

# Protective Devices

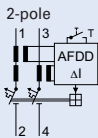
## Electric Fire Protective Device, Arc Fault Protection AFDD+, 2-pole

- Electric fire protective device acc. to IEC/EN-62606
- Line-voltage-independent RCBO (combined switch) acc. to IEC/EN 61009
- 2-pole: Both clearances between open contacts are protected
- Variable installation of N either left or right
- Tripped indication: CB, RCD or AFDD
- LED indication for arc faults
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Comprehensive range of accessories suitable for subsequent installation
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test interval of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervals (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement ( $R_E$ ), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A:** Protects against special forms of residual pulsating DC which have have not been smoothed
- **Type -Li/A:** As Type -A, but in addition it is short-time delayed. Highly reliable against unwanted tripping

### Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
Auxiliary switch	ZP-NHK	248437
Shunt trip release	ZP-ASA/..	248438, 248439
Switching interlock	IS/SPE-1TE	101911
Busbars: ZV-SS; ZV-L1/N; ZV-L2/L3; ZV-ADP; ZV-AEK		

### Connection diagram



## Technical Data

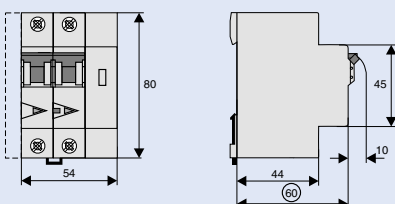
### Electrical

Design according to	IEC/EN 62606, IEC/EN 61009
Current test marks as printed onto the device	
Tripping	
Line-voltage-independent	instantaneous 250A (8/20μs) surge-current-proof
Rated voltage $U_e$	240 V AC; 50 Hz
Operational voltage range	170-264 V
Rated tripping current $I_{\Delta n}$	10, 30 mA
Rated non-tripping current $I_{\Delta no}$	$0.5 I_{\Delta n}$
Sensitivity	AC and pulsating DC
Selectivity class	3
Rated breaking capacity	
AFDD 10-25A	10 kA
AFDD 32-40A	6 kA
Rated current	10 - 40 A
Rated peak withstand voltage $U_{imp}$	4 kV (1.2/50μs)
Arc fault tripping times after load current (acc. to IEC/EN62606):	
Load current (A)	Tripping time (s)
2.5	<1
5	<0.5
10	<0.25
16	<0.15
32	<0.12
40	<0.12
Characteristic	B, C
Maximum back-up fuse (short circuit)	100 A gL (>10 kA)
Endurance	electrical comp. $\geq 4,000$ switching operations
	mechanical comp. $\geq 20,000$ switching operations

### Mechanical

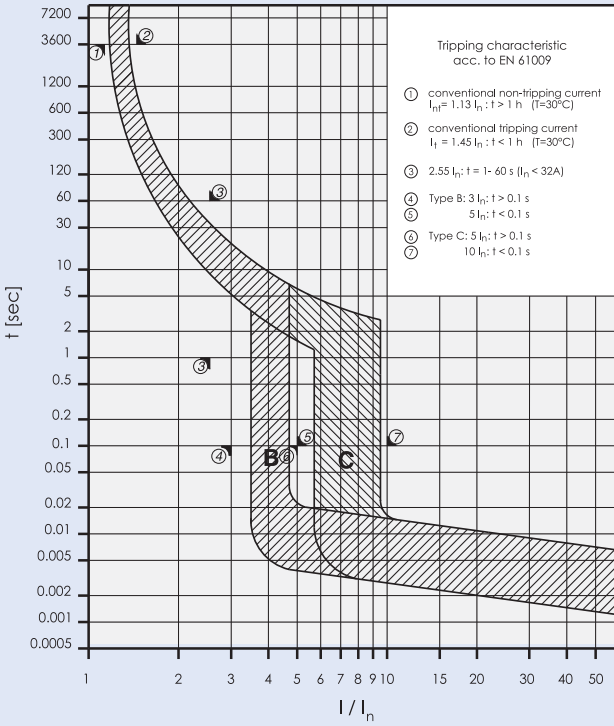
Frame size	45 mm
Device height	80 mm
Device width	54 mm (3MU)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, DGVV VS3, EN 50274
Terminal capacity	1 - 25 mm <sup>2</sup>
Busbar thickness	0.8 - 2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Storage- and transport temperature	-35°C to +60°C
Resistance to climatic conditions	acc. to IEC/EN 61009

## Dimensions (mm)



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Tripping Characteristic AFDD+, Characteristics B and C



xPole

# Protective Devices

## Short Circuit Selectivity AFDD+ 10-20A towards Neozed<sup>1)</sup> / Diazed<sup>2)</sup> / NH00<sup>3)</sup>

Short circuit currents in kA, Rated currents of fuses in A

Short circuit selectivity **AFDD+** towards fuse link **Neozed**<sup>1)</sup>


AFDD+	Neozed <sup>1)</sup>									
	16	20	25	32	35	40	50	63	80	100
<b>B10</b>	<0,5	0,5	0,9	2	2,3	3,7	8	10	10	10
<b>B13</b>	<0,5	0,5	0,8	1,7	1,9	3	6	10	10	10
<b>B16</b>		0,5	0,7	1,5	1,7	2,4	4,4	6,8	10	10
<b>B20</b>			0,7	1,4	1,5	2,2	3,9	6	9,2	10
<b>C10</b>	<0,5	0,5	0,8	1,7	1,9	3	6,1	10	10	10
<b>C13</b>	<0,5	0,5	0,7	1,6	1,8	2,8	5,5	9,5	10	10
<b>C16</b>		<0,5	0,7	1,3	1,5	2,2	4	6,2	10	10
<b>C20</b>			0,6	1,3	1,4	2,1	3,7	5,6	8,5	10

Short circuit selectivity **AFDD+** towards fuse link **Diazed**<sup>2)</sup>

AFDD+	Diazed <sup>2)</sup>									
	16	20	25	32	35	50	63	80	100	
<b>B10</b>	<0,5	0,5	0,9	1,8	2,9	5,6	10	10	10	
<b>B13</b>	<0,5	0,5	0,8	1,5	2,4	4,5	10	10	10	
<b>B16</b>		0,5	0,8	1,3	2	3,4	8	10	10	
<b>B20</b>			0,7	1,3	1,9	3,1	7,1	10	10	
<b>C10</b>	<0,5	0,5	0,8	1,5	2,4	4,4	10	10	10	
<b>C13</b>	<0,5	0,5	0,8	1,4	2,3	4,2	10	10	10	
<b>C16</b>		<0,5	0,7	1,2	1,9	3,2	7,6	10	10	
<b>C20</b>			0,7	1,2	1,8	2,9	6,5	9,7	10	

Short circuit selectivity **AFDD+** towards fuse link **NH00**<sup>3)</sup>

AFDD+	NH00 <sup>3)</sup>												
	16	20	25	32	35	40	50	63	80	100	125	160	
<b>B10</b>	<0,5	<0,5	0,8	1,5	2,3	3,2	5,7	9,1	10	10	10	10	
<b>B13</b>	<0,5	<0,5	0,8	1,3	1,9	2,7	4,4	6,5	10	10	10	10	
<b>B16</b>		<0,5	0,7	1,1	1,6	2,2	3,4	4,8	8	10	10	10	
<b>B20</b>			0,6	1	1,4	2	3,1	4,3	7	10	10	10	
<b>C10</b>	<0,5	<0,5	0,7	1,3	1,9	2,7	4,5	6,9	10	10	10	10	
<b>C13</b>	<0,5	<0,5	0,7	1,2	1,8	2,5	4,1	6,1	10	10	10	10	
<b>C16</b>		<0,5	0,6	1	1,5	2	3,1	4,4	7,5	10	10	10	
<b>C20</b>			0,6	0,9	1,4	1,9	2,9	4,1	6,5	10	10	10	

 no selectivity

<sup>1)</sup> SIEMENS Type 5SE2; Size: D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V

<sup>2)</sup> SIEMENS Type 5SB2, 5SB4, 5SC2; Size: DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V

<sup>3)</sup> SIEMENS Type 3NA3 8, 3NA6 8, 3NA7 8; Size: 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V

## Short Circuit Selectivity AFDD+ 25-40A towards Neozed<sup>1)</sup> / Diazed<sup>2)</sup> / NH00<sup>3)</sup>

Short circuit currents in kA, Rated currents of fuses in A

Short circuit selectivity **AFDD+** towards fuse link **Neozed**<sup>1)</sup>


AFDD+	Neozed <sup>1)</sup>									
	16	20	25	32	35	40	50	63	80	100
<b>B25</b>				1,2	1,3	1,8	3,1	4,7	6	6
<b>B32</b>					1,2	1,7	2,7	3,8	5,5	6
<b>B40</b>						1,3	1,7	2,2	2,7	4,2
<b>C25</b>				1,1	1,3	1,8	2,8	3,9	5,6	6
<b>C32</b>					1,2	1,7	2,6	3,6	5,1	6
<b>C40</b>						1,3	1,9	3,3	3,2	5,8

Short circuit selectivity **AFDD+** towards fuse link **Diazed**<sup>1)</sup>

AFDD+	Diazed <sup>2)</sup>									
	16	20	25	32	35	50	63	80	100	
<b>B25</b>				1,1	1,5	2,4	5,5	6	6	
<b>B32</b>					1,4	2,1	4,3	6	6	
<b>B40</b>						1,4	2,4	2,9	5,1	
<b>C25</b>				1,1	1,5	2,3	4,4	6	6	
<b>C32</b>					1,4	2,2	4,1	5,6	6	
<b>C40</b>						1,6	2,8	3,6	6	

Short circuit selectivity **AFDD+** towards fuse link **NH00**<sup>3)</sup>

AFDD+	NH00 <sup>3)</sup>												
	16	20	25	32	35	40	50	63	80	100	125	160	
<b>B25</b>				0,9	1,2	1,6	2,4	3,4	5,5	6	6	6	
<b>B32</b>					1,1	1,4	2,1	2,9	4,3	6	6	6	
<b>B40</b>						1,4	1,9	2,8	4,1	6	6	6	
<b>C25</b>				0,9	1,2	1,6	2,3	3	4,6	6	6	6	
<b>C32</b>					1,1	1,5	2,1	2,8	4,3	6	6	6	
<b>C40</b>						1,5	2,1	3,1	5,4	6	6	6	

 no selectivity

<sup>1)</sup> SIEMENS Type 5SE2; Size: D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V

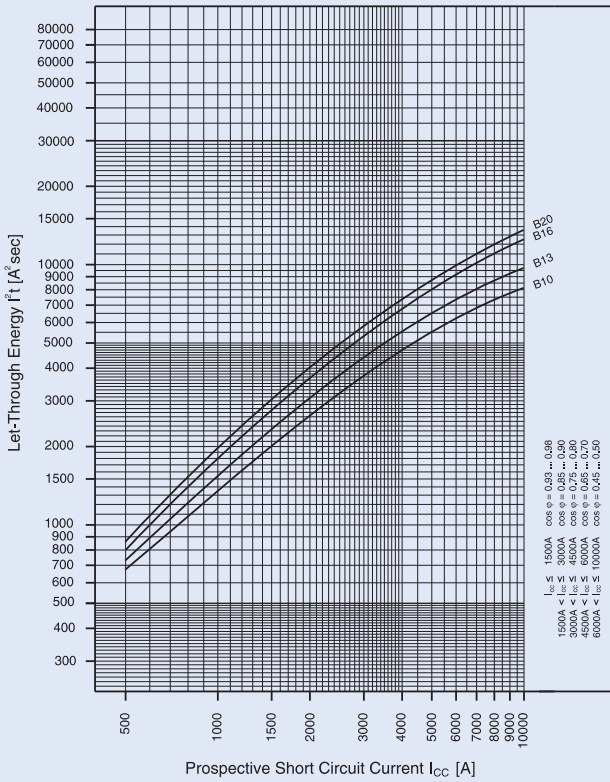
<sup>2)</sup> SIEMENS Type 5SB2, 5SB4, 5SC2; Size: DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V

<sup>3)</sup> SIEMENS Type 3NA3 8, 3NA6 8, 3NA7 8; Size: 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V

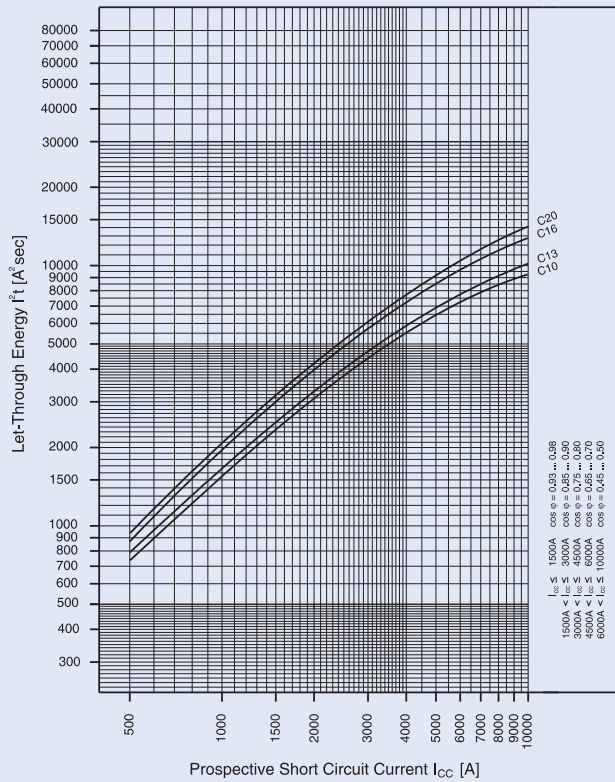
# Protective Devices

## Let-through Energy AFDD+

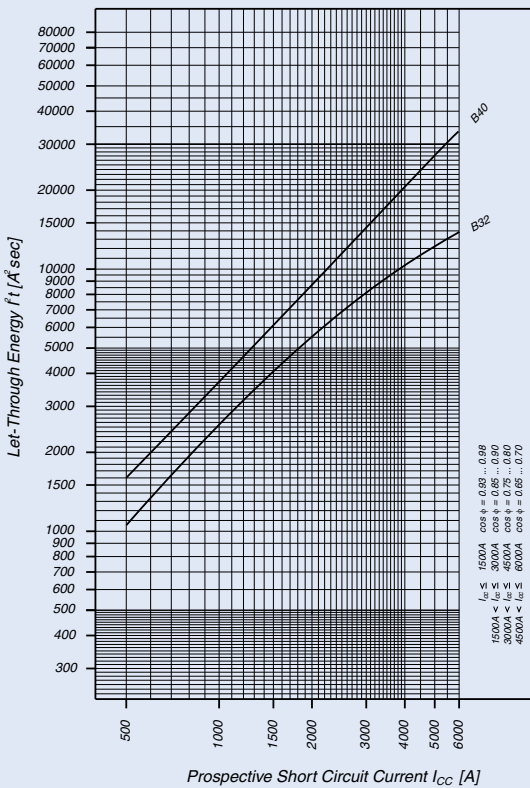
Let-through energy AFDD+, characteristic B, 2-pole, 10-20 A



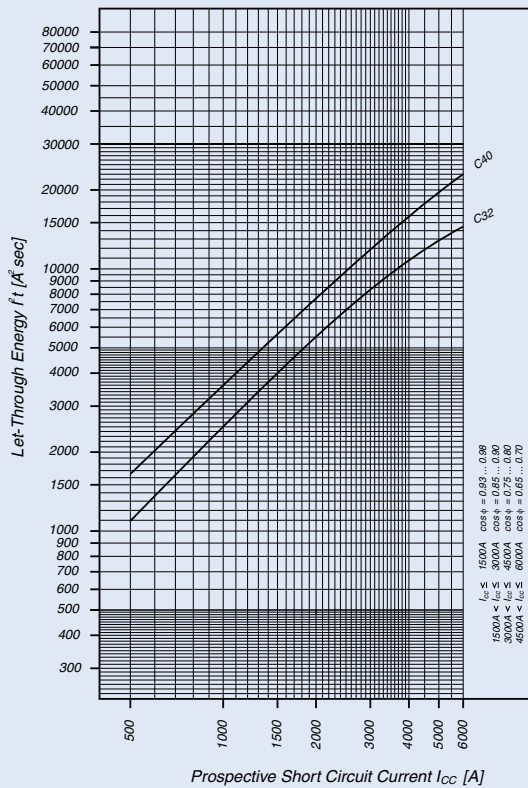
Let-through energy AFDD+, characteristic C, 2-pole, 10-20 A



Let-through energy AFDD+, characteristic B, 2-pole, 32-40 A



Let-through energy AFDD+, characteristic C, 2-pole, 32-40 A



xPole