



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Component intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: Sira 02ATEX3001U

4 Component: Type AKZ Range of Rail Mounted Feed-Through Terminals and Type AKE
Range of Rail Mounted Protective Earth Terminals

5 Applicant: Weidmuller Interface GmbH & Co.

6 Address: Klingenbergstraße 16
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Germany

7 This component and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of component intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report numbers R53A8252A, 52V10536 and R51L13177AD.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2004

EN 60079-7:2003

10 The sign 'U' is placed after the certificate number to indicate that the product assessed is a component and may be subject to further assessment when incorporated into equipment. Any special conditions for safe use are listed in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

12 The marking of the component shall include the following:



II 2GD

Ex e II

Project Number 51L13177
Date 12 August 2003
Latest issue 25 November 2005
C. Index 04

C Ellaby
Certification Officer

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SCHEDULE

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Re-issued 25 November 2005 to include the changes described in report number R51L13177AD and to incorporate variation 1 dated 12 August 2003.

13 DESCRIPTION OF COMPONENT

Type AKZ Range of Rail Mounted Feed-Through Terminals and Type AKE Range of Rail Mounted Protective Earth Terminals

The Type AKZ Terminals comprise a single pole feed-through terminal assembly mounted into a moulded polyamide PA66 insulation housing. Alternatively, the Type AKZ 4 may be moulded in Wemid, Melamine or Stamin.

The terminal assembly consists of a tin or tin/lead-plated brass current bar fitted with a zinc-plated steel sliding yoke and screw at each end. When the screw is tightened, the yoke is compressed against the current bar and serrations incorporated in the surface prevent slippage of the conductor.

Self-deformation is incorporated in the design when the screws are tightened down, this is used to provide an automatic and progressive anti-rotation/anti-vibration locking effect.

A natural spring effect is designed into the plastic moulding of the housing for the 1.5 and 2.5 versions thus allowing them to be clipped onto a TS15 assembly rail, whilst the 4 version incorporates a stainless steel foot spring to perform this function.

An alternative non-magnetic version of the Type AKZ 4 terminal may be produced, this uses a copper/nickel yoke and stainless steel screw. In this form, it is known as a Type AKZ 4-KUP - see drawing 432785.

The Type AKE Earth Terminals comprise a single pole feed-through terminal assembly mounted into two a part moulded polyamide PA66 insulation housing.

The terminal assembly consists of a tin or tin/lead-plated brass current bar fitted with a zinc-plated steel sliding yoke and screw at each end. The effects of slippage are covered in a similar way to the AKZ range. A zinc-plated screw passes through the current bar and zinc plated foot link to provide a clamping facility and galvanic link to a TS15 assembly rail. The AKE 4 version differs from the AKZ Terminal because it utilises a separate zinc plated nut for the clamping arrangement.

The following terminals are covered:

Terminal Type	Voltage Rating (V)	Current Rating (A)	Minimum Cable Size (mm ²)	Maximum Cable Size (mm ²)	Terminal Resistance (mΩ @ 20°C) (see Note below)
AKZ 1.5	176	15	0.5	1.5	0.41
AKZ 2.5	176	21	0.5	2.5	0.24
AKZ 4	275	28	0.5	4	0.29
AKE 2.5	Earth Terminal	Earth Terminal	0.5	2.5	0.28
AKE 4	Earth Terminal	Earth Terminal	0.5	4	0.26

Note: Terminal resistance figure to be used when any of the above terminals are fitted inside junction boxes.

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The voltage rating is an absolute condition of use as stated in Table 1 of EN 60079-7:2003. The current rating is not an absolute figure but is the recommended value when used in a general purpose junction box or marshalling box with cables having the following ratings:

Cable Size (mm ²)	Maximum Current (Amperes)
0.5	5
1	10
1.5	15
2.5	21
4	28

Higher currents may be permitted subject to individual examination of each specific application.

Optional location pips may be included in the terminal mouldings.

The marking is moulded into the body of the terminal.

The terminals may be used in association with Type Q 2-10 (two way to ten way) cross-connectors and/or partitions, in which case the voltage and current ratings are unchanged.

The use of an AKZ 1.5 terminal in conjunction with or without any cross-connectors, in combination with an AKE 2.5 allows an increase in the voltage rating to 275V.

14 DESCRIPTIVE DOCUMENTS

14.1	Drawing No.	Rev.	Sheet	Date	Title
	4 32781	1	1 of 1	29 May 02	AKZ 1.5/E Feed-Through Terminal
	3 33719	0	-	14 Nov 01	AKZ 1.5 Rail Assembly Regulations
	3 33720	0	-	14 Nov 01	AKZ 1.5 Rail Assembly Regulations
	4 32783	1	1 of 1	29 May 02	AKZ 2.5/E Feed-Through Terminal
	3 32912	2	-	13 Nov 01	AKZ 2.5 Rail Assembly Regulations
	3 32913	2	-	14 Nov 01	AKZ 2.5 Rail Assembly Regulations
	4 32785	1	1 of 1	29 May 02	AKZ 4/E Feed-Through Terminal
	3 32916	3	-	14 Nov 01	AKZ 4 Rail Assembly Regulations
	3 22237	2	-	13 Sept 01	AKZ 4 Rail Assembly Regulations
	4 32787	1	1 of 1	29 May 02	AKE 2.5/E Earth Terminal
	4 32789	1	1 of 1	29 May 02	AKE 4/E Earth Terminal
	4 33964	0	1 of 1	30 May 02	Q 2-10 Cross-Connection – AKZ 1.5 & 2.5
	4 33965	0	1 of 1	30 May 02	Q 2-10 Cross-Connection – AKZ 4
	3 03835	11	1 of 1	03 Nov 05	AKZ 1.5 Marking
	3 22344	07	1 of 1	04 Nov 05	AKZ 4 Marking
	4 33921	0	1 of 1	06 Mar 02	AKZ 2.5 Marking
	4 04749	10	1 of 1	28 Feb 02	AKE 4 Marking
	4 12412	11	1 of 1	01 Mar 02	AKE 2.5 Marking

14.2 Report numbers R53A8252A, 52V10536 and R51L13177AD

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15 SPECIAL CONDITIONS FOR SAFE USE

- 15.1 The end terminal shall be covered with the associated end plate and the terminal assembly clamped in place, at both ends, using either an AKE Weidmuller Earth Terminal or Weidmuller Type EW End Bracket.
- 15.2 Except where shown in a certificate as being internal wiring of apparatus, not more than one single or multiple strand lead shall be connected into either side of any terminal, unless multiple conductors have been joined in a suitable manner, e.g. two conductors into a single insulated crimped boot lace ferrule.
- 15.3 The leads connected to the terminals shall be insulated for the appropriate voltage and this insulation shall extend to within 1 mm of the metal of the terminal throat.
- 15.4 All terminal screws, used or unused, shall be tightened down.
- 15.5 The terminals must be installed on a 15 mm mounting rail to EN 60715:2001, e.g. Weidmuller reference TS15.
- 15.6 The minimum creepage and clearance distances between the installed terminals and adjacent exposed faces of equipment, enclosure walls and covers shall be 3.2 mm for 176 V maximum and 5 mm for 275 V maximum.
- 15.7 The terminals shall never be exposed to temperatures that are outside of the following ranges:

Material	Temperature Range
PA66	-50°C to +90°C
Wemid	-50°C to +110°C
Melamine (KrG)	-50°C to +130°C
Stamin (KrS)	-50°C to +130°C

In addition, they shall only be installed and wired with cable in a temperature range of -10°C to +80°C.

- 15.8 When this product is intended to be used in a potentially explosive dust atmosphere, it shall be installed in an enclosure that is suitably certified for use in this environment.
- 15.9 All of the Type Q cross-connectors are limited to the same current rating as the related terminal and shall not be used with currents in excess of this value.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in report numbers R53A8252A, 52V10536 and R51L13177AD.

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

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