IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Ex COMPONENT CERTIFICATE

Certificate No.: **IECEx ULD 15.0008U**

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Certificate history:
Issue 2 (2018-08-08)
Issue 1 (2016-12-19)
Issue 0 (2016-06-24)

Status: **Current**

Issue No: 3

Date of Issue: 2019-12-18

Applicant: **Weidmüller Interface GmbH & Co. KG**
Klingenbergstrasse 16
32758 Detmold
Germany

Ex Component: Feed through and protective conductor terminals with accessories - ZDU* and ZPE*; accessories ZQV*, ZAP*, WEW*, ZEW*

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Increased safety "eb"**

Marking: Ex eb IIC Gb

-60°C to +110°C

Approved for issue on behalf of the IECEx Certification Body: **Katy A. Holdredge**

Position: **Senior Staff Engineer**

Signature: (for printed version)

Date: 2019-12-18

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
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Borupvang 5A
DK-2750 Ballerup
Denmark

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Manufacturer: **Weidmüller Interface GmbH & Co. KG**
Klingenbergstrasse 16
32758 Detmold
Germany

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DK/ULD/ExTR15.0009/03

Quality Assessment Report:

NL/DEK/QAR12.0052/06

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Ex Component(s) covered by this certificate is described below:

Feed through and protective terminal blocks type ZDU and ZPE are for the connection of copper conductors in enclosures. The type of protection is increased safety, “eb”, insulating parts made of Wellamid with optional accessories, type ZQV plug-in cross-connectors, type WEW, ZEW, EW end brackets and type ZAP for fixing on mounting rails.

Please see Annex for additional information.

SCHEDULE OF LIMITATIONS:

- The feed through and protective conductor terminal blocks are suitable for use in enclosures in atmospheres with flammable gases or combustible dust. For flammable gases these enclosures must satisfy the requirements according to IEC 60079-0 and IEC 60079-7. For combustible dust these enclosures must satisfy the requirements according to IEC 60079-0 and IEC 60079-31.
- The enclosure shall be constructed to block all sun and UV light from affecting the terminal blocks.
- The terminal blocks shall be placed inside a suitable certified IP54 enclosure in type of protection “e” for gas atmosphere. For dust atmosphere the terminal blocks shall be mounted inside a suitable certified enclosure (IEC 60079-31) in type of protection “t”.
- Under normal operating conditions the temperature rise of the terminal blocks is maximum 40 K, measured at the maximum permitted rated current. Due to the above mentioned the terminal blocks may be used in apparatus of temperature classes T6… T1, as long as the terminal block ambient temperature range is not exceeded. No part of terminal block must exceed 110 °C under any condition.
- T6 (- 60 °C ≤ Tamb ≤ +40 °C)
- T5 (- 60 °C ≤ Tamb ≤ +55 °C)
- T4 (- 60 °C ≤ Tamb ≤ +70 °C)
- When using the types ZDU and ZPE with other terminal blocks series or sizes or accessories the requirements for clearance and creepage distances according to table 2 of IEC 60079-7 must be observed. Regarding the use of covers, cross-connectors and end brackets the instructions of the manufacturer must be followed.
- For cross connection accessories current rating, resistance across the terminal please refer to the table under “types & electrical rating” above. Details on creepage and clearance values and the required torque values please see Notice to installers.
- If smaller conductor cross sections than the rated conductor cross sections are used, then the corresponding lower current shall be stated in the Certificate of the complete apparatus.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1: Standard edition upgraded for IEC 60079-7 to 5th. The models of ZDU* and ZPE* (except ZDU2.5 and ZPE2.5) were evaluated and added to the certificate. Ratings of model ZDU 2.5 were adjusted.

Issue 2: An alternate current bar for terminal blocks type ZDU 2.5/3AN and ZDU 2.5/4AN was added.

Issue 3: Revisions to ZDU 4, ZDU 4/3AN and ZDU 4/4AN; Updated drawings; Updated IEC 60079-0, 6th Edition to 7th and IEC 60079-7, 5th Edition to Edition 5.1.

Annex:

Annex to IECEx ULD 15.0008U Issue 3.pdf

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Certificate No.: IECEx ULD 15.0008U

Issue No.: 3

PARAMETERS RELATING TO THE SAFETY

Type	Rated voltage (V)	Rated current (A)	Resistance across terminals (uΩ)	Cross section (mm^2)	Strip length for min wire size (mm)	Solid wire size (mm^2)	Stranded wire size (mm^2)	Flexible wire size (mm^2)
ZDU 1.5	550	17	1830	1.5	10	0.5-1.5	0.5-1.5	0.5-1.5
ZDU 1.5/3AN	550	15	1830	1.5	10	0.5-1.5	0.5-1.5	0.5-1.5
ZDU 1.5/4AN	550	17	1830	1.5	10	0.5-1.5	0.5-1.5	0.5-1.5
ZDU 10	690	51	560	10	18	1.35-16	1.35-16	1.35-10
ZDU 10/3AN	690	51	560	10	18	1.35-16	1.35-16	1.35-16
ZDU 16	690	68	0.42	166	18	1.5-16	1.5-25	1.5-16
ZDU 16/3AN	690	66	0.42	16	18	1.5-16	1.5-25	1.5-16
ZDU 2.5	550	22	1330	2.5	10	0,5-4,0	0,5-4,0	0.5-4
ZDU 2.5/2X2AN	550	21	2660	2.5	10	0.5-4	0.5-4	0.5-4
ZDU 2.5/3AN	550	22	1330	2.5	10	0.5-4	0.5-4	0.5-4
ZDU 2.5/4AN	550	22	1330	2.5	10	0.5-4	0.5-4	0.5-4
ZDU 2.5N	440	22	1330	2.5	10	0.5-4	0.5-2.5	0.5-2.5
ZDU 2.5N/3AN	440	21.5	1330	2.5	10	0.5-4	0.5-2.5	0.5-2.5
ZDU 2.5N/4AN	440	22	1330	2.5	10	0.5-4	0.5-2.5	0.5-2.5
ZDU 35	690	110	260	35	25	2.5–16	2.5-35	2.5-35
ZDU 4	550	28	1000	4	12	0.5-6	0.5-6	0.5-6
ZDU 4/3AN	550	28	1000	4	12	0.5-6	0.5-6	0.5-6
ZDU 4/4AN	550	28	1000	4	12	0.5-6	0.5-6	0.5-6
ZDU 6	550	39	780	6	13	0.5-10	0.5-10	0.5-6
ZDU 6/3AN	550	39	780	6	13	0.5-10	0.5-10	0.5-6
ZPE 1.5	N/A	N/A	N/A	1.5	10	0.5-1.5	0.5-1.5	0.5-1.5
ZPE 1.5/3AN	N/A	N/A	N/A	1.5	10	0.5-1.5	0.5-1.5	0.5-1.5
ZPE 1.5/4AN	N/A	N/A	N/A	1.5	10	0.5-1.5	0.5-1.5	0.5-1.5
ZPE 10	N/A	N/A	N/A	10	18	1.35-16	1.35-16	1.35-10
ZPE 10/3AN	N/A	N/A	N/A	10	18	1.35-16	1.35-16	1.35-16

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Type	Rated voltage (V)	Rated current (A)	Resistance across terminals (uΩ)	Cross section (mm^2)	Strip length for min wire size (mm)	Solid wire size (mm^2)	Stranded wire size (mm^2)	Flexible wire size (mm^2)
ZPE 16	N/A	N/A	N/A	16	18	1.5-16	1.5-25	1.5-16
ZPE 16/3AN	N/A	N/A	N/A	16	18	1.5-16	1.5-25	1.5-16
ZPE 2.5	N/A	N/A	N/A	2.5	10	0.5-4	0.5-4	0.5-4
ZPE 2.5/3AN	N/A	N/A	N/A	2.5	10	0.5-4	0.5-4	0.5-4
ZPE 2.5/4AN	N/A	N/A	N/A	2.5	10	0.5-4	0.5-4	0.5-4
ZPE 2.5N	N/A	N/A	N/A	2.5	10	0.5-4	0.5-2.5	0.5-2.5
ZPE 2.5N/3AN	N/A	N/A	N/A	2.5	10	0.5-4	0.5-2.5	0.5-2.5
ZPE 2.5N/4AN	N/A	N/A	N/A	2.5	10	0.5-4	0.5-2.5	0.5-2.5
ZPE 35	N/A	N/A	N/A	35	25	2.5-16	2.5-35	2.5-35
ZPE 4	N/A	N/A	N/A	4	12	0.5-6	0.5-6	0.5-6
ZPE 4/3AN	N/A	N/A	N/A	4	12	0.5-6	0.5-6	0.5-6
ZPE 4/4AN	N/A	N/A	N/A	4	12	0.5-6	0.5-6	0.5-6
ZPE 6	N/A	N/A	N/A	6	13	0.5-10	0.5-10	0.5-6
ZPE 6/3AN	N/A	N/A	N/A	6	13	0.5-10	0.5-10	0.5-6
ZQV 1.5	See NTI	See NTI	N/A	N/A	N/A	N/A	N/A	N/A
ZQV 2.5	See NTI	See NTI	N/A	N/A	N/A	N/A	N/A	N/A
ZQV 4	See NTI	See NTI	N/A	N/A	N/A	N/A	N/A	N/A
ZQV 6	See NTI	See NTI	N/A	N/A	N/A	N/A	N/A	N/A
ZQV 10	See NTI	See NTI	N/A	N/A	N/A	N/A	N/A	N/A
ZQV 16	See NTI	See NTI	N/A	N/A	N/A	N/A	N/A	N/A
ZQV 35	See NTI	See NTI	N/A	N/A	N/A	N/A	N/A	N/A
ZAP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZEW 35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WEW 35/2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EW 35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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MARKING

Marking has to be readable and indelible; it has to include the following indications:

ROUTINE EXAMINATIONS AND TESTS

According to IEC 60079-7 clause 7.1 in combination with clause 6.1 a dielectric strength test has to be carried out. The routine tests may be performed on a statistical basis according to ISO 2859-1 with an acceptance quality limit (AQL) of 0,04. Routine test is to carried out according to Weidmüller procedure “High voltage test” Document -NR: A_10_54.