SUMMARY OF MODELS OF HRC FUSE-LINKS







Type		PVA10 / PV10	PV14	PV22
Rated current I_n		up to 32 A	up to 63 A	up to 125 A
Rated voltage U_n	AC DC	400 V, 500 V 250 V	400 V, 500 V, 690 V 250 V	400 V, 500 V, 690 V 250 V
Fuse-link size		10x38	14x51	22x58
Utilization category of the fuse-link		gG, aM	gG, aM	gG, aM

E

Use				
Fuse switch-disconnectors for cylindrical fuse-links		OPVP10..	OPVP14..	OPVP22..

Accessories				
Signalling of fuse-link state		MD-M3		
Disconnecting links		ZPV10	ZPV14	ZPV22
Replacement tongs		KV		

CYLINDRICAL FUSE-LINKS PV



PVA10 32A gG



PV14 63A gG



PV22 125A gG



ZPV22



MD-M3

- Small dimension.
- High limiting and breaking capacity.
- Low power losses.
- The fuse-links do not contain harmful substances according to the RoHS (cadmium, lead and other).
- For using in fuse switch-disconnectors OPVP..
- Extended range of currents for all sizes and utilization categories.
- Utilization category gG (black print) for protection of lines, cables and other equipment against overload and short-circuit.
- Utilization category aM (green print) for protection of motors, overcurrent relays, contactors and similar devices only against short-circuit.

Fuse-links PVA10, PV10

I_n	Utilization category gG				Utilization category aM				Weight	Package
	Type	U_n	Order	Power losses	Type	U_n	Order	Power losses		
[A]		[V]	code	[W]		[V]	code	[W]	[kg]	[pcs]
0,25	-	-	-	-	**PVA10 0,25A aM**	500	OEZ:40758	0.08	0.008	20
0,5	-	-	-	-	**PVA10 0,5A aM**	500	OEZ:40759	0.07	0.008	20
1	-	-	-	-	**PVA10 1A aM**	500	OEZ:40760	0.10	0.008	20
2	**PVA10 2A gG**	500	OEZ:40748	0.50	**PVA10 2A aM**	500	OEZ:40761	0.14	0.008	20
4	**PVA10 4A gG**	500	OEZ:40749	0.85	**PVA10 4A aM**	500	OEZ:40762	0.28	0.008	20
6	**PVA10 6A gG**	500	OEZ:40750	0.95	**PVA10 6A aM**	500	OEZ:40763	0.38	0.008	20
8	**PVA10 8A gG**	500	OEZ:40751	1.15	**PVA10 8A aM**	500	OEZ:40764	0.60	0.008	20
10	**PVA10 10A gG**	500	OEZ:40752	1.30	**PVA10 10A aM**	500	OEZ:40765	0.62	0.008	20
12	**PVA10 12A gG**	500	OEZ:40753	1.40	**PVA10 12A aM**	500	OEZ:40766	0.82	0.008	20
16	**PV10 16A gG**	500	OEZ:06703	2.00	**PV10 16A aM**	500	OEZ:06704	0.80	0.011	20
20	**PV10 20A gG**	500	OEZ:06705	2.50	**PV10 20A aM**	400	OEZ:06706	1.00	0.011	20
25	**PV10 25A gG**	500	OEZ:06707	2.90	**PV10 25A aM**	400	OEZ:06708	1.30	0.011	20
32	**PV10 32A gG AC 400V**	400	OEZ:45387	3.00	**PV10 32A aM**	400	OEZ:06710	2.00	0.011	20

Fuse-links PV14

I_n	Utilization category gG				Utilization category aM				Weight	Package
	Type	U_n	Order	Power losses	Type	U_n	Order	Power losses		
[A]		[V]	code	[W]		[V]	code	[W]	[kg]	[pcs]
0,25	-	-	-	-	**PV14 0,25A aM**	690	OEZ:06711	0.11	0.020	10
0,5	-	-	-	-	**PV14 0,5A aM**	690	OEZ:06712	0.14	0.020	10
1	-	-	-	-	**PV14 1A aM**	690	OEZ:06713	0.23	0.020	10
2	**PV14 2A gG**	690	OEZ:06714	0.95	**PV14 2A aM**	690	OEZ:06715	1.20	0.020	10
4	**PV14 4A gG**	690	OEZ:06716	1.70	**PV14 4A aM**	690	OEZ:06717	0.35	0.020	10
6	**PV14 6A gG**	690	OEZ:06718	1.50	**PV14 6A aM**	690	OEZ:06719	0.58	0.020	10
8	**PV14 8A gG**	690	OEZ:06720	1.40	**PV14 8A aM**	690	OEZ:06721	0.55	0.020	10
10	**PV14 10A gG**	690	OEZ:06722	1.58	**PV14 10A aM**	690	OEZ:06723	0.57	0.020	10
12	**PV14 12A gG**	690	OEZ:06724	1.49	**PV14 12A aM**	690	OEZ:06725	0.62	0.020	10
16	**PV14 16A gG**	690	OEZ:06726	2.00	**PV14 16A aM**	500	OEZ:06727	0.97	0.020	10
20	**PV14 20A gG**	690	OEZ:06728	2.24	**PV14 20A aM**	500	OEZ:06729	1.10	0.020	10
25	**PV14 25A gG**	690	OEZ:06730	2.70	**PV14 25A aM**	500	OEZ:06731	1.32	0.020	10
32	**PV14 32A gG**	690	OEZ:06732	3.33	**PV14 32A aM**	500	OEZ:06733	1.90	0.020	10
40	**PV14 40A gG**	500	OEZ:06734	4.00	**PV14 40A aM**	500	OEZ:06735	2.32	0.020	10
50	**PV14 50A gG**	500	OEZ:06736	4.10	**PV14 50A aM**	400	OEZ:06737	3.20	0.020	10
63	**PV14 63A gG**	500	OEZ:06738	5.35	**PV14 63A aM**	400	OEZ:06739	3.65	0.020	10

Fuse-links PV22

I_n	Utilization category gG				Utilization category aM				Weight	Package
	Type	U_n	Order	Power losses	Type	U_n	Order	Power losses		
[A]		[V]	code	[W]		[V]	code	[W]	[kg]	[pcs]
16	**PV22 16A gG**	690	OEZ:06740	2.35	**PV22 16A aM**	690	OEZ:06741	1.10	0.060	10
20	**PV22 20A gG**	690	OEZ:06742	2.40	**PV22 20A aM**	690	OEZ:06743	1.21	0.060	10
25	**PV22 25A gG**	690	OEZ:06744	2.90	**PV22 25A aM**	690	OEZ:06745	1.55	0.060	10
32	**PV22 32A gG**	690	OEZ:06746	3.90	**PV22 32A aM**	690	OEZ:06747	2.50	0.060	10
40	**PV22 40A gG**	690	OEZ:06748	4.52	**PV22 40A aM**	690	OEZ:06749	3.20	0.060	10
50	**PV22 50A gG**	690	OEZ:06750	6.20	**PV22 50A aM**	690	OEZ:06751	3.60	0.060	10
63	**PV22 63A gG**	500	OEZ:06752	5.82	**PV22 63A aM**	500	OEZ:06753	4.40	0.060	10
80	**PV22 80A gG**	500	OEZ:06754	6.82	**PV22 80A aM**	500	OEZ:06755	5.00	0.060	10
100	**PV22 100A gG**	500	OEZ:06756	7.81	**PV22 100A aM**	500	OEZ:06757	6.00	0.060	10
125	**PV22 125A gG**	500	OEZ:18271	10.50	**PV22 125A aM**	400	OEZ:06758	7.80	0.060	10

Accessories

Disconnecting links	**ZPV**	page E12
Electronic signalling of fuse state	**MD-M3**	page E30
Replacement tongs	**KV**	page E12

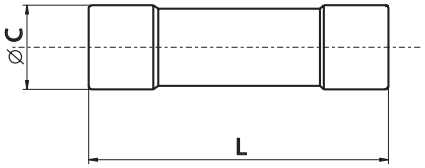
Specifications

Type		PVA10	PV10	PV14	PV22
Standards		IEC 60269 EN 60269	IEC 60269 EN 60269	IEC 60269 EN 60269	IEC 60269 EN 60269
Approval marks					
Rated voltage	U_n	AC 400 V, 500 V DC 250 V	AC 400 V, 500 V DC 250 V	AC 400 V, 500 V, 690 V DC 250 V	AC 400 V, 500 V, 690 V DC 250 V
Rated current	I_n	0,25 ÷ 12 A	16 ÷ 32 A	0,25 ÷ 63 A	16 ÷ 125 A
Breaking capacity (RMS)	AC	120 kA	120 kA [1]	120 kA [2]	120 kA
	DC	10 kA	50 kA	50 kA	50 kA
Utilization category		gG, aM	gG, aM	gG, aM	gG, aM
Fuse-link size		10x38	10x38	14x51	22x58
Selectivity		1 : 1,6	1 : 1,6	1 : 1,6	1 : 1,6

[1] 100 kA / PV10 32 A gG

[2] 80 kA / PV14 63 A gG

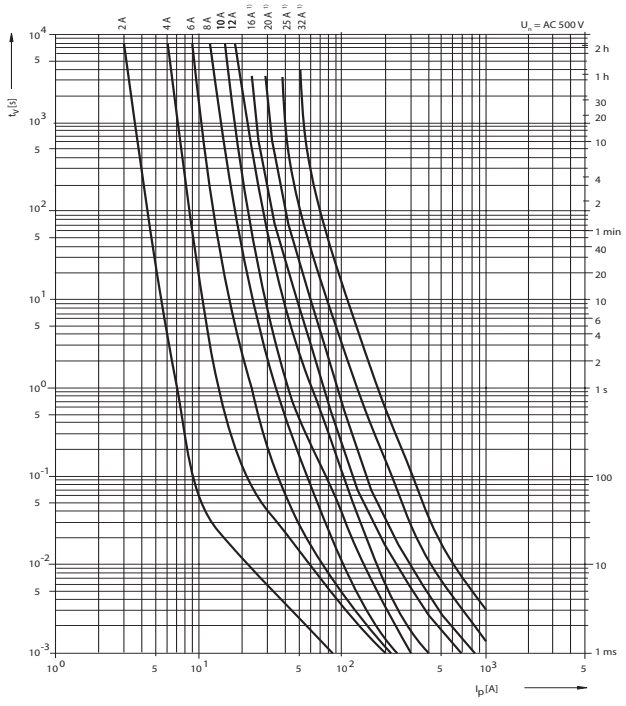
Dimensions



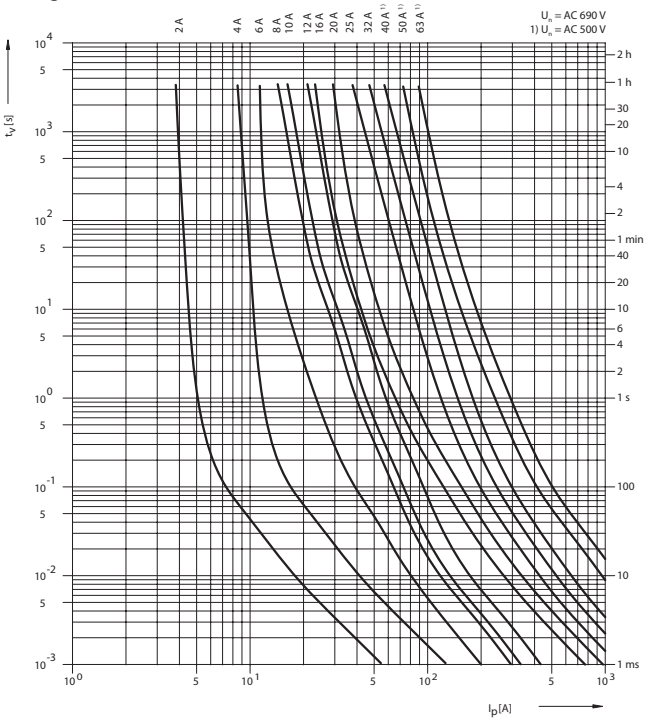
Type	⌀C	L
PVA10, PV10	10.3 ± 0.1	38 ± 0.6
PV14	14.3 ± 0.1	$51\ ^{+0,6}_{-1}$
PV22	22.2 ± 1	$58\ ^{+0,1}_{-2}$

Characteristics

Prearcing time/current characteristic
PVA10, PV10 [1] gG



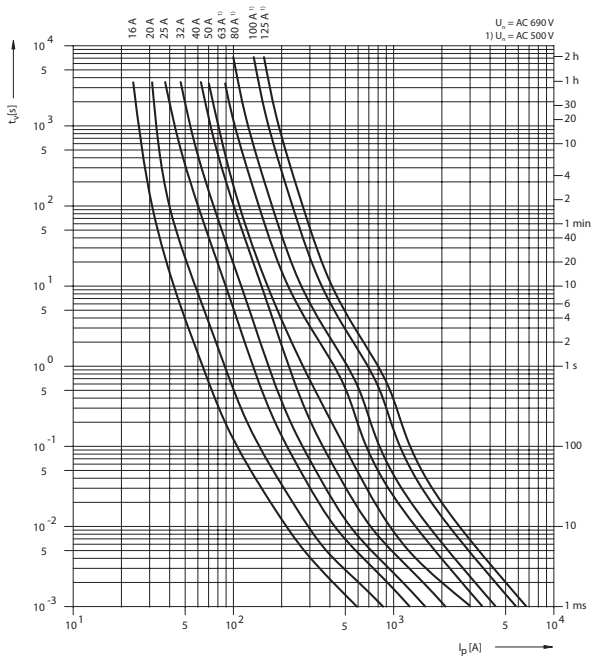
Prearcing time/current characteristic
PV14 gG



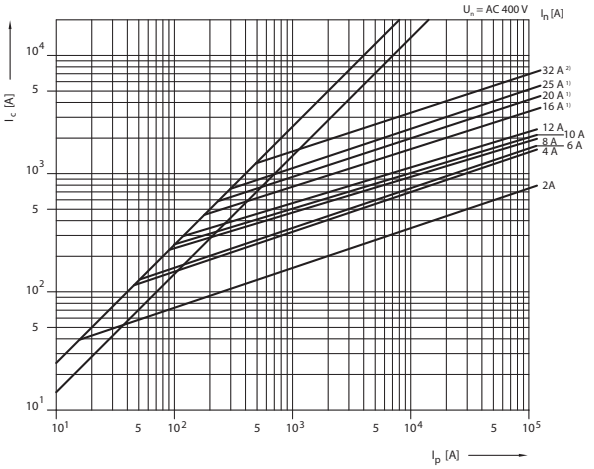
E

Characteristics

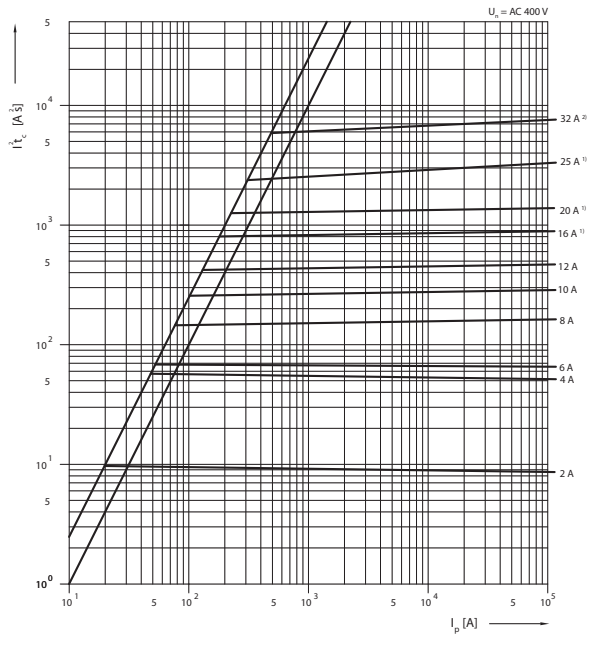
Prearcing time/current characteristic
PV22 gG



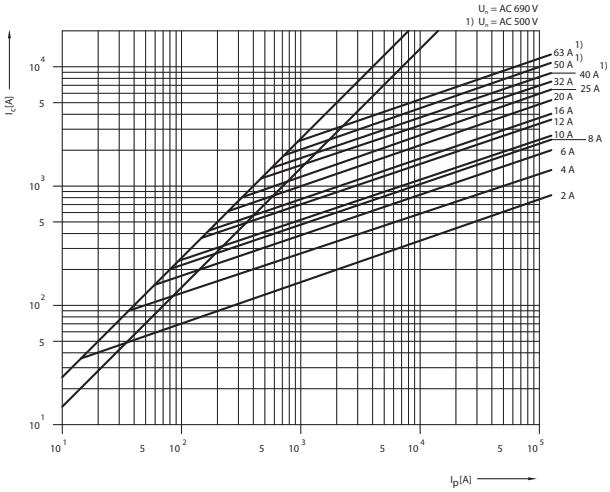
Cut-off characteristic
PVA10, PV10 1) gG



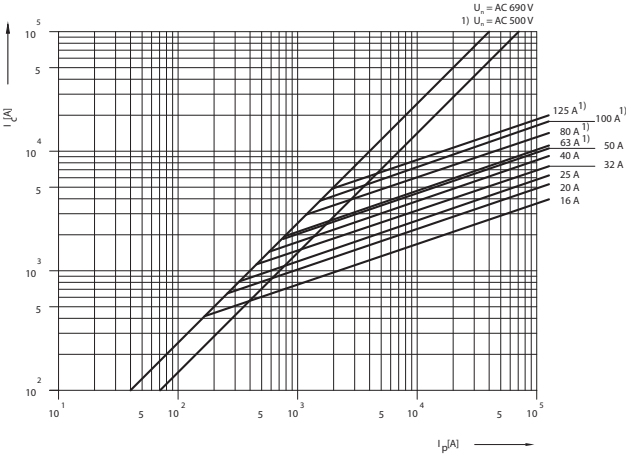
I^2t_c characteristic
PVA10, PV10 1) gG



Cut-off characteristic
PV14 gG

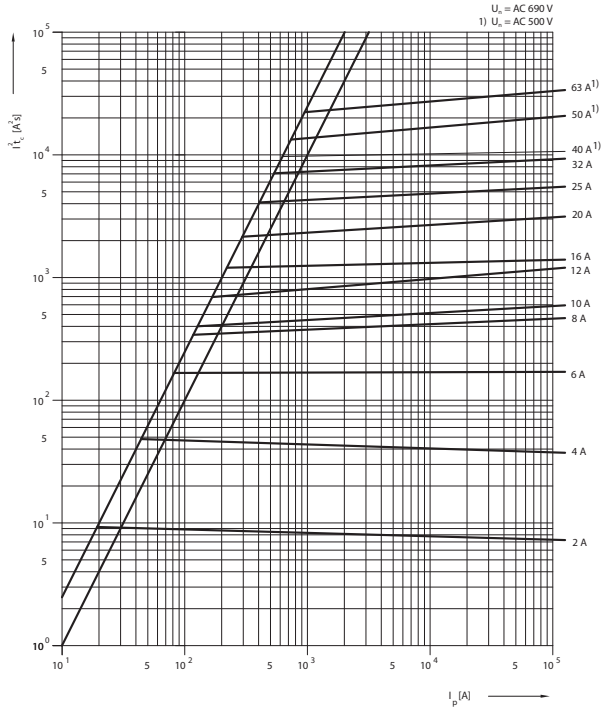


Cut-off characteristic
PV22 gG

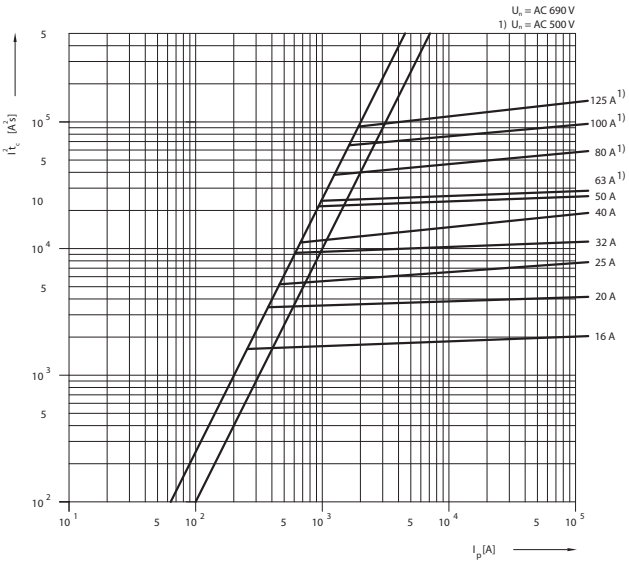


Characteristics

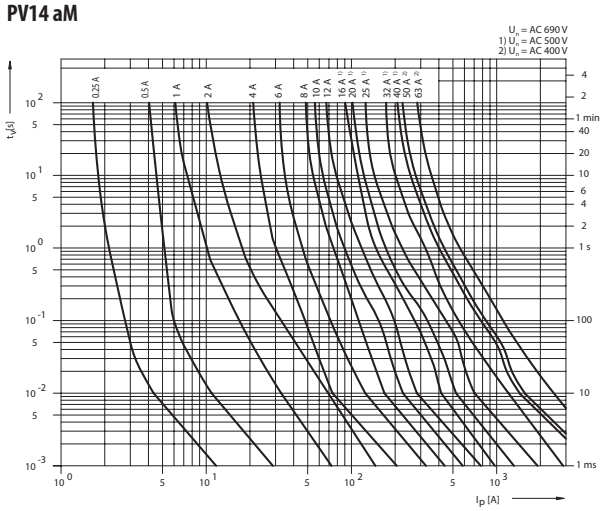
I^2t_c characteristic
PV14 gG



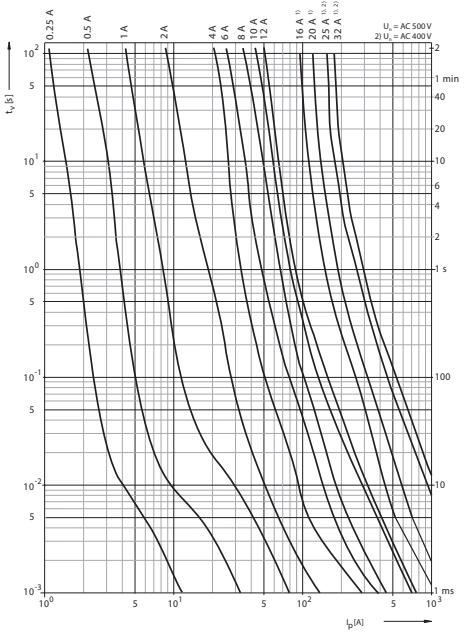
I^2t_c characteristic
PV22 gG



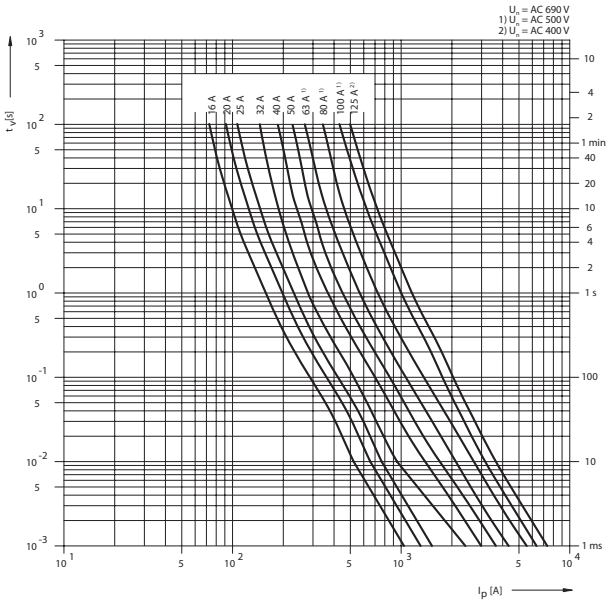
Prearcing time/current characteristic
PV14 aM



Prearcing time/current characteristic
PVA10, PV10 [1] aM



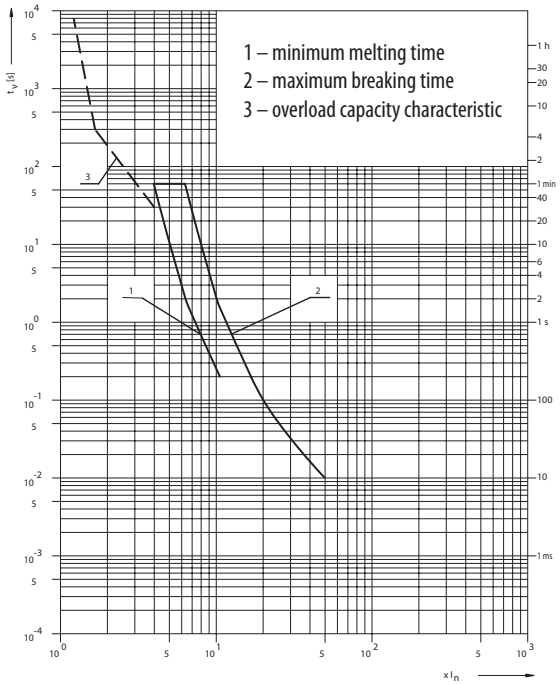
Prearcing time/current characteristic
PV22 aM



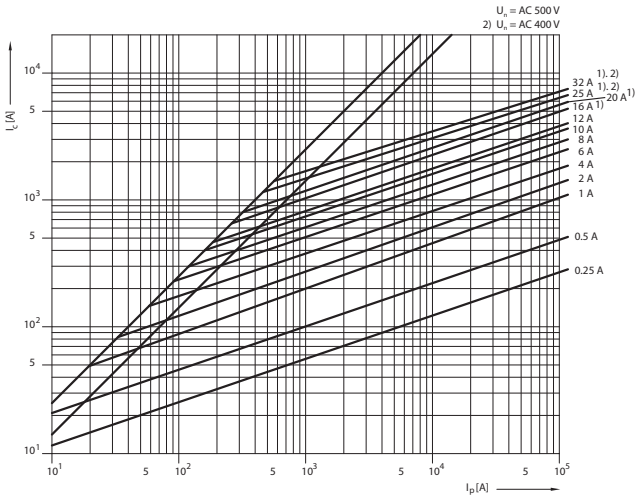
E

Characteristics

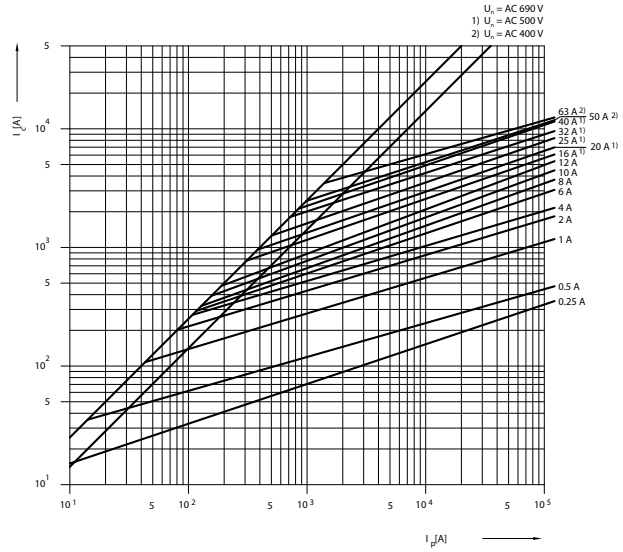
Overload curve and time/current characteristic
PVA10, PV10, 14, 22 aM



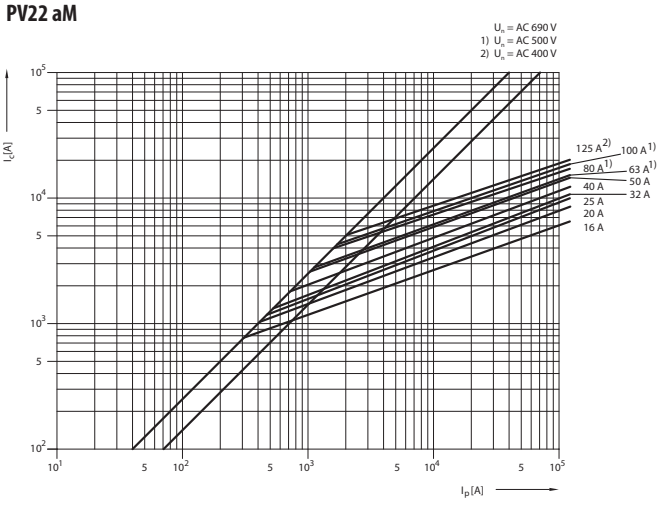
Cut-off characteristic
PVA10, PV10 [1] aM



Cut-off characteristic
PV14 aM

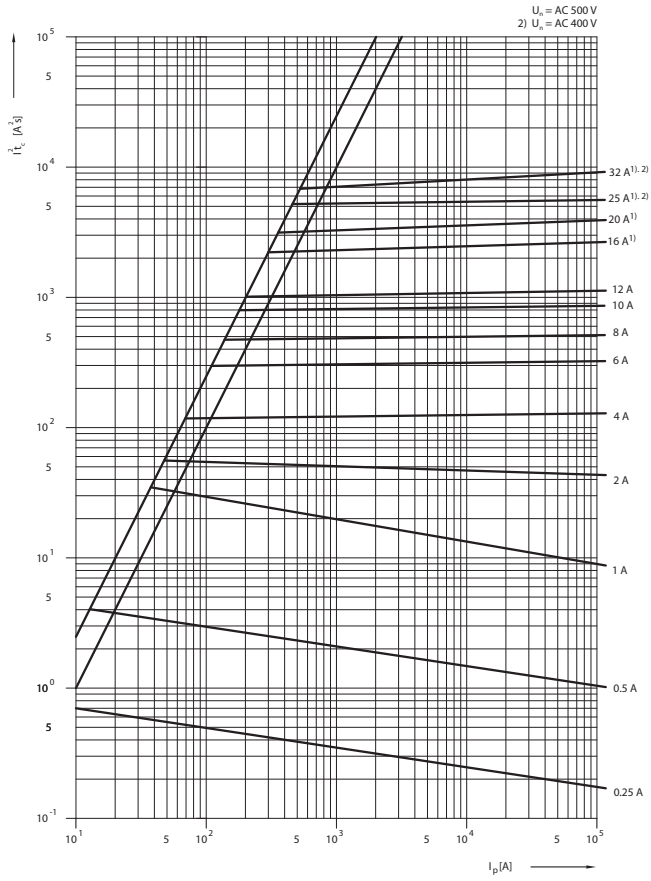


Cut-off characteristic
PV22 aM

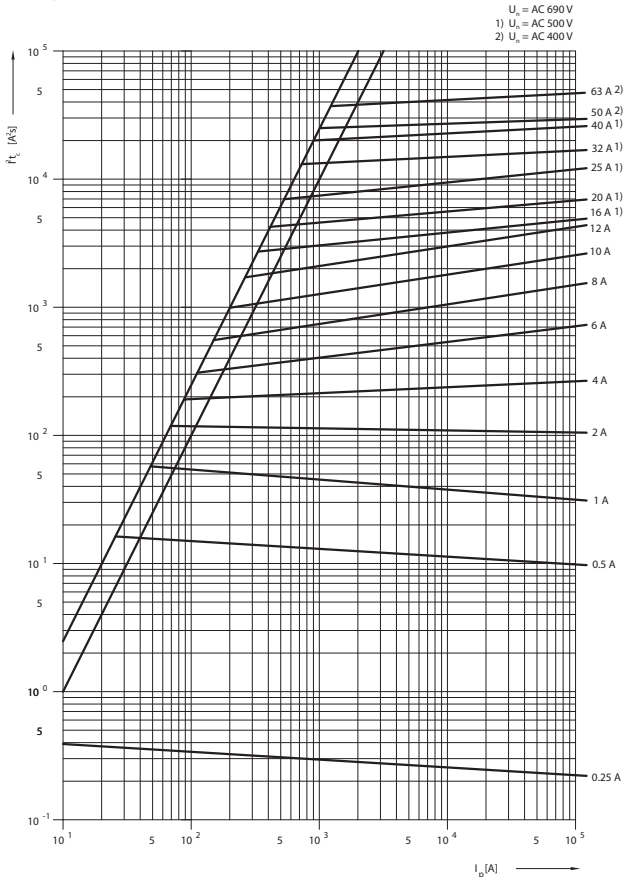


Characteristics

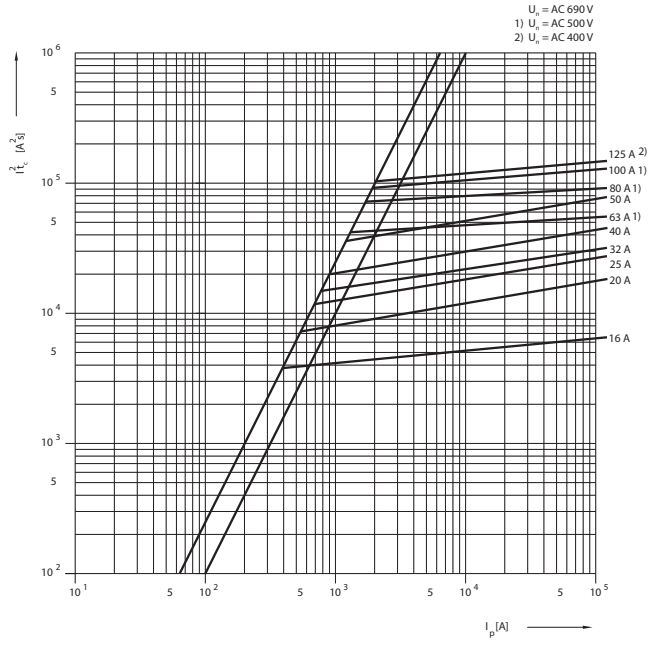
I^2t_c characteristic
PVA10, PV10 [1] aM



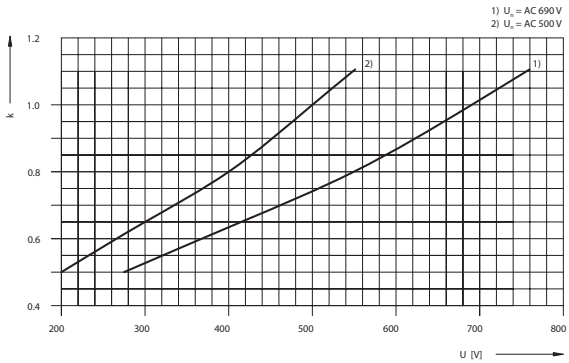
Characteristic I^2t_c
PV14 aM



I^2t_c characteristic
PV22 aM



Correction factor „k" of I^2t_c dependent on operating voltage U
$(I^2t_c)_{f(U)} = k \times I^2t_c$
PV10, 14, 22 gG, aM



E

ACCESSORIES FOR PV



ZPV10 ZPV14 ZPV22 ZPT22

E



KV

Disconnecting links

- They are used anywhere, where is necessary to create an easily disconnectable connection or for various reason to replace a fuse-link (when measurement etc.).
- They are used in fuse switch-disconnectors for cylindrical fuse-links.

I_n [A]	Type	Order code	Description	Weight [kg]	Package [pcs]
32	**ZPV10**	OEZ:13197	for OPVP10	0.008	10
63	**ZPV14**	OEZ:13198	for OPVP14	0.017	10
125	**ZPV22**	OEZ:13199	for OPVP22	0.047	10
63	**ZPT22**	OEZ:08609	for OPVT22	0.098	10

Replacement tongs

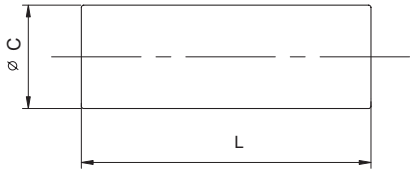
- Replacement tongs are used for handling in fuse-bases.

Type	Order code	Weight [kg]	Package [pcs]
KV	OEZ:06687	0.020	1

Specifications

Type	**ZP...**
Standards	IEC 60269-1, -2 EN 60269-1, -2; DIN 43 620
Approval marks	CE

Dimensions



Type	⌀ C	L
ZPV10	10.3	38
ZPV14	14.3	51
ZPV22	22.8	58
ZPT22	22.8	127

ACCESSORIES FOR PV, PNA, PHNA



MD-M3

E

Electronic signalling of fuse state

- It can be used for all types and sizes of fuse-links.
- Monitoring of fuse-links state in fuse switch-disconnectors and fuse-bases.
- Auxiliary contact without power supply → contact opened. Auxiliary contact with power supply → contact closed. Fuse-link remelting in circuit → contact opened.
- The devices are designed as modular for 45 mm cutout in the switchboard cover plate.
- Mounting on DIN rails according to EN 60715 (steel rail recommended).

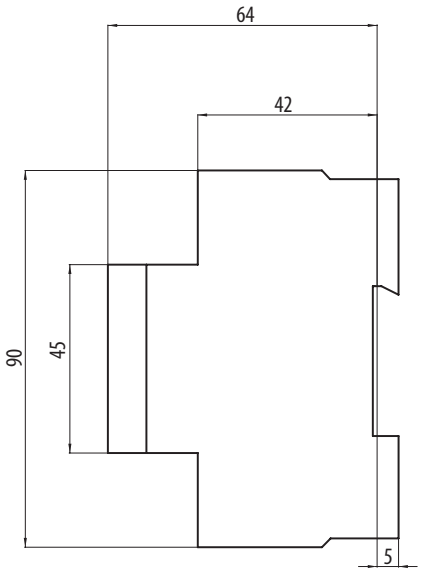
Type	Order code	Weight [kg]	Package [pcs]
MD-M3	OEZ:38614	0.15	1

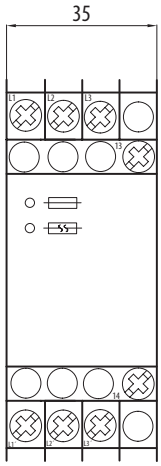
Specifications

Type		**MD-M3**
Standards		IEC 60255 DIN VDE 435-110
Approval marks		CE
Rated operating voltage	U_e	AC 250 V
Rated operating current	I_e	4 A
Rated control voltage	`U_c	AC 3x 415 V
Operating range		0.8 ÷ 1.1 xU_c
Rated frequency		50 ÷ 400 Hz
Input impedance		> 1 000 Ω/V
Max. permitted backwards power supply		90 %
Response/relase time		< 50 ms
Rated impulse withstand voltage	U_{imp}	> 4 kV
Electrical endurance	AC-15	1.5x 10^5
Mechanical endurance		> 10^8
Degree of case protection/terminal block		IP40/IP20
Number of contacts		1
Connection cross-section	solid	max. 2x 2.5 mm²
	stranded with end sleeve	min. 1x 0.5 mm²
Operating ambient temperature		-20 ÷ +60 °C
Climatic resistance	according to EN 60068-1	20/060/04

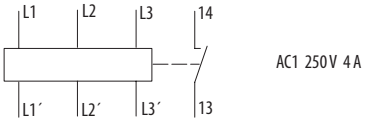
[1] The internal resistance of measuring circuits of the fuse monitor is in the MΩ band, therefore when fuse is missing or it is defective, the conditions concerning the contact voltage are met (according to IEC 974-1, internal resistance >2 000 Ω/V). In order to switch off, the main back-up circuit should be disconnected.

Dimensions





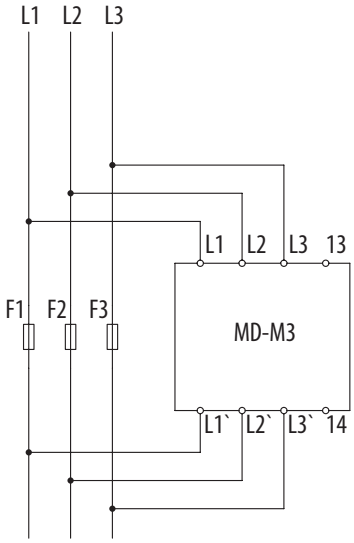
Diagram



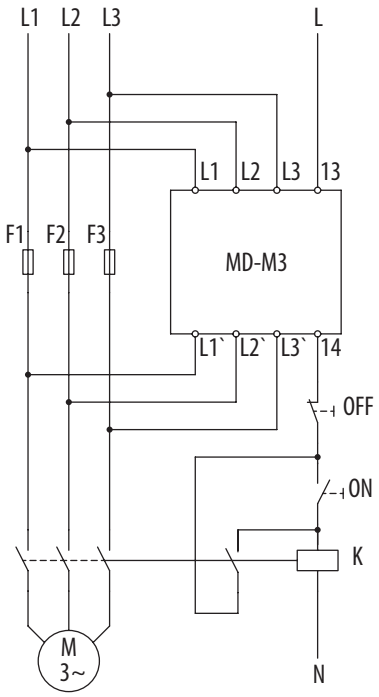
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Connection

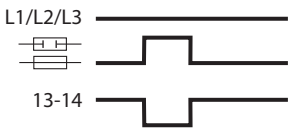
3-pole



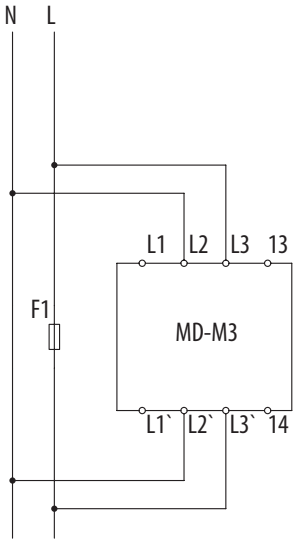
3-pole



Practical application, e.g. automatic disconnection and lock of turning-on of the three-phase motor when there is drop-out of one or several fuse-links.



1- or 2-pole



[1] It is possible to check the second fuse-link in the same or different phase at the terminals L3- L3´.