	1 2 3 4 5 Other (min. 300 mm)
								Body outer diameter & length	D0 F0 Z0	4 mm x 40 mm Single element 6 mm x 40 mm Double element Other
								Body material	0	Teflon
								Element	Q A 9 C Z	Pt 100Ω (B), 3 wires Pt 100Ω (B), 4 wires Pt 100Ω (A), 3 wires Pt 100Ω (A), 4 wires Other
								Marking	A B Z	ATEX II 2 G Ex e IIC Gb IECEx Ex e IIC Gb None
								Base model	R841 R842 R843 R844	RTD Single element RTD Double element RTD Single element with shield wire RTD Double element with shield wire

Bearing temperature sensor: 1 2 3 4 5 6 7 8 9

1	2	3	4	5	6	7	8	9			
									Option / <i>Option</i>	0	Néant / <i>None</i>
									Matière extérieure du fil conducteur / <i>Outer material of lead wire</i>	A	PVC (Only Tip style E)
										B	Teflon (standard) (Only Tip style E)
										C	Autre / <i>Other</i>
									Longueur du fil conducteur / <i>Lead wire length (m)</i>	L1	1
										L2	2
										L3	3
										L4	4
										L5	5
										L0	Autre / <i>Other</i> (min. 300 mm)
									Diamètre et longueur extérieur du corps / <i>Body out diameter & length (mm)</i>	A0	None
										D0	3.2(D) x 7(L) (Only Tip style E)
										F0	4.8(D) x 7(L) (Only Tip style E)
											Other 3.2(D) x 7(L) (Only Tip style E)
										Z0	Min.3.2(D) x Min. 7(L) – Single element (Bearing temperature sensor)
									Type de produit / <i>Product type</i>	D8	Tip style A
										E8	Tip style B
										F8	Tip style C
										G8	Tip style D
										H8	Tip style E
									Matière du corps / <i>Body material</i>	0	304SS
										1	316SS
										2	316L SS
									Elément / <i>Element</i>	Q	Pt 100Ω (B), 3 fils / <i>wires</i>
										A	Pt 100Ω (B), 4 fils / <i>wires</i>
										9	Pt 100Ω (A), 3 fils / <i>wires</i>
										C	Pt 100Ω (A), 4 fils / <i>wires</i>
										Z	Autre / <i>Other</i>
									Marquage / <i>Marking</i>	A	ATEX II 2 G Ex eb IIC Gb
										B	IECEx Ex eb IIC Gb
										C	ATEX II 1G Ex ia IIC T6...T3 Ga (Only Tip style A-D)
										D	IECEx II 1G Ex ia IIC T6...T3 Ga (Only Tip style A-D)
										E	KCs Ex eb IIC Gb
										F	KCs Ex ia IIC T6...T3 Ga (Only Tip style A-D)
										Z	Néant / <i>None</i>
									Model de base / <i>Base model</i>	R845	RTD Élément unique / <i>Single element</i>
										R846	RTD Élément double / <i>Double element</i>
										R847	RTD Élément unique avec blindage / <i>Single element with shield wire</i>
										R848	RTD Élément double avec blindage / <i>Double element with shield wire</i>



Annex 01 to Certificate IECEx LCIE 17.3029U issue 01



RATINGS

Electrical data (for each element):
Voltage: 4.8 V max.
Measuring current: 0.2 ~ 5.0 mA

FULL SCHEDULE OF LIMITATIONS

$-40^{\circ}\text{C} \leq T_{\text{Service}} \leq +180^{\circ}\text{C}$.

During installation, it has to be made sure that the insulation of the sensor device and the connecting leads do not get damaged. The temperature sensor shall be protected against mechanical load. High bending stresses as well as mechanical stress shall be avoided.

The sensor devices shall be mounted within an enclosure conforms with the requirements of relevant standards of IEC 60079 series and which provides IP54 ingress protection.

When installed in rotating electrical machines with type of protection increased safety 'e', the coil end temperature detector (models R841 to R844) shall be impregnated with the winding.

The bearing temperature sensors (models R845 to R848) shall be connected in accordance with IEC 60079-14. The metallic sensing tip of the sensor must be connected to earth.

The lead ends of conductors shall be permanently connected by means of suitable terminals certified for the intended used. The connecting line of the sensor may only be connected to supply units for passive resistive sensors in accordance with the standard relevant for the resistive thermometer (IEC 60751). The supply unit shall provide a terminal board which corresponds to the method of connection of the sensor (3- or 4-wire connection). The maximum electrical values shall not be exceeded.

When installed in the stator winding of a rotating electrical machine, the coil end temperature detector shall be subjected to the dielectric strength tests required for stator windings of rotating electrical machines with the sensor connected to earth.

ROUTINE TESTS

According to clause 7.1 of IEC 60079-7 standard, each product shall be submitted before delivery to a dielectric strength test under 500 Volts (carried out in accordance with clause 6.1 of IEC 60079-7 standard).