

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 03ATEX2240 U** Issue Number: 2

(4) Component: **Resistance Temperature Detector for Stator Windings, Types S100050 ... - S100055 ..., S200050 ... - S200055 ..., MS .. 200. ..., MS .. 251 . ..., MS .. 302 . ..., MS .. 353 . ..., MS .. 404 . ..., MS .. 455 . ..., TS102052 and S102040**

(5) Manufacturer: **Minco Products Inc.**

(6) Address: **7300 Commerce Lane NE, Minneapolis, MN 55432-3177 USA**

(7) This component and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the directive.

The examination and test results are recorded in confidential report no. 2105575-2.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 60079-0 : 2006**

**EN 60079-7 : 2007**

(10) The sign "U" placed after the certificate number indicates that this certificate describes components and must not be mistaken for a certificate intended for an equipment or protective system. This EC-Type Examination Certificate may be used as a basis for certification of an equipment or protective system.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified component according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.

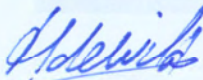
(12) The marking of the component shall include the following:



**II 2 G Ex e II**

This certificate is issued on 14 January 2008 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.



H.J.G. de Wild  
Certification Manager





(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 03ATEX2240 U** Issue No. 2

(15) **Description**

The Resistance Temperature Detectors (RTD's) for Stator Windings, Types S100050 ... - S100055 ..., S200050 ... - S200055 ..., MS ... 200 ..., MS ... 251 ..., MS ... 302 ..., MS ... 353 ..., MS ... 404 ..., MS ... 455 ..., TS102052 and S102040 are intended to be built in to the stator slots of rotating electrical machines. Versions for 2-, 3- or 4-wire measurement circuits are available.

Operating temperature range -50 °C to +180 °C.

**Electrical data**

Measuring current ..... max. 10 mA  
Power ..... max. 1,5 W

**Installation instructions**

The type of protection Increased safety "e" for the temperature detectors is obtained by the construction of the measuring element and its fit in slots of the stator windings of rotating electrical machines with a working voltage of up to 11 kV in types of protection increased safety "e", flameproof enclosures "d" or pressurized enclosure "p".

For type of protection increased safety "e", the temperature detector, mounted in the rotating electrical machine, must be subjected to the dielectric strength tests required for the rotating electrical machine.

The leads of the temperature detector, for connection to the measuring circuit, must be connected to suitable Ex e terminals.

**Routine tests**

Each temperature detector must be subjected to a dielectric strength test according to Clause 7.1 of EN 60079-7 using a test voltage of at least 1500 V for 1 minute or 1800 V for 100 ms. After installation in the final assembly, the manufacturer of the assembly shall conduct the electrical strength tests (including the temperature detector insulation circuit) according to the applicable standard with the applicable test voltage and test time.

(16) **Report**

KEMA No. 2105575-2.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 2105575-2.