sira
Certification Service

1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: Sira 01ATEX3247U

4 Component: Type BK Range of Terminal Strips

5 Applicant: Weidmuller Interface Limited

6 Address: Power Station Road
Sheerness
Kent
ME12 3AB
UK

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 number R53A8256A.

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 50014: 1997 + Amendments 1 & 2
EN 50019: 2000

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
EEx e II

Project Number 53A8256
Date 22 October 2002
C. Index 04

M D Shearman
Certification Manager



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**SCHEDULE**

**EC TYPE-EXAMINATION CERTIFICATE** Sira 02ATEX3247U

13 **DESCRIPTION OF COMPONENT**

The Type BK Range of Terminal Strips can accommodate solid or flexible conductors between the range of 0.5 $mm^2$ to 4 $mm^2$; they comprise a number of single pole feed through terminal assemblies that are separately mounted in a common melamine insulation housing.

The terminal assemblies consist of a nickel-plated brass yoke with two zinc plated steel screws and two stainless steel leaf spring pressure plates. These assemblies are designed to deform when the screws are tightened down and this self-deformation is used to provide an automatic and progressive anti-rotation/anti-vibration locking effect.

The insulated housing may be manufactured using a polymer with a different colour pigment, e.g. blue. In addition, it is provided with through holes located between each adjacent terminal, however, the BK 2 has only one through hole and therefore requires additional fixing, see special conditions for safe use.

The following range of terminals are covered (Note: The terminals are supplied in the specific sizes listed below):

| Terminal Type | Voltage Rating (V) (See Note 1) | Current Rating (A) (See Note 2) | | Minimum Cable Size ($mm^2$) | Maximum Cable Size ($mm^2$) | Terminal Resistance (m$\Omega$ @ 20°C) (See Note 3) |
|---|---|---|---|---|---|---|
| | | Without QB connector | With QB connector | | | |
| BK 2 | 275 | 28 | 25 | 0.5 | 4 | 0.35 |
| BK 3 | 275 | 28 | 25 | 0.5 | 4 | 0.35 |
| BK 4 | 275 | 28 | 25 | 0.5 | 4 | 0.35 |
| BK 6 | 275 | 28 | 25 | 0.5 | 4 | 0.35 |
| BK 12 | 275 | 28 | 25 | 0.5 | 4 | 0.35 |

Note 1: The terminals may be used in association with two-way (QB 2) and four-way (QB 4) cross-connecting combs, these have a cross connecting arm that is insulated with black nylon 6.6. The QB 2 may only be used with BK 4, BK 6 and BK 12 terminal blocks, the QB 4 may only be used with BK 6 and BK 12 terminal blocks. Neither of these combs can be fitted to the end terminals. When QB cross-connecting combs are used with the angled black insulation inclined upwards or downwards the voltage rating is reduced to 175 V maximum.

Note 2: When QB cross-connecting combs are used, the maximum current is reduced to 25 A in a 40°C ambient to achieve a T6 rating.

Note 3: When any of the above terminals are fitted inside junction boxes, the terminal resistance figure per terminal way (i.e. one twelve way strip = x 12) to be used for maximum power dissipation assessment purposes is as listed in table above.

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The voltage rating is an absolute condition of use, as stated in Table 1 of EN 50019: 2000. The current rating is not an absolute maximum 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 (A) |
|---|---|
| 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.

All terminals are "Tampo" print marked and have a continuous operating temperature range of −50°C to +130°C.

14 **DESCRIPTIVE DOCUMENTS**

14.1

| Drawing No. | Sheet | Rev. | Date | Title |
|---|---|---|---|---|
| 433897 | 1 of 1 | 0 | 25 Oct 01 | MK 6/2 ...6/E G.A. & Stocklist |
| 433896 | 1 of 1 | 0 | 25 Oct 01 | Marking for Sira ATEX approved terminals Type MK 6/2 ...6/E |
| 331428 | 1 of 1 | 0 | 20 Mar 00 | QB Cross-connecting combs for MK 6 |

14.2 Report No. R53A8256A

15 **SPECIAL CONDITIONS FOR SAFE USE**

15.1 Except when 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.

15.2 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.

15.3 All terminal screws, used and unused, shall be tightened down to between 0.5 Nm and 0.7 Nm.

15.4 BK 2 terminals shall be mounted in such a way as to prevent any rotation of the terminal strip during tightening or loosening of the terminal screws. All other larger terminals shall be mounted using at least two of the fixing holes to prevent rotation.

15.5 Minimum creepage and clearance distances between the installed terminals and adjacent conductive, equipment, enclosure walls and covers shall be 5 mm, unless QB cross-connecting combs are used and are angled downwards, in which case these values are reduced to 3.2 mm in both cases.

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15.6 When QB cross-connecting combs are used with the angled black insulation inclined upwards or downwards, the maximum voltage rating of the terminal strips is reduced to 175 V maximum – see 15.5 above. In addition, the current rating is reduced to 25 A in a 40°C ambient to achieve a T6 rating.

15.7 Where the prong of an insulating comb is used in a terminal way, a further single conductor of 1.0 $mm^2$ minimum cross-sectional area may be connected to the same terminal way on top of the prong.

15.8 The inside edge of the insulation of the combs cross-connecting arm shall be in contact with the terminal moulding.

15.9 The terminals shall never be exposed to temperatures outside of the range −50°C to +130°C; in addition, they shall only be installed and wired with cable in an ambient temperature of −10°C to +80°C.

15.10 When these terminals are intended to be used in a potentially explosive dust atmosphere, they shall be installed in an enclosure that is suitably certified for use in this environment.

15.11 The QB cross-connecting combs are limited to the same current rating as the 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 No. R53A8254A.

17 **CONDITIONS OF CERTIFICATION**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of SCS 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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