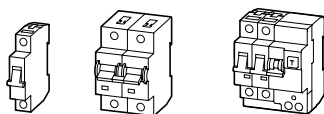




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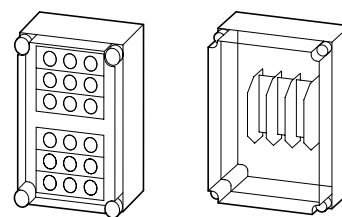
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Miniature circuit-breakers



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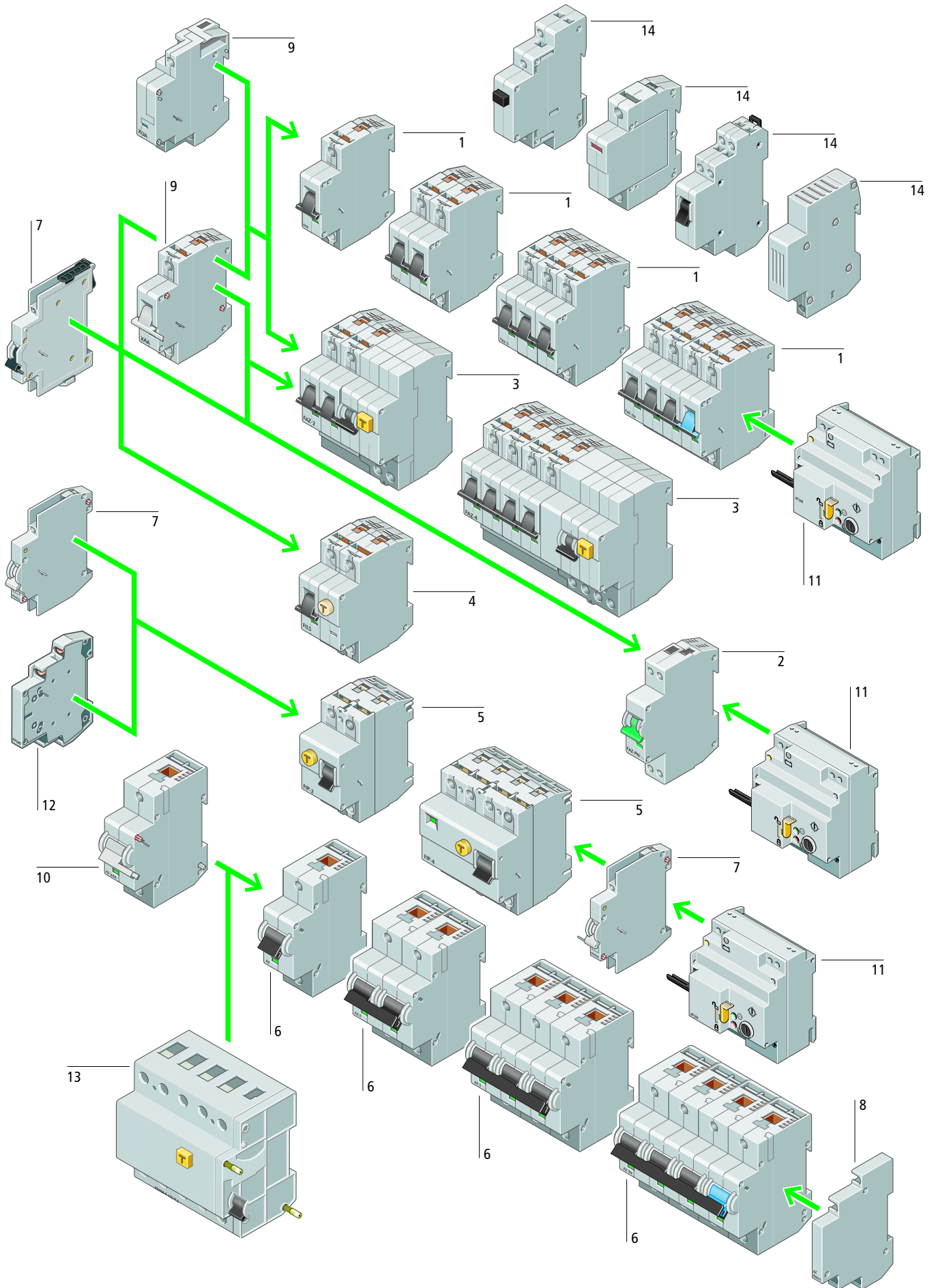
MCB enclosures, fuse enclosures



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Catalogue: FK4810-1143D  
 "Type-tested power distribution installation up to 4000 A"



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### Base Units



<p><b>FAZ miniature circuit-breakers</b> <span style="float: right;">1</span></p> <p>Characteristic/rated current ranges B/4 – 63 A; C/0.5 – 63 A; D/6 – 40 A S/1 – 40 A; K/0.5 – 63 A; Z/0.5 – 63 A</p> <p>Switching capacity: 15 kA to IEC/EN 60947-2 B, C, D characteristics</p> <p>10 kA to IEC/EN 60947-2 S characteristic</p> <p>15 kA to IEC/EN 60947-2 Z characteristic</p> <p>1-, 1N-, 2-, 3-, 3N-, 4-pole (S:1-, 2-pole; Z:1-, 2-, 3-, 4-pole)</p> <p>Special miniature circuit-breaker for control circuits (1-, 2-pole)</p> <p>Special miniature circuit-breaker for DC-applications up to 500 V DC</p> <p style="text-align: right;">→ Page 12/4</p>	<p><b>Residual-current circuit-breakers</b> <span style="float: right;">5</span></p> <p>Alternating-current sensitive 2-pole, 16 – 80 A 4-pole, 25 – 80 A</p> <p>Pulse-current sensitive 2-pole, 16 – 40 A, 4-pole, 25 – 125 A AC/DC 4-pole, 40 – 80 A</p> <p>Rated fault current 30 mA, 100 mA, 300 mA, 500 mA</p> <p>4-pole, selective, 63 – 80 A Rated fault current 100 mA, 300 mA 4-pole suitable for frequency inverters 40, 63 A 100 mA, 300 mA</p> <p style="text-align: right;">→ Page 12/18</p>	<p>Staircase timers, light intensity switches, timers, buzzer, bell, power meter, hours- run counter, plug socket</p> <p style="text-align: right;">→ Page 12/32, 33</p> <p>Overvoltage protection</p> <p style="text-align: right;">→ Page 12/34</p>
<p><b>FAZ-PN miniature circuit-breakers</b> <span style="float: right;">2</span></p> <p>Characteristic/rated current ranges B/6 – 40 A; C/2 – 40 A</p> <p>Switching capacity: 6 kA to IEC/EN 60 898 B, C characteristic</p> <p>1-pole + N</p> <p style="text-align: right;">→ Page 12/12</p>	<p><b>AZ miniature circuit-breakers</b> <span style="float: right;">6</span></p> <p>Characteristic/rated current ranges C/20-125 A; D/50-100 A</p> <p>Switching capacity: 15 – 25 kA to IEC/EN 60 947-2 1-, 2-, 3-, 3-pole+N, 4-pole</p> <p style="text-align: right;">→ Page 12/14</p>	<p><b>FAZ auxiliary contacts</b> <span style="float: right;">7</span></p> <p>Standard auxiliary contact Trip-indicating auxiliary contact Auxiliary contacts</p> <p style="text-align: right;">→ Page 12/21</p>
<p><b>Residual-current protective modules for fitting to FAZ</b> <span style="float: right;">3</span></p> <p>Protection in the event of fault current</p> <p>Rated current range 40 – 63 A</p> <p>Rated fault current 30 mA, 300 mA</p> <p style="text-align: right;">→ Page 12/16</p>	<p><b>Rail-mounted service installation devices</b> <span style="float: right;">14</span></p> <p>Main switches</p> <p style="text-align: right;">→ Page 12/25</p> <p>On/Off switches, changeover switches</p> <p style="text-align: right;">→ Page 12/26</p>	<p><b>AZ auxiliary contacts</b> <span style="float: right;">8</span></p> <p>Standard auxiliary contact</p> <p style="text-align: right;">→ Page 12/21</p>
<p><b>Residual-current protective modules for fitting to FAZ</b> <span style="float: right;">13</span></p> <p>Protection in the event of fault current</p> <p>Rated current range 80 – 125 A</p> <p>Rated fault current 30 mA, 300 mA</p> <p style="text-align: right;">→ Page 12/16</p>	<p>Pushbuttons, illuminated pushbuttons, indicator lights</p> <p style="text-align: right;">→ Page 12/27</p>	<p><b>FAZ voltage releases</b> <span style="float: right;">9</span></p> <p>Undervoltage release Shunt release can be fitted to FAZ or FAZ-FIM</p> <p style="text-align: right;">→ Page 12/21</p>
<p><b>PKNM combined RCD/MCB devices</b> <span style="float: right;">4</span></p> <p>Overload and short-circuit protection, and protection in the event of fault currents</p> <p>Characteristic/rated current ranges B/6-40 A; C/6-40 A; 1-pole + N</p> <p>Switching capacity: 10 kA to IEC/EN 60 898</p> <p>Rated fault current 30 mA, 300 mA</p> <p style="text-align: right;">→ Page 12/17</p>	<p>Impulse relays</p> <p style="text-align: right;">→ Page 12/28</p>	<p><b>AZ voltage releases</b> <span style="float: right;">10</span></p> <p>Shunt release</p> <p style="text-align: right;">→ Page 12/21</p>
<p><b>Installation relays</b></p> <p style="text-align: right;">→ Page 12/29</p>	<p>Installation relays</p> <p style="text-align: right;">→ Page 12/29</p>	<p><b>Remote switching module</b> <span style="float: right;">11</span></p> <p>Suitable for remote switching and auto- matic resetting of a miniature circuit- breaker or residual-current circuit-breaker, for testing that a residual-current circuit- breaker has tripped in conjunction with a remote testing module</p> <p style="text-align: right;">→ Page 12/21</p>
<p><b>Installation contactors</b></p> <p style="text-align: right;">→ Page 12/31</p>	<p>Installation contactors</p> <p style="text-align: right;">→ Page 12/31</p>	



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Rated current $I_n$ A	1-pole 		2-pole With 2 protected poles 		3-pole With 3 protected poles 	
	Type Article no.	Std. pack	Type Article no.	Std. pack	Type Article no.	Std. pack
<b>FAZ miniature circuit-breakers</b>						
B Response current of short-circuit release $3 - 5 \times I_n$	4	<b>FAZ-B4/1-HS</b> 279274	12 off	<b>FAZ-B4/2-HS</b> 279275	1 off	-
	5	<b>FAZ-B5/1</b> 278528	29	-	-	-
	6	<b>FAZ-B6/1</b> 278529	-	<b>FAZ-B6/2</b> 278728	-	<b>FAZ-B6/3</b> 278841
	8	<b>FAZ-B8/1</b> 278530	-	<b>FAZ-B8/2</b> 278729	-	<b>FAZ-B8/3</b> 278842
	10	<b>FAZ-B10/1</b> 278531	-	<b>FAZ-B10/2</b> 278730	-	<b>FAZ-B10/3</b> 278843
	12	<b>FAZ-B12/1</b> 278532	-	<b>FAZ-B12/2</b> 278731	-	<b>FAZ-B12/3</b> 278844
	13	<b>FAZ-B13/1</b> 278533	-	<b>FAZ-B13/2</b> 278732	-	<b>FAZ-B13/3</b> 278845
	15	<b>FAZ-B15/1</b> 278534	-	<b>FAZ-B15/2</b> 278733	-	<b>FAZ-B15/3</b> 278846
	16	<b>FAZ-B16/1</b> 278535	-	<b>FAZ-B16/2</b> 278734	-	<b>FAZ-B16/3</b> 278847
	20	<b>FAZ-B20/1</b> 278536	-	<b>FAZ-B20/2</b> 278735	-	<b>FAZ-B20/3</b> 278848
	25	<b>FAZ-B25/1</b> 278537	-	<b>FAZ-B25/2</b> 278736	-	<b>FAZ-B25/3</b> 278849
	32	<b>FAZ-B32/1</b> 278538	-	<b>FAZ-B32/2</b> 278737	-	<b>FAZ-B32/3</b> 278850
	40	<b>FAZ-B40/1</b> 278539	-	<b>FAZ-B40/2</b> 278738	-	<b>FAZ-B40/3</b> 278851
	50	<b>FAZ-B50/1</b> 278540	-	<b>FAZ-B50/2</b> 278739	-	<b>FAZ-B50/3</b> 278852
	63	<b>FAZ-B63/1</b> 278541	-	<b>FAZ-B63/2</b> 278740	-	<b>FAZ-B63/3</b> 278853

Type Article no.	Std. pack	2-pole With 1 protected pole, N switching with pole 		Std. pack	4-pole With 3 protection poles, N switching with poles 	
		Type Article no.	Std. pack		Type Article no.	Std. pack
-	-	-	-	-	-	-
-	-	-	-	-	-	-
<b>FAZ-B6/4</b> 279029	1 off	<b>FAZ-B6/1N</b> 278642	1 off	<b>FAZ-B6/3N</b> 278943	1 off	-
<b>FAZ-B8/4</b> 279030	-	<b>FAZ-B8/1N</b> 278643	-	<b>FAZ-B8/3N</b> 278944	-	-
<b>FAZ-B10/4</b> 279031	-	<b>FAZ-B10/1N</b> 278644	-	<b>FAZ-B10/3N</b> 278945	-	-
<b>FAZ-B12/4</b> 279032	-	<b>FAZ-B12/1N</b> 278645	-	<b>FAZ-B12/3N</b> 278946	-	-
<b>FAZ-B13/4</b> 279033	-	<b>FAZ-B13/1N</b> 278646	-	<b>FAZ-B13/3N</b> 278947	-	-
<b>FAZ-B15/4</b> 279034	-	<b>FAZ-B15/1N</b> 278647	-	<b>FAZ-B15/3N</b> 278948	-	-
<b>FAZ-B16/4</b> 279035	-	<b>FAZ-B16/1N</b> 278648	-	<b>FAZ-B16/3N</b> 278949	-	-
<b>FAZ-B20/4</b> 279036	-	<b>FAZ-B20/1N</b> 278649	-	<b>FAZ-B20/3N</b> 278950	-	-
<b>FAZ-B25/4</b> 279037	-	<b>FAZ-B25/1N</b> 278650	-	<b>FAZ-B25/3N</b> 278951	-	-
<b>FAZ-B32/4</b> 279038	-	<b>FAZ-B32/1N</b> 278651	-	<b>FAZ-B32/3N</b> 278952	-	-
<b>FAZ-B40/4</b> 279039	-	<b>FAZ-B40/1N</b> 278652	-	<b>FAZ-B40/3N</b> 278953	-	-
<b>FAZ-B50/4</b> 279040	-	<b>FAZ-B50/1N</b> 278653	-	<b>FAZ-B50/3N</b> 278954	-	-
<b>FAZ-B63/4</b> 279041	-	<b>FAZ-B63/1N</b> 278654	-	<b>FAZ-B63/3N</b> 278955	-	-

Switching capacity (IEC/EN 60898) 10 kA  
Switching capacity (IEC/EN 60947-2) 15 kA

Accessories	Page
Auxiliary contacts, Voltage releases	12/21
Mounting accessories	12/23

FAZ-B4/1-HI, FAZ-B4/2-HS  
Special miniature circuit-breakers with much reduced let-through energy to prevent contact welding of auxiliary contacts

1-pole	2-pole
Depth 71 mm	Depth 71 mm
Width 17.5 mm	Width 35 mm






3-pole  
Depth 71 mm  
Width 52.5 mm







4-pole  
Depth 71 mm  
Width 70 mm



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

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Rated current $I_n$ A	1-pole 		2-pole With 2 protected poles 		3-pole With 3 protected poles 	
	Type Article no.	Std. pack	Type Article no.	Std. pack	Type Article no.	Std. pack
<b>FAZ miniature circuit-breakers</b>						
C Response current of short-circuit release $5 - 10 \times I_n$	0,5	FAZ-C0,5/1 278544	12 off	FAZ-C0,5/2 278743	1 off	FAZ-C0,5/3 278856
	1	FAZ-C1/1 278546		FAZ-C1/2 278745		FAZ-C1/3 278858
	1,6	FAZ-C1,6/1 278548		FAZ-C1,6/2 278747		FAZ-C1,6/3 278860
	2	FAZ-C2/1 278549		FAZ-C2/2 278748		FAZ-C2/3 278861
	3	FAZ-C3/1 278551		FAZ-C3/2 278750		FAZ-C3/3 278863
	4	FAZ-C4/1 278553		FAZ-C4/2 278752		FAZ-C4/3 278865
	6	FAZ-C6/1 278555		FAZ-C6/2 278754		FAZ-C6/3 278867
	8	FAZ-C8/1 278556		FAZ-C8/2 278755		FAZ-C8/3 278868
	10	FAZ-C10/1 278557		FAZ-C10/2 278756		FAZ-C10/3 278869
	13	FAZ-C13/1 278559		FAZ-C13/2 278758		FAZ-C13/3 278871
	16	FAZ-C16/1 278561		FAZ-C16/2 278760		FAZ-C16/3 278873
	20	FAZ-C20/1 278562		FAZ-C20/2 278761		FAZ-C20/3 278874
	25	FAZ-C25/1 278563		FAZ-C25/2 278762		FAZ-C25/3 278875
	32	FAZ-C32/1 278564		FAZ-C32/2 278763		FAZ-C32/3 278876
	40	FAZ-C40/1 278565		FAZ-C40/2 278764		FAZ-C40/3 278877
	50	FAZ-C50/1 278566		FAZ-C50/2 278765		FAZ-C50/3 278878
63	FAZ-C63/1 278567		FAZ-C63/2 278766		FAZ-C63/3 278879	
D Response current of short-circuit release $10 - 20 \times I_n$	6	FAZ-D6/1 278578	12 off	FAZ-D6/2 278777	1 off	FAZ-D6/3 278890
	8	FAZ-D8/1 278579		FAZ-D8/2 278778		FAZ-D8/3 278891
	10	FAZ-D10/1 278580		FAZ-D10/2 278779		FAZ-D10/3 278892
	13	FAZ-D13/1 278582		FAZ-D13/2 278781		FAZ-D13/3 278894
	16	FAZ-D16/1 278584		FAZ-D16/2 278783		FAZ-D16/3 278896
	20	FAZ-D20/1 278585		FAZ-D20/2 278784		FAZ-D20/3 278897
	25	FAZ-D25/1 278586		FAZ-D25/2 278785		FAZ-D25/3 278898
	32	FAZ-D32/1 278587		FAZ-D32/2 278786		FAZ-D32/3 278899
40	FAZ-D40/1 278588		FAZ-D40/2 278787		FAZ-D40/3 278900	

Type Article no.	Std. pack	2-pole With 1 protected pole, N switching with pole 		Std. pack	4-pole With 3 protection poles, N switching with poles 		Std. pack	Notes
		Type Article no.	Std. pack		Type Article no.	Std. pack		
FAZ-C0,5/4 279044	1 off	FAZ-C0,5/1N 278657	1 off	FAZ-C0,5/3N 278958	1 off	Switching capacity (IEC/EN 60898) 10 kA		<p>Switching capacity (IEC/EN 60947-2) 15 kA</p> <p><b>Accessories</b> <b>Page</b></p> <p>Auxiliary contacts, Voltage releases 12/21</p> <p>Mounting accessories 12/23</p> <p>1-pole Depth 71 mm Width 17.5 mm</p> <p>2-pole Depth 71 mm Width 35 mm</p> <p>3-pole Depth 71 mm Width 52.5 mm</p> <p>4-pole Depth 71 mm Width 70 mm</p>    
FAZ-C1/4 279046		FAZ-C1/1N 278659		FAZ-C1/3N 278960				
FAZ-C1,6/4 279048		FAZ-C1,6/1N 278661		FAZ-C1,6/3N 278962				
FAZ-C2/4 279049		FAZ-C2/1N 278662		FAZ-C2/3N 278963				
FAZ-C3/4 279051		FAZ-C3/1N 278664		FAZ-C3/3N 278965				
FAZ-C4/4 279053		FAZ-C4/1N 278666		FAZ-C4/3N 278967				
FAZ-C6/4 279055		FAZ-C6/1N 278668		FAZ-C6/3N 278969				
FAZ-C8/4 279056		FAZ-C8/1N 278669		FAZ-C8/3N 278970				
FAZ-C10/4 279057		FAZ-C10/1N 278670		FAZ-C10/3N 278971				
FAZ-C13/4 279059		FAZ-C13/1N 278672		FAZ-C13/3N 278973				
FAZ-C16/4 279061		FAZ-C16/1N 278674		FAZ-C16/3N 278975				
FAZ-C20/4 279062		FAZ-C20/1N 278675		FAZ-C20/3N 278976				
FAZ-C25/4 279063		FAZ-C25/1N 278676		FAZ-C25/3N 278977				
FAZ-C32/4 279064		FAZ-C32/1N 278677		FAZ-C32/3N 278978				
FAZ-C40/4 279065		FAZ-C40/1N 278678		FAZ-C40/3N 278979				
FAZ-C50/4 279066		FAZ-C50/1N 278679		FAZ-C50/3N 278980				
FAZ-C63/4 279067		FAZ-C63/1N 278680		FAZ-C63/3N 278981				
FAZ-D6/4 279078	1 off	-		FAZ-D6/3N 278992	1 off			
FAZ-D8/4 279079		-		FAZ-D8/3N 278993				
FAZ-D10/4 279080		-		FAZ-D10/3N 278994				
FAZ-D13/4 279082		-		FAZ-D13/3N 278996				
FAZ-D16/4 279084		-		FAZ-D16/3N 278998				
FAZ-D20/4 279085		-		FAZ-D20/3N 278999				
FAZ-D25/4 279086		-		FAZ-D25/3N 279000				
FAZ-D32/4 279087		-		FAZ-D32/3N 279001				
FAZ-D40/4 279088		-		FAZ-D40/3N 279002				

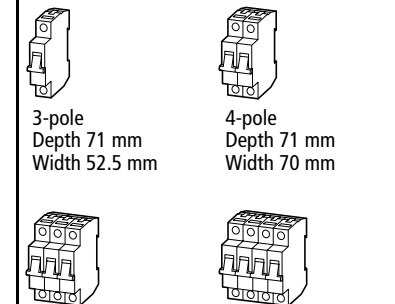
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Rated current $I_n$ A	1-pole 		Std. pack	2-pole With 2 protected poles 		Std. pack
	Type	Article no.		Type	Article no.	
<b>FAZ miniature circuit-breakers</b>						
K Response current of short-circuit release $8 - 12 \times I_n$	0.5	FAZ-K0,5/1 278589	12 off	FAZ-K0,5/2 278788	1 off	
	1	FAZ-K1/1 278590		FAZ-K1/2 278789		
	1.6	FAZ-K1,6/1 278591		FAZ-K1,6/2 278790		
	2	FAZ-K2/1 278592		FAZ-K2/2 278791		
	3	FAZ-K3/1 278593		FAZ-K3/2 278792		
	4	FAZ-K4/1 278594		FAZ-K4/2 278793		
	6	FAZ-K6/1 278595		FAZ-K6/2 278794		
	8	FAZ-K8/1 278596		FAZ-K8/2 278795		
	10	FAZ-K10/1 278597		FAZ-K10/2 278796		
	13	FAZ-K13/1 278598		FAZ-K13/2 278797		
	16	FAZ-K16/1 278599		FAZ-K16/2 278798		
	20	FAZ-K20/1 278600		FAZ-K20/2 278799		
	25	FAZ-K25/1 278601		FAZ-K25/2 278800		
	32	FAZ-K32/1 278602		FAZ-K32/2 278801		
	40	FAZ-K40/1 278603		FAZ-K40/2 278802		
	50	FAZ-K50/1 278604		FAZ-K50/2 278803		
	63	FAZ-K63/1 278605		FAZ-K63/2 278804		

Rated current $I_n$ A	3-pole With 3 protected poles 		Std. pack	4-pole With 4 protected poles 		Std. pack	4-pole With 3 protection poles, N switching with poles 		Std. pack	Notes
	Type	Article no.		Type	Article no.		Type	Article no.		
<b>FAZ miniature circuit-breakers</b>										
K Response current of short-circuit release $8 - 12 \times I_n$	0.5	FAZ-K0,5/3 278901	1 off	FAZ-K0,5/4 279089	1 off	FAZ-K0,5/3N 279003	1 off	Switching capacity (IEC/EN 60898)	10 kA	
	1	FAZ-K1/3 279002		FAZ-K1/4 279090		FAZ-K1/3N 279004		Switching capacity (IEC/EN 60947-2)	15 kA	
	1.6	FAZ-K1,6/3 278903		FAZ-K1,6/4 279091		FAZ-K1,6/3N 279005				
	2	FAZ-K2/3 278904		FAZ-K2/4 279092		FAZ-K2/3N 279006				
	3	FAZ-K3/3 278905		FAZ-K3/4 279093		FAZ-K3/3N 279007				
	4	FAZ-K4/3 278906		FAZ-K4/4 279094		FAZ-K4/3N 279008				
	6	FAZ-K6/3 278907		FAZ-K6/4 279095		FAZ-K6/3N 279009				
	8	FAZ-K8/3 278908		FAZ-K8/4 279096		FAZ-K8/3N 279010				
	10	FAZ-K10/3 278909		FAZ-K10/4 279097		FAZ-K10/3N 279011				
	13	FAZ-K13/3 278910		FAZ-K13/4 279098		FAZ-K13/3N 279012				
	16	FAZ-K16/3 278911		FAZ-K16/4 279099		FAZ-K16/3N 279013				
	20	FAZ-K20/3 278912		FAZ-K20/4 279100		FAZ-K20/3N 279014				
	25	FAZ-K25/3 278913		FAZ-K25/4 279101		FAZ-K25/3N 279015				
	32	FAZ-K32/3 278914		FAZ-K32/4 279102		FAZ-K32/3N 279016				
	40	FAZ-K40/3 278915		FAZ-K40/4 279103		FAZ-K40/3N 279017				
	50	FAZ-K50/3 278916		FAZ-K50/4 279104		FAZ-K50/3N 279018				
	63	FAZ-K63/3 278917		FAZ-K63/4 279105		FAZ-K63/3N 279019				

Accessories	Page
Auxiliary contacts, Voltage releases	12/21
Mounting accessories	12/23
1-pole Depth 71 mm Width 17.5 mm	2-pole Depth 71 mm Width 35 mm
3-pole Depth 71 mm Width 52.5 mm	4-pole Depth 71 mm Width 70 mm





# 12/12 FAZ-PN miniature circuit-breakers

## Switching Capacity 6 kA (IEC/EN 60898)

Moeller HPL0211-2004/2005

Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures

**2-pole**  
With 1 protected pole,  
N switching with pole



Rated current

$I_n$   
A

**Type**  
Article no.

**Price**  
See Price  
List

Std. pack **Notes**

### FAZ-PN miniature circuit-breakers

Characteristic B  
Response current of short-circuit release  
 $3 - 5 \times I_n$

6	<b>FAZ-PN-B6/1N</b> 279146
10	<b>FAZ-PN-B10/1N</b> 279147
13	<b>FAZ-PN-B13/1N</b> 279148
16	<b>FAZ-PN-B16/1N</b> 279149
20	<b>FAZ-PN-B20/1N</b> 279150
25	<b>FAZ-PN-B25/1N</b> 279151
32	<b>FAZ-PN-B32/1N</b> 279152
40	<b>FAZ-PN-B40/1N</b> 279153

12 off

**Accessories** **Page**

Auxiliary contacts,  
Voltage releases 12/21

1-pole + N  
Depth 71 mm  
Width 17.5 mm



Characteristic C  
Response current of short-circuit release  
 $5 - 10 \times I_n$









2	<b>FAZ-PN-C2/1N</b> 279154
4	<b>FAZ-PN-C4/1N</b> 279155
6	<b>FAZ-PN-C6/1N</b> 279156
10	<b>FAZ-PN-C10/1N</b> 279157
13	<b>FAZ-PN-C13/1N</b> 279158
16	<b>FAZ-PN-C16/1N</b> 279159
20	<b>FAZ-PN-C20/1N</b> 279160
25	<b>FAZ-PN-C25/1N</b> 279161
32	<b>FAZ-PN-C32/1N</b> 279162
40	<b>FAZ-PN-C40/1N</b> 279163

12 off



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Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures

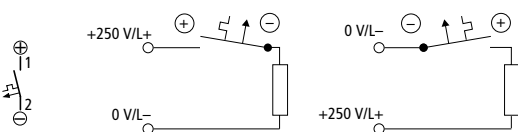
	1-pole		2-pole With 2 protected poles																																																																		
Rated current	Type	Price	Std. pack	Type	Price	Std. pack																																																															
$I_n$ A	Article no.	See Price List		Article no.	See Price List	Notes																																																															
																																																																					
<b>FAZ miniature circuit-breakers for DC applications</b>																																																																					
Characteristic C Response current of short-circuit release $7 - 14 \times I_n$ Switching capacity 10 kA (L/R = 4 ms) Rated voltage 250 V DC on each pole																																																																					
2	<b>FAZ-C2/1-DC</b> 279122		12 off	<b>FAZ-C2/2-DC</b> 279134		1 off																																																															
3	<b>FAZ-C3/1-DC</b> 279123			<b>FAZ-C3/2-DC</b> 279135																																																																	
4	<b>FAZ-C4/1-DC</b> 279124			<b>FAZ-C4/2-DC</b> 279136																																																																	
6	<b>FAZ-C6/1-DC</b> 279125			<b>FAZ-C6/2-DC</b> 279137																																																																	
10	<b>FAZ-C10/1-DC</b> 279126			<b>FAZ-C10/2-DC</b> 279138																																																																	
13	<b>FAZ-C13/1-DC</b> 279127			<b>FAZ-C13/2-DC</b> 279139																																																																	
16	<b>FAZ-C16/1-DC</b> 279128			<b>FAZ-C16/2-DC</b> 279140																																																																	
20	<b>FAZ-C20/1-DC</b> 279129			<b>FAZ-C20/2-DC</b> 279141																																																																	
25	<b>FAZ-C25/1-DC</b> 279130			<b>FAZ-C25/2-DC</b> 279142																																																																	
32	<b>FAZ-C32/1-DC</b> 279131			<b>FAZ-C32/2-DC</b> 279143																																																																	
40	<b>FAZ-C40/1-DC</b> 279132			<b>FAZ-C40/2-DC</b> 279144																																																																	
50	<b>FAZ-C50/1-DC</b> 279133			<b>FAZ-C50/2-DC</b> 279145																																																																	
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Accessories				Page																																																																	
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**Notes**

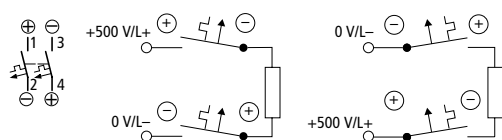
**Circuit design notes**

Note polarity!

**1-pole**







**2-pole**



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Rated current $I_n$ A	1-pole			2-pole With 2 protected poles			3-pole With 3 protected poles		
	Type Article no.	Price See Price List	Std. pack	Type Article no.	Price See Price List	Std. pack	Type Article no.	Price See Price List	Std. pack
<b>AZ miniature circuit-breakers</b>									
Characteristic C Response current of short-circuit release $5 - 10 \times I_n$	20	AZ-C20 211769	12 off	AZ-2-C20 211770		2 off	AZ-3-C20 211771		1 off
	25	AZ-C25 211774		AZ-2-C25 211775			AZ-3-C25 211776		
	32	AZ-C32 211779		AZ-2-C32 211780			AZ-3-C32 211781		
	40	AZ-C40 211784		AZ-2-C40 211785			AZ-3-C40 211786		
	50	AZ-C50 211789		AZ-2-C50 211790			AZ-3-C50 211791		
	63	AZ-C63 211794		AZ-2-C63 211795			AZ-3-C63 211796		
	80	AZ-C80 211799		AZ-2-C80 211800			AZ-3-C80 211801		
100	AZ-C100 211804		AZ-2-C100 211805			AZ-3-C100 211806			
125	AZ-C125 211809		AZ-2-C125 211810			AZ-3-C125 211811			
Characteristic D Response current of short-circuit release $10 - 20 \times I_n$	50	AZ-D50 211814	12 off	AZ-2-D50 211815		2 off	AZ-3-D50 211816		1 off
	63	AZ-D63 211818		AZ-2-D63 211819			AZ-3-D63 211820		
	80	AZ-D80 211822		AZ-2-D80 211823			AZ-3-D80 211824		
	100	AZ-D100 211826		AZ-2-D100 211827			AZ-3-D100 211828		

Type Article no.	Price See Price List	Std. pack	4-pole With 4 protected poles			4-pole With 3 protection poles, N switching with poles			Std. pack	Notes
			Type Article no.	Price See Price List	Std. pack	Type Article no.	Price See Price List	Std. pack		
AZ-4-C20 211772		1 off	AZ-3N-C20 211773		1 off	For switching capacity refer to Technical Data				
AZ-4-C25 211777			AZ-3N-C25 211778			1-pole Depth 75 mm Width 27 mm	2-pole Depth 75 mm Width 54 mm			
AZ-4-C32 211782			AZ-3N-C32 211783							
AZ-4-C40 211787			AZ-3N-C40 211788			3-pole Depth 75 mm Width 81 mm	4-pole; 3-pole + N Depth 75 mm Width 108 mm			
AZ-4-C50 211792			AZ-3N-C50 211793							
AZ-4-C63 211797			AZ-3N-C63 211798			<b>Accessories</b>				
AZ-4-C80 211802			AZ-3N-C80 211803			Auxiliary contacts, Voltage releases	12/21			
AZ-4-C100 211807			AZ-3N-C100 211808			Mounting accessories	12/23			
AZ-4-C125 211812			AZ-3N-C125 211813							
			AZ-3N-D50 211817		1 off					
			AZ-3N-D63 211821							
			AZ-3N-D80 211825							
			AZ-3N-D100 211829							

# 12/16 Fault-Current Protection

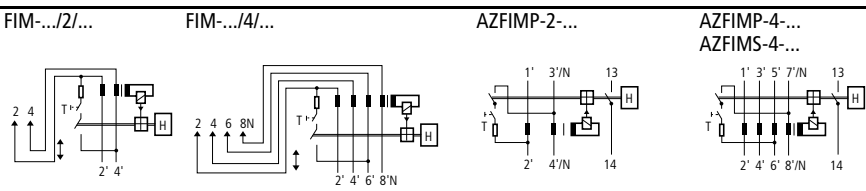
## Residual-Current Protective Modules for FAZ and AZ

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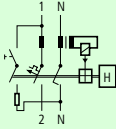
Miniature Circuit-Breakers, MCB Enclosures, Fuse Enclosures

Rated uninterrupted current $I_u$ A	2-pole			4-pole			Std. pack
	Type Article no.	Price See Price List	Std. pack	Type Article no.	Price See Price List	Std. pack	
<b>FAZ residual-current protective modules</b>							
Rated fault current $I_{\Delta N} = 30 \text{ mA}$	40	FIM-40/2/0,03-A 278510	1 off	FIM-40/4/0,03-A 278514			1 off
	63	FIM-63/2/0,03-A 278512	1 off	FIM-63/4/0,03-A 278516			1 off
Rated fault current $I_{\Delta N} = 300 \text{ mA}$	40	FIM-40/2/0,3-A 278511	1 off	FIM-40/4/0,3-A 278515			1 off
	63	FIM-63/2/0,3-A 278513	1 off	FIM-63/4/0,3-A 278517			1 off
Rated uninterrupted current $I_u$ A	2-pole			4-pole		4-pole Selective	Std. pack
	Type Article no.	Std. pack	Type Article no.	Type Article no.			
<b>AZ residual-current protective modules</b>							
Rated fault current $I_{\Delta N} = 30 \text{ mA}$	80	–		AZFIMP-4-80-003 255484	–		1 off
	125	–		AZFIMP-4-125-003 255488	–		1 off
Rated fault current $I_{\Delta N} = 300 \text{ mA}$	80	AZFIMP-2-80-03 255477	1 off	AZFIMP-4-80-03 255485	AZFIMS-4-80-03 255492		1 off
	125	AZFIMP-2-125-03 255481	1 off	AZFIMP-4-125-03 255489	AZFIMS-4-125-03 255495		1 off

**Notes**



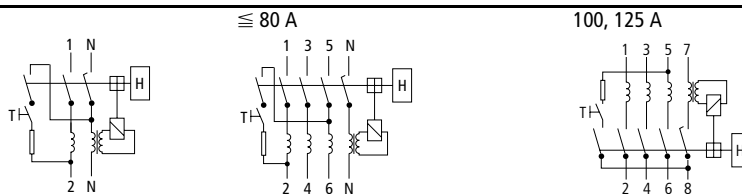
Moeller HPL0211-2004/2005

		<b>2-pole</b>				
						
	Rated current $I_n$ A	Type Article no.  Rated fault current $I_{\Delta N} = 30 \text{ mA}$	Price See Price List	Type Article no.  Rated fault current $I_{\Delta N} = 300 \text{ mA}$	Price See Price List	Std. pack
<b>PKNM combined RCD/MCB devices</b>						
Characteristic B	6	<b>PKNM-6/1N/B/003-A-DW</b> 238580		<b>PKNM-6/1N/B/03-A-DW</b> 238582		1 off
	10	<b>PKNM-10/1N/B/003-A-DW</b> 238640		<b>PKNM-10/1N/B/03-A-DW</b> 238642		
	13	<b>PKNM-13/1N/B/003-A-DW</b> 238701		<b>PKNM-13/1N/B/03-A-DW</b> 238703		
	16	<b>PKNM-16/1N/B/003-A-DW</b> 238773		<b>PKNM-16/1N/B/03-A-DW</b> 238775		
	20	<b>PKNM-20/1N/B/003-A-DW</b> 238807		<b>PKNM-20/1N/B/03-A-DW</b> 238809		
	25	<b>PKNM-25/1N/B/003-A-DW</b> 238837		<b>PKNM-25/1N/B/03-A-DW</b> 238839		
	32	<b>PKNM-32/1N/B/003-A-DW</b> 238867		<b>PKNM-32/1N/B/03-A-DW</b> 238869		
	40	<b>PKNM-40/1N/B/003-A-DW</b> 238896		<b>PKNM-40/1N/B/03-A-DW</b> 238898		
Characteristic C	6	<b>PKNM-6/1N/C/003-A-DW</b> 238590		<b>PKNM-6/1N/C/03-A-DW</b> 238592		
	10	<b>PKNM-10/1N/C/003-A-DW</b> 238650		<b>PKNM-10/1N/C/03-A-DW</b> 238652		
	13	<b>PKNM-13/1N/C/003-A-DW</b> 238713		<b>PKNM-13/1N/C/03-A-DW</b> 238715		
	16	<b>PKNM-16/1N/C/003-A-DW</b> 238785		<b>PKNM-16/1N/C/03-A-DW</b> 238787		
	20	<b>PKNM-20/1N/C/003-A-DW</b> 238817		<b>PKNM-20/1N/C/03-A-DW</b> 238819		
	25	<b>PKNM-25/1N/C/003-A-DW</b> 238847		<b>PKNM-25/1N/C/03-A-DW</b> 238849		
	32	<b>PKNM-32/1N/C/003-A-DW</b> 238877		<b>PKNM-32/1N/C/03-A-DW</b> 238879		
	40	<b>PKNM-40/1N/C/003-A-DW</b> 238906		<b>PKNM-40/1N/C/03-A-DW</b> 238908		

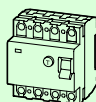


Rated uninterrupted current $I_u$ A	2-pole		Std. pack	4-pole		Std. pack
	Type Article no.	Price See Price List		Type Article no.	Price See Price List	
<b>FI residual-current circuit-breaker</b>						
Rated fault current $I_{\Delta N} = 30 \text{ mA}$	16	FI-16/2/003-A 279183	1 off	-		
	25	FI-25/2/003-A 279184		FI-25/4/003-A 279213		1 off
	40	FI-40/2/003-A 279187		FI-40/4/003-A 279217		
	63	-		FI-63/4/003-A 279221		
	80	-		FI-80/4/003-A 279225		
	100	-		FI-100/4/003-A 279164		
	125	-		FI-125/4/003-A 279165		
Rated fault current $I_{\Delta N} = 100 \text{ mA}$	25	FI-25/2/01-A 279185	1 off	FI-25/4/01-A 279214		1 off
	40	FI-40/2/01-A 279188		FI-40/4/01-A 279218		
	63	-		FI-63/4/01-A 279222		
Rated fault current $I_{\Delta N} = 300 \text{ mA}$	25	FI-25/2/03-A 279186	1 off	FI-25/4/03-A 279215		1 off
	40	FI-40/2/03-A 279189		FI-40/4/03-A 279219		
	63	-		FI-63/4/03-A 279223		
	80	-		FI-80/4/03-A 279226		
	100	-		FI-100/4/03-A 279166		
	125	-		FI-125/4/03-A 279167		
Rated fault current $I_{\Delta N} = 500 \text{ mA}$	25	-		FI-25/4/05-A 279216		1 off
	40	-		FI-40/4/05-A 279220		
	63	-		FI-63/4/05-A 279224		
	80	-		FI-80/4/05-A 279227		
	100	-		FI-100/4/05-A 279168		
	125	-		FI-125/4/05-A 279169		

Notes

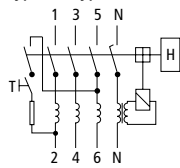


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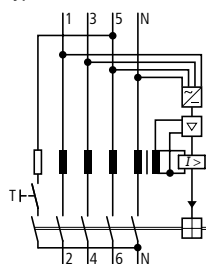
	Rated uninterrupted current $I_u$ A	Type Article no.	Std. pack
<b>4-pole</b>			
			
<b>Suitable for frequency inverters</b>			
Rated fault current $I_{\Delta N} = 100 \text{ mA}$	40	<b>FI-40/4/01-U</b> 279234	1 off
	63	<b>FI-63/4/01-U</b> 279236	1 off
Rated fault current $I_{\Delta N} = 300 \text{ mA}$	40	<b>FI-40/4/03-U</b> 279235	1 off
	63	<b>FI-63/4/03-U</b> 279237	1 off
<b>Selective and surge-proof 5 kA</b>			
Rated fault current $I_{\Delta N} = 100 \text{ mA}$	63	<b>FI-63/4/01-S/A</b> 279228	1 off
Rated fault current $I_{\Delta N} = 300 \text{ mA}$	63	<b>FI-63/4/03-S/A</b> 279229	1 off
	80	<b>FI-80/4/03-S/A</b> 279230	1 off
<b>AC/DC</b>			
Rated fault current $I_{\Delta N} = 100 \text{ mA}$	40	<b>FI-40/4/01-B</b> 279170	1 off
	63	<b>FI-63/4/01-B</b> 279171	
	80	<b>FI-80/4/01-B</b> 279172	
Rated fault current $I_{\Delta N} = 300 \text{ mA}$	40	<b>FI-40/4/03-B</b> 279173	1 off
	63	<b>FI-63/4/03-B</b> 279174	
	80	<b>FI-80/4/03-B</b> 279175	
<b>AC/DC, selective</b>			
Rated fault current $I_{\Delta N} = 300 \text{ mA}$	40	<b>FI-40/4/03-S/B</b> 281022	1 off
	63	<b>FI-63/4/03-S/B</b> 281023	
	80	<b>FI-80/4/03-S/B</b> 281024	

Notes

Type U, Type S/A

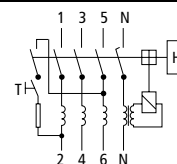
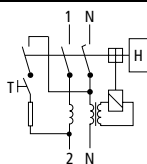


Type B

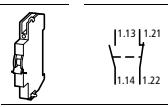
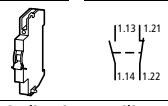
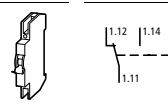
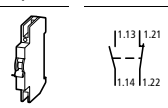
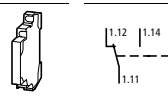
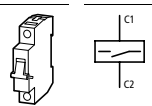
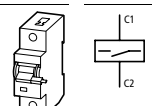
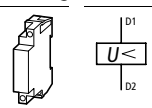



Rated uninterrupted current $I_u$ A	2-pole			Std. pack	4-pole		
	Type Article no.	Price See Price List			Type Article no.	Price See Price List	Std. pack
Rated fault current $I_{DN} = 30 \text{ mA}$	16	FI-16/2/003 279176		1 off	–		1 off
	25	FI-25/2/003 279177			FI-25/4/003 279196		
	40	FI-40/2/003 279180			FI-40/4/003 279200		
	63	FI-63/2/003 279190			FI-63/4/003 279204		
	80	FI-80/2/003 279192			FI-80/4/003 279208		
Rated fault current $I_{\Delta N} = 100 \text{ mA}$	25	FI-25/2/01 279178		1 off	FI-25/4/01 279197		1 off
	40	FI-40/2/01 279181			FI-40/4/01 279201		
	63	FI-63/2/01 279191			FI-63/4/01 279205		
	80	FI-80/2/01 279193			FI-80/4/01 279231		
Rated fault current $I_{\Delta N} = 300 \text{ mA}$	25	FI-25/2/03 279179		1 off	FI-25/4/03 279198		1 off
	40	FI-40/2/03 279182			FI-40/4/03 279202		
	63	–			FI-63/4/03 279206		
	80	–			FI-80/4/03 279209		
Rated fault current $I_{\Delta N} = 500 \text{ mA}$	25	–			FI-25/4/05 279199		1 off
	40	–			FI-40/4/05 279203		
	63	–			FI-63/4/05 279207		
<b>Selective and surge-proof 5 kA</b>							
Rated fault current $I_{\Delta N} = 100 \text{ mA}$	63	–			FI-63/4/01-S 279210		1 off
Rated fault current $I_{\Delta N} = 300 \text{ mA}$	63	–			FI-63/4/03-S 279211		1 off
	80	–			FI-80/4/03-S 279212		1 off

Notes



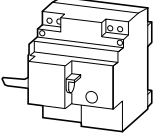
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Circuit diagram	Contacts	Space units 1 PLE = 18 mm	Type Article no.	Price See Price List	Std. pack	Notes
	Qty.	PE				
<b>Auxiliary contacts and voltage releases</b>						
Auxiliary contacts for FAZ, AZ, PKNM						
Up to 63 A for FAZ, PKNM						
	1 M/1 B	0,5	<b>FAZ-XHI11</b> 262413		10 off	-
Up to 125 A for AZ						
	1 M/1 B	0,5	<b>AZ-XHI11</b> 212067		8 off	-
Trip-indicating auxiliary contact/auxiliary contact						
Up to 63 A for FAZ, PKNM						
	2 C/O	0,5	<b>FAZ-XAM002</b> 262414		10 off	The device is supplied with the groove in the yellow selector button in the horizontal: Changeover contact 4.11 – 4.12/4.14 switches when tripped manually or electrically. Turning the yellow selector button by 90° results in contact 4.11 – 4.12/4.14 responding only to electrical tripping; the contact 4.11 – 4.12/4.14 remains closed when tripped by hand. Circuit diagram → Technical Data for Auxiliary Contacts, Voltage Releases
Auxiliary contact for FI						
Up to 80 A						
	1 M/1 B	0,5	<b>FIP-XHI11</b> 225121		10 off	-
From 100 A and Type B						
	1 M/1 B	0,5	<b>FIPA-XAM011</b> 262578		1 off	The device is supplied with the "Auxiliary contact" function set such that both contacts switch on manual and electrical tripping. A change of function to "Signalling switch" means that both contacts switch <b>only</b> under fault conditions. AC-11, 230 V DC/6 A DC-11, 230 V DC/1 A Minimum voltage: 12 V AC/DC Minimum current: 100 mA Terminal capacity: 1 × 2.5 mm <sup>2</sup> , 2 × 1.5 mm <sup>2</sup> Max. tightening torque: 0.8 Nm
Shunt releases for FAZ, PKNM						
Up to 63 A						
	-	1	<b>FAZ-XAA-C-12-110VAC</b> 278518		1 off	-
	-	1	<b>FAZ-XAA-C-110-415VAC</b> 278519		1 off	-
Shunt releases for AZ						
Up to 125 A						
	-	1,5	<b>AZ-XAA(12-60VAC)</b> 212059		8 off	-
	-	1,5	<b>AZ-XAA(110-415VAC)</b> 212061		8 off	-
Undervoltage releases for FAZ						
	-	1	<b>FAZ-XUA(115VAC)</b> 212049		7 off	-
	-	1	<b>FAZ-XUA(230VAC)</b> 212051			-
	-	1	<b>FAZ-XUA(400VAC)</b> 212053			-
MCB lock						
			<b>FAZ/FIP-XSV</b> 233778		5 off	-

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	Type Article no.	Std. pack	Notes
<b>Remote switching module</b>			
			
With remote control and FI testing	<b>FAZ/FIP-XFSM</b> 212069	1 off	<ul style="list-style-type: none"> <li>• IEC/EN 60669-2-2</li> <li>• For remote switching and automatic restart of FAZ miniature circuit-breakers and FI residual-current circuit-breakers up to 80 A, except Type B</li> <li>• For remote testing of FI devices in conjunction with the FIP-XPM test module (-XFSM)</li> <li>• Can be mechanically interlocked and sealed</li> <li>• LED indication of operational status and alarm status</li> <li>• Mechanical switching capacity up to FAZ-...63 and up to FI-80..., except Type B (-XFSM)</li> <li>• -25 °C/+40 °C</li> <li>• Rated operational voltage 24 – 240 V AC, 24 – 80 V DC</li> <li>• Control voltage for remote control 24 – 230 V AC/DC</li> <li>• Relay output for tripping test 400 V AC</li> <li>• Terminal capacity 2 × 1.5 mm<sup>2</sup>, 1 × 1.5 mm<sup>2</sup>; 0.4 Nm</li> <li>• Lifespan, mechanical/electrical 10 000 switching operations</li> <li>• Intrinsic power consumption 5 W</li> </ul>
220 – 240 V-AC	<b>FAZ/FIP-XAWM</b> 262514		
48 V DC	<b>FAZ/FIP-XDWM</b> 274404		

**Notes**

**Circuit examples (note installation instructions!)**

FAZ/FIP-XAWM, FAZ/FIP-XFSM

Automatic resetting (1x or 5x):  
(max. 5 s; 10 s; 1 min; 10 min; 1 h)

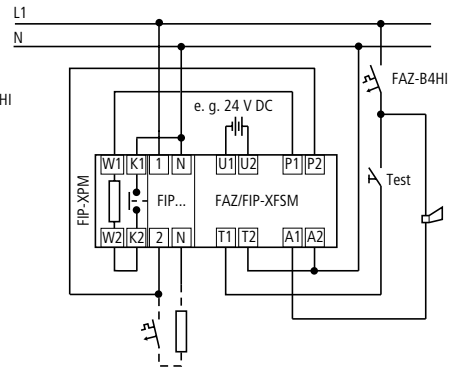
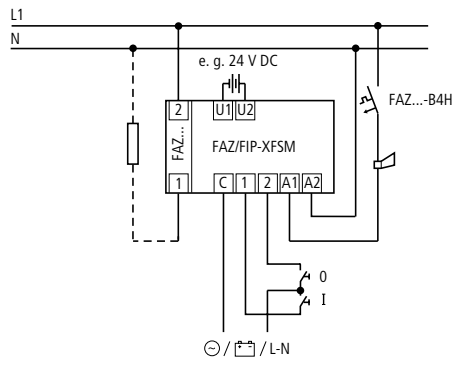
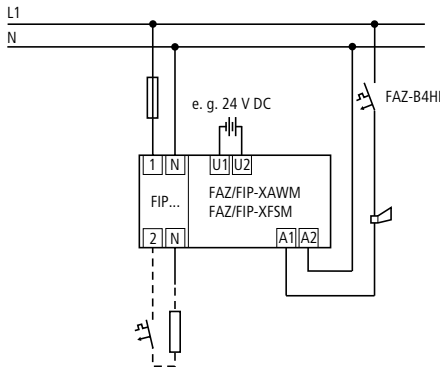
FAZ/FIP-XFSM

Remote switching:

FAZ/FIP-XFSM, FIP-XPM...

Remote tripping test:

(Monitoring possible via alarm contact or auxiliary contact)



After unintended tripping or a brief disruption, the installation is immediately ready for renewed operation.

Function control of residual-current circuit-breakers by the electrical equivalent to pressing the test button.



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Phases	Rated operational current	Type Article no.	Std. pack	Notes			
Qty.	$I_e$ A						
<b>Commoning busbars, 1.25 mm thick</b>							
For miniature circuit-breakers <b>without</b> auxiliary contacts							
With fork connectors, for combination box terminal							
	1	85	FAZ-XIS1/2 212121	20 off	   		
	1	85	FAZ-XIS1/6 212122	–			
	1	85	FAZ-XIS1/12 212123	–			
	2	100	FAZ-XIS2/4 212124	10 off		2- and 4-pole version can also be used for FI switches	
	2	100	FAZ-XIS2/6 212125	–			
	2	100	FAZ-XIS2/12 212126	–			
	3	100	FAZ-XIS3/6 212127	–		–	
	3	100	FAZ-XIS3/12 212128	–		–	
	4	100	FAZ-XIS4/8 212129	5 off		2- and 4-pole version can also be used for FI switches	
	4	100	FAZ-XIS4/12 212130	–			
	For miniature circuit-breakers <b>with</b> auxiliary contacts						
	1	85	FAZ-XIS1/2-HI 212131	20 off		–	  
	1	85	FAZ-XIS1/6-HI 212132	–		–	
	1	85	FAZ-XIS1/9-HI 212133	–		–	
2	100	FAZ-XIS2/4-HI 212134	10 off	–			
2	100	FAZ-XIS2/6-HI 212135	–	–			
2	100	FAZ-XIS2/10-HI 212136	–	–			
3	100	FAZ-XIS3/6-HI 212137	–	–			
3	100	FAZ-XIS3/12-HI 212138	–	–			
3	100	FAZ-XIS31/6-HI 212139	–	1 auxiliary contact per pole			
3	100	FAZ-XIS31/8-HI 212140	–				
3	100	FAZ-XIS31/9-HI 212141	–				

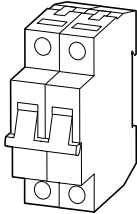
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	Poles	Rated operational current $I_e$ A	Cross-section  mm <sup>2</sup>	Length  m	Type Article no.	Std. pack
<b>Comb-shaped phase busbar (obtainable by the metre with fork connectors)</b>						
	1	80	16	1	Z-GV-16/1P-1TE 271061	50 off
	3	63	10	1	Z-GV-10/3P-3TE 271060	20 off
End cap	3		10		Z-AK-10/2+3P 271069	10 off
	3	80	16	1	Z-GV-16/3P-3TE 271064	20 off
End cap	3		16		Z-AK-16/2+3P 271070	10 off
	4	80	16	1	Z-GV-16/3P+N-4TE 271066	15 off
End cap	4		16		Z-AK-16/4P 271071	10 off
<b>Feeder block</b>						
			1 × 25 1 × 50		FAZ/FIP-XVS-KL 212109	12 off
<b>Incoming terminals</b>						
			25		FAZ-XK25 212116	50 off
			35		FAZ-XK35 212119	10 off
<b>Protection against direct contact</b>						
					FAZ-XBS 212120	10 off
					REG-BB 212106	20 off



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	Rated uninterrupted current $I_u$ A	Poles	Type Article no.	Std. pack
	40	1	IS-40/1 276270	12 off
	63	1	IS-63/1 276274	
	80	1	IS-80/1 276278	
	100	1	IS-100/1 276282	
	125	1	IS-125/1 276286	
	40	2	IS-40/2 276271	1 off
	63	2	IS-63/2 276275	
	80	2	IS-80/2 276279	
	100	2	IS-100/2 276283	
	125	2	IS-125/2 276287	
	32	3	IS-32/3 276268	
	40	3	IS-40/3 276272	
	63	3	IS-63/3 276276	
	80	3	IS-80/3 276280	
	100	3	IS-100/3 276284	
	125	3	IS-125/3 276288	
	40	4	IS-40/4 276273	
	63	4	IS-63/4 276277	
	80	4	IS-80/4 276281	
	100	4	IS-100/4 276285	
	125	4	IS-125/4 276289	

Notes

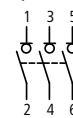
1-pole



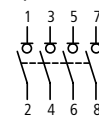
2-pole



3-pole



4-pole



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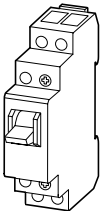
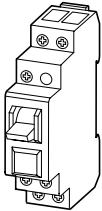
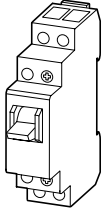



# 12/26 Rail-Mounted Service Installation Devices

## On/Off Switches, Changeover Switches

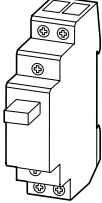
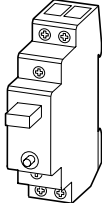
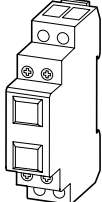
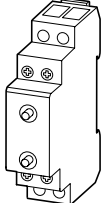
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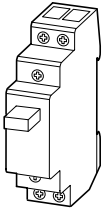
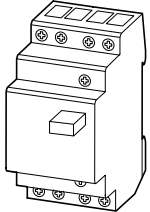
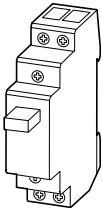
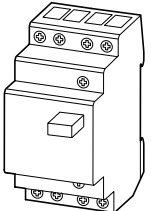
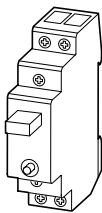
		Contacts	Rated current 16 A Type Article no.	Rated current 32 A Type Article no.	Std. pack	
<b>On/Off switches with and without indicator light</b>						
<b>On/Off switches</b>						
	Without indicator light	1 M	Z-S/S 248332	Z-S32/S 248339	12 off	
		2 M	Z-S/SS 248333	Z-S32/SS 248340		
		3 M	Z-S/3S 248334	Z-S32/3S 248341		
		4 M	Z-S/4S 248335	Z-S32/4S 248342		
		1 M + 1 B	Z-S/SO 248336	–		
		2 M + 2 B	Z-S/SS00 248337	–		
		3 M + 1 B	Z-S/3S10 248338	–		
	With indicator light	1 M	Z-SL/S 248314	Z-SL32/S 248317	12 off	
		2 M	Z-SL/SS 248315	Z-SL32/SS 248318		
		3 M	Z-SL/3S 248316	Z-SL32/3S 248319		
<b>Changeover switches</b>						
	2 positions	1 M	Z-SW/S 276300	–	2 off	
		2 M	Z-SW/SS 276301	–	2 off	
		1 W	Z-S/WE 248343	–	12 off	
		2 C/O	Z-S/2WE 248344	–	12 off	
		With LED 24 V AC/DC	2 M	Z-SWL24/SS 276304	–	2 off
		With LED 230 V AC/DC	2 M	Z-SWL230/SS 276306	–	2 off
		With LED 24 V AC/DC	1 M + 1 B	Z-SWL24SO 276305	–	2 off
		With LED 230 V AC/DC	1 M + 1 B	Z-SWL230/SO 276307	–	2 off
	3 positions I – 0 – II	1 W	Z-S/WM 248345	–	12 off	
		2 C/O	Z-S/2WM 248346	–	12 off	

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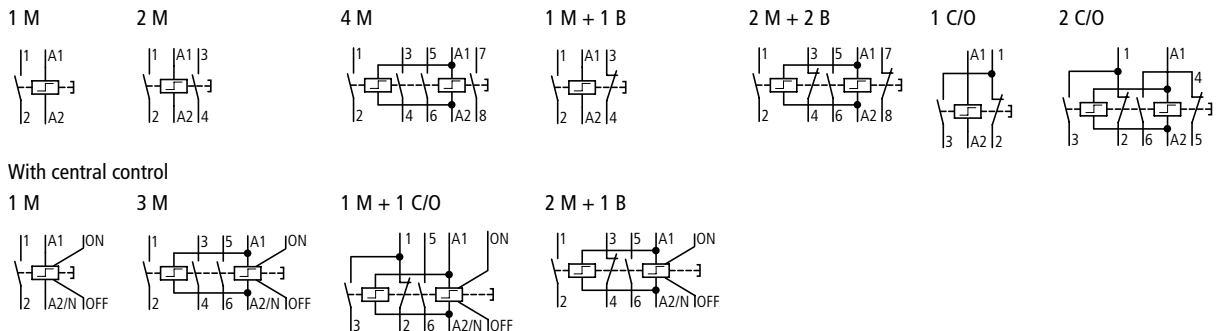
		Contacts	Colour	Type Article no.	Std. pack
<b>Pushbuttons</b>					
		1 M		Z-PU/S 276291	2 off
		2 M		Z-PU/SS 276292	
		1 M + 1 B		Z-PU/SO 276293	
		3 M + 1 B	Black	Z-T/3S10 248330	12 off
		4 M	Green	Z-T/4S-G 248328	12 off
<b>Illuminated pushbuttons</b>					
		1 M	Green	Z-LT/S-G 248309	12 off
		2 M + 1 B	Black	Z-LT/SSO 248313	
		3 M	Green	Z-LT/3S-G 248311	
		With LED, 24 V AC/DC	1 M + 1 B	Z-PUL24/SO 276296	2 off
		With LED, 230 V AC/DC	1 M + 1 B	Z-PUL230/SO 276298	
		With LED, 24 V AC/DC	2 M	Z-PUL24/SS 276295	
		With LED, 230 V AC/DC	2 M	Z-PUL230/SS 276297	
<b>Indicator lights</b>					
			Clear	Z-L/DKL 248308	12 off
			Blue	Z-L/B 248306	12 off
<b>Signal lamps</b>					
	24 V AC/DC		Red/green	Z-EL24 274419	2 off
	24 V AC/DC		Orange	Z-EL/OR24 275444	
	230 V AC/DC		Red/green	Z-EL230 275656	
	230 V AC/DC		Orange	Z-EL/OR230 275865	
	2 × 24 V AC/DC		Red/green	Z-DL24 270590	
	2 × 230 V AC/DC		Red/green	Z-DL230 270589	
<b>Accessories for illuminated pushbuttons, indicator lights</b>					
	Neon bulb, 230 V			Z-GLI/230 248320	1 off
	Filament bulb, 24 V			Z-GL_/24 248321	1 off
	Cap: red			Z-KAL/ROT 248322	10 off
	Cap: green			Z-KAL/GR_N 248323	
	Cap: clear			Z-KAL/KLAR 248324	



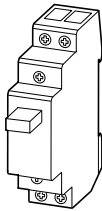
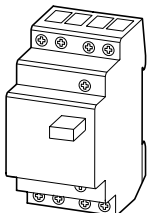
		Actuating voltage	Function	Space units	Type Article no.	Std. pack	
<b>Impulse relays</b>							
	230 V AC	1 M	1		Z-S230/S 265262	2 off	
	230 V AC	2 M	1		Z-S230/SS 265271		
	230 V AC	1 C/O	1		Z-S230/W 265290		
	24 V AC	1 M	1		Z-S24/S 256535		
	24 V AC	1 M + 1 B	1		Z-S24/SO 265539		
	12 V AC	1 M	1		Z-S12/S 265266		
	12 V AC	1 M + 1 B	1		Z-S12/SO 265287		
	8 V AC	1 M	1		Z-S8/S 265267		
	230 V AC	4 M	2		Z-S230/4S 270335	1 off	
	230 V AC	2 C/O	2		Z-S230/WW 265312	1 off	
	230 V AC	1 M + 1 B	2		Z-S230/SO 265283	2 off	
	230 V AC	2 M + 2 B	2		Z-S230/2S2O 265305	1 off	
<b>With central control</b>							
		230 V AC	1 M	1	Z-SC230/S 265299	2 off	
		24 V AC	1 M	1	Z-SC24/S 265300	2 off	
		230 V AC	1 M + 1 C/O	2		Z-SC230/1S1W 265324	1 off
		230 V AC	2 M + 1 B	2		Z-SC230/2S1O 265327	
		230 V AC	3 M	1		Z-SC230/3S 265321	
<b>With switchable LED</b>							
	230 V AC	2 M	1		Z-SB230/SS 265301	2 off	
	24 V AC	2 M	1		Z-SB24/SS 265302		
	24 V DC	2 M	1		Z-SB23/SS 265303		

**Notes**

For other contact configurations and actuating voltages, please enquire.

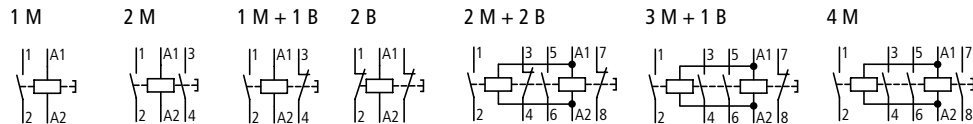


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	Actuating voltage	Function	Space units	Type Article no.	Std. pack
<b>Installation relays</b>					
<b>With manual operation</b>					
	230 V AC	1 M	1	Z-R230/S 265149	2 off
	230 V AC	2 M	1	Z-R230/SS 265168	
	230 V AC	1 M + 1 B	1	Z-R230/SO 265181	
	230 V AC	2 B	1	Z-R230/OO 265188	
	24 V AC	1 M	1	Z-R24/S 265160	
	24 V AC	2 M	1	Z-R24/SS 265173	
	24 V AC	1 M + 1 B	1	Z-R24/SO 265183	
	24 V DC	1 M	1	Z-R23/SS 265174	
	12 V AC	1 M	1	Z-R12/S 265162	
	12 V AC	2 M	1	Z-R12/SS 265175	
	12 V AC	1 M + 1 B	1	Z-R12/SO 265185	
	8 V AC	2 M	1	Z-R8/SS 265177	
	8 V AC	1 M + 1 B	1	Z-R8/SO 265187	
	230 V AC	4 M	2	Z-R230/4S 265226	1 off
	230 V AC	2 M + 2 B	2	Z-R230/2S2O 265215	
	230 V AC	3 M + 1 B	2	Z-R230/3S1O 265221	
	24 V AC	4 M	2	Z-R24/4S 265227	
	24 V AC	2 M + 2 B	2	Z-R24/2S2O 265218	
	24 V DC	2 M + 2 B	2	Z-R23/2S2O 265219	

**Notes**

For other contact configurations and actuating voltages, please enquire.

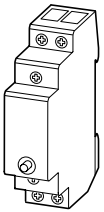
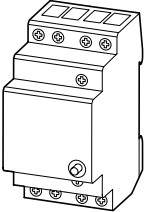
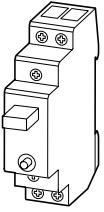
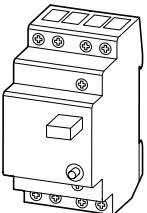


Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures

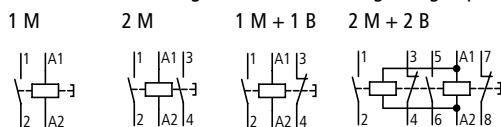
# 12/30 Rail-Mounted Service Installation Devices Installation Relays

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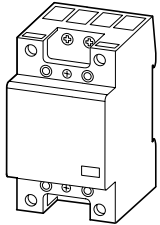
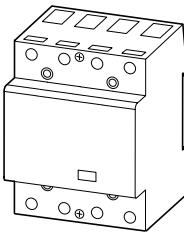
Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures

	Actuating voltage	Function	Space units	Type Article no.	Std. pack
<b>Installation relays</b>					
<b>With LED</b>					
<b>Without manual actuation</b>					
	230 V AC	1 M	1	Z-RE230/S 265190	2 off
	230 V AC	2 M	1	Z-RE230/SS 265193	
	230 V AC	1 M + 1 B	1	Z-RE230/SO 265197	
	24 V AC	2 M	1	Z-RE24/SS 265194	
	24 V AC	1 M + 1 B	1	Z-RE24/SO 265198	
	24 V DC	2 M + 2 B	2	Z-RE23/2S20 265232	1 off
	<b>With LED</b>				
<b>With manual actuation</b>					
	230 V AC	1 M	1	Z-RK230/S 265200	2 off
	230 V AC	2 M	1	Z-RK230/SS 265203	
	230 V AC	1 M + 1 B	1	Z-RK230/SO 265208	
	24 V AC	2 M	1	Z-RK24/SS 265205	
	24 V AC	1 M + 1 B	1	Z-RK24/SO 265209	
	24 V DC	2 M + 2 B	2	Z-RK23/2S20 271464	15
	<b>Accessories</b>				
	Spacer 0.5 space unit		0.5	Z-DST 248949	10 off

**Notes** For other contact configurations and actuating voltages, please enquire.

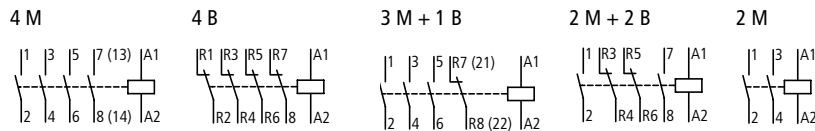


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	Actuating voltage	Rated current AC-1	Function	Type Article no.	Std. pack
	V AC	A			
<b>Installation contactors</b>					
	230	25	4 M	Z-SCH230/25-40 248847	1 off
	230	25	4 B	Z-SCH230/25-04 248848	
	230	25	3 M + 1 B	Z-SCH230/25-31 248846	
	230	25	2 M + 2 B	Z-SCH230/25-22 248849	
	24	25	4 M	Z-SCH24/25-40 248851	
	24	25	2 M + 2 B	Z-SCH24/25-22 248850	
	230	40	2 M	Z-SCH230/40-20 248855	
	230	40	2 M + 2 B	Z-SCH230/40-22 248853	
	230	40	3 M + 1 B	Z-SCH230/40-31 248854	
	230	63	4 M	Z-SCH230/40-40 248852	
	230	63	2 M	Z-SCH230/63-20 248859	
	230	63	2 M + 2 B	Z-SCH230/63-22 248857	
	230	63	3 M + 1 B	Z-SCH230/63-31 248858	
<b>Sealing cap</b>					
	2 space units			Z-SCHAK-2TE 248860	10 off
	3 space units			Z-SCHAK-3TE 248861	10 off
<b>Auxiliary contacts</b>					
			1 M + 1 B	Z-SC 248862	3 off
<b>Spacer</b>					
	0.5 space unit			Z-DST 248949	10 off

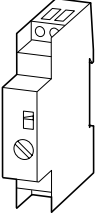
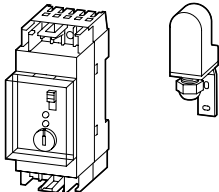
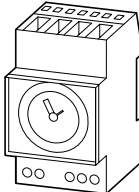
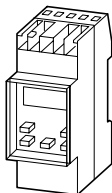
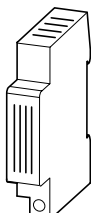
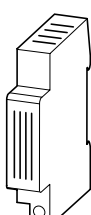
**Notes**

For other contact configurations and actuating voltages, please enquire.

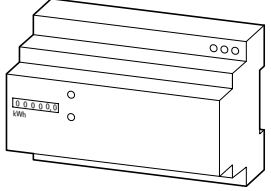
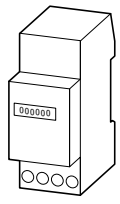
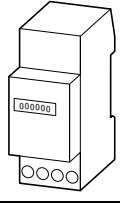
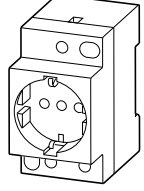


Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures




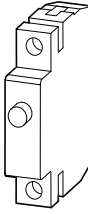
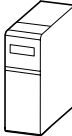
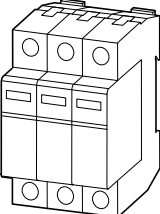
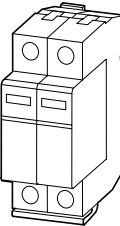
				Actuating voltage	Type Article no.	Std. pack
				V AC		
<b>Staircase timers</b>						
	Configurable				Z-TLG 268174	2 off
	<b>Light intensity switch with sensor</b>					
	Spare sensor				Z-LMS 248218	1 off
					D35/3/SENSOR 219019	1 off
<b>Time switches</b>						
<b>Analog</b>						
	Synchronous	Day	1 channel		SU-GS/1W-TA 268626	2 off
	Synchronous	Week	1 channel		SU-GS/1W-WO 268627	
	Quartz	Day	1 channel		SU-GQ-TA 268628	1 off
	Quartz	Day	1 channel		SU-GQ/1W-TA 268629	
	Quartz	Week	1 channel		SU-GQ/1W-WO 268630	
	Quartz	Day + week	2 channels		SU-GQ/2W-TW 268631	
<b>Digital</b>						
	Quartz	Day	1 channel		Z-SDM/1K-TA 248210	1 off
	Quartz	Week	1 channel		Z-SDM/1K-WO 248211	
	Quartz	Week	2 channels		Z-SDM/2K-WO 248212	
<b>Buzzers</b>						
				230 V AC	Z-SUM230 270584	2 off
				24 V AC	Z-SUM24 270583	
				12 V AC	Z-SUM12 271087	
<b>Bells</b>						
				230 V AC	Z-GLO230 270586	2 off
				24 V AC	Z-GLO24 270585	
				12 V AC	Z-GLO12 271088	

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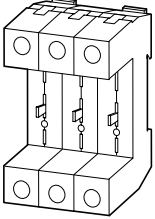

		Actuating voltage	Type Article no.	Std. pack
		V AC		
<b>Power meters</b>				
	5 + 2-digit Transformer connection .../5 A	230/400	Z-KWZ/400/3-CT 263134	1 off
	6 + 1-digit Direct connection 63 A	230/400	Z-KWZ/400/3-63 263133	15 1 off
<b>Hours-run counters</b>				
	5 + 2-digit	230	BSZ/230 276309	15 1 off
	5 + 2-digit	24	BSZ/24 276308	15 1 off
<b>Pulse counter</b>				
	7-digit	230	Z-IMZ/230 248206	15 1 off
<b>Plug socket</b>				
		230	Z-SD230 266875	10 off

Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures



Description	Lightning surge current	Maximum uninter- rupted voltage	Rated arrester discharge current	Type Article no.	Std. pack
	$I_{imp}$ (10/350 $\mu$ s)		$I_N$ (8/20 $\mu$ s)		
	kA	$U_c$	kA		
<b>Lightning current arresters, arrester Class B</b>					
	35			<b>SPI-35/440</b> 263137	6 off
	50			<b>SPI-50/NPE</b> 263138	2 off
	100			<b>SPI-100/NPE</b> 263139	1 off
<b>Overvoltage arresters, arrester Class C</b>					
	L-PE(N) terminal in TN systems L-N terminal in TT systems	280	20	<b>SPC-E-280</b> 248150	1 off
	L-PE(N) terminal in TN systems L-N terminal in TT systems	280	25	<b>SPC-EH-280</b> 248155	12 off
	L-N and N-PE terminals in IT-systems	460	20	<b>SPC-E-460</b> 248153	12 off
	N-PE terminal in TN and TT-systems		20	<b>SPC-E-N/PE</b> 248157	12 off
<b>Overvoltage arresters, plug-in units, arrester Class C</b>					
1-pole					
	L-PE(N) in TN systems L-N in TT systems		20	<b>SPC-S-20/280</b> 248161	4 off
	L-N and N-PE in IT-systems		20	<b>SPC-S-20/460</b> 248164	4 off
	N-PE in TN and TT systems		20	<b>SPC-S-N/PE</b> 248166	4 off
<b>Overvoltage arresters, complete, arrester Class C</b>					
	1-pole, 280 V AC		20	<b>SPC-S-20/280/1</b> 248172	12 off
	2-pole, 280 V AC		20	<b>SPC-S-20/280/2</b> 248173	1 off
	3-pole, 280 V AC		20	<b>SPC-S-20/280/3</b> 248174	1 off
	4-pole, 280 V AC		20	<b>SPC-S-20/280/4</b> 248175	1 off
	1-pole, 460 V AC		20	<b>SPC-S-20/460/1</b> 248184	12 off
	2-pole, 460 V AC		20	<b>SPC-S-20/460/2</b> 248185	1 off
	3-pole, 460 V AC		20	<b>SPC-S-20/460/3</b> 248186	1 off
	1 + 1 TN-S, TT system			<b>SPC-S-1+1</b> 248192	1 off
	3 + 1 TN-S, TT system			<b>SPC-S-3+1</b> 248193	1 off
<b>Surge protective devices for TN, TT systems, arrester Class D</b>					
	Complete unit			<b>SPD-S-1+1</b> 248202	1 off
	N-PE insert module			<b>SPD-S-N/PE</b> 248199	4 off
	L-N insert module			<b>SPD-S-L/N</b> 248200	4 off
	Complete unit in flush mounting box			<b>VDK-280ES</b> 215893	1 off
	Base for VDK			<b>VDK-280S</b> 215891	1 off
	Insert			<b>VDK-280E</b> 215892	1 off

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Number of poles		Cross-section	Type Article no.	Std. pack	
		mm <sup>2</sup>			
<b>Lead-through terminal for B-type arresters</b>					
			SPB-D-125 248145	2 off	
<b>Busbars for B-type arresters</b>					
2	Single-phase	16	Z-GV-U/2 272588	20 off	
3		16	Z-GV-U/3 272589		
4		16	Z-GV-U/4 274080		
5		16	Z-GV-U/5 274081		
6		16	Z-GV-U/6 274082		
8		16	Z-GV-U/8 274083		
9		16	Z-GV-U/9 274084		
6	Three-phase	16	Z-GV-16/3P-3TE/6 267511	12 off	
<b>Designation label for SPI L1, L2, L3, N, earth</b>					
			SPI-BZS-L/N/PE 267408	10 off	
<b>Bases for SPC</b>					
	1		SPC-S-S1 248167	12 off	
	1 + 1		SPC-S-S2-1+1 248201	6 off	
	2		SPC-S-S2 248168	6 off	
	3		SPC-S-S3 248169	4 off	
	4		SPC-S-S4 248170	3 off	
	3 + 1		SPC-S-S4-3+1 248171	3 off	
	<b>Auxiliary contact for SPC-S and SPD-S</b>				
				SPC-S-HK 248203	8 off
<b>Lead-through terminal for C-type arresters</b>					
			Z-D63 248267	12 off	
<b>Busbars for C-type arresters</b>					
2 space units	Single-phase		ZV-KSBI-2TE 263961	10 off	
3 space units		ZV-KSBI-3TE 263962			
3 space units		ZV-KSBI-3TE/S 263963			
4 space units		ZV-KSBI-4TE 263964			
5 space units		ZV-KSBI-5TE 263965			
5 space units		ZV-KSBI-5TE/N 263966			
7 space units		ZV-KSBI-7TE 263967			
7 space units		ZV-KSBI-7TE/N 263969			
11 space units		ZV-KSBI-11TE 263970			

Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures



Dimensions	Single-pole miniature circuit-breakers	PE and N terminals Quantity × cross-section	Features	Type Article no.	Price See Price List	Std. pack
mm	Qty.	mm <sup>2</sup>				
<b>Individual miniature circuit-breaker enclosures</b>						
<ul style="list-style-type: none"> <li>• Metric cable entry knockouts in all sides</li> <li>• Degree of protection IP65</li> <li>• Devices that can be fitted: frame size 1 to DIN 43880</li> <li>• Transparent cover with quick-release fasteners, transparent door for operator access to devices fitted</li> <li>• Mounting rails for snap fitting of devices</li> <li>• Blanking strip for unused mounting locations, protective cover with marking strip</li> <li>• PE/N bars</li> <li>• Fixing straps for wall mounting, sealable cover fasteners</li> <li>• Enclosure depth 150 mm</li> </ul>						
	9	On each: 2 × (6 – 16) On each: 7 × (1 – 4)	Transparent cover	<b>AE/I23E</b> 029766		1 off
	9	On each: 2 × (6 – 16) On each: 7 × (1 – 4)	Transparent door	<b>AE/I23E/T</b> 032139		
	27	On each: 4 × (6 – 35) On each: 20 × (1 – 4)	Transparent cover	<b>AE/I43E</b> 000239		
	27	On each: 4 × (6 – 35) On each: 20 × (1 – 4)	Transparent door	<b>AE/I43E/T</b> 002612		
	45	On each: 4 × (6 – 35) On each: 20 × (1 – 4)	Transparent cover	<b>AE/I44E</b> 004985		
	45	On each: 4 × (6 – 35) On each: 20 × (1 – 4)	Transparent door	<b>AE/I44E/T</b> 061937		

**Notes**

--- PE/N bars

- A**
- 
- 1 × M32/20
  - 6 × M20
  - 2 × M16

- B**
- 
- 2 × M32/20
  - 4 × M25/16
  - 4 × M20
  - 4 × M16



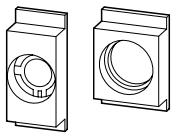
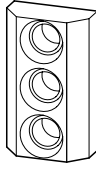
- C**
- 
- 2 × M50/32
  - 6 × M25/16
  - 8 × M20

- D**
- 
- 1 × M50/32
  - 6 × M25/16




- E**
- 
- 1 × M50/32
  - 2 × M40/25
  - 8 × M25/16
  - 2 × M20

- F**
- 
- 1 × M63/40
  - 6 × M25/16
  - 10 × M20
  - 2 × M16

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	Rated operational current $I_e$ A	Rated operational voltage $U_e$ V AC	Fuse link Size	Type Article no.	Price See Price List	Std. pack		
<b>Fuse bases, 1-pole</b>								
For gauge ring system (gauge screw: /FORMP)								
Screw fixing (holes for M4 screws)								
	25	500	E27, DII	S27-1 045865		10 off	Gauge rings/gauge screws, fuse links and fuse caps are <b>not</b> included	
	25	500	E27, DII	S27-1/FORMP 020327		10 off		
	63	660 690	E33, DII	S33-1 069595		2 off		
	63	660 690	E33, DIII	S33-1/FORMP 022700		2 off		
Can be snap fitted on top-hat rail to IEC/EN 60715 (35 mm)								
	16	380 400	E14, D01	S14-1/C 081457		10 off		
	25	500	E27, DII	S27-1/C 048238		20 off		
	25	500	E27, DII	S27-1/C/FORMP 025073		20 off		
	63	380 400	E18, D02	S18-1/C 088576		10 off		
	63	660 690	E33, DIII	S33-1/C 071968		2 off		
	63	660 690	E33, DIII	S33-1/C/FORMP 027446		2 off		
<b>Covers for 1-pole fuse bases</b>								
Standard front dimension 45 mm								
	-	-	-	P-E14 086182		20 off		
	-	-	-	P-E18 088555		20 off		
	-	-	-	P-E27 090928		10 off		
	-	-	-	P-E33 093301		10 off		
<b>Transparent shroud</b>								
With cable entry knockouts top and bottom								
	-	-	-	H-S27-1 029118		10 off		
<b>Fuse bases, 3-pole</b>								
For gauge ring system system (gauge screw: /FORMP)								
Screw fixing (holes for M4 screws)								
	25	500	E27, DII	S27 043492		4 off		
	25	500	E27, DII	S27/FORMP 034565		4 off		
	63	660 690	E33, DIII	S33 067222		2 off		
	63	660 690	E33, DIII	S33/FORMP 036938		2 off		
Can be snap fitted on top-hat rail to IEC/EN 60715 (35 mm)								
	25	500	E27, DII	S27/C 050611		4 off		
	25	500	E27, DII	S27/C/FORMP 032192		4 off		
	63	660 690	E33, DIII	S33/C 081460		2 off		
	63	660 690	E33, DIII	S33/C/FORMP 029819		2 off		

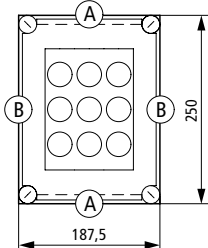
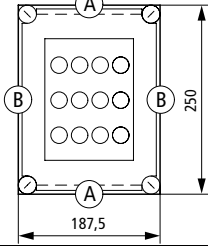
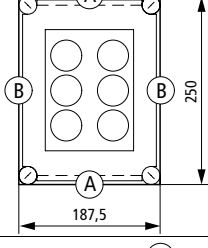
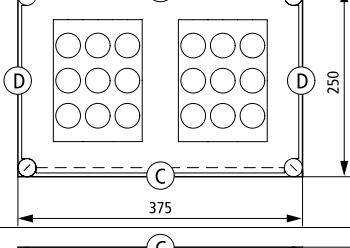
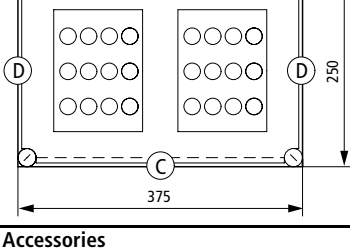


For use with	Terminal capacity, round conductor mm <sup>2</sup>	Cu factor Please enquire	Type Article no.	Price See Price List	Std. pack	Notes
<b>Notched phase busbars, can be cut to length</b>						
990 mm long, for max. 36 fuse bases, rated current 100 A	S14-1/C	—	<b>KS14</b> 050502		5 off	—
990 mm long, for max. 36 fuse bases, rated current 160 A	S18-1/C	—	<b>KS18</b> 052875			—
980 mm long, for max. 22 fuse bases, rated current 100 A	S27-1/C	—	<b>KS27</b> 055248			—
960 mm long, for max. 18 fuse bases, rated current 160 A	S33-1/C	—	<b>KS33</b> 059994			—
<b>Terminals</b>						
For round conductor up to 35 mm <sup>2</sup> or flat strip conductor 6 × 9 × 0.8						
	KS14 – KS33	—	<b>K35-AB</b> 064339		20 off	—
For retrofitting as PE/N terminal						
	S27/1	⊙ 1.5 – 6	<b>K6/1</b> 002270		100 off	Terminal capacity ⊙ Solid ⊕ Stranded ⊗ Flexible with ferrule
	S33/1	⊙ 4 – 16 ⊕ 4 – 16 ⊗ 4 – 10	<b>K16/1</b> 002272		25 off	

Dimensions (W × H × D) mm	Rated operational current <i>I<sub>e</sub></i> A	Cu factor Please enquire	Type Article no.	Price See Price List	Std. pack
<b>Busbars</b>					
Flat copper busbars, tinned					
12 × 5, supplied in lengths of 1500 mm	160		<b>CU12X5</b> 034121		10 off
20 × 5, supplied in lengths of 1500 mm	250		<b>CU20X5</b> 044092		10 off
20 × 10, supplied in lengths of 1500 mm	400		<b>CU20X10</b> 041719		5 off

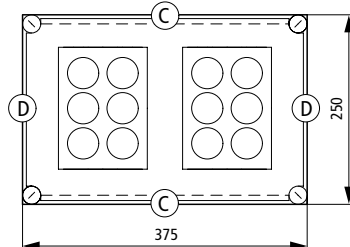
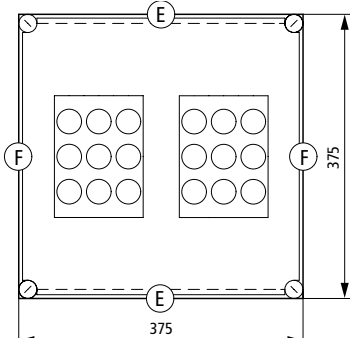
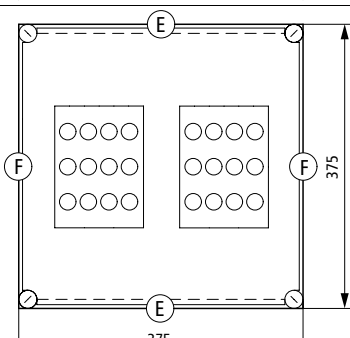
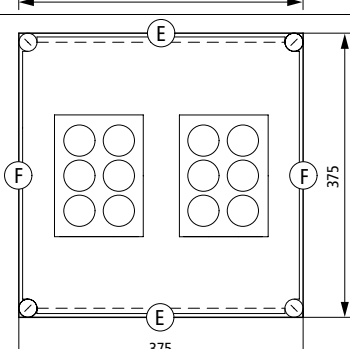


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Dimensions	Rated operational current $I_e$ A	Rated operational voltage $U_e$ V AC	Max. fuse size A	Fused circuits Qty.	PE and N terminals Quantity × cross-section mm <sup>2</sup>	Type Article no.	Price See Price List	Std. pack
<b>Individual fuse enclosures</b>								
<ul style="list-style-type: none"> <li>• Metric cable entry knockouts in all sides</li> <li>• Degree of protection IP65</li> <li>• With 3-pole busbar mounting fuse bases on busbars</li> <li>• Transparent cover with quick-release fasteners</li> <li>• PE/N bars, protective cover with marking strip</li> <li>• Fixing straps for wall mounting</li> <li>• Busbar mounting fuse bases exchangeable from the front</li> <li>• Sealable cover fasteners, enclosure depth 150 mm</li> </ul>								
	25	500	25, DII/E27	9 × 1-pole 3 × 3-pole	On each: 2 × (6 – 35) On each: 9 × (1 – 6)	<b>RS27/I23E</b> 013156		1 off
	63	400	35, D02/E18	6 × 1-pole 4 × 3-pole	On each: 2 × (6 – 35) On each: 6 × (4 – 25)	<b>RS18/I23E</b> 020275		
	63	690	35, DIII/E33	2 × 3-pole	On each: 2 × (6 – 35) On each: 2 × (4 – 25)	<b>RS33/I23E</b> 022648		
	25	500	25, DII/E27	18 × 1-pole 6 × 3-pole	On each: 2 × (6 – 35) On each: 18 × (1 – 6)	<b>RS27/I43E</b> 029767		
	63	400	35, D02/E18	12 × 1-pole 8 × 3-pole	On each: 2 × (6 – 35) On each: 12 × (4 – 25)	<b>RS18/I43E</b> 032140		
<b>Accessories</b>								
Set of connecting links For connection of the busbars for RS.../I23, RS.../I43, RS.../I44								
One set comprises 3 link elements	250					<b>VBS-RS</b> 002307		5 off

Notes --- PE/N bars



Dimensions	Rated operational current $I_e$ A	Rated operational voltage $U_e$ V AC	Max. fuse size A	Fused circuits Qty.	PE and N terminals Quantity × cross-section mm <sup>2</sup>	Type Article no.	Price See Price List	Std. pack
<b>Individual fuse enclosures</b>								
	63	690	35, DIII/E33	4 × 3-pole	On each: 2 × (6 – 35) On each: 4 × (4 – 25)	<b>RS33/I43E</b> 039259		1 off
	25	500	25, DII/E27	18 × 1-pole 6 × 3-pole	On each: 2 × (6 – 35) On each: 18 × (1 – 6)	<b>RS27/I44E</b> 001884		
	63	400	63, D02/E18	12 × 1-pole 8 × 3-pole	On each: 2 × (6 – 35) On each: 12 × (4 – 25)	<b>RS18/I44E</b> 001886		
	63	690	63, DIII/E33	4 × 3-pole	On each: 2 × (6 – 35) On each: 12 × (4 – 25)	<b>RS33/I44E</b> 001888		

Notes

--- PE/N bars

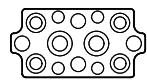
Accessories for fuse enclosures, → 14/55

A



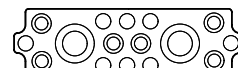
- 1 × M32/20
- 6 × M20
- 2 × M16

B



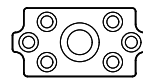
- 2 × M32/20
- 4 × M25/16
- 4 × M20
- 4 × M16

C



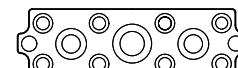
- 2 × M50/32
- 6 × M25/16
- 8 × M20

D



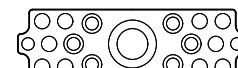
- 1 × M50/32
- 6 × M25/16

E




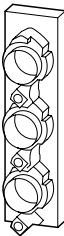
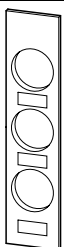

- 1 × M50/32    8 × M25/16
- 2 × M40/25    2 × M20

F



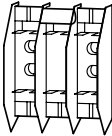
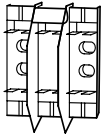
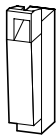
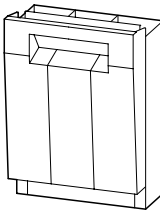
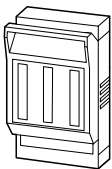
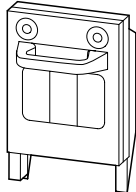
- 1 × M63/40    10 × M20
- 6 × M25/16    2 × M16

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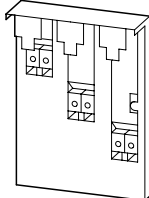


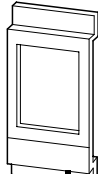
	Rated operational current $I_e$ A	Rated operational voltage $U_e$ V	Max. fuse A	For use with	Type Article no.	Price See Price List	Std. pack		
<b>Busbar mounting fuse bases, 3-pole</b>									
For mounting on busbars 20 × 5, 20 × 10, 20 × 15 mm With 50 mm between busbar centres									
<b>Gauge ring system</b>									
	–	25	500	E27, DII	CU20X5 CU20X10 CU20X15	<b>RS273-50</b> 093500	5 off	Gauge rings/gauge screws, fuse links and fuse caps are not included. Busbar mounting fuse bases, 3-pole for mounting on busbars 20 × 5, 20 × 10, 20 × 30 mm with 60 mm between busbar centres SASY60, HPL0214, Power Distribution Products and Systems	
	–	63	380, 400	E18, D02	CU20X5 CU20X10 CU20X15	<b>RS183-50</b> 093501	10 off		
	–	63	660, 690	E33, DIII	CU20X5 CU20X10 CU20X15	<b>RS333-50</b> 093557	5 off		
<b>Gauge ring system</b>									
	–	25	500	E27, DII	CU20X5 CU20X10 CU20X15	<b>RS273-50FORMP</b> 095083	5 off		
	–	63	380, 690	E33, DIII	CU20X5 CU20X10 CU20X15	<b>RS333-50FORMP</b> 093559	5 off		
<b>Covers</b>									
For 3-pole busbar mounting fuse bases including designation label									
	–	–	–	–	RS273-50 RS273-50/FORMP	<b>ZRS273-50</b> 093682	10 off	–	
	–	–	–	–	RS183-50	<b>ZRS183-50</b> 093693	20 off	–	
	–	–	–	–	RS333-50 RS333-50/FORMP	<b>ZRS333-50</b> 094970	10 off	–	
<b>Designation labels</b>									
For covering the 3-pole busbar mounting fuse bases									
	Aluminium-coated plastic labels, engraved to order (...), Max. inscription: letter height 3.5 mm, 1 line, 12 characters			ZRS273-50 ZRS183-50 ZRS333-50	<b>BSAK25X10(*)</b> 939284	10 off	–		
	Aluminium-coated plastic labels, blank			ZRS273-50 ZRS183-50 ZRS333-50	<b>BSAK25X10</b> 024201	10 off	–		

Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures

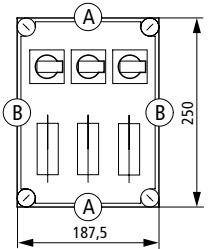
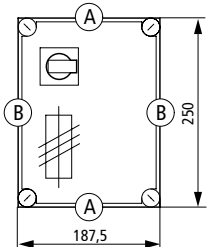
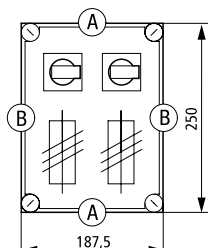


		Rated operational current $I_e$ A	Max. fuse		Size	Type Article no.	Price See Price List	Std. pack
			500 V A	690 V A				
<b>Low-voltage h.b.c. fuse bases</b>								
3-pole								
	-	100	100	100	NH00	<b>GS00</b> 024368		1 off
	-	160	160	100	NH00	<b>GS00-160</b> 026741		
	-	250	250	200	NH1	<b>GS1</b> 036233		
	-	400	400	315	NH2	<b>GS2</b> 045725		
	-	630	630	500	NH3	<b>GS3</b> 050471		
	-							
<b>Low-voltage h.b.c. fuse switch-disconnectors</b>								
1-pole, for fitting to mounting plate, MR25 Can be fitted to GSTA00(-160) for 4-pole low-voltage h.b.c. fuse switch-disconnector Two devices can be combined to make a 2-pole low-voltage h.b.c. fuse switch-disconnector Without hand guard								
	-	100	100	100	NH00	<b>GSTA00-1P</b> 224999		1 off
	-	160	160	100	NH00	<b>GSTA00-160-1P</b> 225000		1 off
3-pole, for fitting to mounting plate, MR25, without hand guard								
	-	100	100	100	NH00	<b>GSTA00</b> 093185		1 off
	-	160	160	100	NH00	<b>GSTA00-160</b> 095558		
	In conjunction with adapter plates: A-GSTA...	250	250	200	NH1	<b>GSTA1</b> 017250		
	In conjunction with adapter plates: A-GSTA...	400	400	315	NH2	<b>GSTA2</b> 021996		
	-	630	630	500	NH3	<b>GSTA3</b> 026742		
3-pole for mounting on busbars With 40/50/60 mm between busbar centres Busbar size: 12 – 30 × 5 – 15 Without hand guard								
	Connection top or bottom, without hand guard, for flat conductors	100	100	100	NH00	<b>GST00-40-60-AOU</b> 224549		1 off
	Connection top or bottom, without hand guard, for flat conductors	160	160	100	NH00	<b>GST00-160-40-60-AOU</b> 224550		1 off
3-pole, rear mounting, degree of protection: max. IP44								
	-	160	160	100	NH00	<b>GSTZ00-160</b> 067083		1 off
	-	250	250	200	NH1	<b>GSTZ1</b> 074202		
	-	400	400	315	NH2	<b>GSTZ2</b> 078948		
	-	630	630	500	NH3	<b>GSTZ3</b> 083694		

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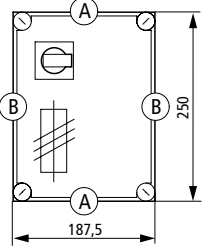
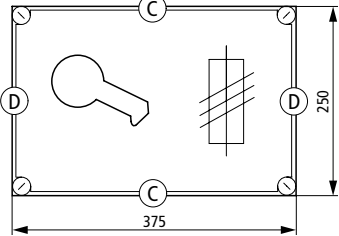
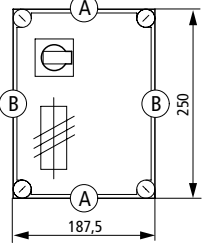
	For use with	Busbars mm	Type Article no.	Price See Price List	Std. pack
<b>Set of connecting links</b>					
For 2/4-pole assemblies					
—	—	—	V-GSTA00-1P 228173		1 off
<b>Hand guards</b>					
For GST00(-160)-40-60-AOU					
	Top	—	GOV-GST00-40-60 224551		1 off
	Bottom	—	GUV-GST00-40-60 224552		1 off
					
<b>Adapter plates for fuse switch-disconnectors</b>					
Outgoer to top or bottom (adapter plate can be turned through 180°) 50 mm between busbar centres					
	—	GSTA1	Cu 20 × 5	A-GSTA1/50 057491	1 off
	—	GSTA1	Cu 20 × 10	A-GSTA1/50/16 059864	
	—	GSTA2	Cu 20 × 5	A-GSTA2/50 064610	
	—	GSTA2	Cu 20 × 10	A-GSTA2/50/16 066983	
<b>Clip set</b>					
Can be retrofitted, adjustable For latching on to two top-hat rails to IEC/EN 60715 (35 mm) For distances of 100 to 125 mm between busbar centres					
—	—	GSTA00, GSTA00-160	—	C-GSTA00 040922	5 off
<b>Sets of clamp-type terminals</b>					
One set comprises 3 clamp-type terminals.					
	Terminal capacity 1 × (70 – 150) mm <sup>2</sup> Cu/Al	GS1, GST...1	—	PSK1 038734	1 off
	Terminal capacity 1 × (70 – 150) mm <sup>2</sup> Cu/Al	GS2, GST...2	—	PSK2 043480	
	Terminal capacity 1 × (120 – 300) mm <sup>2</sup> Cu/Al	GS3, GST...3	—	PSK3 048226	
<b>Sets of double clamp-type terminals</b>					
One set comprises 3 double clamp-type terminals					
	Terminal capacity 2 × (70 – 95) mm <sup>2</sup> Cu/Al	GS1, GST...1	—	PSK12 041107	1 off
	Terminal capacity 2 × (120 – 150) mm <sup>2</sup> Cu/Al	GS2, GST...2	—	PSK22 045853	
	Terminal capacity 2 × (120 – 240) mm <sup>2</sup> Cu/Al	GS3, GST...3	—	PSK32 050599	
<b>Hand guards for fuse switch-disconnectors</b>					
Provide additional protection for the operator during actuation of the fuse switch-disconnector					
—	—	GST(A)00...	—	ZBS-GSTA00 014411	10 off
—	—	GSTA1	—	ZBS-GSTA1 082800	10 off
—	—	GSTA2	—	ZBS-GSTA2 082801	5 off
—	—	GSTA3	—	ZBS-GSTA3 082802	10 off
<b>Insulating surround for fuse switch-disconnectors</b>					
For compensation between the GA... protective cover and the device (for use in the CI insulated distribution board system)					
	—	GST00	—	B-GST00-40-60/CI/1 224553	5 off



Dimensions	Fused poles	Rated operational current $I_e$	Fuse	Insulated enclosures	Type Article no.	Price	Std. pack
mm	Qty.	A	Size	Type			
<b>CI fuse enclosures with switches</b>							
<ul style="list-style-type: none"> <li>• Metric cable entry knockouts in all sides</li> <li>• Transparent cover</li> <li>• Terminal for connecting the 4th conductor (PEN)</li> <li>• Fixing straps for wall mounting</li> <li>• Sealable cover fasteners</li> <li>• Gauge ring/fuse link and fuse cap are not included as standard.</li> </ul>							
	3 × 1	25	S27	CI23E-125	TS31-25/I23E 084346		1 off
	1 × 3	25	S27	CI23E-125	TS13-25/I23E 086719		
	2 × 3	25	S27	CI23E-125	TS23-25/I23E 089092		



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Dimensions	Fused poles	Rated operational current	Fuse	Insulated enclosure	Type	Article no.	Price	Std. pack
mm	Qty.	$I_e$ A	Size	Type				
	1 × 3	63	S33	CI23E-125	TS13-63/I23E	091465		1 off
	1 × 3	100	NH00	CI43E-125	NGS100/I43E	016742		
	1 × 3	63	S33	CI23E-125	TS13-63/I23E/SVB	093838		

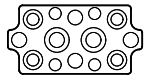
Notes

A



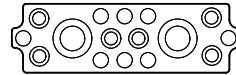
1 x M32/20  
6 x M20  
2 x M16

B



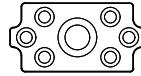
2 x M32/20  
4 x M25/16  
4 x M20  
4 x M16

C



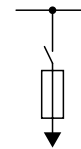
2 x M50/32  
6 x M25/16  
8 x M20

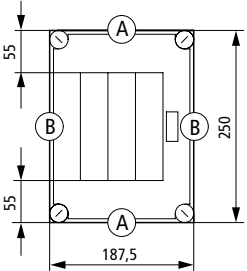
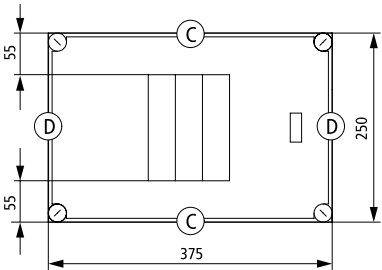
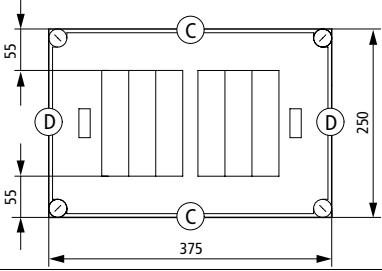
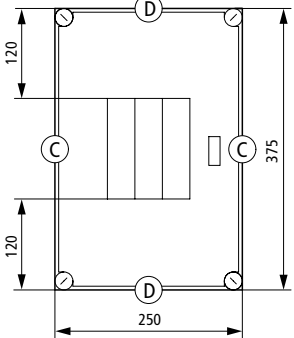
D



1 x M50/32  
6 x M25/16

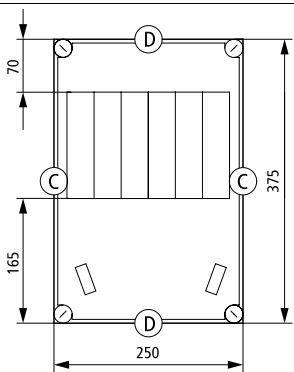
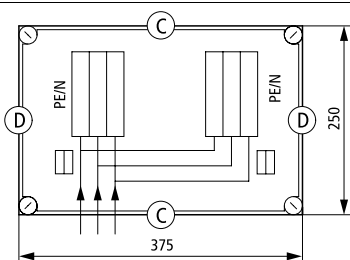
Prewired switch fuse to supplying busbar



Dimensions	Rated operational current	Rated operational voltage	Fuse	5th conductor terminal (N conductor) can be fitted by user	Type Article no.	Price See Price List	Std. pack
mm	$I_e$ A	$U_e$ V AC	Size				
<b>CI enclosures with low-voltage h.b.c. fuse bases</b>							
<ul style="list-style-type: none"> <li>• Metric cable entry knockouts in all sides</li> <li>• Degree of protection IP65</li> <li>• Transparent cover</li> <li>• Enclosure depth 150 mm</li> <li>• Terminal for connecting the 4th conductor (PEN)</li> <li>• Fuse base fitted to steel mounting plate</li> <li>• Fixing straps for wall mounting</li> <li>• Sealable cover fasteners</li> </ul>							
	100	690	NH00	K50/1	<b>GS00/I23E</b> 027395		1 off
	100	690	NH00	K50/1	<b>GS00/I43E</b> 032141		
	160 100	500 690	NH00	K 95/1N/BR	<b>GS00-160/I43E</b> 034514		
	2 x 100	690	NH00	K50/1	<b>2GS00/I43E</b> 044006		
	100	690	NH00	K50/1	<b>GS00/I43E-G</b> 039260		
	160 100	500 690	NH00	K95/1N/BR	<b>GS00-160/I43E-G</b> 036887		



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Dimensions	Rated operational current	Rated operational voltage	Fuse	5th conductor terminal (N conductor) can be fitted by user	Type Article no.	Price See Price List	Std. pack
mm	$I_e$ A	$U_e$ V AC	Size				
<b>CI enclosures with low-voltage h.b.c. fuse bases</b>							
	2 × 100	690	NH00	K50/1	2GS00/I43E-G 041633		1 off
<b>Two-way fuse box</b>							
With parallel link between the incoming sides Incoming cable max. 35 mm <sup>2</sup> Max. fuse 63 A							
	2 × 100	690	NH00	–	2GS00/I43E-V2K 046379		1 off

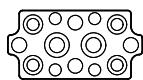
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A



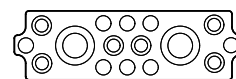
1 x M32/20  
6 x M20  
2 x M16

B



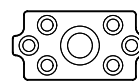
2 x M32/20  
4 x M25/16  
4 x M20  
4 x M16

C



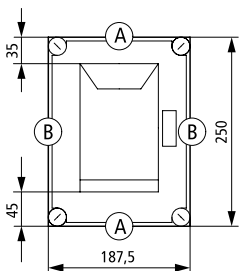
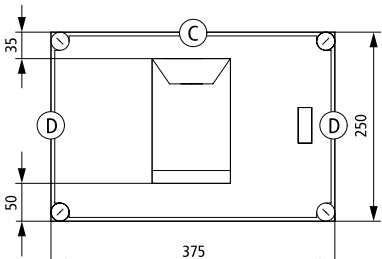
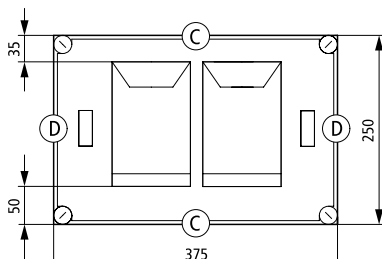
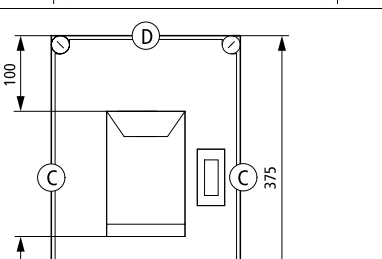
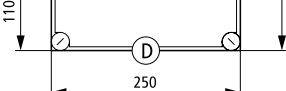

2 x M50/32  
6 x M25/16  
8 x M20

D



1 x M50/32  
6 x M25/16



Dimensions	Enclosure depth	Rated operational current	Rated operational voltage	Fuse	5th conductor terminal (N conductor) can be fitted by user	Type Article no.	Price See Price List	Std. pack
mm	mm	$I_e$ A	$U_e$ V AC	Size				
<b>Enclosures with low-voltage h.b.c. fuse switch-disconnectors</b>								
<ul style="list-style-type: none"> <li>• Metric cable entry knockouts in all sides</li> <li>• Degree of protection IP65</li> <li>• Transparent cover</li> <li>• Terminal for connecting the 4th conductor (PEN)</li> <li>• Fuse switch-disconnector fitted to sheet steel mounting plate</li> <li>• Fixing straps for wall mounting</li> <li>• Sealable cover fasteners</li> </ul>								
	150	100	690	NH00	K50/1	<b>GSTA00/I23E</b> 048752		1 off
	150	100	690	NH00	K50/1	<b>GSTA00/I43E</b> 051125		
	150	160	500	NH00	K 95/1N/ BR	<b>GSTA00-160/I43E</b> 053498		
	150	2 x 100	690	NH00	K50/1	<b>2GSTA00/I43E</b> 070109		
	150	100	690	NH00	K50/1	<b>GSTA00/I43E-G</b> 058244		
	150	160	500	NH00	K 95/1N/ BR	<b>GSTA00-160/I43E-G</b> 055871		



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Dimensions	Enclosure depth	Rated operational current	Rated operational voltage	Fuse	5th conductor terminal (N conductor) can be fitted by user	Type Article no.	Price See Price List	Std. pack
mm	mm	$I_e$ A	$U_e$ V AC	Size				
<b>Enclosures with low-voltage h.b.c. fuse switch-disconnectors</b>								
	150	100	690	NH00	K50/1	GSTA00/I44E 060617		1 off
	150	160 100	500 690	NH00	K 95/1N/ BR	GSTA00-160/I44E 062990		
	150	2 x 100	690	NH00	K50/1	2GSTA00/I44E 067736		
	150	2 x 160 2 x 100	500 690	NH00	K 95/1 N/ BR	2GSTA00-160/I44E 065363		

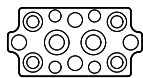
Notes

A



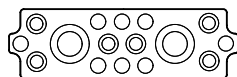
1 x M32/20  
6 x M20  
2 x M16

B



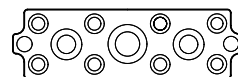
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4 x M25/16  
4 x M20  
4 x M16

C



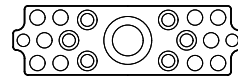
2 x M50/32  
6 x M25/16  
8 x M20

E



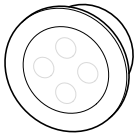
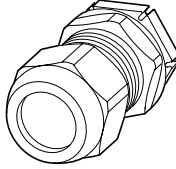
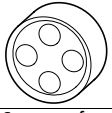

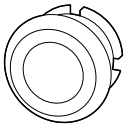

1 x M50/32 8 x M25/16  
2 x M40/25 2 x M20

F



1 x M63/40 10 x M20  
6 x M25/16 2 x M16



	Cable entry	Drilling dimensions mm	External diameter of cable mm	For use with NYM/NYY cables, 4-core mm <sup>2</sup>	Type Article no.	Price	Std. pack
<b>Metric diaphragm grommets</b>							
<ul style="list-style-type: none"> <li>IP66, with integral push-through diaphragm</li> <li>Polyethylene and thermoplastic elastomer, halogen free</li> </ul>							
	M16	16.5	1 – 9	H03VV-F 3 × 0.75 mm <sup>2</sup> , NYM 1 × 16/3 × 1.5 mm <sup>2</sup>	<b>KT-M16</b> 216983		100 off
	M20	20.5	1 – 13	H03VV-F 3 × 0.75 mm <sup>2</sup> , NYM 5 × 1.5/5 × 2.5 mm <sup>2</sup>	<b>KT-M20</b> 207602		
	M25	25.5	1 – 18	H03VV-F 3 × 0.75 mm <sup>2</sup> , NYM 4 × 10 mm <sup>2</sup>	<b>KT-M25</b> 207603		
	M32	32.5	1 – 25	H03VV-F 3 × 0.75 mm <sup>2</sup> , NYM 4 × 16/5 × 10 mm <sup>2</sup>	<b>KT-M32</b> 207604		
<b>Metric cable glands, to EN 50262</b>							
Cable glands, metric							
<ul style="list-style-type: none"> <li>With lock nut and built-in strain relief</li> <li>IP68 up to 5 bar, polyamide, halogen-free</li> </ul>							
	M12	12.5	3 – 7	H03VV-F 3 × 0.75 mm <sup>2</sup> , NYM 1 × 2.5 mm <sup>2</sup>	<b>V-M12</b> 215078		20 off
	M16	16.5	4.5 – 10	H05VV-F 3 × 1.5 mm <sup>2</sup> , NYM 1 × 16/3 × 1.5 mm <sup>2</sup>	<b>V-M16</b> 215077		
	M20	20.5	6 – 13	H05VV-F 4 × 2.5/3 × 4 mm <sup>2</sup> , NYM 5 × 1.5/5 × 2.5 mm <sup>2</sup>	<b>V-M20</b> 206910		
	M25	25.5	9 – 17	H05VV-F 5 × 2.5/5 × 4 mm <sup>2</sup> , NYM 5 × 2.5/5 × 6 mm <sup>2</sup>	<b>V-M25</b> 206911		10 off
	M32	32.5	13 – 21	NYM 5 × 10 mm <sup>2</sup>	<b>V-M32</b> 206912		
	M32	32.5	18 – 25	NYM 5 × 16 mm <sup>2</sup>	<b>V-M32G<sup>1)</sup></b> 226156		
	M40	40.5	16 – 28	NYM 5 × 16 mm <sup>2</sup>	<b>V-M40</b> 209668		
	M50	50.5	21 – 35	NYM 4 × 35/5 × 25 mm <sup>2</sup>	<b>V-M50</b> 206913		5 off
	M63	63.5	34 – 48	NYM 4 × 35 mm <sup>2</sup>	<b>V-M63</b> 214835		3 off
<b>Multiple gaskets V-M... cable glands, metric</b>							
	M25	–	4 × 3 – 6	H03VV-F 2 × 0.75/3 × 0.75 mm <sup>2</sup>	<b>MFD25</b> 215451		25 off
	M32	–	4 × 3.5 – 7	H03VV-F 4 × 0.75 mm <sup>2</sup>	<b>MFD32</b> 215452		25 off
<b>Stoppers for unused openings in MFD... multiple gaskets</b>							
	M25	–	6	–	<b>MFV25-6</b> 215453		50 off
	M32	–	7	–	<b>MFV32-7</b> 215454		50 off
<b>Cable grommets</b>							
For wall thickness 2 – 3 mm, PVC							
	–	58	14 – 54	–	<b>KT3</b> 031523		2 off
	–	75	14 – 68	–	<b>KT4</b> 036269		3 off
<b>Pressure compensating grommets/cable glands</b>							
Normal enclosure							
For use in the enclosure bottom or sides, PVC							
	M25	25.5	–	–	<b>KT-M25F</b> 224556		50 off
	<b>Enclosure IP65</b>						
For use in the enclosure bottom or sides, IP65, polyamide, halogen free							
	M20	20.5	–	–	<b>STB-M20F</b> 224557		20 off
	M25	25.5	–	–	<b>STB-M25F</b> 224558		20 off

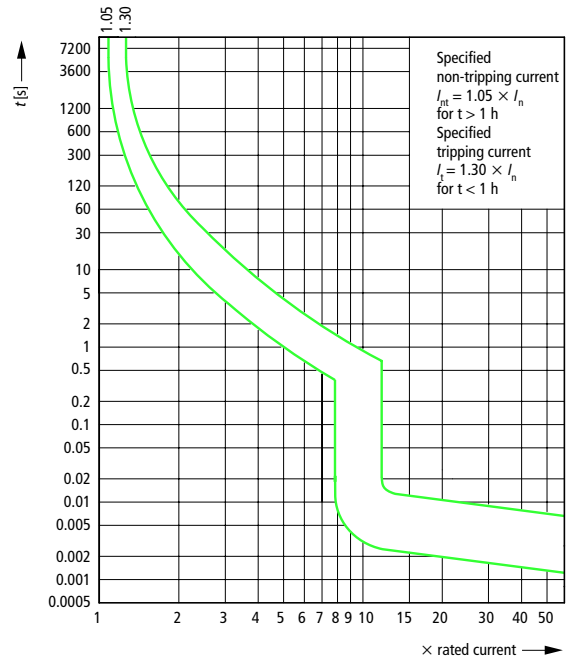
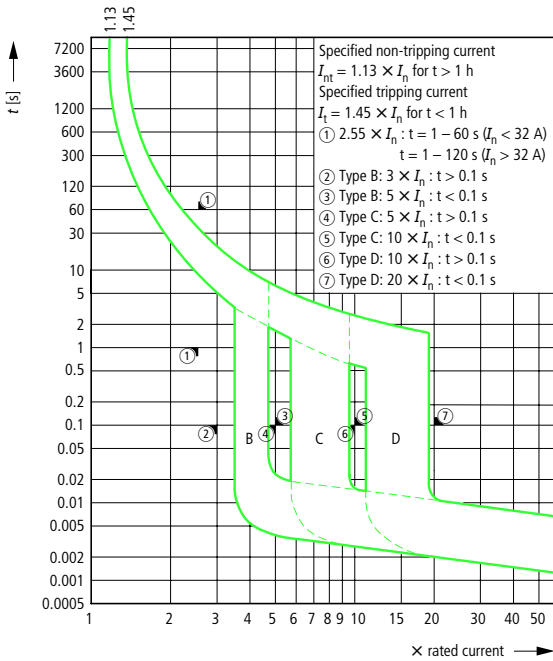
Notes

<sup>1)</sup> Does not conform to EN 50262 standard

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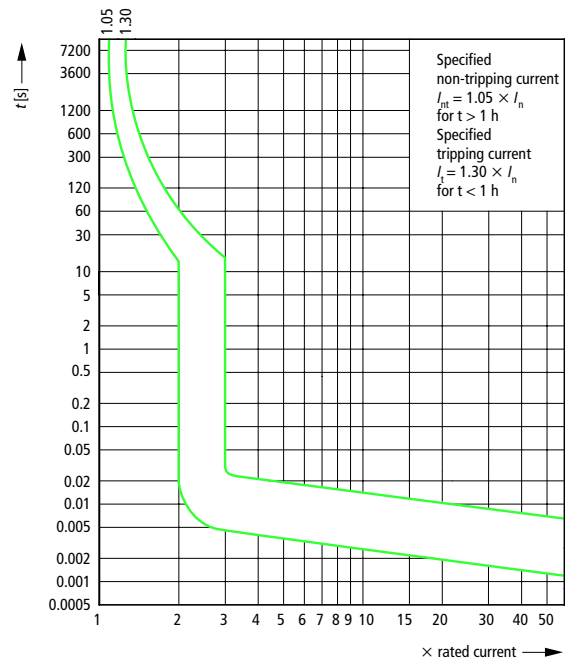
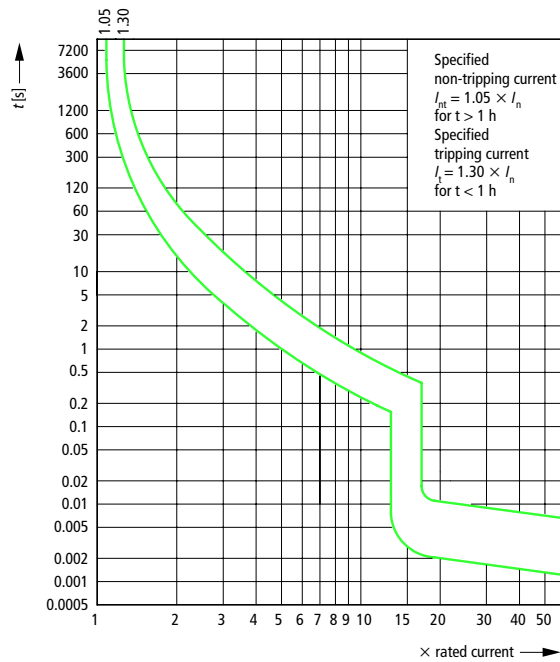
FAZ tripping characteristics at 30 °C: B, C, D to IEC/EN 60898

FAZ tripping characteristics at 30 °C: K to IEC/EN 60947



FAZ tripping characteristics at 30 °C: S to IEC/EN 60947

FAZ tripping characteristics at 30 °C: Z to IEC/EN 60947

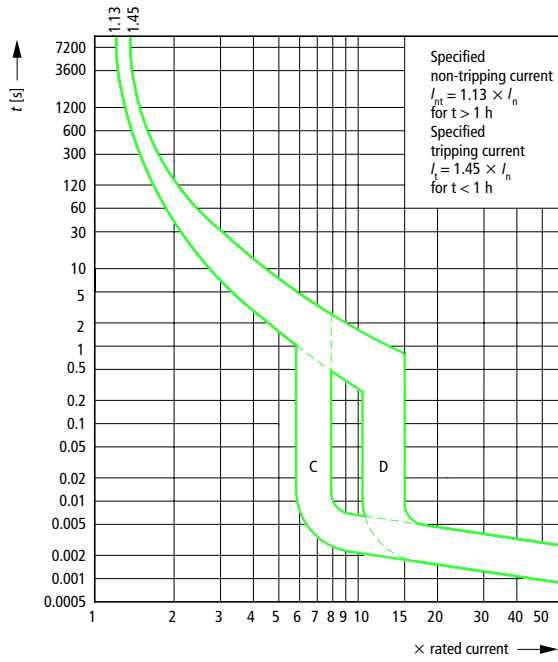


# 12/52 Tripping Characteristics

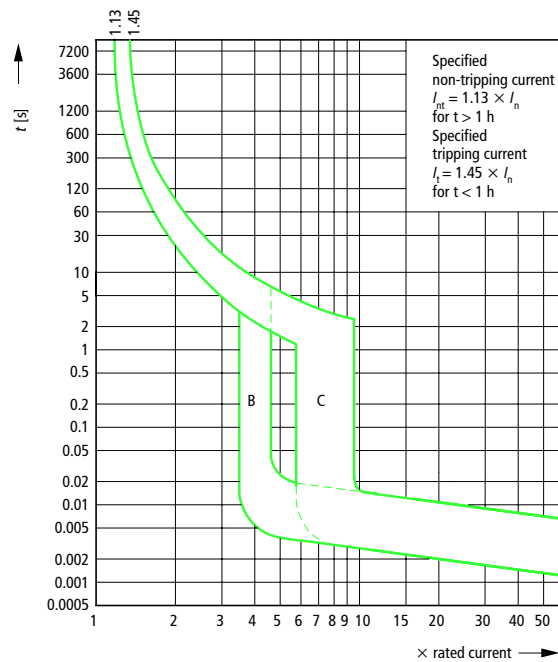
## AZ Miniature Circuit-Breakers, PKNM Combined RCD/MCB Devices

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AZ tripping characteristics at 30 °C: C, D to IEC/EN 60898



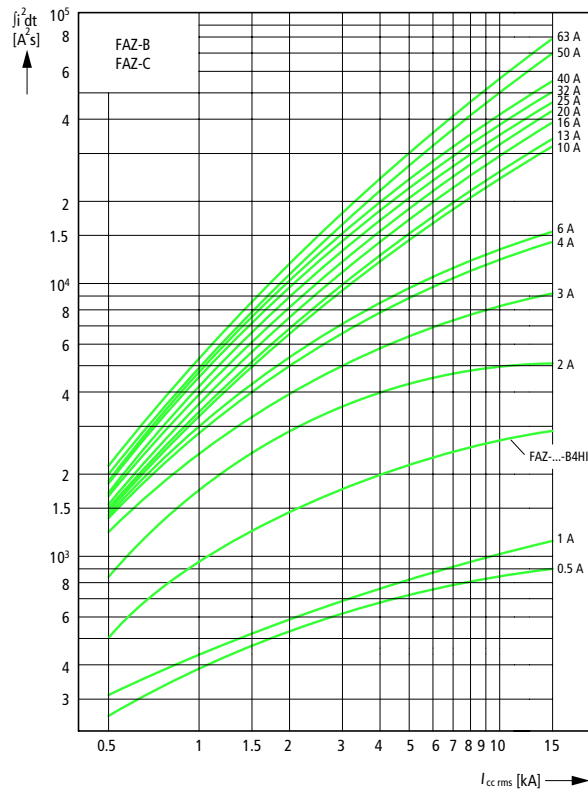
PKNM tripping characteristics at 30 °C: B, C to IEC/EN 61009



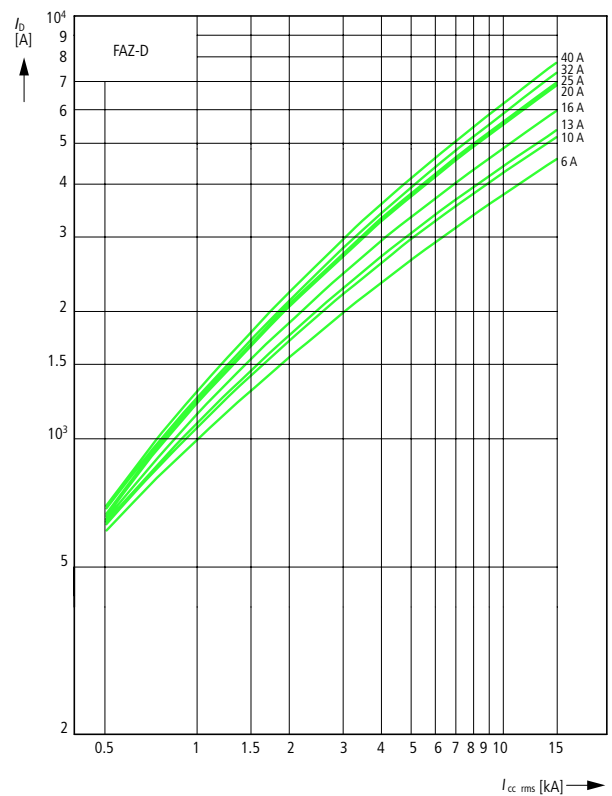
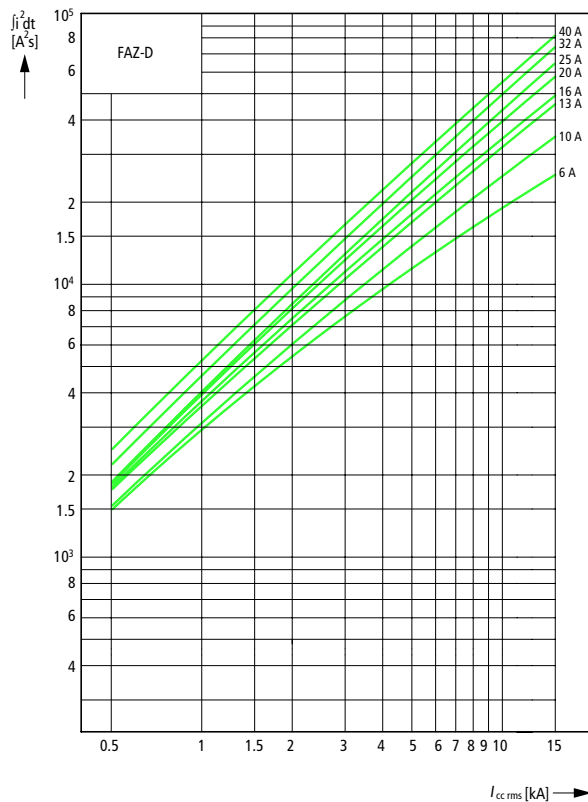
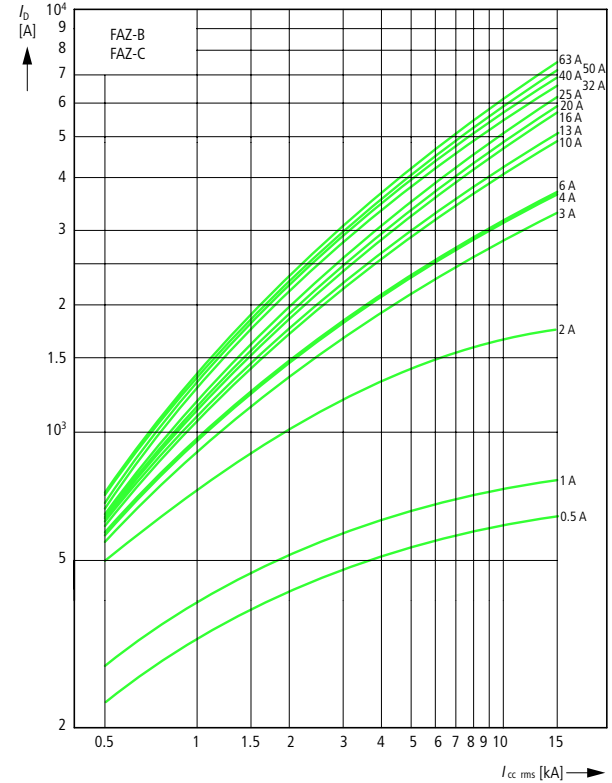
Moeller HPL0211-2004/2005

Let-through energy  $I^2t$ /let-through current  $I_D$   
According to IEC/EN 60898

Let-through energy  $I^2t$



Let-through current  $I_D$

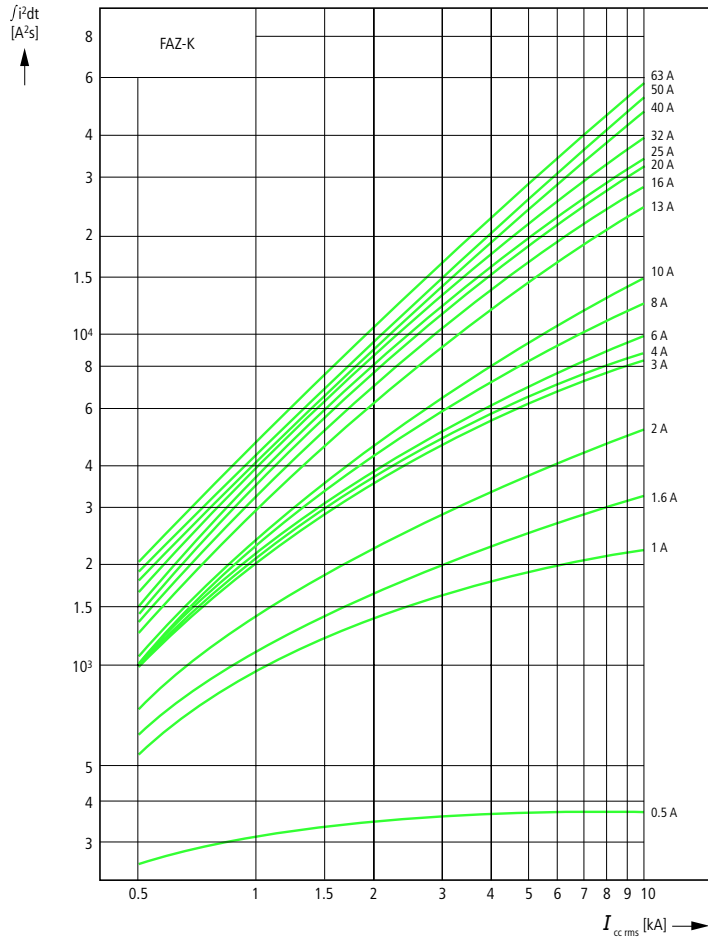


Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures

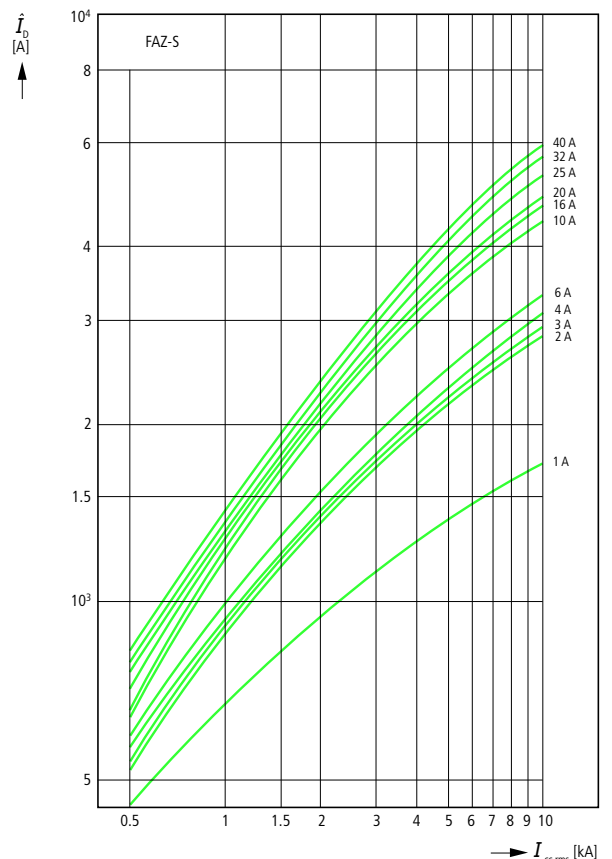
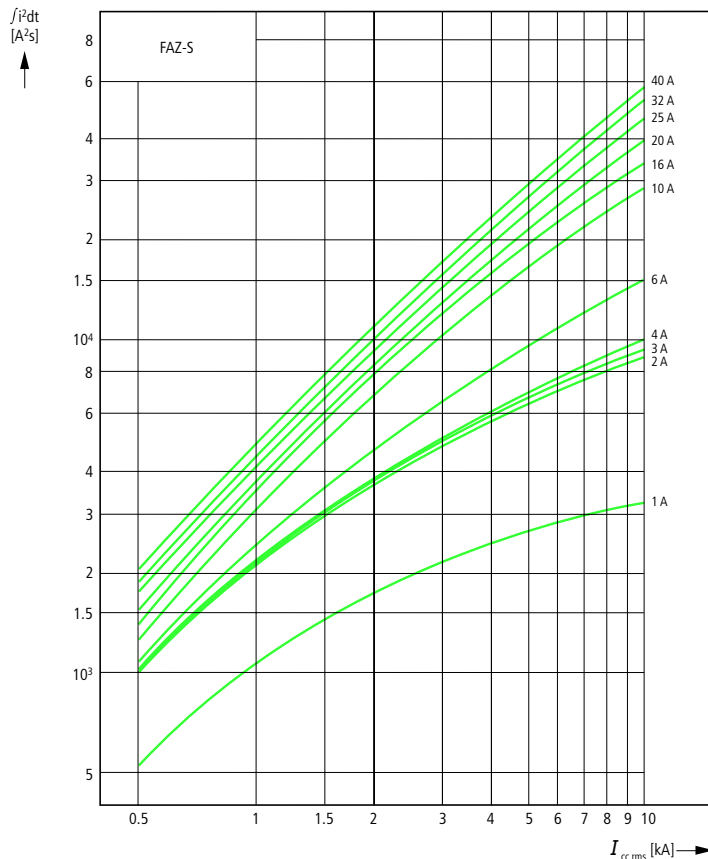
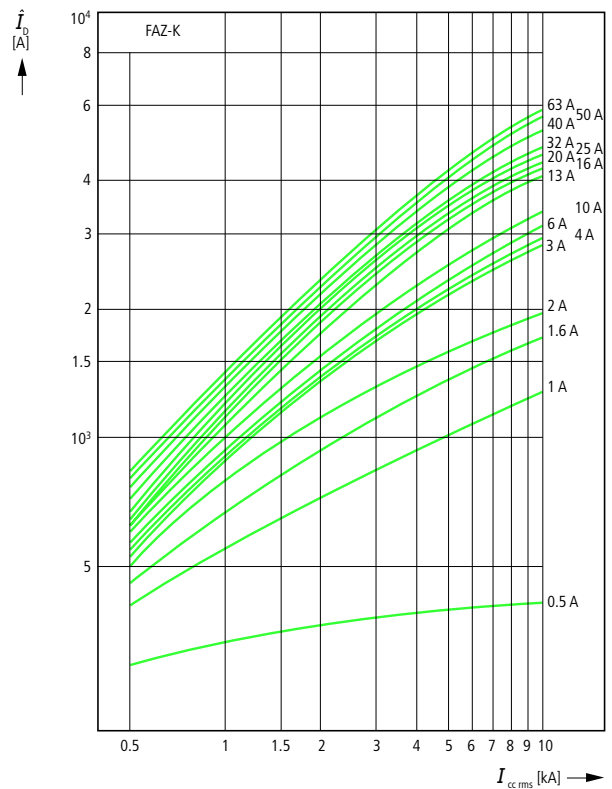


Let-through energy  $I^2t$ /let-through current  $\hat{I}_D$   
According to IEC/EN 60898

Let-through energy  $I^2t$



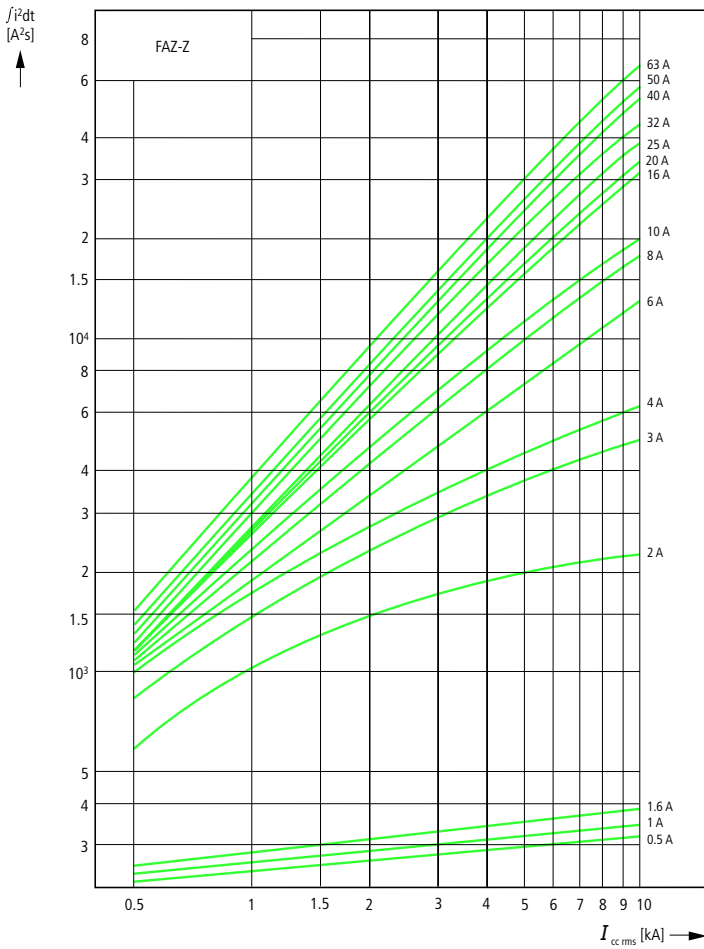
Let-through current  $\hat{I}_D$



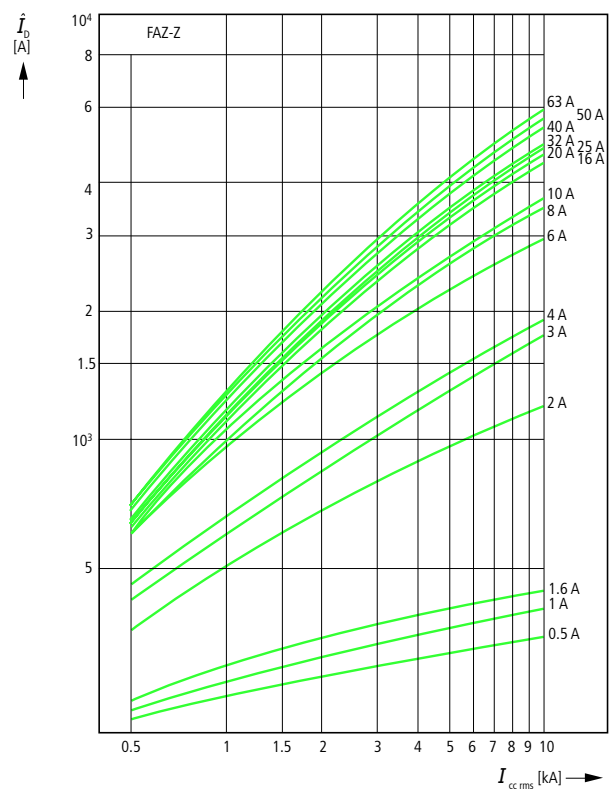
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Let-through energy  $I^2t$ /let-through current  $\hat{I}_D$   
 According to IEC/EN 60898

Let-through energy  $I^2t$



Let-through current  $\hat{I}_D$

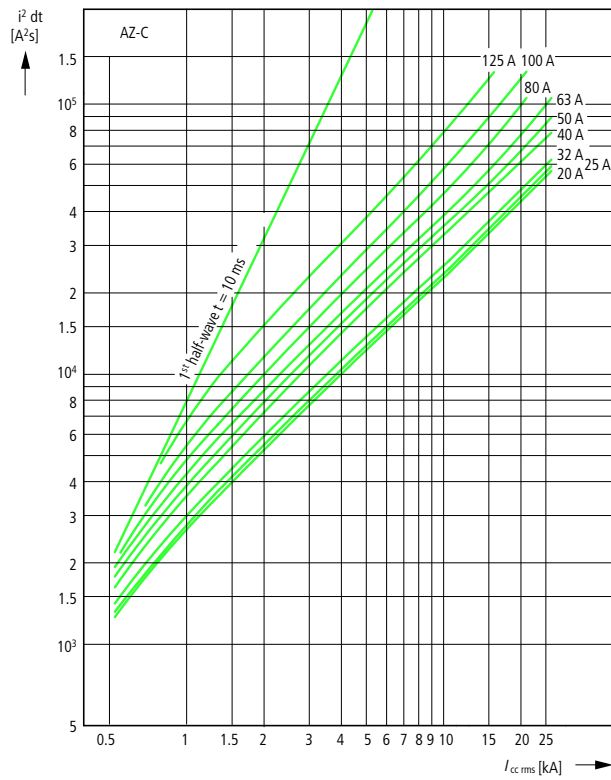


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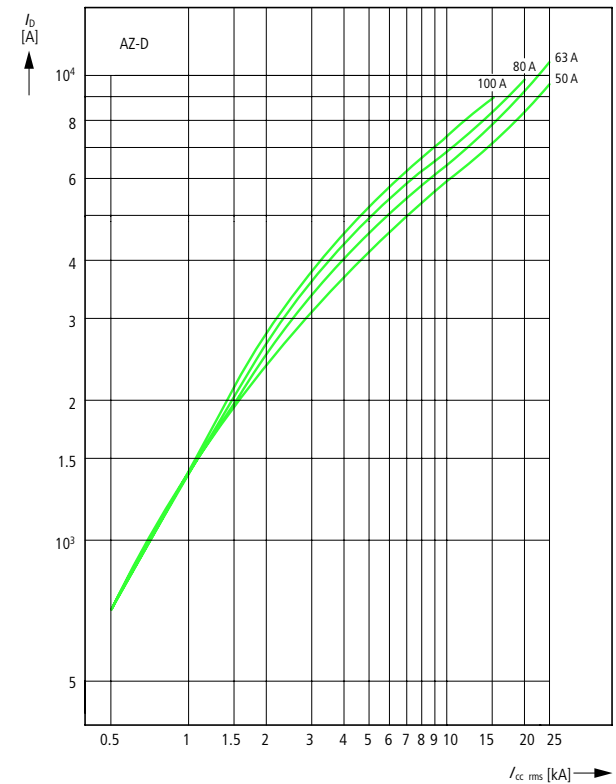
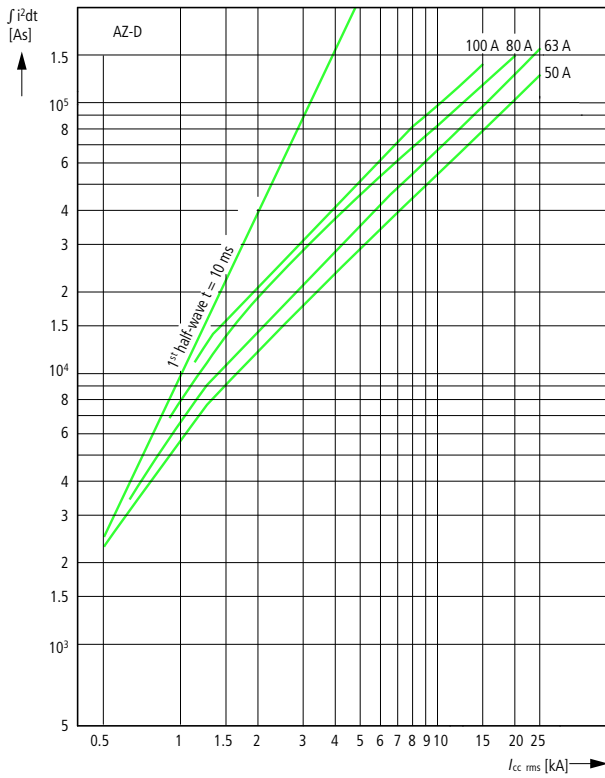
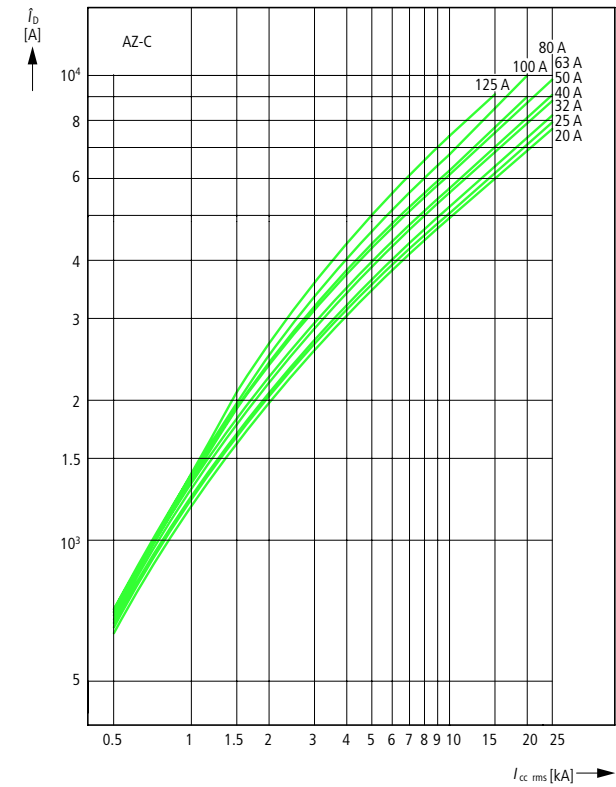
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Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures

Let-through energy  $I^2t$



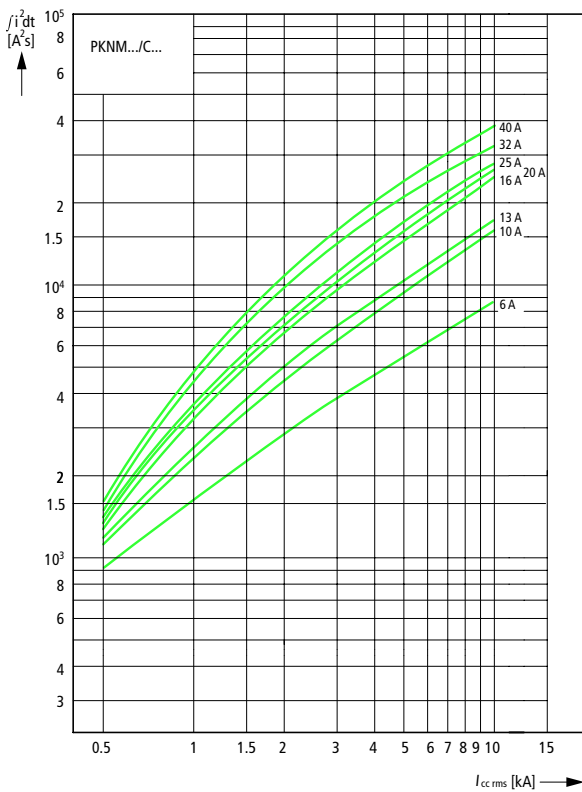
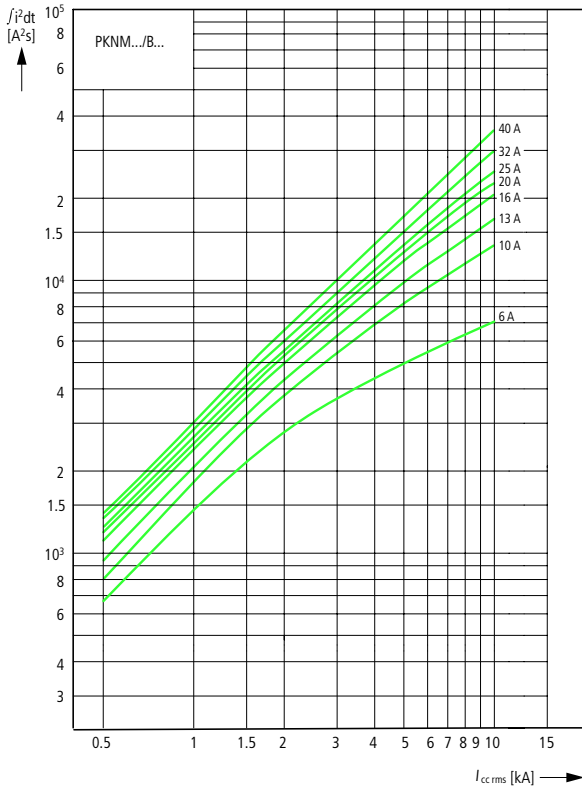
Let-through current  $I_D$



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Let-through energy  $I^2t$ /let-through current  $I_D$   
 According to IEC/EN 60898

Let-through energy  $I^2t$



# 12/58 Technical Data Miniature Circuit-Breakers

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		FAZ	FAZ-...-DC	FAZ-PN	AZ
<b>Electrical</b>					
Standards		IEC/EN 60947-2	IEC/EN 60947-2	IEC/EN 60898	IEC/EN 60947-2
Rated operational voltage	V AC	230/400	750	230	230/400
	V DC	48 (per pole)	250 (per pole)	48 (per pole)	60 (per pole)
Rated switching capacity	kA	15	10	6	25
Operational switching capacity	kA	7.5	–	–	20
Characteristic		B, C, D, K, Z, S	C	B, C	Similar: D, C
Max. back-up fuse	A gL/gG	125	100	100	200
Selectivity Class		3	3	3	Compliant with Class 3
Lifespan	Operations	> 10000	> 10000	> 4000	> 10000
Direction of incoming supply		As required	Polarity dependent	As required	As required
<b>Mechanical</b>					
Standard front dimension	mm	45			
Device height	mm	80	80	80	90
Terminal protection		Finger- and back-of-hand proof to IEC 536			
Mounting width per pole	mm	17.5	17.5	17.5	27
Mounting		IEC/EN 60715 top-hat rail			
Degree of protection		IP20			IP40 (enclosed)
Terminals top and bottom		Twin-purpose terminals			Lift terminals
Terminal capacity					
	mm <sup>2</sup>	1 × 25	1 × 25	1 × 16	2.5 – 50
	mm <sup>2</sup>	2 × 10	2 × 10	–	–
Thickness of busbar material	mm	0.8 – 2	0.8 – 2	–	–
Mounting position		As required		–	–



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			PKNM	FIM	AZFIMP-80 AZFIMP-125	FI F 80 A	FI 100, 125 A and Type B
<b>Electrical</b>							
Standards			IEC/EN 61009	IEC/EN 61009	IEC/EN 60947-2	IEC/EN 61008	IEC/EN 61008
Tripping		A	250 (8/20 $\mu$ ) non-delayed surge resistant			Non-delayed, S	
Rated operational voltage	$U_e$	V AC	230	230/400	230/400	230/400	230/400
Operating voltage limits		V AC	196 – 253	196 – 440	196 – 440	184 – 440	184 – 440
Rated frequency		Hz	50				
Rated fault currents	$I_{\Delta n}$	mA	30, 300	30, 300	30, 300	30, 100, 300, 500	30, 100, 300, 500
Rated non-tripping current			$0.5 \times I_{\Delta n}$	$0.5 \times I_{\Delta n}$	$0.5 \times I_{\Delta n}$	$0.5 \times I_{\Delta n}$	$0.5 \times I_{\Delta n}$
Rated fault current switching capacity	$I_{\Delta m}$	A	–	–	–	$I_n = 16 - 40 A: 500$ $I_n = 63 A: 630$ $I_n = 80 A: 800$	$I_n = 100 A: 1000$ $I_n = 125 A: 1250$ for Type B: 60, 80 A: 800 40 A: 500
		kA	6	–	–	–	–
		kA	3	–	–	–	–
Sensitivity			AC and pulsed current				Pulsed current and AC/DC
Rated switching capacity	$I_{cn}$	kA	10	As fitted FAZ	As fitted AZ	10	10
Operational switching capacity	$I_{cs}$	kA	–	As fitted FAZ	–	–	–
Rated breaking capacity limit	$I_{cu}$		–	As fitted AZ	As fitted AZ	–	–
Rated short-circuit switching capacity			–	–	$= I_{cu}$	–	–
Rated current		A	6 – 40	40, 63	80, 125	16 – 80	40 – 125
Rated impulse withstand voltage	$U_{imp}$	kV	6 (1.2/50 $\mu$ )	–	4 (1.2/50 $\mu$ )	6	6
Characteristic			B, C	–	–	–	–
Maximum fuse for short-circuit protection		A gL	100	–	–	$I_n = 16 - 63 A: 63$ $I_n = 80 A: 80$	$I_n = 100, 125 A: 125$ for Type B: 80
Selectivity Class			3	–	–	–	–
Lifespan							
Electrical		Operations	> 4000	–	> 1500	> 4000	> 2000
Mechanical			> 20000	–	> 10000	> 20000	> 5000
<b>Mechanical</b>							
Standard front dimension		mm	45	45	45	45	45
Device height		mm	80	90	90	80	85
Terminal protection			Protection against electric shock to IEC 536				
Mounting width		mm	35 (2 space units)	70 mm (2-pole) 125 mm (4-pole)	95 (5.5 space units)	35 mm (2 space units)	70 mm (4 space units)
Mounting			–	Permanent screw connection with FAZ	Screwed on to AZ (2- to 4-pole)	Top-hat rail IEC/EN 60715	Top-hat rail IEC/EN 60715
Degree of protection							
Device			IP20	–	–	–	–
Enclosed			IP40	–	–	–	–
Terminals top and bottom			Twin purpose terminals	Lift terminals	–	Twin purpose terminals	Lift terminals
Terminal capacity							
Solid		mm <sup>2</sup>	1 × 25	1 × (1 – 25)	2.5 – 50	1.5 – 35	1.5 – 50
Flexible		mm <sup>2</sup>	–	1 × (0.75 – 16)	–	2 × 16	2 × (1.5 – 16)
Thickness of busbar material		mm	0.8 – 2	0.8 – 2	–	0.8 – 2	0.8 – 2
Admissible ambient temperature range		°C	–25 to +40				
Climatic proofing to			IEC/EN 61009	IEC/EN 61009	IEC/EN 60068-2	IEC/EN 61008	IEC/EN 61008

Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures



# 12/60 Technical Data

## Auxiliary Contacts, Voltage Releases

Moeller HPL0211-2004/2005

			FAZ-XHI11 FAZ-XAM002	FAZ-XAA-C	FAZ-XUA
<b>Electrical</b>					
Contact function			XHI11: 1 M + 1 B XAM002: 2 C/O	–	–
Rated operational voltage	$U_n$	V AC	250	–	115 230 400
Voltage range		V AC	–	12 – 110 110 – 415	–
Closing threshold		$\times U_n$	–	–	0.8
Tripping threshold		$\times U_n$	–	–	0.5
Rated frequency	$f$	Hz	50/60	50/60	50/60
Rated current		A	4	–	–
Conventional free air thermal current	$I_{th}$	A	4	–	–
Rated operational current					
AC–13	$I_e$	A	3 (250 V AC)	–	–
AC–15	$I_e$	A	2 (250 V AC)	–	–
DC-13	$I_e$	A	0.5 (110 V DC)	–	–
Rated insulation voltage	$U_i$	V AC	250	–	–
Minimum operating voltage per contact	$U_{min}$	V DC	5	–	–
Rated impulse withstand voltage (1.2/50 $\mu$ )	$U_{imp}$	kV	2.5	–	–
Rated conditional short-circuit current With 6 A back-up fuse	$I_{sc}$	kA	1	–	–
Max. admissible back-up fuse		A gL	4	–	–
<b>Mechanical</b>					
Standard front dimension		mm	45	45	45
Device height		mm	80	80	80
Mounting width		mm	8.8 (0.5 space units)	17.5 (1 space unit)	17.5 (1 space unit)
Mounting			On MCB	IEC/EN 60715 top-hat rail	IEC/EN 60715 top-hat rail
Degree of protection					
Enclosed			IP40	IP40	IP40
Terminal protection			Protection against electric shock to IEC 536		
Terminals			Lift terminals	Twin-purpose terminals	Twin-purpose terminals
Terminal capacity					
Solid		mm <sup>2</sup>	0.5 – 2.5	1 – 2.5	2 $\times$ (1 – 2.5)
Flexible		mm <sup>2</sup>	0.5 – 2.5	1 – 2.5	2 $\times$ (1 – 2.5)
Tightening torque of terminal screws		Nm	0.8 – 1.0	2.4	0.8



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			AZ-XHI11	AZ-XAA	FIP-XHI11 ≤ 80 A	FIPA XAM011 From 100 A FI and Type B
<b>Electrical</b>						
Contact function			1 M + 1 B	–	1 M + 1 B	1 C/O + 1 B
Voltage range		V AC	–	12 – 110 110 – 415	–	–
		V DC	–	12 – 60 110 – 220	–	–
Min. operating voltage	$U_e$	V/mA	24/50	–	24/50	–
Rated operational current						
AC--11						
230 V	$I_e$	A	6	–	6	6
AC--13						
250 V	$I_e$	A	6	–	6	–
400 V	$I_e$	A	2	–	2	–
DC -- -11						
230 V	$I_e$	A	4	–	–	1
DC-13						
60 V	$I_e$	A	4	–	4	–
110 V	$I_e$	A	2	–	2	–
230 V	$I_e$	A	0.5	–	0.5	–
Rated insulation voltage	$U_i$	V AC	440	440	440	440
Max. admissible back-up fuse		A gl	6	Inherently short-circuit-proof	6	6
Lifespan						
Mechanical		Operations	> 6000	> 4000	> 6000	
Inrush current						
AC		A	–	38	–	–
Duty factor AC		ms	–	2.1	–	–
DC		A	–	34	–	–
Duty factor DC		ms	–	2	–	–
<b>Mechanical</b>						
Standard front dimension		mm	45	45	45	45
Device height		mm	90	90	90	90
Mounting width		mm	8.8 (0.5 space units)	17.5 (1 space unit)	8.8 (0.5 space units)	8.8 (0.5 space units)
Mounting			IEC/EN 60715 top-hat rail			
Degree of protection						
Device			IP20	IP20	IP20	IP20
Enclosed			IP40	IP40	IP40	IP40
Terminal capacity						
Solid		mm <sup>2</sup>	1 × (1 – 25) 2 × (1 – 4)	1 × (1 – 25) 2 × (1 – 4)	2 × (0.5 – 2.5) 1 × (0.5 – 2.5)	2.5
Flexible		mm <sup>2</sup>	1 × (1 – 25) 2 × (1 – 4)	1 × (1 – 25) 2 × (1 – 4)	2 × (0.5 – 2.5) 1 × (0.5 – 2.5)	2.5
Tightening torque of terminal screws		Nm	0.8	3	0.8	0.8



# 12/62 Technical Data

## Remote Control and Switching Device

Moeller HPL0211-2004/2005

Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures

			FAZ/FIP-XFSM	FAZ/FIP-XAWM	FAZ/FIP-XDWM
<b>Electrical</b>					
Possible operating voltages		V AC	24 – 240	220 – 240	–
		V DC	24 – 80	–	48
Rated frequency	<i>f</i>	Hz	50/60	50/60	–
Test module (0.5 space unit) for remote testing of residual-current devices			Z-FW	–	–
Control voltage for remote testing			24 – 230	–	–
Relay output for tripping test With Z-FW			400	–	–
Relay output for alarm function, potential-free			5 (250 V AC)	5 (250 V AC)	5 (250 V AC)
Functions			Local, remote and automatic control, residual current-testing	Automatic control	
Function selector			NO automatic Automatic 1 × Automatic 5 × OFF/RESET	–  Automatic 5 × OFF/RESET	
Control functions via telephone using telecontrol module			Z-TC	–	–
<b>Mechanical</b>					
Standard front dimension			45	45	45
Device height			80	80	80
Mounting width			70	70	70
Mounting			IEC/EN 60715 top-hat rail		
Degree of protection					
Enclosed			IP40	IP40	IP40
Terminal protection			Protection against electric shock to IEC 536		
Terminals			Lift terminals		
Max. terminal capacity					
Solid			2 × 1.5 1 × 2.5	2 × 1.5 1 × 2.5	2 × 1.5 1 × 2.5
Flexible			2 × 1.5 1 × 2.5	2 × 1.5 1 × 2.5	2 × 1.5 1 × 2.5



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			IS-32	IS-40	IS-63	IS-80	IS-100	IS-125
<b>Electrical</b>								
Rated operational voltage	$U_n$	V AC	240/415					
Rated frequency	$f$	Hz	50/60					
Rated insulation voltage	$U_i$	V	690					
Rated operational current								
AC-22, 240/415 V		A	32	40	63	80	100	100
AC-23, 240/415 V		A	32	40	50	50	50	50
Number of poles			1- to 4-pole					
Max. admissible back-up fuse		A gG	125					
<b>Mechanical</b>								
Standard front dimension		mm	45					
Device height		mm	80					
Mounting width		mm	17.5/per pole					
Mounting			IEC/EN 60715 top-hat rail					
Degree of protection								
Enclosed			IP40					
Terminal protection			Protection against electric shock to IEC 536					
Max. terminal capacity								
Solid		mm <sup>2</sup>	50					
Stranded		mm <sup>2</sup>	50					

Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures



# 12/64 Technical Data

## Control Switches, Pushbuttons, Indicator Lights

Moeller HPL0211-2004/2005

Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures

			Z-S(L) (Control switches, illuminated switches)	Z-T, Z-LT (Pushbuttons, illuminated pushbuttons)	Z-PU(L) (Illuminated pushbuttons)	Z-SW(L) (Control switches, illuminated switches)	Z-EL, Z-DL (Signal lamps)	Z-L (Indicator lights)	
<b>Electrical</b>									
Standards			IEC/EN 60669						
Rated operational voltage	$U_n$	V AC	230/400	230/400	250	250	250	230	
Rated frequency	$f$	Hz	50	50	50	50	50	50	
Rated operational current		A	Z-S: 16 Z-S32: 32	16 (230 V)	16	16	–	–	
Switching capacity			$1.25 \times I_n$ $1.1 \times U_n$				–	–	
LED/Light			Light		LED			Light	
Rated voltage	$U_n$	V AC/DC	230	230	230	230	230	230	
	$U_n$	V AC/DC	24	24	24	24	24	24	
Operating voltage tolerance		%	–	–	± 10	± 10	± 10	± 10	
Luminosity		mcd	–	–	15	15	15	15	
Power loss		W	max. 2	max. 2	2	2	2	max. 2	
Max. back-up fuse		A gG	–	–	20	20	–	–	
<b>Mechanical</b>									
Standard front dimension		mm	45	45	45	45	45	45	
Device height		mm	80	80	90	90	90	80	
Mounting width		mm	17.5 (1 space unit)	17.5 (1 space unit)	17.5 (1 space unit)	17.5 (1 space unit)	17.5 (1 space unit)	17.5 (1 space unit)	
Mounting			IEC/EN 60715 top-hat rail						
Degree of protection									
Enclosed			IP40						
Terminal protection			Protection against electric shock to IEC 536						
Terminals			Lift terminals			Lift terminals with terminal protector			Lift terminals
Terminal capacity									
Solid		mm <sup>2</sup>	1 – 10	1 – 10	1 – 10	1 – 10	1 – 10	1 – 10	
Stranded		mm <sup>2</sup>	1 – 10	1 – 10	1 – 10	1 – 10	1 – 10	1 – 10	
Climatic proofing			According to IEC/EN 60068						



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			Z-S...	Z-SC...
<b>Electrical</b>				
Standards			IEC/EN 60669	
Rated operational current	$I_e$	A AC	16 (250 V)	16 (250 V)
Number of poles			1 – 4	1 – 3
<b>Main contacts</b>				
Make contacts			1 M (1 space unit) 2 M (1 space unit) 3 M (2 space units) 4 M (2 space units)	1 M (1 space unit) 3 M (2 space units)
Make/break (changeover contact)			1 M + 1 B (2 space units) 2 M + 2 B (2 space units) 1 M + 1 C/O (2 space units)	1 M + 1 C/O (2 space units) 2 M + 1 B (2 space units)
Changeover contact			1 C/O (1 space unit)	–
<b>Control circuit</b>				
Rated control voltage	$U_s$	V AC	8, 12, 24, 230	24, 230
Rated frequency	$f$	Hz	50	
Effective range		$\times U_s$	0.9 – 1.1	
Max. parallel pushbuttons		Qty.	Not restricted	
Max. parallel illuminated pushbuttons 230 V, normally 0.6 mA				
Without compensation		Qty.	8 (1 space unit), 15 (2 space units)	–
With compensation (1 $\times$ Z-SC/KO)		Qty.	23 (1 space unit)	–
With compensation (2 $\times$ Z-SC/KO)		Qty.	46 (1 space unit), 43 (2 space units)	–
Minimum command time		ms	> 200	
Operating noise			Hum-free	
Rated impulse withstand voltage (1.2/50 $\mu$ s)	$U_{imp}$	kV	2	
Duty factor			1 h, 100 % with spacer	100 %
<b>Load circuit</b>				
Rated operational voltage	$U_n$	V AC	250 (1-pole) 240/415 (2–4-pole)	
Minimum operating voltage	$U_{min.}$	V AC/DC	24	
Rated insulation voltage	$U_i$	V AC	500	
Rated impulse withstand voltage (1.2/50 $\mu$ s)	$U_{imp}$	kV	4	
Conventional thermal current	$I_{th}$	A AC	16	
Rated operational current	$I_e$	A AC	16	
Rated uninterrupted current	$I_u$	A AC	16	
Rated uninterrupted current				
24 V	$I_e$	A DC	16	
48 V	$I_e$	A DC	12.5	
230 V	$I_e$	A DC	1	
Rated conditional short-circuit current With back-up fuse: 20 A gL/gG	$I_{sc}$	kA	10	
Bounce duration		ms	10 (normally 5)	
<b>Lifespan</b>				
Electrical		Operations	$\geq 40 \times 10^3$	
Mechanical		Operations	$\geq 1 \times 10^6$	
<b>Mechanical</b>				
Standard front dimension		mm	45	
Device height		mm	90	
Mounting width		mm	17.5 (1 space unit), 36 (2 space units)	
Mounting			IEC/EN 60715 top-hat rail	
<b>Degree of protection</b>				
Enclosed			IP40	
Position in use			As required	
Terminals			Lift terminals, captive with terminal protector	
<b>Terminal capacity</b>				
Solid		mm <sup>2</sup>	0.5 – 10	
Stranded		mm <sup>2</sup>	0.5 – 10	
Flexible with ferrule		mm <sup>2</sup>	0.5 – 6	
Contact material			Cadmium-free	



			Z-R (1 space unit) (Except 3 M, 4 M)	Z-R (2 space units) (3 M, 4 M)
<b>Electrical</b>				
Standards			IEC/EN 60947	IEC/EN 60947
Number of poles			1 to 2	3 to 4
<b>Load circuit</b>				
Rated operational voltage	$U_n$	V AC	1-pole: 250 2-pole: 240/415	240/415
Minimum operating voltage	$U_{min}$	V AC/DC	24	24
Rated insulation voltage	$U_i$	V AC	500	500
Rated impulse withstand voltage (1.2/50 $\mu$ s)	$U_{imp}$	kV	4	4
Conventional thermal current	$I_{th}$	A AC	20	20
Rated operational current	$I_e$	A AC	20	20
Rated uninterrupted current				
24 V	$I_e$	A DC	16	16
48 V	$I_e$	A DC	12.5	12.5
230 V	$I_e$	A DC	1	1
Rated conditional short-circuit current With back-up fuse: 20 A gL/gG	$I_{sc}$	kA	10	10
Bounce duration		ms	< 10 (normally 5)	< 10 (normally 5)
<b>Control circuit</b>				
Rated control voltage	$U_s$	V AC	8, 12, 24, 48, 110, 230, 240	8, 12, 245, 48, 110, 230, 240
	$U_s$	V DC	8, 12, 24, 110	8, 12, 24, 110
Rated frequency	$f$	Hz	50	50
Effective range		$\times U_s$	0.85 – 1.1	0.85 – 1.1
Maximum coil consumption				
Pick-up		VA/W	10 – 13/6 – 8	10 – 13/6 – 8
Sealing		VA/W	3.4 – 4.0/2.0 – 2.4	3.4 – 4.0/2.0 – 2.4
Minimum command time		ms	> 50	> 50
Operating noise			Hum-free	Hum-free
Rated impulse withstand voltage (1.2/50 $\mu$ s)	$U_{imp}$	kV	2	2
Duty factor		%	100	100
<b>Utilization categories</b>				
AC-1				
Rated operational voltage	$U_n$	V AC	250	240/415
Rated operational current	$I_e$	A AC	20	20
Motor rating		W cos $\varphi$ VA	4000 0.8 5000	4000 0.8 5000
AC-3				
Rated operational voltage	$U_n$	V AC	250	240/415
Rated operational current	$I_e$	A AC	8	8
Motor rating		W cos $\varphi$ VA	900 0.45 2000	900 0.45 2000
AC-5a				
Rated operational voltage	$U_n$	V AC	250	240/415
Rated operational current	$I_e$	A AC	10	10
Motor rating		W cos $\varphi$ VA	1125 0.45 2500	1125 0.45 2500
AC-5b				
Rated operational voltage	$U_n$	V AC	230	230/415
Rated operational current	$I_e$	A AC	8.8	8.8
Motor rating		W	2024	2024
AC-7a				
Rated operational voltage	$U_n$	V AC	250	240/415
Rated operational current	$I_e$	A AC	20	20
Motor rating		W cos $\varphi$ VA	4000 0.8 5000	4000 0.8 5000



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			Z-R (1 space unit) (Except 3 M, 4 M)	Z-R (2 space units) (3 M, 4 M)
<b>AC-7b</b>				
Rated operational voltage	$U_n$	V AC	–	240/415
Rated operational current	$I_e$	A AC	–	10
Motor rating		W cos $\varphi$ VA	– – –	1125 0.8 2500
<b>DC-1</b>				
1-pole				
24 V DC		A	20	20
48 V DC		A	18	18
60V DC		A	17	17
110V DC		A	4	4
220V DC		A	0.4	0.4
2-pole in series				
24 V DC		A	20	20
48 V DC		A	20	20
60V DC		A	20	20
110V DC		A	10	10
<b>DC-3, DC-5</b>				
1-pole				
24 V DC		A	10	10
48 V DC		A	4	4
60V DC		A	3	3
110V DC		A	0.8	0.8
2-pole in series				
24 V DC		A	20	20
48 V DC		A	15	15
60V DC		A	12	12
110V DC		A	4	4
<b>Filament bulb load AC-5b</b>				
Number of lamps per contact at 230 V, 50 Hz				
60 W		Qty.	22	22
100 W		Qty.	13	13
200 W		Qty.	7	7
300 W		Qty.	4	4
500 W		Qty.	3	3
1000 W		Qty.	1	1
<b>Mechanical</b>				
Standard front dimension		mm	45	45
Device height		mm	90	90
Mounting width		mm	17.5 (1 space unit)	36 (2 space units)
Mounting			EN 60715 top-hat rail	
Degree of protection				
Enclosed			IP40	IP40
Position in use			As required, not suspended	
Terminal protection			Protection against electric shock to IEC 536	
Terminals			Lift terminals, captive with terminal protector	
Terminal capacity				
Solid		mm <sup>2</sup>	0.5 – 10	0.5 – 10
Stranded		mm <sup>2</sup>	0.5 – 10	0.5 – 10
Flexible with ferrule		mm <sup>2</sup>	0.5 – 6	0.5 – 6
Ambient temperature		°C	–20 to +45	–20 to +45
Total contact opening		mm	> 5 (double-break)	> 5 (double-break)
Contact material			Cadmium-free	Cadmium-free



			Z-SCH.../25	Z-SCH.../40	Z-SCH.../63	Z-SC	
<b>Electrical</b>							
Standards			IEC/EN 60947-4-1				
Magnet coil consumption							
Pick-up	VA		14 – 18	33 – 45	33 – 45	–	
Sealing	VA/W		4.4 – 8.4/1.6 – 3.2	7/2.6	7/2.6	–	
Effective range of the magnet coils			$\times U_s$	0.85 – 1.1	0.85 – 1.1	0.85 – 1.1	–
Max. back-up fuse			A gG	35	63	80	10
Main contacts							
Rated insulation voltage	$U_i$	V AC	440	440	440	–	
Rated operational voltage	$U_n$	V AC	440	440	440	–	
Nominal thermal current	$I_{th}$	A	25	40	63	–	
Admissible operating frequency	Operations/hour		300	600	600	–	
Mechanical lifespan	Operations		$0.1 \times 10^6$	$0.1 \times 10^6$	$0.1 \times 10^6$	–	
Heat dissipation per contact	$P_v$	W	2	3	7	–	
Lighting installations							
AC–1							
Rated current at 60 °C	$I_e$	A AC	25	40	63	–	
Making capacity, r.m.s. value	$I_{rms}$	A	165	300	400	–	
Making capacity, peak value	$I_{peak}$	A	233	424	565	–	
AC-5a							
Motor rating At $\cos \varphi = 0.45$	kW		1.3	3.4	5.5	–	
At $\cos \varphi = 0.9$	kW		0.4	1.6	2.1	–	
DUO	kW		3.7	6.3	10	–	
AC-5b							
Motor rating	kW		1.8	3.6	5.1	–	
Filament bulb load AC-5b							
Number of lamps per contact at 230 V, 50 Hz							
60 W	Qty.		28	58	85	–	
100 W	Qty.		17	35	51	–	
200 W	Qty.		8	17	25	–	
300 W	Qty.		5	11	16	–	
500 W	Qty.		3	7	10	–	
1000 W	Qty.		1	3	5	–	
Utilization categories							
AC-1 (e.g. heaters)							
Rated operational current, open, at 60 °C	$I_e$	A AC	25	40	63	–	
Contact service life	Operations		$0.1 \times 10^6$	$0.1 \times 10^6$	$0.1 \times 10^6$	–	
Motor rating							
220 – 240 V	kW		9,5	16	25	–	
380 – 415 V	kW		17	27,5	43	–	
AC-3 (switching of three-phase motors)							
Rated operational current	$I_e$	A AC	9	27	30	–	
Contact service life	Operations		$0.1 \times 10^6$	$0.1 \times 10^6$	$0.1 \times 10^6$	–	
Motor rating							
220	kW		2.2	7.5	8	–	
230 – 240 V	kW		2.5	8	8.5	–	
380 – 415 V	kW		4	12.5	15	–	
DC-1 (resistive load L/R $\leq$ 15 ms) make contacts							
1-pole (2-pole in series)							
24 V DC	A		25 (25)	40 (40)	63 (63)	–	
48 V DC	A		22 (25)	25 (40)	26 (44)	–	
60V DC	A		18 (25)	19 (33)	21 (36)	–	
110V DC	A		5 (16)	7 (17)	8 (18)	–	
220V DC	A		0.5 (4)	0.7 (5)	0.7 (6)	–	
3-pole (4-pole in series)							
24 V DC	A		25 (25)	40 (40)	63 (63)	–	
48 V DC	A		25 (25)	40 (40)	63 (63)	–	
60V DC	A		25 (25)	40 (40)	61 (63)	–	
110V DC	A		25 (25)	31 (40)	34 (63)	–	



Moeller HPL0211-2004/2005

			Z-SCH.../25	Z-SCH.../40	Z-SCH.../63	Z-SC
DC-3 and DC-5 (inductive load L/R $\geq$ 15 ms) make contacts						
1-pole						
24 V DC	A		15	23	25	–
48 V DC	A		5	10	10	–
60V DC	A		4	5	5	–
110V DC	A		1	1.5	1.5	–
220V DC	A		0.1	0.3	0.3	–
2-pole in series						
24 V DC	A		25	40	45	–
48 V DC	A		17	23	25	–
60V DC	A		13	15	15	–
110V DC	A		5	5	5	–
220V DC	A		0,5	1	1	–
3-pole in series						
24 V DC	A		25	40	63	–
48 V DC	A		25	40	45	–
60V DC	A		25	30	30	–
110V DC	A		15	15	15	–
220V DC	A		3	4	4	–
4-pole in series						
24 V DC	A		25	40	63	–
48 V DC	A		25	40	63	–
60V DC	A		25	40	63	–
110V DC	A		25	40	45	–
220V DC	A		8	10	10	–
Auxiliary contacts						
Rated insulation voltage	$U_i$	V AC	–	–	–	440
Nominal thermal current			–	–	–	
40 °C	$I_{th}$	A	–	–	–	10
60 °C	$I_{th}$	A	–	–	–	6
Admissible operating frequency		Operations/hour	–	–	–	600
Mechanical lifespan		Operations	–	–	–	$5 \times 10^6$
Heat dissipation per contact	$P_v$	W	–	–	–	0,5
AC-15 (electromagnetic load)						
220 – 240 V	A		–	–	–	3
380 – 415 V	A		–	–	–	2
440 V	A		–	–	–	1.6
DC-13 (electromagnetic load)						
24 – 60 V	A		–	–	–	2
110 V	A		–	–	–	0.4
220 V	A		–	–	–	0.1
<b>Mechanical</b>						
Switch-On and switch-Off noises		db	80	78	78	–
Terminal capacity						
Main cable						
Solid		mm <sup>2</sup>	1 × 1.5 – 10	1 × 1.5 – 10	1 × 1.5 – 10	1 × 0.5 – 2.5
Stranded		mm <sup>2</sup>	1 × 1.5 – 6	1 × 1.5 – 6	1 × 1.5 – 6	1 × 0.5 – 2.5
Flexible with ferrule		mm <sup>2</sup>	1 × 1.5 – 6	1 × 1.5 – 6	1 × 1.5 – 6	1 × 0.5 – 2.5
Coil						
Solid		mm <sup>2</sup>	1 × 0.75 – 2.5	1 × 0.75 – 2.5	1 × 0.75 – 2.5	–
Stranded		mm <sup>2</sup>	1 × 0.5 – 2.5	1 × 0.5 – 2.5	1 × 0.5 – 2.5	–
Flexible with ferrule		mm <sup>2</sup>	1 × 0.5 – 1.5	1 × 0.5 – 1.5	1 × 0.5 – 1.5	–
Switching delays						
Closing delay		ms	9 – 15	11 – 15	11 – 15	–
Opening delay		ms	4 – 6	6 – 13	6 – 13	–
Arcing time		ms	10 – 15	10 – 15	10 – 15	–

Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures



# 12/70 Technical Data

## Light Intensity Switches, Light Sensors

Moeller HPL0211-2004/2005

			Z-LMS
<b>Electrical</b>			
Rated operational voltage	$U_n$	V AC	230 + 6% – 10 %
Rated frequency	$f$	Hz	50 – 60
Power consumption		mA	9.5
Intrinsic consumption		VA	2.2
Switching contact (potential-free)			1 W
Rated insulation voltage	$U_i$	V AC	250
Rated current		$\mu$ A	16
Switching duty			
Resistive load, $\cos \varphi = 1$		W	3500
Filament bulb load, $\cos \varphi = 1$		W	2300
Inductive load, $\cos \varphi = 0.8, 250 V$		A	3
On-delay		s	8
Off-delay		s	38
Switch status			
Relay On			Red LED
Switching point			Green LED
Setting ranges			
		Lux	2 – 100 2 – 1000 2 – 10000
Duty factor			
		%	100
<b>Mechanical</b>			
Standard front dimension		mm	45
Device height		mm	90
Mounting width		mm	36
Weight		g	285
Mounting			
			Top-hat rail IEC/EN 60715
Degree of protection			
Enclosed			IP40
Terminals			
			Lift terminals
Terminal capacity			
Solid		mm <sup>2</sup>	0.5 – 2.5
Stranded		mm <sup>2</sup>	0.5 – 2.5
Flexible with ferrule		mm <sup>2</sup>	0.5 – 2.5
Tightening torque of terminal screws			
		Nm	0.5
Max. cable length to the light sensor At $2 \times 0.5 \text{ mm}^2$			
		m	100
Ambient temperature			
		°C	0 – 55 °C



Moeller HPL0211-2004/2005

			Z-SDM/1K-TA	Z-SDM/1K-WO	Z-SDM/2K-WO
<b>Electrical</b>					
Standards			DIN EN 60730		
Rated operational voltage	$U_n$	V AC	230		
Rated frequency	$f$	Hz	50/60		
Current consumption, $\cos \varphi = 0.13$		mA	29		
Apparent power		VA	6.6		
Reactive power		VAR	6.5		
Power loss		W	0.9		
Switching contact (potential-free)			1 W		
Rated insulation voltage	$U_i$	V AC	250		
Rated current		$\mu$ A	16		
Switching duty					
Resistive load, $\cos \varphi = 1$		W	3000		
Filament bulb load, $\cos \varphi = 1$		W	1000		
Inductive load, $\cos \varphi = 0.6$ , 250 V		A	2		
Reserve power		h	250		
Reserve power store			NiMH battery		
Data retention by			EEPROM		
Accuracy		Ops./day	Approx. 1		
Switching accuracy			Accuracy to the second		
Quartz frequency		MHz	32.768		
On/Off times, freely programmable		Per day	20	-	-
		Per week	-		
Switching interval			1 min or 1 s		
<b>Mechanical</b>					
Standard front dimension		mm	45		
Device height		mm			85
Mounting width		mm	36		
Weight		g			200
Mounting			Top-hat rail IEC/EN 60715		
Degree of protection					
Enclosed			IP40	IP40	IP40
Terminals			Lift terminals		
Terminal capacity					
Solid		mm <sup>2</sup>	1.5 – 4		
Stranded		mm <sup>2</sup>	1 – 2.5		
Tightening torque of terminal screws		Nm	0.8		
Admissible relative humidity		%	< 95		
Ambient temperature		°C	-25 to +55		
Flammability classification to EN 60730			D		



# 12/72 Technical Data

## Time Switches, Analog

Moeller HPL0211-2004/2005

			SU-GS/1W-TA, (-WO)	SU-GQ-TA	SU-GS/1W-TA, (-WO)	SU-GQ/2W-TW
<b>Electrical</b>						
Standards			DIN EN 60730			
Rated operational voltage	$U_n$	V AC	220 – 240			
Rated frequency	$f$	Hz	50			
Intrinsic consumption		VA	1			
Switching contact (potential-free)			1 W	1 M	1 W	2 C/O
Rated insulation voltage	$U_i$	V AC	250			
Rated current		$\mu$ A	16			
Switching duty						
Resistive load, $\cos \varphi = 1$		W	3500			
Filament bulb load, $\cos \varphi = 1$		W	1350	1000	1350	
Inductive load, $\cos \varphi = 0.6, 250 V$		A	4			
Reserve power		h	–	50	150	
Actuation			Synchronous	Quartz		
Program			Day or week	Day	Day or week	
On/Off times, freely programmable		Per day	48			
		Per week	48	–	48	
Switching interval						
Day		min	30			
Week		h	3.5	–	3.5	
<b>Mechanical</b>						
Standard front dimension		mm	45			
Device height		mm	85	90	85	85
Mounting width		mm	52.5	17.5	52.5	105
Weight		g	160	110	170	220
Mounting depth		mm	60			
Mounting			Top-hat rail IEC/EN 60715			
Degree of protection						
Enclosed			IP20			
Terminals			Lift terminals			
Terminal capacity						
Solid		mm <sup>2</sup>	1.5 – 4			
Stranded		mm <sup>2</sup>	1 – 2.5			
Tightening torque of terminal screws		Nm	0.8			
Admissible relative humidity		%	< 95			
Ambient temperature		°C	-25 to +55			
Flammability classification to EN 60730			D			
Sealability			Yes			



Moeller HPL0211-2004/2005

Buzzer, bell			Z-SUM	Z-GLO	
<b>Electrical</b>					
Rated operational voltage	$U_n$	V AC	12, 24, 230		
Rated frequency	$f$	Hz	50 – 60		
Power loss					
12 V		VA	5		
24 V, 230 V		VA	10		
Duty factor		%	100 (5 min)		
Sound level		dB/1 m	84	80	
<b>Mechanical</b>					
Standard front dimension		mm	45		
Device height		mm	85		
Mounting width		mm	17.5		
Mounting			Top-hat rail IEC/EN 60715		
Degree of protection			IP20		
Terminals			Lift terminals		
Terminal capacity		mm <sup>2</sup>	1 – 10		
Terminal screws			Captive		
<hr/>					
Lightning current arresters			SPI-35/440	SPI-50/NPE	SPI-100/NPE
<b>Electrical</b>					
Style			Enclosed	Enclosed	Enclosed
Response time	$t_a$	ns	< 100	< 100	< 100
Voltage protection level	$U_p$	kV	1.5	1.5	1.5
Maximum uninterrupted voltage	$U_c$	V AC	440	260	260
Rated frequency	$f$	Hz	50/60	50/60	50/60
Discharge current (8/20 $\mu$ s)	$I_{max}I_n$	kA	35	50	100
Lightning surge current (10/350 $\mu$ s)					
Peak current		kA	35	50	100
Charge	$Q$	As	17,5	25	50
Specific energy		KJ/ $\Omega$	305	625	2500
Insulation resistance	$R_{iso}$	M $\Omega$	> 10	> 10	> 10
Short-circuit current quenching without back-up fuse					
260 V		A <sub>rms</sub>	3000	500	100
440 V		kA <sub>rms</sub>	1.5	–	–
Short-circuit current quenching with max. back-up fuse					
		kA <sub>rms</sub>	25	–	–
Max. admissible back-up fuse					
		A gL	125	–	–
<b>Mechanical</b>					
Standard front dimension		mm	45	45	45
Device height		mm	90	90	90
Mounting width		mm	17.5	17.5	35
Weight		g	174	178	320
Mounting			Top-hat rail IEC/EN 60715		
Degree of protection					
Device			IP20		
Enclosed			IP40		
Terminals			Lift terminals		
Terminal capacity					
Solid		mm <sup>2</sup>	0.5 – 35	0.5 – 35	10 – 50
Stranded		mm <sup>2</sup>	0.5 – 25	0.5 – 25	16 – 35
Tightening torque of terminal screws		Nm	4 – 4.5	4 – 4.5	6 – 8
Admissible relative humidity		%	< 95	< 95	< 95
Ambient temperature		°C	-40 to +85	-40 to +85	-40 to +85



			SPC-E-280	SPC-EH-280	SPC-EH-335 <sup>1)</sup>	SPC-E-460	SPC-E-N/PE SPG-S-NPE	SPC-S-20/280	SPC-S-20/335 <sup>1)</sup>	SPC-S-20/460
<b>Electrical</b>										
Mechanical coding			–	–	–	–	–	Yes	Yes	Yes
Style			II	II	II	II	–	II	II	II
Response time (rate of voltage rise 5 kV/μs)	ns		< 25	225	< 25	< 25	< 100	< 25	< 25	< 25
Voltage protection level at nominal discharge current	kV		< 1.4	< 1.3	< 1.5	< 2.1	< 1.2	< 1.4	< 1.5	< 2.1
Maximum uninterrupted voltage	$U_c$	V AC	280	280	335	460	260	280	335	460
Discharge current (8/20 μs)	$I_n$	kA	20	25	20	20	20	20	20	20
Charge at $I_n$	$Q$	As	0.57	0.71	0.57	0.57	0.57	0.57	0.57	0.57
Specific energy at $I_n$		KJ/Ω	5.7	8.9	5.7	5.7	5.7	5.7	5.7	5.7
Max. discharge current	$I_{max}$	kA	40	50	40	40	40	40	40	40
Max. admissible back-up fuse		A gL	125	125	125	125	–	160	160	160
Max. admissible short-circuit current		kA	50	50	50	50	50	50	50	50
Short-circuit current quenching at $U_e$ and $I_n$		A	–	–	–	–	100	–	–	–
<b>Mechanical</b>										
Standard front dimension		mm	45							
Device height		mm	80							
Mounting width		mm	17.5							
Mounting			IEC/EN 60 715 top-hat rail							
Degree of protection										
Enclosed			IP40							
Terminals			Lift terminals							
Open-mouth terminal for busbars up to		mm	1.5							
Tightening torque of terminal screws		Nm	2.4 – 3							
Terminal capacity		mm <sup>2</sup>	4 – 25							

Notes

<sup>1)</sup> Mandatory in Austria for operation in 230/400 V supply systems



				VDK-280 ES
<b>Electrical</b>				
Combined surge	$U_{oc}$	kV		4
Voltage protection level at $U_{oc}$ symm./asymm. (PE)		kV		≤ 1.3/≤ 1.5
Response time	$t_a$	ns		≤ 25/≤ 150
Uninterrupted arrester voltage	$U_c$	V AC		250
Rated frequency	$f$	Hz		50
Rated arrester discharge current (8/20 μs) Symm./asymm. (PE)	$I_n$	kA		1.5/1.5
Discharge current Symm./asymm. (PE)	$I_{max}$	kA		4.5/4.5
Residual voltage at $I_n$ symm./asymm. (PE)		kV		≤ 1.2/≤ 0.65
Max. admissible back-up fuse		A gL, C		16
FN contact				
Max. admissible operating voltage		V AC		250
Max. admissible operating current at 40 °C		A		3
<b>Mechanical</b>				
Weight		g		60
Degree of protection				
Device				IP20
Enclosed				IP40
Terminal capacity				
Solid		mm <sup>2</sup>		0.2 – 4
Flexible		mm <sup>2</sup>		0.2 – 2.5
Tightening torque of terminal screws		Nm		0.5 – 0.6
Ambient temperature		°C		-40 to +75

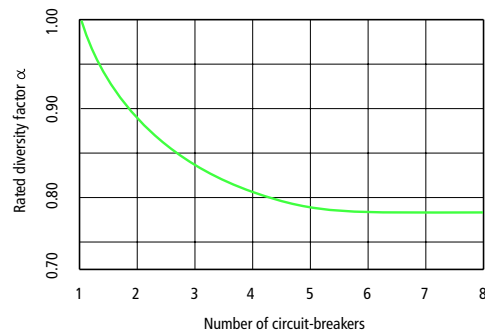
Moeller HPL0211-2004/2005

**Influence of the ambient temperature on the thermal tripping behaviour**

Corrected values of the rated current dependent on the ambient temperature

	Ambient temperature T [°C]												
$I_n$ [A]	-25	-20	-10	0	10	20	30	35	40	45	50	55	60
0.16	0.20	0.19	0.19	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.15	0.14	0.14
0.25	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.25	0.24	0.24	0.23	0.23	0.22
0.5	0.61	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.48	0.47	0.46	0.45	0.44
0.75	0.92	0.90	0.87	0.84	0.81	0.78	0.75	0.74	0.73	0.71	0.69	0.68	0.66
1	1.2	1.2	1.2	1.1	1.1	1.0	1.0	0.99	0.97	0.95	0.93	0.90	0.89
1.5	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.3
1.6	2.0	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4
2	2.4	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8
2.5	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2
3	3.7	3.6	3.5	3.4	3.3	3.1	3.0	3.0	2.9	2.8	2.8	2.7	2.7
3.5	4.3	4.2	4.1	3.9	3.8	3.7	3.5	3.4	3.4	3.3	3.2	3.2	3.1
4	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9	3.8	3.7	3.6	3.5
5	6.1	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8	4.7	4.6	4.5	4.4
6	7.3	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8	5.7	5.6	5.4	5.3
8	9.8	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7	7.6	7.4	7.2	7.1
10	12	12	12	11	11	10	10	9.9	9.7	9.5	9.3	9.0	8.9
12	15	14	14	13	13	13	12	12	12	11	11	11	11
13	16	16	15	15	14	14	13	13	13	12	12	12	12
15	18	18	17	17	16	16	15	15	15	14	14	14	13
16	20	19	19	18	17	17	16	16	15	15	15	14	14
20	24	24	23	22	22	21	20	20	19	19	19	18	18
25	31	30	29	28	27	26	25	25	24	24	23	23	22
32	39	38	37	36	35	33	32	32	31	30	30	29	28
40	49	48	47	45	43	42	40	39	39	38	37	36	35
50	61	60	58	56	54	52	50	49	48	47	46	45	44
63	77	76	73	71	68	66	63	62	61	60	58	57	56

**Load carrying capacity of adjoining miniature circuit-breakers**



**Influence of the mains frequency**

Influence of the mains frequency on the tripping behaviour  $I_{MA}$  of the instantaneous release

	Mains frequency f [Hz]						
	16 $\frac{2}{3}$	50	60	100	200	300	400
$I_{MA}(f)/I_{MA}(50\text{ Hz})$ [%]	91	100	101	106	115	134	141

Miniature Circuit-Breakers, MCB Enclosures, Fuse Enclosures



# 12/76 Technical Data

## Fuse Bases

Moeller HPL0211-2004/2005

Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures

			S14	S18	RS183-50	S27	RS273-50	S33	RS333-50
<b>General technical data</b>									
Standards									
Fuse bases: (R)S27(1), R(S)33(1)			VDE 0636 CEE 16						
Fuse bases: RS27-3, RS33-3			VDE 0636						
Shrouds			VDE 0636						
Gauge ring system			DIN 49326 DIN 49327 DIN 49524						
Gauge screw system RS27 (33)-3/FORMP			DIN 49510						
Ambient temperature		°C	-5 to 25 (+40, where annual and 24-hour mean value $\leq$ 35)						
Mounting position			As required						
Rated uninterrupted current	$I_u$	A	16	63	63	25	25	63	63
<b>Contacts</b>									
Rated operational voltage	$U_e$	V AC	400	400	400	500	500	690	690
Creepage and clearance distances			VDE 0636 Part 41			VDE 0636 Part 31			
Current heat loss per contact at rated uninterrupted current $I_u$		W	2.2	5.5	5.5	3.9	3.9	7.5	7.5
Terminal capacity									
Solid		mm <sup>2</sup>	0.75 – 4	0.75 – 16	2.5 – 16	1 – 10	1.5 – 6	2.5 – 16	2.5 – 16
Flexible with ferrule		mm <sup>2</sup>	0.5 – 2.5	0.5 – 25	2.5 – 16	0.75 – 10	1.5 – 6	1.5 – 25	1.5 – 25

**Notes**

Load carrying capacity of fuse enclosures taking into account the derating factors to IEC/EN 60439 and VDE 0660 Part 500 and Part 504, and the cross-sections of the incoming cable.



LV h.b.c. Fuse Bases, LV h.b.c. Fuse Switch-Disconnectors

Moeller HPL0211-2004/2005

			GS(T...)00	GS(T...)00-160	GS(T...)1	GS(T...)2	GS(T...)3
<b>General technical data</b>							
Standards			IEC/EN 60947-3 VDE 0660 Part 107				
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclical, to IEC 60068-2-30				
Ambient temperature		°C	-25 to +55				
Altitude		m	Max.2000				
Mounting position			Vertical, horizontal				
Overvoltage category/pollution degree			III/3	III/3	III/3	III/3	III/3
Touch protection at the front							
Operational status			IP20	IP20	IP20	IP20	IP20
Front cover open			IP10	IP10	IP10	IP10	IP10
Direction of incoming supply			As required	As required	As required	As required	As required
Lifespan, mechanical	Operations		1700	1700	1700	1700	1700
Weight		kg	0.72	0.72	2.5	3.1	4.8
<b>Contacts</b>							
Rated operational voltage	$U_e$	V AC	500	500	500	500	500
Rated operational voltage	$U_e$	V DC	230	230	230	230	230
Rated operational current	$I_e$	A	100	160	250	400	630
Rated frequency		Hz	40 – 60	40 – 60	40 – 60	40 – 60	40 – 60
Rated conditional short-circuit current, AC		A	50	50	50	50	50
Rated conditional short-circuit current, DC		kA <sub>rms</sub>	25	25	25	25	25
Utilization category AC-22B							
Rated making capacity		A	480	480	750	1200	1890
Rated breaking capacity		A	480	480	750	1200	1890
Utilization category DC-21B							
Rated making capacity		A	240	240	375	600	945
Rated breaking capacity		A	240	240	375	600	945
Lifespan, electrical	Operations		300	300	200	200	200
Heat dissipation at $I_{th}$ AC, without NH-SE			2.7	6.9	12.9	27	52
Heat dissipation at $I_{th}$ DC, without NH-SE			4.6	4.6	8.6	18	34.7
Rated insulation voltage	$U_i$	V AC	750	750	750	750	750
<b>Maximum fuse</b>							
Size			NH00	NH00	NH1	NH2	NH3
Max. rated current, gL/gG		A	100	160	250	400	630
Max. admissible heat dissipation, NH-SE		W	12	12	23	34	48
<b>Terminal capacity</b>							
Box terminal							
Stranded, Cu		mm <sup>2</sup>	1.5 – 70	1.5 – 70	25 – 150	25 – 240	25 – 300
Copper strip	Number of layers × width × thickness	mm	6 × 9 × 0.8	6 × 9 × 0.8	6 × 16 × 0.8	10 × 16 × 0.8	11 × 21 × 1
Tightening torque		Nm	2.6	2.6	9.5	23	23
Clamp-type terminal							
Stranded, Al/Cu		mm <sup>2</sup>	–	–	70 – 150	120 – 240	120 – 300
Tightening torque		Nm	–	–	9.5	11	9.5
Double clamp-type terminal							
Stranded, Al/Cu		mm <sup>2</sup>	–	–	2 × (70 – 95)	2 × (120 – 150)	2 × (120 – 240)
Tightening torque		Nm	–	–	11	11	11

**Notes** GS... and GSTA: mechanical shock resistance to Regulation Class RK 1,6/16 of the German Ministry responsible for buildings

<sup>1)</sup> Applies to the ambient temperature: The effect of the ambient temperature on the load capability of NH fuse links at 55 °C is  $I_{In} \approx 0.9$ .

<sup>2)</sup> Applies to fuse links: NH fuse links (NH-SE) of size 00-160 A to VDE 0636 Part 21, May 84, are not authorized to carry a VDE approval mark.

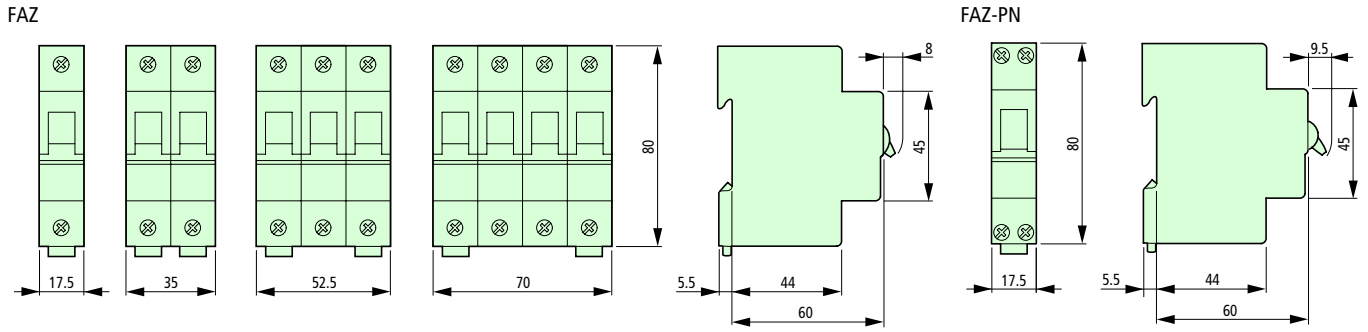


# 12/78 Dimensions

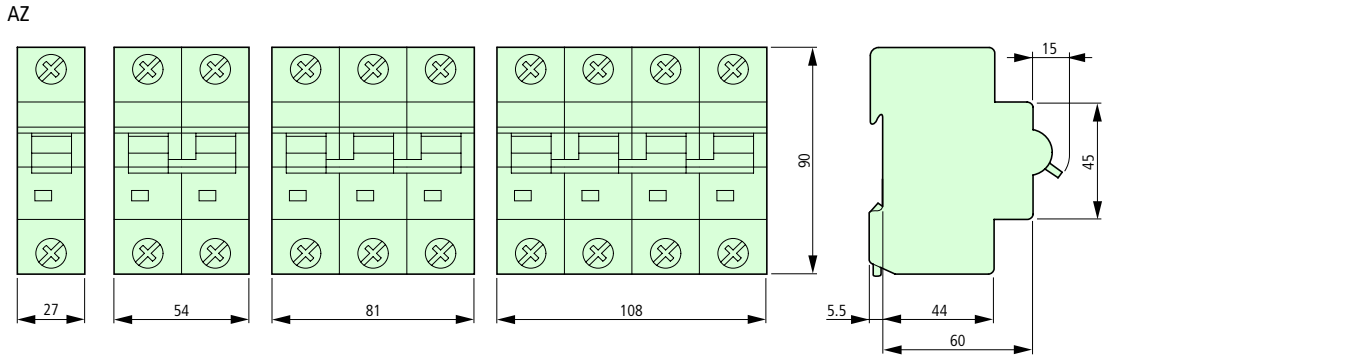
## Miniature Circuit-Breakers, Residual-Current Circuit-Breakers

Moeller HPL0211-2004/2005

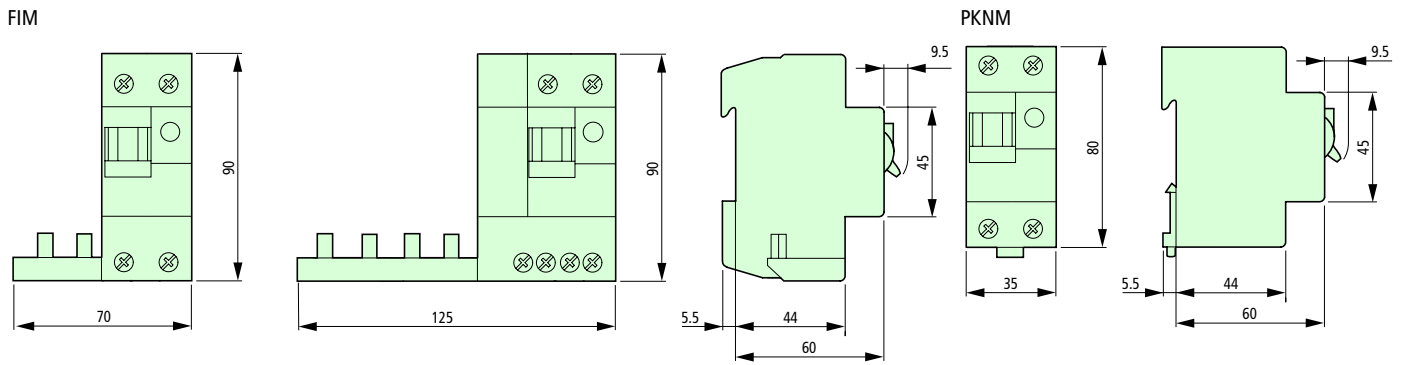
### Miniature circuit-breakers



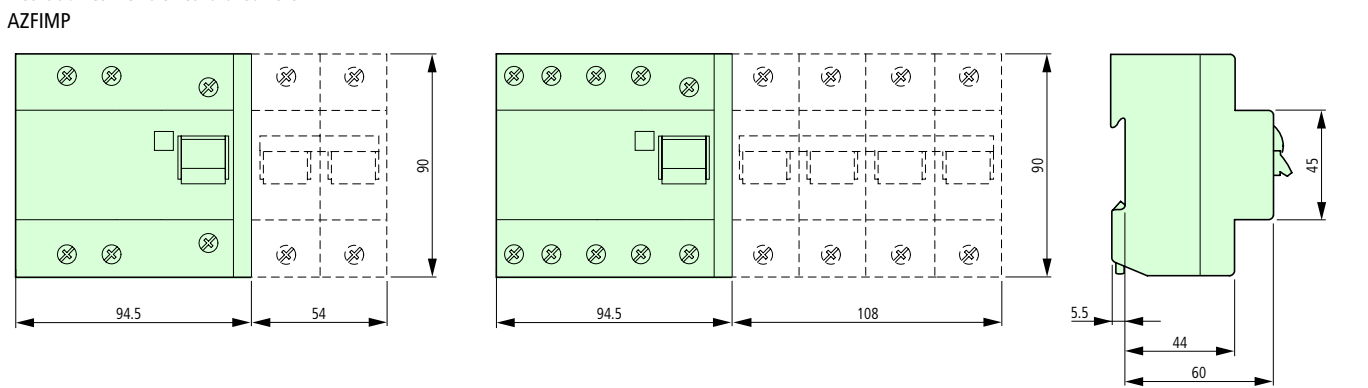
### High-capacity miniature circuit-breakers



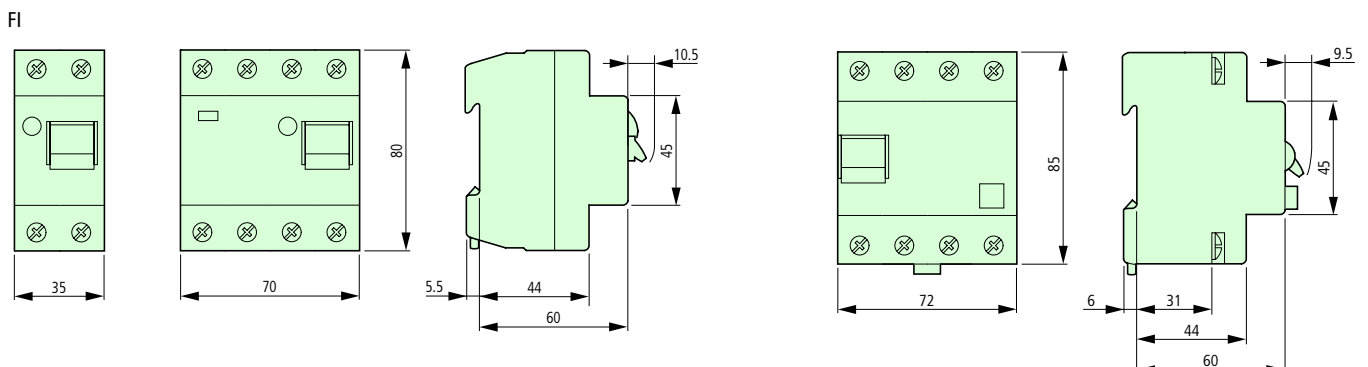
### Residual-current circuit-breakers



### Residual-current circuit-breakers



### Residual-current circuit-breakers



For Immediate Delivery call [KMParts.com](http://KMParts.com) at (866) 595-9616

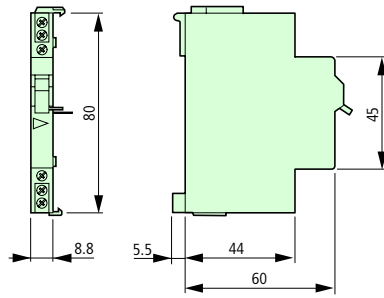
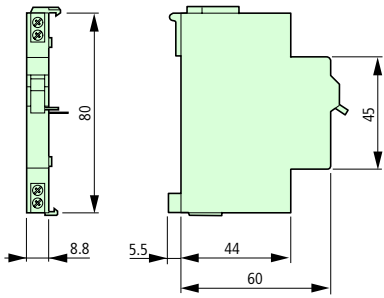


Moeller HPL0211-2004/2005

**Auxiliary contacts**

FAZ-XHI11

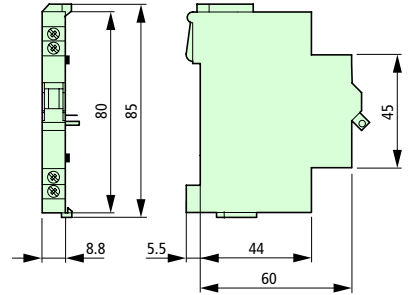
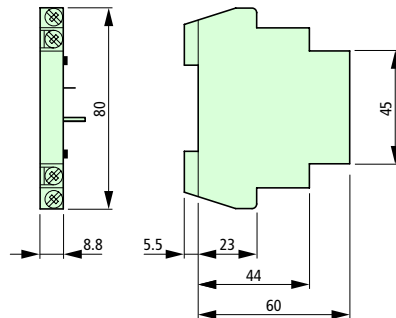
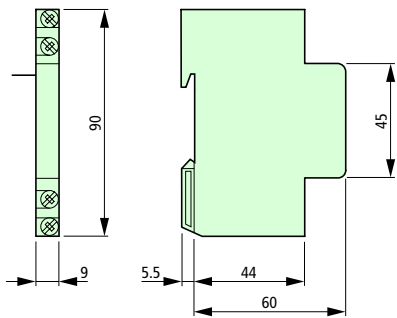
FAZ-XAM002



AZ-XHI11

FIP-XHI11

FIPA-XAM011



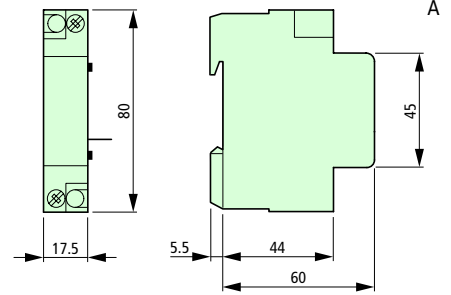
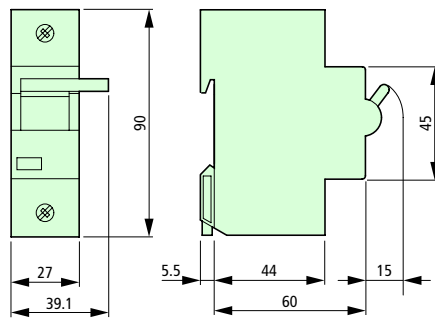
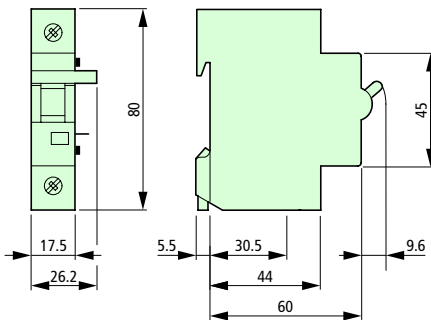
**Shunt releases**

FAZ-XAA

AZ-XAA

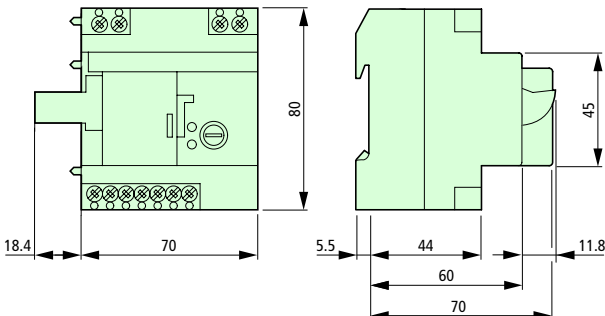
**Undervoltage release**

FAZ-XUA



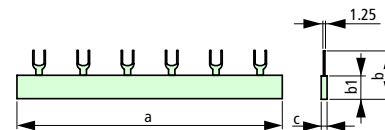
**Remote control and switching devices**

FAZ/FIP



**Commoning link for miniature circuit-breakers**

FAZ-XIS



**Commoning link for miniature circuit-breaker without auxiliary contacts**

Type	a	b	b1	c
FAZ-XIS1/2	30	27	14	3,5
FAZ-XIS1/6	104	27	14	3,5
FAZ-XIS1/12	207	27	14	3,5
FAZ-XIS2/4	65	27	14	6,3
FAZ-XIS2/6	104	27	14	6,3
FAZ-XIS2/12	207	27	14	6,3
FAZ-XIS3/6	104	27	14	9
FAZ-XIS3/12	206	27	14	9
FAZ-XIS4/8	141	27	14	11,8
FAZ-XIS4/12	207	27	14	11,8

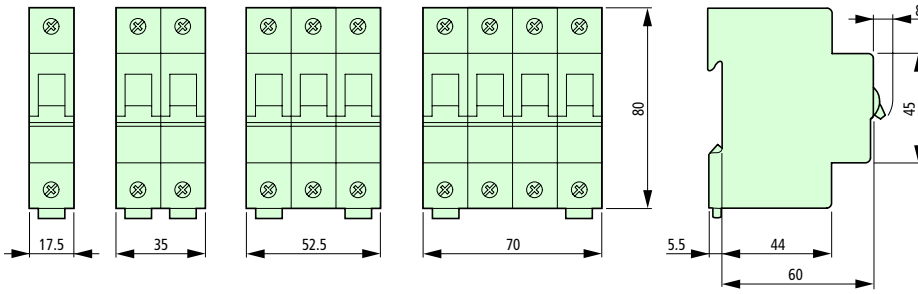
**Commoning link for miniature circuit-breaker with auxiliary contacts**

Type	a	b	b1	c
FAZ-XIS1/2-HI	53	27	14	3,5
FAZ-XIS1/6-HI	155	27	14	3,5
FAZ-XIS1/9-HI	228	27	14	3,5
FAZ-XIS2/4-HI	73	27	14	6,3
FAZ-XIS2/6-HI	120	27	14	6,3
FAZ-XIS2/10-HI	207	27	14	6,3
FAZ-XIS3/6-HI	120	27	14	10,7
FAZ-XIS3/12-HI	236	27	14	10,7
FAZ-XIS31/6-HI	155	27	14	10,7
FAZ-XIS31/8-HI	207	27	14	10,7
FAZ-XIS31/9-HI	236	27	14	10,7



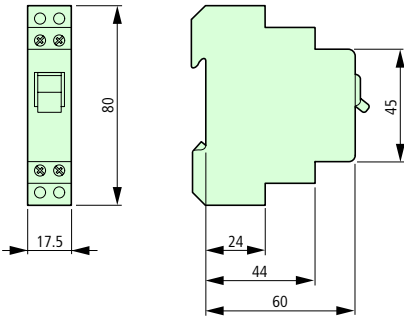
Main switches

IS

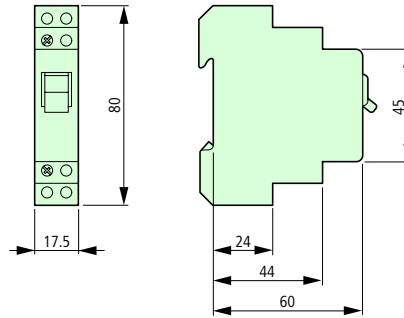


Control switches

Z-S

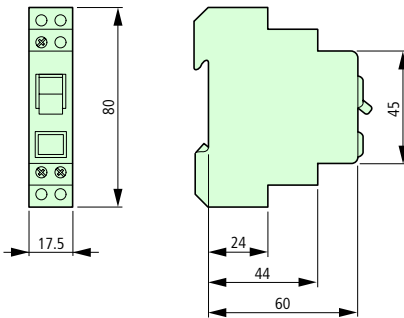


Z-SW



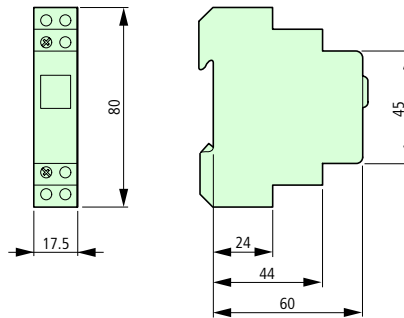
Control switches

Z-SL



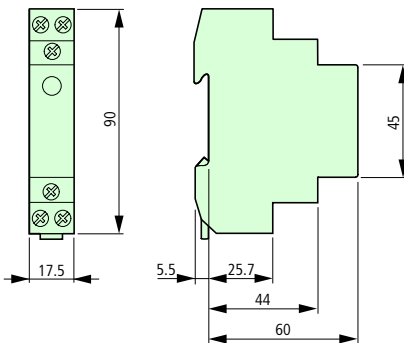
Pushbutton

Z-T

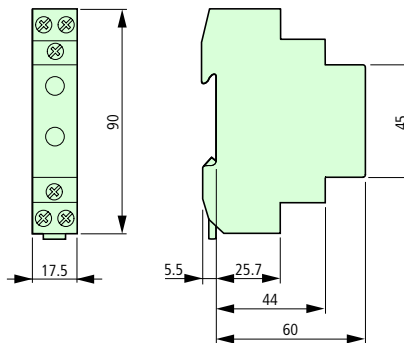


Indicator lights

Z-EL



Z-DL

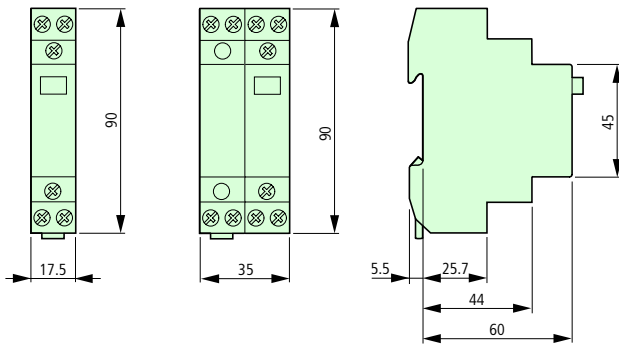


Impulse Relays, Installation Relays, Installation Contactors

Moeller HPL0211-2004/2005

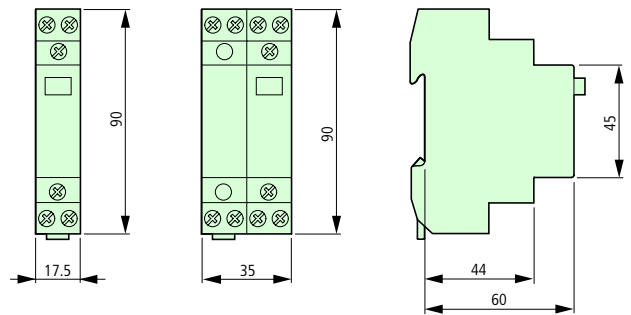
Impulse relays

Z-S



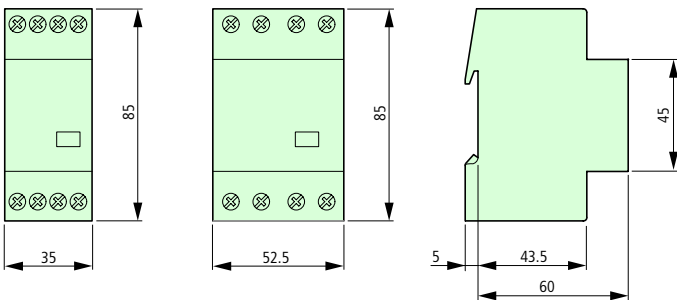
Installation relays

Z-R



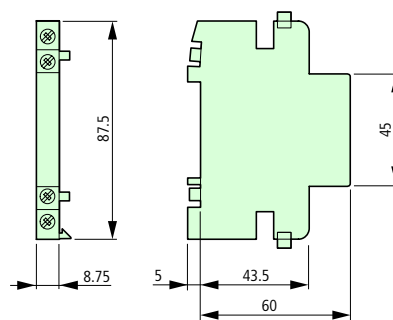
Installation contactors

Z-SCH



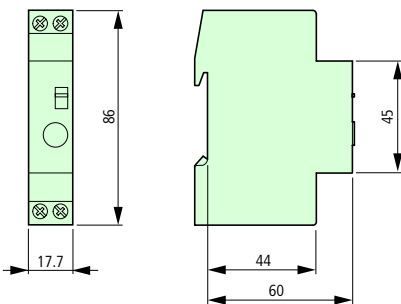
Auxiliary contact for installation contactors

Z-SC



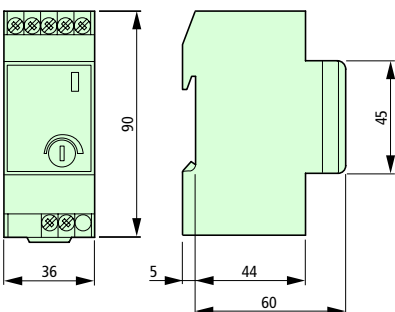
Staircase timers

Z-TLG



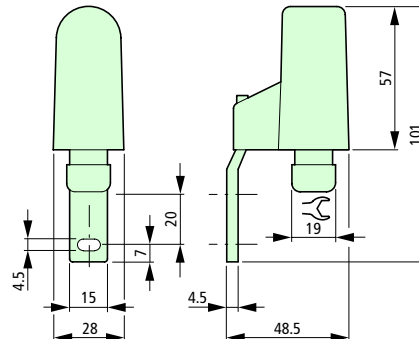
Light intensity switch

Z-LMS



Light sensor

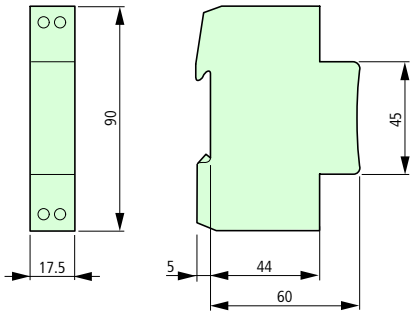
D35/3/SENSOR



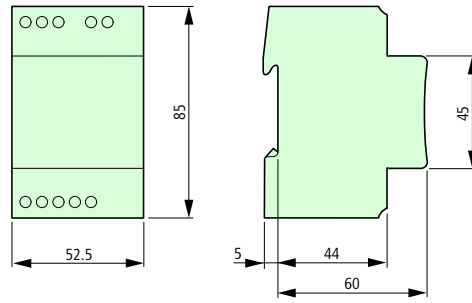
Miniature Circuit-Breakers, MCB Enclosures, Fuse Enclosures



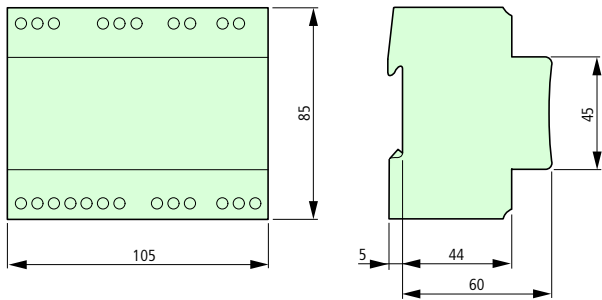
Day timer, analog  
SU-GQ-TA



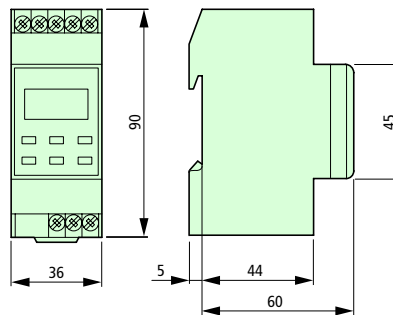
SU-GS/1W  
SU-GQ/1W



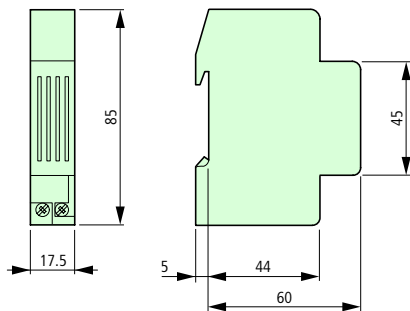
Day and week timer, analog  
SU-GQ/2W



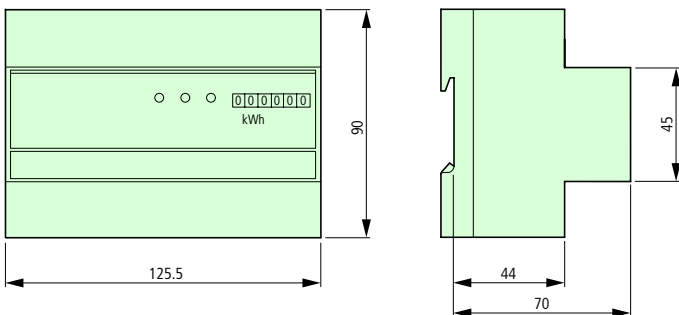
Timer, digital  
Z-SDM



Buzzer, bell  
Z-SUM Z-GLO

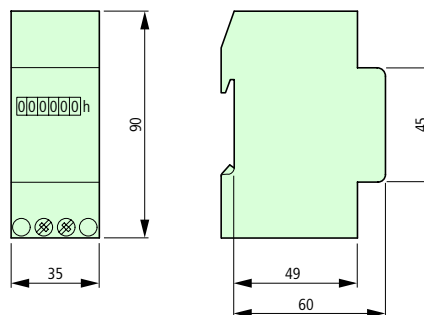


Power meter  
Z-KWZ



Hours-run counters, pulse counters

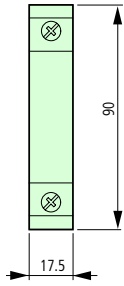
Z-BSZ  
Z-IMZ



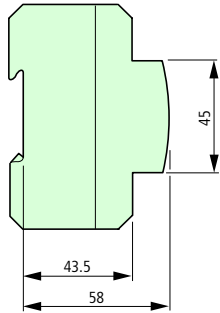
Moeller HPL0211-2004/2005

**Lead-through terminal, Lightning current arresters B-type**

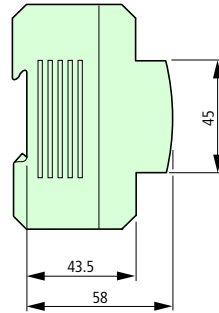
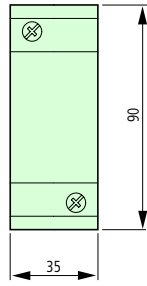
SPB-D-125



SPI-35/440  
 SPI-50/N/PE

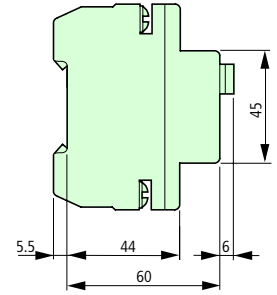
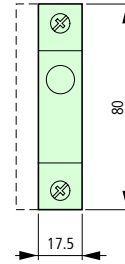


SPI-100/N/PE



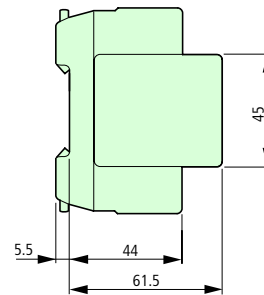
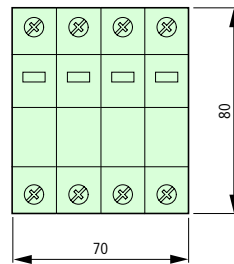
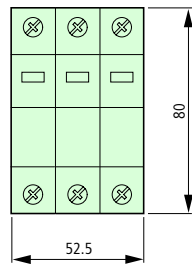
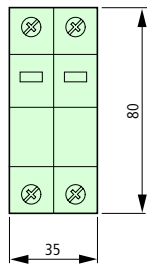
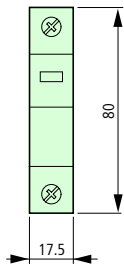
**Surge arresters**

SPC-E...



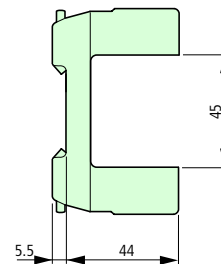
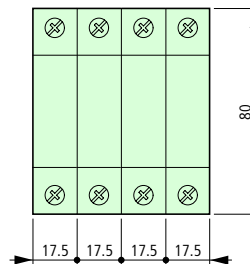
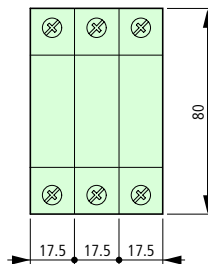
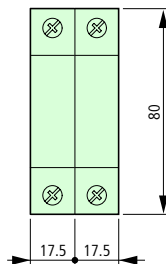
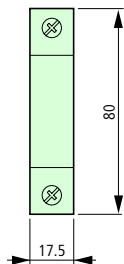
**Surge arresters, complete**

SPC-S.../1(2)(3)(4)



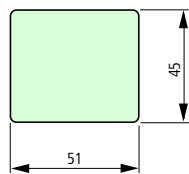
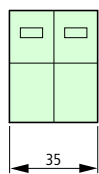
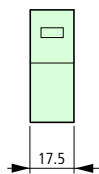
**Bases for overvoltage arresters**

SPC-S-S...



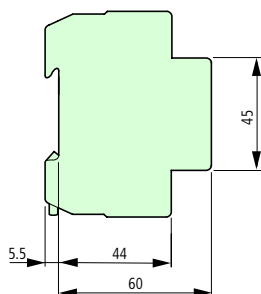
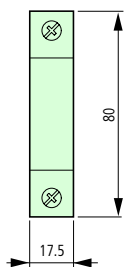
**Surge arresters, plug-in**

SPC-S...



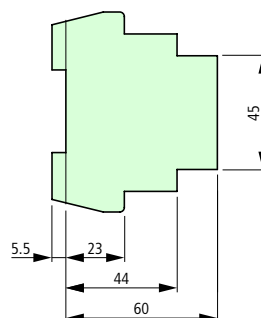
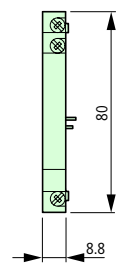
**Lead-through terminal, C-type**

Z-D63



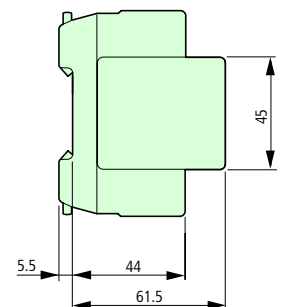
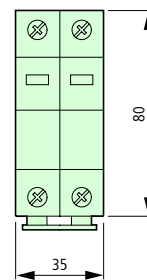
**Auxiliary contact for C-type arresters**

SP-S-HK



**Surge protective devices**

SPD-S-1+1

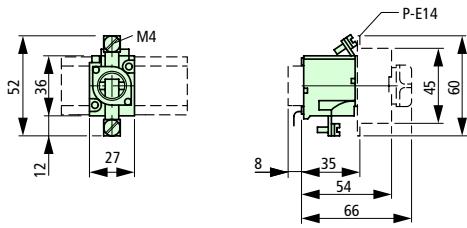


Miniature Circuit-Breakers,  
 MCB Enclosures, Fuse Enclosures

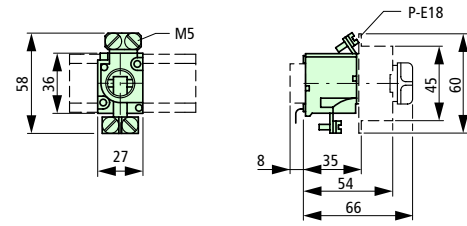


Screw fuse bases

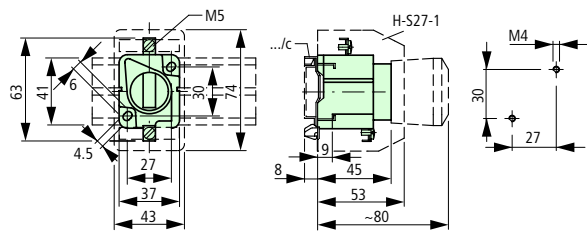
S14-1/C



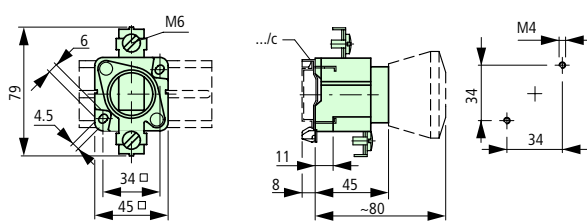
S18-1/C



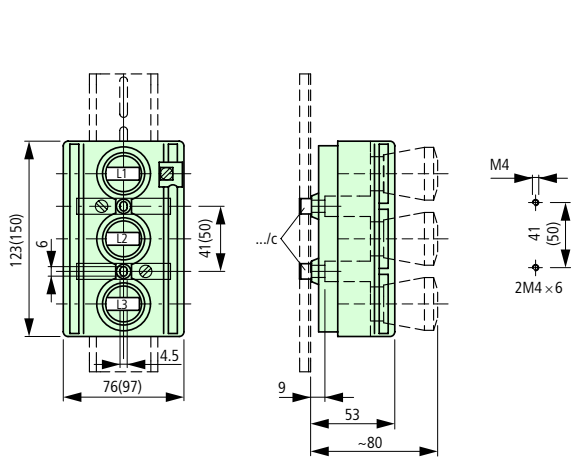
S27-1(C)



S33-1(C)

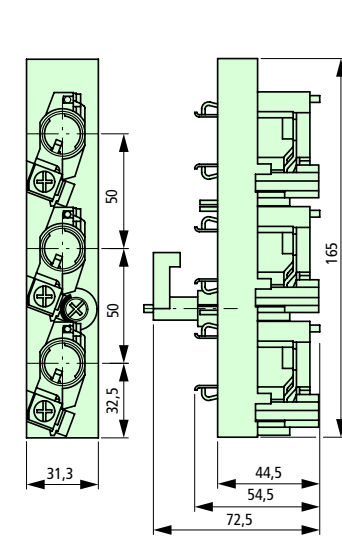


S27(C)  
S33(C)  
(...) = S33

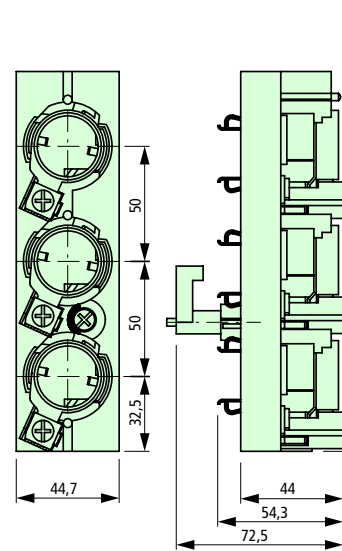


Busbar mounting fuse bases

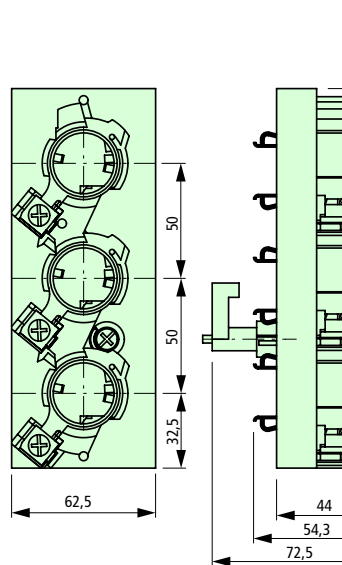
RS183-50



RS273-50

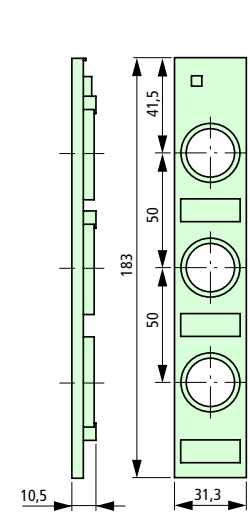


RS333-50

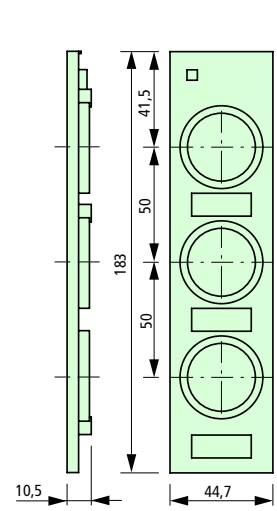


Covers

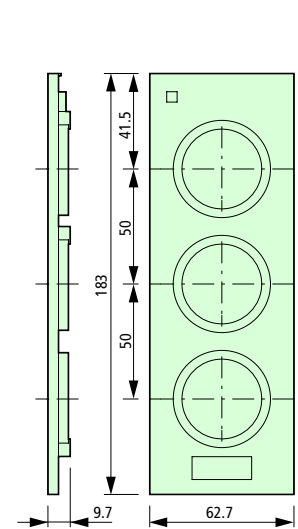
ZSRS183-50



ZSRS273-50



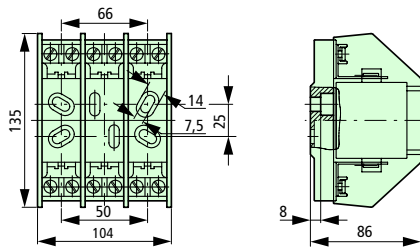
ZSRS333-50



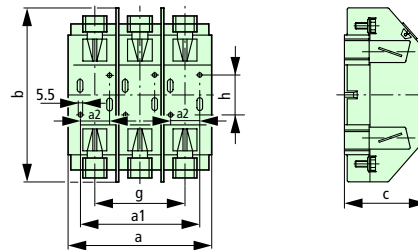
Moeller HPL0211-2004/2005

Low-voltage h.b.c. fuse bases

GS00  
GS00-160



GS1  
GS2  
GS3

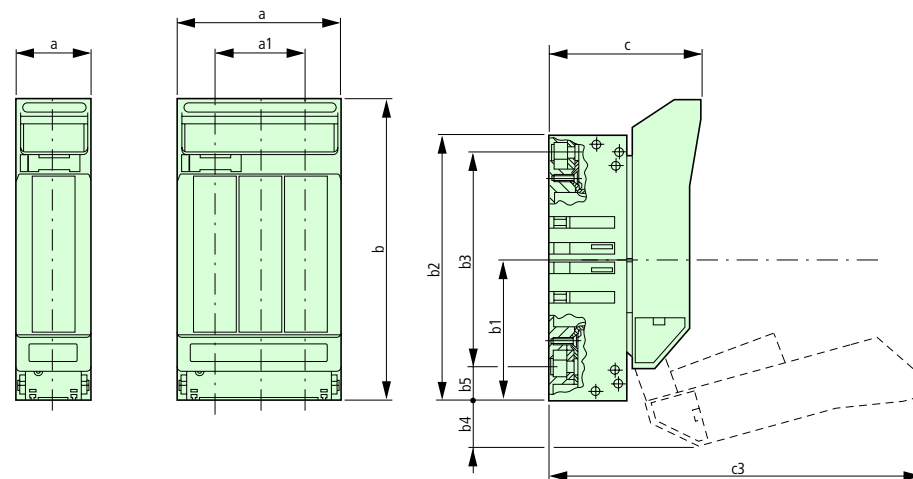


Type	a	a1	a2	b	c	g	h
GS1	180	150	-	218	103.5	116	25
GS2	202	175	25	248	116.5	130	50
GS3	248	200	50	256	117	160	50

Low-voltage h.b.c. fuse switch-disconnectors

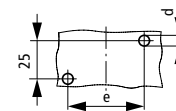
1-pole:  
GSTA00-1P  
GSTA00-160-1P

3-pole:  
GSTA00, GSTA1  
GSTA00-160, GSTA2  
GSTA3

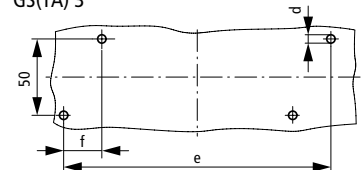


Drilling dimensions

GS(TA)00  
GS(TA)1



GS(TA) 2  
GS(TA) 3



Type	a	a1	b	b1	b2	b3	b4	b5	c	c3	d	e	f
GSTA00...-1P	49	-	169	79	149	120	25	-	86.5	197	7	-	-
GSTA00	106	66	169	79	149	120	25	26	86.5	197	7	50	-
GSTA1	182	116	250	115	230	184	30	23	111	294	5,5	150	-
GSTA2	208	132	275	128	256	217	30	19,5	125	330,5	5,5	175	25
GSTA3	254	164	283	135	270	238	30	16	142	348	5,5	200	50

Low-voltage h.b.c. fuse switch-disconnectors

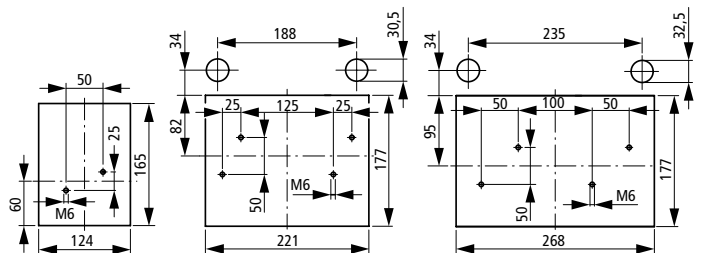
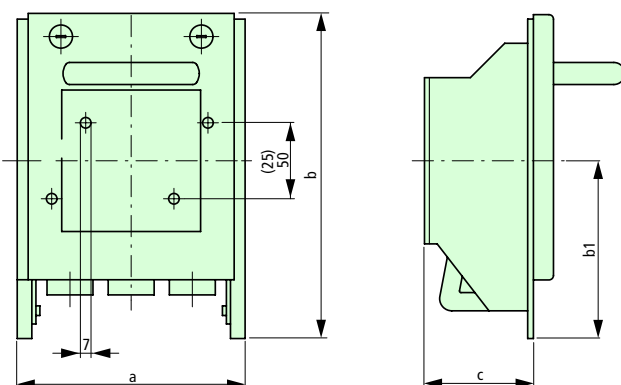
GSTZ00, GSTZ1  
GSTZ00-160, GSTZ2  
GSTZ3

Drilling dimensions

Cover cutout  
GSTZ00

GSTZ1/2

GSTZ3



Type	a	b	b1	c
GSTZ00	150	214	117	85
GSTZ1	248	297	150	115
GSTZ2	248	297	150	131
GSTZ3	294	297	150	131

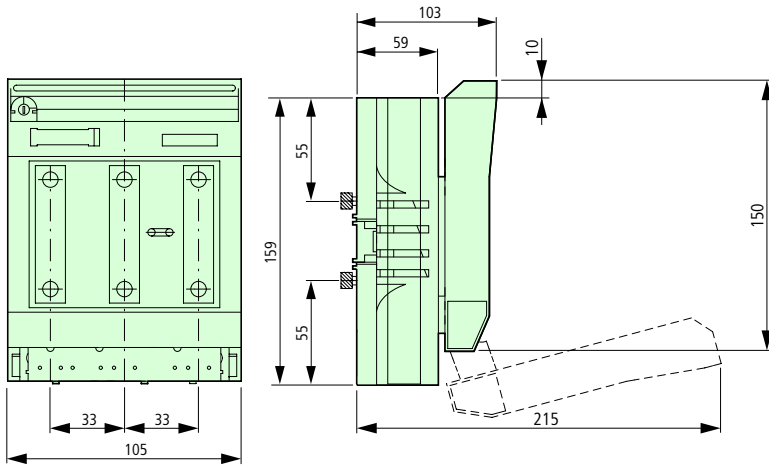


# 12/86 Dimensions

## Fuse Switch-Disconnectors, Adapter Plates

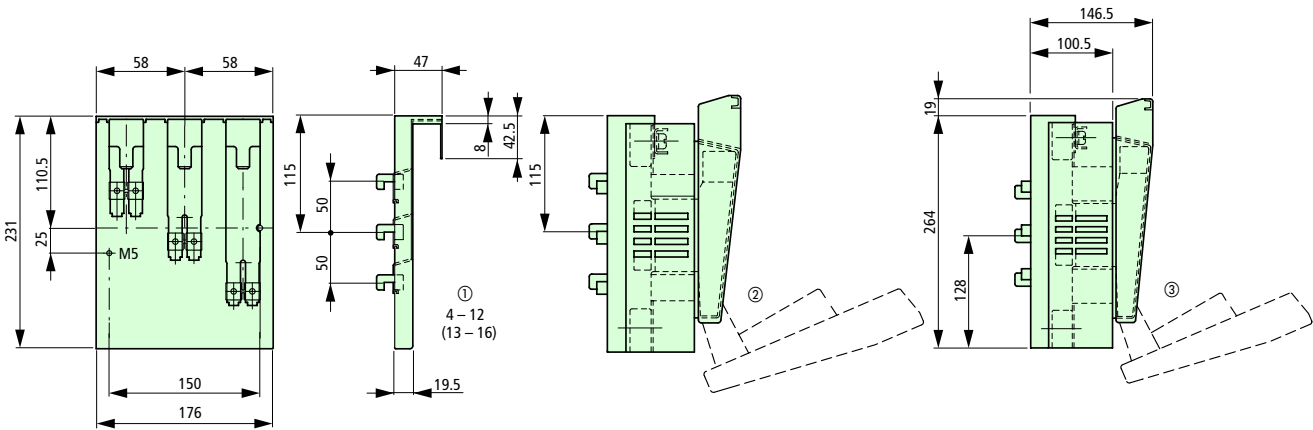
Moeller HPL0211-2004/2005

Low-voltage h.b.c. fuse switch-disconnectors for mounting on busbars  
GST00(-160)-40-60-AOU

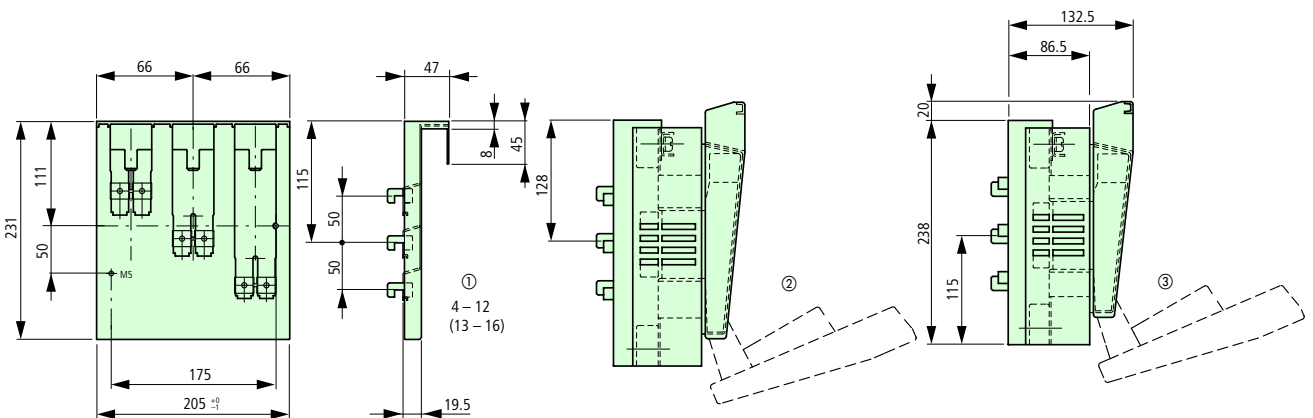


Adapter plates

A-GSTA-1/50(16)



A-GSTA-2/50(16)



Miniature Circuit-Breakers,  
MCB Enclosures, Fuse Enclosures

