
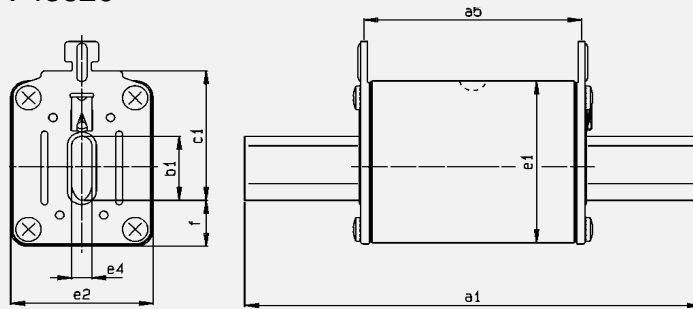


Auswahltabelle / selection guide

Typ type	Bemessungsspannung rated voltage	Größe size	Mikroschalteranbau möglich micro switch fixing provided	Abbildung figure	Artikel-Nr. part-no.	techn. Daten - Seite techn. data - page	
Sicherungen mit Messerkontakten fuses with knifecontacts DIN 43620	AC 690 V	NH 000	x	1	20 477 34	8 + 9	x
	AC 690 V	NH 00	x	1	20 209 34	8 + 9	x
	AC 690 V	NN 1	x	1	20 211 34	10 + 11	x
	AC 690 V	NH 2	x	1	20 212 34	12 + 13	x
	AC 690 V	NH 3	x	1	20 213 34	14 + 15	
Sicherungen mit Schraubkontakten fuses with screwcontacts DIN 43653	AC 690 V	000		2	20 282 34	8 + 9	
	AC 690 V	000	x	3	20 558 34	8 + 9	
	AC 690 V	00		2	20 189 34	8 + 9	
	AC 690 V	00	x	3	20 412 34	8 + 9	
	AC 690 V	1		4	20 269 34	10 + 11	
	AC 690 V	2		4	20 272 34	12 + 13	
	AC 690 V	3		4	20 275 34	14 + 15	
	AC 690 V	1	x	5	20 271 34	10 + 11	
	AC 690 V	2	x	5	20 274 34	12 + 13	
	AC 690 V	3	x	5	20 277 34	14 + 15	
	AC 690 V	1	x	6	20 270 34	10 + 11	
	AC 690 V	2	x	6	20 273 34	12 + 13	
AC 690 V	3	x	6	20 276 34	14 + 15		
Sicherungen mit zylindrischen Kontaktkappen fuses with zyl. contactcaps	AC 500 V	10 x 38		7	60 034 34	16 + 17	x
	AC 690 V	14 x 51		8	50 124 34	18 + 19	
	AC 690 V	22 x 58		9	50 140 34	20 + 21	
Sicherungsunterteile / fuse base						22 - 26	
Mikroschalter / Aux. Switch						24	
Artikel-Nr. Verzeichnis / part-no. index							

NH-Sicherungseinsätze nach DIN 43620
LV fuse links acc. DIN 43620

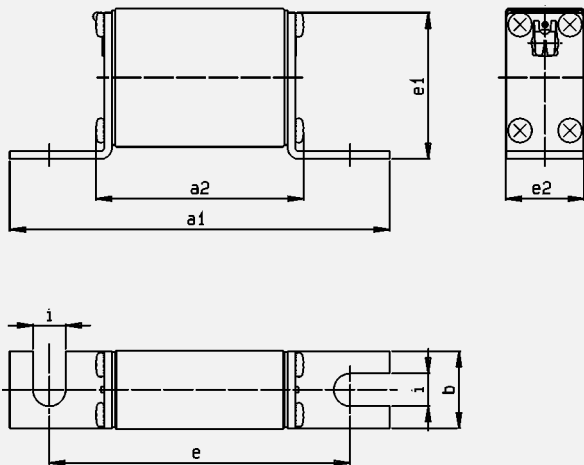
Abb. fig. ①



Größe/size		a5	a1	b1	e4	e1	e2	f	c1
00	≤ 80 A	47	78	15	6	40,5	20,5	7	35
00	≥ 100 A	47	78	15	6	46	29,5	13	35
1		65	135	20	6	51,5	42	14	40
2	≤ 250 A	65	150	20	6	51,5	42	14	48
2	≥ 315 A	65	150	26	6	59	53	14	48
3	≤ 400 A	65	150	26	6	59	53	14	60
3	≥ 450 A	65	150	32	6	73,5	65	17	60

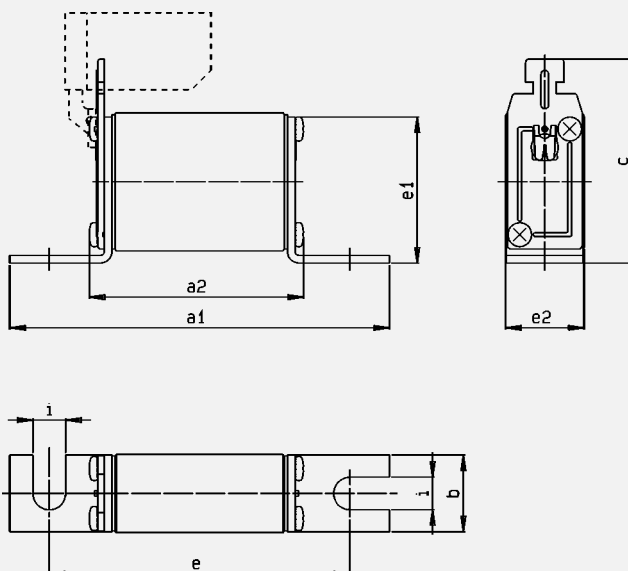
Sicherungseinsätze nach DIN 43653
fuse links acc. DIN 43653

Abb. fig. ②



Art.-Nr. part-no.	20 282 34 NH000	20 189 34 NH00
Dim.	mm	mm
a1	100	105
a2	55	56
e	80	78
e1	38	47
e2	20,4	29,5
i	8,5	10,3
b	20	28,8

Abb. fig. ③



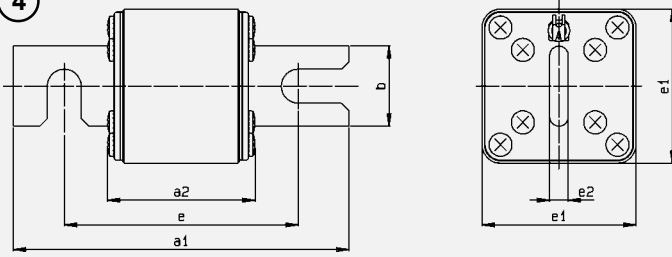
Art.-Nr. part-no.	20 558 34 NH000	20 412 34 NH00
Dim.	mm	mm
a1	100	105
a2	55	56
e	80	78
e1	38	47
e2	20,4	29,5
i	8,5	10,3
b	20	28,8
c	53	63

vorbereitet für GL-Mikroschalter
prepared for GL-micro switch

Sicherungseinsätze nach DIN 43653
fuse links acc. DIN 43653

Abb. fig.

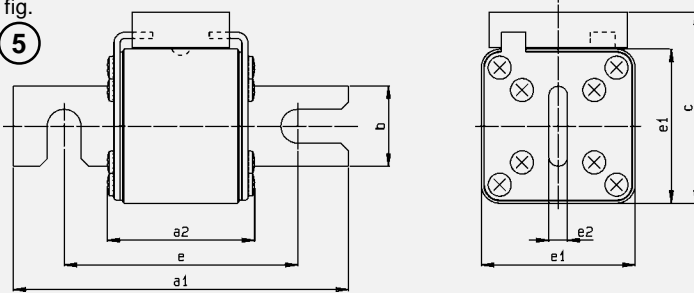
④



Art.-Nr. part-no.	20 269 34 NH1	20 272 34 NH2	20 275 34 NH3
Dim.	mm	mm	mm
a1	134	134	134
a2	47,5	47,5	49
e	106	106	106
e1	50	59	73
e2	6	6	6
i	11	11	11
b	26	26	35

Abb. fig.

⑤

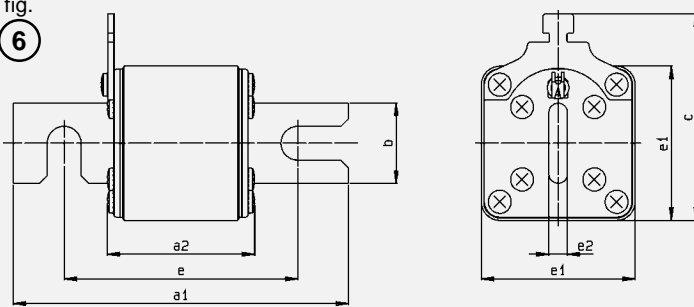


Art.-Nr. part-no.	20 271 34 NH1	20 274 34 NH2	20 277 34 NH3
Dim.	mm	mm	mm
a1	134	134	134
a2	47,5	47,5	49
e	106	106	106
e1	50	59	73
e2	6	6	6
i	11	11	11
b	26	26	35
c	62	71	85

vorbereitet für M-Mikroschalter / prepared for M-micro switch

Abb. fig.

⑥



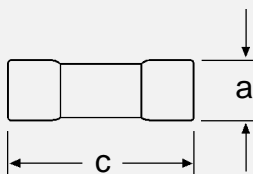
Art.-Nr. part-no.	20 270 34 NH1	20 273 34 NH2	20 276 34 NH3
Dim.	mm	mm	mm
a1	134	134	134
a2	47,5	47,5	49
e	106	106	106
e1	50	59	73
e2	6	6	6
i	11	11	11
b	26	26	35
c	67	75,5	87,5

vorbereitet für GL-Mikroschalter / prepared for GL-micro switch

Sicherungen mit zylindrischen Kontaktkappen
fuses with zyl. contactcaps

Abb. fig.

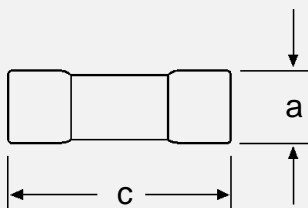
⑦



Art.-Nr. part-no.	60 034 34
Dim.	mm
a	10
c	38

Abb. fig.

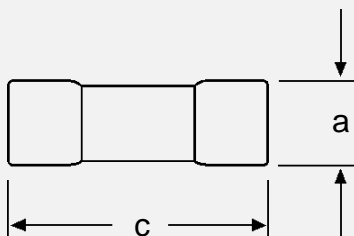
⑧



Art.-Nr. part-no.	50 124 34
Dim.	mm
a	14
c	51

Abb. fig.

⑨



Art.-Nr. part-no.	50 140 34
Dim.	mm
a	22
c	58

NH-Fuse links for semiconductor and line protection

With regards to fault current protection in switchgear and control gear, especially of electric components and their connecting cables, new concepts are required which, on one hand, reduce the space required, and on the other hand lower the total installation cost, but still provide suitable protection.

Fuse links of service class gRL fulfill these requirements by combining semiconductor protection with line protection in one fuse housing.

Some features of the new fuse link are described below:

- **optimum protection in the overload range, so that the maximum line load can be protected (I_2 of the line $\leq 1,45$ times fuse rated current). See Table 1.**
- **superfast in the short circuit range to protect electronic components.**
- **drastically reduced space requirements because line and short-circuit protection are now integrated in one common housing.**
- **simpler rated current definition because fuse rated current is directly related to the rated current of the equipment.**
- **due to low power loss and low temperature rise, the use in fuse switches and vertical fuse switches is possible (though in high ambient temperatures or very compact installations derating may still have to be considered).**
- **resistance to ageing under cyclic loading due to special element design.**
- **extremely low let-through currents which is important for sensitive components.**

There are many possible applications when the fuse must provide the optimum service in protecting electronic equipment, the connecting cables and switching elements, from high fault currents. In this case the new SIBA gRL fuse provides a reliable concept in protection.

Below are some examples:

- the new fuse links are connected in front of a semiconductor relay, but at the same time, the new fuse also protects the cable between the relay and the consumer.
- protection in the outgoing circuit of free programmable controllers.
- use in dc circuits with long interconnecting cables to the converter (giving emergency and line protection).
- provision as main fuse link for variable speed drive control gear.

The new SIBA class gRL fuse link complies with the electrical and mechanical requirements of IEC 60269-1. In respect of their electrical function in the overload range, they comply with the IEC 60269-2/1 specification, but they also provide all the features of semiconductor protection fuse links according to IEC 60269-4. The dimensions of the NH type fuse links comply with DIN 436320 Part 1.

Table 1: Coordination of gRL fuse links and the line to be protected.
(according to DIN VDE 100 Part 430)

copper cross section sq. mm	Fuse rated current/A	
	encapsulated Installation (Group B2)	encapsulated Installation (Group C)
	load on 3 wires	
1,5	10	16
2,5	20	25
4	25	35
6	35	40
10	50	63
16	63	80
25	80	100
35	100	125
50	125	160
70	160	200

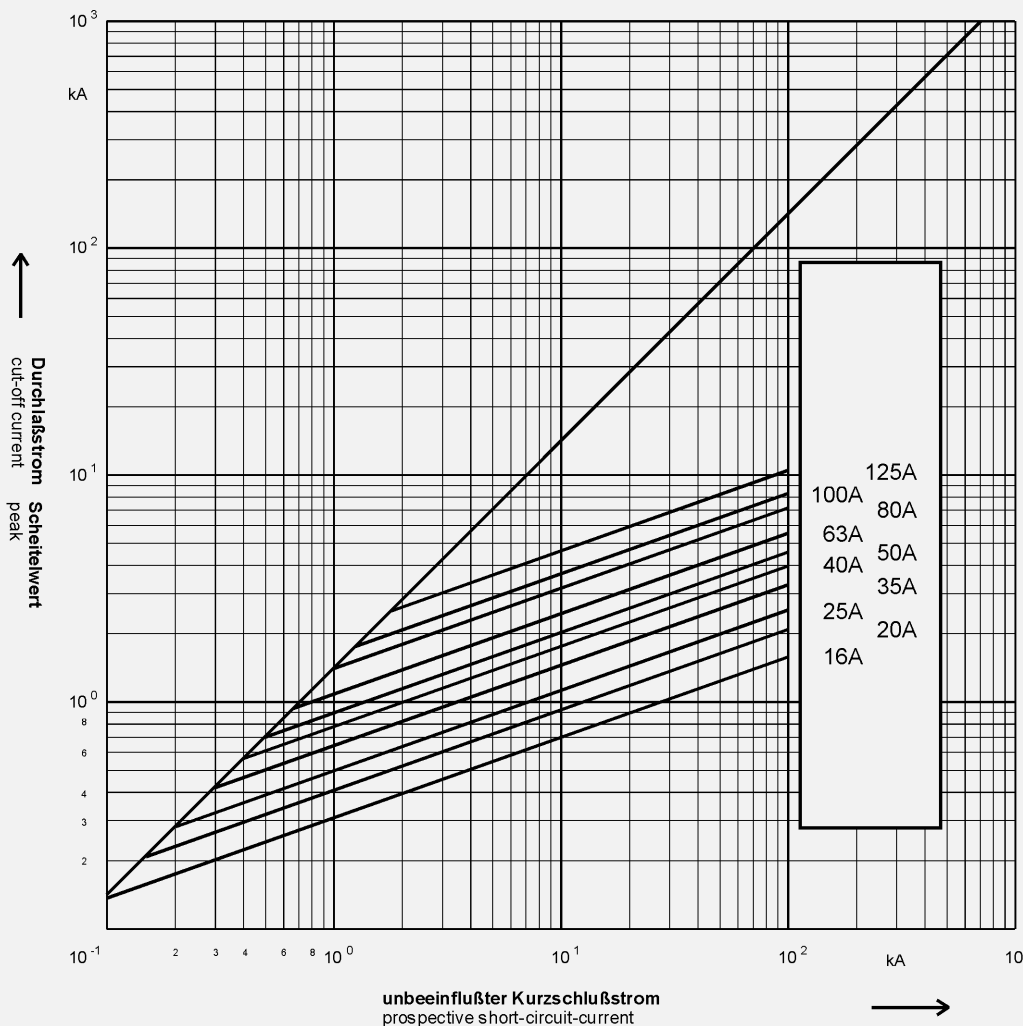
000 / 00
AC 690 V

	Art. Nr. part No.	Bemessungs- strom rated current A	Leistungs- abgabe power loss W	Schmelz- I ² t-Wert pre-arcing I ² t-value A ² s	Ausschalt- I ² t-Wert total I ² t-value A ² s bei / at 690 V
Größe size 000 / 00		16	3,2	18	180
		20	3,6	41	410
	20 282 34	25	4,2	74	740
Nennspannung rated voltage AC 690 V	20 477 34	35	5,2	170	1.700
	20 558 34	40	5,6	300	3.000
		50	6,5	460	4.600
Betriebsklasse operating class gRL		63	7,6	840	8.400
		80	8,8	1.800	18.000
	20 189 34	100	10,5	3.000	30.000
Bemessungsausschaltvermögen rated breaking capacity 100 kA	20 209 34	125	12,0	6.000	60.000
	20 412 34				

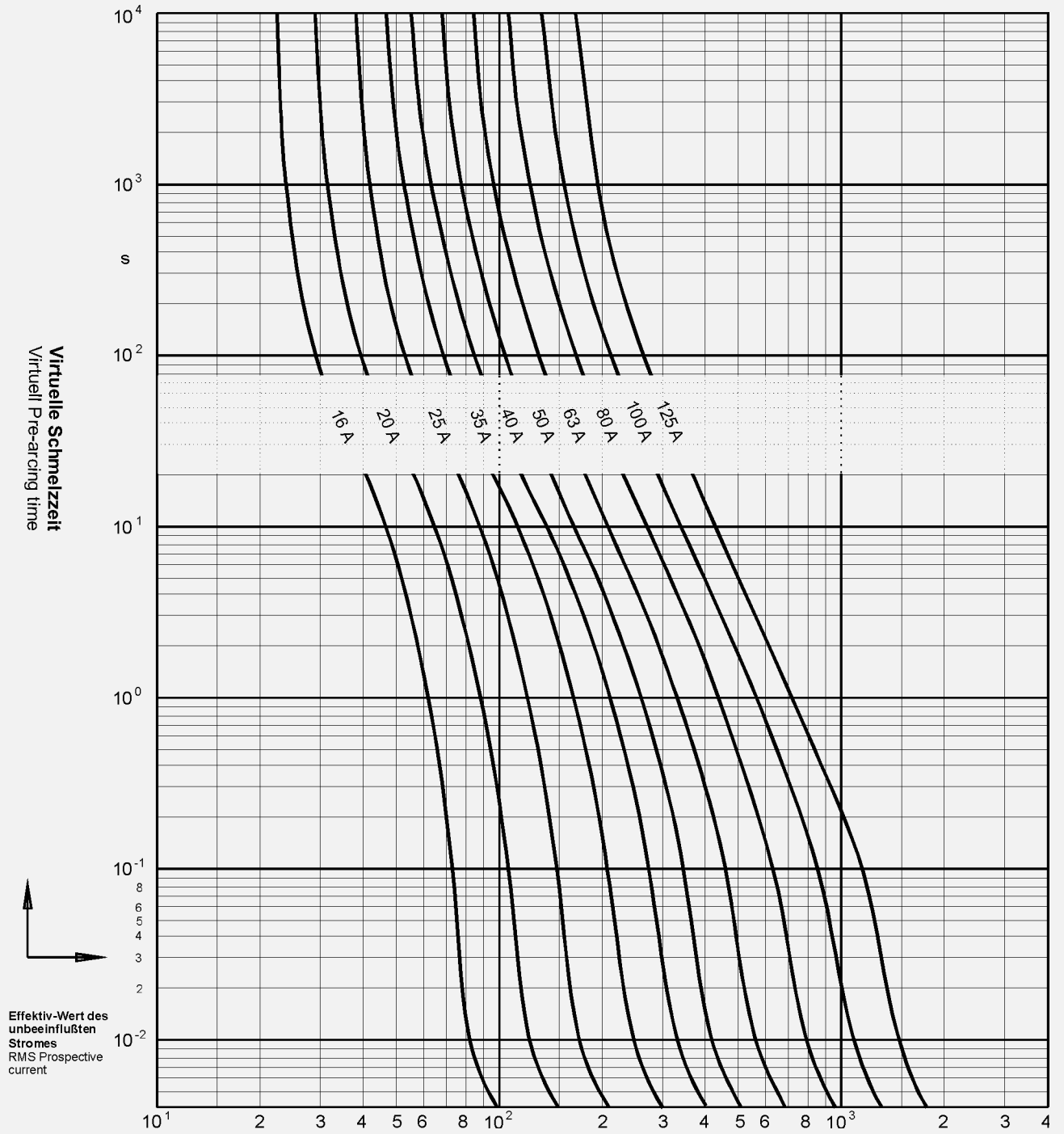
Koeffizienten für erschwerte Verwendung
Coefficients for heavy duty application

a	A2	B1	B2	Cf3	N
130	1	1,3	0,6	0,8	1,5

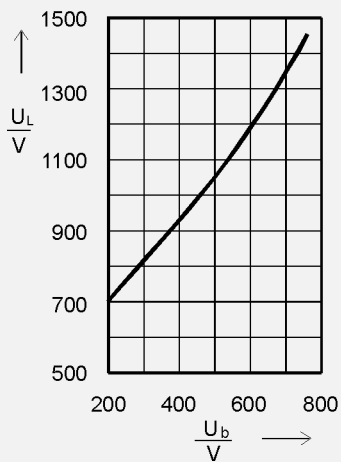
Strombegrenzungs-Diagramm
cut-off Characteristic



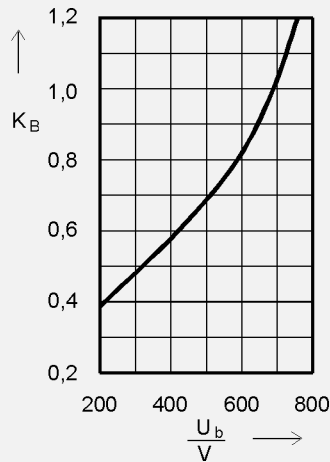
Zeit/Strom-Kennlinien
Time/current characteristics



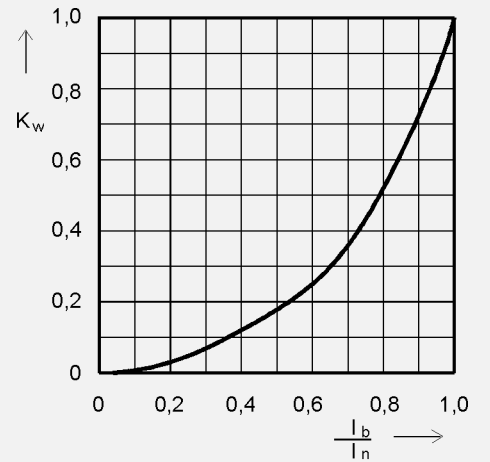
Schaltspannungs-Diagramm
Arc voltage-diagramm



Umrechnungskoeffizient für Ausschalt-I²t-Wert
exchange factor for total I²t-value



Umrechnungskoeffizient der Leistungsabgabe
exchange factor for power loss



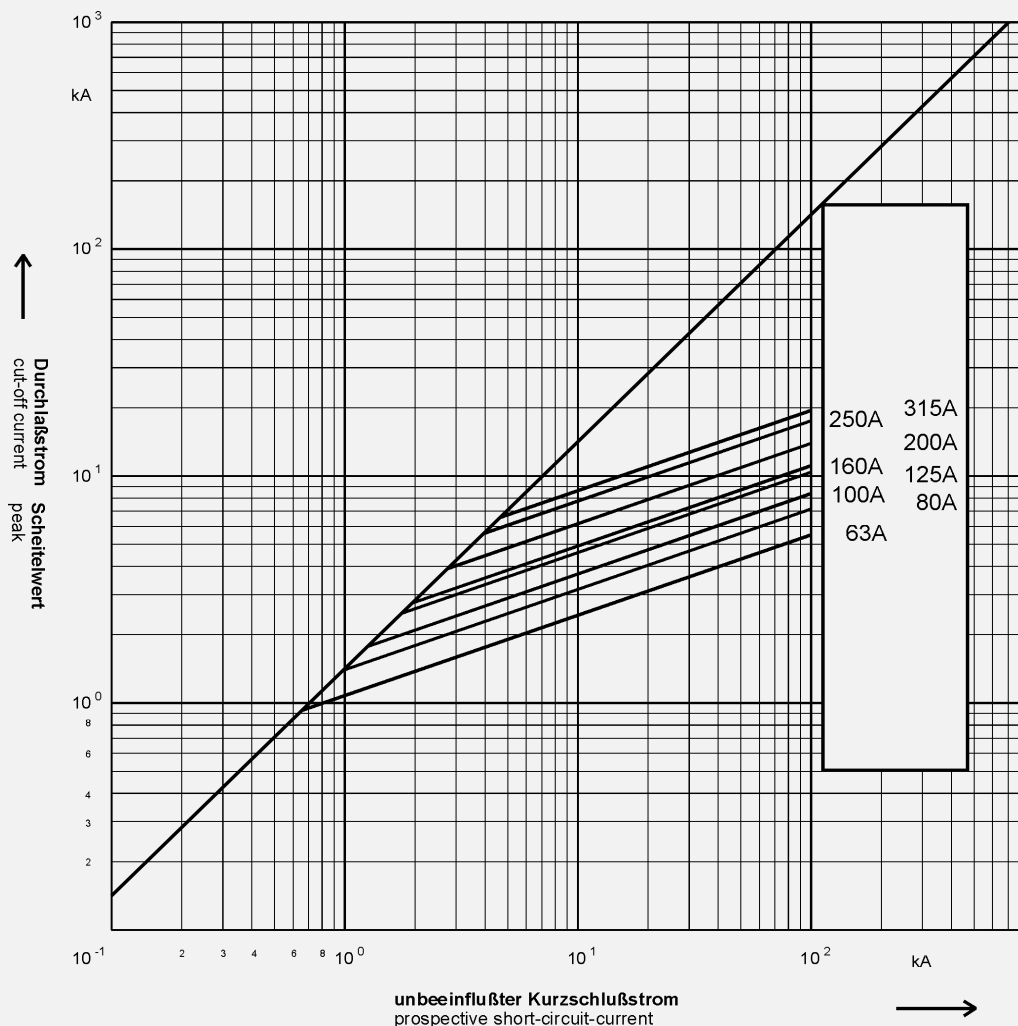
1
AC 690 V

	Art. Nr. part No.	Bemessungs- strom rated current A	Leistungs- abgabe power loss W	Schmelz- I ² t-Wert pre-arcing I ² t-value A ² s	Ausschalt- I ² t-Wert total I ² t-value A ² s bei / at 690 V
Größe size 1		63	8	840	5.300
Nennspannung rated voltage AC 690 V	20 211 34	80	9,5	1.800	11.300
	20 269 34	100	12	3.000	19.000
Betriebsklasse operating class gRL	20 270 34	125	12,6	6.000	38.000
	20 271 34	160	23	7.400	47.000
		200	27	15.000	95.000
		250	33	30.000	190.000
Bemessungsausschaltvermögen rated breaking capacity 100 kA		315	44	43.000	271.000

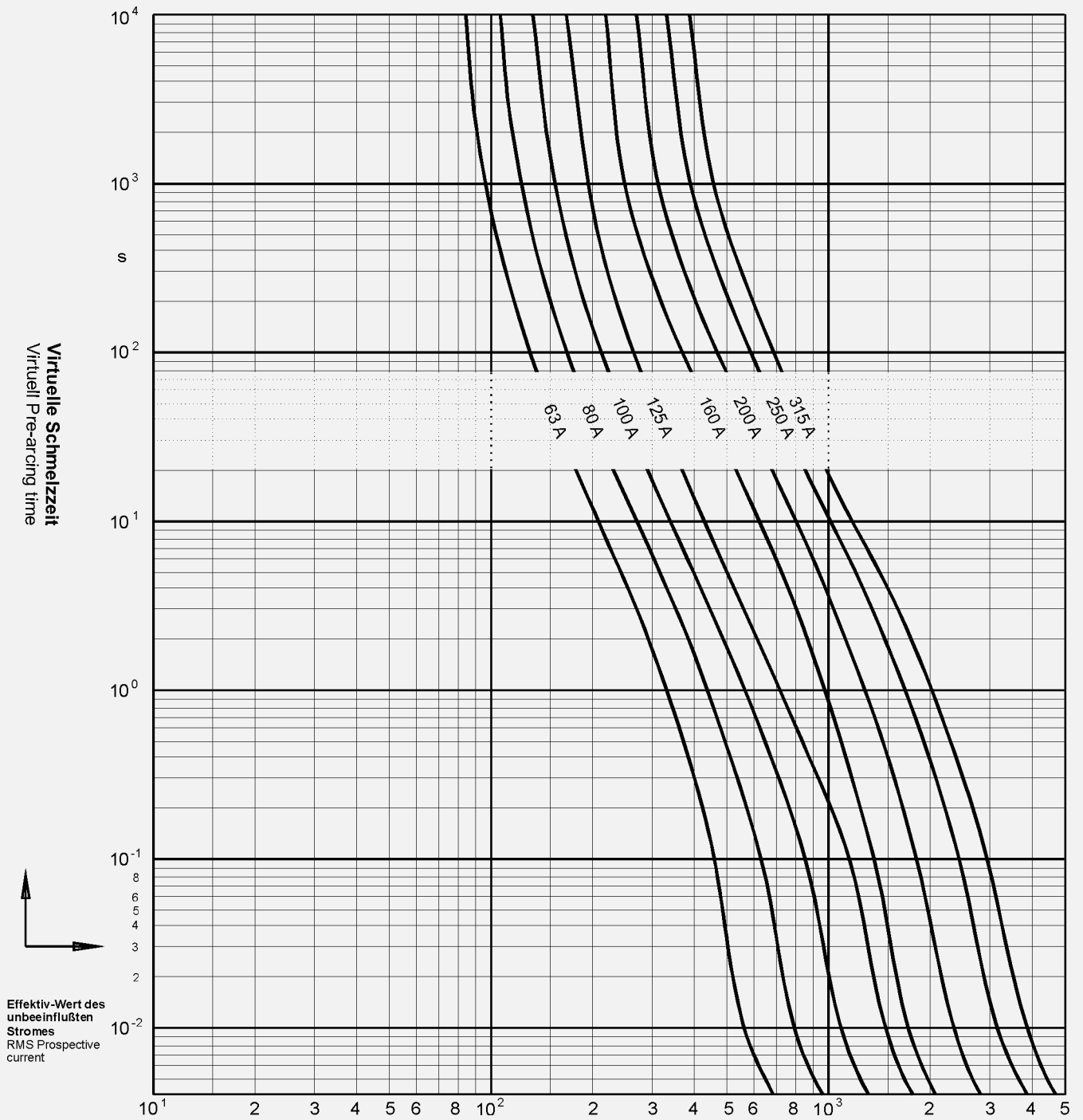
Koeffizienten für erschwerte Verwendung
Coefficients for heavy duty application

a	A2	B1	B2	Cf3	N
130	1	1,3	0,6	0,8	1,5

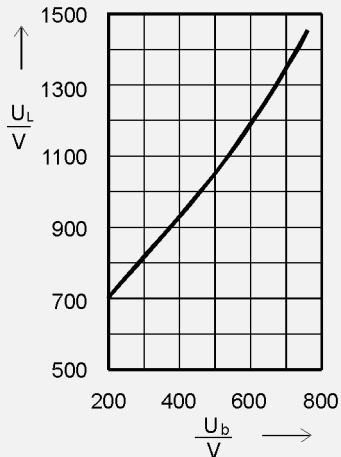
Strombegrenzungs-Diagramm
cut-off Characteristic



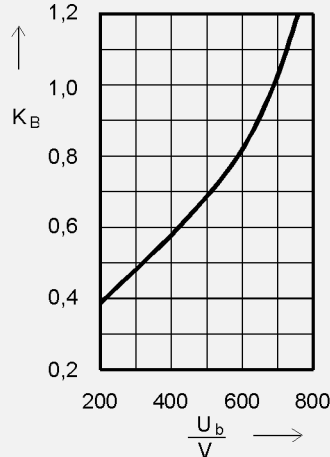
Zeit/Strom-Kennlinien
Time/current characteristics



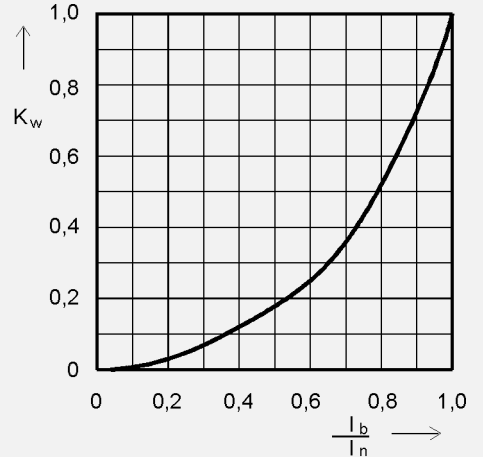
Schaltspannungs-Diagramm
Arc voltage-diagramm



Umrechnungskoeffizient für Ausschalt-I²t-Wert
exchange factor for total-I²t-value



Umrechnungskoeffizient der Leistungsabgabe
exchange factor for power loss

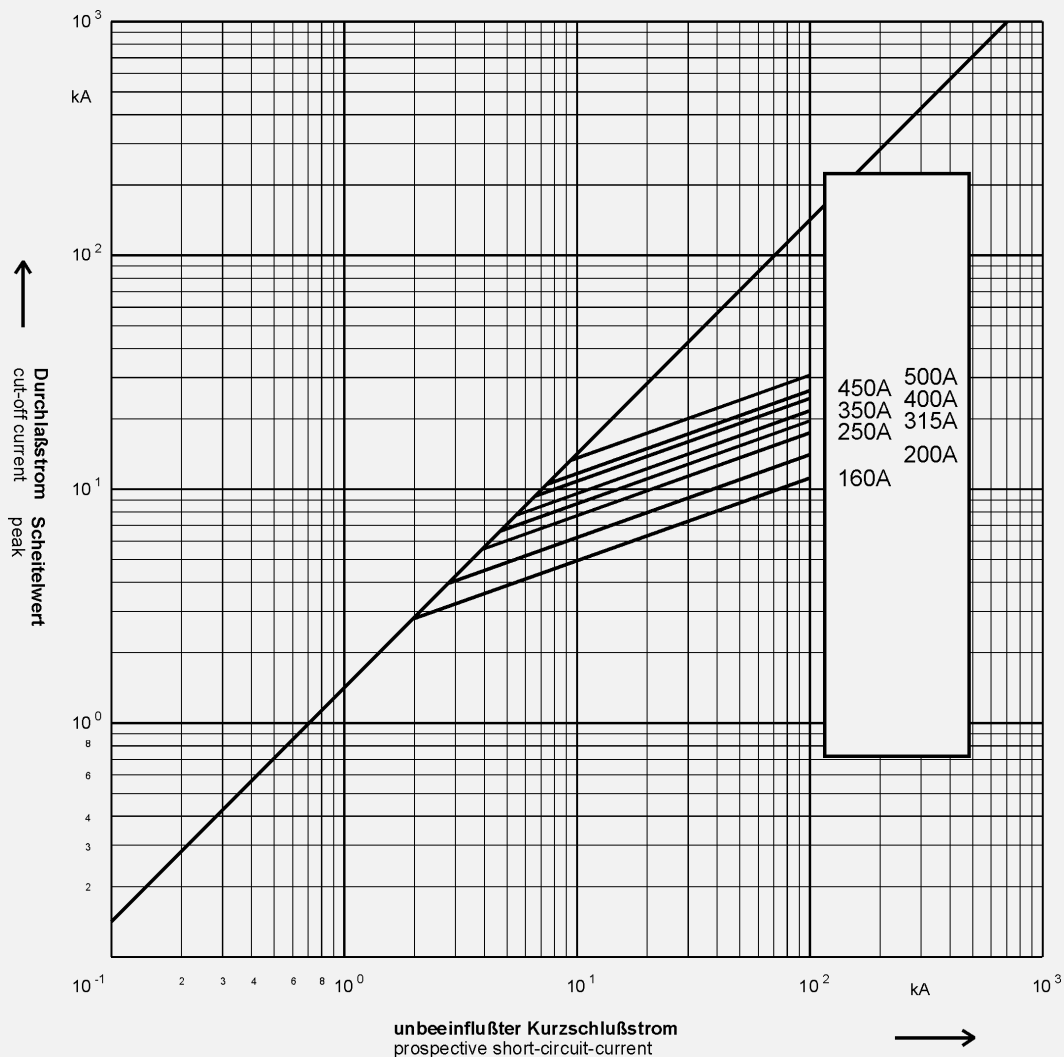


2 AC 690 V	Art. Nr.	Bemessungs-	Leistungs-	Schmelz-	Ausschalt-
	part No.	strom	abgabe	I ² t-Wert	I ² t-Wert
		rated current	power loss	pre-arcing I ² t-value	total I ² t-value
		A	W	A ² s	A ² s
					bei / at 690 V
Größe size 2		160	23	7.400	47.000
Nennspannung rated voltage AC 690 V		200	27	15.000	95.000
	20 212 34	250	30	30.000	190.000
	20 272 34	315	40	43.000	271.000
Betriebsklasse operating class gRL	20 273 34	350	43	58.000	310.000
	20 274 34	400	48	85.000	442.000
		450	50	107.000	560.000
Bemessungsausschaltvermögen rated breaking capacity 100 kA		500	63	170.000	880.000

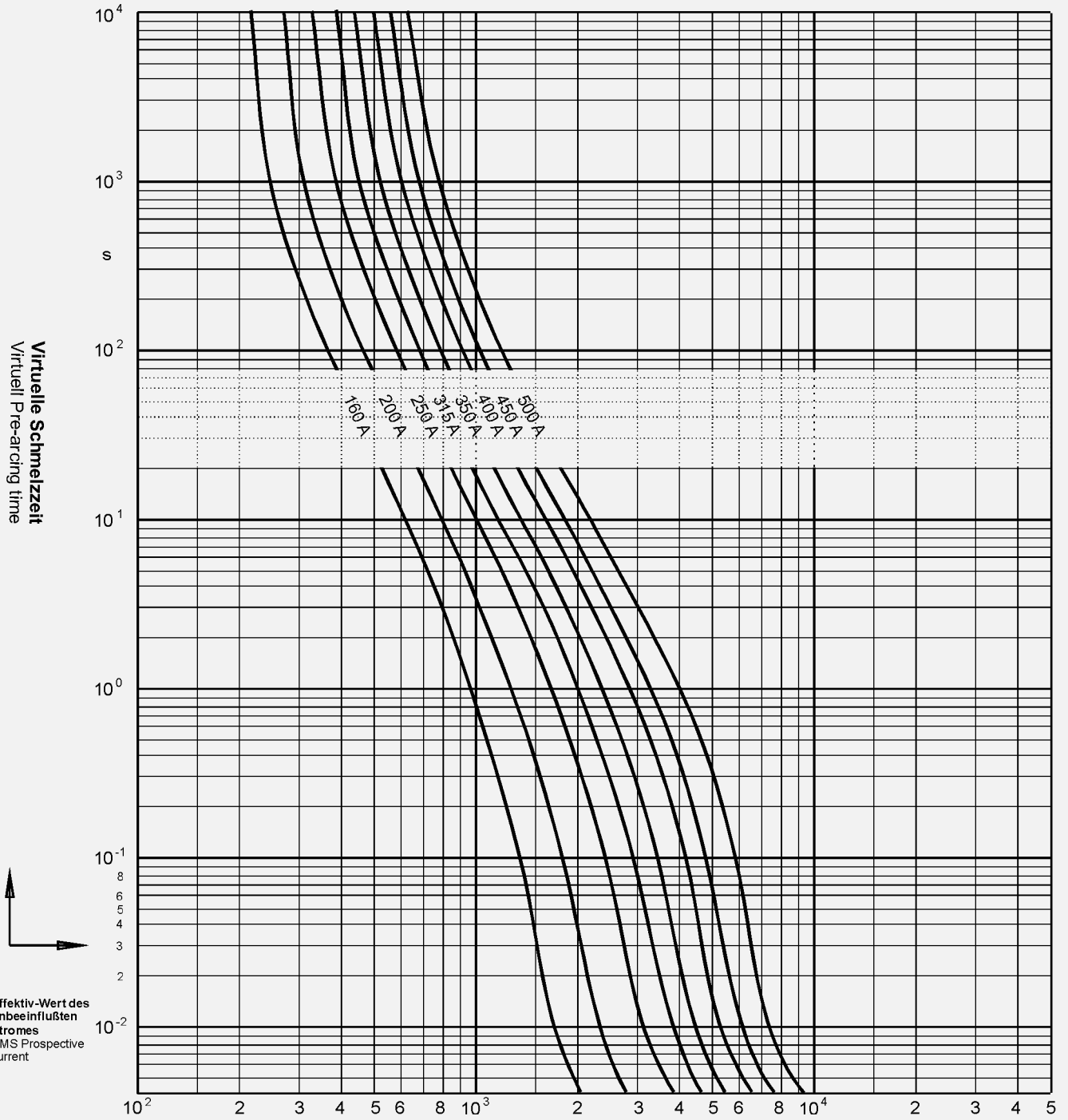
Koeffizienten für erschwerte Verwendung
Coefficients for heavy duty application

a	A2	B1	B2	Cf3	N
130	1	1,3	0,6	0,8	1,5

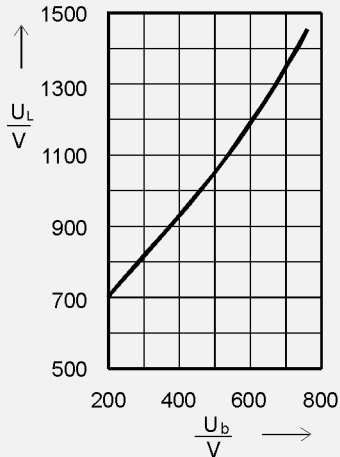
Strombegrenzungs-Diagramm
cut-off Characteristic



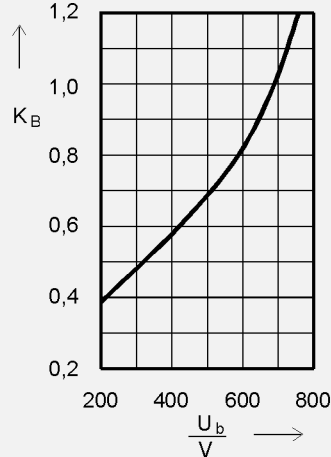
Zeit/Strom-Kennlinien
Time/current characteristics



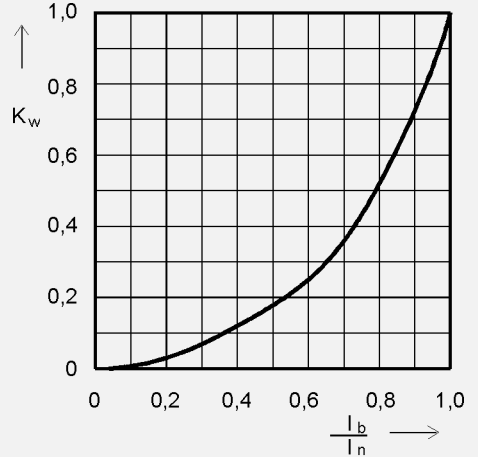
Schaltspannungs-Diagramm
Arc voltage-diagramm



Umrechnungskoeffizient für Ausschalt-I²t-Wert
exchange factor for total-I²t-value



Umrechnungskoeffizient der Leistungsabgabe
exchange factor for power loss



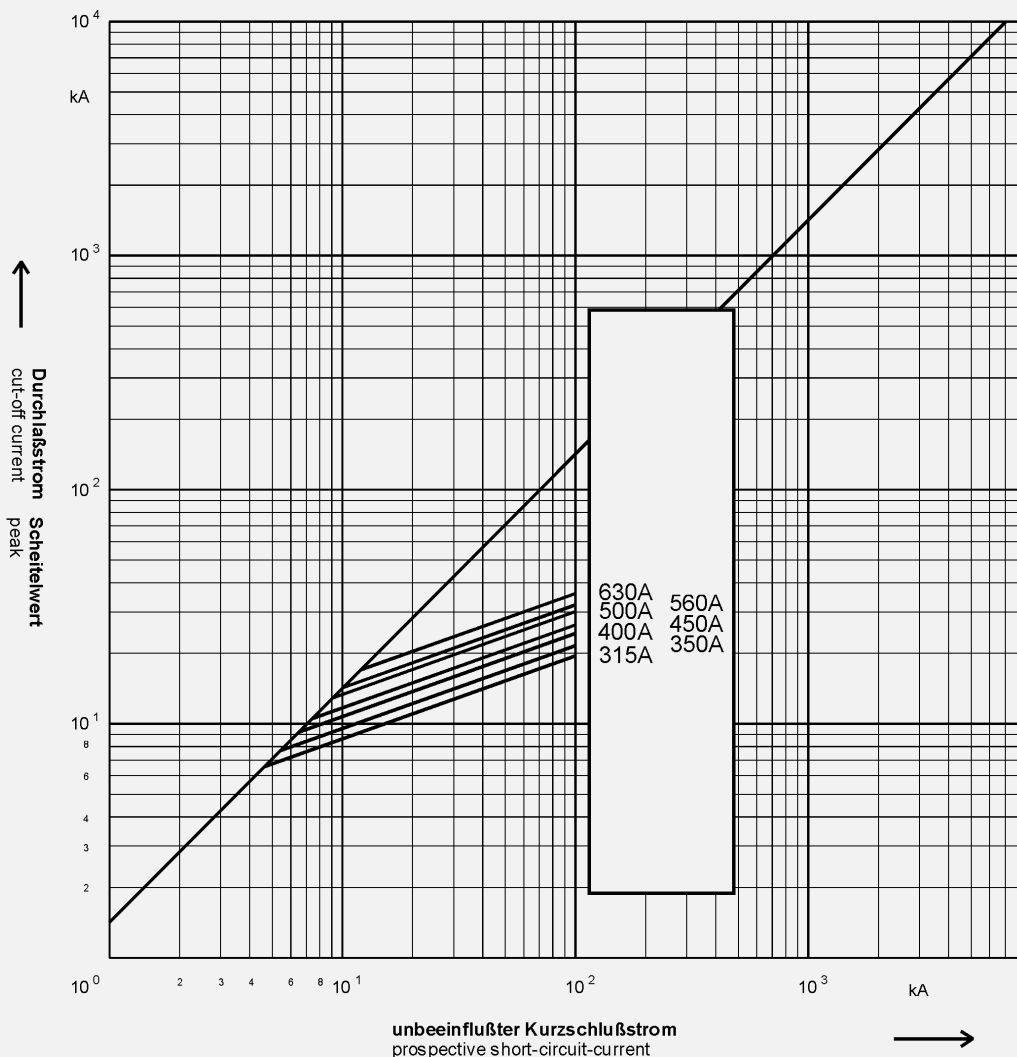
3
AC 690 V

	Art. Nr. part No.	Bemessungs- strom rated current A	Leistungs- abgabe power loss W	Schmelz- I ² t-Wert pre-arcing I ² t-value A ² s	Ausschalt- I ² t-Wert total I ² t-value A ² s bei / at 690 V
Größe size 3					
Nennspannung rated voltage AC 690 V	20 213 34	315	38	43.000	271.000
		350	42	58.000	310.000
	20 275 34	400	46	85.000	442.000
Betriebsklasse operating class gRL	20 276 34	450	48	107.000	560.000
	20 277 34	500	55	170.000	880.000
		560	58	190.000	1.370.000
		630	64	280.000	2.100.000
Bemessungsausschaltvermögen rated breaking capacity 100 kA		710		auf Anfrage	
		800		on request	

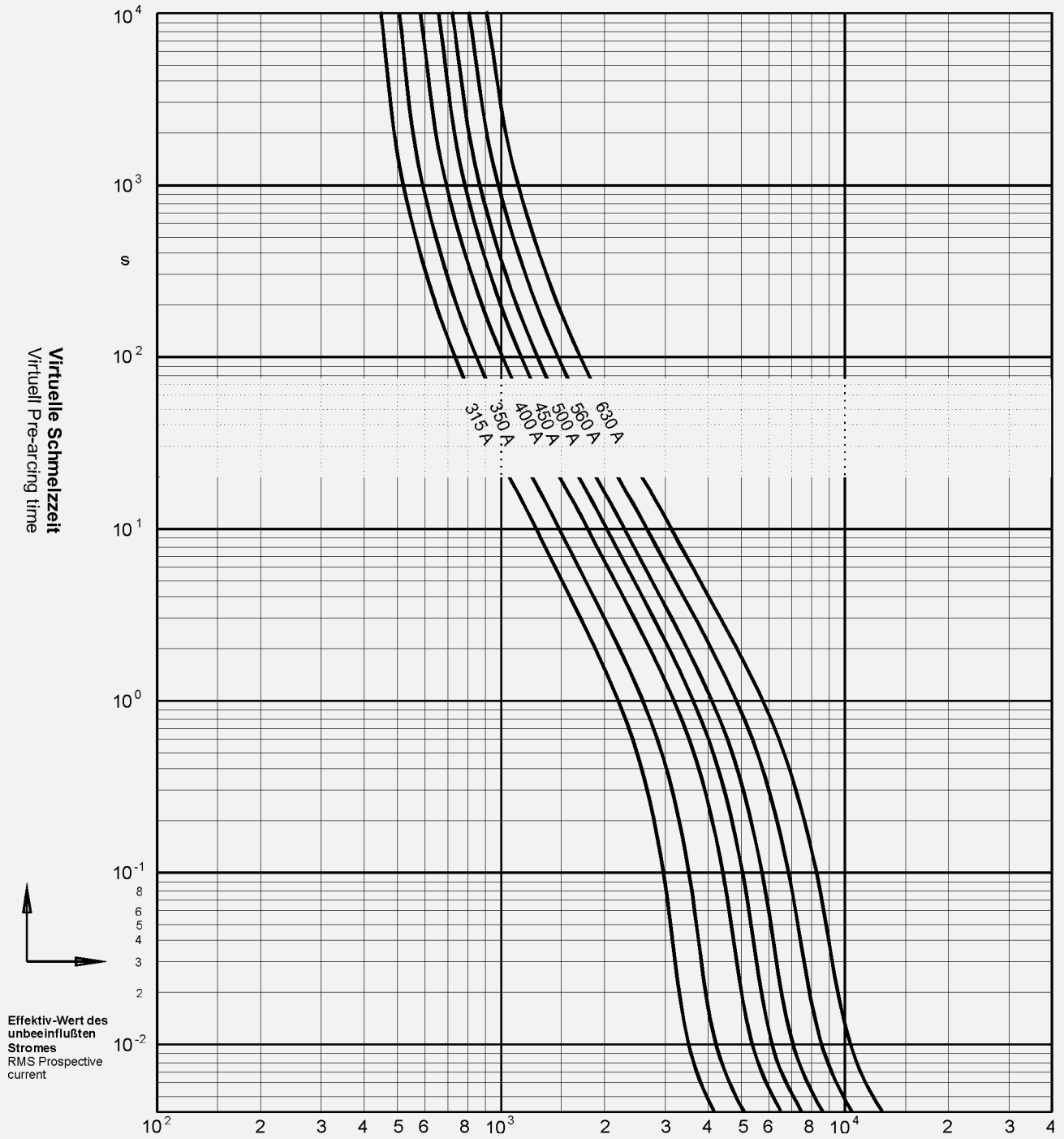
Koeffizienten für erschwerte Verwendung
Coefficients for heavy duty application

a	A2	B1	B2	Cf3	N
130	1	1,3	0,6	0,8	1,5

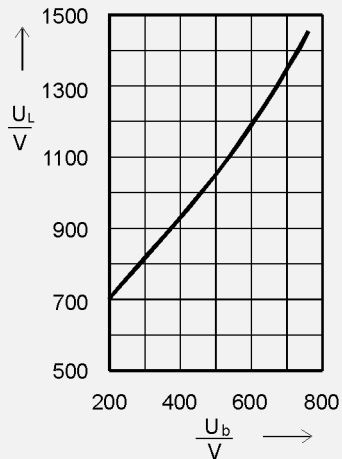
Strombegrenzungs-Diagramm
cut-off Characteristic



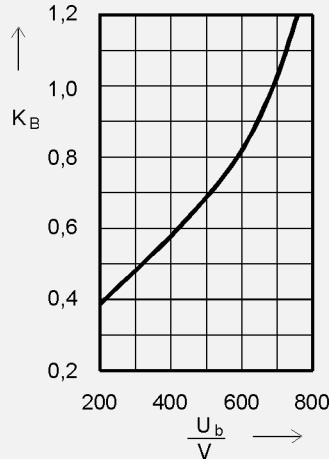
Zeit/Strom-Kennlinien
Time/current characteristics



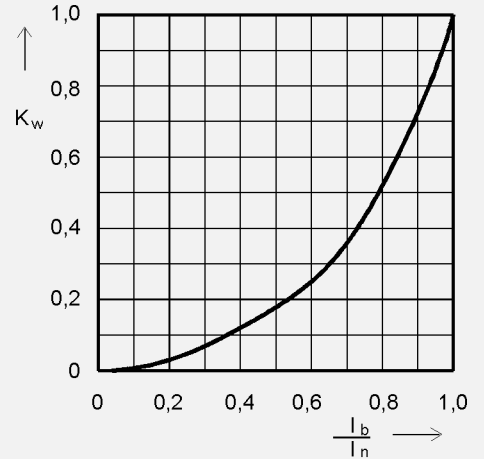
Schaltspannungs-Diagramm
Arc voltage-diagramm





Umrechnungskoeffizient für Ausschalt- I^2t -Wert
exchange factor for total I^2t -value



Umrechnungskoeffizient der Leistungsabgabe
exchange factor for power loss

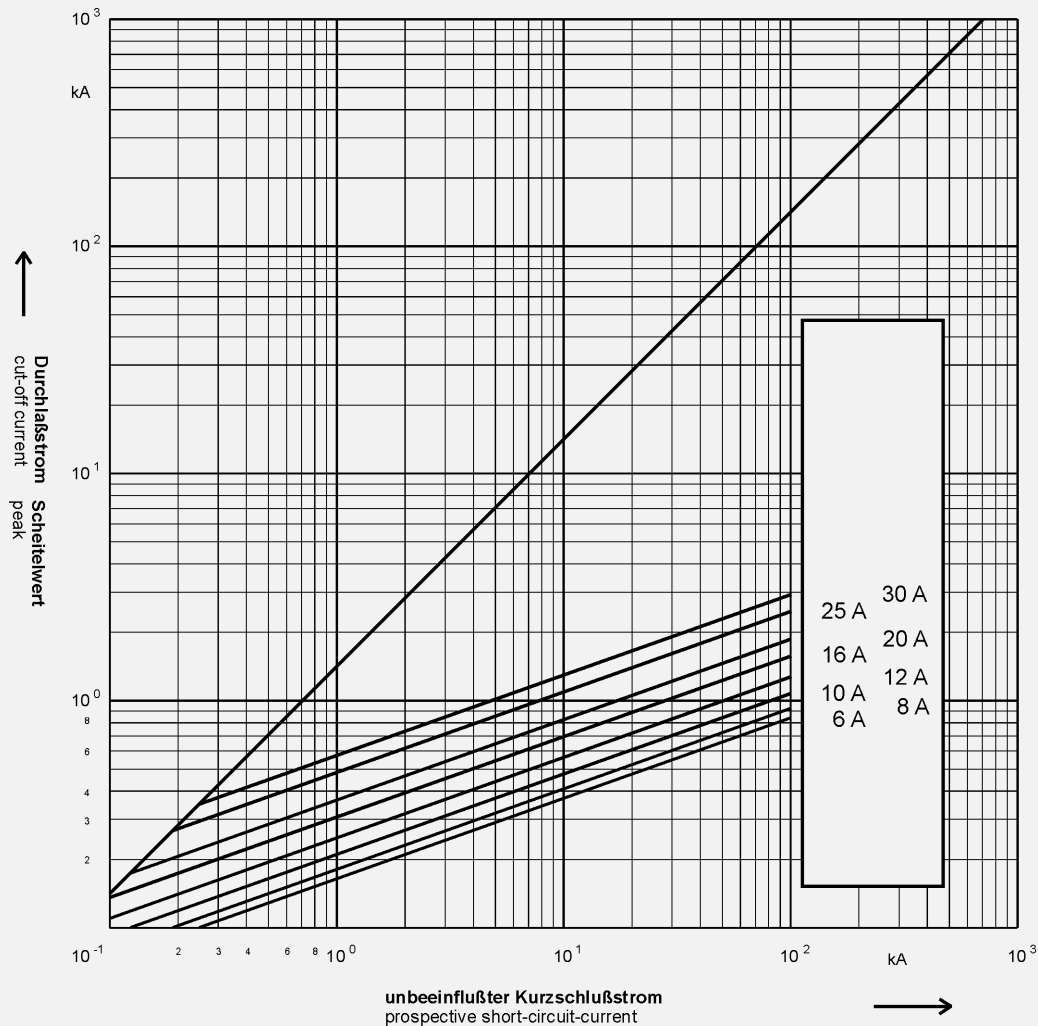


10 x 38 	Art. Nr. part No.	Bemessungs- strom rated current	Leistungs- abgabe power loss	Schmelz- I ² t-Wert pre-arcing I ² t-value	Ausschalt- I ² t-Wert total I ² t-value	Approbationen Approvals
		A	W	A ² s	A ² s bei / at 500 V	
Größe size 10 x 38	60 034 34	6	1,0	2,5	20	▪
Bemessungsspannung rated voltage AC 500 V		8	1,3	3,3	36	▪
Betriebsklasse operating class gRL		10	1,6	5,1	41	▪
Bemessungsausschaltvermögen rated breaking capacity 100 kA		12	1,9	8,7	69	▪
		16	2,4	17	130	▪
		20	3,5	29	240	▪
		25	3,8	66	530	▪
		30	4,3	120	950	▪

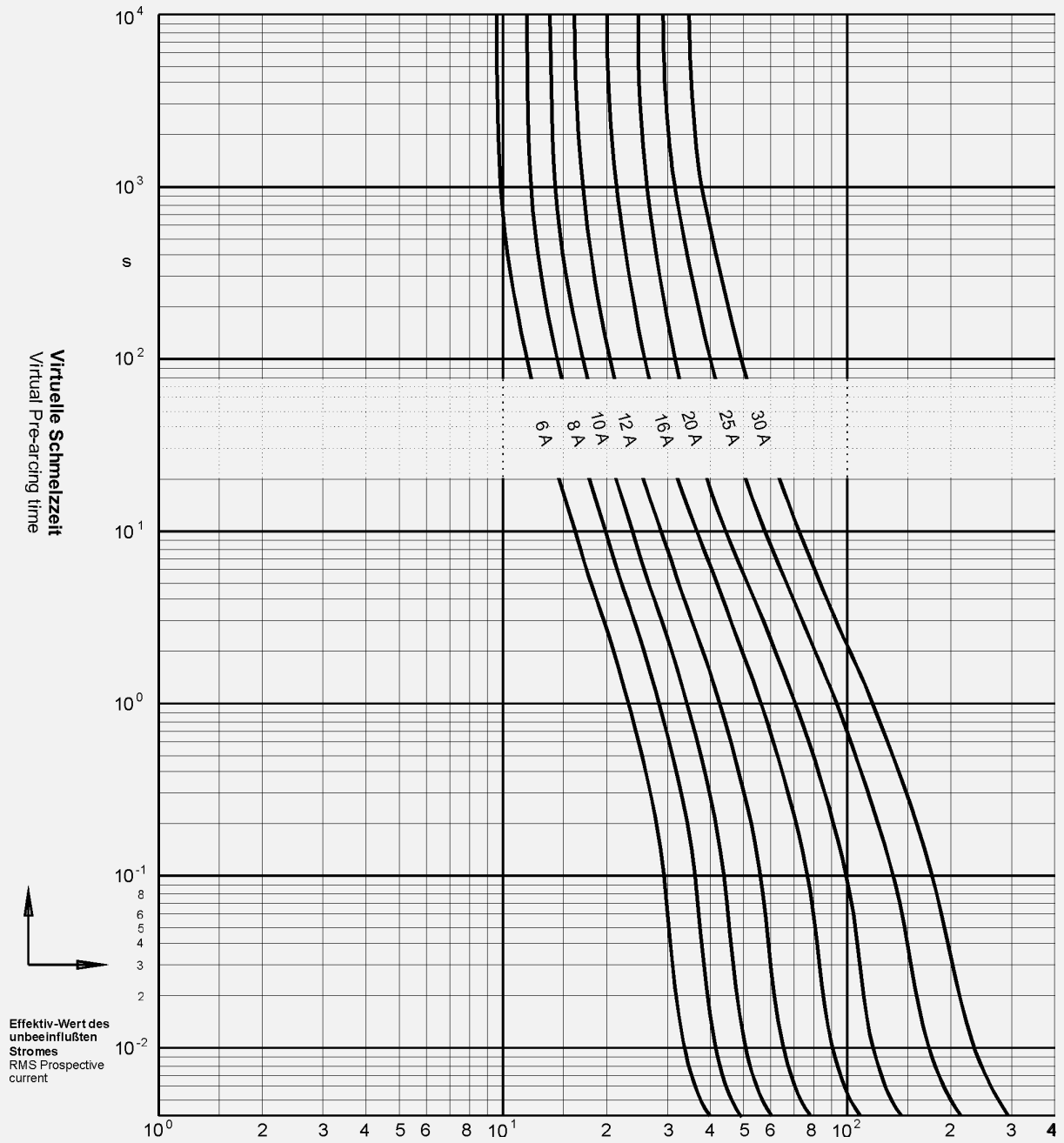
Koeffizienten für erschwerte Verwendung
Coefficients for heavy duty application

a	A2	B1	B2	Cf3	N
130	1	1,25	0,6	0,8	1,5

Strombegrenzungs-Diagramm
cut-off Characteristic

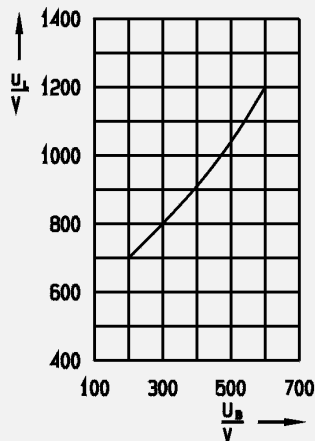


Zeit/Strom-Kennlinien
Time/current characteristics

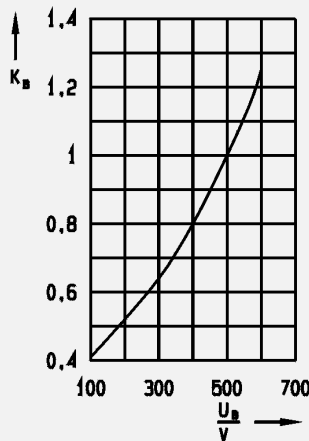


Effektiv-Wert des unbeeinflussten Stromes
RMS Prospective current

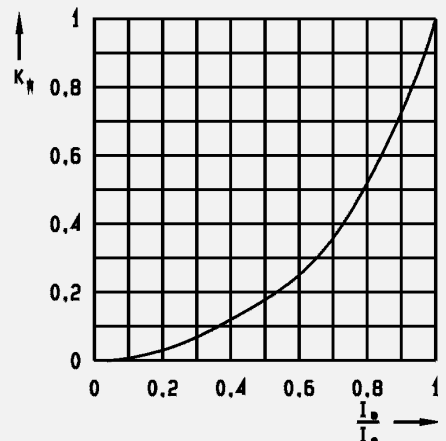
Schaltspannungs-Diagramm
Arc voltage-diagramm



Umrechnungsfaktor für Ausschalt- I^2t -Wert
reduction factor for total- I^2t -value



Umrechnungsfaktor der Leistungsabgabe
reduction factor for power loss



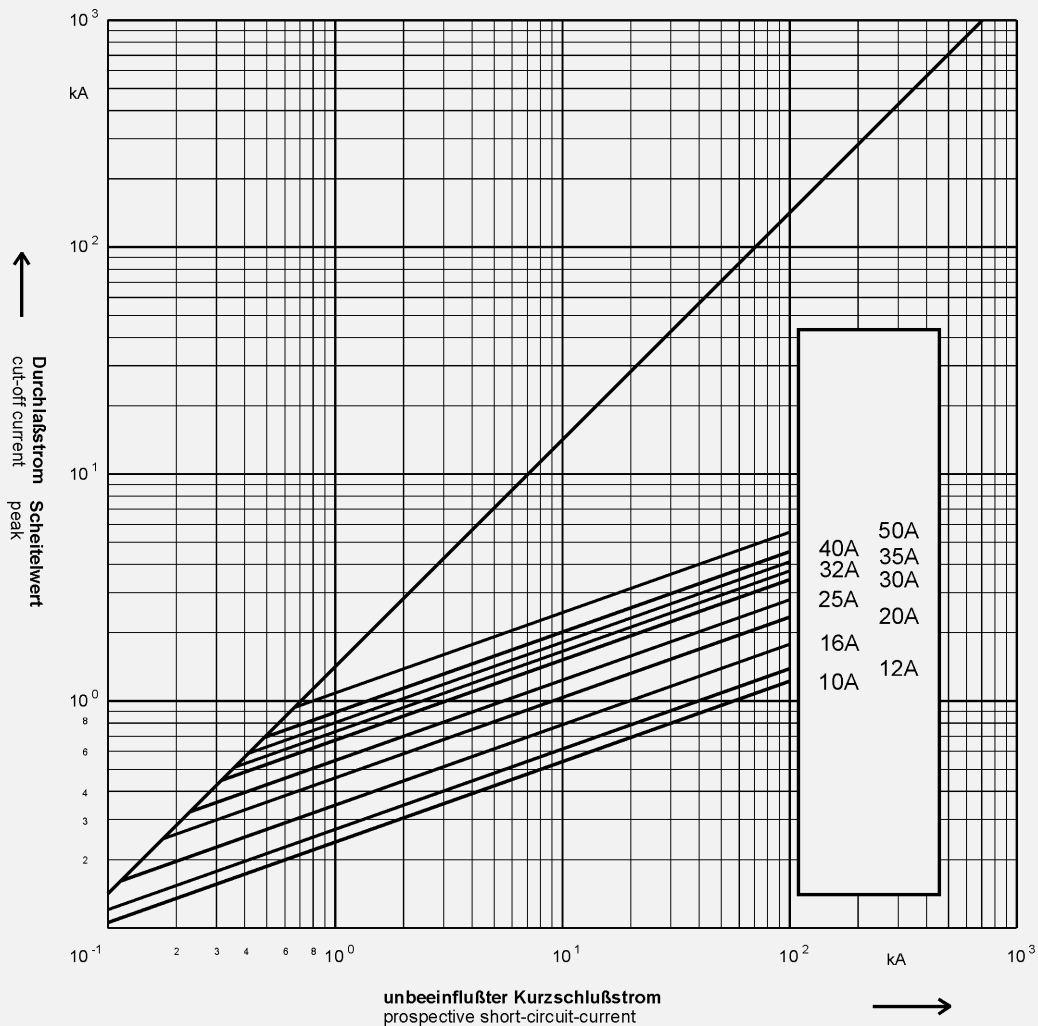
14 x 51

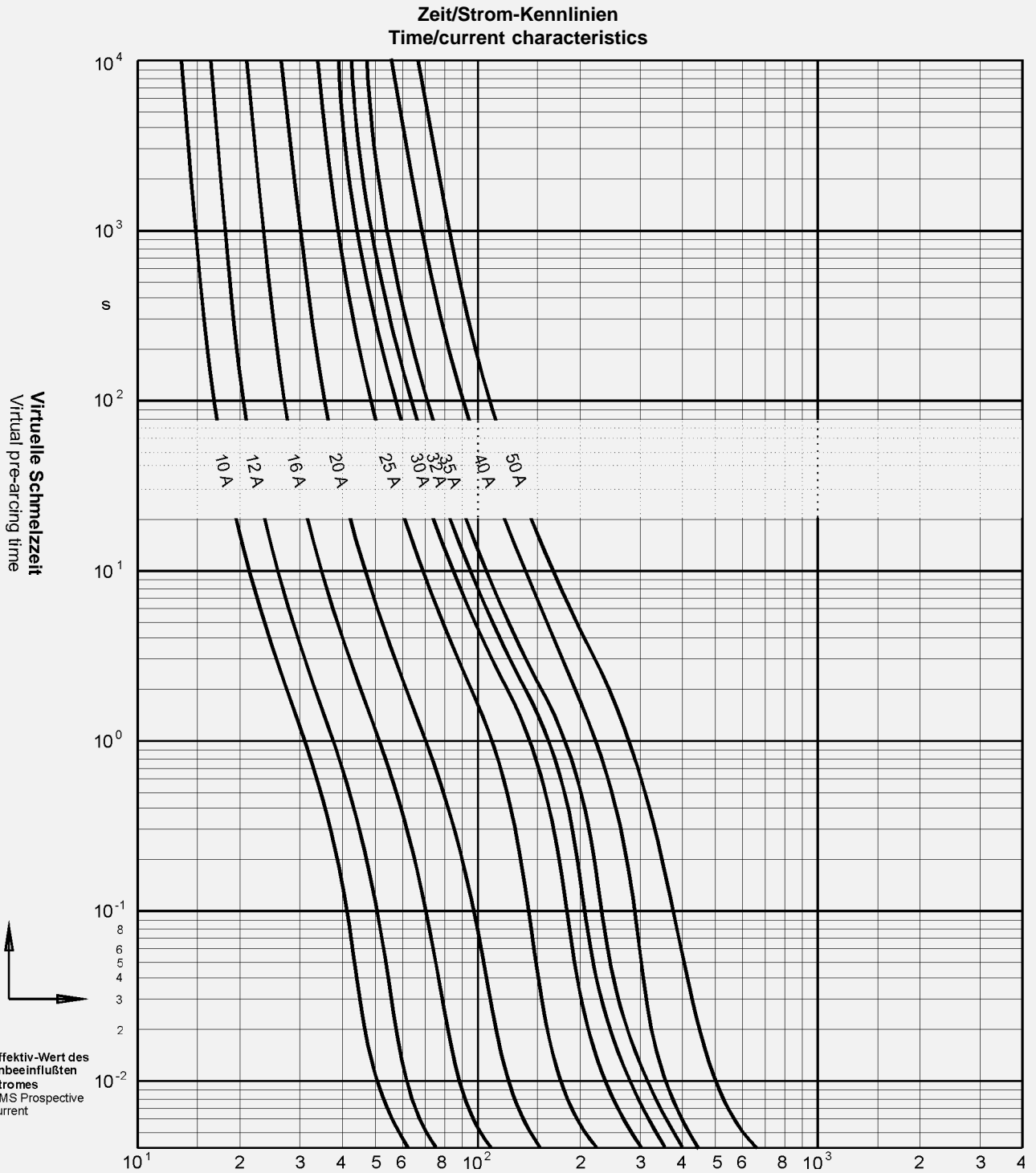
	Art. Nr.	Bemessungsstrom	Leistungsabgabe	Schmelz-I ² t-Wert	Ausschalt-I ² t-Wert
	part No.	rated current	power loss	pre-arcing I ² t-value	total I ² t-value
		A	W	A ² s	A ² s bei / at 690 V
Größe size 14 x 51 mm	50 124 34	10	1,9	8	60
Nennspannung rated voltage AC 690 V		12	2,3	12	90
Betriebsklasse operating class gRL		16	2,8	25	190
Bemessungsausschaltvermögen rated breaking capacity 100 kA		20	3,0	46	340
		25	3,2	100	740
		30	3,8	190	1400
		32	4,0	250	1900
		35	4,2	370	2800
		40	4,4	420	3100
		50	5,6	870	6400

Koeffizienten für erschwerte Verwendung
Coefficients for heavy duty application

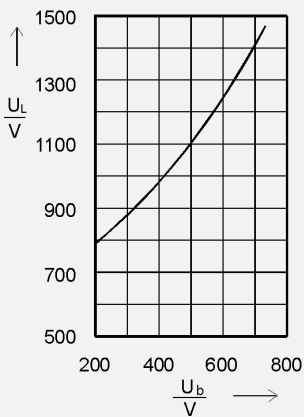
a	A2	B1	B2	Cf3	N
130	1	1,25	0,6	0,8	1,5

Strombegrenzungs-Diagramm
cut-off Characteristic

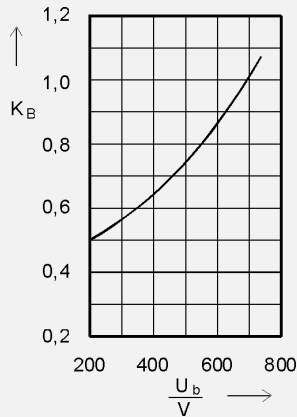




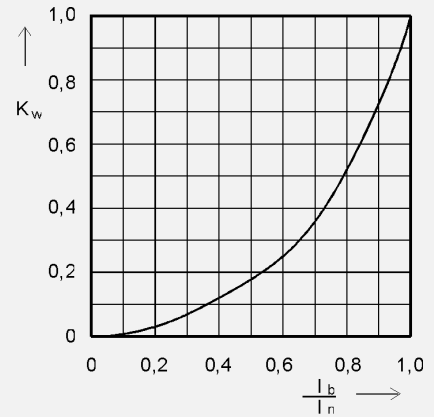
Schaltspannungs-Diagramm
Arc voltage-diagramm



Umrechnungsfaktor für Ausschalt-I²t-Wert
reduction factor for total-I²t-value



Umrechnungsfaktor der Leistungsabgabe
reduction factor for power loss



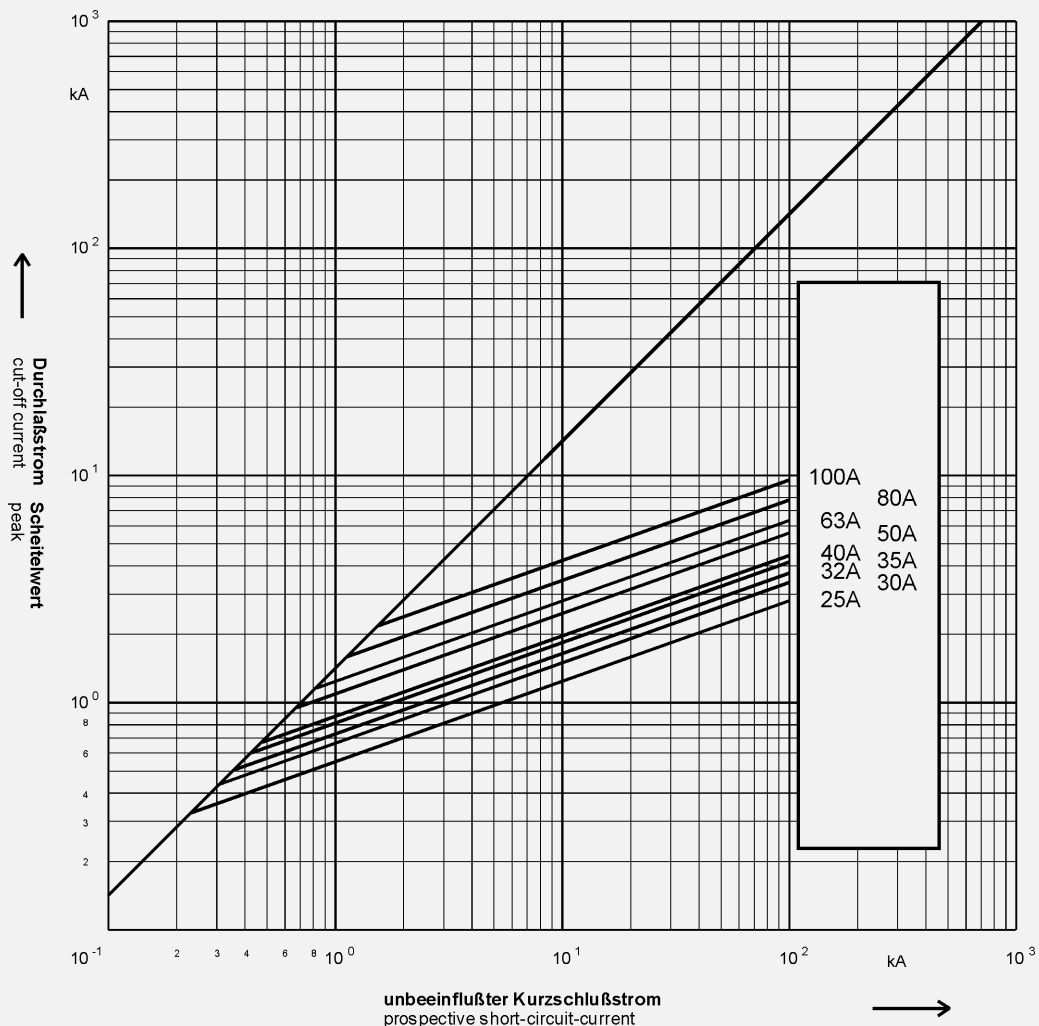
22 x 58

	Art. Nr. part No.	Bemessungs- strom rated current A	Leistungs- abgabe power loss W	Schmelz- I ² t-Wert pre-arcing I ² t-value A ² s	Ausschalt- I ² t-Wert total I ² t-value A ² s bei / at 690 V
Größe size 22 x 58 mm	50 140 34	25	3,6	100	800
Nennspannung rated voltage AC 690 V		30	4,6	190	1500
Betriebsklasse operating class gRL		32	4,8	250	2000
		35	5,0	370	3000
Bemessungsausschaltvermögen rated breaking capacity 100 kA		40	5,2	420	3400
		50	5,4	870	7000
		63	6,8	1300	10500
		80	7,5	2500	20000
		100	7,7	4600	37000

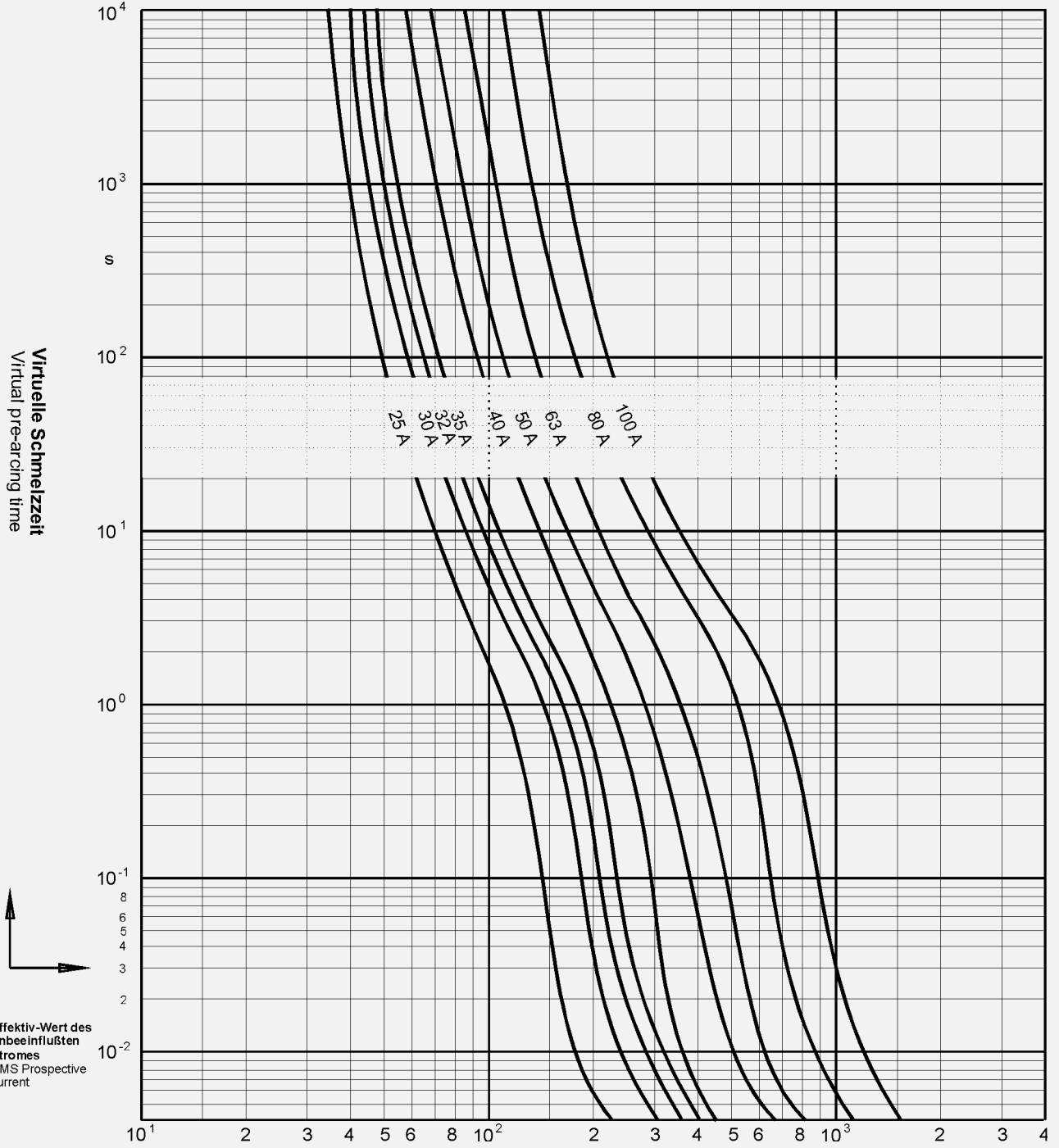
Koeffizienten für erschwerte Verwendung
Coefficients for heavy duty application

a	A2	B1	B2	Cf3	N
130	1	1,25	0,6	0,8	1,5

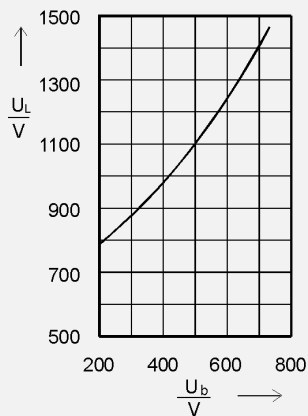
Strombegrenzungs-Diagramm
cut-off Characteristic



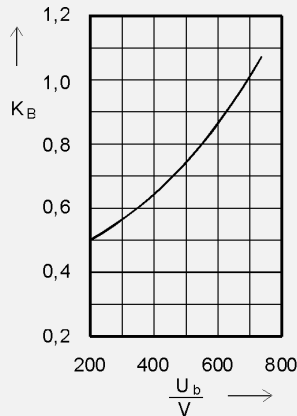
Zeit/Strom-Kennlinien
Time/current characteristics



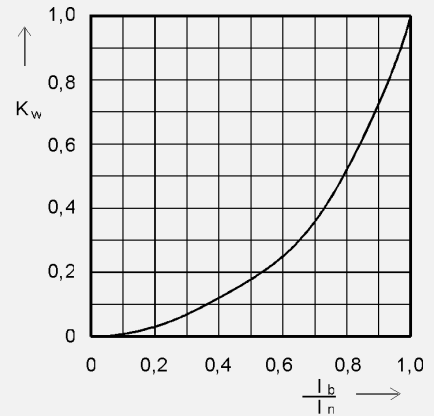
Schaltspannungs-Diagramm
Arc voltage-diagramm



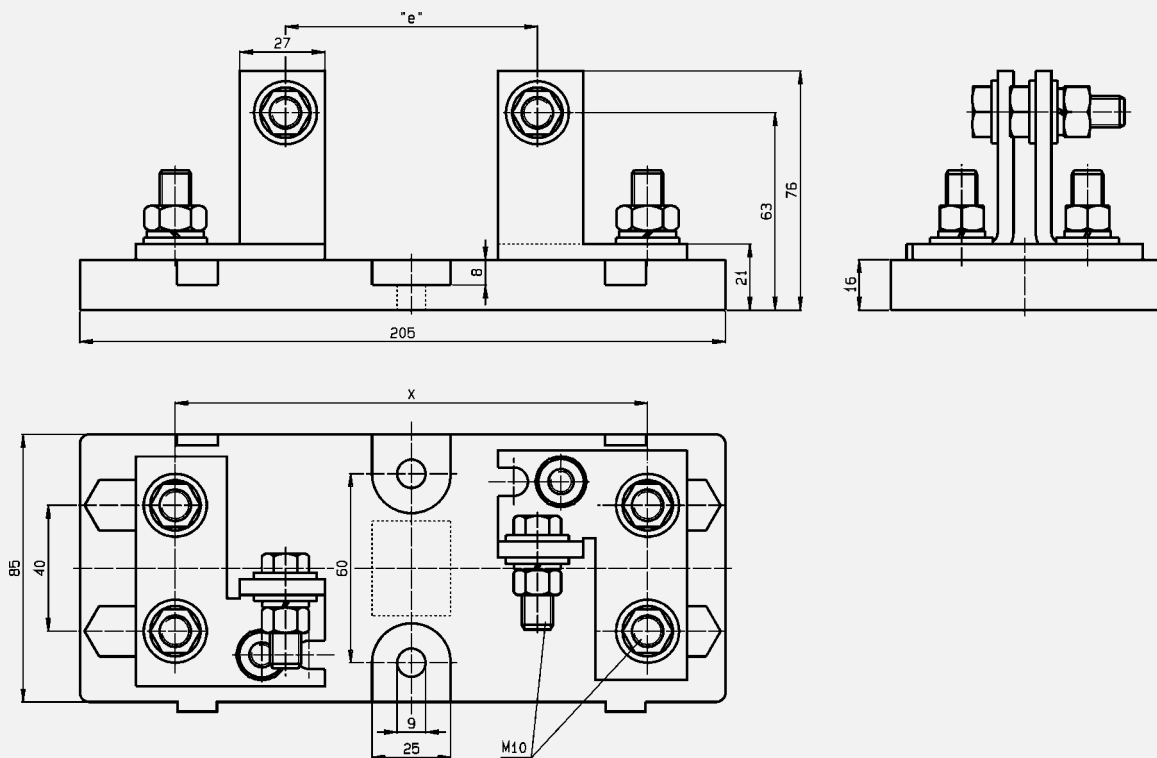
Umrechnungsfaktor für Ausschalt- I^2t -Wert
reduction factor for total- I^2t -value



Umrechnungsfaktor der Leistungsabgabe
reduction factor for power loss

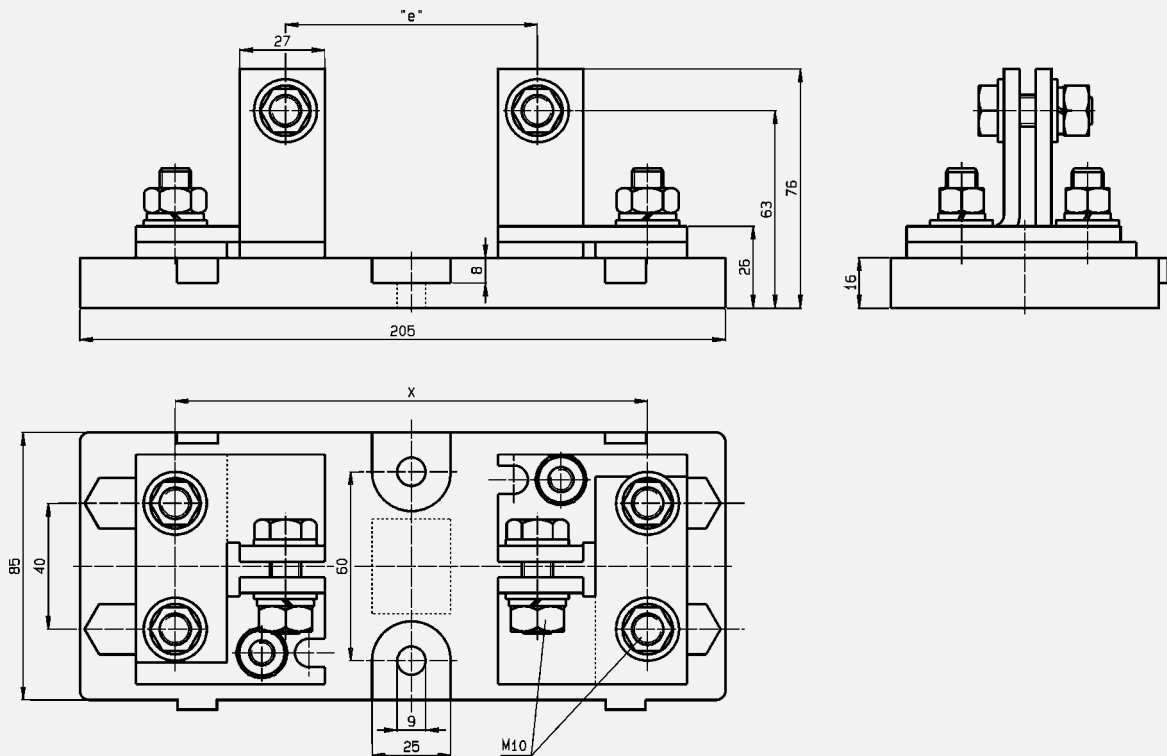


Sicherungsunterteil **630 A** für Sicherungseinsätze mit Schraubkontakten
Gr. 1 bis 3 nach DIN 43653
fuse-base **630 A** for fuse links with screwcontacts
size 1 up to 3 according to DIN 43 653



Art.-Nr. part-no.	Bemessungsstrom rated current	Bemessungsspannung rated voltage	Stichmaß "e" fixing center "e"	Maß X dimension X
21 313 01	≤ 630 A	900 V	80 mm	150 mm
21 323 01	≤ 630 A	1400 V	110 mm	180 mm

Sicherungsunterteil **1250 A** für Sicherungseinsätze mit Schraubkontakten
Gr. 1 bis 3 nach DIN 43653
fuse-base **1250 A** for fuse links with screwcontacts
size 1 up to 3 according to DIN 43 653

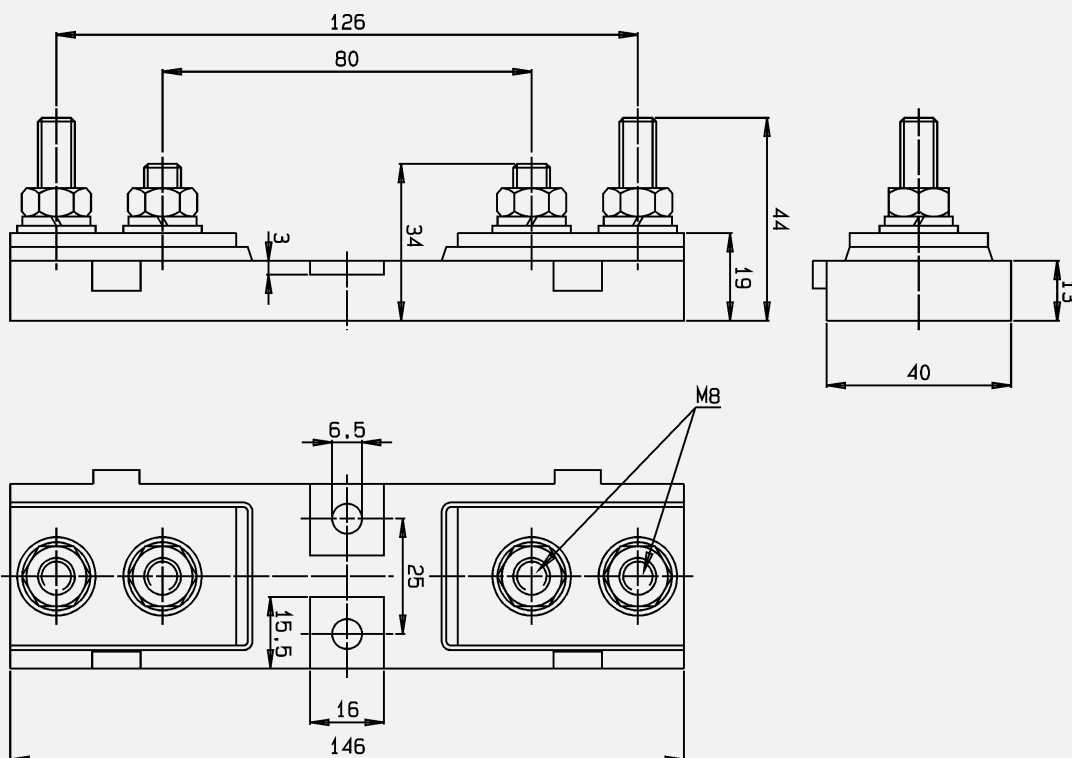


Art.-Nr. part-no.	Bemessungsstrom rated current	Bemessungsspannung rated voltage	Stichmaß "e" fixing center "e"	Maß X dimension X
21 313 02	≤ 1250 A	900 V	80 mm	150 mm
21 323 02	≤ 1250 A	1400 V	110 mm	180 mm

Sicherungsunterteil **400 A*** für Sicherungseinsätze mit Schraubkontakten
Gr. 000 und 00 nach DIN 43653
fuse-base **400 A*** for fuse links with screwcontacts
size 000 and 00 according to DIN 43 653

Bemessungsspannung / rated voltage : AC 1000 V
*** max. Leistungsaufnahme / power acceptance: 34 W**

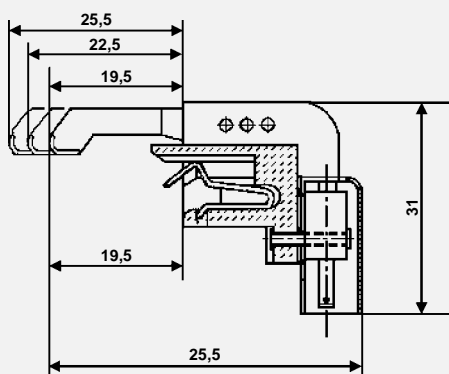
Art.-Nr. / part no. : 21 189 01



GL-Mikroschalter
GL-micro switch

Nennstrom / rated current : 5 A
Nennspannung / rated voltage : AC 250 V
Kontakt / contact: 1 Wechsler / 1 change over contact

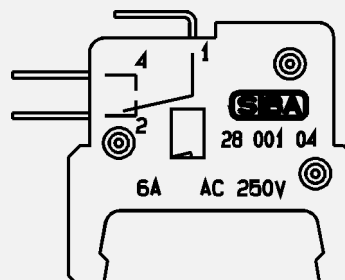
Art.-Nr. / part-no. : 28 002 05



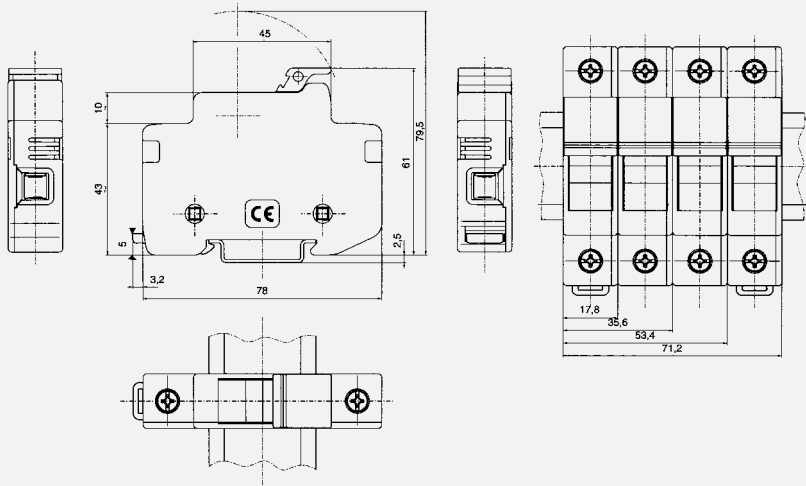
M-Mikroschalter
M-micro switch

Nennstrom / rated current : 6 A
Nennspannung / rated voltage : AC 250 V
Kontakt / contact: 1 Wechsler / 1 change over contact

Art.-Nr. / part-no. : 28 001 04



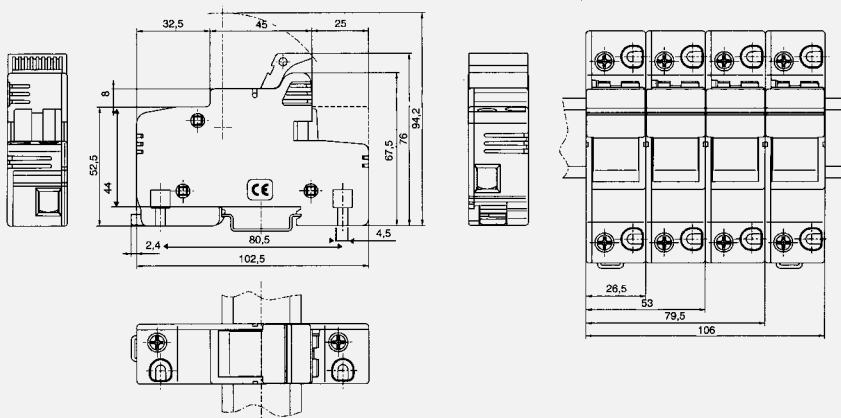
ZS-Modul; vollisoliertes Sicherungsunterteil
für Sicherungseinsätze mit zyl. Kontaktkappen
ZS-Module; isolated fuse base
for fuse links with cyl. contact caps



10 x 38

Art.-Nr.:	51 063 04	1 pol.
part-no.:	51 063 04.2	2 pol.
	51 063 04.3	3 pol.
	51 063 04.L	1 pol.
	51 063 04.2L	2 pol.
	51 063 04.3L	3 pol.

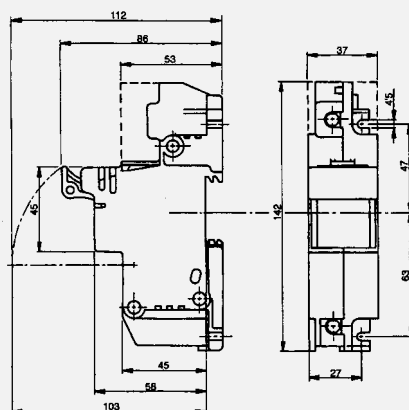
L = Dioden-Anzeige / diode indicator



14 x 51

Art.-Nr.:	51 058 04	1 pol.
part-no.:	51 058 04.2	2 pol.
	51 058 04.3	3 pol.
	51 058 04.S	1 pol.
	51 058 04.2S	2 pol.
	51 058 04.3S	3 pol.

S = Mikroschalter / micro switch



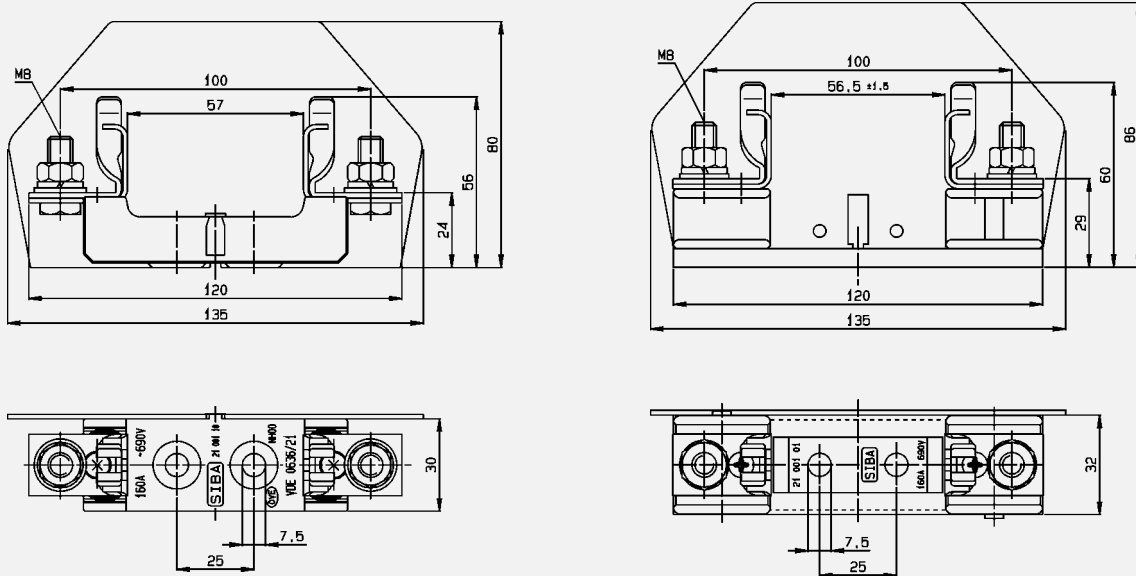
22 x 58

Art.-Nr.:	51 060 04	1 pol.
part-no.:	51 060 04.2	2 pol.
	51 060 04.3	3 pol.
	51 060 04.S	1 pol.
	51 060 04.2S	2 pol.
	51 060 04.3S	3 pol.

S = Mikroschalter / micro switch

NH Unterteile 500/690 V DIN 43 620
Fuse base 500/690 V DIN 43 620

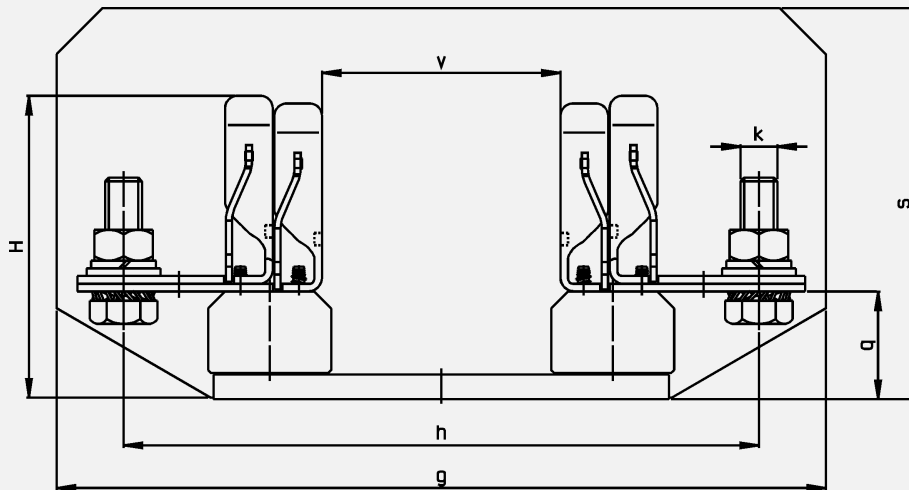
Größe / size 00



L.-Nr./ part no. 21 001 10

L.-Nr./ part no. 21 001 01

Größe / size 1 - 3



Größe/size	1	2	3
Grenzleistungsaufn./ power loss	32 W	45 W	60 W
Art.-Nr./part-no.	2100301	2100401	2100501
g	200	230	250
h	175	200	210
k	M10	M12	M16
m	26	30	36
q	35	35	35
s	110	120	130
v	80	80	80
H	84	91	96

NH-Sicherungs-Lasttrennschalter / LV HRC Load break switch

Größe size	Nennstrom rated current	Anschluß connection	Art.-Nr. part-no.	Grenzleistungsaufnahme power loss	Ausführung design
00	160 A	70 mm²	21 001 21	11 W	Schelle / clamp
1	250 A	120 mm²	21 003 21	23 W	Schraube / screw M10
2	400 A	240 mm²	21 004 21	34 W	Schraube / screw M10
3	630 A	240 mm²	21 005 21	48 W	Schraube / screw M12

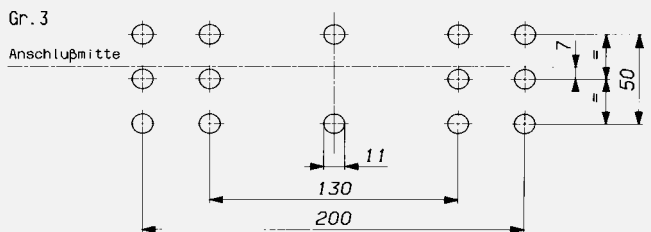
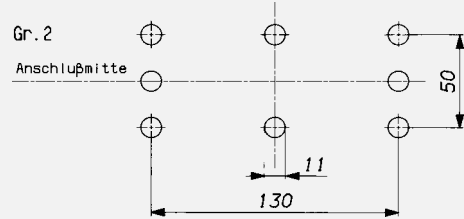
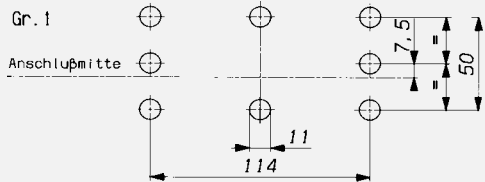
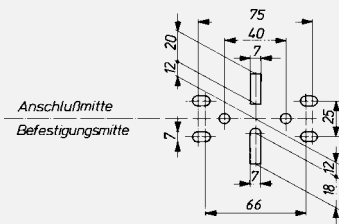
Abmessungen / dimensions (mm)

Art.-Nr./part-no.	A	B	C	D	E	F	G	H	L
21 001 21	106	200	83	45	74,5	38	60	155	181
21 003 21	184	243	111,5	66	220	45,5	84	220	107
21 004 21	210	288	128	80		48	92	249	124
21 005 21	256	300	142,5	94,5		48	98,5	259	127,5

	M	P	Q	R	X
21 001 21	103	110	17	2XM5	33
21 003 21	214,5	185	21,5	M10	57
21 004 21	255	210	25	M10	65
21 005 21	267	210	30	M12	81

Befestigungsmaße / mounting dimensions

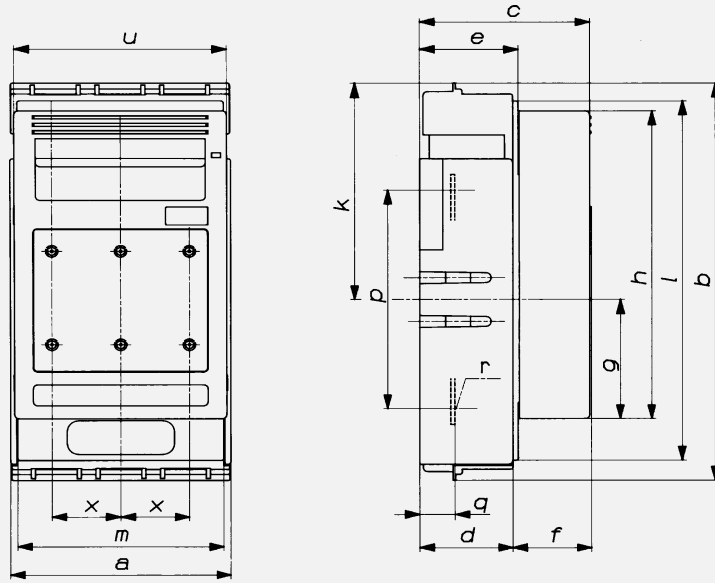
Größe / Size: 00



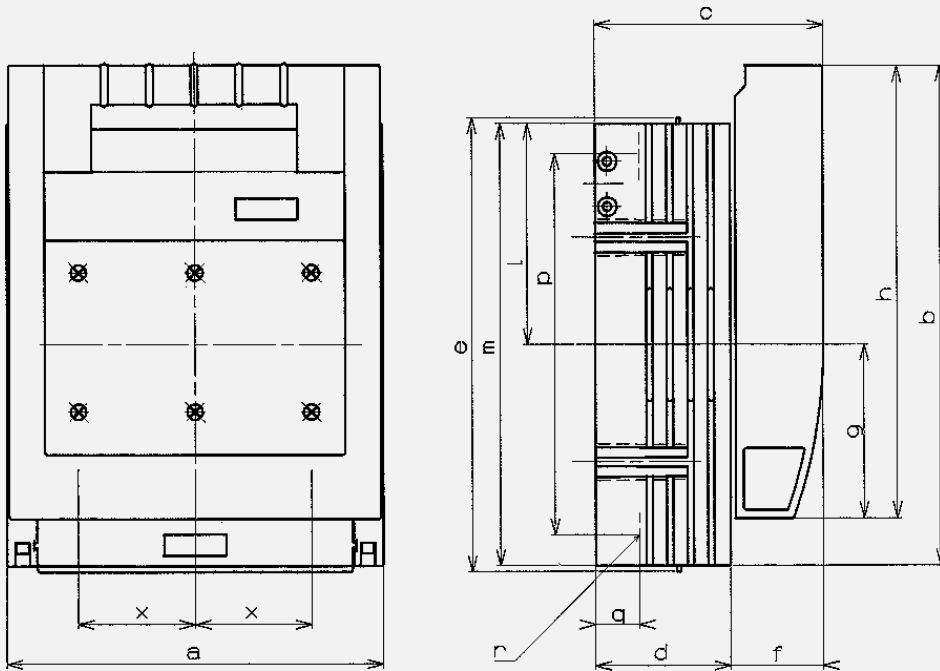
bei gemischtem Aufbau nach Anschlußmitte ausrichten!
for fitting different sizes please ensure centre marking

Zeichnungen / drawings

Größe / Size: 00



Größe / Size: 1 / 2 / 3



Artikel-Nr. Verzeichnis / part-no. index

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21 005 01	26
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