

Expert opinion

No. 20210673

1st official copy

Customer: Günther Spelsberg GmbH + Co. KG
Im Gewerbepark 1
58579 Schalksmühle

Product designation: Type „WKE 200 - 400“ fire protection junction and connection box
by Günther Spelsberg GmbH + Co. KG

Order content: Expert opinion on the fire protection characteristics of the junction and
connection boxes type „WKE 200 - 400“ in respect of ensuring of the
functional integrity of cable systems in the event of fire

Validity: 2026-10-25

This expert opinion comprises 3 pages of text and 12 appendices.

Note: The expert opinion is issued in German and English. In case of doubt the German version of expert opinion
no. 20210673 dated 2021-10-26 is valid.

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1 General

Günther Spelsberg GmbH + Co. KG instructed MPA Dresden GmbH to issue an expert opinion to evaluate the fire protection characteristics of the type "WKE 200 - 400" junction and connection box in cable systems which guarantee functional integrity for a period of over 30 minutes in the event of fire.

2 Basis for the expert opinion

- [1] Product information " Cable junction and connection boxes WKE 200 - 400", by Günther Spelsberg GmbH + Co. KG;
- [2] Drawings for the "Cable junction and connection boxes WKE 200-400", Günther Spelsberg GmbH + Co. KG
- [3] Assembly instructions for the "Cable junction and connection boxes WKE 200-400", Fa. Günther Spelsberg GmbH + Co. KG
- [4] Test report no. 20200708 by MPA Dresden GmbH dated 2020-11-09;
- [5] Test report no. 20200700/02 by MPA Dresden GmbH dated 2021-01-21;

3 Description of the junction and connection boxes of type "WKE 200 - 400"

The cable junction and connection boxes of type WKE 200 - 400 are designed for connecting cables and connecting fused branch lines to main lines.

The cable junction and connection boxes of type WKE 200-400 (according to product standard DIN EN IEC 61439-1¹ and DIN EN 61439-2²) are used in cable systems in which multi-core functional integrity cables of the manufacturer LEONI Studer AG (see [3] and [4]) are connected together.

The cable junction and connection boxes made of glass-fibre reinforced thermosetting plastic have the dimensions listed in Table 1:

Table 1

Type	Inner dimensions			External dimensions		
	Width	Length	Height	Width	Length	Height
WKE 200	92	92	66	115	115	93
WKE 300	135	135	83	160	160	110
WKE 400	176	176	83	200	200	110

The cable junction and connection boxes of type WKE 200-400 essentially consist of a housing with cover, the branch/through terminals (6 mm² to 16 mm²), fuse terminals, cable entries and a seal (thermoplastic elastomer) located between the cover and housing.

The design of the cable junction and connection boxes WKE 200-400 and the location of the components listed above are shown in annexes 1 to 12. Further descriptions and details are given in the test reports of MPA Dresden GmbH [4] and [5] and in the product documentation issued by Günther Spelsberg GmbH + Co KG.



¹ DIN EN 61439-1:2012-06 Low-voltage switchgear and control gear assemblies - Part 1: General rules (IEC 61439-1:2011); German edition EN 61439-1:2011

² DIN EN 61439-2:2012-06 Low-voltage switchgear and controlgear assemblies - Part 2: Power switchgear and controlgear assemblies (IEC 61439-2:2011); German version EN 61439-2:2011

The junction boxes are mounted on solid, non-combustible walls or on solid, non-combustible ceilings using building authority approved fasteners.

The incoming /outgoing functional integrity cables (BETAflam® (N)HXH-J FE180/E90 3x1,5 mm²; BETAflam® (N)HXH-J FE180/E90 3x16 mm²; BETAflam® (N)HXH-J FE180/E90 5x1,5 mm² manufacturer: LEONI Studer AG) are to be fastened to the wall with cable clamps at a distance of max. 100 mm from the junction box. Cable entry into the cable junction and connection boxes can be vertical or horizontal.

4 Evaluation

Fire tests ([4] and [5]) on cable junction and connection boxes of the type series WKE, which correspond to the description in Section 3 and annexes 1 to 12, proved that the functional integrity of individually horizontally laid multi-core functional integrity cables, which are part of a cable system with functional integrity (minimum functional integrity duration 30 minutes), was maintained even under special operating conditions according to DIN EN 61439-1¹ Section 7.2 (in this case flaming of the cable system according to the standard temperature-time curve according to DIN EN 1363-1³) for a period of up to 30 minutes.

The installation and wiring instructions of Günther Spelsberg GmbH + Co KG [3] must be followed.

5 Summarised evaluation

If cable junction and connection boxes of the type WKE, which are constructed and installed as described in section 3, are used in electrical cable systems with a proven functional integrity of at least 30 minutes in case of fire, it can be assumed that the proven functional integrity of the cable systems (in this case for the main cable) will continue to be ensured for at least 30 minutes in case of fire (special operating conditions according to DIN EN 61439-1¹ section 7.2). The failure of the fused outgoing line has no influence on the proven functional integrity of the cable systems.

6 Special notes

The expert opinion no. 20210673 dated 2021-10-26 does not constitute a general building authority verification of usability in the sense of the State Building Code.


The expert opinion no. 20210673 dated 2021-10-26 is valid solely for the building products and installation situation as described in section 3.

The validity of the expert opinion no. 20210673 expires on the **2026-10-25** and can thereafter be extended upon application.

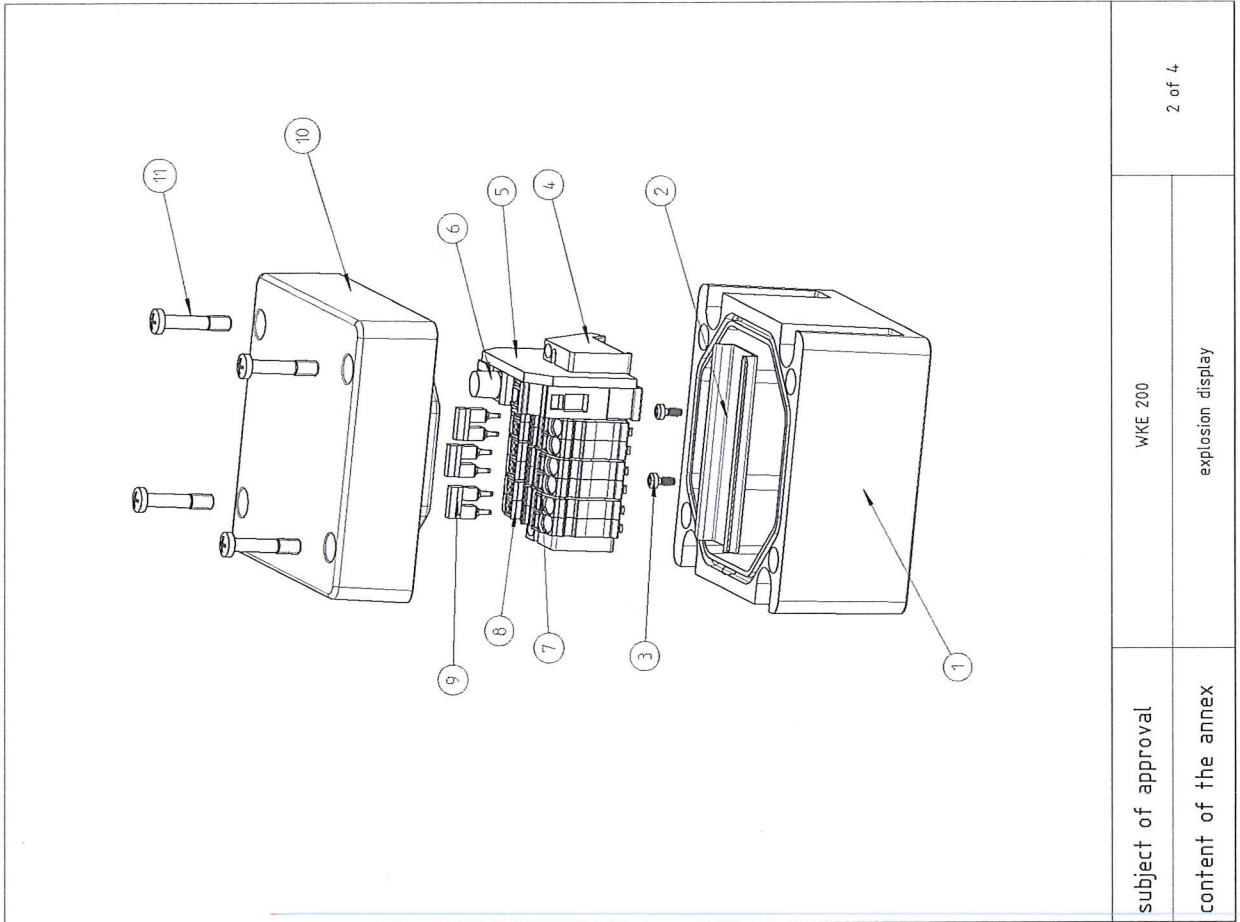
Freiberg, 2021-10-26


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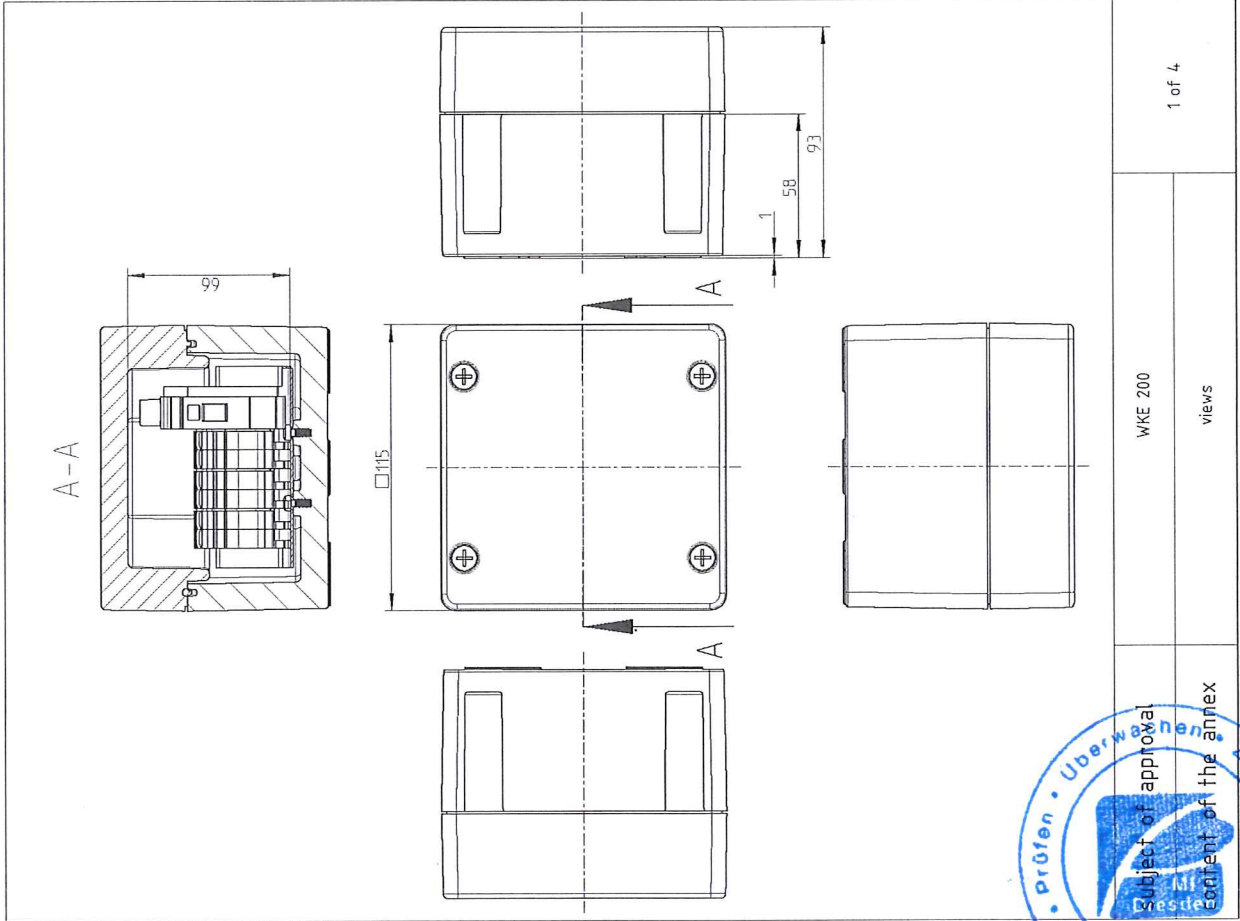
³ DIN EN 1363-1:2020-05 Feuerwiderstandsprüfungen - Teil 1: Allgemeine Anforderungen; Deutsche Fassung EN 1363-1:2020
Fire resistance tests - Part 1: General requirements; German version EN 1363-1:2020



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WKE 200
 explosion display

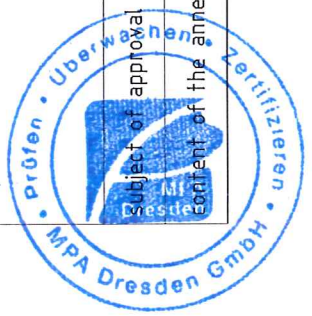
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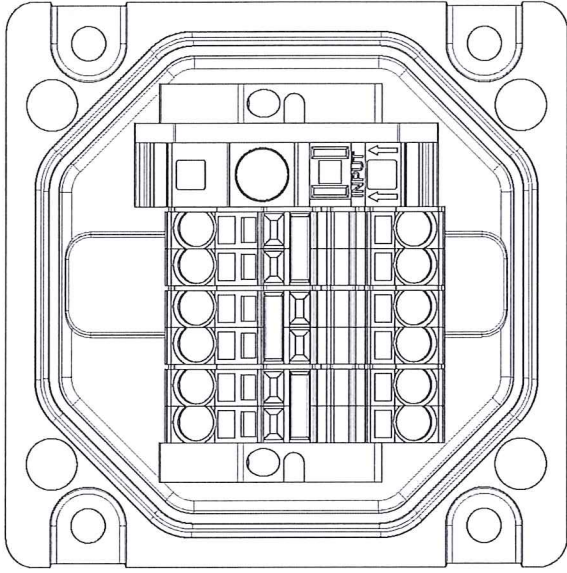
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WKE 200
 views

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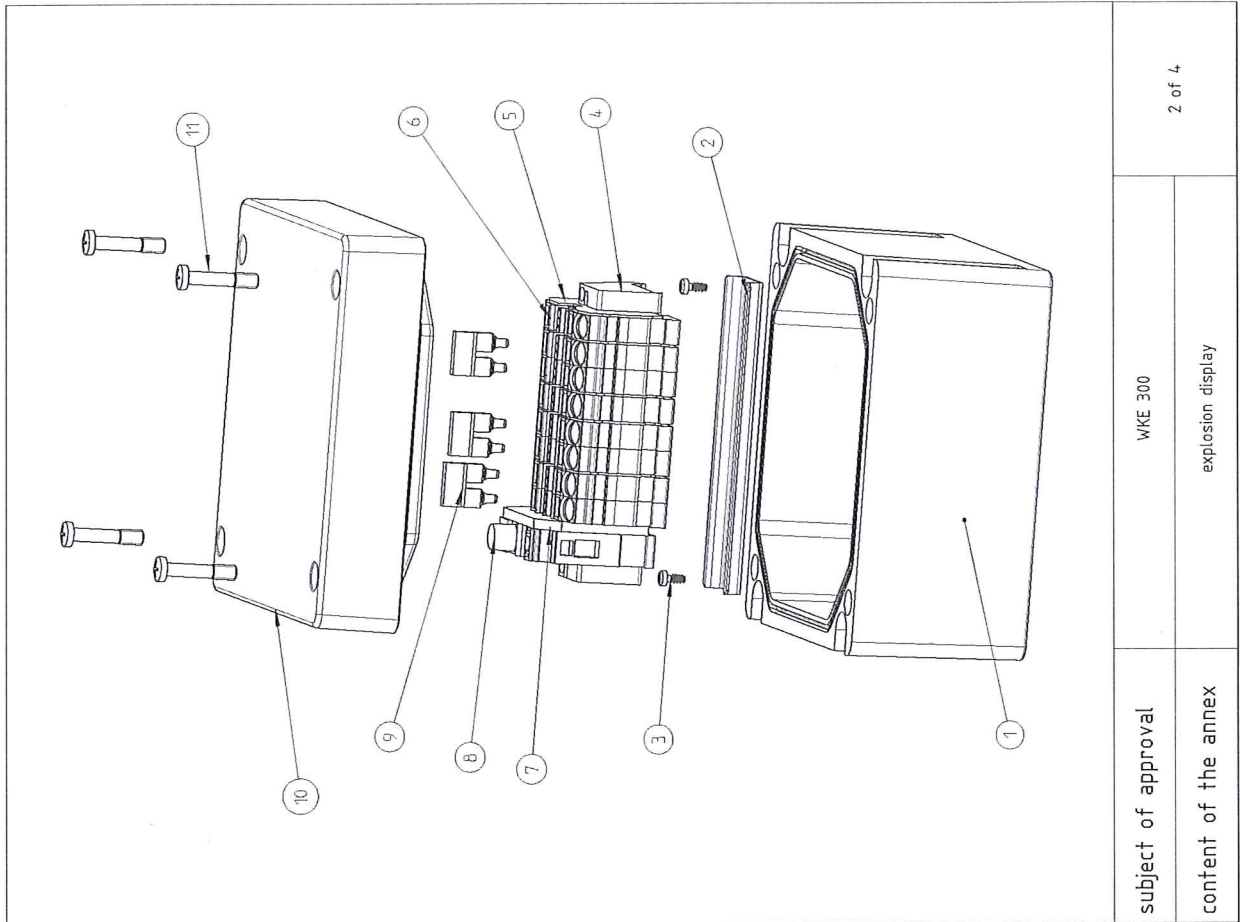
pos.-no.	designation	producer	article number	material
1	box WKE 200	Erlennann + Huchenbeck	1.5600.03887	UP14.15-S-LSF
2	mounting rail	Spelsberg Lichttechnik	4014.376029	St 02 Z 275 NA
3	screw	EJOT GmbH & Co.KG	374.7927	Stahl, WN 54-61
4	end bracket	Weidmüller	0383560000	Wemid
5	end plate	Wago-Kontakttechnik GmbH	2006-1292	Polyamid
6	fuse terminal two-wire	Wago-Kontakttechnik GmbH	282-122	Polyamid
7	intermediate plate	Wago-Kontakttechnik GmbH	282-312	Polyamid
8	through terminal two-wire	Wago-Kontakttechnik GmbH	2006-1202	Polyamid
9	jumper 2-way	Wago-Kontakttechnik GmbH	2006-402	Kupfer
10	lid	Erlennann + Huchenbeck	1.5600.03888	UP14.15-S-LSF
11	lid screw	Hans Schriever GmbH & Co.KG	07045060-4020	1.4571



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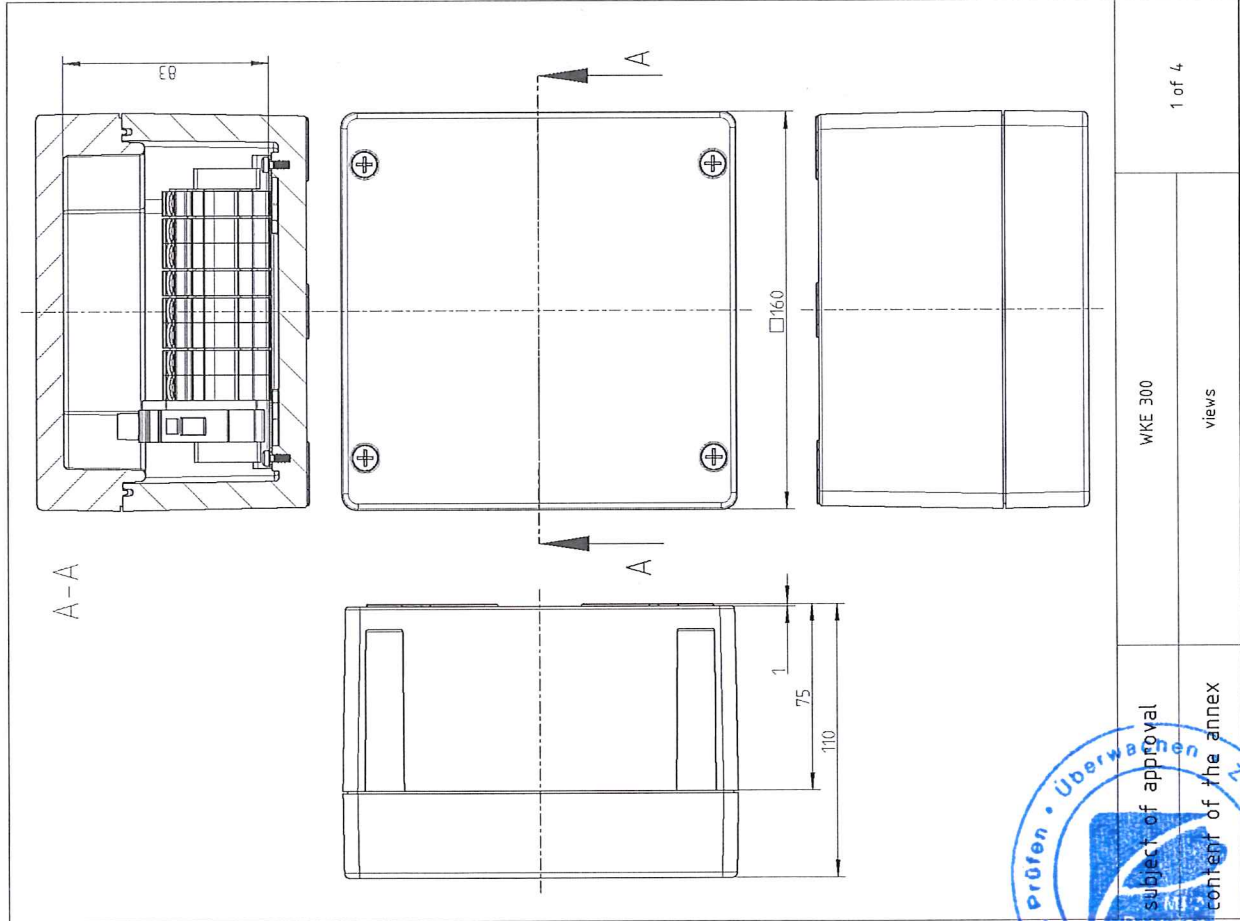




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WKE 300
 explosion display

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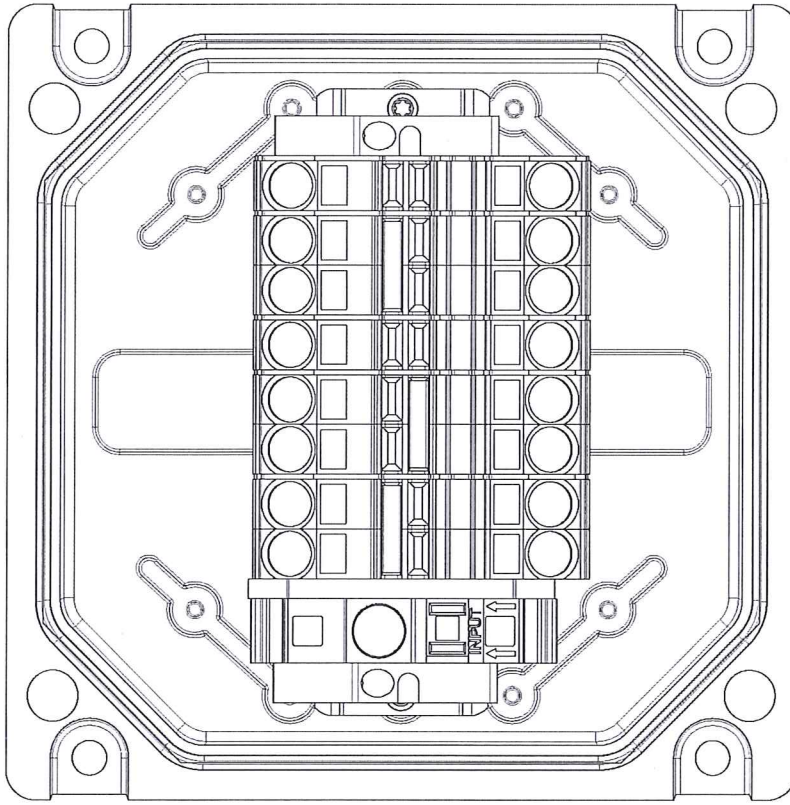
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WKE 300
 views

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pos.- no.	designation	producer	article number	material
1	box WKE 300	Erlmann + Huckenbeck	1.5600.04043	UP74/5-S-LSF
2	mounting rail	Spelsberg Lichttechnik	4014376047	St 02 Z 275 NA
3	screw	EJOT GmbH & Co.KG	374.7927	Stahl, WN 54.61
4	end bracket	Weidmüller GmbH & Co.	0383560000	Wemid
5	end plate	Wago-Kontakttechnik GmbH	2010-1292	Polyamid
6	through terminal two-wire	Wago-Kontakttechnik GmbH	2010-1202	Polyamid
7	end and intermediate plate	Wago-Kontakttechnik GmbH	282-312	Polyamid
8	fuse terminal two-wire	Wago-Kontakttechnik GmbH	282-122	Polyamid
9	jumper 2-way	Wago-Kontakttechnik GmbH	2010-402	Kupfer
10	lid	Erlmann + Huckenbeck	1.5600.04044	UP74/5-S-LSF
11	lid screw	Hans Schriever GmbH & Co.KG	07045060-A020	1.4571



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WKE 300

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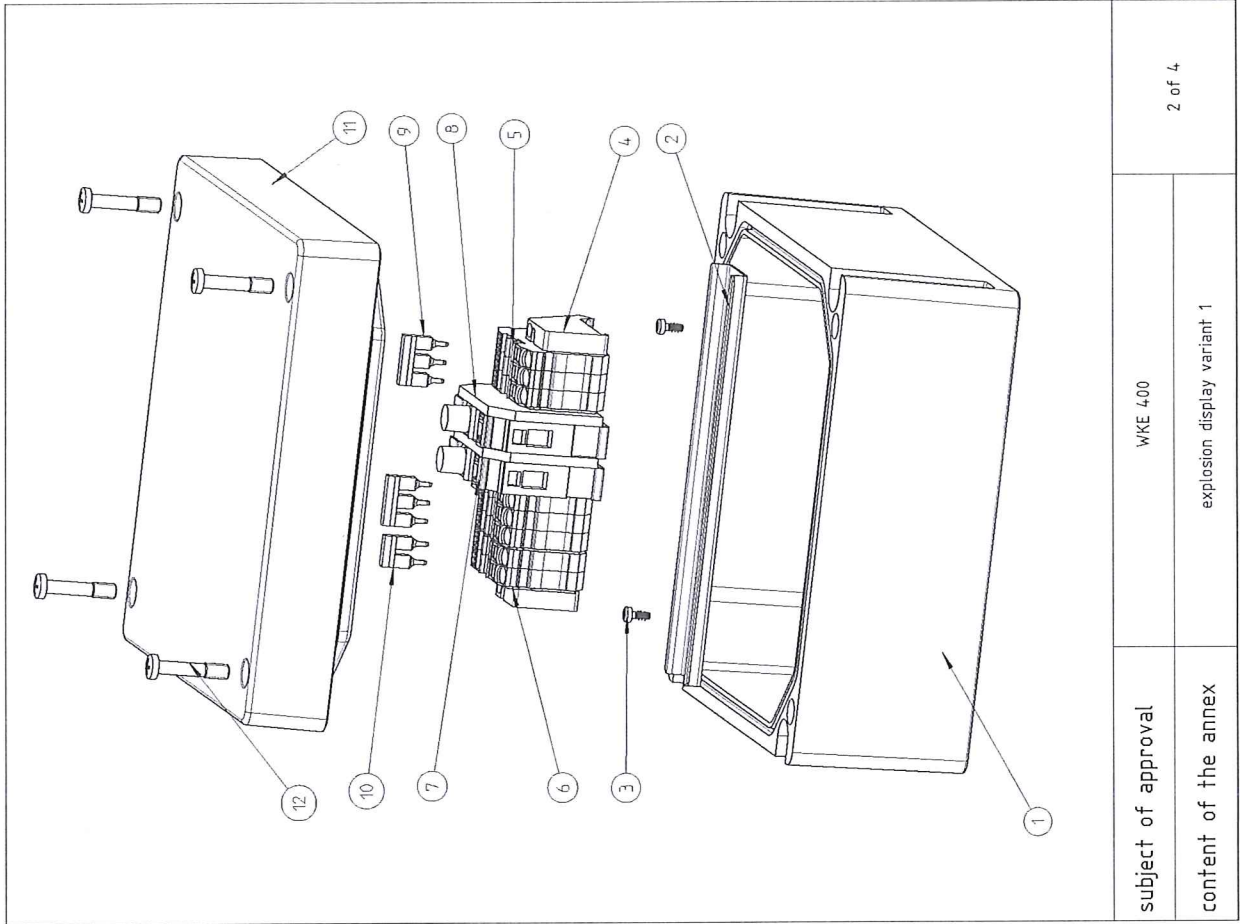
variant 1

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WKE 300

parts list





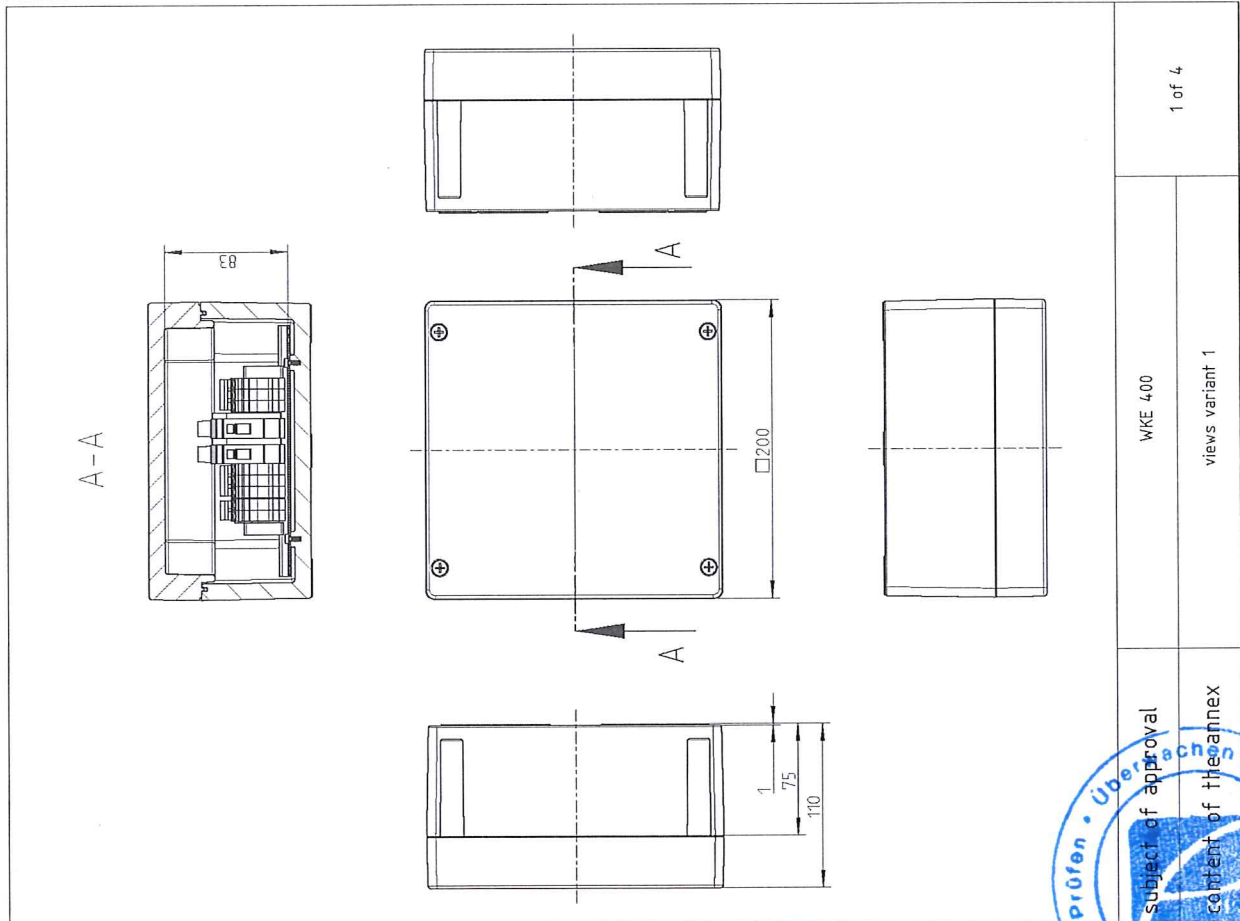
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WKE 400

explosion display variant 1

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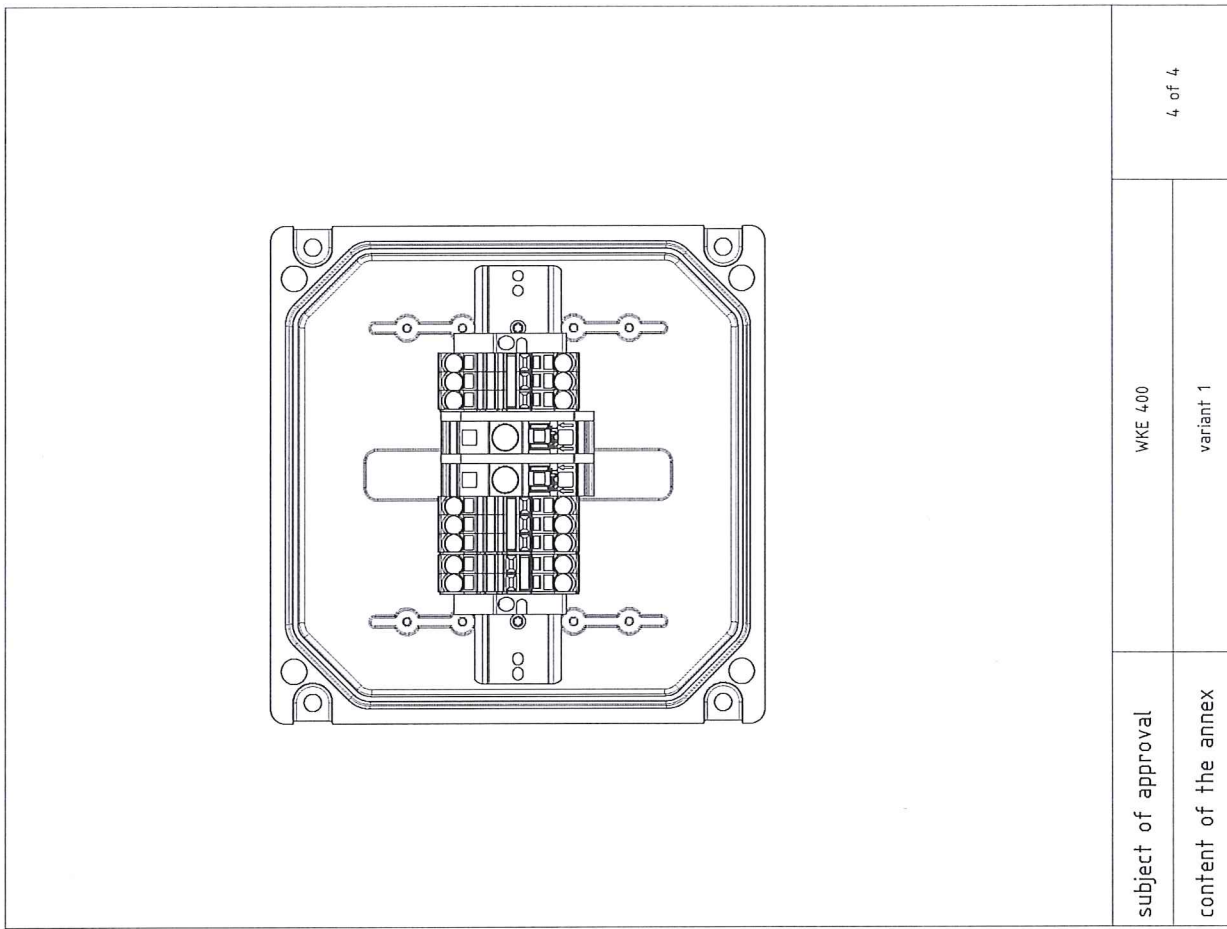
WKE 400

views variant 1

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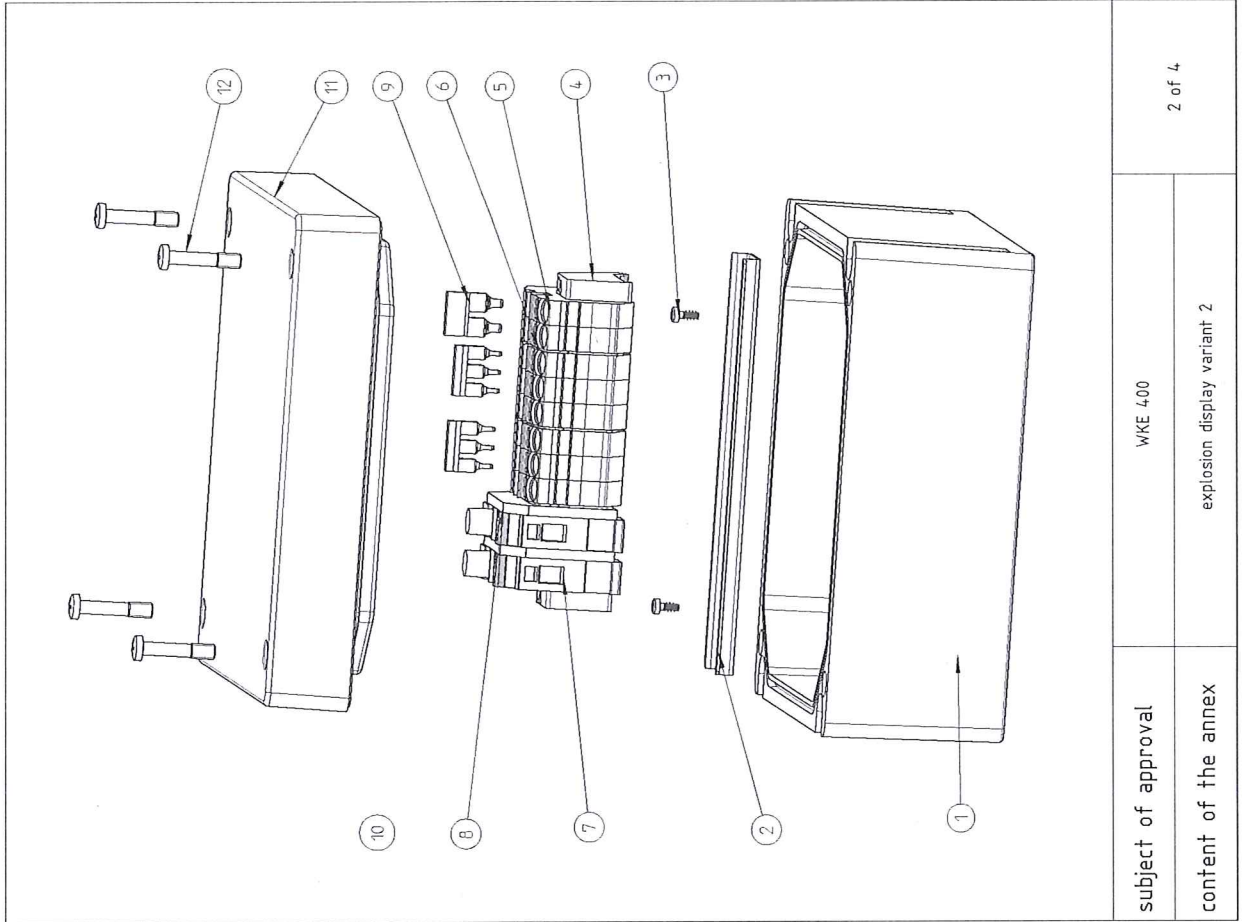


pos.-no.	designation	producer	article number	material
1	box WKE 400	Erlemann + Hückenbeck	1.5600.03885	UP1415-S-LSF
2	mounting rail	Spelsberg Lichttechnik	4014376050	St 02 Z 275 NA
3	screw	EJOT GmbH & Co.KG	3747927	Stahl, WN 5461
4	end bracket	Weidmüller GmbH & Co.	0383560000	Wemid
5	through terminal two-wire	Wago-Kontakttechnik GmbH	2006-1292	Polyamid
6	end and intermediate plate	Wago-Kontakttechnik GmbH	2006-1202	Polyamid
7	fuse terminal two-wire	Wago-Kontakttechnik GmbH	282-312	Polyamid
8	end and intermediate plate	Wago-Kontakttechnik GmbH	282-122	Polyamid
9	jumper 3-way	Wago-Kontakttechnik GmbH	2006-403	Kupfer
10	jumper 2-way	Wago-Kontakttechnik GmbH	2006-402	Kupfer
11	lid	Erlemann + Hückenbeck	1.5600.03886	UP1415-S-LSF
12	lid screw	Hans Schriever GmbH & Co.KG	07045060-A020	1.4571



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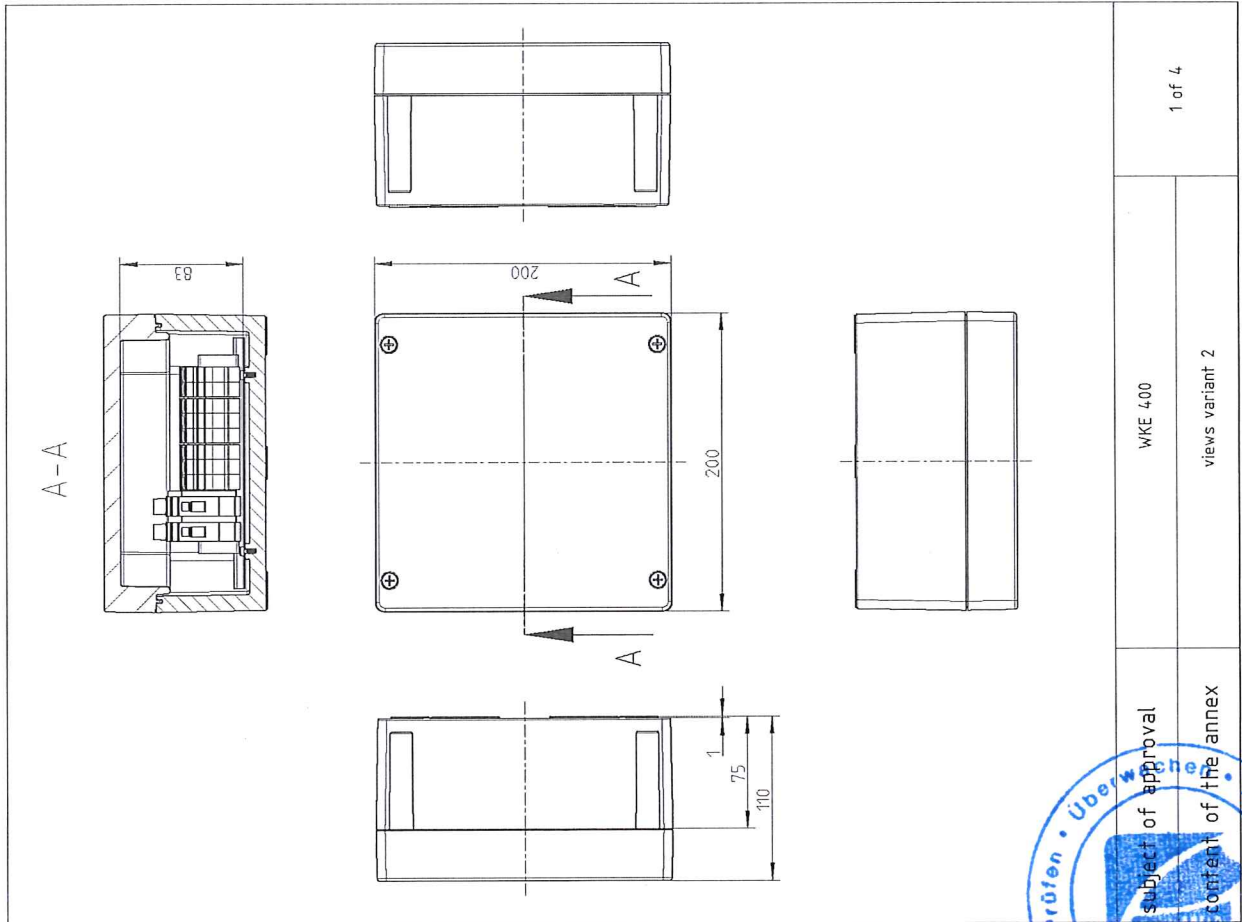
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WKE 400
 explosion display variant 2

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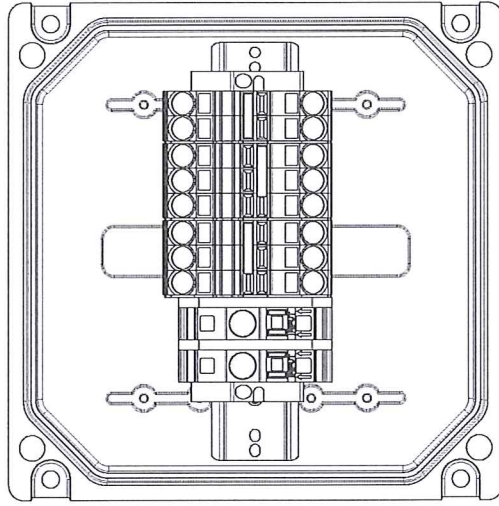
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WKE 400
 views variant 2

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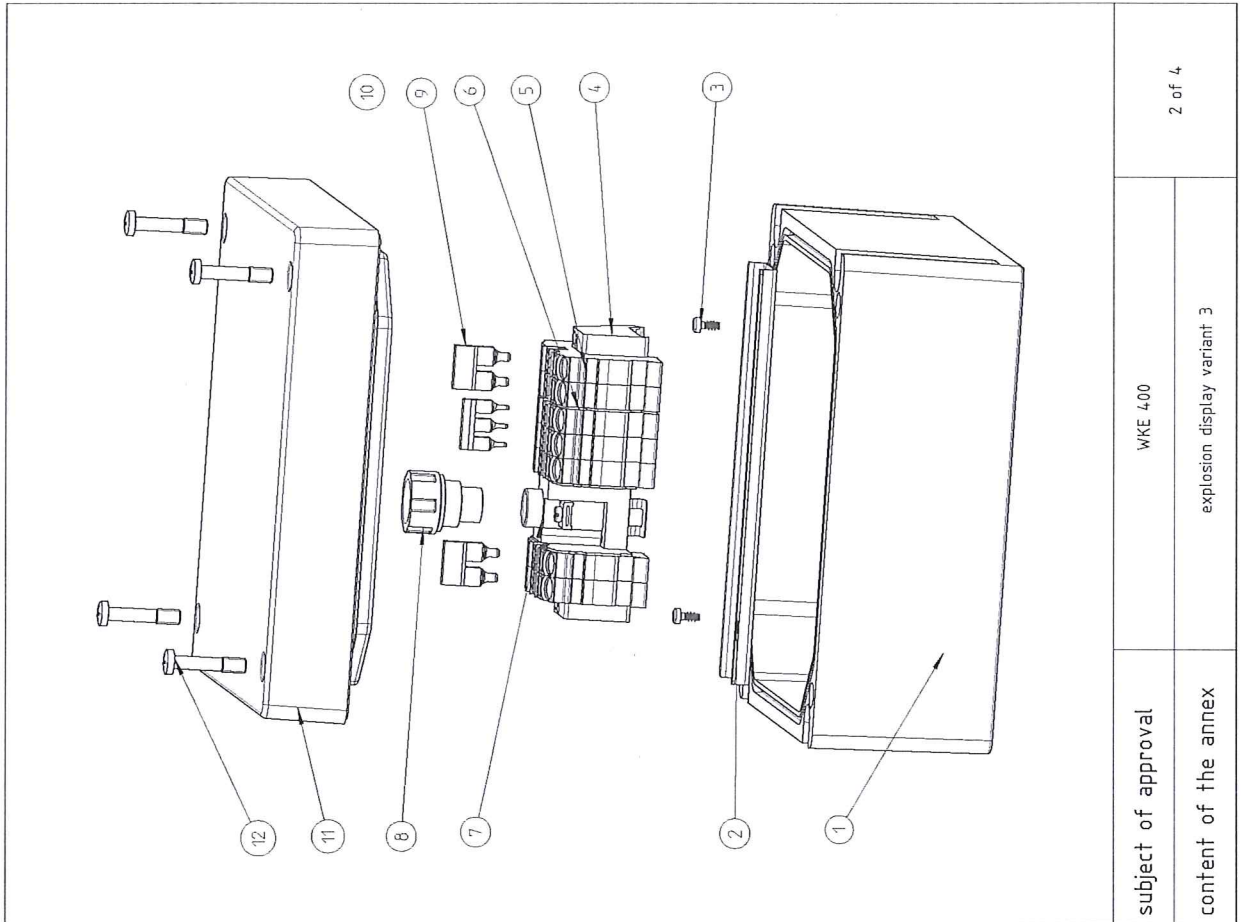
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1	box WKE 400	Erlemann + Hückenbeck	1.5600.03885	UP1415-S-LSF
2	mounting rail	Spelsberg Lichttechnik	4014-376050	SI 02 Z 275 NA
3	screw	EJOT GmbH & Co.KG	3747927	Stahl, WN 5461
4	end bracket	Weidmüller GmbH & Co.	0383560000	W emid
5	through terminal two-wire	Wago-Kontakttechnik GmbH	2006-1292	Polyamid
6	end and intermediate plate	Wago-Kontakttechnik GmbH	2006-1202	Polyamid
7	fuse terminal two-wire	Wago-Kontakttechnik GmbH	282-312	Polyamid
8	end and intermediate plate	Wago-Kontakttechnik GmbH	282-122	Polyamid
9	jumper 2-way	Wago-Kontakttechnik GmbH	2010-403	Kupfer
10	jumper 3-way	Wago-Kontakttechnik GmbH	2010-402	Kupfer
11	lid	Erlemann + Hückenbeck	1.5600.03886	UP1415-S-LSF
12	lid screw	Hans Schriever GmbH & Co.KG	07045060-A020	1.4571



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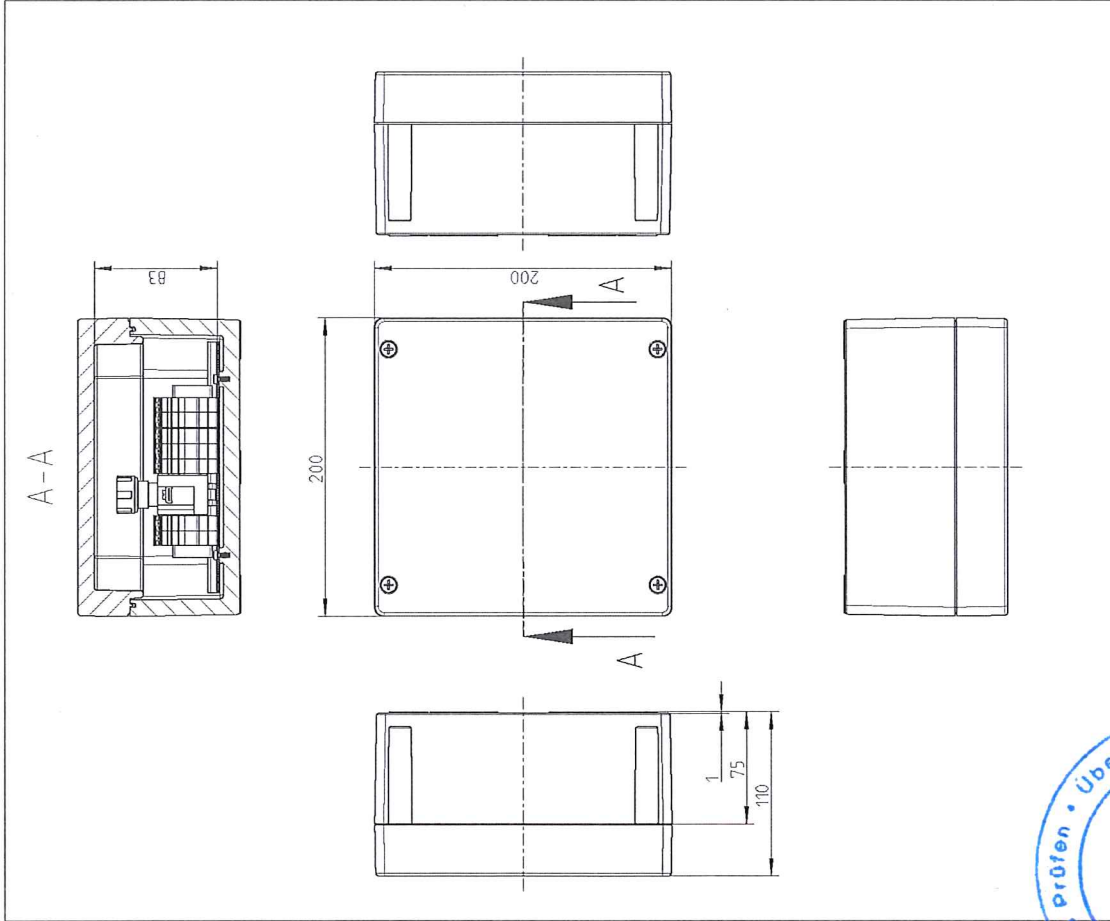
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WKE 400

explosion display variant 3

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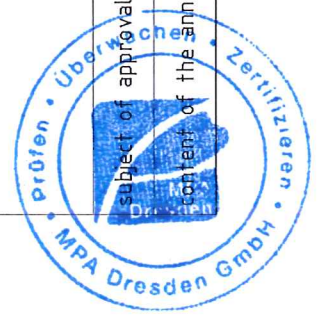
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WKE 400

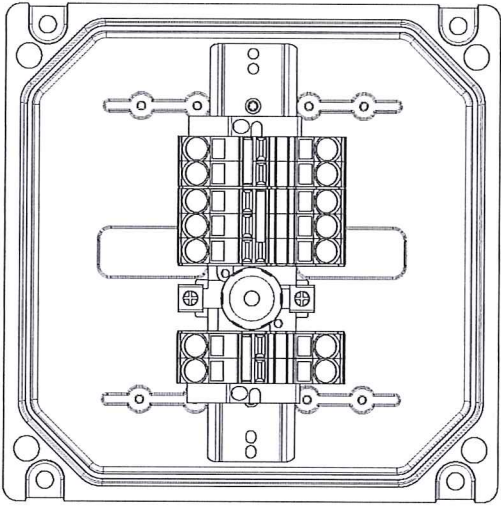
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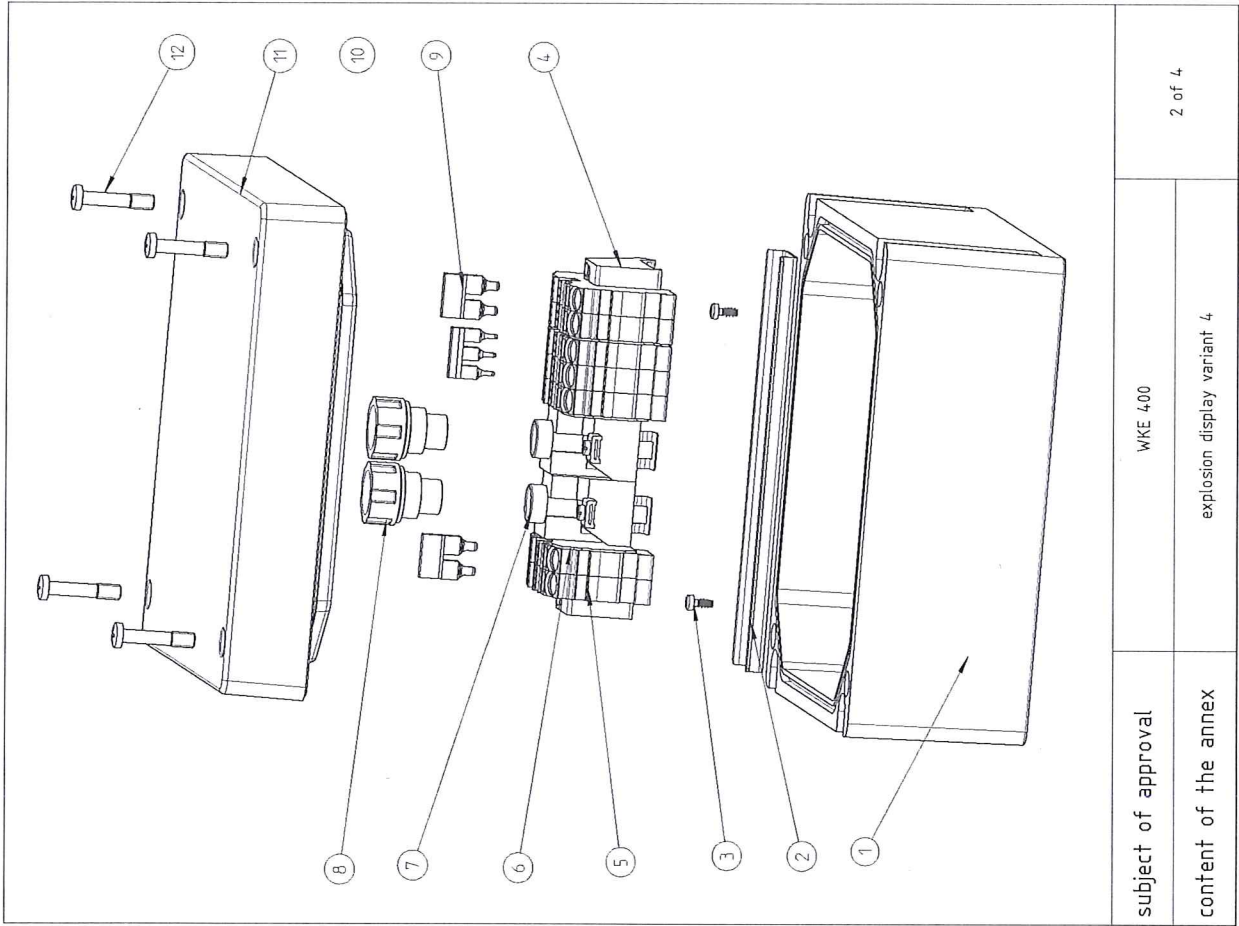
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1	box WKE 400	Erlmann + Huckenbeck	1.5600.03885	UP14/15-S-LSF
2	mounting rail	Spelsberg Lichttechnik	4014.376050	S1-02 Z 275 MA
3	screw	EJOT GmbH & Co.KG	374.7927	Stahl, WN 54.61
4	end bracket	Weidmüller GmbH & Co.	0383560000	Wamid
5	through terminal two-wire	Wago-Kontakttechnik GmbH	2010-1292	Polyamid
6	end and intermediate plate	Wago-Kontakttechnik GmbH	2010-1202	Polyamid
7	fuse base	Bals Elektrotechnik GmbH & Co.KG	9112	Stearit
8	screw cap	Bals Elektrotechnik GmbH & Co.KG	9120	Stearit
9	jumper 2-way	Wago-Kontakttechnik GmbH	2010-403	Kupfer
10	jumper 3-way	Wago-Kontakttechnik GmbH	2010-402	Kupfer
11	lid	Erlmann + Huckenbeck	1.5600.03886	UP14/15-S-LSF
12	lid screw	Hans Schriever GmbH & Co.KG	07045060-A020	1.4571



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parts list variant 3	variant 3

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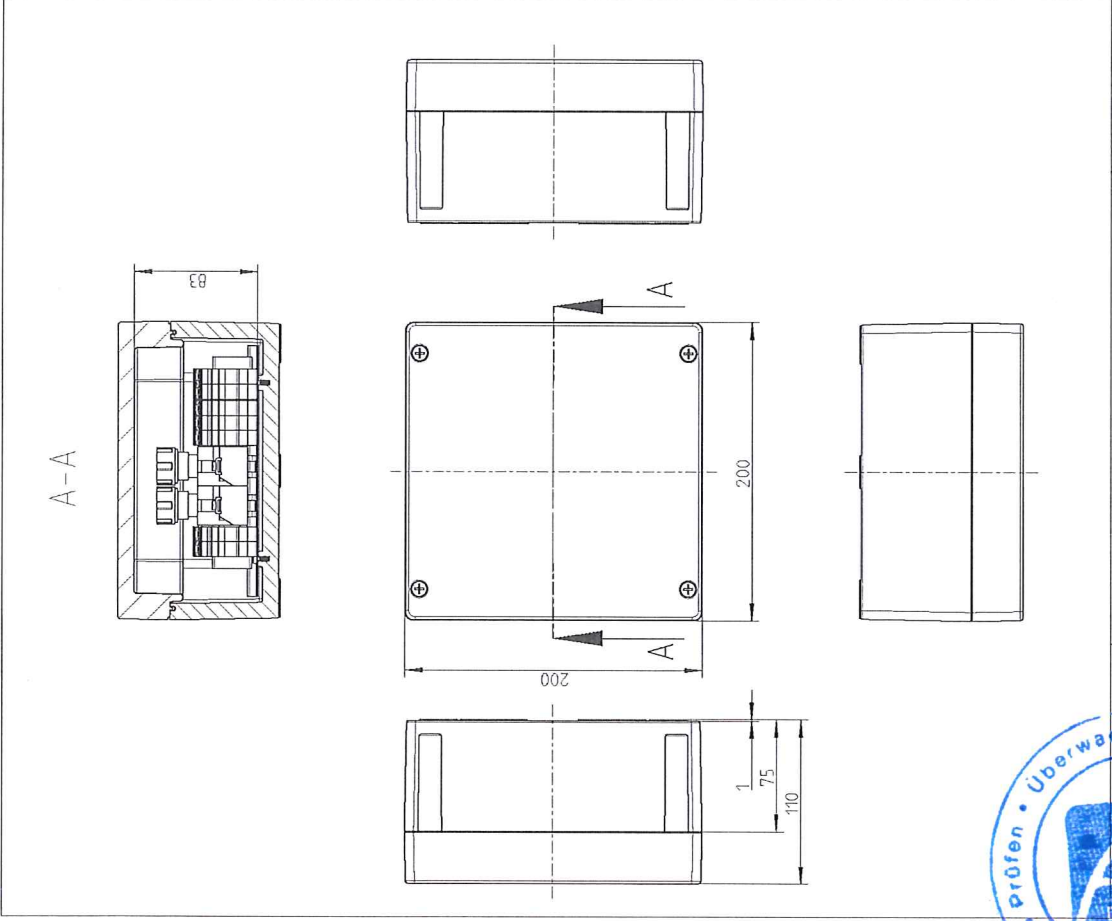
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WKE 400

explosion display variant 4

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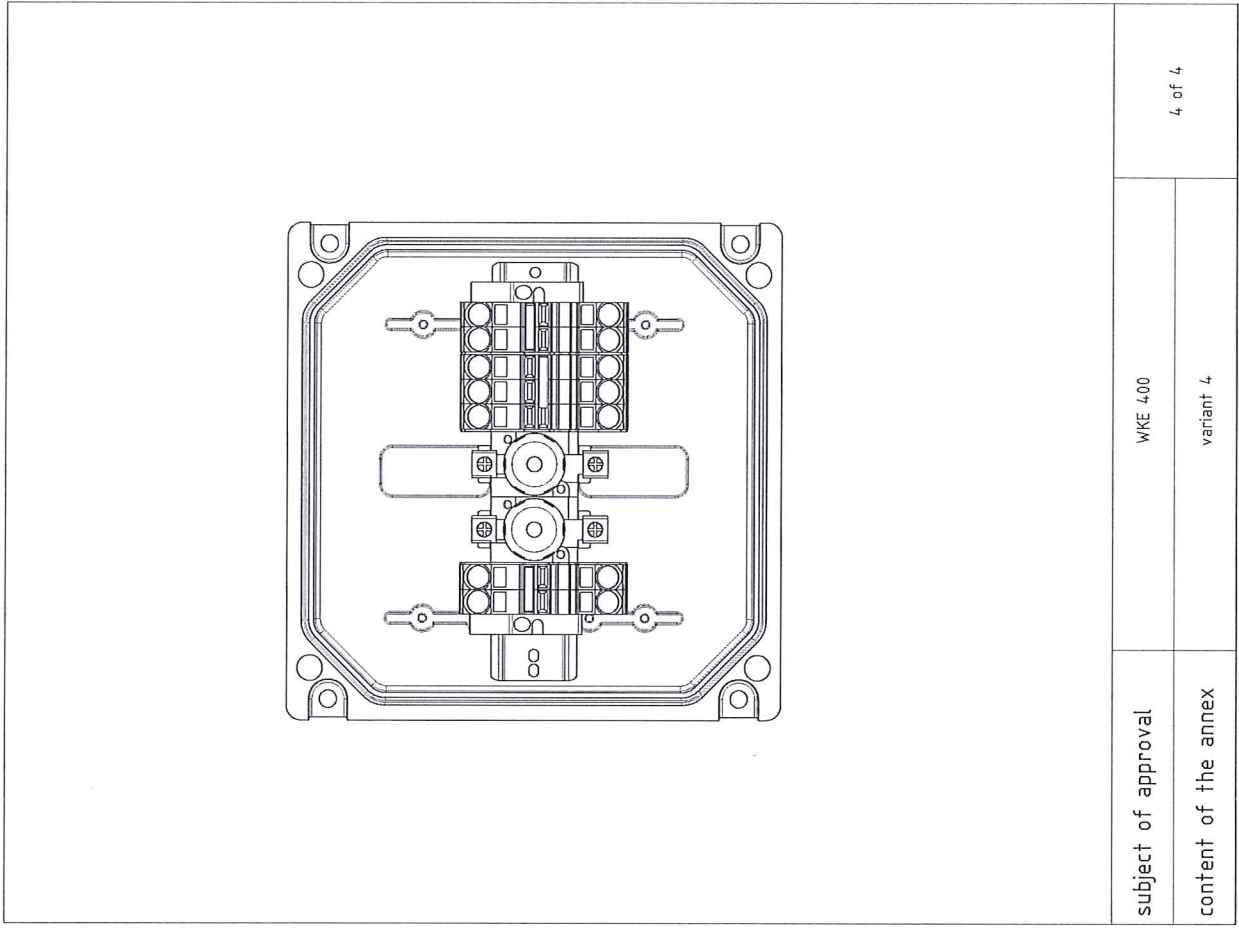
WKE 400

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pos.-no.	designation	producer	article number	material
1	box WKE 400	Erlemann + Huckenbeck	1.5600.03885	UP14-15-S-LSF
2	mounting rail	Spelsberg Lichttechnik	4014376050	St 02 Z 275 NA
3	screw	EJOT GmbH & Co.KG	3747927	Stahl, WN 5461
4	end bracket	Weidmüller GmbH & Co.	0383560000	Wemid
5	through terminal two-wire	Wago-Kontakttechnik GmbH	2010-1292	Polyamid
6	end and intermediate plate	Wago-Kontakttechnik GmbH	2010-1202	Polyamid
7	fuse base	Bals Elektrotechnik GmbH & Co.KG	9112	Stearit
8	screw cap	Bals Elektrotechnik GmbH & Co.KG	9120	Stearit
9	jumper 2-way	Wago-Kontakttechnik GmbH	2010-403	Kupfer
10	jumper 3-way	Wago-Kontakttechnik GmbH	2010-402	Kupfer
11	lid	Erlemann + Huckenbeck	1.5600.03886	UP14-15-S-LSF
12	lid screw	Hans Schriever GmbH & Co.KG	07045060-A020	1.4571

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