



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

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**



(3) EC-type-examination Certificate Number:

PTB 03 ATEX 2169 X

(4) Equipment: Explosion protected isolating relay-card-module, type 17-9955-0***/*

(5) Manufacturer: BARTEC GmbH

(6) Address: Max-Eyth-Straße 16, 97980 Bad Mergentheim, Germany

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

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 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 the confidential report PTB Ex 04-23289 .

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

EN 50014:1997 + A1 + A2

EN 50020:2002

(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 in accordance 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 [EEx ia] IIC or [EEx ia] IIB

Zertifizierungsstelle Explosionsschutz

Braunschweig, March 25, 2004

By order:

Dr.-Ing. H. Wehinger
Direktor und Professor



(13)

SCHEDULE

(14)

EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2169 X

(15) Description of equipment

The explosion protected isolating relay-card-module, type 17-9955-0****/**** is used for the electrical isolation of intrinsically safe circuits from non-intrinsically safe circuits.

The maximum permissible ambient temperature is 70 °C.

Electrical data

Coil circuit:

Type of current: direct current
 Excitation voltage: 6 ... 110 V DC (depending on coil)
 Excitation power: up to 1 W

Contact circuit(s):

type of current:		alternating current	
voltage	max.:	250 V	250 V
current	max.:	5 A	3 A
power	max.:	100 VA	-
cos φ			≥ 0.7

type of current:		direct current					
voltage:		24 V	110 V	220 V	24 V	110 V	220 V
current	max.:	6 A	0.5 A	0.3 A	1.5 A	0.22 A	0.14 A
power	max.:	144 W	55 W	66 W	20 W	20 W	20 W
L/R					≤ 40 ms	≤ 40 ms	≤ 40 ms

The coil circuit and the contact circuit(s) are safely electrically isolated from each other up to a peak value of the nominal voltage of 375 V.

(16) Test report PTB Ex 04-23289

(17) Special conditions for safe use

1. The isolating relay-card-module shall be mounted into an enclosure which meets the degree of protection IP 20 according to EN 60529:2000 as a minimum.
2. For „Electrical data“ reference is made to the operating instructions.

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3. Certified circuits of type of protection Intrinsic Safety EEx ia IIC or EEx ia IIB may be connected alternatively to the coil circuit or the contact circuits respectively. The effective internal inductances and capacitances shall be neglected. Several intrinsically safe circuits may be connected to the contact circuits only if Intrinsic Safety is maintained with the connection of these circuits considering the rules for the interconnection of intrinsically safe circuits. Existing effective inductances shall be considered with the evaluation.
4. The total sum of the peak values of the nominal voltages of coil circuit and contact circuit(s) must not exceed 375 V.


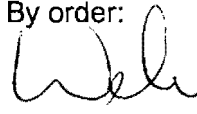
(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz

Braunschweig, March 25, 2004

By order:



Dr.-Ing. H. Wehinger
Direktor und Professor


1. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2169 X

(Translation)

Equipment: Isolating relay-card-module, type 17-9955-0***/**

Marking:  II (1) G [EEx ia] IIC/IIB

Manufacturer: BARTEC GmbH

Address: Max-Eyth-Straße 16, 97980 Bad Mergentheim, Germany

Description of supplements and modifications

The explosion protected isolating relay-card-module is used for the electrical isolation of intrinsically safe circuits leading into potentially explosive dust or gas atmospheres from non-intrinsically safe circuits.

The isolating relay-card-module is installed outside of the hazardous area.

In the future the explosion protected isolating relay-card-module of type 17-9955-0***/** may also be manufactured and operated according to the test documents listed in the test report.

The modifications concern the internal construction, the test specification, the marking, the extension of the type code and the expansion of the field of application of the intrinsically safe circuits to hazardous areas due to combustible dusts.

The ambient temperature range is -20 °C ... 70 °C.

In the future the marking will read:

 II (1) G [Ex ia Ga] IIC/IIB
II (1) D [Ex ia Da] IIIC/IIIB

Electrical data

Certified circuits of type of protection Intrinsic Safety Ex ia IIC/IIB or Ex ia IIIC/IIIB may be connected alternatively to the terminals of the coil circuit or the contact circuit respectively.

The effective internal inductances and capacitances are negligibly low.

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2169 X

Coil circuit:

Intrinsically safe application: for connection to an intrinsically safe circuit

Maximum values:

$$U_i = 30 \text{ V}$$

$$I_i = 120 \text{ mA}$$

$$P_i = 1 \text{ W}$$

Non-intrinsically safe application: Excitation voltage 6 ... 48 V DC (depending on coil)
Maximum excitation power 1 W

Contact circuit(s):

type of current:	alternating current	
voltage max.:	250 V	250 V
current max.:	5 A	3 A
power max.:	100 VA	-
cos φ		≥ 0.7

type of current:	direct current					
voltage:	24 V	110 V	220 V	24 V	110 V	220 V
current max.:	6 A	0.5 A	0.3 A	1.5 A	0.22 A	0.14 A
power max.:	144 W	55 W	66 W	20 W	20 W	20 W
L/R				≤ 40 ms	≤ 40 ms	≤ 40 ms

The coil circuit and the contact circuit(s) are safely electrically isolated from each other up to a peak value of the nominal voltage of 375 V.

Special Conditions

The note for manufacture and operation No. 3 given in the EC-type examination certificate is altered for the relay-card-module of type 17-9955-0***/** as follows:

- Certified circuits of type of protection Intrinsic Safety Ex ia IIC/IIB or Ex ia IIIC/IIIB may be connected alternatively to the coil circuit or the contact circuits respectively. The effective internal inductances and capacitances shall be neglected. Several intrinsically safe circuits may be connected to the contact circuits only if Intrinsic Safety is maintained with the connection of these circuits considering the rules for the interconnection of intrinsically safe circuits. Existing effective inductances shall be considered with the evaluation.

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All further notes for manufacture and operation given in the EC-type examination certificate apply without changes.

Applied standards

EN 60079-0:2012, EN 60079-11:2012

Test report: PTB Ex 13-21253

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, June 3, 2013


Dr.-Ing. U. Johannsmeyer
Direktor und Professor

