

[1] **EC-TYPE EXAMINATION CERTIFICATE**  
according to Directive 94/9/EC, Annex III  
(Translation of 11 June 2013)



- [2] Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres, Directive 94/9/EC
- [3] EC-Type Examination Certificate Number: **IBExU05ATEX1074**
- [4] Equipment: **RS485-Profibus coupler, -Profibus repeater**  
Type 17-6583-3\*\*\*/\*\*\*\*
- [5] Manufacturer: **BARTEC GmbH**
- [6] Address: **Max-Eyth-Straße 16**  
**97980 Bad Mergentheim**  
**Germany**
- [7] The equipment mentioned in [4] and any acceptable variation there to are specified in the schedule to this EC-Type Examination Certificate.
- [8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that the equipment mentioned in [4] has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of the equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
The test results are recorded in the Test Report IB-05-3-058 of 28 June 2005.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 50014:1997+A1-A2, EN 50020:2002 and EN 50281-1-1:1998+A1.
- [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 [17] in the schedule to this EC-Type Examination Certificate.
- [11] This EC-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.
- [12] The marking of the equipment mentioned in [4] shall include the following:

 **II (2)GD [EEx ib] IIC**

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Authorised for certifications  
- Explosion protection -

By order

(Dr. Wagner)



- Seal -  
(ID no. 0637)

Freiberg, 29 June 2005

Certificates without signature and seal are not valid.  
Certificates may only be duplicated completely and unchanged.  
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**Schedule**

[13] **Schedule**

[14] **to EC-TYPE EXAMINATION CERTIFICATE IBExU05ATEX1074**

[15] **Description of the equipment**

The RS485-Profibus coupler, -Profibus repeater for hazardous area is a data transmission device with a master port and one, two or four slave ports in RS-485-IS technology. The slave terminals are connected to the master in energy-limited and safe design and isolated by optocoupler. The electronics must not be operated in explosive atmospheres in unprotected condition and must be mounted in an enclosure with degree of protection at least with IP20.

Ambient temperature range:  $-20\text{ °C} \leq T_a \leq 65\text{ °C}$

**Electrical data**

non-intrinsically safe circuits

Supply (terminal X2, X3 and X4)

Rated voltage	$U_B$	24 V DC $\pm$ 10 %
Rated current ,	$I_B$	120 mA
max. RMS value of the AC voltage or max. DC voltage	$U_m$	253 V

Signal circuit (terminal X1 and X5)

Rated voltage	$U_B$	9 V
Rated current	$I_B$	50 mA
max. RMS value of the AC voltage or max. DC voltage	$U_m$	253 V

intrinsically safe output circuit (EEx ib IIC)

PB-coupler (terminal X7, X8, X9,  
X10, X11, X12, X13 and X14)  
(up to 4 circuits)

	$U_o$	4.2 V DC
	$I_o$	142.4 mA
	$P_o$	130.6 mW
max. external capacitance	$C_o$	100 $\mu$ F, (with $L_o = 0$ mH)
max. external inductance	$L_o$	1.3 mH

All circuits are galvanically separated among each other.

[16] **Test Report**

The test results are recorded in the Test Report IB-05-3-058. The test documents are part of the test report and listed there.

Summary of test results:

The RS485-Profibus coupler, -Profibus repeater type 17-6583-3\*\*\*\*/\*\*\*\* fulfils the requirements of the explosion protection for an associated apparatus of Equipment Group II, Category (2) GD in type of protection intrinsically safety for explosive atmospheres Explosion Group IIC or for dust explosion protection.

[17] **Special conditions**

none

[18] **Essential health and safety requirements**

Confirmed by compliance with standards (see [9]).

By order

Freiberg, 29 June 2005



(Dr. Wagner)

- [1] **1<sup>st</sup> Addition to**  
**EC-TYPE EXAMINATION CERTIFICATE IBExU05ATEX1074**  
according to Directive 94/9/EC, Annex III  
**- Translation -**



- [2] Equipment: **RS485-Profibus coupler, -Profibus repeater**  
Type 17-6583-3\*\*\*/\*\*\*\*
- [3] Manufacturer: BARTEC GmbH
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97980 Bad Mergentheim  
Germany

[5] **Addition / Alteration**

The additions / alterations of the equipment mentioned in [2] compared with the equipment already certified concern in detail:

- a) The distinction between type 17-6583 3K RS485-Profibus coupler \*\* / \*\*\*\* and RS485-Profibus repeater 17-6583 Type 3R \*\* / \*\*\*\*.
- b) The rated voltage was increased from max. 26.4 V to max. 30 V.
- c) The RS485-Profibus coupler \*\* / \*\*\*\* and RS485-Profibus repeater fulfils also the requirements of the current standard series EN 60079 and EN 61241.

[6] **Test Report**

The proof of the explosion protection of the alteration mentioned in [5] is documented in the Test Report IB-08-3-361 of 16 December 2008. The test documents are part of the test report and listed there.

[7] **Test result**

IBExU certifies that the equipment mentioned in [2] fulfils the Essential Health and Safety Requirements specified in Annex II of the Directive 94/9/EC by compliance with EN 60079-0:2006, EN 60079-11:2007 and EN 61241-0:2006.

The equipment mentioned in [2] fulfils the requirements of explosion protection for for Equipment Group II as associated apparatus, Category 2GD in type of protection intrinsically safety "ib" for explosive atmospheres Explosion Group IIC.

The marking of the equipment mentioned in [2] must contain the following:

II (2)GD [Ex ib] IIC

The safety references mentioned in the EC-Type Examination Certificate must be observed furthermore.

This addition is only valid in combination with the EC-Type Examination Certificate IBExU05ATEX1074 of 29 June 2005.

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Freiberg, 17 December 2008

Authorized for certifications  
- Explosion protection -

(Prof. Dr. Redeker)



- Seal -

(Identification No. 0637)

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- [1] **2<sup>nd</sup> Addition to  
EC-TYPE EXAMINATION CERTIFICATE IBExU05ATEX1074**  
according to Directive 94/9/EC, Annex III  
**- Translation -**



- [2] Equipment: **RS485-Profibus coupler, -Profibus repeater**  
Type 17-6583-3\*\*\*/\*\*
- [3] Manufacturer: BARTEC GmbH
- [4] Address: Max-Eyth-Straße 16  
97980 Bad Mergentheim  
Germany

- [5] **Addition / Alteration**  
The additions / alterations of the equipment mentioned in [2] compared with the equipment already certified concern in detail:  
a) Modification of the protection circuit.  
b) The equipment fulfils the requirements of the standard EN 60079-2009.

All other parameters remain unchanged.

- [6] **Test Report**  
The proof of the explosion protection of the equipment mentioned in [2] is documented in the Test Report IB-12-3-032 of 9 August 2012. The test documents are part of the test report.

- [7] **Test result**  
IBExU certifies that the equipment mentioned in [2] fulfils the Essential Health and Safety Requirements specified in Annex II of the Directive 94/9/EC by compliance with EN 60079-0:2009 and EN 60079-11:2012.

The equipment mentioned in [2] fulfils the requirements of explosion protection for for Equipment Group II as associated apparatus, Categories 2G and 2D in type of protection intrinsically safety "ib" for explosive atmospheres Explosion Group IIC and IIIC.

The marking of the equipment mentioned in [2] must contain the following:

 II (2)G [Ex ib Gb] IIC

 II (2)D [Ex ib Db] IIIC

The safety references mentioned in the EC-Type Examination Certificate must be observed furthermore.

This addition is only valid in combination with the EC-Type Examination Certificate IBExU05ATEX1074 of 29 June 2005.

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Freiberg, 9 August 2012

Authorized for certifications  
- Explosion protection -

By order

(Dr. Wagner)



- Seal -  
(Identification No. 0637)

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- [1] **3<sup>rd</sup> Addition to  
EC-TYPE EXAMINATION CERTIFICATE IBExU05ATEX1074**  
according to Directive 94/9/EC, Annex III  
**- Translation -**



- [2] Equipment: **RS485-Profibus coupler, -Profibus repeater**  
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- [4] Address: Max-Eyth-Straße 16  
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Germany

[5] **Addition / Alteration**

The additions / alterations of the equipment mentioned in [2] compared with the equipment already certified concern in detail:

- a) Extension of the temperature range of -25 ° C to +65 ° C.  
b) The equipment fulfils the requirements of the standard EN 60079-2012.

All other parameters remain unchanged.

[6] **Test Report**

The proof of the explosion protection of the equipment mentioned in [2] is documented in the Test Report IB-13-3-089 of 30 May 2013. The test documents are part of the test report.

[7] **Test result**

IBExU certifies that the equipment mentioned in [2] fulfils the Essential Health and Safety Requirements specified in Annex II of the Directive 94/9/EC by compliance with EN 60079-0:2012 and EN 60079-11:2012.

The equipment mentioned in [2] fulfils the requirements of explosion protection for for Equipment Group II as associated apparatus, Categories 2G and 2D in type of protection intrinsically safety "ib" for explosive atmospheres Explosion Group IIC and IIIC.

The marking of the equipment mentioned in [2] must contain the following:

 II (2)G [Ex ib Gb] IIC

 II (2)D [Ex ib Db] IIIC

The safety references mentioned in the EC-Type Examination Certificate must be observed furthermore.

This addition is only valid in combination with the EC-Type Examination Certificate IBExU05ATEX1074 of 29 June 2005.

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Freiberg, 30 May 2013

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