Vertical fuse disconnects

Vertical fuse disconnects

Vertical fuse disconnects are designed to receive NH fuse links. Hinged fuse-carriers enable opening and closing operation in electric circuits under load conditions. Thereby, the fuse-link or solid link forms the moving contact. Both, single pole and three-pole switching is possible.

Vertical fuse disconnects are used in Transformer stations and cable distribution cabinets of public utilities as well as low voltage switchgear and controlgear assemblies acc. to IEC/EN 61439-1. Their closed design and high breaking capacity make them extremely reliable and powerful fuse-combination units.

Product definition

Vertical fuse disconnects are three-pole fuse-switches for busbar mounting. They combine three single-pole fuse-switches longitudinally arranged in one unit. Each of the feeder terminals is directly connected to one phase of a three-phase busbar system. The outgoing terminals are equipped with terminals for cable conductors.

Applications

Vertical fuse disconnects conform to the requirements of public utilities and industrial companies for power distribution boards in ring main units, transformer substations, cable distribution cabinets as well as main distribution boards. Vertical fuse disconnects having built-in current transformers are essential devices for efficient energy management. With built-in fuse monitoring function they ensure short reaction time even in decentralized power distribution systems.

Product advantages

JEAN MÜLLER vertical fuse disconnects are available in sizes 00 to 3 for both single pole and three-pole switching operation. Product versions with built-in current transformers, feeder units up to 2000A rated current, and a wide range of specially designed products enable efficient and reliable power distribution.

Insulation parts

All insulating parts are made of high mechanical strength polymers are resistant to breaking, self extinguishing and halogen-free. The fuse-base insulator for 185mm busbar systems, which supports the current carrying parts, is made of high stability glass fibre reinforced thermosetting polyester, according to power utility specifications.

Current carrying parts

Silver-plated receiving contacts for DIN fuse-links ensure low power loss, optimum temperature behaviour and high breaking capacity. The tin-plated down leads are available with different types of terminals.

Thanks to the contact covers that provide safety from touch by the back of the hand, the products can be mounted on live busbar systems, provided the local safety rules allow for. The upper parts of vertical fuse disconnects including the fuse carriers can be easily mounted and fixed by means of turn-lock fasteners.

Product versions/Accessories

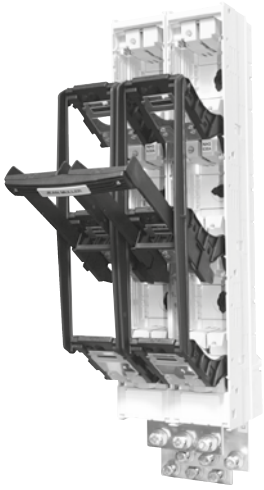
The products prepared for current transformers can be equipped with specifically designed current transformers inserted in the base insulator. Current transformers are available for primary currents ranging from 50A to 1000A.

SL00-3X3/100/F/HA

SL00-3X3/185/F

SL1G-3X3/3A
SL2G-3X3/3A
SL3-3X3/3A

SL3-3X3/1000HA



SL3-3X6/1250/HA

SL00-3X/100/F/HA

SL00-3X/185/F

SL1G-3X/3A
SL2G-3X/3A
SL3-3X/3A

SL3-3X/1000HA

SL3-3X/910/HA

SL3-3X2/1250/HA

Terminal covers (sold separately) are required for all disconnects (refer to page 35)

Vertical fuse disconnects 3 pole switching in one action

Size	For Fuses	Current Rating (A)	Switch width (mm)	Busbar Centre Spacing (mm)	Inclusions	Part No.
00	DIN 000 & DIN00	160A	50 mm	100 mm	Terminal cover included	SL00-3X3/100/F/HA
00	DIN 000 & DIN00	160A	50 mm	185 mm	-	SL00-3X3/185/F
1	DIN 1	250A	100 mm	185 mm	-	SL1G-3X3/3A
2	DIN 1 & 2	400A	100 mm	185 mm	-	SL2G-3X3/3A
3	DIN 1, 2 & 3	630A	100 mm	185 mm		SL3-3X3/3A
3	DIN3	910A	100mm	185mm	Terminal cover double length included	SL3-3X3/910/HA
	Solid Links	1000A	100 mm	185 mm	Terminal cover & solid links included	SL3-3X3/1000/HA
	DIN 2 & DIN 3 (2)	1250A	200 mm	185 mm	Terminal cover double width included	SL3-3X6/1250/HA
3	DIN3	1600A	200mm	185mm	Terminal cover double width included	SL3-3X6/2000/HA

Vertical fuse disconnects 3 pole individual pole switching

Size	For Fuses	Current Rating (A)	Switch width (mm)	Busbar Centre Spacing (mm)	Inclusions	Part No.
00	DIN 000 & DIN00	160A	50mm	100mm	Terminal cover included	SL00-3X/100/F/HA
00	DIN 000 & DIN00	160A	50 mm	185 mm	-	SL00-3X/185/F
1	DIN 1	250A	100 mm	185 mm	-	SL1G-3X/3A
2	DIN 1 & 2	400A	100 mm	185 mm	-	SL2G-3X/3A
3	DIN 1, 2 & 3	630A	100 mm	185 mm	-	SL3-3X/3A
3	DIN3	910A	100mm	185mm	Terminal cover double length included	SL3-3X/910/HA
	Solid Links	1000A	100 mm	185 mm	Terminal cover & solid links included	SL3-3X/1000/HA
	DIN 2 & DIN 3 (2x)	1250A	200mm	185 mm	Terminal cover double width included	SL3-3X2/1250/HA
	DIN 2 & DIN 3 (2x)	1600A	200mm	185 mm	Terminal cover double width included	SL3-3X2/2000/HA

Vertical fuse buscouplers 3 pole switching in one action

Size	For Fuses	Current Rating (A)	Switch width (mm)	Busbar Centre Spacing (mm)	Inclusions	Part No.
3	Solid Links	1000A (solid links only)	100 mm	185 mm	-	SLT3-3SL/3X3 /1000

SL00 - refer to technical pages 36 & 37
SL1 & SL2 - refer to technical page 38
SL3 - refer to technical pages 40, 41 & 42
Accessories - refer to pages 34 & 35

REAR VIEW
With CTS Fitted

SL1G-3X3/W/3A
SL2G-3X3/W/3A
SL3 -3X3/W/3A

SL3-3X3/1000/W/HA

SL1G-3X/W/3A
SL2G-3X/W/3A
SL3-3X/W/3A

SL3-3X/1000/W/HA

Terminal covers (sold separately) are required for all disconnects (refer to page 35)

Vertical fuse disconnects with CT mount facility - 3 pole switching in one action

Size	For Fuses	Current Rating (A)	Switch width (mm)	Busbar Centre Spacing (mm)	Part No.
2	DIN2	400	100	185	SL2 -3X3/W/3A
3	DIN2 & DIN3	630	100	185	SL3-3X3/W/3A
	Solid Links	1000A (Solid links only)	100	185	SL3-3X3/1000/W/HA

Vertical fuse disconnects with CT mount facility - 3 pole individual pole switching

Size	For Fuses	Current Rating (A)	Switch width (mm)	Busbar Centre Spacing (mm)	Part No.
2	DIN2	400	100	185	SL2-3X/W/3A
3	DIN2 & DIN3	630	100	185	SL3-3X/W/3A
	Solid Links	1000A (Solid links only)	100	185	SL3-3X/1000/W/HA

Current transformers for above class 1

				Ratio	Part No.
				250:5	WKD51/1/250-5
				400:5	WKD51/1/400-5
				600:5	WKD51/1/600-5
				1000:5	WKD52/1/1000-5

POWER UTILITIES RANGE

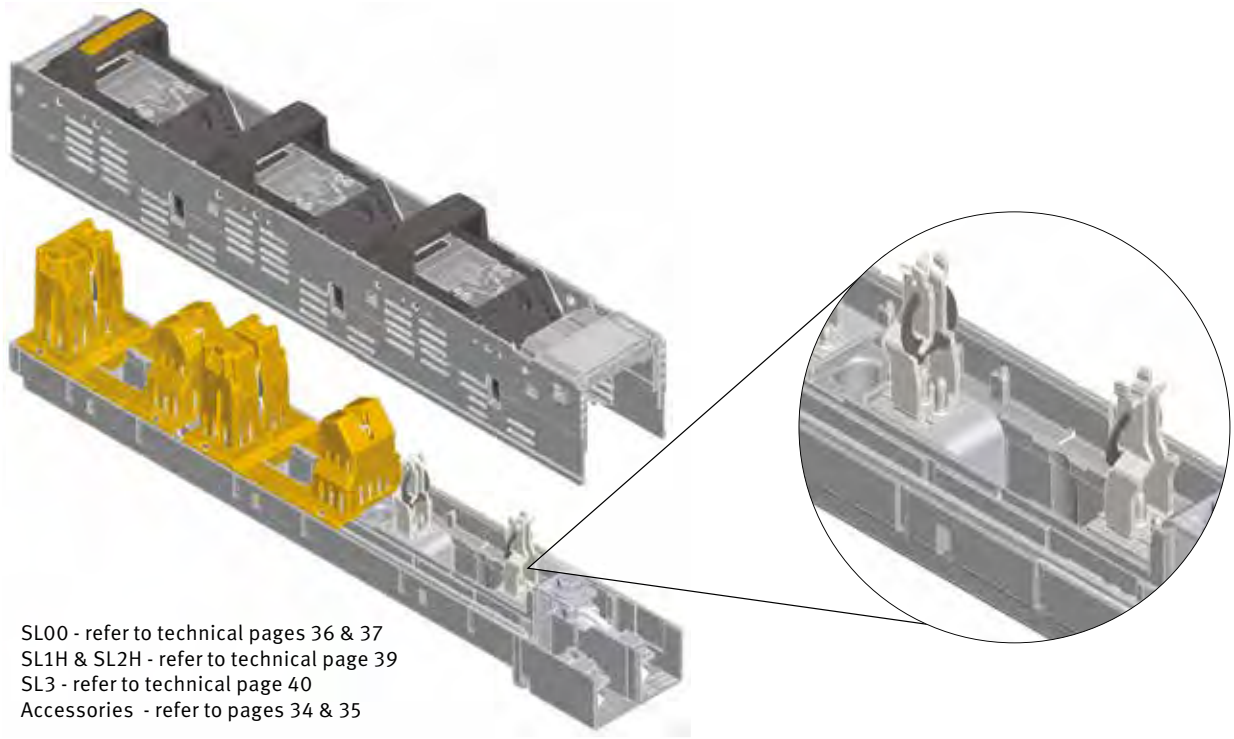
Vertical fuse disconnects with 3 pole switching in one action

Size	For Fuses	Current Rating (A)	Terminals	Switch width (mm)	Connection Capacity (mm2)	Part No.
00	DIN000 & 00	160	M8 Bolt	50	max. 95	PU-SL00-3X3/185/F
1	DIN1	250	M10 Bolt	100	max. 150	PU-SL1H-3X3/3A
2	DIN1 & 2	400	M12 Bolt	100	max. 240	PU-SL2H-3X3/3A
3	DIN1, 2 & 3	630	M12 Bolt	100	max. 300	PU-SL3-3X3/3A

PU

Vertical fuse disconnects with 3 pole individual switching action

Size	For Fuses	Current Rating (A)	Terminals	Switch width (mm)	Connection Capacity (mm2)	Part No.
00	DIN000 & 00	160	M8 Bolt	50	max. 95	PU-SL00-3X/185/F
1	DIN1	250	M10 Bolt	100	max. 150	PU-SL1H-3X/3A
2	DIN1 & 2	400	M12 Bolt	100	max. 240	PU-SL2H-3X/3A
3	DIN1, 2 & 3	630	M12 Bolt	100	max. 300	PU-SL3-3X/3A



SL00 - refer to technical pages 36 & 37
SL1H & SL2H - refer to technical page 39
SL3 - refer to technical page 40
Accessories - refer to pages 34 & 35

Accessories

	Description	For Mounting on	Part No.
	Prism clamp		
	10-70 mm² Al/Cu	SL00	P0070
	Clip terminal		
	1,5-70 mm² Cu	SL00	S00
	Direct terminal clamp KM2G..		
	50-300 mm² Al/Cu	SL1-3	KM2G/AF3040
	Direct terminal clamp		
	70-240 mm² Al/Cu	SL1-3	K2G/A
	Direct terminal clamp		
	2 conductors 50-120 mm² Al/Cu	SL1-3	K2HG/2/AF30
	Direct terminal clamp		
	2 conductors 120-185 mm² Al/Cu	SL1-3	KV2HG/2/WF30
	Cover for clamp		
	For V-type box clamp type KM2G		HRV
	For clamp type K2G/A, K2HG/ and KV2HG		HR-K2

Accessories

Description	For Mounting on	Part No.
CT Mounting block		
CT Block SL 123 Empty	SL1, SL2, SL3	WB-SL-123
WB-SL-123 Connect Block WKD52	SL1, SL2, SL3	WB-SL-123 Connect Block WKD52
WB-SL-123 Wiring loom WKD51	SL1, SL2, SL3	WB-SL-123 Wiring loom WKD51
Mounting aidCT Block SL 123	SL1, SL2, SL3	WB-SL-HOOK

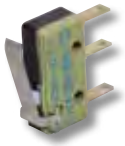
	Terminal cover		
	For SL00-185 + PU-SL00	SL00/185	HA-SL00/185
	For SL123 + PU-SL123	SL1-3	HA-SL123/10
	For SL3-3X/1000 Extended depth+ PU-SL3x	SL3	HA220-SL123/10
	Double width terminal cover	SL3	HA220-SL3x2/10

	Terminal extension kit		
	Terminal for 2x300mm² + PU (3 Pieces)	SL1-3	VS-SL3/1000
	Terminal kit for ganged disconnect 3 x 300mm +PU	SL1-3	VS-SL3x2
	For connection of 4 x 240mm² Ganged disconnect	SL3	VS-SL3/4x240mm²
	For connection of 1 x 400mm²	SL3	VS-SL3/400QMM

	Handle connecting kit		
	For ganged disconnector (1x handle Joiner)	SL3	VBS-SL3X6(2)
	Isolator label	SL1,2+3	Isolator-lab
	Joining Kit (3x handles connection link)		VBS-SL3 Kit
	Joining Kit to make SL3-3X2/1250	SL3	VS-SL3/1250VBS/HA

	Fuse cover with symbol “Do not switch”		
	Size 00		SZ00-R
	Size 1-3		SZ123-R

	Cover holder		
	Set of 4 blocks	SL00-3	AH-SL



	Switch Posi Indicator		
	For Vert 3x3 only	SL1,2+3	EV-SL123/3x3/10

TECHNICAL INFORMATION

NH strip-type fuse-switch-disconnectors – Technical data

Type					SL00/100		SL00/185	
Electrical characteristics	According to standard				DIN EN 60947-3			
	For NH fuse-links acc. to DIN VDE 0636-2		Size		000/00		000/00	
	Rated operational voltage		U_e	V	AC690		AC690	
	Rated operational current [1]		I_e	A	160		160	
	Conv. free air thermal current with fuse-links		I_{th}	A	160		160	
	Conv. free air thermal current with solid-links		I_{th}	A	210		210	
	Rated frequency		f	Hz	50-60		50-60	
	Rated insulation voltage		U_i	V	AC800		AC800	
	Total power loss at I_{th} (without fuse-links)		P_v	W	18		23	
	Power loss at 80% I_{th} (without fuse-links) [2]		P_v	W	11.5		14.7	
	Rated impulse withstand voltage		U_{imp}	kV	8		8	
	Utilization category		-	-	AC-22B (160A/400V) AC-22B (160A/500V) AC-22B (100A/690V) DC21B (160A/250V)		AC-23B (160A/400V) AC-23B (160A/500V) AC-22B (160A/690V)	
	Rated conditional short-cirquit current [3]		I_{cc}	kA	80		100kA (690V) 120kA (500V)	
	Max. permis. power loss per fuse-link		P_a	W	12		12	
Cable terminal	Flat terminal	Bolt diameter	-	-	M8		M8	
		Cable lug	-	mm^2	1 x 10-95 (max. 25mm width)		1 x 10-95 (max. 25mm width)	
		Flat bar	-	mm	20 x10		20 x10	
		Tightening torque	M_a	Nm	12-15		12-15	
	Clamp	Clamping cross-section	-	mm^2	S00	○: 1.5-70 Cu/ □: 6 x 9 x 0.8	S00	○: 1.5-70 Cu/ □: 6 x 9 x 0.8
		Tightening torque	-	Nm		2.6		2.6
		Clamping cross-section	-	mm^2	P00-70	10-70 Al/Cu	P00-70	10-70 Al/Cu
		Tightening torque	-	Nm		2.6		2.6

Annotation: ○ = Round conductor □ = Strip conductor

Type						SL00/100		SL00/185
Cable terminal	Clamp	Clamping cross-section	-	mm^2	KU00	10-95 Al/Cu [5]	KU00	10-95 Al/Cu [5]
		Tightening torque	-	Nm		10		15
		Clamping cross-section	-	mm^2	F70	◯: 1.5-70 Cu/ ☐: 6 x 9 x 0.8Cu	KRO	16-95 re/rm 35-150 se/sm
		Tightening torque	-	Nm		2.6		20Nm
		Clamping cross-section	-	mm^2	KM00	16-95 Al/Cu	KM00	16-95 Al/Cu
		Tightening torque	-	Nm		10		10
Degree of protection	Front side, device fitted with clamp and lateral covers	Operating condition	-	-	IP30		IP30	
		Switching element open	-	-	IP10		IP10	
Operating conditions	Ambient temperature [4]		T_{amb}	°C	-25 *to* +70			
	Rated operating mode		-	-	Uninterrupted duty			
	Actuation		-	-	Dependent manual operation			
	Mounting position		-	-	Vertical, horizontal			
	Altitude		-	m	Up to 2000			
	Pollution degree		-	-	3			
	Overvoltage category		-	-	III		IV	

1) In case of mounting of several units in low voltage switchgear-combinations, please consider rated diversity factors acc. to DIN EN 61439.
2) Reference value for replacement of devices acc. to DIN EN 61439-1 clause 10.10.4.2.
3) Type tested with NH fuse-links characteristic gG.
4) 35°C Normal temperature, above 35°C up to 70°C with reduces operating current.
5) No verification of non-deterioration acc. to IEC 60269-2 for Al-conductors.

NH strip-type fuse-switch-disconnectors – Technical data

Type					SL1		SL2	
Electrical characteristics	According to standard				DIN EN 60947-3			
	For NH fuse-links acc. to DIN VDE 0636-2		Size		1		2	
	Rated operational voltage		U_e	V	AC690		AC690	
	Rated operational current [1]		I_e	A	250		400	
	Conv. free air thermal current with fuse-links		I_{th}	A	250		400	
	Conv. free air thermal current with solid-links		I_{th}	A	400		630	
	Rated frequency		-	Hz	50-60		50-60	
	Rated insulation voltage		U_i	V	AC1000		AC1000	
	Total power loss at I_{th} (without fuse-links)		P_v	W	23		54	
	Power loss at 80% I_{th} (without fuse-links) [2]		P_v	W	14.7		34.6	
	Rated impulse withstand voltage		U_{imp}	kV	12		12	
	Utilization category		-	-	AC-23B (250A/400V) AC-22B (250A/500V) AC-21B (250A/690V) Nur / Only 3x3: DC21B (250A/440V)		AC-23B (400A/400V) AC-22B (400A/500V) AC-21B (400A/690V) Nur / Only 3x3: DC21B (400A/440V)	
	Rated conditional short-cirquit current [3]		I_{cc}	kA	120			
	Max. permis. power loss per fuse-link		P_a	W	32		45	
Cable terminal	Flat terminal	Bolt diameter	-	-	M10		M12	
		Cable lug	-	mm^2	1 x 25-185		1 x 25-300	
		Flat bar	-	mm	30 x10		30 x10	
		Tightening torque	M_a	Nm	30-35		35-40	
	Clamp	Clamping cross-section	-	mm^2	KM2G-F	25-240	KM2G-F	25-240
			-	mm^2	RM300	25-300	RM300	25-300
		Tightening torque	-	Nm	-	32	-	32
					RM300: 25-70	12	RM300: 25-70	12
Degree of protection	Front side, device fitted with clamp and lateral covers	Operating condition	-	-	IP30		IP30	
		Switching element open	-	-	IP10		IP10	
Operating conditions	Ambient temperature [4]		T_{amb}	°C	-25 *to* +70			
	Rated operating mode		-	-	Uninterrupted duty			
	Actuation		-	-	Dependent manual operation			
	Mounting position		-	-	Vertical, horizontal			
	Altitude		-	m	Up to 2000			
	Pollution degree		-	-	3			
	Overvoltage category		-	-	IV			

1) In case of mounting of several units in low voltage switchgear-combinations, please consider rated diversity factors acc. to DIN EN 61439.

2) Reference value for replacement of devices acc. to DIN EN 61439-1 clause 10.10.4.2.

3) Type tested with NH fuse-links characteristic gG.

4) 35°C Normal temperature, above 35°C up to 70°C with reduces operating current.

Type					SL1H		SL2H	
Electrical characteristics	According to standard				DIN EN 60947-3			
	For NH fuse-links acc. to DIN VDE 0636-2		Size		1		2	
	Rated operational voltage		U_e	V	AC690		AC690	
	Rated operational current [1]		I_e	A	250		400	
	Conv. free air thermal current with fuse-links		I_{th}	A	250		400	
	Conv. free air thermal current with solid-links		I_{th}	A	400		400	
	Rated frequency		-	Hz	50-60		50-60	
	Rated insulation voltage		U_i	V	AC1000		AC1000	
	Total power loss at I_{th} (without fuse-links)		P_v	W	29		73	
	Power loss at 80% I_{th} (without fuse-links) [2]		P_v	W	18.6		46.7	
	Rated impulse withstand voltage		U_{imp}	kV	12		12	
	Utilization category		-	-	AC-23B (250A/400V) AC-22B (250A/500V) AC-21B (250A/690V)		AC-23B (400A/400V) AC-22B (400A/500V) AC-21B (400A/690V)	
	Rated conditional short-cirquit current [3]		I_{cc}	kA	80			
	Max. permis. power loss per fuse-link		P_a	W	23		34	
Cable terminal	Flat terminal	Bolt diameter	-	-	M10		M12	
		Cable lug	-	mm^2	1 x 25-185		1 x 25-300	
		Flat bar	-	mm	30 x10		30 x10	
		Tightening torque	M_a	Nm	30-35		35-40	
	Clamp	Clamping cross-section	-	mm^2	KM2G-F	25-240	KM2G-F	25-240
				mm^2	RM300	25-300	RM300	25-300
		Tightening torque	-	Nm	-	32	-	32
					RM300: 25-70	12	RM300: 25-70	12
Degree of protection	Front side, device fitted with clamp and lateral covers	Operating condition	-	-	IP30		IP30	
		Switching element open	-	-	IP10		IP10	
Operating conditions	Ambient temperature [4]		T_{amb}	°C	-25 *to* +70			
	Rated operating mode		-	-	Uninterrupted duty			
	Actuation		-	-	Dependent manual operation			
	Mounting position		-	-	Vertical, horizontal			
	Altitude		-	m	Up to 2000			
	Pollution degree		-	-	3			
	Overvoltage category		-	-	IV			

1) In case of mounting of several units in low voltage switchgear-combinations, please consider rated diversity factors acc. to DIN EN 61439.
2) Reference value for replacement of devices acc. to DIN EN 61439-1 clause 10.10.4.2.
3) Type tested with NH fuse-links characteristic gG.
4) 35°C Normal temperature, above 35°C up to 70°C with reduces operating current.

NH strip-type fuse-switch-disconnectors – Technical data

Type					SL3		SL3/910A	
Electrical characteristics	According to standard				DIN EN 60947-3			
	For NH fuse-links acc. to DIN VDE 0636-2		Size		3		3	
	Rated operational voltage		U_e	V	AC690		AC400	
	Rated operational current [1]		I_e	A	630		910	
	Conv. free air thermal current with fuse-links		I_{th}	A	630		910	
	Conv. free air thermal current with solid-links		I_{th}	A	800		1250	
	Rated frequency		-	Hz	50-60		50-60	
	Rated insulation voltage		U_i	V	AC1000		AC690	
	Total power loss at I_{th} (without fuse-links)		P_v	W	115		155	
	Power loss at 80% I_{th} (without fuse-links) [2]		P_v	W	73.6		99.2	
	Rated impulse withstand voltage		U_{imp}	kV	12		8	
	Utilization category		-	-	AC-23B (630A/400V) AC-22B (630A/500V) AC-21B (630A/690V) Nur / *Only* 3x3: DC21B (500A/440V)		AC-22B (1250A/400V) AC-22B (910A/400V)	
	Rated conditional short-cirquit current		I_{cc}	kA	120 [3]		80	
	Rated short-time withstand current		I_{cw}	kA	10/15kA/1s [4]		10/15kA/1s [4]	
	Max. permis. power loss per fuse-link		P_a	W	48		61	
Cable terminal	Flat terminal	Bolt diameter	-	-	M12		2 x M12	
		Cable lug	-	mm^2	1 x 25-300	Width max. 43mm	2 x 300, 3 x 185	
		Flat bar	-	mm	30 x10		80 x10	
		Tightening torque	M_a	Nm	35-40		35-40	
	Clamp	Clamping cross-section	-	mm^2	KM2G	25-150/ 185-300	-	-
			-	mm^2	KM2G-F	25-240	-	-
			-	mm^2	RM300	25-300	-	-
		Tightening torque	-	Nm	-	32	-	32
					RM300: 25-70	12	RM300: 25-70	12
Degree of protection	Front side, device fitted with clamp and lateral covers	Operating condition	-	-	IP30		IP30	
		Switching element open	-	-	IP10		IP10	
Operating conditions	Ambient temperature [5]		T_{amb}	°C	-25 *to* +70			
	Rated operating mode		-	-	Uninterrupted duty			
	Rated operating mode		-	-	Dependent manual operation			
	Mounting position		-	-	Vertical, horizontal			
	Altitude		-	m	Up to 2000			
	Pollution degree		-	-	3			
	Overvoltage category		-	-	IV			

1) In case of mounting of several units in low voltage switchgear-combinations, please consider rated diversity factors acc. to DIN EN 61439.

2) Reference value for replacement of devices acc. to DIN EN 61439-1 clause 10.10.4.2.

3) Type tested at AC420V with NH fuse-links 630A/500V characteristic gG, at AC725V with NH fuse-links 500A/690V characteristic gG.

4) 1-pole/3-pole switchable.

5) 35°C Normal temperature, above 35°C up to 70°C with reduces operating current.

Type					SL3/1000-TM	SL3/1250
Electrical characteristics	According to standard				DIN EN 60947-3	
	For NH fuse-links acc. to DIN VDE 0636-2		Size		3	3
	Rated operational voltage		U_e	V	AC690	AC690
	Rated operational current [1]		I_e	A	1000	1250
	Conv. free air thermal current with fuse-links		I_{th}	A	630	1250
	Conv. free air thermal current with solid-links		I_{th}	A	1000	1600
	Rated frequency		-	Hz	50-60	50-60
	Rated insulation voltage		U_i	V	AC1000	AC1000
	Total power loss at I_{th} (without fuse-links)		P_v	W	275	215
	Power loss at 80% I_{th} (without fuse-links) [2]		P_v	W	176	138
	Rated impulse withstand voltage		U_{imp}	kV	12	12
	Utilization category		-	-	AC-22B (1000A/400V) AC-22B (800A/500V) AC-21B (630A/690V)	AC-22B (1250A/400V) AC-22B (1250A/500V) AC-21B (1250A/690V)
	Rated conditional short-cirquit current		I_{cc}	kA	120 [3]	80
	Rated short-time withstand current		I_{cw}	kA	10/15/25/1s [4]	20/25/46/1s [4]
	Max. permis. power loss per fuse-link		P_a	W	51	48
Cable terminal	Flat terminal	Bolt diameter	-	-	2 x M12	3 x M12
		Cable lug	-	mm^2	2 x 300, 3 x 120	3 x 300, 4 x 185
		Flat bar	-	mm	80 x10	-
		Tightening torque	M_a	Nm	35-40	35-40
Degree of protection	Front side, device fitted with clamp and lateral covers	Operating condition	-	-	IP30	IP30
		Switching element open	-	-	IP10	IP10
Operating conditions	Ambient temperature [5]		T_{amb}	°C	-25 *to* +70	
	Rated operating mode		-	-	Uninterrupted duty	
	Rated operating mode		-	-	Dependent manual operation	
	Mounting position		-	-	Vertical, horizontal	
	Altitude		-	m	Up to 2000	
	Pollution degree		-	-	3	
	Overvoltage category		-	-	IV	

1) In case of mounting of several units in low voltage switchgear-combinations, please consider rated diversity factors acc. to DIN EN 61439.
2) Reference value for replacement of devices acc. to DIN EN 61439-1 clause 10.10.4.2.
3) Type tested at AC420V with NH fuse-links 630A/500V characteristic gG, at AC725V with NH fuse-links 500A/690V characteristic gG.
4) 1-pole/3-pole switchable/with additional interlock.
5) 35°C Normal temperature, above 35°C up to 70°C with reduces operating current.

NH strip-type fuse-switch-disconnectors – Technical data

Type					SL3/1600-TM	SL3/2000-TM
Electrical characteristics	According to standard				DIN EN 60947-3	
	For NH fuse-links acc. to DIN VDE 0636-2		Size		3	3
	Rated operational voltage		U_e	V	AC690	AC400
	Rated operational current [1]		I_e	A	1600	2000
	Conv. free air thermal current with fuse-links		I_{th}	A	1250	gG 1600/gTr 1444
	Conv. free air thermal current with solid-links		I_{th}	A	1600	2000
	Rated frequency		-	Hz	50-60	50-60
	Rated insulation voltage		U_i	V	AC1000	AC690
	Total power loss at I_{th} (without fuse-links)		P_v	W	350	375
	Power loss at 80% I_{th} (without fuse-links) [2]		P_v	W	224	240
	Rated impulse withstand voltage		U_{imp}	kV	12	8
	Utilization category		-	-	AC-22B (1600A/400V) AC-22B (1600A/500V) AC-21B (1250A/690V)	AC-22B (2000A/400V)
	Rated conditional short-cirquit current [3]		I_{cc}	kA	80	50
	Rated short-time withstand current		I_{cw}	kA	20/25/46/1s [4]	20/25/46/1s [4]
	Max. permis. power loss per fuse-link		P_a	W	48	51
Cable terminal	Flat terminal	Bolt diameter	-	-	3 x M12	4 x M12
		Cable lug	-	mm^2	3 x 300, 4 x 185	4 x 300
		Flat bar	-	mm	-	-
		Tightening torque	M_a	Nm	35-40	35-40
Degree of protection	Front side, device fitted with clamp and lateral covers	Operating condition	-	-	IP30	IP30
		Switching element open	-	-	IP10	IP10
Operating conditions	Ambient temperature [5]		T_{amb}	°C	-25 *to* +70	
	Rated operating mode		-	-	Uninterrupted duty	
	Rated operating mode		-	-	Dependent manual operation	
	Mounting position		-	-	Vertical, horizontal	
	Altitude		-	m	Up to 2000	
	Pollution degree		-	-	3	
	Overvoltage category		-	-	IV	

1) In case of mounting of several units in low voltage switchgear-combinations, please consider rated diversity factors acc. to EN 61439-1.

2) Reference value for replacement of devices acc. to DIN EN 61439-1 clause 10.10.4.2.

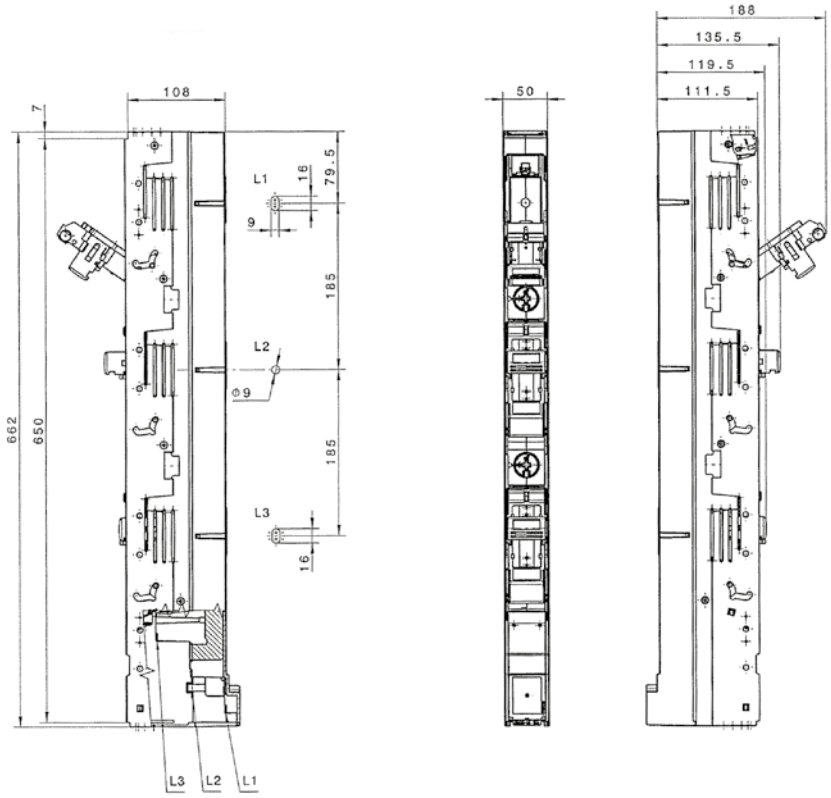
3) Type tested with NH fuse-links characteristic gG.

4) 1-pole/3-pole switchable/with additional interlock.

5) 35°C Normal temperature, above 35°C up to 70°C with reduces operating current.

DIMENSIONS

SL00-3X/185/F
PU-SL00-3X/185/F



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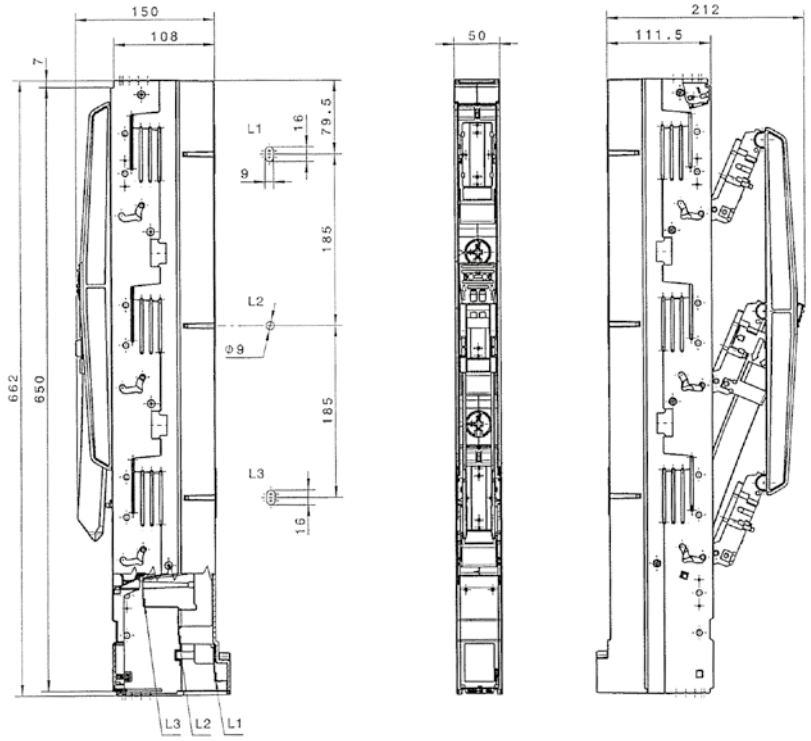

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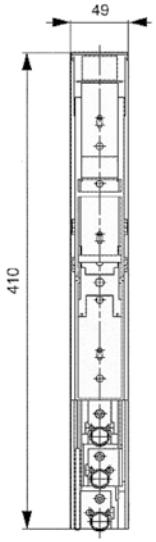

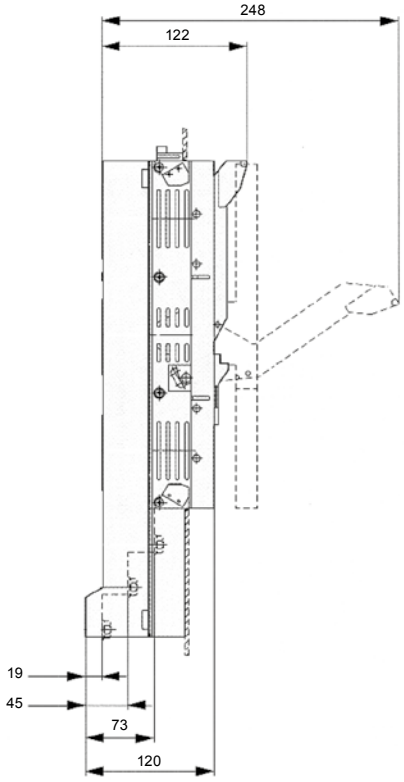

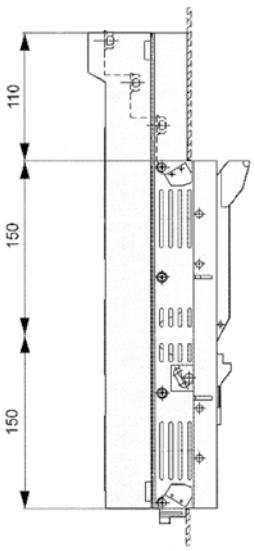

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SL2G-3X3/3A
SL2G-3X/3A
SL2G-3X3/3A
SL3-3X/3A
SL3-3X3/3A

SL1G-3X/W/3A
SL2G-3X3/W/3A
SL2G-3X/W/3A
SL2G-3X3/W/3A
SL3-3X/W/3A
SL3-3X3/W/3A

PU-SL1H-3X/3A
PU-SL1H-3X3/3A
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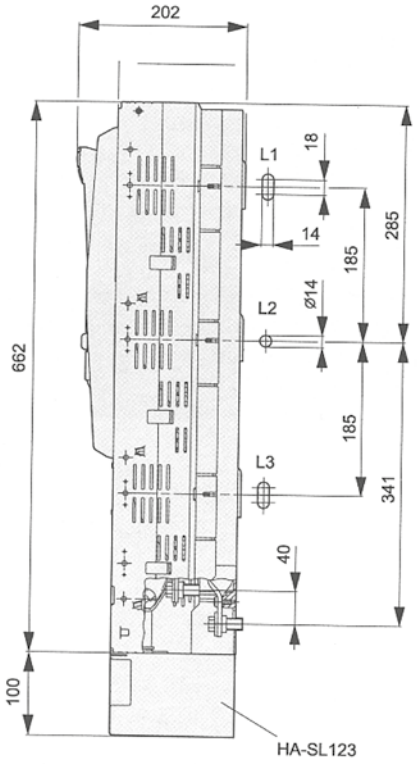

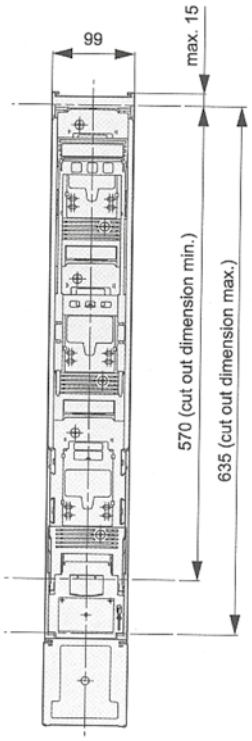

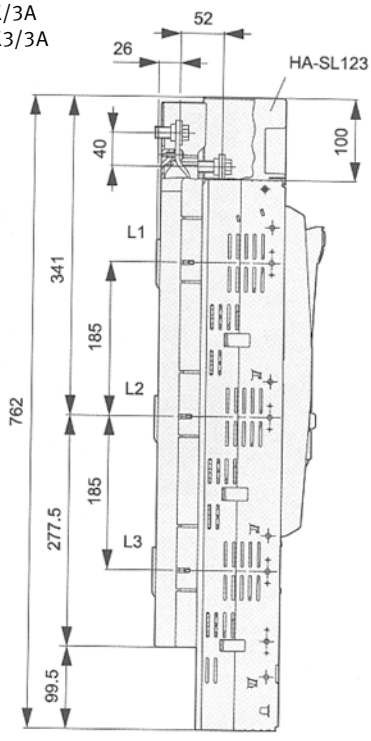

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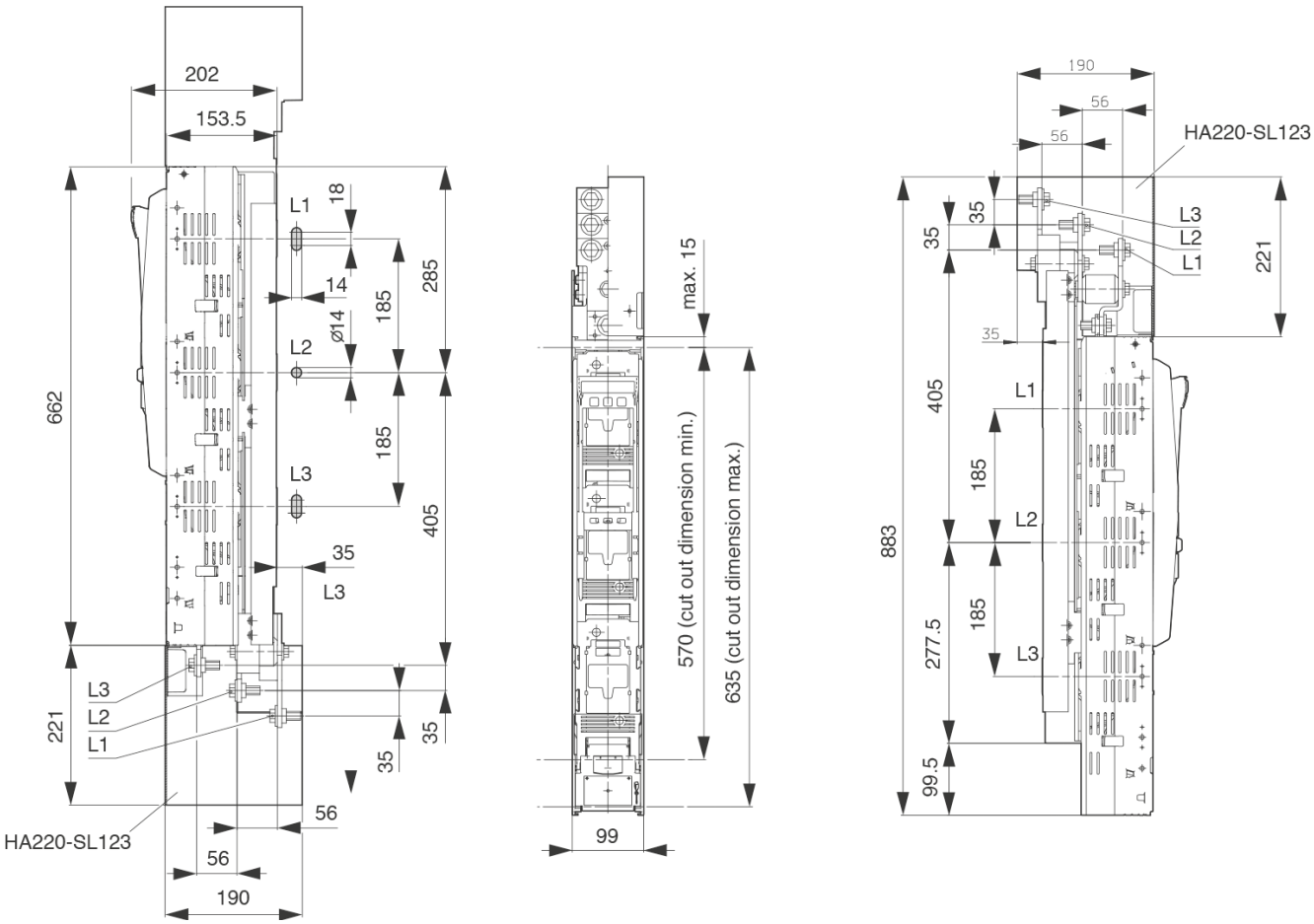

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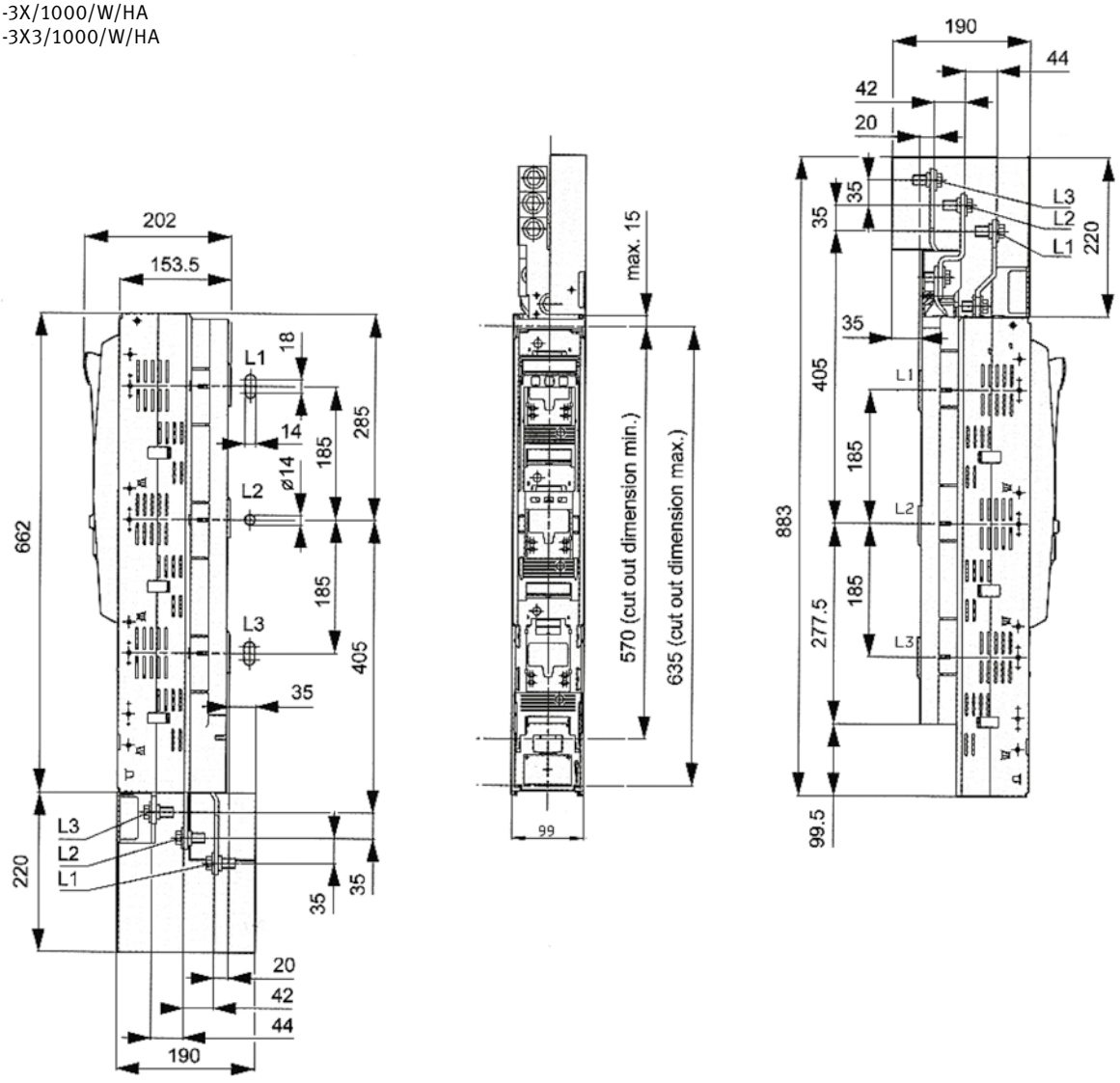
SL3-3X3/1000/HA

SL3-3X/1000/W/HA
SL3-3X3/1000/W/HA



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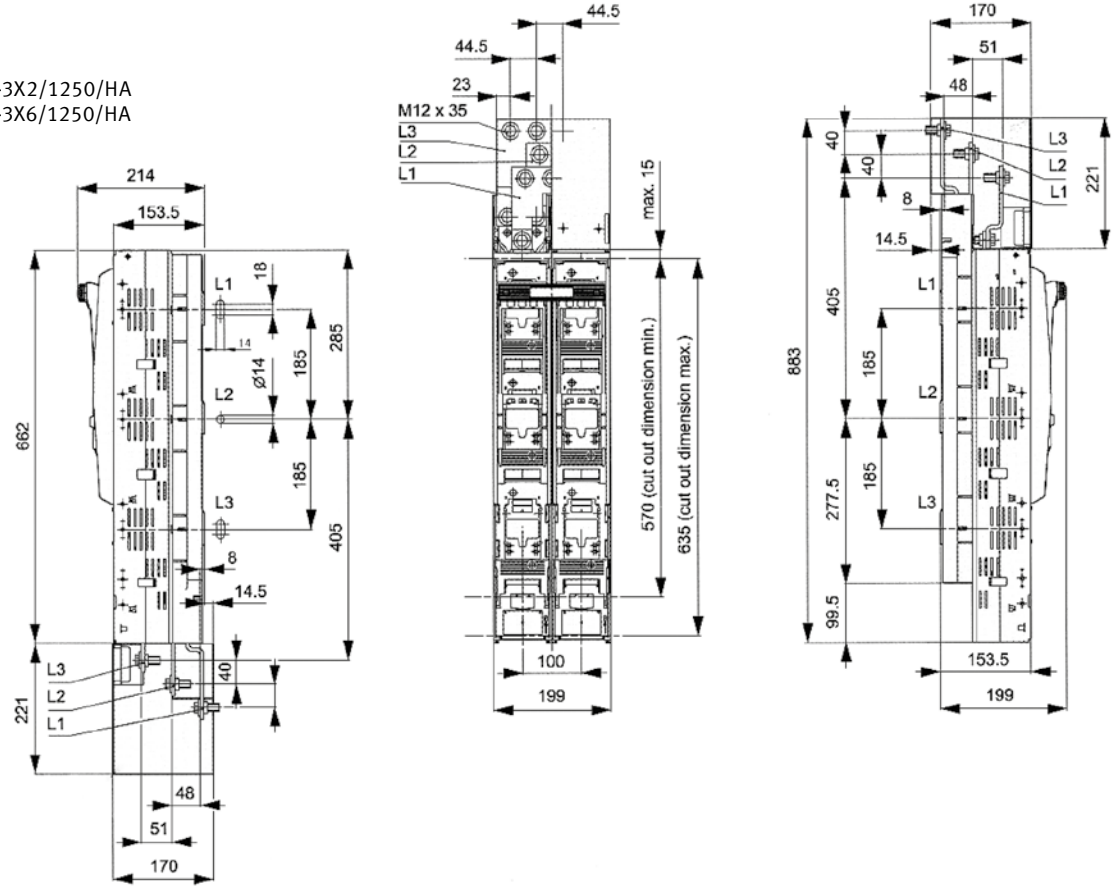
SL3-3X6/1250/HA



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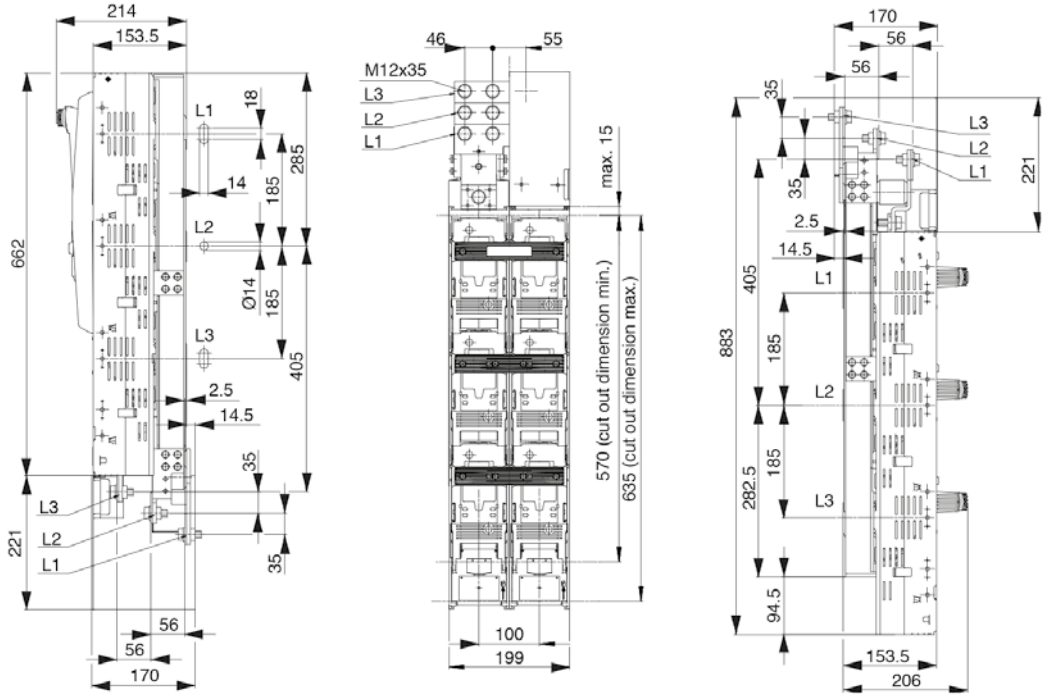
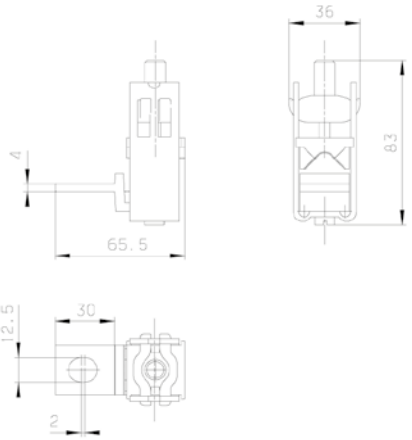


Vertical disconnect accessories

Terminals with connecting lugs

K2G/A



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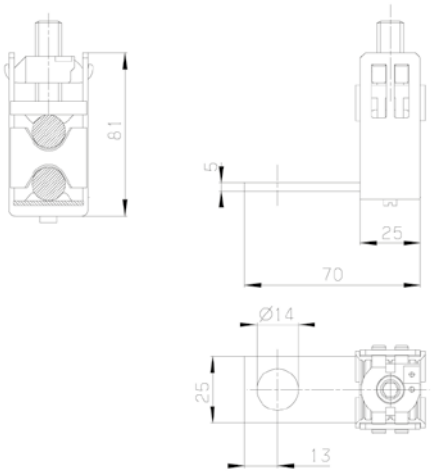
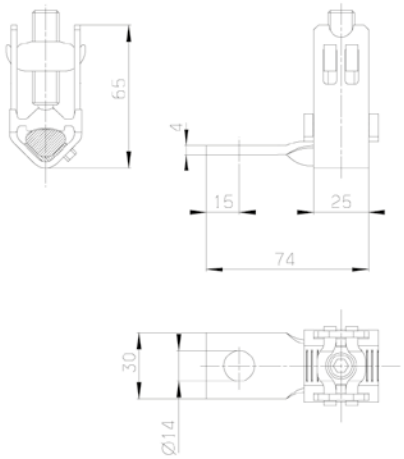


KM2G/AF3040



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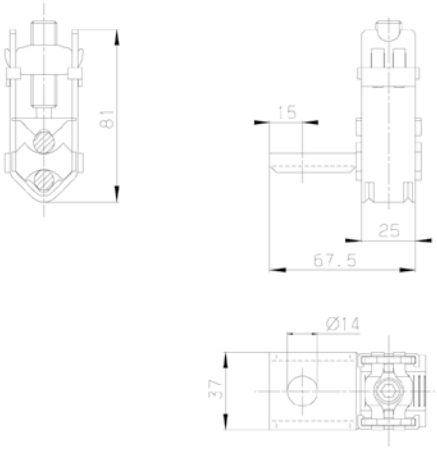
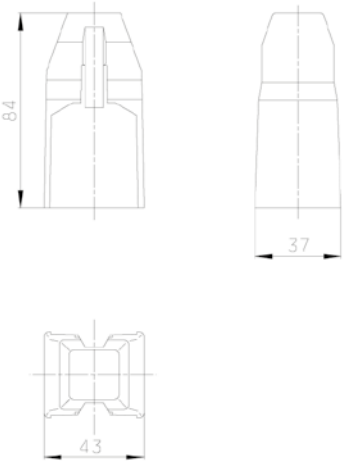


Covers for terminals with connecting lugs

HR



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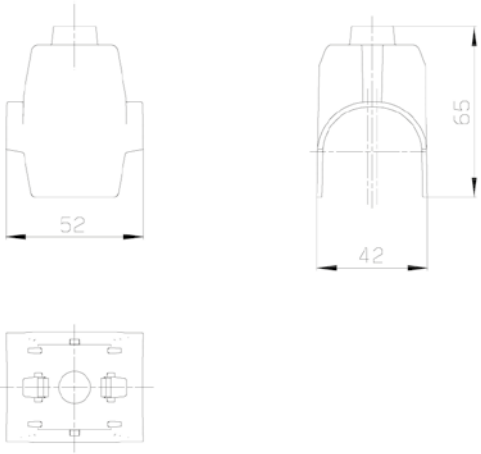
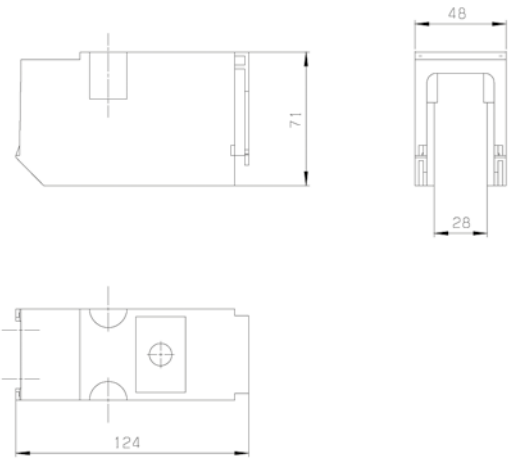
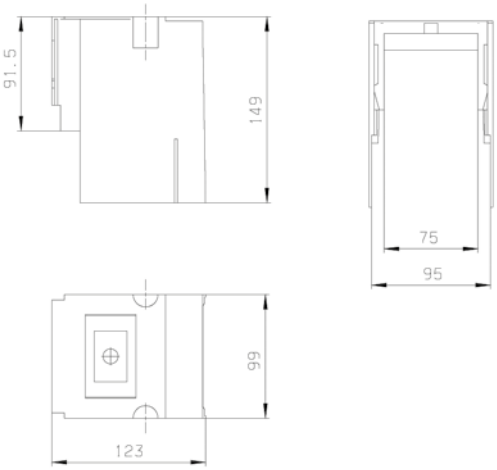


Terminal covers

HA-SL00/185



HA-SL123/10



HA220-SL123/10