

Translation

(1) **2. Supplement to the EC-Type Examination Certificate**

(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC Supplement accordant with Annex III number 6

(3) No. of EC-Type Examination Certificate: **BVS 05 ATEX E 124 X**

(4) Equipment: **Temperature sensor multiplexer and Transmitter type TTM 100***

(5) Manufacturer: **IBS BatchControl GmbH**

(6) Address: **50170 Kerpen, Germany**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.

(8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 the test and assessment report BVS PP 05.2092 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2009 General requirements
EN 60079-1:2007 Flameproof Enclosure 'd'
EN 60079-11:2007 Intrinsic Safety 'i'

(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 appendix to this certificate.

(11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to 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 2G Ex ib[ia] IIC T4 Gb for type TTM 100A
II 2G Ex d[ib] IIC T4 Gb for type TTM 100B



or
II 2G Ex ib[ia] IIC T4 for type TTM 100A
II 2G Ex db[ib] IIC T4 for type TTM 100B

DEKRA EXAM GmbH
 Bochum, dated 13.10.2011

Signed: Simanski

Certification body

Signed: Dr. Eickhoff

Special services unit

- (13) Appendix to
- (14) **2. Supplement to the EC-Type Examination Certificate
BVS 05 ATEX E 124 X**
- (15) 15.1 Subject and type

Temperature sensor multiplexer and Transmitter type TTM 100*

Instead of the * in the complete denomination the letter A or B will be inserted to characterize different apparatus.

15.2 Description

Several changes to intrinsically safe relevant components and to parts of the non intrinsically safe electronic have been accomplished.

Beside these changes the compliance with the standards EN 60079-0 :2009, EN 60079-1 :2007 and EN 60079-11:2007 is certified.

15.3 Parameters

15.3.1 Transmitter Type TTM 100B

15.3.1.1 Mains circuit (terminals 18 and 19)

Nominal voltage		AC	115	V
Maximum voltage	Um	AC/DC	125	V
or				
Nominal voltage		AC	230	V
Maximum voltage	Um	AC/DC	250	V
or				
Nominal voltage		AC/DC	24	V
Maximum voltage	Um	AC/DC	250	V

15.3.1.2 Non intrinsically safe relay contact (terminals 13 and 14 and 15 and 16)

Switching voltage		DC	30	V
Switching current			1	A
or				
Switching voltage		AC	125	V
Switching current			0,5	A
Maximum voltage	Um	AC/DC	125	V

15.3.1.3 Non intrinsically safe transmitter supply circuits (terminals 7 and 9, 8 and 9, 10 and 12, 11 and 12)

Nominal voltage		DC	28	V
Current			50	mA
Maximum voltage	Um	AC/DC	125	V

15.3.1.4 Non intrinsically safe RS485 circuits (terminals 1 up to 6)

Nominal voltage		DC	6	V
Current			100	mA
Maximum voltage	Um	AC/DC	48	V

15.3.1.5 Intrinsically safe output circuits (terminals 1 – 4) type of protection Ex ib IIC

Us1 – GND, Us2 – GND				
Maximum output voltage	Uo	DC	26	V
Maximum output current	Io		58	mA
RxD – GND				
Maximum output voltage	Uo	DC	26	V
Maximum output current	Io		8	mA

15.3.1.6 Ambient temperature range Ta -40 °C up to +65 °C

15.3.2 Multiplexer Type TTM 100A

15.3.2.1 Transmitter supply circuits (terminals 20 up to 27)

Type of protection EEx ia IIC

Maximum output voltage Uo DC 21.7 V

Maximum output current Io 90 mA

Maximum output power Po 584 mW

Trapezoid output characteristic

Maximum external capacitance Co 148 nF

Maximum external inductance Lo 4.3 mH

15.3.2.2 PT100 circuits 1 up to 8 (terminals A1 up to A18) and 9 up to 16 (terminals B1 up to B18)
type of protection Ex ia IIC

Values for each terminal block

Maximum output voltage Uo DC 5.3 V

Maximum output current Io 13.7 mA

Maximum output power Po 23 mW

Maximum external capacitance Co 3 µF

Maximum external inductance Lo 50 mH

15.3.2.3 Ambient temperature range Ta -40 °C up to +65 °C

(16) Test and assessment report

BVS PP 05.2092 EG as of 13.10.2011

(17) Special conditions for safe use


The permissible ambient temperature range of the transmitter type TTM 100B and of the multiplexer type TTM 100A is -40 °C up to +65 °C. The use of the equipments at an ambient temperature below -20 °C is only admissible, if the cables and cable entries are suitable for that temperature and use.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 13.10.2011
BVS-Ste/Her A 20110509



Certification body



Special services unit