

# (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 02ATEX1190 X** Issue Number: **4**

(4) Equipment: **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 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 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 test report number 212685900.

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

**EN 60079-0 : 2006**  
**EN 60079-11 : 2007**

**EN 61241-0 : 2006**  
**EN 61241-11 : 2006**

**EN 60079-26 : 2007**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment 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 according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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



**II 1 G Ex ia IIC T4 ... T6 or**  
**II 2 G Ex ib IIC T4 ... T6 or**  
**II 1 D Ex iaD 20 IP 66 T 85 °C or**  
**II 2 D Ex ibD 21 IP 66 T 85 °C**

This certificate is issued on October 21, 2009 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.



C.G. van Es  
Certification Manager



(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX1190 X** Issue No. 4

(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.

The following table shows the relation between the temperature class, the use of optional metal film resistors and the maximum ambient temperature.

Temperature class	Use of metal film resistors	Ambient temperature range
T4	with resistors	-60 °C ... + 80 °C
T5	with resistors	-60 °C ... + 70 °C
T6	with resistors	-60 °C ... + 55 °C
	without resistors	-60 °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 thickness of maximum 5 mm.

**Electrical data**

Switch circuits (terminals NO, NC and C):

in type of protection intrinsic safety Ex ia IIC, Ex ib IIC, Ex iaD or Ex ibD, only for connection to a certified intrinsically safe circuit. 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:

$U_i = 90 \text{ V}$ ;  $I_i = 3,3 \text{ A}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ }\mu\text{H}$ .

**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 have a degree of protection IP 6X according to EN 60529.

(16) **Test Report**

KEMA No. 212685900.



(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 02ATEX1190 X** Issue No. 4

(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. 212685900.