

Optocoupler



Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut



(1) EU-TYPE EXAMINATION CERTIFICATE (Translation)

(2) Component Intended for Use in Potentially Explosive Atmospheres
Directive 2014/34/EU

(3) EU-Type Examination Certificate Number:

PTB 03 ATEX 2033 U

Issue: 1

(4) Product: Optocoupler, type CNY65 Exi and CNY65Exi-3097

(5) Manufacturer: Vishay Semiconductor GmbH

(6) Address: Theresienstraße 2, 74072 Heilbronn, Germany

(7) This product and any acceptable variation thereto is 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 17 of the 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 PTB Ex 17-27057.

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

EN 60079-0:2012 + A11:2013

EN 60079-11:2012

EN 60079-26:2015

(10) The sign "U" placed behind the certificate number indicates that this certificate should not be confounded with certificates issued for equipment or protective systems. This partial certification may be used as a basis for certification of an equipment or protective systems.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. 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:



II (1) G [Ex ia] IIC or II (1) D [Ex ia] IIIC

Konformitätsbewertungsstelle, Sektor Explosionsschutz

Braunschweig, October 24, 2017

On behalf of PTB:



Dr.-Ing. F. Lienesch
Direktor und Professor



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EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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(13)

SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 03 ATEX 2033 U, Issue: 1**

(15) Description of Product

The optocouplers of types CNY65 Exi and CNY65Exi-3097 are used for the electrical isolation of intrinsically safe and non-intrinsically safe circuits in equipment installed outside of the hazardous area. Either the emitter circuit or the receiver circuit may be designed to type of protection Intrinsic Safety. The types CNY65Exi and CNY65Exi-3097 differ only in the current transfer ratio (CTR).

Electrical data (limit values):

Emitter: non-intrinsically safe or type of protection Intrinsic Safety Ex ia or Ex ib.
The category is determined by the connected circuit.

The intrinsically safe variant shall be connected only to a certified intrinsically safe circuit.

Maximum values:

reverse voltage	$U_R = 5 \text{ V}$
forward current	$I_F = 75 \text{ mA}$
power dissipation ($t_{amb} = 25 \text{ °C}$)	$P_V = 120 \text{ mW}$
junction temperature	$t_j = 100 \text{ °C}$

Receiver: non-intrinsically safe or type of protection Intrinsic Safety Ex ia or Ex ib.
The category is determined by the connected circuit.

The intrinsically safe variant shall be connected only to a certified intrinsically safe circuit.

Maximum values:

collector/emitter-voltage	$U_{CEO} = 32 \text{ V}$
emitter/collector-voltage	$U_{ECO} = 7 \text{ V}$
collector current	$I_C = 50 \text{ mA}$
power dissipation ($t_{amb} = 25 \text{ °C}$)	$P_V = 130 \text{ mW}$
junction temperature	$t_j = 100 \text{ °C}$

The emitter circuit and the receiver circuit are safely electrically isolated up to a peak value of the nominal voltage of 375 V.

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**SCHEDULE TO EU-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 2033 U, Issue: 1**Changes with respect to previous issues:

- Adaption to Directive 2014/34/EU mentioned above and to the current state of the standards, no technical changes.
- Revision of the type label (specification of manufacturer address)
- Introduction of the new type CNY65Exi-3097

(16) Test report PTB Ex 17-27057

(17) Notes for manufacture, installation and operation

The peak values of both circuits shall be ≤ 375 V in total.

It shall be guaranteed by means of an appropriate circuitry that the permissible limit values for the non-intrinsically safe side of the optocouplers, types CNY65 Exi or CNY65Exi-3097 are not exceeded.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

According to Article 41 of Directive 2014/34/EU, EC-type examination certificates which have been issued according to Directive 94/9/EC prior to the date of coming into force of Directive 2014/34/EU (April 20, 2016) may be considered as if they were issued already in compliance with Directive 2014/34/EU. By permission of the European Commission supplements to such EC-type examination certificates and new issues of such certificates may continue to hold the original certificate number issued before April 20, 2016.

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, October 24, 2017


Dr.-Ing. F. Lienesch
Direktor und Professor



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