

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

- (2) Equipment or protective system intended for use in potentially explosive atmospheres - Directive 94/9/EC
- (3) EC-Type Examination Certificate Number: **KEMA 02ATEX1190 X**
- (4) Equipment or protective system: **BETA Pressure and Temperature Switches, Series C**
- (5) Manufacturer: **BETA B.V.**
- (6) Address: **Verrijn Stuartlaan 22, 2288 EL Rijswijk, The Netherlands**
- (7) This equipment or protective system 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 equipment or protective system 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. 2080013.

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

EN 50014 : 1997 + A1, A2
EN 50281-1-1 : 1998 + A1

EN 50020 : 2002
EN 50284 : 1999

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment or protective system according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- (12) The marking of the equipment or protective system shall include the following:



II 1 GD EEx ia IIC T6 T 85 °C or
II 2 GD EEx ib IIC T6 T 85 °C

Arnhem, 9 January 2006
KEMA Quality B.V.



C.G. van Es
Certification Manager

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SCHEDULE

(13)

(14)

to EC-Type Examination Certificate KEMA 02ATEX1190 X

(15) **Description**

The BETA Pressure and Temperature Switches, Series C are designed for use in intrinsically safe systems. One or two micro switches may be provided. The switches may also be manufactured with a socket and plug connection.

Ambient temperature range: -40 °C ... + 80 °C.

The maximum surface temperature of the enclosure T 85 °C is based on a maximum ambient temperature of 80 °C. This temperature is determined with a dust layer of maximum 5 mm.

Electrical data

Switch circuit(s)
(Terminals NO, NC and C)

in type of protection intrinsic safety EEx ia IIC or EEx ib IIC only for connection to certified intrinsically safe circuits. The type of protection and the electrical parameters are determined by the certified intrinsically safe circuits connected to the switch circuits and the total maximum value of either the voltage or current shall be the following:

$$\begin{array}{rcl} U_i & = & 90,0 \quad V \\ I_i & = & 3,3 \quad A \end{array}$$

The effective internal capacitance C_i and internal inductance L_i are negligibly small.

Installation instructions

For applications in explosive atmospheres caused by air/dust mixtures with an ambient temperature above 70 °C, the use of cables suitable for that temperature is required.

For applications in explosive atmospheres caused by air/dust mixtures, the cable entry device and blanking elements shall be in type of explosion protection increased safety "e" or flameproof enclosure "d" and shall have a degree of protection IP 6X according to EN 60529.

(16) **Report**

KEMA No. 2080013.

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

For applications in explosive atmospheres caused by air/dust mixtures and where category 1D apparatus is required, the dust layer may not exceed a thickness of 50 mm.

Because the enclosure of the BETA Pressure and Temperature Switches, Series C is made of aluminium, if it is mounted in an area where the use of category 1 G apparatus is required, it must be installed such, that, even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

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

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 2080013.