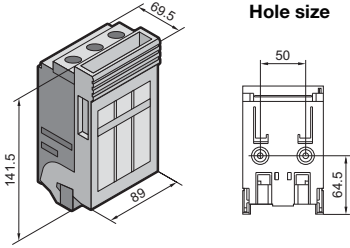
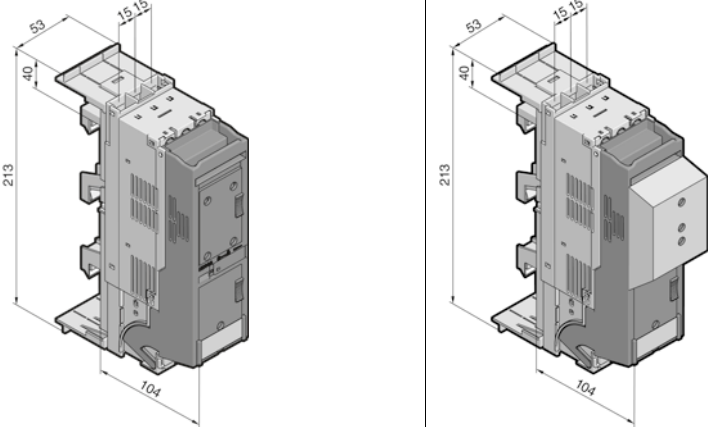


### NH fuse-switch disconnectors, size 000

Version	For mounting plate assembly	
3-pole, cable outlet at the top/bottom <b>Note:</b> – For the use of fuse inserts to EN 60 269-2 – Technical specifications to IEC/EN 60 947-3, see chapter 2-115, page 6 – Load factor, see chapter 2-101, page 4 – Current carrying capacity of connection cables, see chapter 2-101, page 5 – Use of semi-conductor fuses, see chapter 2-101, page 6		
Rated operating current max.	100 A	
Rated operating voltage	690 V AC	
<b>Model No. SV</b>	<b>3431.000</b>	
<b>Assembly data for applications to IEC (EN)</b>		
Tightening torque Nm – Terminal screw	3	
Type of connection	Box terminal	
Conductor connection Cu mm <sup>2</sup>	f with wire end ferrule	1.5 – 50
	re/rm	1.5 – 50
Clamping area for laminated copper bars W x H mm	10 x 10	
Minimum distance to conductive earthed parts mm	Side	30
	Top	80
	Rear	0
<b>Material specifications</b>		
Contact track	E-Cu, silver-plated	■

Version	For 60 mm busbar systems		
3-pole, for 60 mm bar systems <b>Note:</b> – For the use of fuse inserts to EN 60 269-2 – Technical specifications to IEC/EN 60 947-3, see chapter 2-115, page 6 – Load factor, see chapter 2-101, page 4 – Current carrying capacity of connection cables, see chapter 2-101, page 5 – Use of semi-conductor fuses, see chapter 2-101, page 6			
Rated operating current max.	100 A		100
Rated operating voltage	690 V AC		690 V AC
Cable outlet	Top	Bottom	Bottom
With electronic fuse monitoring	–	–	■
<b>Model No. SV</b>	<b>3431.020</b>	<b>3431.030</b>	<b>3431.035</b>
<b>Assembly data for applications to IEC (EN)</b>			
Tightening torque Nm – Bar attachment – Terminal screw	4.5	4.5	4.5
	4.5	4.5	4.5
Type of connection	Box terminal	Box terminal	Box terminal
Conductor connection Cu mm <sup>2</sup>	re/rm	2.5 – 50	2.5 – 50
	f with wire end ferrule	2.5 – 50	2.5 – 50
<b>Material specifications</b>			
Contact track: E-Cu, silver-plated	■	■	■

# Power distribution

## RiLine fuse elements

### NH fuse-switch disconnectors, size 00

Version

For mounting plate assembly


3-pole, cable outlet at the top/bottom

**Note:**

- For the use of fuse inserts to EN 60 269-2
- Technical specifications to IEC/EN 60 947-3, see chapter 2-115, page 6
- Load factor, see chapter 2-101, page 4
- Current carrying capacity of connection cables, see chapter 2-101, page 5
- Use of semi-conductor fuses, see chapter 2-101, page 6

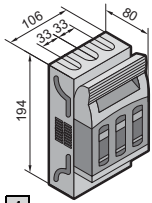
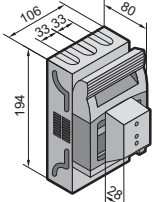
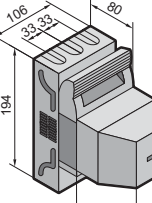
**Approvals:**

SV 9344.000/010  
SV 9343.000/010

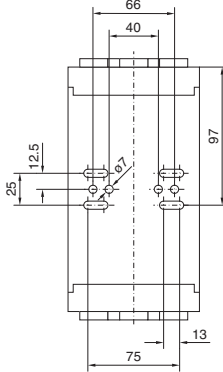


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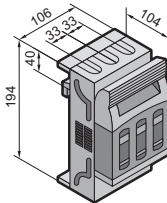
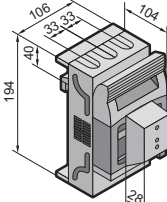
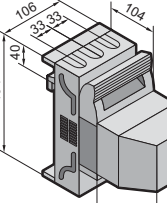
Applications to RU only in conjunction with "Special Purpose Fuses"

















**Hole size**



For 60 mm busbar systems

Rated operating current max.	IEC	160 A
	UL	160 A
Rated operating voltage	IEC	690 V AC/400 – 690 V AC <sup>1)</sup>
	UL	600 V AC
<b>1 Model No. SV</b>		<b>9344.000</b>  <b>9344.010</b> 
<b>2</b> With electronic fuse monitoring		<b>9344.020</b>  <b>9344.030</b> 
<b>3</b> With electromechanical fuse monitoring		<b>9344.040</b>  <b>9344.050</b> 

Rated operating current max.	160 A
Rated operating voltage	690 V AC/400 – 690 V AC <sup>1)</sup>
	600 V AC
<b>1 Model No. SV</b>	<b>9343.000</b>  <b>9343.010</b> 
<b>2</b> With electronic fuse monitoring	<b>9343.020</b>  <b>9343.030</b> 
<b>3</b> With electromechanical fuse monitoring	<b>9343.040</b>  <b>9343.050</b> 

#### Assembly data for applications to IEC (EN)/UL

Tightening torque Nm			
– Bar attachment		–	–
– Terminal screw		4.5	12
Type of connection		Box terminal	Screw M8
Conductor connection	re/rm	10 – 95	–
	Cu/Al mm <sup>2</sup>	–	–
	se/sm	–	–
Conductor connection with ring terminal mm <sup>2</sup>		–	10 – 95
Clamping area for laminated copper bars, W x H mm		13 x 13	20 x 5
Minimum distance to conductive earthed parts mm	Side	40	40
	Top	100	100
	Rear	0	0

Tightening torque Nm			
– Bar attachment		6	6
– Terminal screw		4.5	12
Type of connection		Box terminal	Screw M8
Conductor connection		10 – 95	–
Conductor connection with ring terminal mm <sup>2</sup>		–	10 – 95
Clamping area for laminated copper bars, W x H mm		13 x 13	20 x 5
Minimum distance to conductive earthed parts mm	Side	40	40
	Top	100	100
	Rear	0	0

#### Material specifications

Contact track: E-Cu, silver-plated	■	■
Terminal: Cast brass, nickel-plated	■	–

Contact track: E-Cu, silver-plated	■	■
Terminal: Cast brass, nickel-plated	■	–

<sup>1)</sup> Rated operating voltage 400 – 690 V AC for NH disconnectors with electronic fuse monitoring

### NH fuse-switch disconnectors, size 1

Version

For mounting plate assembly


3-pole, cable outlet at the top/bottom

**Note:**

- For the use of fuse inserts to EN 60 269-2
- Technical specifications to IEC/EN 60 947-3, see chapter 2-115, page 6
- Load factor, see chapter 2-101, page 4
- Current carrying capacity of connection cables, see chapter 2-101, page 5
- Use of semi-conductor fuses, see chapter 2-101, page 6

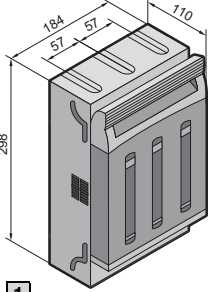
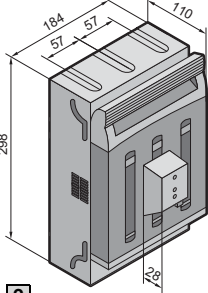
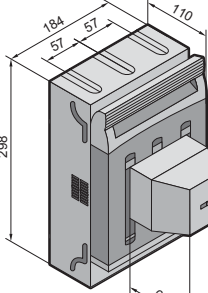
**Approvals:**

SV 9344.100/110  
SV 9343.100/110

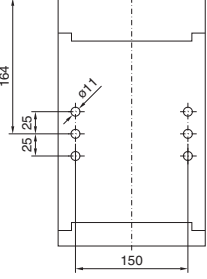


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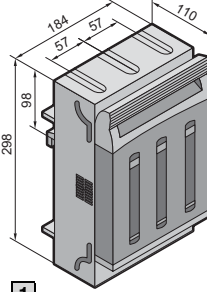
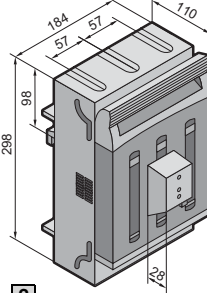
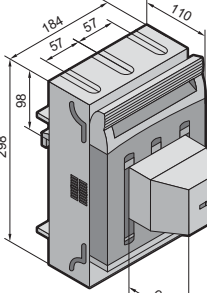
Applications to RU only in conjunction with "Special Purpose Fuses"









**Hole size**



For 60 mm busbar systems

Rated operating current max.	IEC	250 A	
	UL	250 A	
Rated operating voltage	IEC	690 V AC/400 – 690 V AC <sup>1)</sup>	
	UL	600 V AC	
<b>1</b> Model No. SV		<b>9344.100</b> 	<b>9344.110</b> 
<b>2</b> With electronic fuse monitoring		–	<b>9344.130</b>
<b>3</b> With electromechanical fuse monitoring		–	<b>9344.150</b>

250 A	
250 A	
690 V AC/400 – 690 V AC <sup>1)</sup>	
600 V AC	
<b>9343.100</b> 	<b>9343.110</b> 
<b>9343.120</b>	<b>9343.130</b>
<b>9343.140</b>	<b>9343.150</b>

**Assembly data for applications to IEC (EN)/UL**

Tightening torque Nm			
- Bar attachment		–	–
- Terminal screw		12	20
Type of connection		Box terminal	Screw M10
Conductor connection	re/rm	35 – 150	–
	Cu/Al mm <sup>2</sup>		
	se/sm	50 – 150	–
Conductor connection with ring terminal mm <sup>2</sup>		–	10 – 150
Clamping area for laminated copper bars, W x H mm		20 x 3 – 14	32 x 10
Minimum distance to conductive earthed parts mm	Side	40	40
	Top	100	100
	Rear	0	0

	6	6
	12	20
Box terminal		Screw M10
	35 – 150	–
	50 – 150	–
	–	10 – 150
	20 x 3 – 14	32 x 10
	40	40
	100	100
	0	0

**Material specifications**

Contact track: E-Cu, silver-plated	■	■
Terminal: Cast brass, nickel-plated	■	–

■	■
■	–

<sup>1)</sup> Rated operating voltage 400 – 690 V AC for NH disconnectors with electronic fuse monitoring

# Power distribution

## RiLine fuse elements

### NH fuse-switch disconnectors, size 2

Version

For mounting plate assembly


3-pole, cable outlet at the top/bottom

**Note:**

- For the use of fuse inserts to EN 60 269-2
- Technical specifications to IEC/EN 60 947-3, see chapter 2-115, page 6
- Load factor, see chapter 2-101, page 4
- Current carrying capacity of connection cables, see chapter 2-101, page 5
- Use of semi-conductor fuses, see chapter 2-101, page 6

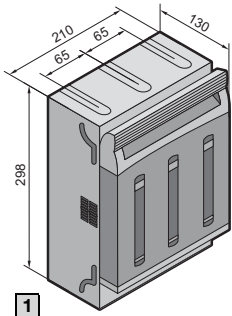
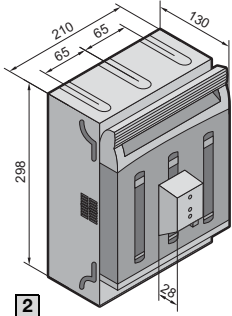
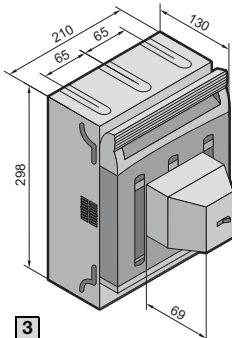
**Approvals:**

SV 9344.210  
SV 9343.200/.210

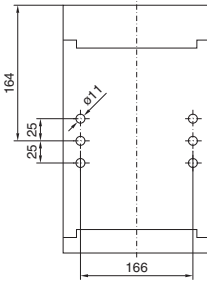



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Applications to RU only in conjunction with "Special Purpose Fuses"

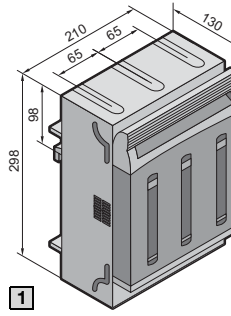
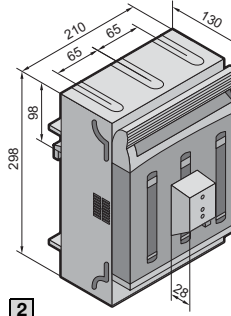
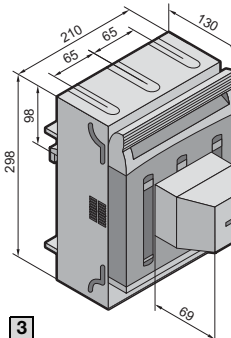






**Hole size**



Rated operating current max.	IEC	400 A
	UL	400 A
Rated operating voltage	IEC	690 V AC/400 – 690 V AC <sup>1)</sup>
	UL	600 V AC
<b>1 Model No. SV</b>		<b>9344.210</b> 
<b>2</b> With electronic fuse monitoring		<b>9344.230</b>
<b>3</b> With electromechanical fuse monitoring		<b>9344.250</b>

For 60 mm busbar systems

Rated operating current max.	400 A
Rated operating voltage	690 V AC/400 – 690 V AC <sup>1)</sup> 600 V AC
<b>1</b>	<b>9343.200</b>  <b>9343.210</b> 
<b>2</b>	– <b>9343.230</b>
<b>3</b>	– <b>9343.250</b>

#### Assembly data for applications to IEC (EN)/UL

Tightening torque Nm		–
– Bar attachment		20
– Terminal screw		
Type of connection		Screw M10
Conductor connection	re/rm	–
	se/sm	–
Conductor connection with ring terminal mm <sup>2</sup>		10 – 240
Clamping area for laminated copper bars, W x H mm		50 x 10
Minimum distance to conductive earthed parts mm	Side	50
	Top	120
	Rear	0

	8	8
	20	20
Box terminal		Screw M10
	95 – 300	–
	120 – 300	–
	–	10 – 240
	32 x 10 – 20	50 x 10
	50	50
	120	120
	0	0

#### Material specifications

Contact track: E-Cu, silver-plated	■
Terminal: Cast brass, nickel-plated	–

■	■
■	–

<sup>1)</sup> Rated operating voltage 400 – 690 V AC for NH disconnectors with electronic fuse monitoring

### NH fuse-switch disconnectors, size 3

Version

For mounting plate assembly


3-pole, cable outlet at the top/bottom

**Note:**

- For the use of fuse inserts to EN 60 269-2
- Technical specifications to IEC/EN 60 947-3, see chapter 2-115, page 6
- Load factor, see chapter 2-101, page 4
- Current carrying capacity of connection cables, see chapter 2-101, page 5
- Use of semi-conductor fuses, see chapter 2-101, page 6

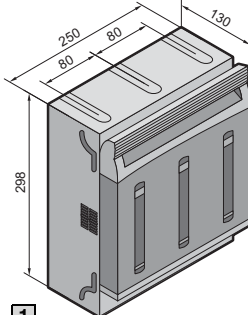
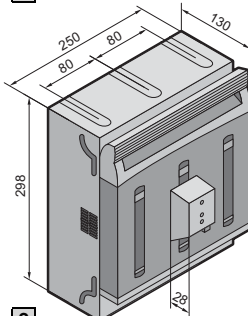
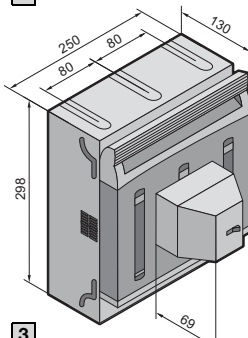
**Approvals:**

SV 9344.310  
SV 9343.300/.310

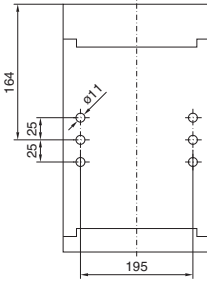


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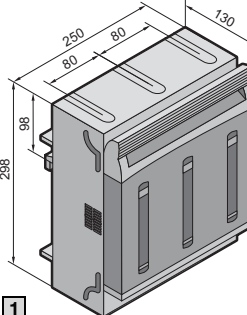
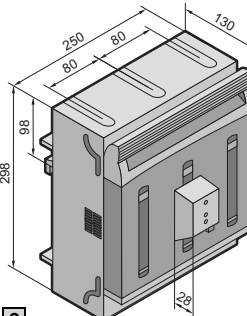
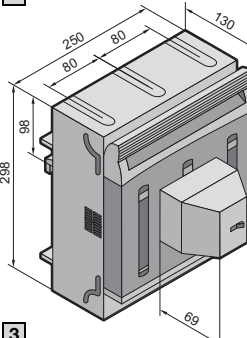
Applications to RU only in conjunction with "Special Purpose Fuses"








**Hole size**



For 60 mm busbar systems

Rated operating current max.	IEC	630 A
	UL	630 A
Rated operating voltage	IEC	690 V AC/400 – 690 V AC <sup>1)</sup>
	UL	600 V AC
<b>1</b> Model No. SV		<b>9344.310</b> 
<b>2</b> With electronic fuse monitoring		<b>9344.330</b>
<b>3</b> With electromechanical fuse monitoring		<b>9344.350</b>

	630 A
	630 A
	690 V AC/400 – 690 V AC <sup>1)</sup>
	600 V AC
<b>9343.300</b> 	<b>9343.310</b> 
–	<b>9343.330</b>
–	<b>9343.350</b>

#### Assembly data for applications to IEC (EN)/UL

Tightening torque Nm		–
– Bar attachment		20
– Terminal screw		–
Type of connection		Screw M10
Conductor connection	re/m	–
	Cu/Al mm <sup>2</sup>	–
Conductor connection with ring terminal mm <sup>2</sup>		10 – 300
Clamping area for laminated copper bars, W x H mm		50 x 10
Minimum distance to conductive earthed parts mm	Side	60
	Top	140
	Rear	0

	8	8
	20	20
Box terminal		Screw M10
	95 – 300	–
	120 – 300	–
	–	10 – 300
	32 x 10 – 20	50 x 10
	60	60
	140	140
	0	0

#### Material specifications

Contact track: E-Cu, silver-plated	■
Terminal: Cast brass, nickel-plated	–

■	■
■	–

<sup>1)</sup> Rated operating voltage 400 – 690 V AC for NH disconnectors with electronic fuse monitoring

# Power distribution

## RiLine fuse elements

### NH fuse-switch disconnectors, size 000 – 3

Technical specifications IEC/EN 60 947-3						
Size (NH fuse inserts to IEC/EN 60 269-1)	Size 000	Size 00	Size 1	Size 2	Size 3	
Rated operating current $I_e$	100 A	160 A	250 A	400 A	630 A	
Rated operating voltage $U_e$	690 V AC	690 V AC <sup>1)</sup>	690 V AC <sup>1)</sup>	690 V AC <sup>1)</sup>	690 V AC <sup>1)</sup>	
Rated insulation voltage $U_i$	690 V AC	1000 V AC	1000 V AC	1000 V AC	1000 V AC	
Rated impulse withstand voltage $U_{imp}$	6 kV	8 kV <sup>1)</sup>	8 kV <sup>1)</sup>	8 kV <sup>1)</sup>	8 kV <sup>1)</sup>	
Pollution degree	3	3	3	3	3	
Overvoltage category	III	III	III	III	III	
Rated frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	
Conditional rated short-circuit current (when protected with fuses)	at 690 V AC	80 kA	80 kA	80 kA	50 kA	80 kA
	at 500 V AC	80 kA	80 kA	80 kA	80 kA	80 kA
Utilisation category	400 V AC	AC-22B ( $I_e = 100$ A)	AC-23B	AC-23B	AC-23B	AC-23B
	500 V AC	AC-22B ( $I_e = 100$ A)	AC-22B	AC-23B	AC-22B (AC-23B <sup>2)</sup> )	AC-22B (AC-23B <sup>2)</sup> )
	690 V AC	AC-21B ( $I_e = 100$ A)	AC-21B	AC-22B (AC-23B <sup>2)</sup> )	AC-21B (AC-23B <sup>2)</sup> )	AC-21B (AC-23B <sup>2)</sup> )
	220 V DC <sup>3)</sup>	–	DC-22B	DC-21B (DC-22B <sup>2)</sup> )	DC-21B (DC-22B <sup>2)</sup> )	DC-21B (DC-22B <sup>2)</sup> )
	440 V DC <sup>3)</sup>	DC-21B ( $I_e = 100$ A)	–	DC-22B <sup>2)</sup>	DC-22B <sup>2)</sup>	DC-22B <sup>2)</sup>
1000 V DC <sup>3)4)</sup>	–	DC-20B	DC-20B	DC-20B	DC-20B	
Mechanical life (switching cycles)	2000	1400	1400	800	800	
Electrical life (switching cycles)	200	200	200	200	200	
Siting conditions	Interior siting: Rel. humidity 50% at 40°C or 90% at 20°C (without condensation due to temperature fluctuations)					
Permissible ambient temperature	-25°C to +55°C		-20°C to +55°C			
$P_{v \max}$ /fuse insert	7.5 W	12 W	23 W	34 W	48 W	

<sup>1)</sup> Reduction of the rated values for electronic fuse monitoring: Rated impulse withstand voltage 3.5 kV, rated voltage 400 – 690 V AC  
reduction in the rated values for electromechanical fuse monitoring: Rated impulse withstand voltage 6 kV

<sup>2)</sup> With arcing chamber set, Model No. SV 9344.680 for increased switching capacity

<sup>3)</sup> DC applications with configuration of phase  $L_1$  and  $L_3$  in series, function of electronic fuse monitoring not supported

<sup>4)</sup> For use as disconnector or fuse-switch disconnector

The required creepage distances and clearances should be observed in the cable connection area

### NH fuse-switch disconnectors, size 00 – 3

#### Conductor connection of several ring terminals

Size	Size 00	Size 1	Size 2	Size 3
Conductor cross-section (mm <sup>2</sup> )	Number of ring terminals to DIN 46 235			
16	2	2	–	–
25	2	2	–	–
35	2	2	–	–
50	2	2	–	–
70	–	2	–	–
95	–	2	–	–
120	–	2	–	–
150	–	2	2	2
185	–	2	2	2
240	–	–	2	2
300	–	–	2	2

#### Note:

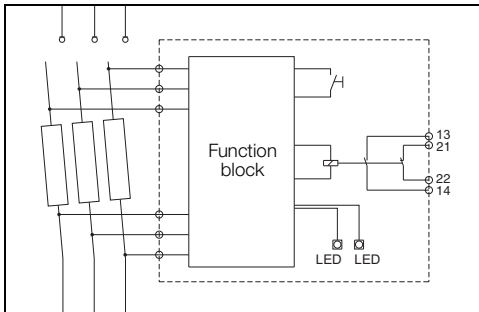
- The creepage distances and clearances to EN 60 664-1 should be checked and, where necessary, insulating plates installed
- Fine-wire only with wire end ferrule

### NH fuse-switch disconnectors, size 00 – 3

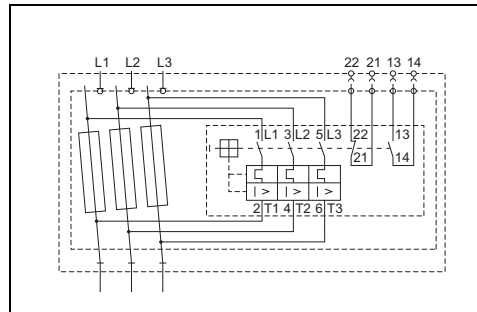
#### Electronic and electromechanical fuse monitoring

Technical specifications	Electronic fuse monitoring	Electromechanical fuse monitoring
Rated operating voltage $U_e$	400 V AC to 690 V AC	24 V AC to 690 V AC 24 V DC to 250 V DC
Tolerance	$\pm 10\%$ (400/500 V AC) $+5\%/-10\%$ (690 V AC)	$\pm 10\%$
Rated insulation voltage $U_i$	1000 V AC	690 V AC
Rated impulse withstand voltage $U_{imp}$	8 kV	6 kV
Rated frequency	50 – 60 Hz	50 – 60 Hz
Response time	Max. 1.5 s	Max. 0.5 s
Auxiliary contacts	1 NO, 1 NC 250 V AC, 30 V DC, 5 A	1 NO, 1 NC 24 V AC, 2 A/ 230 V AC, 0.5 A/ 24 V DC, 1 A/ 60 V DC, 0.15 A
Load capacity of auxiliary contacts	5 A	4 A
Permissible ambient temperature	-20°C to +55°C (400/500 V AC), -20°C to +45°C (690 V AC)	-20°C to +55°C
Display	LED flashing green (operational) 13/14: open 21/22: closed	Rocker switch position "1" (operational) 13/14: closed 21/22: open
	LED flashing red (error message) 13/14: closed 21/22: open	Rocker switch position "0" (error message) 13/14: open 21/22: closed
Connection of auxiliary contacts	Terminal up to 1.5 mm <sup>2</sup>	Terminal up to 1.5 mm <sup>2</sup>
NH fuse inserts to IEC/EN 60 269-3	With contacted, live puller lugs	
Material	Contact blades: E-Cu, tin-plated	
Function	Differential voltage	

### Wiring diagram



Electronic fuse monitor



Electromechanical fuse monitor

# Power distribution

## RiLine fuse elements

### Reduction factors for fuse inserts to IEC 60 269-2 for NH disconnectors

With due regard for the reduction factors listed in the following tables and minimum connection cross-sections, all overtemperature limits prescribed by IEC/EN 60 947-3 are met. The values were calculated on the basis of the IEC/EN standard assembly. Siemens Sitor fuses to IEC 60 269-2 were used for sample testing.

Sitor fuse insert				Min. connection cross-section (Cu)	Reduction factor	Max. operating current <sup>1)</sup>
Model No.	Size	In A	Operating category	mm <sup>2</sup>		A
3NE8 017	00	50	gR	10	0.9	45
3NE8 018	00	63	gR	16	0.9	60
3NE8 020	00	80	aR	25	0.85	70
3NE8 021	00	100	aR	35	0.85	85
3NE8 022	00	125	aR	50	0.80	100
3NE8 024	00	160	aR	70	0.75	120
3NE1 021-2	00	100	gR	35	1.0	100
3NE1 022-2	00	125	gR	50	0.95	120
3NE1 022-0	00	125	gS	50	1.0	125

Sitor fuse insert				Min. connection cross-section (Cu)	Reduction factor	Max. operating current <sup>1)</sup>
Model No.	Size	In A	Operating category	mm <sup>2</sup>		A
3NE3 221	1 <sup>2)</sup>	100	aR	35	0.95	95
3NE3 222	1 <sup>2)</sup>	125	aR	50	0.9	110
3NE3 224	1 <sup>2)</sup>	160	aR	70	0.9	150
3NE3 225	1 <sup>2)</sup>	200	aR	95	0.85	170
3NE3 227	1 <sup>2)</sup>	250	aR	120	0.8	200
3NE3 230-0B	1 <sup>2)</sup>	315	aR	185	0.75	240
3NE1 225-2	1	200	gR	95	1.0	200
3NE1 227-2	1	250	gR	120	0.95	240
3NE1 230-2	1	315	gR	185	0.9	285
3NE1 230-0	1	315	gS	185	0.95	300

Sitor fuse insert				Min. connection cross-section (Cu)	Reduction factor	Max. operating current <sup>1)</sup>
Model No.	Size	In A	Operating category	mm <sup>2</sup>		A
3NE1 331-2	2	350	gR	2 x 95	1.0	350
3NE1 333-2	2	450	gR	2 x 120	0.95	425
3NE1 334-2	2	500	gR	2 x 120	0.9	450
3NE1 334-0	2	500	gS	2 x 120	1.0	500
3NE3 332-0B	2 <sup>2)</sup>	400	aR	240	0.85	340
3NE3 333	2 <sup>2)</sup>	450	aR	2 x 150	0.8	360

Sitor fuse insert				Min. connection cross-section (Cu)	Reduction factor	Max. operating current <sup>1)</sup>
Model No.	Size	In A	Operating category	mm <sup>2</sup>		A
3NE1 435-2	3	560	gR	2 x 185	1.0	560
3NE1 436-2	3	630	gR	2 x 40 x 5	1.0	630
3NE1 447-2	3	670	gR	2 x 40 x 5	0.95	650
3NE1 437-2	3	710	gR	2 x 40 x 5	0.9	650
3NE1 437-0	3	710	gS	2 x 40 x 5	0.95	675

<sup>1)</sup> Maximum operating current figures have been rounded to the nearest 5 A

<sup>2)</sup> Fuse design with slotted contact blades in accordance with IEC 60 269-4. Devices may only be switched off-load

#### Note:

- Where possible, we recommend using the next-largest conductor cross-section in order to ensure superior heat dissipation
- When using several NH devices close together, the load factor pursuant to IEC 61 439, Table 101 must be observed

- For configuration of the busbar system, we recommend the following design, depending on the size of the NH disconnector:

NH disconnector size	Busbar system
NH 00	at least 30 x 5 mm
NH 1 – 2	at least 30 x 10 mm
NH 3	PLS 1600