



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 05ATEX1286X** Issue: **5**

4 Equipment: **Type KDSW, KDSX, KOSW and KOSX Range of Cable Glands**

5 Applicant: **Weidmüller Interface GmbH & Co. KG**

6 Address: Klingenbergstrasse 16
32758 Detmold
German

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

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

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 60079-0:2012/A11:2013 EN 60079-1:2014 EN 60079-7:2015 EN 60079-31:2014

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



KDSW and KDSX

II 2G
Ex db IIC Gb
Ex eb IIC Gb

II 1D
Ex ta IIIC Da



KOSW and KOSX

II 2G
Ex eb IIC Gb



II 1D
Ex ta IIIC Da

* Due to restrictions applied by the applicant some products that are detailed in this certificate may not be commercially available.

Project Number 0463

Signed: 

Title: Director of Operations

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13. DESCRIPTION OF EQUIPMENT

The KDSW, KDSX, KOSW and KOSX ranges of cable glands are intended for use with SWA/Tape/Woven Steel Wire/Braided armoured cables. KDSW and KDSX glands comprise a threaded entry body, inner elastomeric sealing ring, armour cone, clamp ring and compression cap; and a rear seal assembly comprising a back nut, skid washer and outer sealing ring. The entry body is available with an optional outer deluge seal or an integral earthing clamp. KOSW and KOSX glands are of the same construction but without the inner elastomeric sealing ring. Sealing rings are available in silicone or neoprene.

Glands are available in the size range 16 to 100 with ISO metric entry threads of M16 to M100 respectively. Alternative thread sizes and forms ISO metric, NPT, NPSM, BSPT, BSPP, PG and ET are available. The KDSW and KDSX glands have an ingress protection rating of IP66 and IP68 (50 metres 7 days) and the KOSW and KOSX glands have an ingress protection rating of IP66.

Variation 1 - This variation introduced the following changes:

- i. To permit the batch number shown in the actual product marking to be removed.
- ii. The addition of cone & clamp ring part numbers.
- iii. The introduction of the KDSW, KDSX, KOSW and KOSX glands that have an IP66 rating and the consequential modification of the special conditions for safe use.
- iv. The external cylindrical diameter of the M85, M90 and M100 glands to be enlarged by 5mm to rease the size of the marking area.

Variation 2 - This variation introduced the following changes:

- i. The removal of code 2 lead conductive neoprene seals from KDSW, KDSX, KOSW and KOSX, range of cable glands.
- ii. The removal of code P lead inner seal from the KDSW, KDSX, KOSW and KOSX , range of cable glands for lead sheathed cables and to replace it with a new code 2 neoprene seal used with a brass continuity washer.
- iii. The extension of the upper ambient service temperature limit to +85°C for cable glands orporating neoprene seals (60° IRHD).
- iv. The modification of clause 15.2 in the special conditions for safe use.
- v. The removal of the temperature range markings from the seals.
- vi. The introduction of drawing amendments and up dates that are in-line with current practice.

Variation 3 - This variation introduced the following changes:

- i. Following appropriate re-assessment to demonstrate compliance with the requirements of the EN 60079 series of standards, the documents originally listed in section 9, EN 50014:1997 (amendments 1 and 2), EN 50018:2000, EN 50019:2000 and EN 50281-1-1:1998, were replaced by those currently listed, the markings in section 12 were updated accordingly.

Variation 4 - This variation introduced the following changes:

- i. The UK manufacturing site was removed from the certificate.

Variation 5 - This variation introduced the following changes:

- i. A clarification to the type designation of the KDSW, KDSX, KOSW and KOSX Range of Cable Glands.



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- i. Following appropriate reassessment to demonstrate compliance with the requirements of the latest editions of the EN 60079 series of standards, the documents previously listed in section 9, EN 60079-0:2006, EN 61241-0:2006 and EN 61241-1:2004 were replaced by those currently listed, the markings were updated accordingly, the Special Conditions for Safe use were also amended.
- ii. Type of protection Ex t is upgraded from EPL Db to EPL Da. Following appropriate reassessment to demonstrate compliance with the additional requirements for Ex ta, the markings were updated accordingly.
- iii. The use of Aluminium as a construction material was approved.
- iv. The introduction of an alternative silicone and neoprene seal material was endorsed.
- v. The service temperature range of the glands fitted with a neoprene seal was extended to -35°C to +90°C.
- vi. The KDSW and KDSX type cable glands, when installed in accordance with the manufacturer's instructions and with an appropriate enclosure on which they are fixed, are capable of providing an ingress protection of IP66 and IP68 (50 metres 7 days).
- vii. The removal of the special condition for safe use relating to enclosure volume, the remaining conditions are renumbered accordingly.

Variation 6 - This variation introduced the following changes:

- i. To modify/introduce the following changes to type KDSW/KDSX and KOSW/KOSX Cable Glands:
 - KOSW/KOSX, the maximum inner sheath diameter accommodation for all gland sizes was recognised.
 - KOSW/KOSX, gland sizes 50H, 63H, 75H, 80H and 90H were introduced.
 - KOSW/KOSX, gland size 20S, revised 'standard' outer seal cable range from: 12.9/16.0 to 11.5/16.0
 - KOSW/KOSX and KDSW/KDSX, gland size 16 with 0.38" NPT standard "trade size" introduced.
- ii. The recognition of the 'standard' entry threads associated with every gland type's gland sizes, in accordance with newly introduced generic bill of material drawing(s).
- iii. To permit all gland types, of parallel threaded entry threads, marked suitable for 'Exe' only to be modified to have a minimum thread length reased to 10 mm from 8 mm.
- iv. To permit all gland types of parallel threaded entry threads to be manufactured with a longer than 'standard' thread length to suit the end use application.
- v. To permit all gland types to be manufactured with a size larger than the 'standard' entry threads listed within the product description.
- vi. To recognise all gland types with the following alternate threaded entry threads complying with the requirements of EN 50018:2000. Are intended to be used as replacement entry devices within existing installations with equipment that have threaded entries no longer permitted by the current edition of EN 60079-1.
 - NPSM ANSI/ASME B1.20.1:1983
 - BSPT BS21:1985 (ISO 7/1; BS EN 10226-1:2004 'standard threads'
 - BSPP BS EN ISO 228-1 :2003; BS EN ISO 2228-2:2003 class A full form 'external threads'
 - PG DIN 40430:1971
 - ET BS 31:1940 (1979) Table 'B'All alternative trade size thread forms are manufactured within the dimensional parameter of the standard entry threads of the gland entry body, and relevant constructional compliance length and engagement requirements in accordance with their product markings.
- vii. To recognise the actual seal 'material specification' reference as a replacement for the seal 'material supplier'.
- viii. The brass materials of manufacture were updated and corrected.
- ix. The aluminium materials of manufacture were updated and corrected.

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- x. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012, EN 60079-1:2007, EN 60079-7:2007 and EN 60079-31:2009, were replaced by EN 60079-0:2012/A11:2013, EN 60079-1:2014, EN 60079-7:2015, and EN 60079-31:2014. The markings were updated, and a Specific Condition of Use was modified and amended to recognise the new standard edition. In addition the description was modified to clarify the certified cable gland types, the standard gland size 'entry threads', and gland size range taking capabilities inclusive of changes carried out under this certificate variation.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	12 April 2006	R51A14293A	The release of the prime certificate.
1	26 June 2009	R51A20139C	This Issue covers the following changes: <ul style="list-style-type: none">All previously issued certification was rationalised into a single certificate, Issue 1, Issue 0 referenced above is only intended to reflect the history of the previous certification and has not been issued as a document in this format.The rationalisation of the certificate in accordance with that listed in section 14.3.
2	22 March 2012	R27074A/00	The introduction of Variation 4
3	26 March 2013	R27876A/00	The rationalisation of the certificate in accordance with that listed in section 14.3.
4	04 June 2018	R70144815B	This Variation introduced the following changes: <ul style="list-style-type: none">EC-Type Examination Certificate in accordance with 94/9/EC updated to EU-Type Examination Certificate in accordance with Directive 2014/34/EU. <i>(In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC-Type Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)</i>The introduction of Sira Variation 6
5	15th October 2019	0463	<ul style="list-style-type: none">Transfer of certificate Sira 05ATEX1286X from Sira Certification Service to CSA Group Netherlands B.V..

14.3 Certificate number Sira 01ATEX1271X Issue 12

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

- 15.1 The KDSW, KDSX, KOSW and KOSX range of cable glands shall not be used in enclosures where the temperature, at the point of contact exceeds the following temperatures.

-35°C to +90°C for neoprene seal variants

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-60°C to +180°C for the silicone seal variants

- 15.2 The **KDSW** and **KDSX** range of cable glands, when installed in accordance with the manufacturer's instructions and with an appropriate enclosure on which they are fixed, are capable of providing an ingress protection of IP66 and IP68 (50 metres 7 days).
- 15.3 The **KOSW** and **KOSX** range of cable glands, when installed in accordance with the manufacturer's instructions and with an appropriate enclosure on which they are fixed, are capable of providing an ingress protection of IP66.
- 15.4 If the KDSW, KDSX, KOSW and KOSX type cable glands only grip the cable sheath and do not clamp the armour, or if they are used to terminate unarmoured, braided or screened cables, then they shall only be used for fixed installations, hence the cables shall be effectively clamped to prevent pulling or twisting.
- 15.5 The threaded entry component threads without interface O-ring seals installed in an explosive dust atmosphere, within threaded entries, shall only be fitted into enclosures that have either:
- parallel entries that will ensure that a minimum of 5 full threads of contact will be maintained, this is in accordance with clause 5.1.2 of EN 60079-31:2014,
 - tapered entries that will ensure that a minimum of 3 ½ full threads of contact will be maintained, this is in accordance with clause 5.1.2 of EN 60079-31:2014

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 the reports listed in Section 14.2.

Certificate Annexe



Certificate Number: Sira 05ATEX1286X

Equipment: Type KDSW, KDSX, KOSW and KOSX Range of Cable Glands

Applicant: Weidmüller Interface GmbH & Co. KG

Issue 0

Drawing No.	Sheets	Rev.	Date	Title
WMR/ATX/E1WF	1 of 1	1	11 Nov 05	KDSW and KDSX label drawing
WMR/ATX/CWLE	1 of 1	1	11 Nov 05	KOSW and KOSX label drawing

Issue 1

Drawing	Sheets	Rev.	Date	Title
WMR/ATX/E1WF	1 of 1	2	23/04/09	Label Drawing Sira 05ATEX1286X
WMR/ATX/CWLE	1 of 1	2	23/04/09	Label Drawing Sira 05ATEX1286X

Issue 2 No new drawings were introduced.

Issue 3

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
WMR/ATX/E1WF	1 to 2	5	26 Mar 13	Trade Agent Label Drawing KDSW & KDSX
WMR/ATX/CWLE	1 to 2	5	26 Mar 13	Trade Agent Label Drawing KOSW & KOSX

Issue 4

Drawing	Sheets	Rev	Date (Sira stamp)	Title
WMR/ATX/CWLE	1 to 2	6	31 May 2018	KOSW & KOSX Glands
WMR/ATX/E1WF	1 to 2	6	31 May 2018	KDSW & KDSX Glands

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