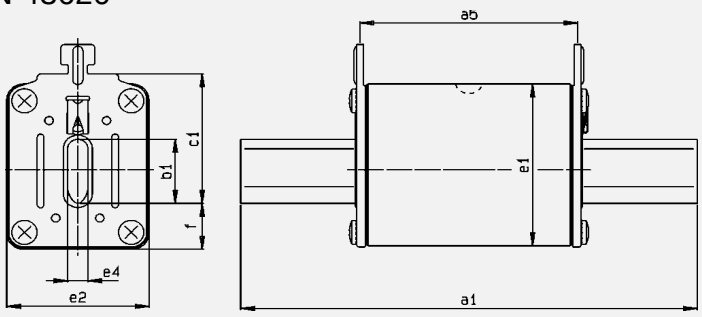
Auswahltabelle / selection guide

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	AC 690 V	**NH 000**	x	1	**20 477 34**	8 + 9	x
Messerkontakten	AC 690 V	**NH 00**	x	1	**20 209 34**	8 + 9	x
fuses with	AC 690 V	**NN 1**	x	1	**20 211 34**	10 + 11	x
knifecontacts	AC 690 V	**NH 2**	x	1	**20 212 34**	12 + 13	x
DIN 43620	AC 690 V	**NH 3**	x	1	**20 213 34**	14 + 15	
	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	
Sicherungen mit	AC 690 V	**1**		4	**20 269 34**	10 + 11	
Schraubkontakten	AC 690 V	**2**		4	**20 272 34**	12 + 13	
fuses with	AC 690 V	**3**		4	**20 275 34**	14 + 15	
screwcontacts	AC 690 V	**1**	x	5	**20 271 34**	10 + 11	
DIN 43653	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	AC 500 V	**10 x 38**		7	**60 034 34**	16 + 17	x
zylindrischen	AC 690 V	**14 x 51**		8	**50 124 34**	18 + 19	
Kontaktkappen	AC 690 V	**22 x 58**		9	**50 140 34**	20 + 21	
fuses with zyl. contactcaps							
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

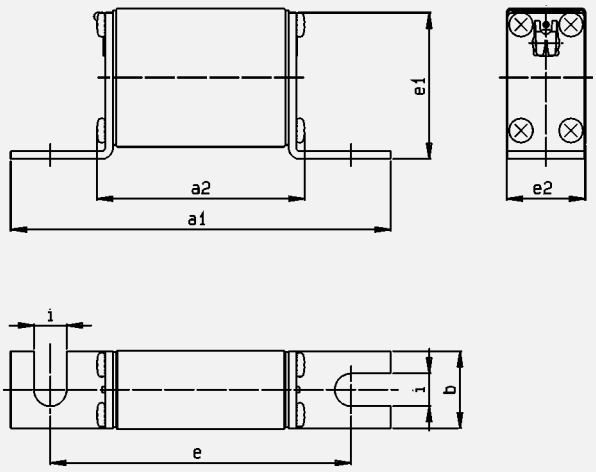
Abb. fig. 1



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

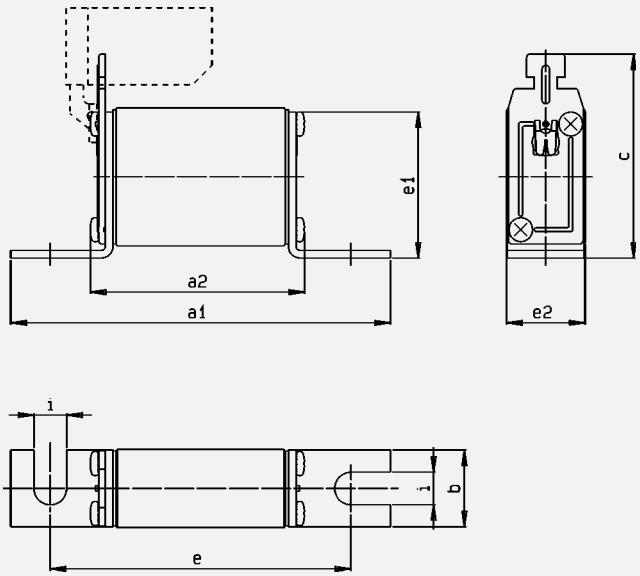
Sicherungseinsätze nach DIN 43653
fuse links acc. DIN 43653

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

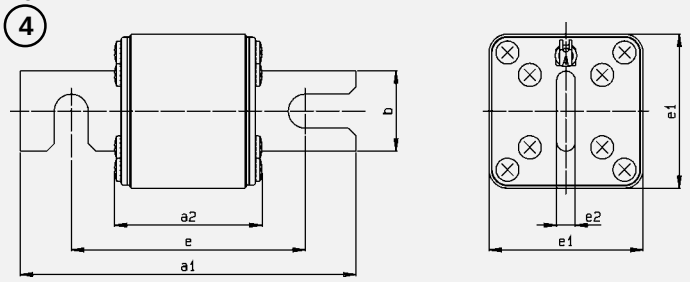


Art.-Nr. part-no.	20 558 34 NH000	20 412 34 NH00
Dim.	mm	mm
a1	100	105
a2	55	56
e	80	78
e1	38	47
e2	20,4	29,5
i	8,5	10,3
b	20	28,8
c	53	63

vorbereitet für GL-Mikroschalter
prepared for GL-micro switch

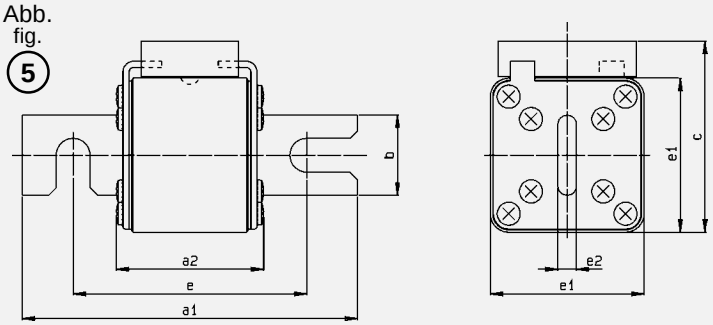
Sicherungseinsätze nach DIN 43653
fuse links acc. DIN 43653

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

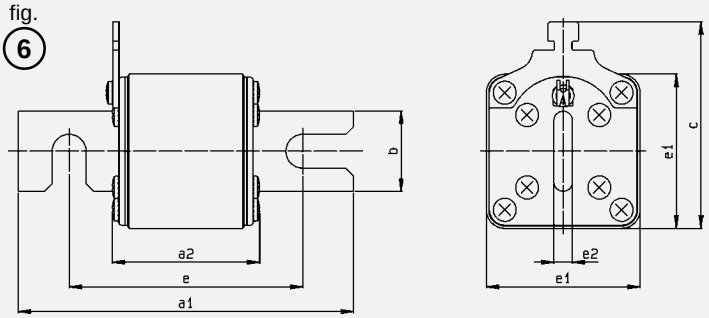
Abb. fig. **5**



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**

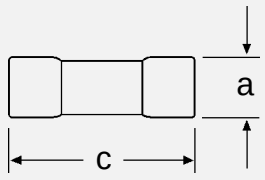


Art.-Nr. part-no.	20 270 34 NH1	20 273 34 NH2	20 276 34 NH3
Dim.	mm	mm	mm
a1	134	134	134
a2	47,5	47,5	49
e	106	106	106
e1	50	59	73
e2	6	6	6
i	11	11	11
b	26	26	35
c	67	75,5	87,5

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

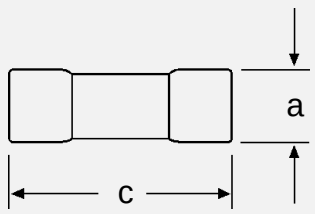
Sicherungen mit zylindrischen Kontaktkappen
fuses with zyl. contactcaps

Abb. fig. **7**



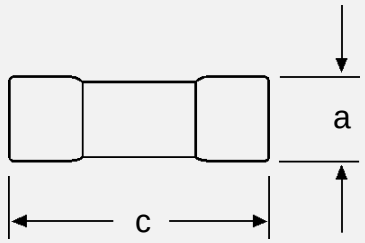
Art.-Nr. part-no.	60 034 34
Dim.	mm
a	10
c	38

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 compies 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)

	Fuse rated current/A	
copper cross section sq. mm	encapsulated Installation (Group B2) load on 3 wires	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^2t-Wert pre-arcing I^2t-value A^2s	Ausschalt-I^2t-Wert total I^2t-value A^2s bei / at 690 V
	16	3,2	18	180
	20	3,6	41	410
20 282 34	25	4,2	74	740
20 477 34	35	5,2	170	1.700
20 558 34	40	5,6	300	3.000
	50	6,5	460	4.600
	63	7,6	840	8.400
	80	8,8	1.800	18.000
20 189 34	100	10,5	3.000	30.000
20 209 34	125	12,0	6.000	60.000
20 412 34				

Größe
size
000 / 00

Nennspannung
rated voltage
AC 690 V

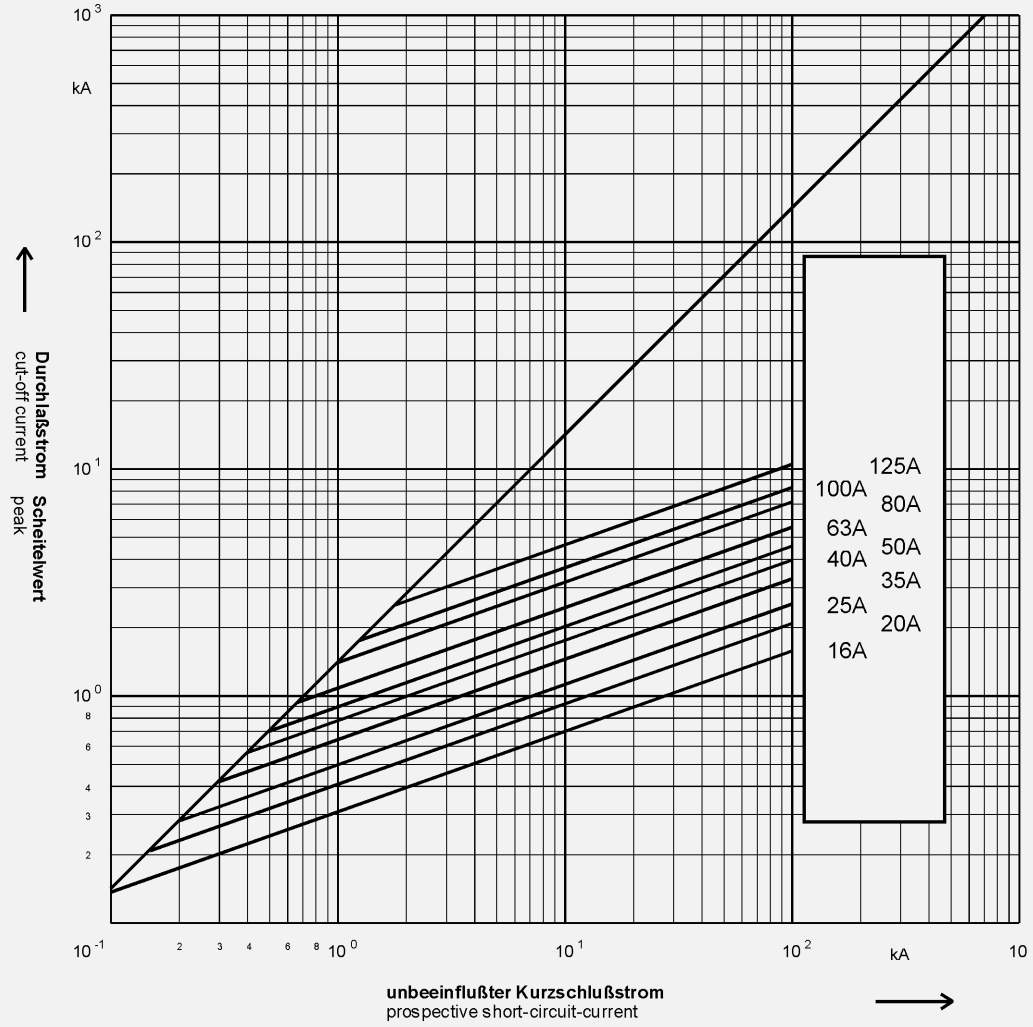
Betriebsklasse
operating class
gRL

Bemessungsausschaltvermögen
rated breaking capacitiy
100 kA

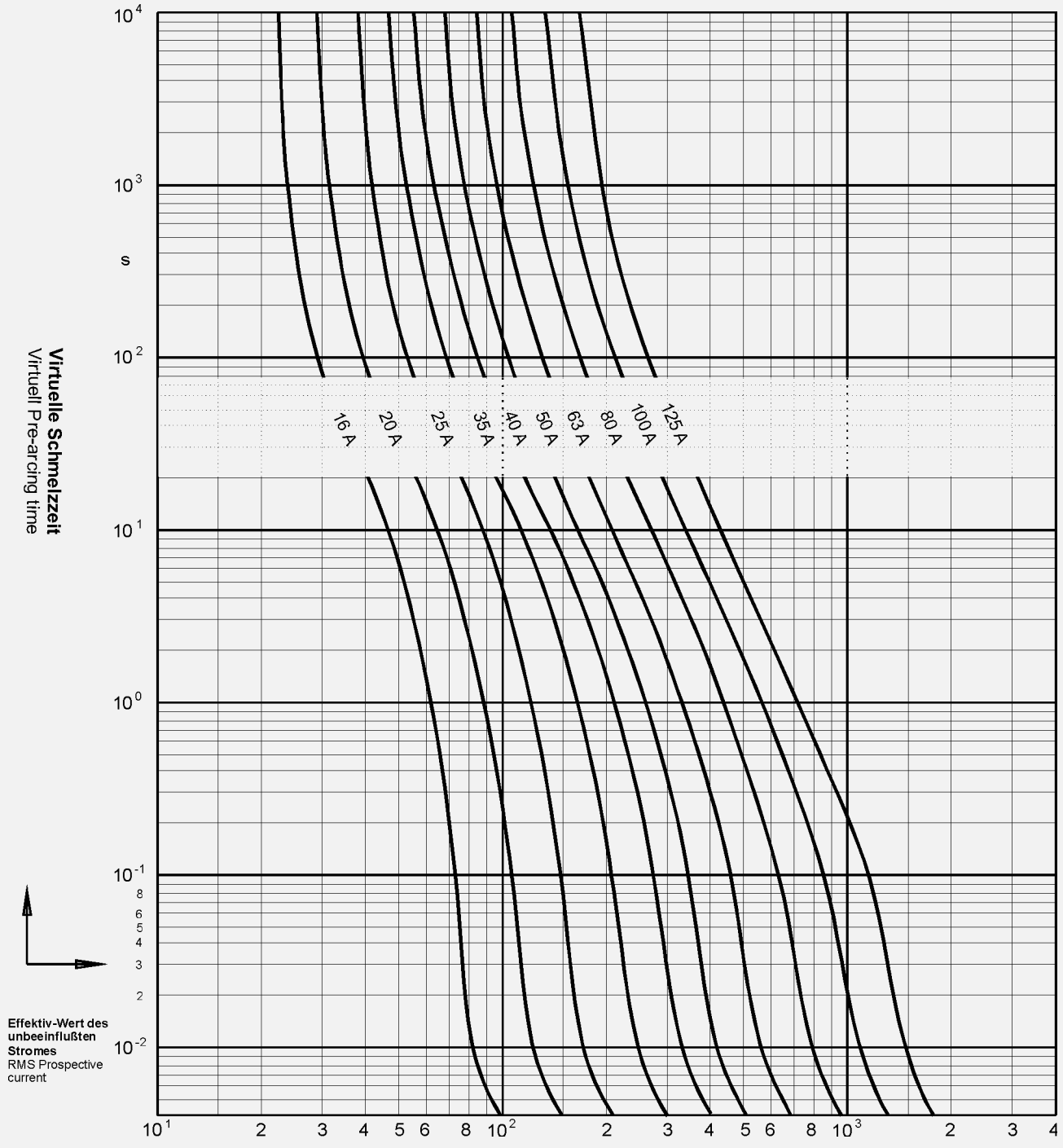
Koeffizienten für erschwerte Verwendung
Coefficiets for heavy duty application

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

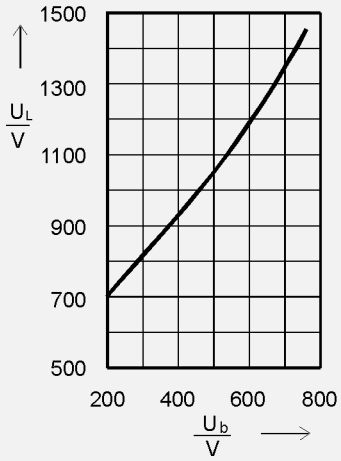
Strombegrenzungs-Diagramm
cut-off Characteristic



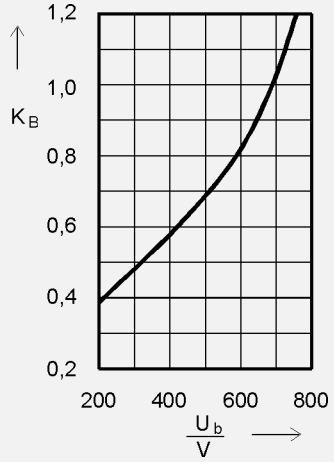
Zeit/Strom-Kennlinien
Time/current characteristics



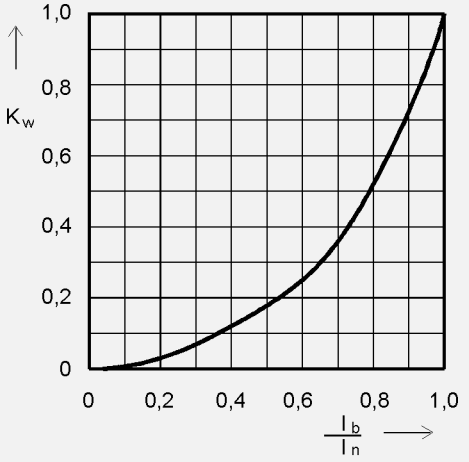
Schaltspannungs-Diagramm
Arc voltage-diagramm



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



Umrechnungskoeffizient der Leistungsabgabe
exchange factor for power loss



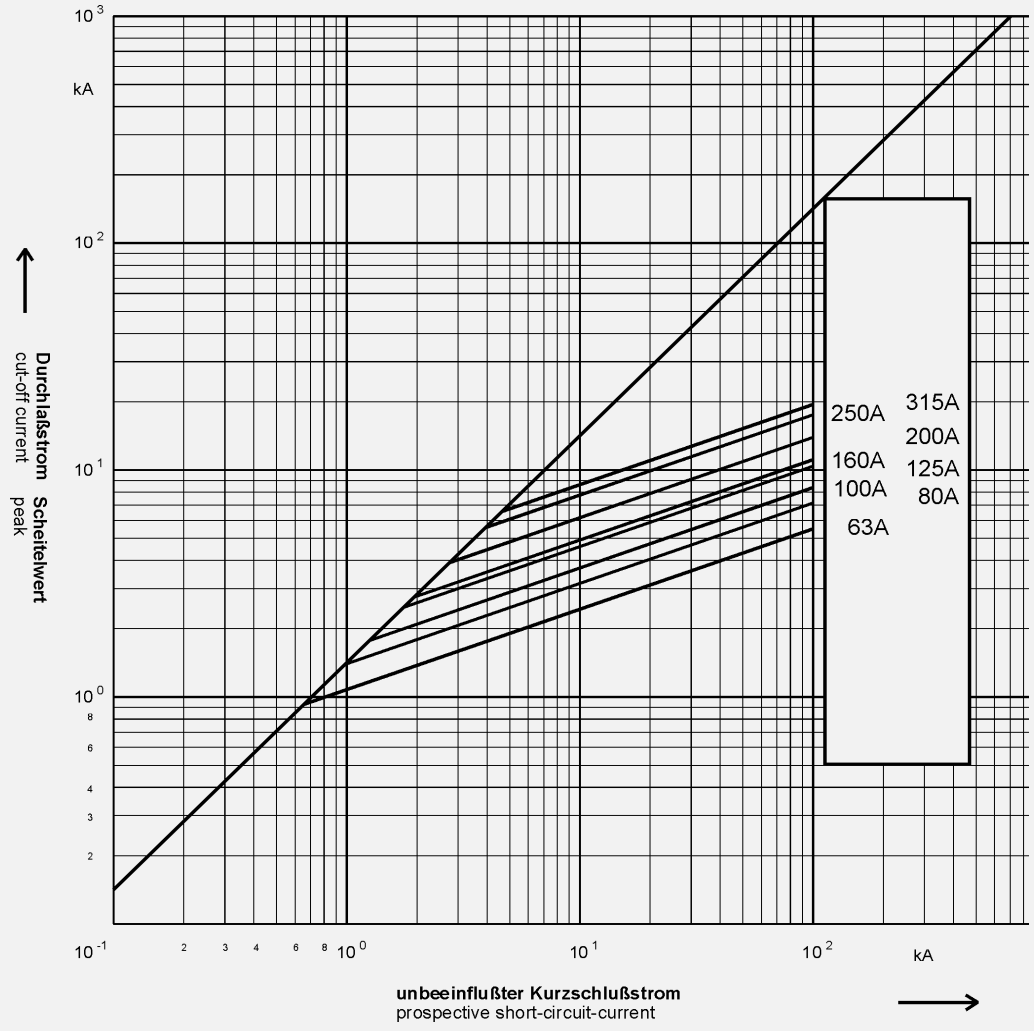
1
AC 690 V

Größe size **1**	Art. Nr. part No.	Bemessungs-strom rated current A	Leistungs-abgabe power loss W	Schmelz-I²t-Wert pre-arcing I²t-value A²s	Ausschalt-I²t-Wert total I²t-value A²s bei / at 690 V
		63	8	840	5.300
Nennspannung rated voltage **AC 690 V**		80	9,5	1.800	11.300
	20 211 34	100	12	3.000	19.000
	20 269 34	125	12,6	6.000	38.000
Betriebsklasse operating class **gRL**	**20 270 34**	160	23	7.400	47.000
	20 271 34	200	27	15.000	95.000
		250	33	30.000	190.000
Bemessungsausschaltvermögen rated breaking capacitiy **100 kA**		315	44	43.000	271.000

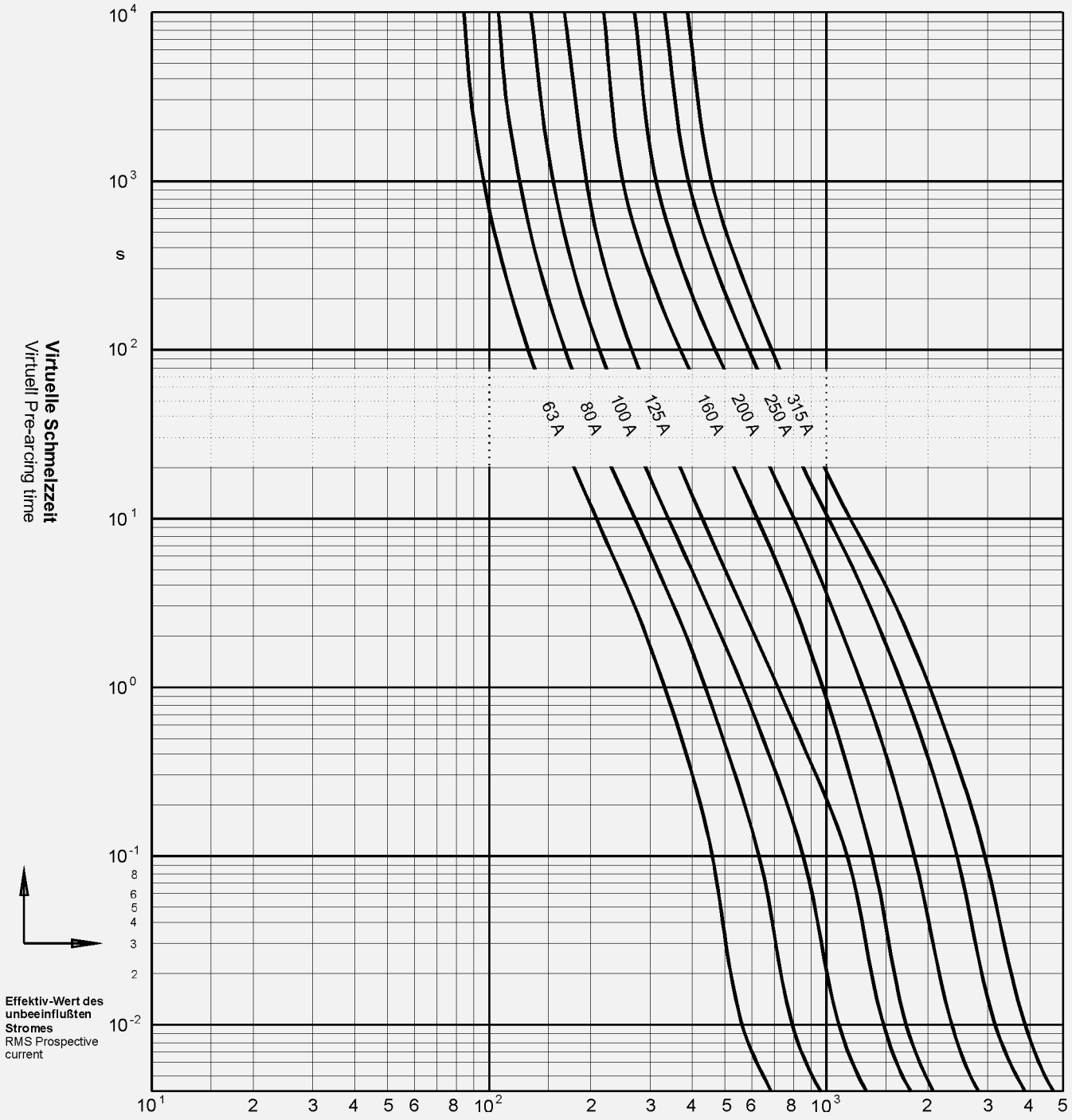
Koeffizienten für erschwerte Verwendung
Coefficiets for heavy duty application

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

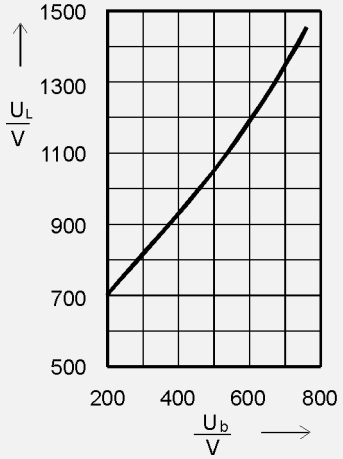
Strombegrenzungs-Diagramm
cut-off Characteristic



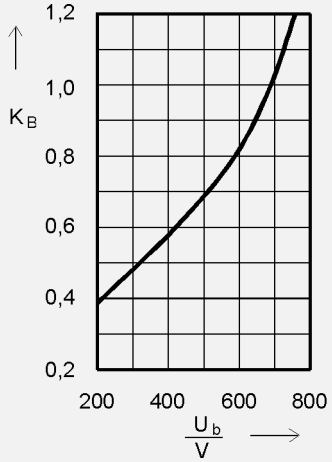
Zeit/Strom-Kennlinien
Time/current characteristics



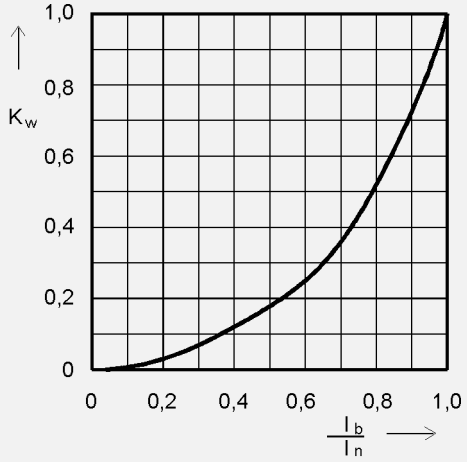
Schaltspannungs-Diagramm
Arc voltage-diagramm



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



Umrechnungskoeffizient der Leistungsabgabe
exchange factor for power loss



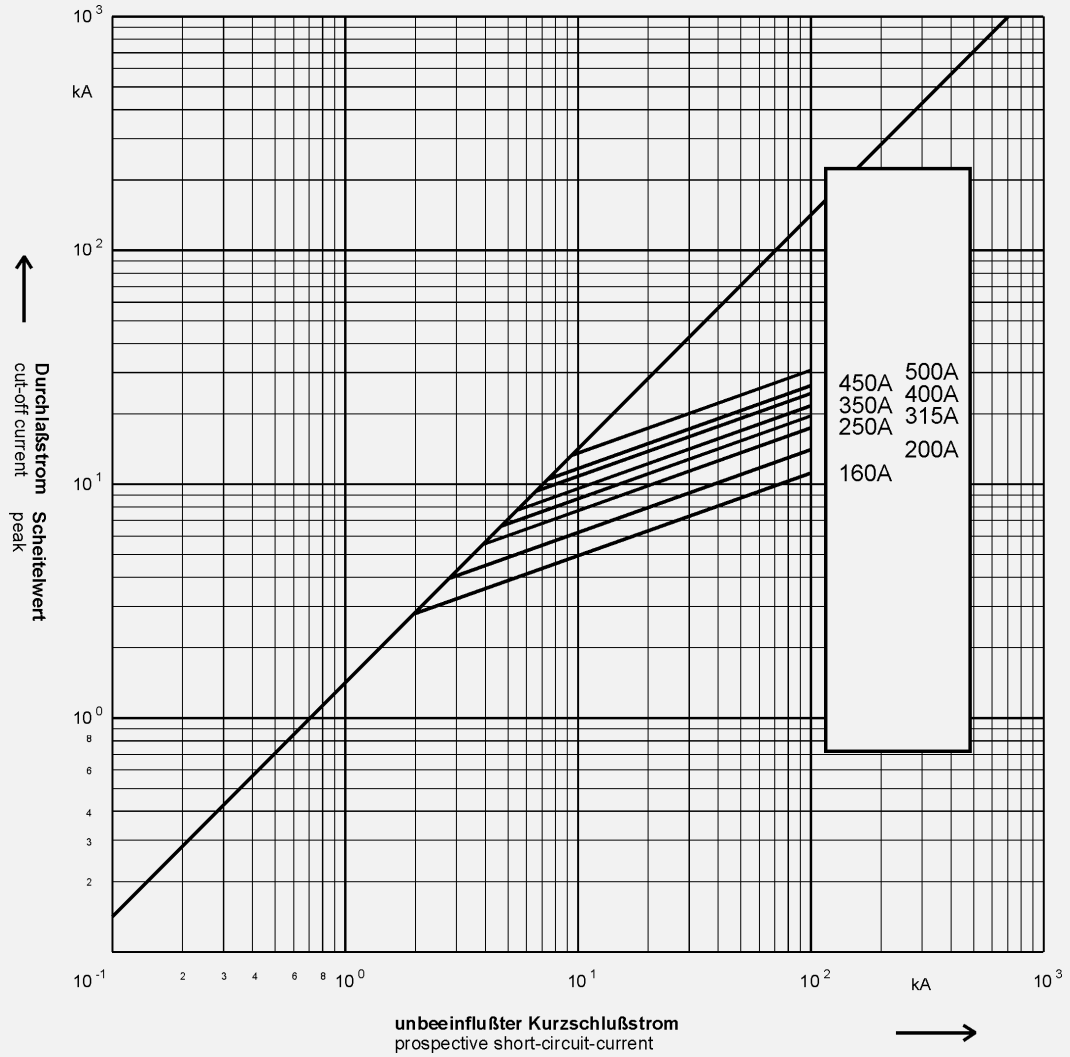
2
AC 690 V

Größe size **2**	Art. Nr. part No.	Bemessungs-strom rated current A	Leistungs-abgabe power loss W	Schmelz-I^2t-Wert pre-arcing I^2t-value A^2s	Ausschalt-I^2t-Wert total I^2t-value A^2s bei / at 690 V
Nennspannung rated voltage **AC 690 V**		160	23	7.400	47.000
		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 capacitiy **100 kA**		500	63	170.000	880.000

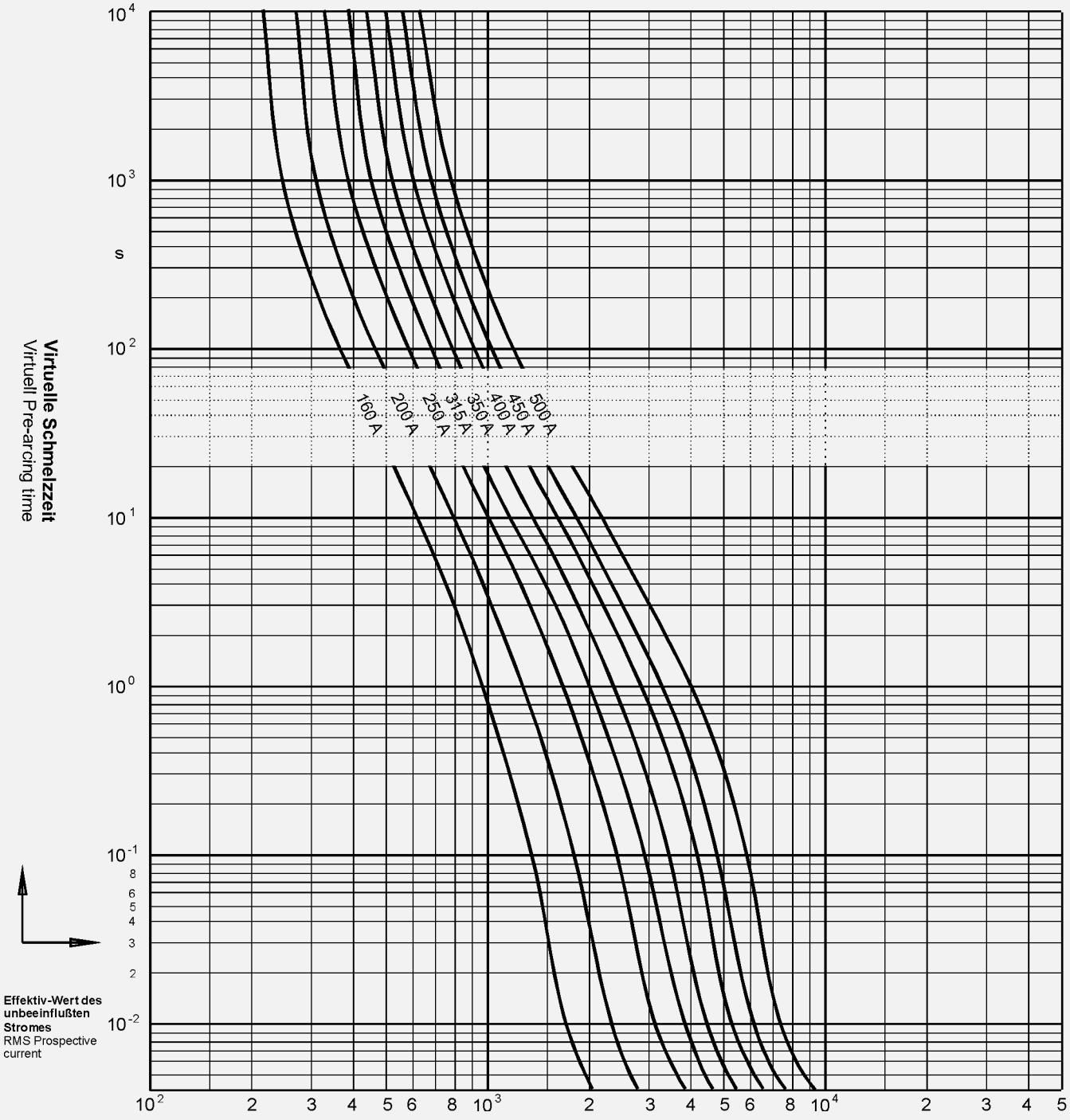
Koeffizienten für erschwerte Verwendung
Coefficiets for heavy duty application

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

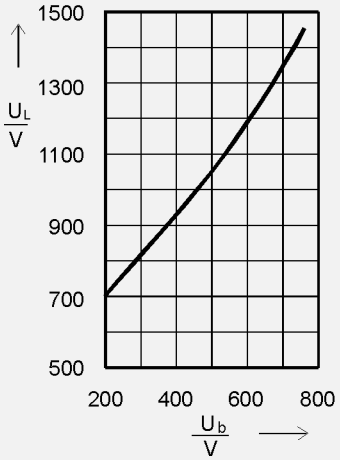
Strombegrenzungs-Diagramm
cut-off Characteristic



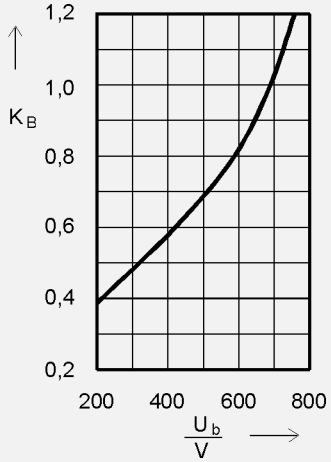
Zeit/Strom-Kennlinien
Time/current characteristics



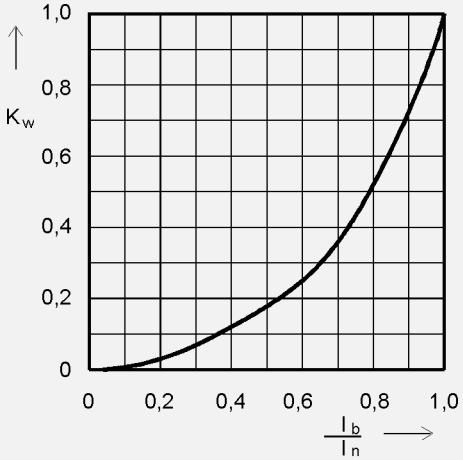
Schaltspannungs-Diagramm
Arc voltage-diagramm



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



Umrechnungskoeffizient der Leistungsabgabe
exchange factor for power loss



3
AC 690 V

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

Größe
size
3

Nennspannung
rated voltage
AC 690 V

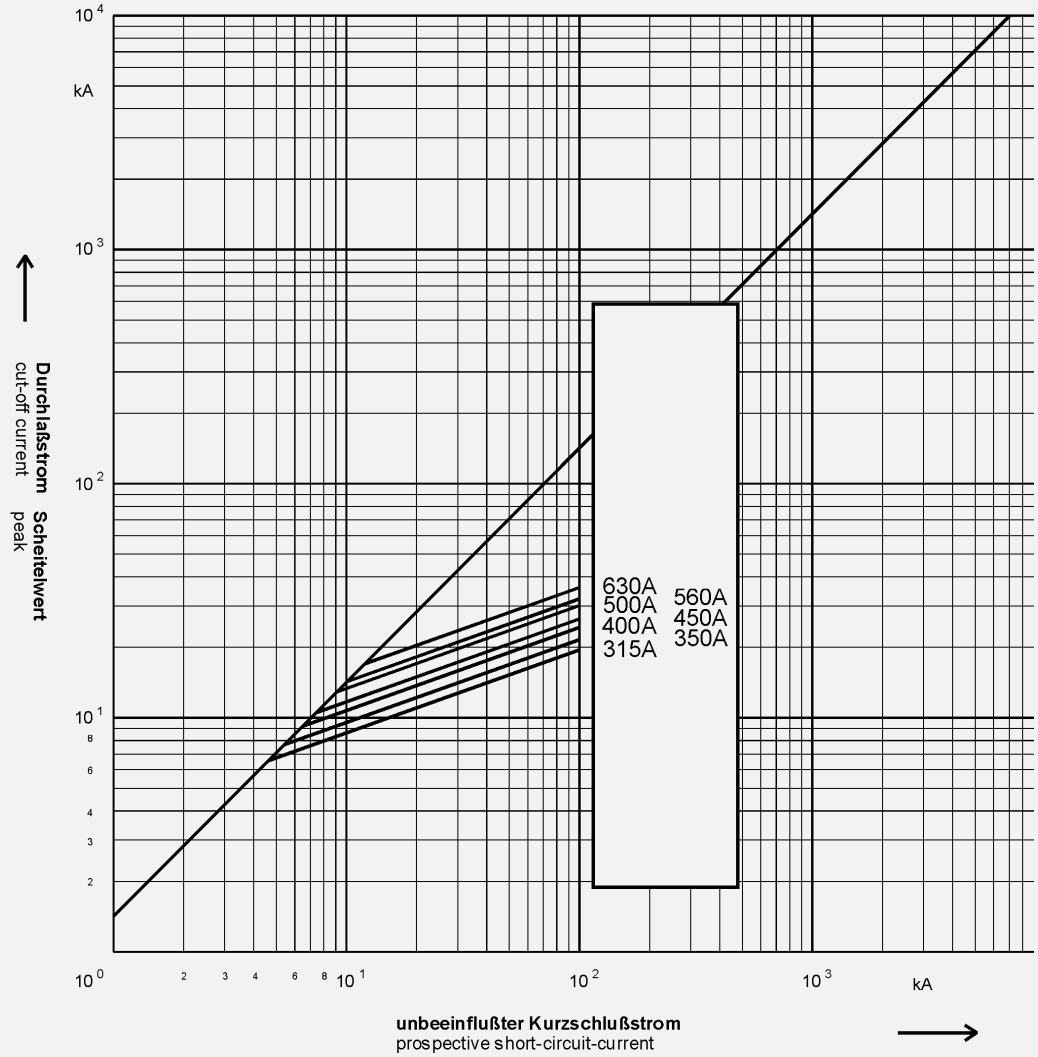
Betriebsklasse
operating class
gRL

Bemessungsausschaltvermögen
rated breaking capacitiy
100 kA

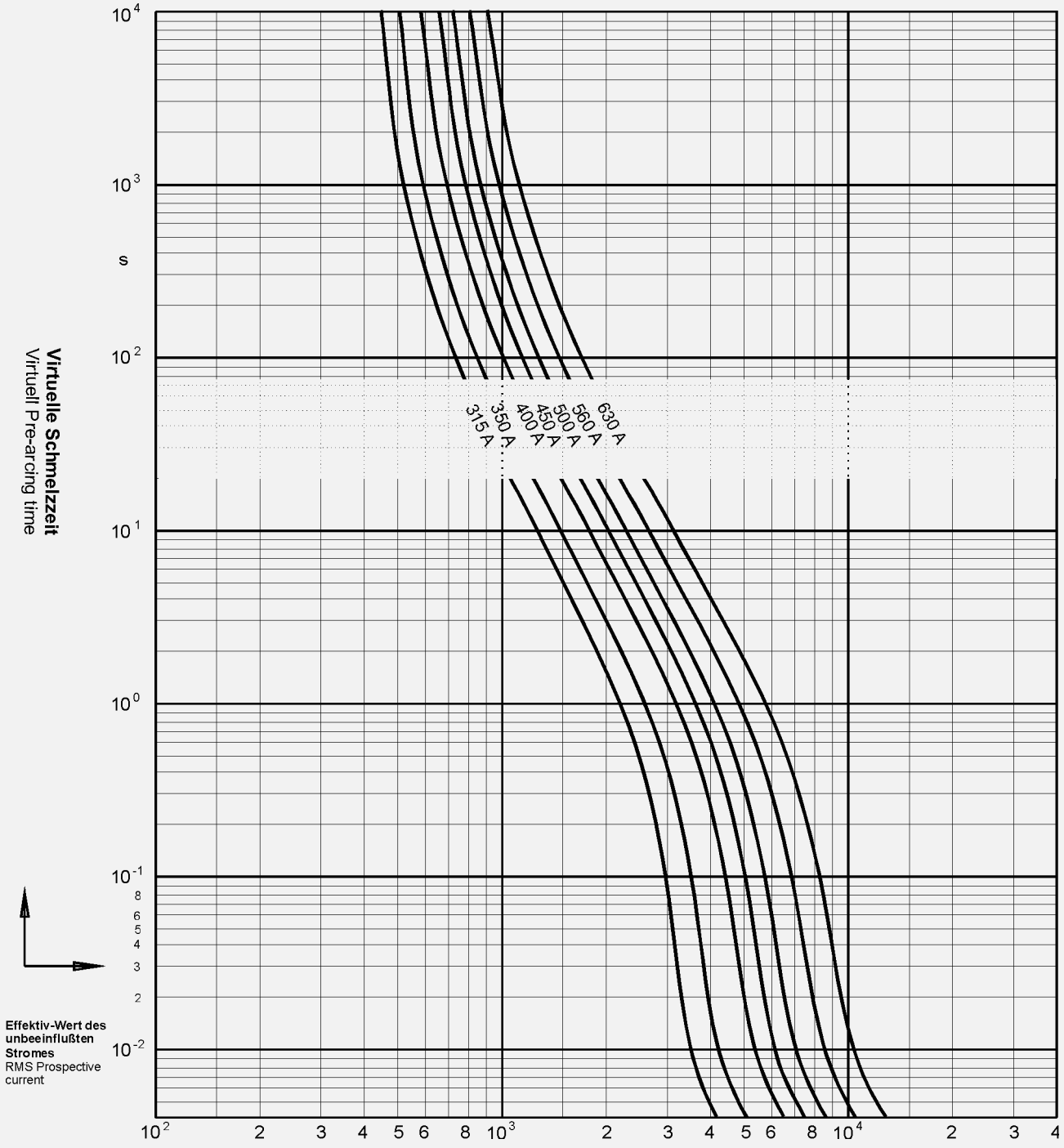
Koeffizienten für erschwerte Verwendung
Coefficiets for heavy duty application

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

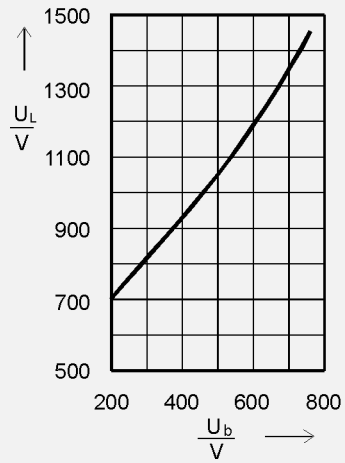
Strombegrenzungs-Diagramm
cut-off Characteristic



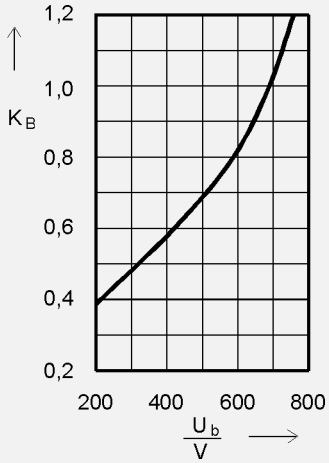
Zeit/Strom-Kennlinien
Time/current characteristics



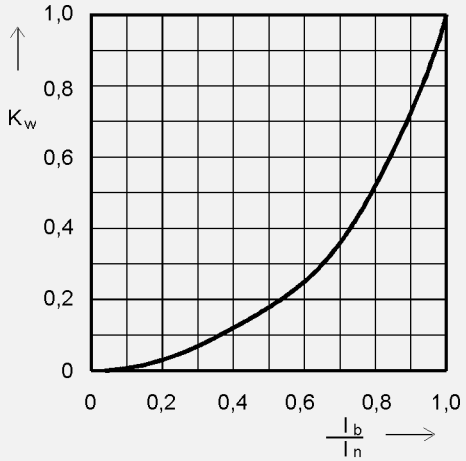
Schaltspannungs-Diagramm
Arc voltage-diagramm



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



Umrechnungskoeffizient der Leistungsabgabe
exchange factor for power loss

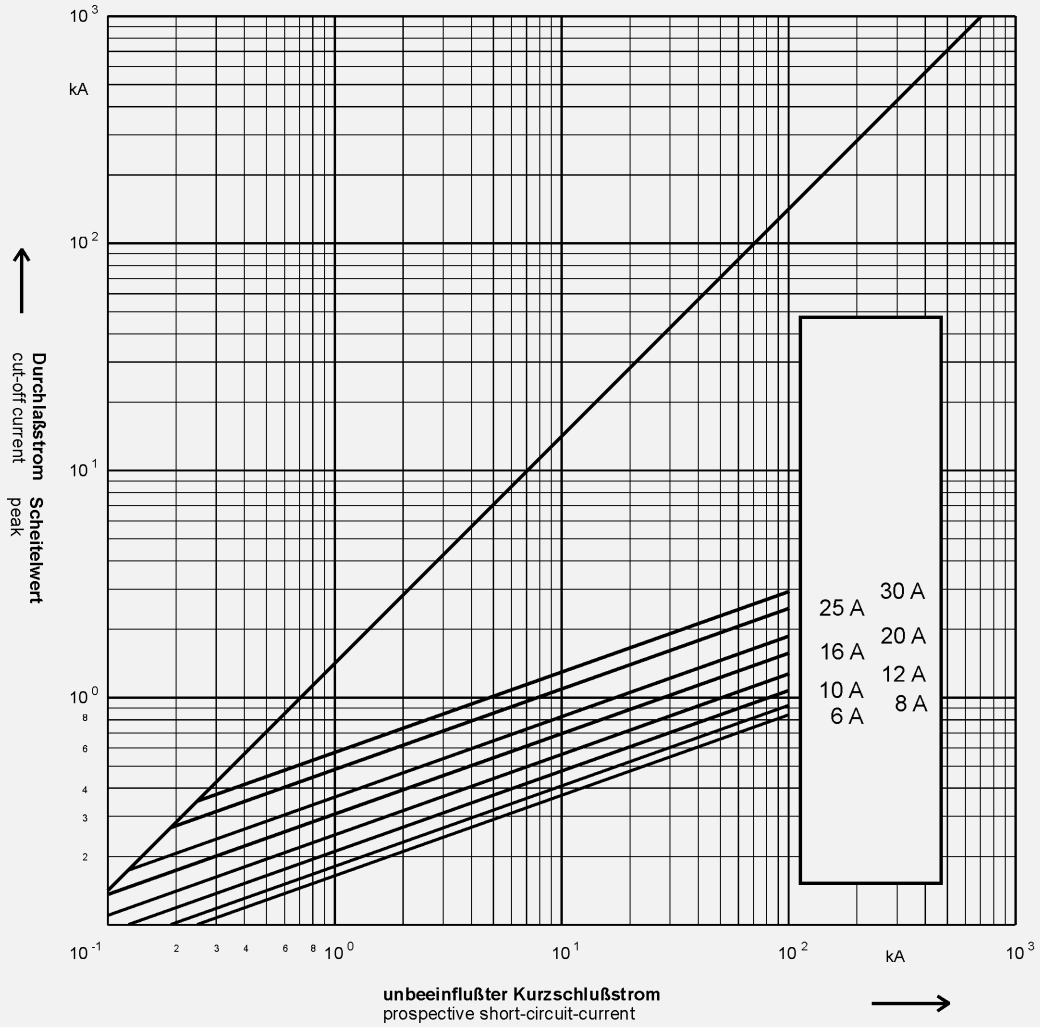


10 x 38	Art. Nr. part No.	Bemessungs-strom rated current A	Leistungs-abgabe power loss W	Schmelz-I^2t-Wert pre-arcing I^2t-value A^2s	Ausschalt-I^2t-Wert total I^2t-value A^2s bei / at 500 V	Approbationen Approvals
Größe size **10 x 38**	**60 034 34**	6	1,0	2,5	20	▪
		8	1,3	3,3	36	▪
Bemessungsspannung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

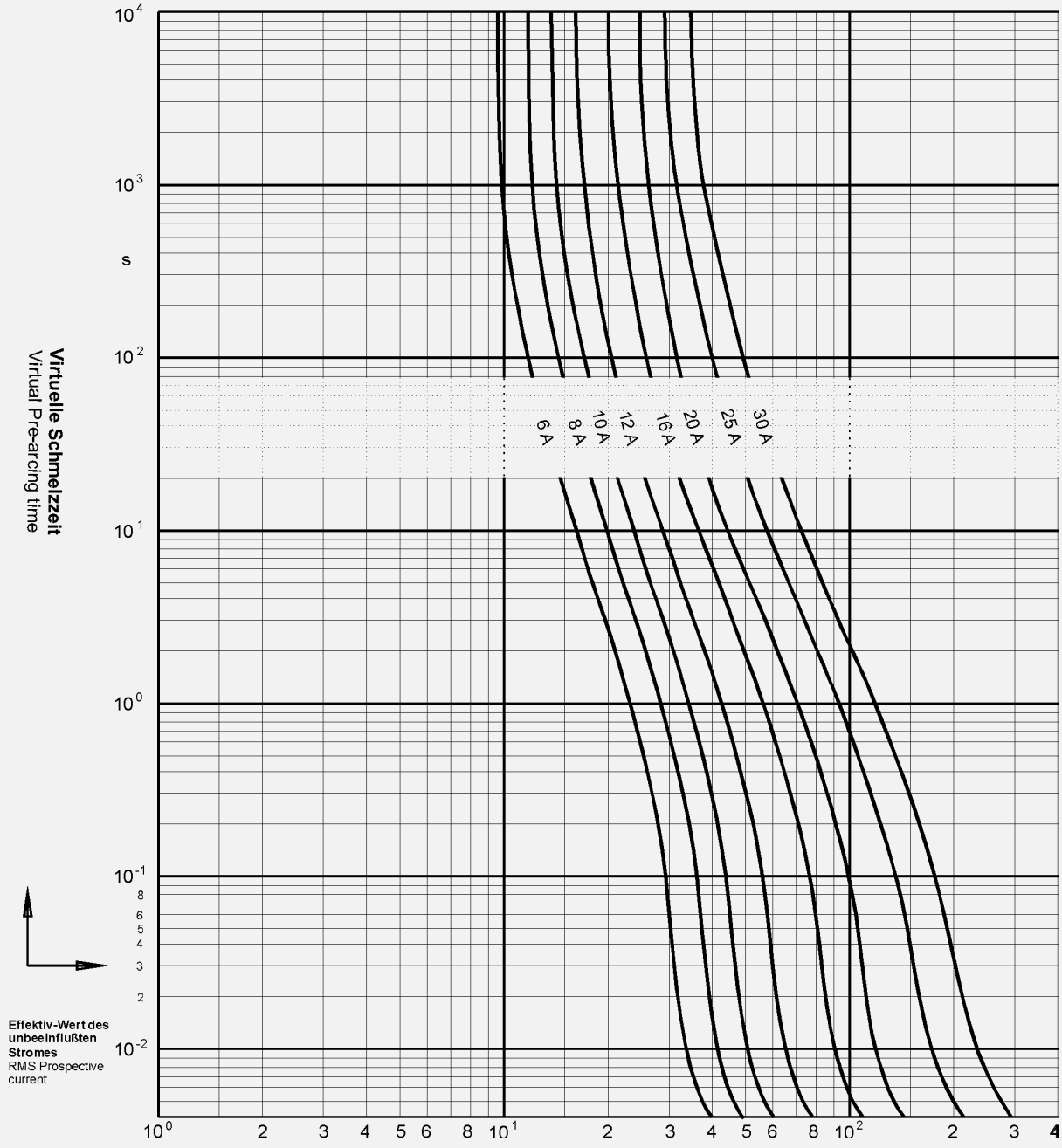
Koeffizienten für erschwerte Verwendung
Coefficiets for heavy duty application

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

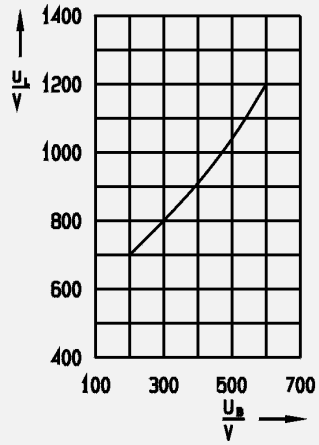
Strombegrenzungs-Diagramm
cut-off Characteristic



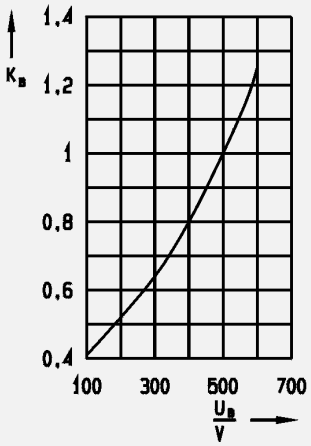
Zeit/Strom-Kennlinien
Time/current characteristics



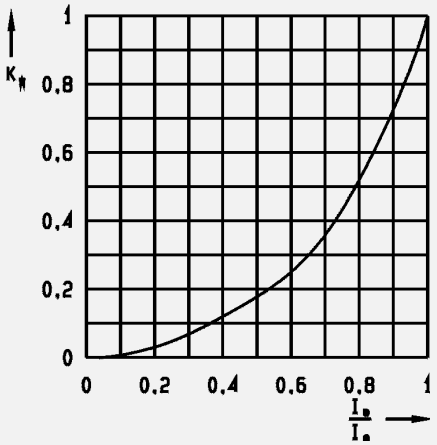
Schaltspannungs-Diagramm
Arc voltage-diagramm



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



Umrechnungsfaktor der Leistungsabgabe
reduction factor for power loss



14 x 51

Art. Nr. part No.	Bemessungsstrom rated current A	Leistungsabgabe power loss W	Schmelz-I²t-Wert pre-arcing I²t-value A²s	Ausschalt-I²t-Wert total I²t-value A²s bei / at 690 V
50 124 34	10	1,9	8	60
	12	2,3	12	90
	16	2,8	25	190
	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

Größe
size
14 x 51 mm

Nennspannung
rated voltage
AC 690 V

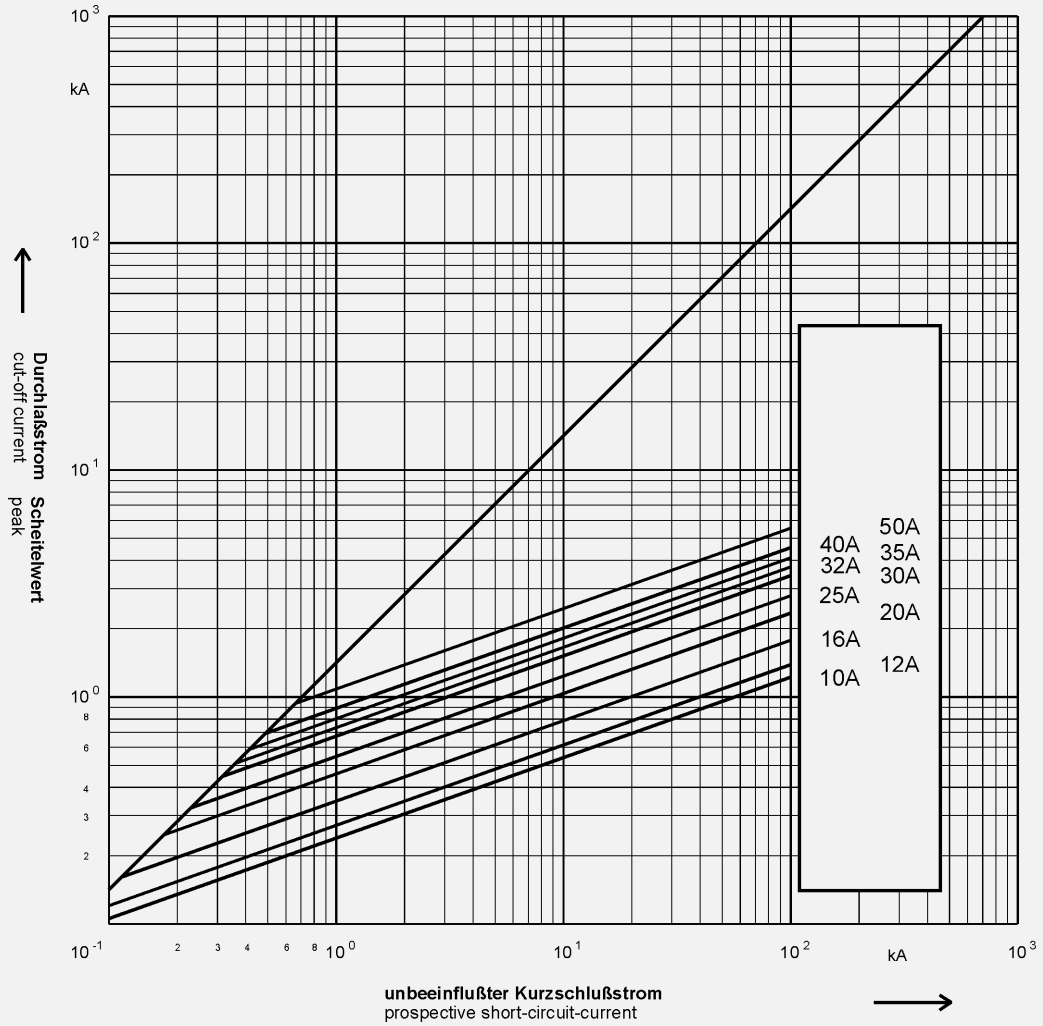
Betriebsklasse
operating class
gRL

Bemessungsausschaltvermögen
rated breaking capacitiy
100 kA

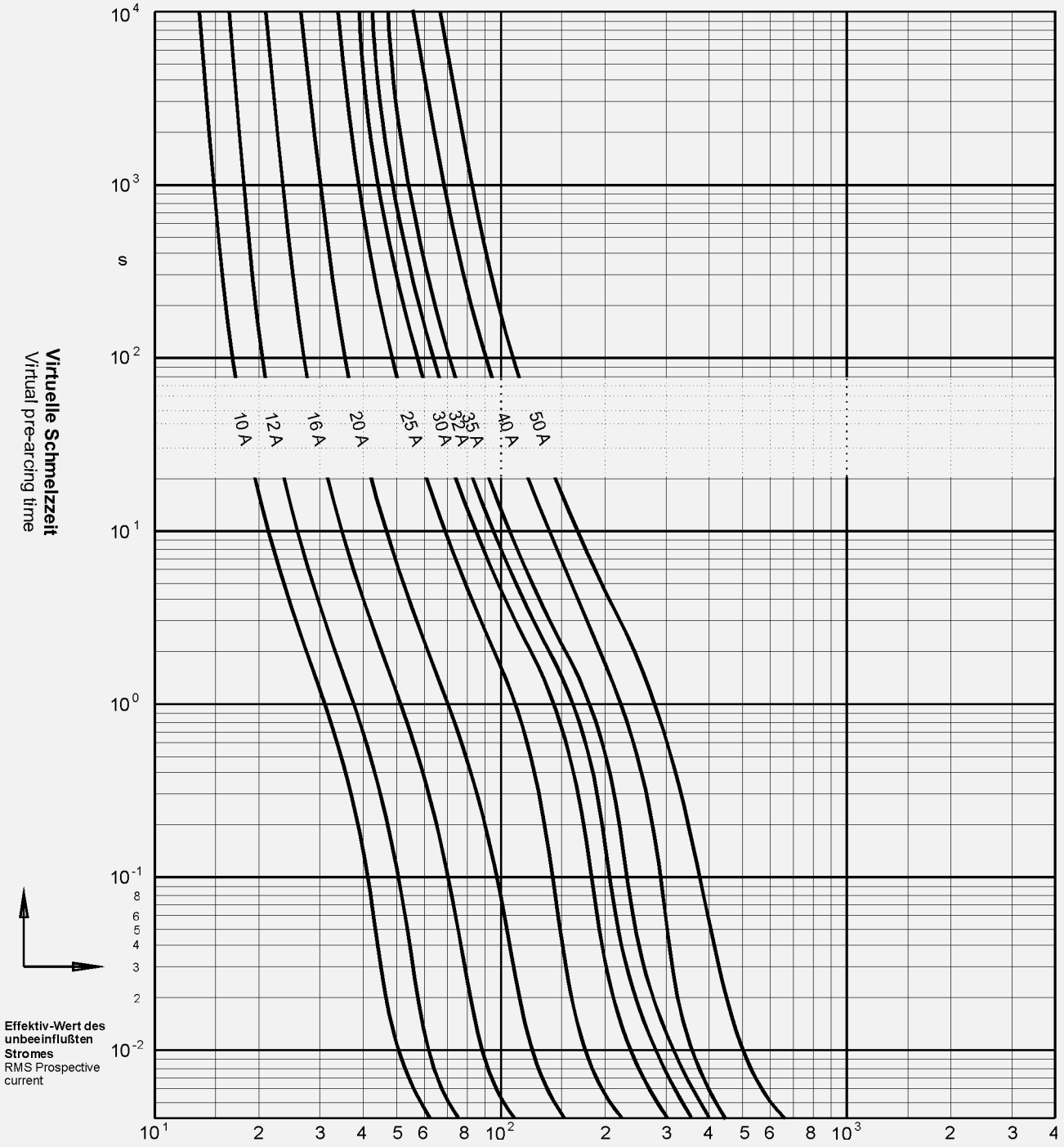
Koeffizienten für erschwerte Verwendung
Coefficiets for heavy duty application

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

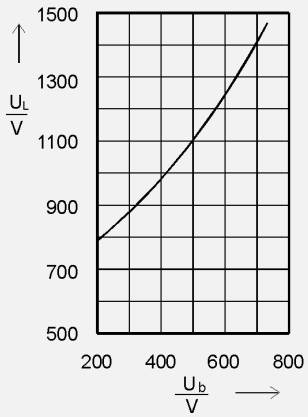
Strombegrenzungs-Diagramm
cut-off Characteristic



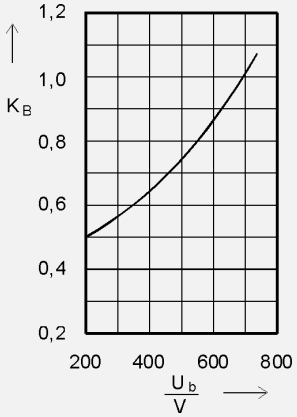
Zeit/Strom-Kennlinien
Time/current characteristics



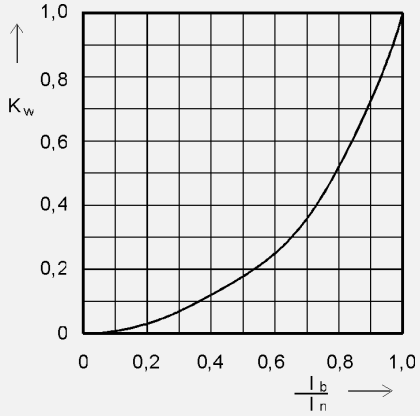
Schaltspannungs-Diagramm
Arc voltage-diagramm



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



Umrechnungsfaktor der Leistungsabgabe
reduction factor for power loss



22 x 58

Art. Nr. part No.	Bemessungsstrom rated current A	Leistungsabgabe power loss W	Schmelz-I²t-Wert pre-arcing I²t-value A²s	Ausschalt-I²t-Wert total I²t-value A²s bei / at 690 V
	25	3,6	100	800
	30	4,6	190	1500
	32	4,8	250	2000
	35	5,0	370	3000
50 140 34	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

Größe
size
22 x 58 mm

Nennspannung
rated voltage
AC 690 V

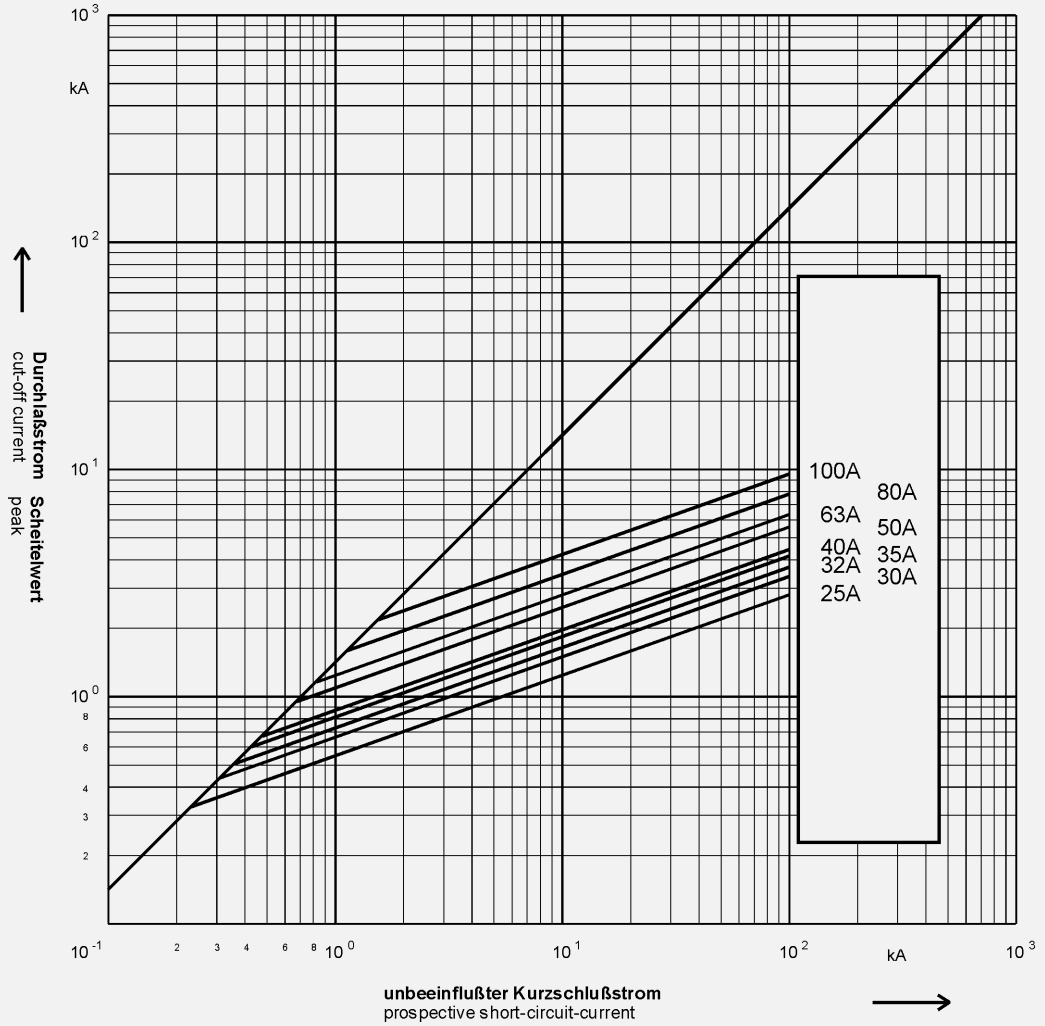
Betriebsklasse
operating class
gRL

Bemessungsausschaltvermögen
rated breaking capacitiy
100 kA

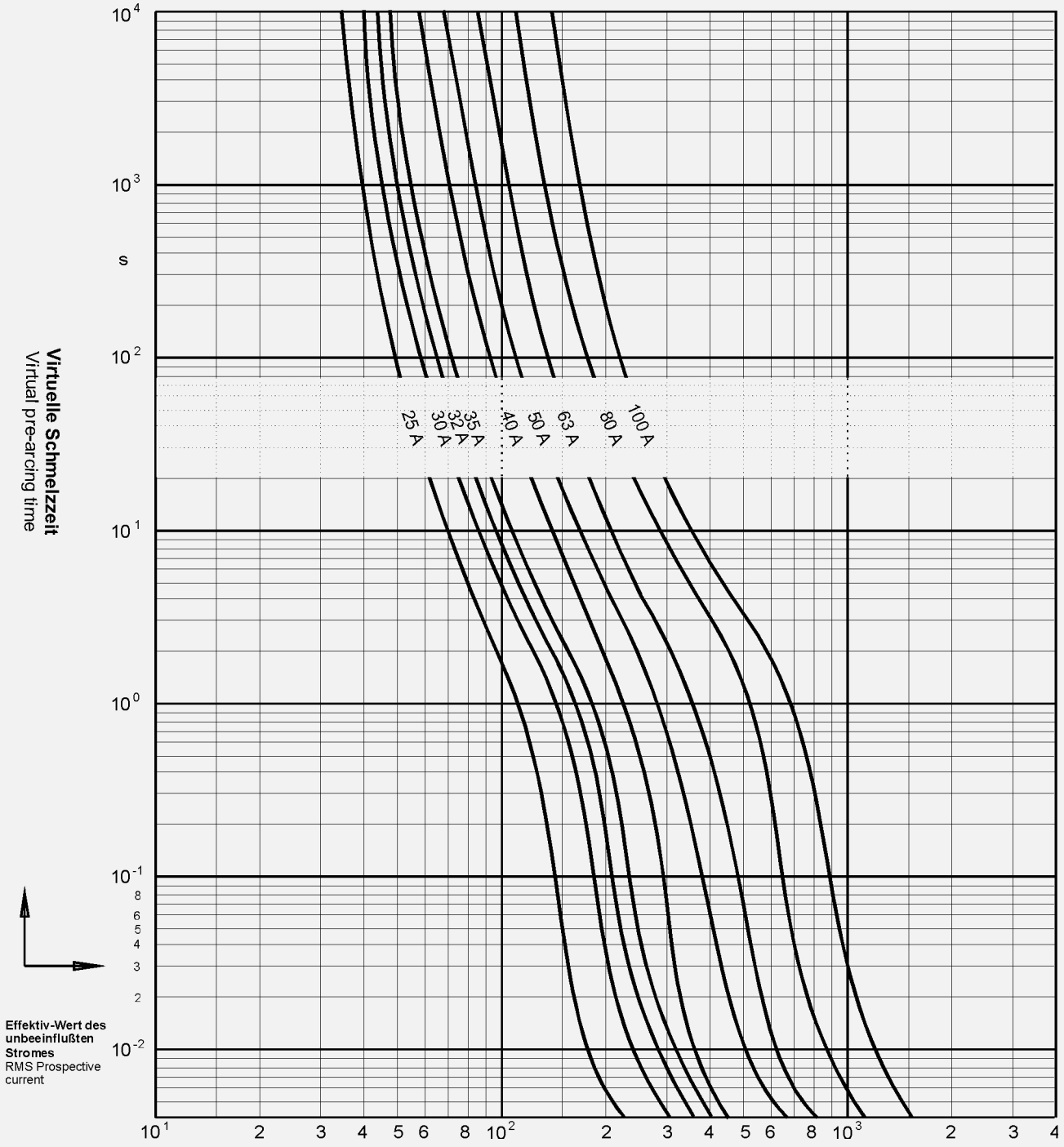
Koeffizienten für erschwerte Verwendung
Coefficiets for heavy duty application

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

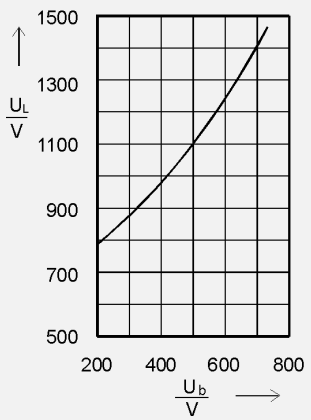
Strombegrenzungs-Diagramm
cut-off Characteristic



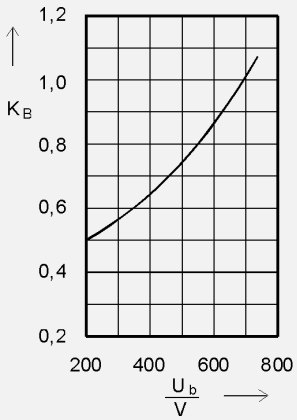
Zeit/Strom-Kennlinien
Time/current characteristics



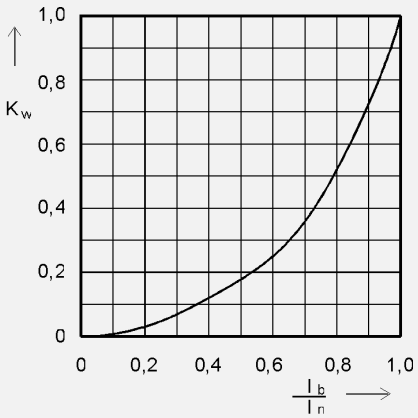
Schaltspannungs-Diagramm
Arc voltage-diagramm



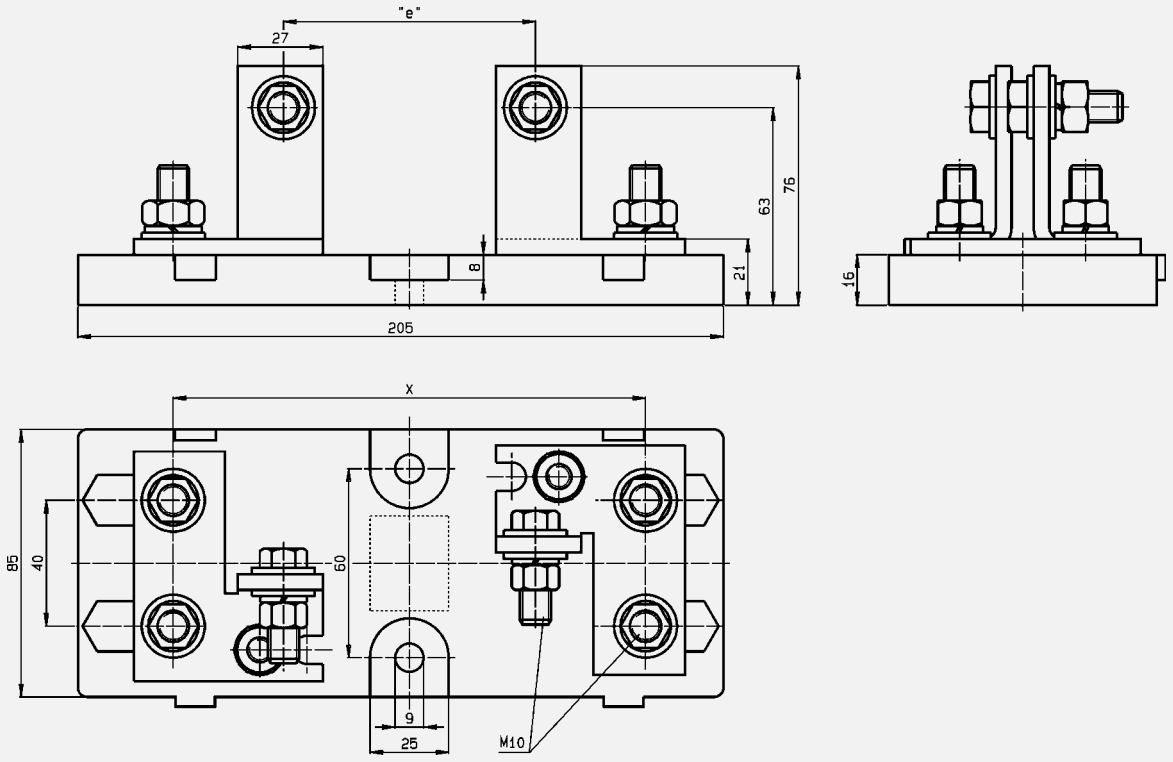
Umrechnungsfaktor für Ausschalt-I^2t-Wert
reduction factor for total-I^2t-value



Umrechnungsfaktor der Leistungsabgabe
reduction factor for power loss

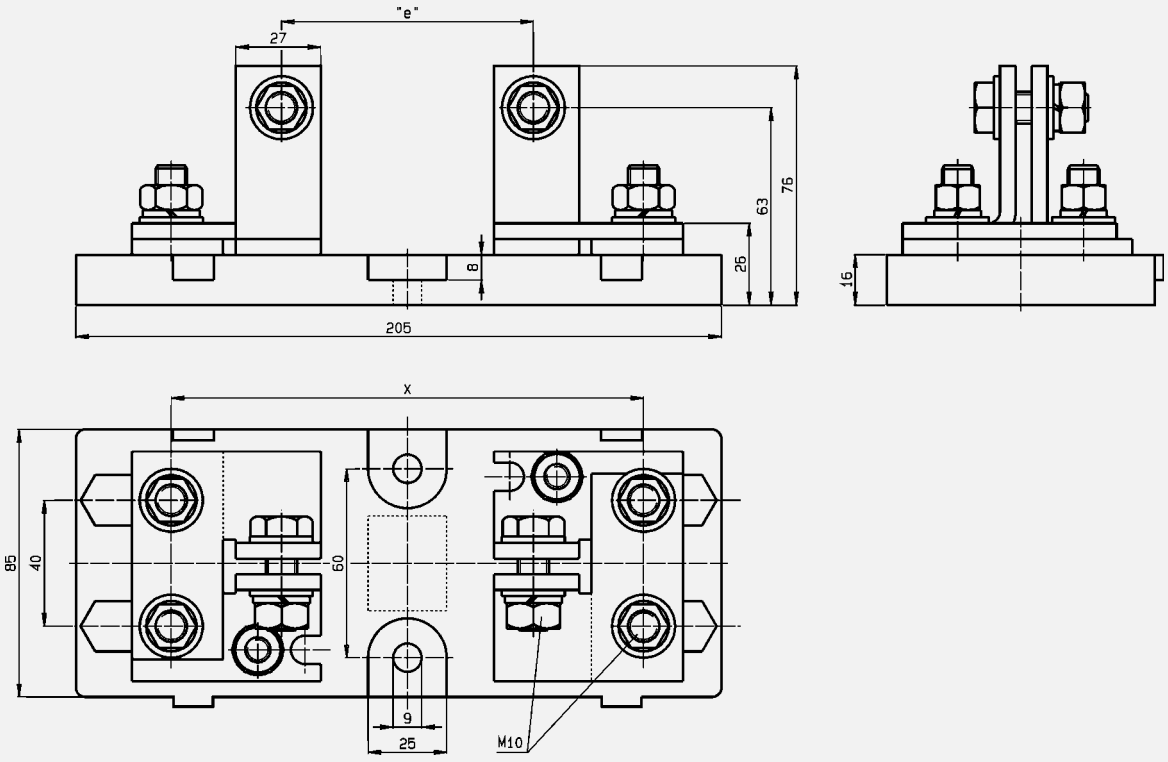


Sicherungsunterteil **630 A** für Sicherungseinsätze mit Schraubkontakten
Gr. 1 bis 3 nach DIN 43653
fuse-base **630 A** for fuse links with screwcontacts
size 1 up to 3 according to DIN 43 653



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

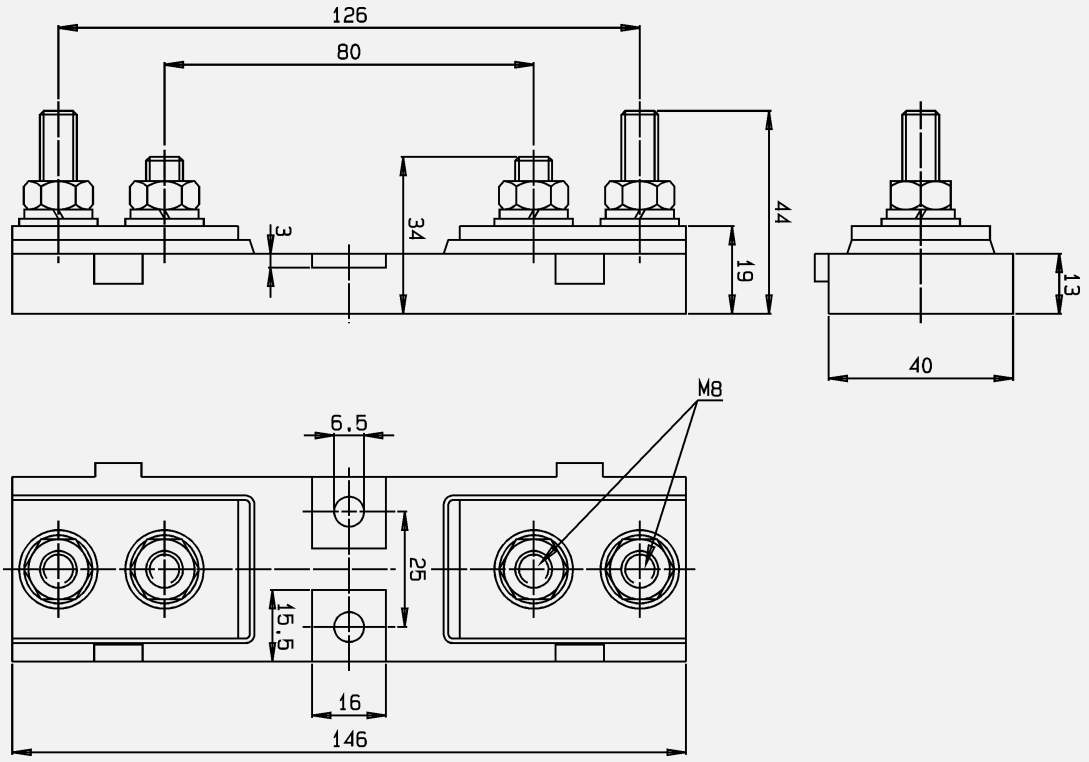


Art.-Nr. part-no.	Bemessungsstrom rated current	Bemessungsspannung rated voltage	Stichmaß "e" fixing center "e"	Maß X dimension X
21 313 02	≤ **1250 A**	900 V	80 mm	150 mm
21 323 02	≤ **1250 A**	1400 V	110 mm	180 mm

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**

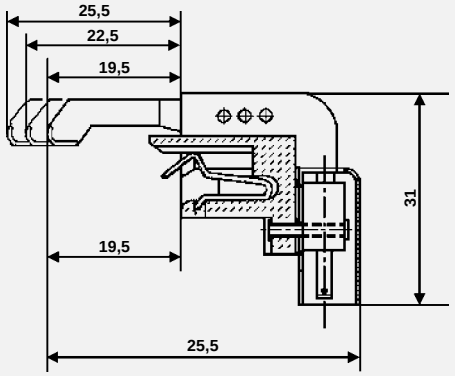
Art.-Nr. / part no. : 21 189 01



GL-Mikroschalter
GL-micro switch

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

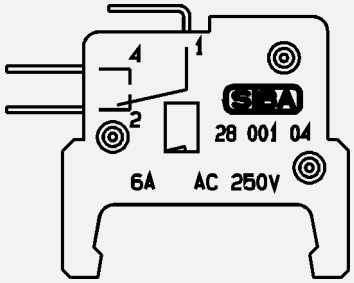
Art.-Nr. / part-no. : 28 002 05



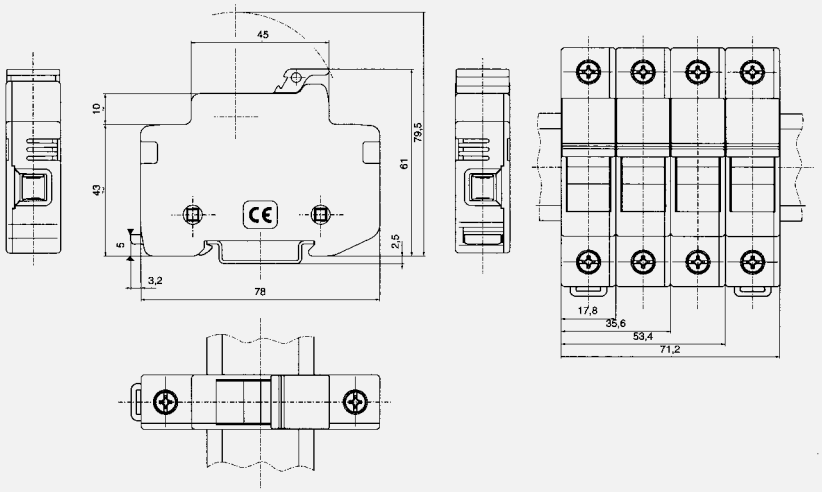
M-Mikroschalter
M-micro switch

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



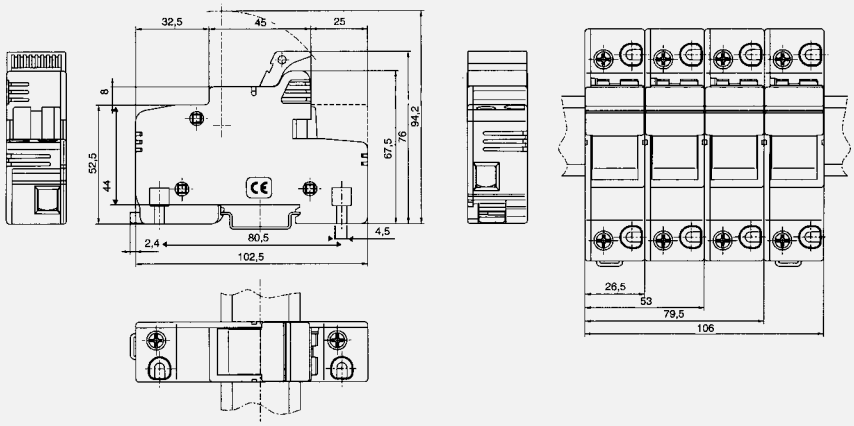
ZS-Modul; vollisoliertes Sicherungsunterteil
für Sicherungseinsätze mit zyl. Kontaktkappen
ZS-Module;isolated fuse base
for fuse links with zyl. kontact caps



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.

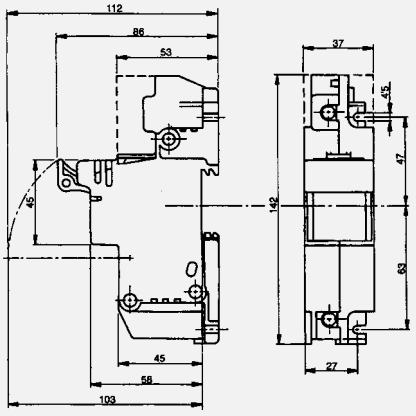
L = Dioden-Anzeige / diode indicator



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



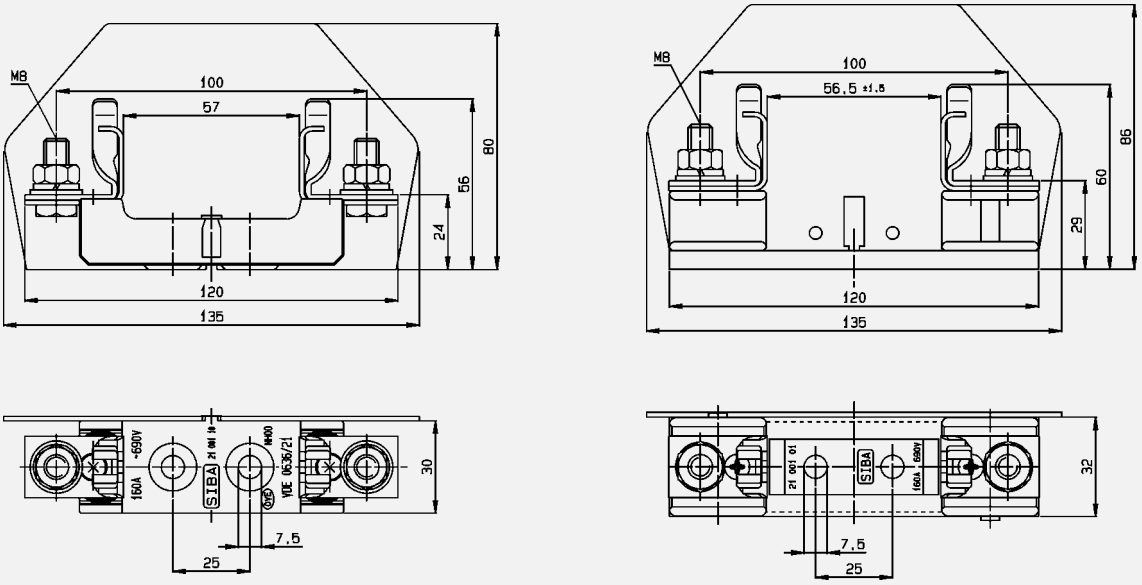
22 x 58

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

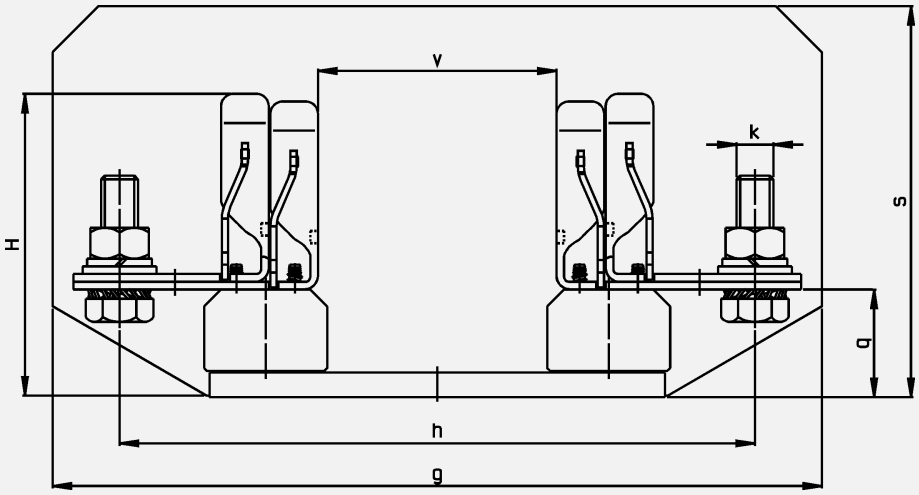
Größe / size 00



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**

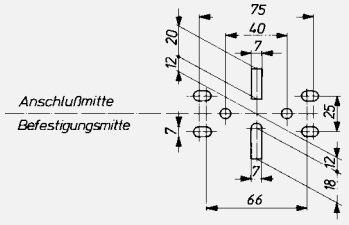
Abmessungen / dimensions (mm)

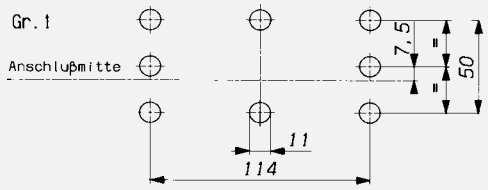
Art.-Nr./part-no.	A	B	C	D	E	F	G	H	L
21 001 21	106	200	83	45	74,5	38	60	155	181
21 003 21	184	243	111,5	66	220	45,5	84	220	107
21 004 21	210	288	128	80		48	92	249	124
21 005 21	256	300	142,5	94,5		48	98,5	259	127,5

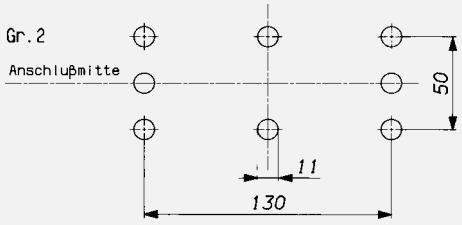
Art.-Nr./part-no.	M	P	Q	R	X
21 001 21	103	110	17	2XM5	33
21 003 21	214,5	185	21,5	M10	57
21 004 21	255	210	25	M10	65
21 005 21	267	210	30	M12	81

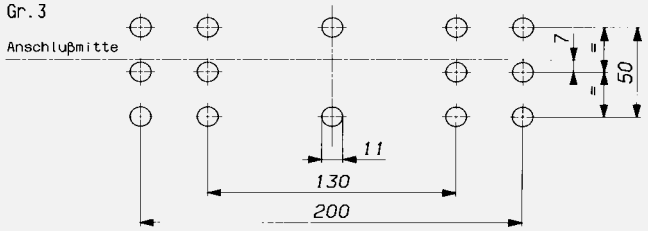
Befestigungsmaße / mounting dimensions

Größe / Size: 00





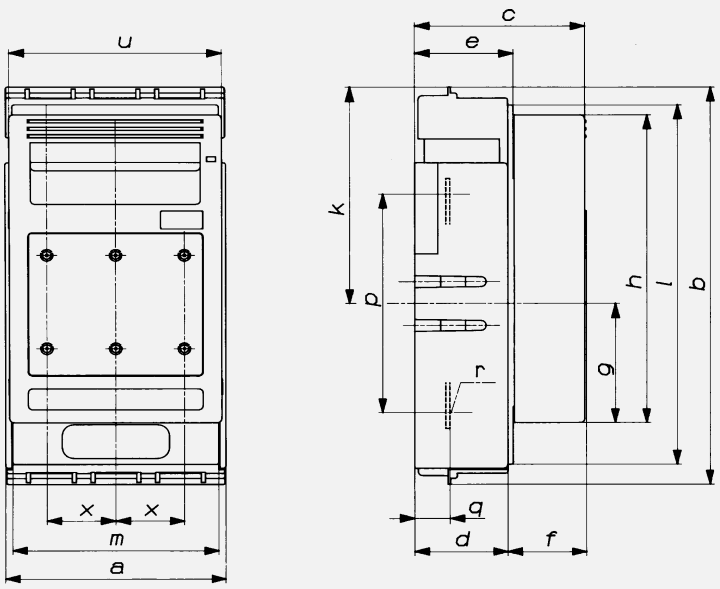




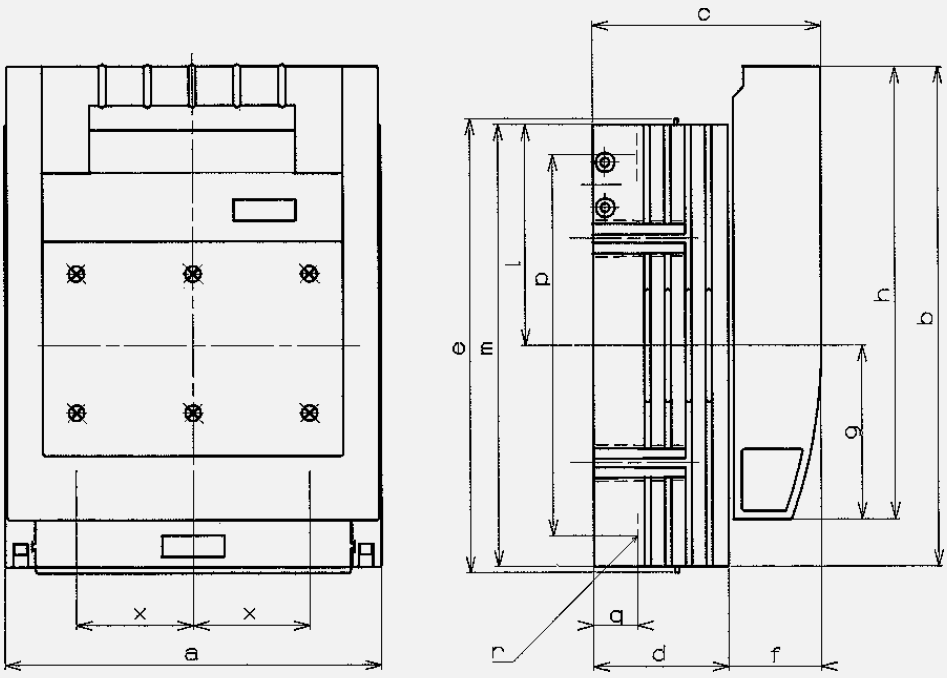
bei gemischtem Aufbau nach Anschlußmitte ausrichten!
for fitting different sizes plaese ensure centre marking

Zeichnungen / drawings

Größe / Size: 00



Größe / Size: 1 / 2 / 3



Artikel-Nr. Verzeichnis / part-no. index

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