

# Instructions: Increased Safety Thermal-Ribbon™ RTDs

II 2 G Ex eb IIC Gb

IECEX Ex eb IIC Gb

SPI 00-0491 Rev. C (Document 1889233)

## 1. Description

The Thermal-Ribbon™ Resistance Temperature Detectors (RTDs), conforming to the requirements of Minco Design Definition B212716, are intended to be built into the stator slots of rotating electrical machines, or installed within protective locations or enclosures in other equipment, in types of protection Ex eb II, Ex p II or Ex db IIC. Versions for 2-, 3- or 4-wire measurement circuits are available.

Operating temperature range: -50°C to +185°C.

## 2. Attestation of Conformity

This Attestation of Conformity is issued under the sole responsibility of the manufacturer.

Thermal-Ribbon™ RTD Type: B212716.

The product defined above is in conformity with the following relevant legislation:

ATEX Directive 2014/34/EU

EN IEC 60079-0:2018 Explosive atmospheres - Part 0: Equipment - General requirements

EN IEC 60079-7:2015+A1:2018 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

IEC 60079-0:2017-12 Ed7.0 Explosive atmospheres - Part 0: Equipment - General requirements

IEC 60079-7:2017-08 Ed5.1 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

Certificate LCIE 13 ATEX 3022 U

Certificate IECEX LCIE 13.0019 U

LCIE Bureau Veritas (0081)

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### 3. Installation Instructions

Type of protection increased safety "eb" for the Resistance Temperature Detectors is obtained by the construction of the measuring element and its fit in slots of the stator windings of rotating electrical machines, or within protective enclosures in other equipment, in type of protection increased safety "eb" per EN/IEC 60079-7, flameproof enclosure "db" per EN/IEC 60079-1, or pressurized apparatus "p" per EN/IEC 60079-2.

For type of protection increased safety "eb", the Resistance Temperature Detector, mounted in the rotating electrical machine, must be subjected to the dielectric strength tests, required for the rotating electrical machine.

The temperature detector must be installed in such a way that it is protected against mechanical danger.

The leads of the Resistance Temperature Detector, for connection to the measuring circuit, must be connected to suitable Ex eb terminals in a suitable Ex eb enclosure.

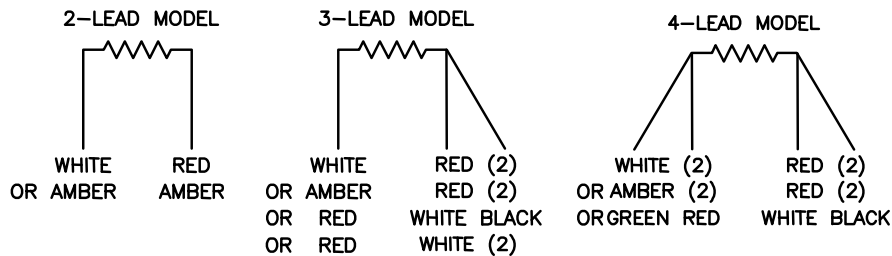
### 4. Special Conditions of Use

Maximum voltage:  $\leq 30\text{ V}$

### 5. Electrical Data

Measuring current:  $\leq 10\text{ mA}$   
Power (under fault conditions):  $\leq 1.5\text{ W}$   
Test voltage dielectric strength test: 500 Vrms, duration 1 minute

### 6. Electrical Connections



### 7. Marking Example

**MINCO** Minneapolis, MN USA  
Model Sxxxxxxx Type B212716  
Date Code: (YYWW)  
Ex II 2 G Ex eb IIC Gb  
LCIE 13 ATEX 3022 U  
IECEX LCIE 13.0019U  
Imax  $\leq 10\text{mA}$ ; Pmax  $\leq 1,5\text{ W}$