

[1] **EU-TYPE EXAMINATION CERTIFICATE - Translation**



- [2] Equipment or protective systems intended for use in potentially explosive atmospheres, Directive 2014/34/EU
- [3] EU-type examination certificate number **IBExU05ATEX1074** | Issue 1
- [4] Product: **RS485-Profibus coupler, -Profibus repeater as well as Transmitting and receiving unit LWL**
Type: 17-6583-3***/* as well as 17-2524-0001/* and 17-2524-0002/*
- [5] Manufacturer: BARTEC GmbH
- [6] Address: Max-Eyth-Straße 16
97980 Bad Mergentheim
GERMANY
- [7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] IBExU Institut für Sicherheitstechnik GmbH, notified body number 0637 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in the confidential test report IB-21-3-0117.
- [9] Compliance with the essential health and safety requirements has been assured by compliance with: EN IEC 60079-0:2018, EN 60079-11:2012 and EN 60079-28:2015 except in respect of those requirements listed at item [18] of the schedule.
- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule to this certificate.
- [11] This EU-type examination certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- [12] The marking of the product shall include the following:

Type: 17-6583-3***/*



II (2)G [Ex ib Gb] IIC



II (2)D [Ex ib Db] IIIC

Type: 17-2524-0001/* and 17-2524-0002/*



II (2)G [Ex op is IIC T4 Gb]



II (2)D [Ex op is IIIC Db]

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

By order

Dipl.-Ing. [FH] Henker



- Seal -
(notified body number 0637)

Tel: + 49 (0) 37 31 / 38 05 0
Fax: + 49 (0) 37 31 / 38 05 10

Certificates without signature and seal are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

Freiberg, 2021-10-15

[13]

Schedule

[14]

Certificate number IBExU05ATEX1074 | Issue 1

[15] **Description of product**

The RS485-Profibus coupler/Profibus repeater is a device for transmitting data in hazardous area containing a master connection and one, two or four slave connections according to RS-485-IS standard. The slave connections are galvanically separated to master connection by means of opto coupler and their energy is limited. The electronic part has been considered as associated apparatus and must not be operated without any protection. It has to be assembled in a housing providing a degree of protection of at least IP20 when installed in safe area.

The Transmitting and receiving unit LWL consists of an optical fibre transceiver including limiting components for voltage and current, power supply and the Ethernet controller / switch. The Transmitting and receiving unit LWL is used to convert electrical signals into optical signals and vice versa. The optical interface is connected via fibre optic cables to an identical unit or comparable equipment with identical type of protection, which must meet the requirements for the equipment protection level. Alternatively, the electrical signals can also be processed via a programmable logic module, e.g. as a Profibus signal.

Technical data

Ambient temperature range

$-25\text{ °C} \leq T_{\text{amb}} \leq +65\text{ °C}$ (Type: 17-6583-3***/****)
 $-40\text{ °C} \leq T_{\text{amb}} \leq +70\text{ °C}$ (Type: 17-2524-0001/****
and 17-2524-0002/****)

Electrical values (Type: 17-6583-3*/****)**

Non intrinsically safe circuits

supply (connector X2, X3 and X4)

rated voltage

$U_B = 20...30\text{ V DC}$

nominal current

$I_B \leq 70\text{ mA}$

maximum voltage

$U_m = 253\text{ V}$

Signal circuit (connector X1 and X5)

Rated voltage

$U_B = 9\text{ V}$

Nominal current

$I_B = 50\text{ mA}$

Maximum voltage

$U_m = 253\text{ V}$

Intrinsically safe output circuit (Ex ib IIC)

Profibus coupler (connector X5, X8, X9,
X10, X11, X12, X13 and X14)

(up to four circuits)

$U_o = 4.2\text{ V DC}$

$I_o = 142.4\text{ mA}$

$P_o = 130.6\text{ mW}$

Maximum external capacitance

$C_o \leq 100\text{ }\mu\text{F}$ (at $L_o = 0\text{ mH}$)

Maximum external inductance

$L_o \leq 1,3\text{ mH}$

All circuits are galvanically isolated from each other.

Electrical values (Type: 17-2524-0001/** and 17-2524-0002/****)**

supply (connector X1 and X2)

rated voltage

$U_B = 20...30\text{ V DC}$

nominal current

$I_B \leq 100\text{ mA}$

Maximum voltage

$U_m = 253\text{ V}$

Signal circuit (connector X6 and X7)

Ethernet- or other data interface

Maximum voltage

$U_m = 253\text{ V}$

Variations compared to EC-Type Examination Certificate and its amendments:

Variation 1

The RS485-Profibus coupler, -Profibus repeater fulfils the requirements of EN IEC 60079-0:2018.

Variation 2

Modifications of schematics without influence on the intrinsically safe parameter have been considered.

Variation 3

A Transmitting and receiving unit LWL Type 17-2524-0001/**** and 17-2524-0002/**** has been added.

[16] Test report

The test results are recorded in the confidential test report IB-21-3-0117 of 2021-10-08.
The test documents are part of the test report and they are listed there.

Summary of the test results

The RS485-Profibus coupler, -Profibus repeater Type 17-6583-3****/**** further fulfils the requirements of explosion protection as associated apparatus of Equipment Group II, Categories (2)G and (2)D in type of protection intrinsically safety "ib".

The Transmitting and receiving unit LWL Type 17-2524-0001/**** and 17-2524-0002/**** fulfils the requirements of explosion protection as associated apparatus of Equipment Group II, Categories (2)G and (2)D of equipment and transmission systems using optical radiation "op is".

[17] Specific conditions of use

None

[18] Essential health and safety requirements

In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:

None

[19] Drawings and Documents

The documents are listed in the test report.

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