



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 05ATEX1288X** Issue: **5**

4 Equipment: **Type KUB, KB, KBOS and KSB Barrier Cable Glands and Stopper Boxes**

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

6 Address: Klingenbergstrasse 16
32758 Detmold
Germany

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:



I M2
Ex db I Mb
Ex eb I Mb
(Ta = -60°C to +135°C)

or



II 2 G D
Ex db IIC Gb
Ex eb IIC Gb
Ex tb IIIC Db
(Ta = -60°C to +135°C)

or



II 1D
Ex ta IIIC Da
(Ta = -60°C to +135°C)

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

Project Number 0465

Signed:

Title: Director of Operations

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CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem,
Netherlands



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13 DESCRIPTION OF EQUIPMENT

The KUB, KB, KBOS and KSB Barrier Cable Glands and Stopper Boxes are metallic and are intended for use with differing cables or conductors dependant on their type. They allow the entry of the cable or conductors into flameproof enclosures without compromising the explosion protection provided by the enclosure, in accordance with relevant codes of practice. All types comprise of various entry thread sizes, which are dependent upon gland size and their cable sealing ability range.

The KUB, KB, KBOS and KSB Barrier Cable Glands and Stopper Boxes, when installed with the silicone 'O' ring provided by the manufacturer, have an ingress protection rating of IP66 and IP68 (tested at a depth of 100 m for 7 days).

Design Options

Entry component and KSB conduit nut internal thread forms:

ISO Metric to BS3643:1981 6g fit (male) 6H (female)

NPT to ANSI/ASME B1.20.1:1983, gauging to clause 8

NPSM to ANSI/ASME B1.20.1:1983, gauging to clause 9

BSPT to BS 21:1985 (ISO 7/1) standard threads only clause 5.4, gauging to clause 5A, system A

BSPP to BS 2779:1986 (ISO 228/1) class A full form external threads

PG to DIN 40430:1971

ET to BS 31:1940 (1979) Table A

All entry and conduit threads are within the dimensional parameters of the gland body and comply with clause 5.3 of EN 60079-1:2014 and Clause C.2.2..

Alternative metallic materials of manufacture (the asterisk in the type number is replaced with a letter designation for one of the above material types):

Brass to BS 2874:1986 grades CZ121 (3Pb), or CZ121 (4Pb) or CZ122

Stainless Steel to BS 970:Part 1:1991 grades 316S11, 316S31, 303 or 304

Additionally, all metallic materials may be surface coated to limit electrolytic reaction between dissimilar materials, providing the coating does not alter the dimensions of the component part.

The **KBOS Range of Barrier Cable Glands** are suitable for use with circular, unarmoured cables; they comprise:

- a threaded entry body to tighten into an associated enclosure; this is fitted with a silicone O-ring and internally coated with a release agent
- a ferrule, fitted with an external nitrile O-ring, which fits into the entry body to make a part chamber into which a two-part epoxy putty setting compound is applied to provide an inner seal around the conductors
- a union nut that couples the entry body and ferrule together
- a seal housing, enclosing a white silicone, elastomeric, cable outer sheath seal and a plastic skid washer, that is screwed and secured into the ferrule with Loctite 2701 adhesive
- a back nut that screws into the seal housing to compress the outer sheath seal



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Design option: A brass continuity washer may be fitted in the 20S to 100 sizes for use with lead inner sheathed cables.

Gland Size	Standard Entry threads		Max Ø over Cores	Max No of Cores	Outer Sheath	
	Metric	NPT			Min	Max
16	M20	1/2" NPT	10.4	15	3.4	8.4
20S	M20	1/2" NPT	10.4	35	4.8	11.7
20	M20	1/2" NPT	12.5	40	9.5	14.0
25	M25	3/4" NPT	17.8	60	11.7	20.0
32	M32	1" NPT	23.5	80	18.1	26.3
40	M40	1 1/4" NPT	28.8	130	22.6	32.2
50S	M50	1 1/2" NPT	34.2	200	28.2	38.2
50	M50	2" NPT	39.4	400	33.1	44.1
63S	M63	2" NPT	44.8	400	39.3	50.1
63	M63	2 1/2" NPT	50.0	425	46.7	56.0
75S	M75	2 1/2" NPT	55.4	425	52.3	62.0
75	M75	3" NPT	60.8	425	58.0	68.0
80	M80	3" NPT	64.4	425	61.9	72.0
85	M85	3" NPT	69.8	425	69.1	78.0
90	M90	3 1/2" NPT	75.1	425	74.1	84.0
100	M100	3 1/2" NPT	80.5	425	81.8	90.0



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The **KB Range of Barrier Cable Glands** are suitable for use with, unarmoured, braided and screened cables; they comprise:

- a threaded entry body to tighten into an associated enclosure; this is fitted with a silicone O-ring and internally coated with a release agent
- a ferrule, fitted with an external nitrile O-ring, which fits into the entry body to make a part chamber into which a two-part epoxy putty setting compound is applied to provide an inner seal around the conductors.
- a union nut that couples the entry body and ferrule together
- a back nut that is screwed and secured into the ferrule with Loctite 2701 adhesive

Design option: A brass continuity washer may be fitted in the 20S to 100 sizes for use with lead inner sheathed cables.

Gland Size	Standard Entry threads		Max Diameter over Cores	Max No of Cores	Outer Sheath Max
	Metric	NPT			
20S	M20	1/2" NPT	10.4	35	11.7
20	M20	1/2" NPT	12.5	40	14.0
25	M25	3/4" NPT	17.8	60	20.0
32	M32	1" NPT	23.5	80	26.3
40	M40	1 1/4" NPT	28.8	130	32.2
50S	M50	1 1/2" NPT	34.2	200	38.2
50	M50	2" NPT	39.4	400	44.1
63S	M63	2" NPT	44.8	400	50.1
63	M63	2 1/2" NPT	50.0	425	56.0
75S	M75	2 1/2" NPT	55.4	425	62.0
75	M75	3" NPT	60.8	425	68.0
80	M80	3" NPT	64.4	425	72.0
85	M85	3" NPT	69.8	425	78.0
90	M90	3 1/2" NPT	75.1	425	84.0
100	M100	3 1/2" NPT	80.5	425	90.0



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The **KUB Range of Barrier Cable Glands** are suitable for use with circular, pliable wire, single wire and steel tape armoured cables along with braided/screened and unarmoured cables; they comprise:

- a threaded entry body to tighten into an associated enclosure, this fitted with a silicone O-ring and internally coated with a release agent
- a cone, fitted with an external nitrile O-ring, which fits into the entry component to make a part chamber into which a two part epoxy putty setting compound is applied to provide an inner seal around the conductors.
- a clamp ring that secures cable armour to the cone and also provides earth protection
- a mid-cap component that fastens to the entry body to captivate the clamp ring, cone and epoxy putty
- a back nut, enclosing a white, silicone, elastomeric, cable outer sheath seal and skid washer, that screws onto the external thread of the mid cap.

Design option: A brass continuity washer may be fitted in the 20S to 100 sizes for use with lead inner sheathed cables.

The KUB size 20s and 20 cable glands to be used with an alternative, cone component; (see details below) and are only suitable for braided cables:

The **KUB Range of Barrier Cable Glands** also has a reduced bore outer sheath seal option to accommodate an alternative range of outer sheath cable sizes. Reduced bore seals are red in colour. This option is designated with a '1' in the full part number.

Gland Size	Standard Entry threads		Max Ø over cores	Max No of Cores	Inner Sheath Max	Outer Sheath		Reduced Bore		Armour Dia./Thickness (Universal)
	Metric	NPT				Min	Max	Min	Max	
16	M20	½" NPT	10.4	15	11.7	8.4	13.5	6.7	10.3	0.15 - 1.25
20S	M20	½" NPT	10.4	35	11.7	11.5	16.0	9.4	12.5	*0.15 - 1.25
20	M20	½" NPT	12.5	40	14.0	15.5	21.1	12.0	17.6	**0.15 - 1.25
25	M25	¾" NPT	17.8	60	20.0	20.3	27.4	16.8	23.9	0.15 - 1.6
32	M32	1" NPT	23.5	80	26.3	26.7	34.0	23.2	30.5	0.15 - 2.0
40	M40	1 ¼" NPT	28.8	130	32.2	33.0	40.6	28.6	36.2	0.2 - 2.0
50S	M50	1 ½" NPT	34.2	200	38.2	39.4	46.7	34.8	42.4	0.2 - 2.5
50	M50	2" NPT	39.4	400	44.1	45.7	53.2	41.1	48.5	0.2 - 2.5
63S	M63	2" NPT	44.8	400	50.1	52.1	59.5	47.5	54.8	0.3 - 2.5
63	M63	2 ½" NPT	50.0	425	56.0	58.4	65.8	53.8	61.2	0.3 - 2.5
75S	M75	2 ½" NPT	55.4	425	62.0	64.8	72.2	60.2	68.0	0.3 - 2.5
75	M75	3" NPT	60.8	425	68.0	71.1	78.0	66.5	73.4	0.3 - 2.5
80	M80	3" NPT	64.4	425	72.0	77.0	84.0	71.9	79.4	0.45 - 3.15
85	M85	3" NPT	69.8	425	78.0	79.6	90.0	75.0	85.4	0.45 - 3.15
90	M90	3 ½" NPT	75.1	425	84.0	88.0	96.0	82.0	91.4	0.45 - 3.15
100	M100	3 ½" NPT	80.5	425	90.0	92.0	102.0	87.4	97.4	0.45 - 3.15



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The **KSB Range of Conduit Stopper Boxes** are suitable for use with conductors carried in conduit, providing a flameproof barrier entry into enclosures and as a line bushing for terminating flying leads; they comprise:

- a threaded entry body to tighten into an associated enclosure, this is fitted with a silicone O-ring and internally coated with a release agent
- a ferrule, fitted with an external nitrile O-ring, which fits into the entry body to make a part chamber into which a two-part epoxy putty setting compound is applied to provide an inner seal around the conductors.
- a union nut that couples the entry body and ferrule together
- a conduit nut that is screwed and secured into the ferrule with Loctite 2701 adhesive

NOTE:- * 2 1/2" NPT thread option (Max Cable Diameter = 65.0)(Max Diameter over Cores = 58.1) * 2 1/2" NPSM thread option (Max Cable Diameter = 67.0)(Max Diameter over Cores = 59.9)									
Stopper Box Size	Standard Entry threads		Max Cable Diameter	Max Diameter over Cores	Max No of Cores	Standard male connection thread size		Standard female connection thread Sizes	
	Metric	NPT				Metric	NPT	Metric	NPT
20	M20	1/2" NPT	14.0	12.5	40	M20	1/2" NPT	M20	1/2" NPT
25	M25	3/4" NPT	20.0	17.8	60	M25	3/4" NPT	M25	3/4" NPT
32	M32	1" NPT	26.3	23.5	80	M32	1" NPT	M32	1" NPT
40	M40	1 1/4" NPT	32.2	28.8	130	M40	1 1/4" NPT	M40	1 1/4" NPT
50S	M50	1 1/2" NPT	38.2	34.2	200	M50	1 1/2" NPT	M50	1 1/2" NPT
50	M50	2" NPT	44.1	39.4	400	M50	2" NPT	M50	2" NPT
63S	M63	2" NPT	50.1	44.8	400	M63	2" NPT	M63	2" NPT
63	M63	2 1/2" NPT	56.0	50.0	425	M63	2 1/2" NPT	M63	2 1/2" NPT
75S	M75	2 1/2" NPT	62.0	55.4	425	M75	2 1/2" NPT	M75	2 1/2" NPT
75	M75	-	68.0*	60.8*	425	M75	-	M75	2 1/2" NPT*
75	-	3" NPT	68.0	60.8	425	-	3" NPT	-	3" NPT
80	M80	3" NPT	72.0	64.4	425	M80	3" NPT	M80	3" NPT
85	M85	3" NPT	78.0	69.8	425	M85	3" NPT	M85	3" NPT
90	M90	3 1/2" NPT	84.0	75.1	425	M90	3 1/2" NPT	M90	3 1/2" NPT
100	M100	3 1/2" NPT	90.0	80.5	425	M100	3 1/2" NPT	M100	3 1/2" NPT

Variation 1 - This variation introduced the following changes:

- The KUB, KB, KBOS and KSB size 20s and 20 cable glands to be used with an alternative, cone component; in this form, the glands are designated KUB, KB, KBOS and KSB (see details below) and are only suitable for braided cables:

Entry thread size	Gland size	Max. Ø over cores (mm)	Max. number of cores	Max. inner sheath (mm)	Outer sheath (standard) (mm)		Braid dia.	
					Min.	Max.	Min.	Max.
M20 x 1.5	20S	10.4	8	11.7	11.5	16.0	0.15	0.35
M20 x 1.5	20	12.5	14	14.0	15.5	21.1	0.15	0.5

Design options for KUB, KB, KBOS and KSB

- The KUB, KB, KBOS and KSB may be used with of an alternative outer sheath seal that is red in colour and has a reduced bore size that accommodates an alternative range of outer sheath cable sizes; in this form, the glands are designated KUB, KB, KBOS and KSB (see details below):



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Entry thread size	Gland size	Max. Ø over cores (mm)	Max. number of cores	Max. inner sheath (mm)	Outer sheath (standard) (mm)		Braid dia.	
					Min.	Max.	Min.	Max.
M20 x 1.5	20S	10.4	8	11.7	9.4	0.15	0.15	0.35
M20 x 1.5	20	12.5	14	14.0	12.0	0.15	0.15	0.5

- The lusion of a brass continuity washer within the KUB, KB, KBOS and KSB cable glands ranges enabling them to be used with lead inner sheathed cables; glands with this modification are identified with a '2' in their type number.

Variation 2 - This variation introduced the following changes:

- 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 and EN 50281-1-1:1998, were replaced by those currently listed, the markings in section 12 were updated accordingly.

Variation 3 - This variation introduced the following change:

- The UK manufacturing site was removed from the certificate.

Variation 4 - This variation introduced the following changes:

- To allow the ambient range to be extended from -60°C to +85°C to -60°C to +135°C.
- The introduction of a new protection coding 'Ex e IIC' is recognised, the descriptions have been amended to reflect the introduction of this new coding.
- An assessment to the latest standards was conducted, reference to EN 61241-0 and EN 61241-0 was removed and IEC 60079-31:2008 introduced.
- The KUB Range can now be used as a Reversible Line Bushing.
- An rease of the IP rating degree of protection to IPX8 at 100 m for 7 days.
- To allow the maximum number of cores permitted to be reased, description was modified accordingly.
- The assessment of the dust marking against EPL 'Da'; as a result the marking at section 12 has been amended accordingly.
- The KB Range can now be used as a Line Bushing for terminating flying leads or for the direct inter-connection of associated enclosures.
- Following appropriate reassessment, EN 60079-0:2009 has been replaced by EN 60079-0:2012, the marking has been amended to remove the IP rating as a result of this assessment.
- Following appropriate reassessment, IEC 60079-31:2008 has been replaced by EN 60079-31:2009, the Special conditions for Safe Use have been amended to reflect this assessment.

Variation 5 - This variation introduced the following changes:

- To modify/introduce the following changes to type KUB and KBOS and KSB and KB Cable Glands:
 - KUB and KBOS and KSB and KB standard trade M100 / 4" NPT duplicated information was removed from the General Arrangement Drawing
 - KSB and KB, gland sizes 50S, 63S and 75S were introduced.
 - KSB, gland size 75, metric M75, has reduced and replaced the standard NPT female connection thread size from 3" NPT to 2 1/2" NPT. Reducing the alternative female connection thread size from 3" NPSM to 2 1/2" NPSM



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- 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 to be manufactured with a size larger than the 'standard' entry threads listed within the product description.
- iv. 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
- v. To recognise the actual seal 'material specification' reference as a replacement for the seal 'material supplier'.
- vi. The brass materials of manufacture were updated and corrected.
- vii. 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 lusive 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 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 3
3	26 March 2013	R27876A/00	The rationalisation of the certificate in accordance with that listed in section 14.3.

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Issue	Date	Report number	Comment
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 5
5	15th October 2019	0465	<ul style="list-style-type: none"> • Transfer of certificate Sira 05ATEX1288X from Sira Certification Service to CSA Group Netherlands B.V..

14.3 Certificate number Sira 03ATEX1479X Issue 12

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

15.1 The cable glands/stopper boxes shall not be used in enclosures where the temperature, at the point of entry/mounting, is outside of the range -60°C to +135°C.

15.2 The interface seals comply with the requirements of the standards listed in this report when the cable glands are fitted to a representative enclosure having a smooth flat mounting surface. In practice the interface between the male thread of the glands and their associated enclosure cannot be defined, therefore it is the users' responsibility to ensure that the appropriate ingress protection level is maintained at these interfaces.

15.3 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.

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Certificate Annexe



Certificate Number: Sira 05ATEX1288X

Equipment: Type KUB, KB, KBOS and KSB Barrier Cable Glands and Stopper Boxes

Applicant: Weidmüller Interface GmbH & Co. KG

Issue 0

Drawing No.	Sheet	Rev.	Date	Title
WMR/ATX/CRC	1 of 1	1	11 Nov 05	KUB label drawing
WMR/ATX/CRU	1 of 1	1	11 Nov 05	KB and KBOS label drawing
WMR/ATX/CRS	1 of 1	1	11 Nov 05	KSB label drawing

Issue 1

Drawing No.	Sheets	Rev.	Date	Title
WMR/ATX/CRS	1 of 1	2	23 Apr 09	KSB label drawing
WMR/ATX/CRU	1 of 1	2	23 Apr 09	KB and KBOS label drawing
WMR/ATX/CRC	1 of 1	2	23 Apr 09	KUB label drawing

Issue 2 No new drawings were introduced.

Issue 3

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
WMR/ATX/CRC	1 to 2	5	26 Mar 13	Trade Agent Label Drawing KUB
WMR/ATX/CRS	1 to 2	5	26 Mar 13	Trade Agent Label Drawing KSB
WMR/ATX/CRU	1 to 2	5	26 Mar 13	Trade Agent Label Drawing KB & KBOS

Issue 4

Drawing	Sheets	Rev	Date (Sira stamp)	Title
WMR/ATX/CRC	1 to 2	6	31 May 2018	KUB Glands
WMR/ATX/CRS	1 to 2	6	31 May 2018	KSB Glands
WMR/ATX/CRU	1 to 2	6	31 May 2018	KB & KBOS Glands

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