



# 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](http://www.iecex.com)

Certificate No.: IECEx LCIE 17.0038U

Issue No: 0

Certificate history:

[Issue No. 0 \(2017-11-21\)](#)

Status: **Current**

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Date of Issue: **2017-11-21**

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

Equipment: **Coil end temperature detector and Bearing temperature sensor - R840 series**

*Optional accessory:*

Type of Protection: **Ex e**

Marking:

**Ex e 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:*

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](#).

Certificate issued by:

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





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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 60079-7 : 2006-07** Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:4

*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:

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

Quality Assessment Report:

[DE/EPS/QAR12.0008/06](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

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, electrical parameters and schedule of limitations).

**SPECIFIC CONDITIONS OF USE: NO**

### Annex:

[Annex 01-IECEx LCIE 17.0038U.pdf](#)



## Annex 01 to Certificate IECEx LCIE 17.0038U issue 00



### 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-T17.

### MARKING

WISE

Type : R840 series

Model: R84\*\*\*\*\*

Ex e IIC Gb

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

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

## RANGE DETAILS (continued)

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

1	2	3	4	5	6	7	8	9	Option	0	None
									Insert length (mm)	A	10
										B	20
										C	30
										D	40
										E	50
										Z	Other
									Outer material of lead wire	A	PVC
										B	Teflon
										Z	Other
									Lead wire length (m)	L1	1
										L2	2
										L3	3
										L4	4
										L5	5
										L0	Other (min. 300 mm)
									Body outer diameter (mm)	D8	3.2
										E8	4.8
										F8	6.4
										G8	8.0
										Z8	Other
									Body material	0	304SS
										1	316SS
									Element	Q	Pt 100Ω (B), 3 wires
										A	Pt 100Ω (B), 4 wires
										9	Pt 100Ω (A), 3 wires
										C	Pt 100Ω (A), 4 wires
										Z	Other
									Marking	A	ATEX II 2 G Ex e IIC Gb
										B	IECEx Ex e IIC Gb
										Z	None
									Base model	R845	RTD Single element
										R846	RTD Double element
										R847	RTD Single element with shield wire
										R848	RTD Double element with shield wire

## 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.



## Annex 01 to Certificate IECEx LCIE 17.0038U issue 00



### FULL SCHEDULE OF LIMITATIONS (continued)

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).