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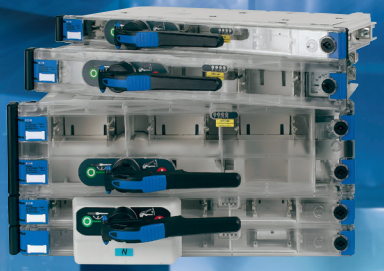
Panel Building Accessories



Fuse Disconnectors



Fuse Switch Disconnectors XNH



PIFT
Plug-in Fuse Terminals



Thermostats



Filters and Fans



Terminals



Electrical Cabinet Heatings



Surge Protection Devices

Catalog

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Powering Business Worldwide



* At Eaton, we believe that power is a fundamental part of just about everything people do. That's why we're dedicated to helping our customers find new ways to manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. To improve people's lives, the communities where we live and work, and the planet our future generations depend upon. Because this is what really matters. And we're here to make sure it works.

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Content overview

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FUSE SWITCH DISCONNECTORS 8-38
PIFT - PLUG IN FUSE TERMINAL. 40-56
FUSE DEVICES 57-82
ACCESSORIES FOR PANEL BUILDING 83-114

1.4 Surge Protection Devices

Combined Lightning Current and Surge Arrester for 60 mm busbar system SPD-S60...

Mode of Protection	Network system	Remote contact	Type designation	Cat.no.	Pack (pcs.)

Surge Protection Device SPD-S60...

- For TN-C, TT and TN-S network systems
- Plugs available with Type 1 or Type 2 surge protection; and Type 2 with integrated fuse
- Better overall voltage protection levels due to less wiring
- Visual status monitoring of SPD and fuse (T2F) available via remote signalization
- Can be used with a variety of busbar widths and thickness
- Reduces installation cost and space requirements
- Shorter wiring time and minimized complexity
- Pluggable concept enables fast & simplified installation
- Shorter connecting cables improve voltage protection level across installation points

Basic device Class I+II / Type 1+2 / up to 250 A incomer fuse protection

EP-502632 EP-502631



L-PEN	TN-C	Yes	SPD-S60-T12-300/3-AX	EP-502632	1
L-N, N-PE	TT, TN-S	Yes	SPD-S60-T12-300/3+NPE-AX	EP-502631	1

Basic device Class II / Type 2 / up to 250 A incomer fuse protection

EP-502630 EP-502629



L-PEN	TN-C	Yes	SPD-S60-T2-300/3-AX	EP-502630	1
L-N, N-PE	TT, TN-S	Yes	SPD-S60-T2-300/3+NPE-AX	EP-502629	1

Basic device Class II+III / Type 2+3 / no back-up fuse required

EP-502634 EP-502633



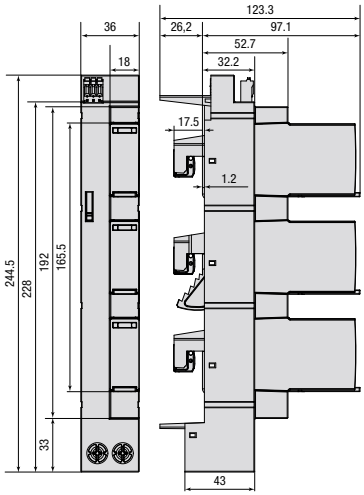
L-PEN	TN-C	Yes	SPD-S60-T2F-300/3-AX	EP-502634	1
L-N, N-PE	TT, TN-S	Yes	SPD-S60-T2F-300/3+NPE-AX	EP-502633	1

Technical Data

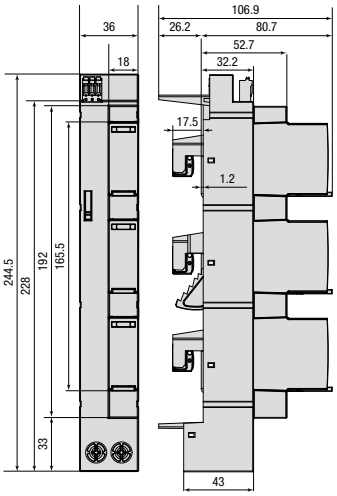
			SPD-S60-T12-300/3(+NPE)-AX	SPD-S60-T2-300/3(+NPE)-AX	SPD-S60-T2F-300/3(+NPE)-AX
Electrical					
Standards			IEC 61643-11:2011, EN 61643-11:2012+A11:2018		
Surge protection class IEC / type EN			Class I+II / Type 1+2	Class II / Type 2	Class II+III / Type 2+3
Nominal AC voltage (50/60 Hz)	U_n	V		240	
Maximum continuous operating voltage (AC)	U_c	V		300 / 305 (L-N) / (N-PE)	
Nominal discharge current (8/20 µs)	I_n	kA	20 / 80 (L-N) / (N-PE)	20 / 40 (L-N) / (N-PE)	20 / 40 (L-N) / (N-PE)
Maximum discharge current (8/20 µs)	I_{max}	kA	50 / 100 (L-N) / (N-PE)	50 / 65 (L-N) / (N-PE)	40 / 65 (L-N) / (N-PE)
Impulse discharge current (10/350 µs)	I_{imp}	kA	12.5 / 50 (L-N) / (N-PE)	-	-
Specific energy	W / R	kJ / Ω	39 / 625 (L-N) / (N-PE)	-	-
Charge	Q	As	6.25 / 25 (L-N) / (N-PE)	-	-
Voltage protection level	U_p	V		1500	
Open circuit voltage of combination wave generator (1.2/50 µs)	U_{oc}	kV	-	-	6 / 6 (L-N) / (N-PE)
Short circuit current of combination wave generator (8/20 µs)	I_{cw}	kA	-	-	3 / 3 (L-N) / (N-PE)
Follow current interrupt rating	I_{fi}	A		100 (N-PE)	
Response time	t_A	ns		< 25 / < 100 (L-N) / (N-PE)	
Integrated backup fuse			No	No	Yes
Overcurrent protection (max)		A (gG)	250	250	Not required
Short-circuit current rating (AC)	I_{SCCR}	kA	25	25	100
TOV withstand 5 s	U_T	V		337	
TOV safe fail 120 min	U_T	V		442	
TOV withstand 200ms	U_T	V		1200 (N-PE)	
Number of ports				1	
Mechanical					
Frame size	Width	mm		36 (2 modular spacings)	
Operating temperature range	Ta	°C		-40 up to +85	
Permissible operating humidity	RH	%		5 … 95	
Altitude (max.)		m		4000	
Terminal screw type / torque		Nm		PH2 / 4.5	
Conductor Cross Section (max.)		mm²		25 / 35 (flexible / solid, stranded)	
Mounting on 60 mm busbar system (copper bars)	Width	mm		12, 15, 20, 25, 30	
	Thickness	mm		5, 10 (with removed spacers)	
Degree of protection				IP20	
Housing material				Thermoplastic: extinguishing degree UL 94 V-0	
Operating state / fault indication				Green flag / not green flag	
Remote contact switching capacity		V / A		AC: 250 / 1, 125 / 1 DC: 48 / 0.5, 24 / 0.5, 12 / 0.5	
Remote contact conductor cross-section (max.)		mm²		1.5 (solid)	

Dimensional drawings

SPD-S60-T12-300/3(+NPE)-AX

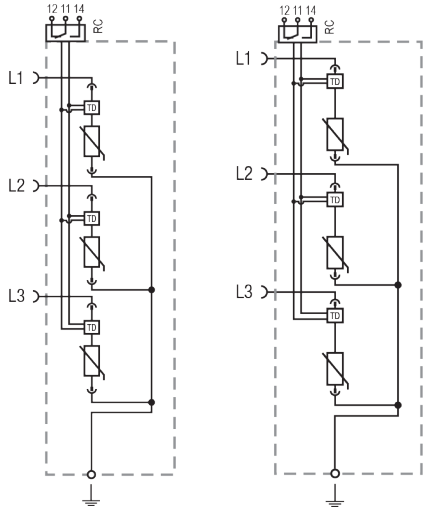


SPD-S60-T2(F)-300/3(+NPE)-AX

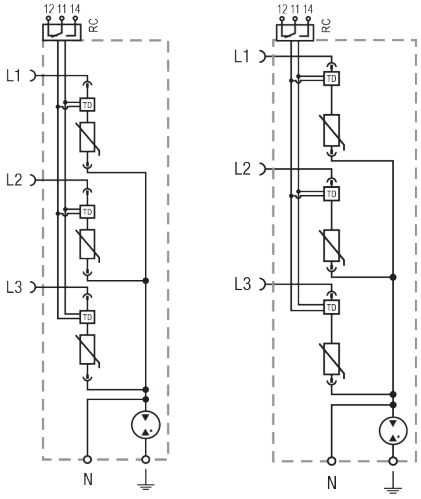


Internal Configuration

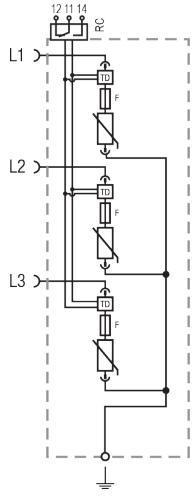
SPD-S60-T12-300/3-AX / SPD-S60-T2-300/3-AX



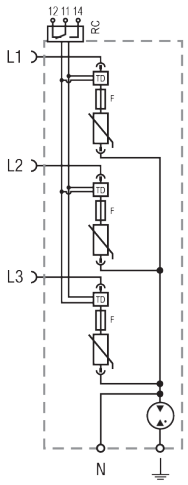
SPD-S60-T12-300/3+NPE-AX / SPD-S60-T2-300/3+NPE-AX



SPD-S60-T2F-300/3-AX



SPD-S60-T2F-300/3+NPE-AX



vt61615



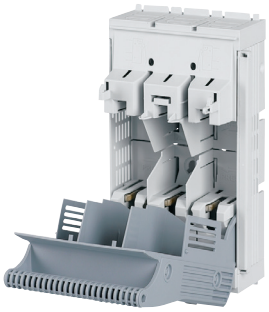
vt64215



vt64015



vt61715



Description

- For fuse links NH000 to NH3
- Rated operating current of 125, 160, 250, 400 and 630 A
- Sizes 000, 00, 1, 2 and 3
- Degree of protection IP2XC
- Frame widths of 53, 106, 184, 210 and 250 mm
- For mounting plate, DIN rail and busbar system of 60 mm
- System size 195 and 300 mm
- Can be locked with a pad lock
- Current-theft protection
- Flex-System for cable connection at the top/bottom
- Improved operator safety
- Flat connection for cable lug, box terminal, clamp-type terminal, prism terminal and double prism terminal
- Switch cover with safety parking position
- Fuse monitoring light with LED on the device
- Electronic fuse monitoring
- SmartWire-DT® option

System Overview 3-pole

	XNH000	XNH00	XNH1	XNH2	XNH3
Basic device	■	■	■	■	■
Fuse control - light	-	■	■	■	■
Fuse control - electronic	-	■	■	■	■

Setup options

	XNH000	XNH00	XNH1	XNH2	XNH3
Busbar system 60 mm	■	■	■	■	■
Mounting plate	■	■	■	■	■
DIN rails	■	■	■	-	-

Standard connection options

	XNH000	XNH00	XNH1	XNH2	XNH3
Flat connection	-	■	■	■	■
Installation distribution board box terminal BT2 [1)]	-	■	-	-	-
Box terminal	■	■	■	■	■

SmartWire-DT® Module

	XNH000	XNH00	XNH1	XNH2	XNH3
Complete set for direct mounting on the switchgear (with 2 DX)	-	■	■	■	■
For fixing on the mounting plate (with 2 DX)	-	■	■	■	■

System Overview Accessories

	XNH000	XNH00	XNH1	XNH2	XNH3
DIN rail fastening	■	■	■	-	-
Locking device	-	■	■	■	■
Current-theft protection	-	■	■	■	■
Switch position indicator	■	■	■	■	■
Mechanical fuse monitoring	-	■	■	■	■
Internal lock for contact protection	-	■	■	■	■
Clamp-type terminal	-	■	■	■	■
Prism terminal	-	■	■	■	■
Double-prism terminal	-	-	■	■	■
Box terminal	■	-	■	■	■
Extinguishing chambers	-	-	■	■	■
Spare handle cover	■	■	■	■	■
Connection kit, 2- and 4-pole	-	■	■	-	■
Cover supports	■	■	■	■	■
Reach-over protection at busbar	■	■	■	■	■
Cover for connection area	■	■	■	■	■
Extension of the cover for the connection area	-	■	-	-	-
Height compensation adapter	-		-	-	-

[1)] Deeper-positioned box terminal with busbar-devices for improved connection when using front panels, e.g. installation distribution boards.

Fuse Switch Disconnector XNH... for Mounting Plate

vt64015



- Degree of protection IP2XC in operating mode
- According to IEC/EN 60947-3
- AC 690 V / DC 440 V
- Conditional rated short-circuit current 120 kA (500 V) and 100 kA (690 V)
- Reaction to fire according to UL 94, self-extinguishing
- Current paths of electrolytic copper, silver-plated
- For fixing on mounting plates and DIN rails
- Fuse Control Light with optical signalling of triggered fuse-links
- Fuse Control FCE with electronic monitoring of fuse-links

Basic Device

3-pole for mounting plate

vt61615



Size	Type of connection	I_e (A)	Type designation	Article No.	Pack (pcs.)
000	Box terminal 1.5 - 50 mm²	125	XNH000-A125-BT	EP-502948	1
00	Flat connection M8 max. 95 mm²	160	XNH00-A160	183025	1
	Box terminal 1.5 - 95 mm²	160	XNH00-A160-BT	183026	1
1	Flat connection M10 max. 150 mm²	250	XNH1-A250	183043	1
	Box terminal 35 - 150 mm²	250	XNH1-A250-BT	183044	1
2	Flat connection M10 max. 240 mm²	400	XNH2-A400	183057	1
	Box terminal 95 - 300 mm²	400	XNH2-A400-BT	183058	1
3	Flat connection M10 max. 300 mm²	630	XNH3-A630	183071	1
	Box terminal 95 - 300 mm²	630	XNH3-A630-BT	183072	1

Fuse Control - light

3-pole for mounting plate

wa_vt15515



00	Flat connection M8 max. 95 mm²	160	XNH00-FCL-A160	183027	1
	Box terminal 1.5 - 95 mm²	160	XNH00-FCL-A160-BT	183028	1
1	Flat connection M10 max. 150 mm²	250	XNH1-FCL-A250	183045	1
	Box terminal 35 - 150 mm²	250	XNH1-FCL-A250-BT	183046	1
2	Flat connection M10 max. 240 mm²	400	XNH2-FCL-A400	183059	1
	Box terminal 95 - 300 mm²	400	XNH2-FCL-A400-BT	183060	1
3	Flat connection M10 max. 300 mm²	630	XNH3-FCL-A630	183073	1
	Box terminal 95 - 300 mm²	630	XNH3-FCL-A630-BT	183074	1

Fuse Control FCE

3-pole for mounting plate

vt02416



00	Flat connection M8 max. 95 mm²	160	XNH00-FCE-A160	183029	1
	Box terminal 1.5 - 95 mm²	160	XNH00-FCE-A160-BT	183030	1
1	Flat connection M10 max. 150 mm²	250	XNH1-FCE-A250	183047	1
	Box terminal 35 - 150 mm²	250	XNH1-FCE-A250-BT	183048	1
2	Flat connection M10 max. 240 mm²	400	XNH2-FCE-A400	183061	1
	Box terminal 95 - 300 mm²	400	XNH2-FCE-A400-BT	183062	1
3	Flat connection M10 max. 300 mm²	630	XNH3-FCE-A630	183075	1
	Box terminal 95 - 300 mm²	630	XNH3-FCE-A630-BT	183076	1

1-pole for mounting plate

vt00217



00	Flat connection M8 max. 95 mm²	160	XNH00-1-A160	183031	1
	Box terminal 1.5 - 95 mm²	160	XNH00-1-A160-BT	183032	1
1	Flat connection M10 max. 150 mm²	250	XNH1-1-A250	183049	1
	Box terminal 35 - 150 mm²	250	XNH1-1-A250-BT	183050	1
3	Flat connection M10 max. 300 mm²	400/630	XNH32-1-A630	183063	1
	Box terminal 95 - 300 mm²	400/630	XNH32-1-A630-BT	183064	1

vt64215



Fuse Switch Disconnector XNH... for 60 mm busbar system

- Degree of protection IP2XC in operating mode
- According to IEC/EN 60947-3
- AC 690 V / DC 440 V
- Conditional rated short-circuit current 120 kA (500 V) and 100 kA (690 V)
- Reaction to fire according to UL 94, self-extinguishing
- Current paths of electrolytic copper, silver-plated
- For fixing on busbars of 60 mm (e.g. SASY 60i)
- Cable connection optionally at the top or bottom
- Fuse Control Light with optical signalling of triggered fuse-links
- Fuse Control FCE with electronic monitoring of fuse-links

Basic Device

3-pole for 60 mm busbar system

ep-500618 vt61915



Size	Type of connection	I_e (A)	Type designation	Article No.	Pack (pcs.)
000	Box terminal 1.5 - 50 mm² (bottom)	125	XNH000-S125-BT-BOT	EP-500618	1
	Box terminal 1.5 - 50 mm² (top)	125	XNH000-S125-BT-TOP	EP-500619	1
00	Flat connection M8 max. 95 mm²	160	XNH00-S160	183033	1
	Box terminal 1.5 - 95 mm²	160	XNH00-S160-BT1	183034	1
	Box terminal 1.5 - 95 mm²	160	XNH00-S160-BT2	183035	1
	Box terminal 1.5 - 95 mm²	160	XNH00-S160-BT2-BD	EP-502950	200
1	Flat connection M10 max. 150 mm²	250	XNH1-S250	183051	1
	Box terminal 35 - 150 mm²	250	XNH1-S250-BT	183052	1
2	Flat connection M10 max. 240 mm²	400	XNH2-S400	183065	1
	Box terminal 95 - 300 mm²	400	XNH2-S400-BT	183066	1
3	Flat connection M10 max. 300 mm²	630	XNH3-S630	183077	1
	Box terminal 95 - 300 mm²	630	XNH3-S630-BT	183078	1

Fuse Control - light

3-pole for 60 mm busbar system

wa_vt14215



Size	Type of connection	I_e (A)	Type designation	Article No.	Pack (pcs.)
00	Flat connection M8 max. 95 mm²	160	XNH00-FCL-S160	183036	1
	Box terminal 1.5 - 95 mm²	160	XNH00-FCL-S160-BT1	183037	1
	Box terminal 1.5 - 95 mm²	160	XNH00-FCL-S160-BT2	183038	1
1	Flat connection M10 max. 150 mm²	250	XNH1-FCL-S250	183053	1
	Box terminal 35 - 150 mm²	250	XNH1-FCL-S250-BT	183054	1
2	Flat connection M10 max. 240 mm²	400	XNH2-FCL-S400	183067	1
	Box terminal 95 - 300 mm²	400	XNH2-FCL-S400-BT	183068	1
3	Flat connection M10 max. 300 mm²	630	XNH3-FCL-S630	183079	1
	Box terminal 95 - 300 mm²	630	XNH3-FCL-S630-BT	183080	1

Fuse Control FCE

3-pole for 60 mm busbar system

vt03016



Size	Type of connection	I_e (A)	Type designation	Article No.	Pack (pcs.)
00	Flat connection M8 max. 95 mm²	160	XNH00-FCE-S160	183039	1
	Box terminal 1.5 - 95 mm²	160	XNH00-FCE-S160-BT1	183040	1
	Box terminal 1.5 - 95 mm²	160	XNH00-FCE-S160-BT2	183041	1
1	Flat connection M10 max. 150 mm²	250	XNH1-FCE-S250	183055	1
	Box terminal 35 - 150 mm²	250	XNH1-FCE-S250-BT	183056	1
2	Flat connection M10 max. 240 mm²	400	XNH2-FCE-S400	183069	1
	Box terminal 95 - 300 mm²	400	XNH2-FCE-S400-BT	183070	1
3	Flat connection M10 max. 300 mm²	630	XNH3-FCE-S630	183081	1
	Box terminal 95 - 300 mm²	630	XNH3-FCE-S630-BT	183082	1

1-pole for 60 mm busbar system

Size	Type of connection	I_e (A)	Type designation	Article No.	Pack (pcs.)
00	Flat connection M8 max. 95 mm²	160	XNH00-1-S160	183042	1

Description	Suitable for size	Type designation	Article No.	Pack (pcs.)

SmartWire-DT®, Module Kit

- XNH...-SDW-KIT: Consisting of SWD module, ready-made cables and additional cover for cable area
- Only in connection with Fuse Control FCE
- XNH...-SDW-KIT-EXT: Consisting of SWD module, mounting element for mounting plate, mini cable channel and contact plug

vt00417



SWD module with 2 digital inputs for switch position indication and trip signal. Complete set for direct mounting at the switchgear.	00 with FCE	XNH00-SWD-KIT	183083	1
	1 with FCE	XNH1-SWD-KIT	183084	1
	2 with FCE	XNH2-SWD-KIT	183085	1
	3 with FCE	XNH3-SWD-KIT	183086	1
SWD module with 2 digital inputs for switch position indication and trip signal and 3 analog inputs for current measurement. For fixing on the mounting plate.	00 with FCE	XNH00-SWD-KIT-EXT	183087	1
	1/2/3 with FCE	XNH123-SWD-KIT-EXT	183088	1

SmartWire-DT®, Modules

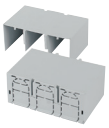
2723PIC-198



SWD module with 2 digital inputs	00/1/2/3 with FCE	XNH-SWD-2DX-1	183089	1
SWD module with 2 digitaldigital and 3 analogue inputs	00/1/2/3 with FCE	XNH-SWD-2DX-3AX-1	183090	1

Cover for connection area, 3-pole

vt09816



Cable entries can be knocked out as required. 36, 42 and 66 mm length for top and bottom. Multiple use per device is possible.	000	XNH000-XKSA-36	EP-500621	2
	000	XNH000-XKSA-66	EP-500620	2
	00	XNH00-XKSA-36	183091	2
	00	XNH00-XKSA-66	183092	2
	1	XNH1-XKSA-42	183093	2
	2	XNH2-XKSA-42	183094	2
	3	XNH3-XKSA-42	183095	2

Cover for connection area, 1-pole

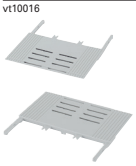
vt55116



Cable entries can be knocked out as required. 36, 42 and 66 mm length for top and bottom. Multiple use per device is possible.	00	XNH00-1-XKSA-36	184585	2
	00	XNH00-1-XKSA-66	184586	2
	1	XNH1-1-XKSA-42	184587	2
	3 (2)	XNH3-1-XKSA-42	184588	2

Extension of the cover for the connection area, 3-pole for SASY 60i

vt10016



Can be fixed at the top or bottom of the device. 32 or 39 and 34 mm distance to the base plate.	00	XNH00-XKSV-39-34	183096	2
	00	XNH00-XKSV-32	183097	2

Reach-over protection, 3-pole for SASY 60i

- Can be fixed at the top or bottom of the device
- For 32 or 39 and 34mm distance to the base plate

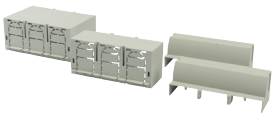
vt09916



Description	Suitable for size	Type designation	Article No.	Pack (pcs.)
For box terminal	000	XNH000-XKSS	EP-500624	2
For flat connection or box terminal	00	XNH00-XKSS-39-34	183098	2
		XNH00-XKSS-32	183099	2
For BT2 box terminal	00	XNH00-XKSS-BT-39-34	183100	2
		XNH00-XKSS-BT-32	183101	2
For flat connection or box terminal	1	XNH1-XKSS-39-34	183102	2
		XNH1-XKSS-32	183103	2
	2	XNH2-XKSS-39-34	183104	2
		XNH2-XKSS-32	183105	2
	3	XNH3-XKSS-39-34	183106	2
		XNH3-XKSS-32	183107	2

Height compensation adapter 20 mm, 3-pole

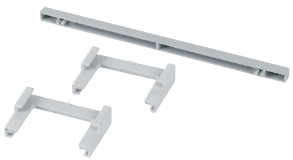
vt67015



Compensation adapter top/bottom Level 70 => 90 mm	00	XNH00-XHAA-T/B	183108	2
Side compensation profiles Level 70 => 90 mm	00	XNH00-XHAA-R/L	183109	2

Cover supports

vt10616, vt10416



Level 32, 60, 70 mm	000	XNH000-XCS	EP-500623	1
Top and bottom Level 60, 70 mm	00	XNH00-XCS-T/B	183110	2
Side Level 32, 60, 70 mm	00	XNH00-XCS-R/L	183111	2
Top and bottom, side Level 32, 60, 70 mm	1, 2, 3	XNH123-XCS	183112	2

Current-theft protection

vt10916



For manipulation-protected blocking of the inspection window	00, 1, 2, 3	XNH-XSECUR	183113	1 Set

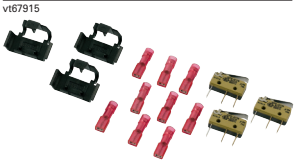
Note: 1 set includes current-theft protection for a 3-pole XNH.

DIN rail fastener

vt68115



For mounting XNH disconnectors on 2x DIN rails EN 50022	000	XNH000-XRAIL	EP-502949	1
	00	XNH00-XRAIL	183114	1
	1	XNH1-XRAIL	183115	1

Description	Suitable for size	Type designation	Article No.	Pack (pcs.)
Locking device				
vt11016  For locking with a padlock when using a closed XNH disconnector	00, 1, 2, 3	XNH-XLOCK	182993	1
Note: Padlock with a shackle diameter of 6 mm max.				
Device locking with sign				
vt11116  For keyless locking of the XNH switching devices in combination with XNH-XLOCK. Language German.	00, 1, 2, 3	XNH-XLDG-G	184805	5
Internal lock for contact protection				
wa_vt15815  Tool-requiring lock of internal contact protection covers	00, 1, 2, 3	XNH-XLATCH	182992	1
Switch position indicator				
vt67815  1 change-over contact, AC 250 V, 10/3 A	000	XNH000-XPOS	EP-500622	1
	00	XNH00-XPOS	182995	1
	1, 2, 3	XNH123-XPOS	182996	1
Mechanical fuse monitoring				
vt67915  1 change-over contact, AC 250 V, 10/3 A	00	XNH00-XMFM	182997	3
	1, 2, 3	XNH123-XMFM	182998	3
Note: Only in combination with NH fuse links equipped with a striker pin. Not for use in combination with box terminal or double-prism terminals.				
Connection kit, 2- and 4-pole				
vt00517  To mechanically connect 2x 1-pole or 3-pole+ 1-pole XNH disconnectors	00, 1, 3/(2)	XNH-XLINK	182999	1

Connection technology

Clamp-type terminal

vt68215



Description	Suitable for size	Type designation	Article No.	Pack (pcs.)
1.5 - 50 mm², Cu	00	XNH00-XCT	183002	3
25 - 150 mm², Cu	1	XNH1-XCT	183003	3
25 - 240 mm², Cu	2	XNH2-XCT	183004	3
CU-BAND-11x21x1	3	XNH3-XCT	183005	3

Prism terminal

vt67515



10 - 70 mm², Cu/Al	00	XNH00-XPRC	183006	3
70 - 150 mm², Cu/Al	1	XNH1-XPRC	183007	3
120 - 240 mm², Cu/Al	2	XNH2-XPRC	183008	3
120 - 300 mm², Cu/Al	3	XNH3-XPRC	183009	3

Double-prism terminal

vt67315



2 x 70 - 95 mm², Cu/Al	1	XNH1-X2PRC	183010	3
2 x 120 - 150 mm², Cu/Al	2	XNH2-X2PRC	183011	3
2 x 120 - 240 mm², Cu/Al	3	XNH3-X2PRC	183012	3

Box terminal

vt68615



35 - 150 mm², Cu/Al	1	XNH1-BT	183000	3
95 - 300 mm², Cu/Al	2, 3	XNH23-BT	183001	3

Note: Box terminal and double-prism terminal not for use in combination with mechanical fuse monitoring XNH...-XMFM.

Spare handle cover, 3-pole

vt08016



Cover for XNH disconnector Basic	000	XNH000-XGRIP	EP-500625	1
	00	XNH00-XGRIP	183013	1
	1	XNH1-XGRIP	183014	1
	2	XNH2-XGRIP	183015	1
	3	XNH3-XGRIP	183016	1

vt08116



Cover for XNH disconnector with Fuse Control FCL	00	XNH00-XGRIP-FCL	183017	1
	1	XNH1-XGRIP-FCL	183018	1
	2	XNH2-XGRIP-FCL	183019	1
	3	XNH3-XGRIP-FCL	183020	1

vt08116



Cover for XNH disconnector with Fuse Control FCE	00	XNH00-XGRIP-FCE	183021	1
	1	XNH1-XGRIP-FCE	183022	1
	2	XNH2-XGRIP-FCE	183023	1
	3	XNH3-XGRIP-FCE	183024	1

Note: FCL and FCE can only be used with fuse links equipped with live handle straps.

Technical Data

Replacing NH fuses or any other activities (such as installation, operation etc. …) on NH fuse switch disconnectors may be carried out by electro-technically qualified and specialized staff only. Power-related data provided by the manufacturer, e.g. max. rated make and break capacities, must be taken into account. Non-qualified employees are not authorized to install or operate such products as they cannot foresee the consequences of their actions. General regulations (e.g. safety regulations, protective clothing …) and regional requirements (e.g. for accident prevention on electrical systems and operating resources) must at all times be respected.

			XNH000-A125/-S125...	XNH00...-A160/-S160...	XNH1…-A250…	XNH1…-S250…
Standard			IEC/EN 60947-3	IEC/EN 60947-3	IEC/EN 60947-3	IEC/EN 60947-3
NH fuses[1] according to DIN VDE 0636-2			000	000 / 00	1	1
Rated operating voltage	U_e	V	AC 690, AC 500	AC 690, DC 440	AC 690, DC 440	AC 690, DC 440
Rated operating current	I_e	A	125	160	250	250
Rated frequency	f	Hz	50 - 60	40 - 60	40 - 60	40 - 60
Rated insulation voltage	U_i	V	AC 800	AC 800	AC 800	AC 800
Total power loss at I_{th} (without fuses)	P_v	W	12	9 (-A160) / 14 (-S160)	16	22
Power loss at 80% (without fuses)	P_v	W	8	5.8 (-A160) / 9 (-S160)	10.2	14.1
Rated impulse withstand voltage	U_{imp}	kV	6	8	8	8
Utilization category			AC-22B (500 V/125 A)	AC-23B (400 V/160 A)	AC-23B (400 V/250 A)	AC-23B (400 V/250 A)
			AC-21B (690 V/80 A)	AC-22B (500 V/160 A)	AC-22B (500 V/250 A)	AC-22B (500 V/250 A)
				AC-21B (690 V/160 A)	AC-21B (690 V/250 A)	AC-21B (690 V/250 A)
				DC-22B (250 V/160 A)	DC-22B (250 V/250 A)	DC-22B (250 V/250 A)
				DC-21B (440 V/160 A)	DC-21B (440 V/250 A)	DC-21B (440 V/250 A)
Conditional rated short-circuit current		kA	80 (500 V)	120 (500 V)	120 (500 V)	120 (500 V)
				100 (690 V)	100 (690 V)	100 (690 V)
Rated short-time withstand current	I_{cw}	kA	5	7	10	10
Max. permitted power loss per fuse link	P_{NH}	W	9	12	23 (500 V) 32 (690 V)	23 (500 V) 32 (690 V)
Degree of protection - front (XNH installed)			Operating status IP30	Operating status IP20	Operating status IP20	Operating status IP20
			Contact prot. IP2XC	Contact prot. IP2XC	Contact prot. IP2XC	Contact prot. IP2XC
			Handle cover open IP10	Handle cover open IP10	Handle cover open IP10	Handle cover open IP10
Ambient temperature (please consider reduction factors on page 18)	T_{35}	°C	-25 up to +70	-25 up to +70	-25 up to +70	-25 up to +70
Rated operating mode			Permanent operation	Permanent operation	Permanent operation	Permanent operation
Activation			Dependent manual activation	Dependent manual activation	Dependent manual activation	Dependent manual activation
Mounting position			Vertical/horizontal	Vertical/horizontal	Vertical/horizontal	Vertical/horizontal
Altitude		m	max. 2000	max. 2000	max. 2000	max. 2000
Degree of pollution			2	3	3	3
Overvoltage category			III	III	III	III
Colour			Grey	Grey	Grey	Grey
RoHs			Yes	Yes	Yes	Yes
Energy feeder direction			Any	Any (FLEX system)	Any	Any (FLEX system)
Lockable			Yes, standard	Yes, optional	Yes, optional	Yes, optional
Sealable			Yes, standard	Yes, standard	Yes, standard	Yes, standard
Material			Polyamide	Polyamide	Polyamide	Polyamide
Reaction to fire			Self-extinguishing acc. to UL94	Self-extinguishing acc. to UL94	Self-extinguishing acc. to UL94	Self-extinguishing acc. to UL94
Halogen-free			Yes	Yes	Yes	Yes
Voltage test			Yes, sliding inspection windows	Yes, sliding inspection windows	Yes, sliding inspection windows	Yes, sliding inspection windows
Electrical service life (operating cycles)			200	300	200	200
Mechanical service life (operating cycles)			1400	1400	1400	1400
Track resistance			CTI 600	CTI 600	CTI 600	CTI 600
Temperature resistance up to		°C	125	125	125	125
Terminal capacities						
Flat connection:						
Bolt diameter			-	M8	M10	M10
Cable lug max. width		mm	-	25	37	37
Flat bar		mm	-	20x10	30x10	30x10
Box terminal:						
multi-wire		mm^2	1.5 - 50 Cu	1.5 - 95 Cu	35 - 150 Cu/Al	35 - 150 Cu/Al
Cu Band			-	9x9x0.8	10x16x0.8	10x16x0.8
Clamp-type terminal:						
multi-wire		mm^2	-	1.5 - 50 Cu	25 - 150 Cu	25 - 150 Cu
Cu Band			-	6x9x0.8	6x16x0.8	6x16x0.8
Prism terminal:						
multi-wire		mm^2	-	10 - 70 Cu/Al	10 - 150 Cu/Al	10 - 150 Cu/Al
Double-prism terminal:						
multi-wire		mm^2	-	-	2x (70 - 95) Cu/Al	2x (70 - 95) Cu/Al

Note: Please leave a minimum distance to grounded live parts: Side = 20 mm, top = 50 mm. Exception DC-21B: Side = 50 mm, top = 100 mm (valid for XNH00…).

[1] Type-tested with NH fuse links of characteristic gG. Safety control FCE and FCL only in combination with NH fuses equipped with live handle straps.

Technical Data

Replacing NH fuses or any other activities (such as installation, operation etc. …) on NH fuse switch disconnectors may be carried out by electro-technically qualified and specialized staff only. Power-related data provided by the manufacturer, e.g. max. rated make and break capacities, must be taken into account. Non-qualified employees are not authorized to install or operate such products as they cannot foresee the consequences of their actions. General regulations (e.g. safety regulations, protective clothing …) and regional requirements (e.g. for accident prevention on electrical systems and operating resources) must at all times be respected.

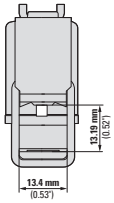
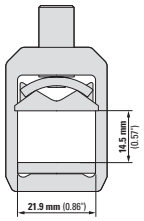
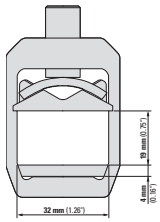
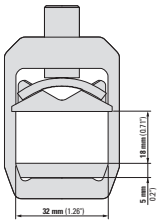
			XNH2...-A400...	**XNH2...-S400...**	**XNH3...-A630...**	**XNH3...-S630...**
Standard			IEC/EN 60947-3	IEC/EN 60947-3	IEC/EN 60947-3	IEC/EN 60947-3
NH fuses[1] according to DIN VDE 0636-2			2	2	3 / 2	3 / 2
Rated operating voltage	U_e	V	AC 690, DC 440	AC 690, DC 440	AC 690, DC 440	AC 690, DC 440
Rated operating current	I_e	A	400	400	630	630
Rated frequency	f	Hz	40 - 60	40 - 60	40 - 60	40 - 60
Rated insulation voltage	U_i	V	AC 800	AC 800	AC 800	AC 800
Total power loss at I_{th} (without fuses)	P_v	W	28	36	51	86
Power loss at 80% (without fuses)	P_v	W	17.8	22.9	32.5	54.8
Rated impulse withstand voltage	U_{imp}	kV	8	8	8	8
Utilization category			AC-23B (400 V/400 A)	AC-23B (400 V/400 A)	AC-23B (400 V/630 A)	AC-23B (400 V/630 A)
			AC-22B (500 V/400 A)	AC-22B (500 V/400 A)	AC-22B (500 V/630 A)	AC-22B (500 V/630 A)
			AC-21B (690 V/400 A)	AC-21B (690 V/400 A)	AC-21B (690 V/630 A)	AC-21B (690 V/630 A)
			DC-22B (440 V/400 A)	DC-22B (440 V/400 A)	DC-21B (250 V/630 A)	DC-21B (250 V/630 A)
					DC-22B (440 V/630 A)	DC-22B (440 V/630 A)
Conditional rated short-circuit current		kA	120 (500 V)	120 (500 V)	120 (500 V)	120 (500 V)
			100 (690 V)	100 (690 V)	100 (690 V)	100 (690 V)
Rated short-time withstand current	I_{cw}	kA	10	10	10	10
Max. permitted power loss per fuse link	P_{NH}	W	34 (500 V) 45 (690 V)	34 (500 V) 45 (690 V)	48 (500 V) 60 (690 V)	48 (500 V) 60 (690 V)
Degree of protection - front (XNH installed)			Operating status IP20	Operating status IP20	Operating status IP20	Operating status IP20
			Contact prot. IP2XC	Contact prot. IP2XC	Contact prot. IP2XC	Contact prot. IP2XC
			Handle cover open IP10	Handle cover open IP10	Handle cover open IP10	Handle cover open IP10
Ambient temperature (please consider reduction factors on page 18)	T_{35}	°C	-25 up to +70	-25 up to +70	-25 up to +70	-25 up to +70
Rated operating mode			Permanent operation	Permanent operation	Permanent operation	Permanent operation
Activation			Dependent manual activation	Dependent manual activation	Dependent manual activation	Dependent manual activation
Mounting position			Vertical/horizontal	Vertical/horizontal	Vertical/horizontal	Vertical/horizontal
Altitude		m	max. 2000	max. 2000	max. 2000	max. 2000
Degree of pollution			3	3	3	3
Overvoltage category			III	III	III	III
Colour			Grey	Grey	Grey	Grey
RoHs			Yes	Yes	Yes	Yes
Energy feeder direction			Any	Any (FLEX system)	Any	Any (FLEX system)
Lockable			Yes, optional	Yes, optional	Yes, optional	Yes, optional
Sealable			Yes, standard	Yes, standard	Yes, standard	Yes, standard
Material			Polyamide	Polyamide	Polyamide	Polyamide
Reaction to fire			Self-extinguishing acc. to UL94	Self-extinguishing acc. to UL94	Self-extinguishing acc. to UL94	Self-extinguishing acc. to UL94
Halogen-free			Yes	Yes	Yes	Yes
Voltage test			Yes, sliding inspection windows	Yes, sliding inspection windows	Yes, sliding inspection windows	Yes, sliding inspection windows
Electrical service life (operating cycles)			200	200	200	200
Mechanical service life (operating cycles)			800	800	800	800
Track resistance			CTI 600	CTI 600	CTI 600	CTI 600
Temperature resistance up to		°C	125	125	125	125
Terminal capacities						
Flat connection:						
Bolt diameter			M10	M10	M10	M10
Cable lug max. width		mm	48	48	56	56
Flat bar		mm	40x10	40x10	50x10	50x10
Box terminal:						
multi-wire		mm^2	95 - 300 Cu/Al	95 - 300 Cu/Al	95 - 300 Cu/Al	95 - 300 Cu/Al
Cu Band			6x16x0.8 up to 10x32x1	6x16x0.8 up to 10x32x1	6x16x0.8 up to 10x32x1	6x16x0.8 up to 10x32x1
Clamp-type terminal:						
multi-wire		mm^2	25 - 240 Cu	25 - 240 Cu	on request	on request
Cu Band			10x16x0.8	10x16x0.8	11x21x1	11x21x1
Prism terminal:						
multi-wire		mm^2	120 - 240 Cu/Al	120 - 240 Cu/Al	120 - 300 Cu/Al	120 - 300 Cu/Al
Double-prism terminal:						
multi-wire		mm^2	2x (120 - 150) Cu/Al	2x (120 - 150) Cu/Al	2x (120 - 240) Cu/Al	2x (120 - 240) Cu/Al

Note: Please leave a minimum distance to grounded live parts: Side = 20 mm, top = 50 mm.

[1] Type-tested with NH fuse links of characteristic gG. Safety control FCE and FCL only in combination with NH fuses equipped with live handle straps.

Technical Data

Connection of laminated copper band (CU-BAND...) to XNH fuse switch disconnectors with box terminal BT

Number of layers	x	Width	x	Thickness of layers	=	Cross-section (mm²)	Hight copper band (mm)	Max. rated operating current (A)				
									XNH00...-BT	XNH1...-BT	XNH2...-BT	XNH3...-BT
3	x	9	x	0.8	=	21.6	2.4	100	x	x	-	-
6	x	9	x	0.8	=	43.2	4.8	160	x	x	-	-
9	x	9	x	0.8	=	64.8	7.2	200	x	x	-	-
6	x	16	x	0.8	=	74.4	4.65	250	-	x	x	x
10	x	16	x	0.8	=	124	7.75	400	-	x	x	x
5	x	24	x	1.0	=	120	5	400	-	-	x	x
11	x	21	x	1.0	=	231	11	630	-	-	x	x
8	x	24	x	1.0	=	192	8	630	-	-	x	x
10	x	24	x	1.0	=	240	10	630	-	-	x	x
5	x	32	x	1.0	=	160	5	160	-	-	x	x
10	x	32	x	1.0	=	320	10	800	-	-	x	x
10	x	40	x	1.0	=	400	10	1000	-	-	-	-
10	x	50	x	1.0	=	500	10	1250	-	-	-	-
10	x	80	x	1.0	=	800	10	1600	-	-	-	-

Reduction of rated currents of NH fuse-switch-disconnectors XNH

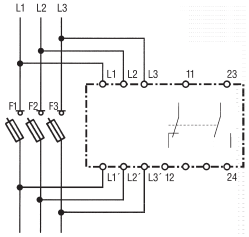
Current reduction at a certain ambient temperature

Frame size	Mounting method	Type	Rated operational voltage Ue	Power loss per fuse link Pv	Rated current Ie	Reduction factors at ambient temperature							
			[V]	[W]	[A]	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C
NH000	Mounting plate	XNH000-A...	400 / 500	9	125	0.90	0.90	0.90	0.90	0.80	0.80	0.80	0.80
			690										
	Busbar	XNH000-S...	400 / 500	9	125	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95
			690										
NH00	Mounting plate	XNH00-A...	400 / 500	12	160	1.00	0.96	0.93	0.90	0.86	0.82	0.77	0.72
			690										
	Busbar	XNH00-S...	400 / 500	12	160	1.00	1.00	1.00	1.00	1.00	0.95	0.89	0.84
			690										
NH1	Mounting plate	XNH1-A...	400 / 500	23	250	1.00	0.97	0.93	0.89	0.84	0.79	0.74	0.69
			690	32	250	0.90	0.87	0.83	0.79	0.75	0.71	0.65	0.60
	Busbar	XNH1-S...	400 / 500	23	250	1.00	1.00	1.00	1.00	0.98	0.92	0.85	0.79
			690	32	250	1.00	1.00	1.00	0.99	0.94	0.89	0.83	0.76
NH2	Mounting plate	XNH2-A...	400 / 500	34	400	1.00	0.94	0.88	0.81	0.75	0.71	0.66	0.61
			690	45	400	0.84	0.81	0.78	0.74	0.70	0.66	0.61	0.56
	Busbar	XNH2-S...	400 / 500	34	400	1.00	1.00	1.00	1.00	0.94	0.89	0.82	0.76
			690	45	400	1.00	1.00	0.96	0.91	0.86	0.81	0.76	0.69
NH3	Mounting plate	XNH3-A...	400 / 500	48	630	1.00	0.93	0.87	0.80	0.74	0.69	0.65	0.60
			690	60	630	0.84	0.81	0.77	0.74	0.70	0.66	0.62	0.57
	Busbar	XNH3-S...	400 / 500	48	630	1.00	0.94	0.87	0.83	0.78	0.74	0.69	0.65
			690	60	630	0.93	0.88	0.83	0.79	0.74	0.69	0.65	0.61

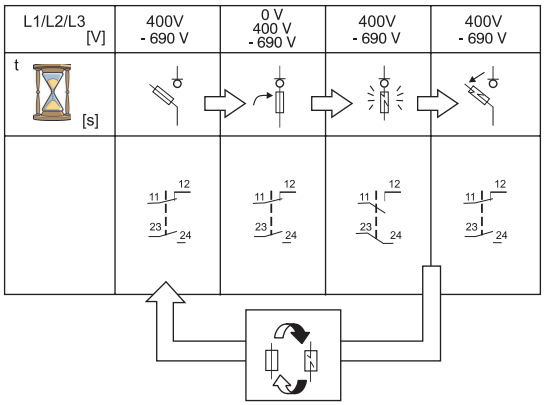
Technical Data XNH...FCE...

		XNH...FCE...
Power supply	V	Self-supplied
Power consumption	VA	1.5
Overvoltage category		230/400 V: III 500 V: II
Frequency range	HZ	50 - 60
Input resistance		>1 kOhm/V
Voltage inputs	V	AC 400 - 500 (+/-10%)
Temperature range	°C	-5 up to +55
Operation indicator		1 LED green
Failure indicator		3 LEDs (F1, F2, F3) red
IP degree of protection		IP3X
Function test		Test button for relay + LEDs
EMC		IEC 61000-4-5 / IEC 61000-4-4
Fuse links		NH with live handle straps
Outputs		
Relay output		1 NC, 1 NO
Max. voltage	V	AC 250 / DC 24
Max. switching current	A	1

Circuit diagram



Function diagram



Note: Not suitable for single-phase application!

Product range XNH.-SWD-KIT

	XNH00-SWD-KIT	XNH1-SWD-KIT	XNH2-SWD-KIT	XNH3-SWD-KIT
Basic function	SmartWire-DT® module for direct connection			
Accessories	SmartWire-DT® XNH module (NH fuse switch disconnector)			
Compatible with the devices	XNH00-FCE-…	XNH1-FCE-…	XNH2-FCE-…	XNH3-FCE-…
Scope of delivery	Base module with 2 digital inputs for XNH Switch position indicator (1 change-over contact, AC 250 V, 10/3 A) ver for connection area - bottom Mini cable duct Contact plug 4-pole Control cable 0.75 mm^2, 4 units			
Description	Mounting onto XNH fuse switch disconnector			
Signals	Switch position XNH Fuse tripped			
Connection to SmartWire-DT	Yes			

Technical Data XNH.-SWD-KIT

		XNH00-SWD-KIT	XNH1-SWD-KIT	XNH2-SWD-KIT	XNH3-SWD-KIT
General information					
Standards and regulations		Immunity: IEC 61131-2: 2007 include test according IEC 61000-4-2: 2008 IEC 61000-4-3: 2006+A1:2007+A2:2010 IEC 61000-4-4: 2012 IEC 61000-4-6: 2008 IEC 61000-4-8: 2010 Emission: IEC 61131-2: 2007 IEC/CISPR 11:2009, mod. + A1:2010, Group 1, Class A			
Dimensions (W x H x D)	mm	92 x 51 x 26.5			
Weight	kg	0.07			
Installation		On the cover of the cable area of the XNH-…			
Mounting position		Same as XNH-…			
Mechanical ambient conditions					
Degree of protection (IEC/EN 60529, EN50178, VBG 4)		IP2X			
Electromagnetic compatibility (EMC)					
Overvoltage category		II			
Degree of pollution		2			
Electrostatic discharge (IEC/EN 61131-2:2008)					
Air discharge (Level 3)	kV	8			
Contact discharge (Level 2)	kV	4			
Electromagnetic fields (IEC/EN 61131-2:2008)					
80 - 1000 MHz	V/m	10			
1.4 - 2 GHz	V/m	3			
2 - 2.7 GHz	V/m	3			
Radio interference suppression SmartWire-DT					
Radio interference suppression		EN 55011 Class A			
Burst (IEC/EN 61131-2:2008, Level 3)					
SmartWire-DT cables					
Signal cables	kV	2			
CAN/DP Bus cables					
SmartWire-DT cables	kV	2			
Inrush (IEC/EN 61131-2:2008, Level 3)	V	10			

Technical Data XNH.-SWD-KIT (continued)

			XNH00-SWD-KIT	XNH1-SWD-KIT	XNH2-SWD-KIT	XNH3-SWD-KIT
Climatic ambient conditions						
Operating ambient temperature (IEC 60068-2)						
Ambient temperature		°C	-25 up to +60			
Condensation			Condensation is to be prevented through appropriate measures			
Storage	J	°C	-30 up to +70			
Relative humidity, non-condensating (IEC/EN 60068-2-30)		%	5 - 95			
SmartWire-DT Network						
Type of participant			SmartWire-DT participant (slave)			
Address setting			automatic			
Status SmartWire-DT		LED	green			
Terminal connections			Multi-pin strip, 8-pole			
Connection			Device plug SWD4-8SF2-5			
Current consumption						
15-V-SWD supply		mA	35			
Control connections digital input						
Single core			FEP-6Y (is included in the scope of delivery)			
Nominal cross section		mm^2	0.75			

Product range XNH...-SWD-KIT-EXT

	XNH00-SWD-KIT-EXT	XNH123-SWD-KIT-EXT
Basic function	SmartWire-DT® module for direct connection	
Accessories	SmartWire-DT® XNH module (NH fuse switch disconnector)	
Compatible with the devices	XNH00-FCE-…	XNH1(2/3)-FCE-…
Scope of delivery	SWD module with 2 digital inputs and 3 analog inputs Without change-over Without control cables Fixing element for mounting plate Mini cable duct Contact plug 4-pole and 6-pole	
Description	Installation on the mounting plate	
Signals	Current measurement Switch position XNH Fuse tripped	
Connection to SmartWire-DT	Yes	

Technical Data XNH...-SWD-KIT-EXT

		XNH00-SWD-KIT-EXT	XNH123-SWD-KIT-EXT
General information			
Standards and regulations		Immunity: IEC 61131-2: 2007 include test according IEC 61000-4-2: 2008 IEC 61000-4-3: 2006+A1:2007+A2:2010 IEC 61000-4-4: 2012 IEC 61000-4-6: 2008 IEC 61000-4-8: 2010 Emission: IEC 61131-2: 2007 IEC/CISPR 11:2009, mod. + A1:2010, Group 1, Class A	
Dimensions (W x H x D)	mm	92 x 51 x 26.5	
Weight	kg	0.07	
Installation		On mounting plate	
Mounting position		Same as XNH-…	
Mechanical ambient conditions			
Degree of protection (IEC/EN 60529, EN50178, VBG 4)		IP2X	
Electromagnetic compatibility (EMC)			
Overvoltage category		II	
Degree of pollution		2	
Electrostatic discharge (IEC/EN 61131-2:2008)			
Air discharge (Level 3)	kV	8	
Contact discharge (Level 2)	kV	4	
Electromagnetic fields (IEC/EN 61131-2:2008)			
80 - 1000 MHz	V/m	10	
1.4 - 2 GHz	V/m	3	
2 - 2.7 GHz	V/m	3	
Radio interference suppression SmartWire-DT			
Radio interference suppression		EN 55011 Class A	
Burst (IEC/EN 61131-2:2008, Level 3)			
SmartWire-DT cables			
Signal cables	kV	2	
CAN/DP Bus cables			
SmartWire-DT cables	kV	2	
Inrush (IEC/EN 61131-2:2008, Level 3)	V	10	

Technical Data XNH...-SWD-KIT-EXT (continued)

			XNH123-SWD-KIT-EXT	XNH3-SWD-KIT
Climatic ambient conditions				
Operating ambient temperature (IEC 60068-2)				
Ambient temperature		°C	-25 up to +60	
Condensation			Condensation is to be prevented through appropriate measures	
Storage	J	°C	-30 up to +70	
Relative humidity, non-condensating (IEC/EN 60068-2-30)		%	5 - 95	
SmartWire-DT Network				
Type of participant			SmartWire-DT participant (slave)	
Address setting			automatic	
Status SmartWire-DT		LED	green	
Terminal connections			Multi-pin strip, 8-pole	
Connection			Device plug SWD4-8SF2-5	
Current consumption				
15-V-SWD supply		mA	35	
Control connections digital input				
Single core			FEP-6Y (not included in the scope of delivery)	
Nominal cross section		mm^2	0.75	

Product range XNH-SWD-2DX...

	XNH-SWD-2DX-1	XNH-SWD-2DX-3AX-1
Basic function	SmartWire-DT® module for direct connection	
Accessories	SmartWire-DT® XNH module (NH fuse switch disconnector)	
Compatible with the devices (as well as universal use without XNH)	XNH00-FCE-… XNH1-FCE-… XNH2-FCE-… XNH3-FCE-...	
Scope of delivery	SWD module with 2 digital inputs for XNH Contact plug 4-pole	SWD module with 2 digital and 3 analogue inputs for XNH Contact plug 4- and 6-pole
Description	Mounting onto fuse switch disconnector XNH or mounting plate	
Signals	Switch position XNH Fuse tripped	Switch position XNH Fuse tripped Current phase 1 Current phase 2 Current phase 3
Connection to SmartWire-DT	Yes	

Technical Data XNH-SWD-2DX...

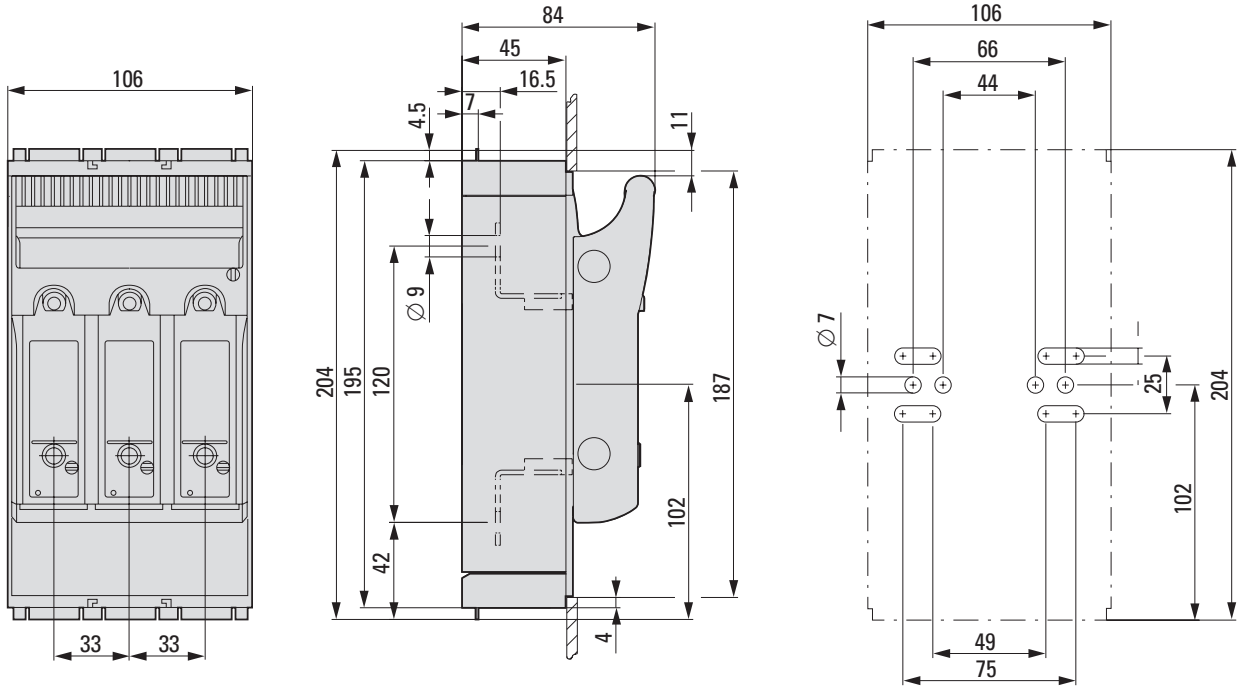
		XNH-SWD-2DX-1	XNH-SWD-2DX-3AX-1
General information			
Standards and regulations		Immunity: IEC 61131-2: 2007 include test according IEC 61000-4-2: 2008 IEC 61000-4-3: 2006+A1:2007+A2:2010 IEC 61000-4-4: 2012 IEC 61000-4-6: 2008 IEC 61000-4-8: 2010 Emission: IEC 61131-2: 2007 IEC/CISPR 11:2009, mod. + A1:2010, Group 1, Class A	
Dimensions (W x H x D)	mm	92 x 51 x 26.5	
Weight	kg	0.07	0.08
Installation		On the cover of the cable area of the XNH-…	
Mounting position		Same as XNH-…	
Mechanical ambient conditions			
Degree of protection (IEC/EN 60529, EN50178, VBG 4)		IP2X	
Electromagnetic compatibility (EMC)			
Overvoltage category		II	
Degree of pollution		2	
Electrostatic discharge (IEC/EN 61131-2:2008)			
Air discharge (Level 3)	kV	8	
Contact discharge (Level 2)	kV	4	
Electromagnetic fields (IEC/EN 61131-2:2008)			
80 - 1000 MHz	V/m	10	
1.4 - 2 GHz	V/m	3	
2 - 2.7 GHz	V/m	3	
Radio interference suppression SmartWire-DT			
Radio interference suppression		EN 55011 Class A	
Burst (IEC/EN 61131-2:2008, Level 3)			
SmartWire-DT cables			
Signal cables	kV	2	
CAN/DP Bus cables			
SmartWire-DT cables	kV	2	
Inrush (IEC/EN 61131-2:2008, Level 3)	V	10	

Technical Data XNH-SWD-2DX... (continued)

			XNH-SWD-2DX-1	XNH-SWD-2DX-3AX-1
Climatic ambient conditions				
Operating ambient temperature (IEC 60068-2)				
Ambient temperature		°C	-25 up to +60	
Condensation			Condensation is to be prevented through appropriate measures	
Storage	J	°C	-30 up to +70	
Relative humidity, non-condensating (IEC/EN 60068-2-30)		%	5 - 95	
SmartWire-DT Network				
Type of participant			SmartWire-DT participant (slave)	
Address setting			automatic	
Status SmartWire-DT		LED	green	
Terminal connections			Multi-pin strip, 8-pole	
Connection			Device plug SWD4-8SF2-5	
Current consumption				
15-V-SWD supply		mA	35	
Control connections digital input				
Single core			FEP-6Y (not included in the scope of delivery)	
Nominal cross section		mm^2	0.75	
Connection			Contact plug, 4-pole (included in the scope of delivery)	Contact plug, 4- and 6-pole (included in the scope of delivery)

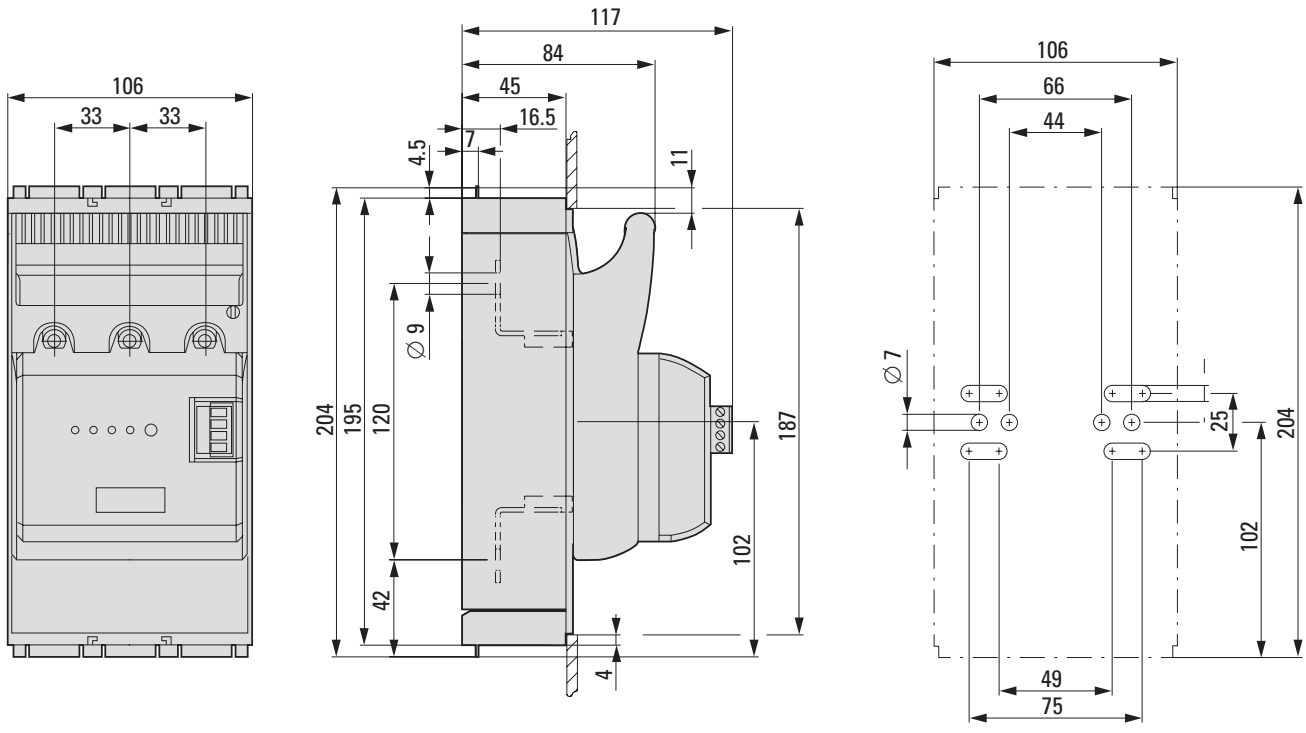
Dimensional drawings

XNH00-A160..., XNH00-FCL-A160...



1230DIM-352

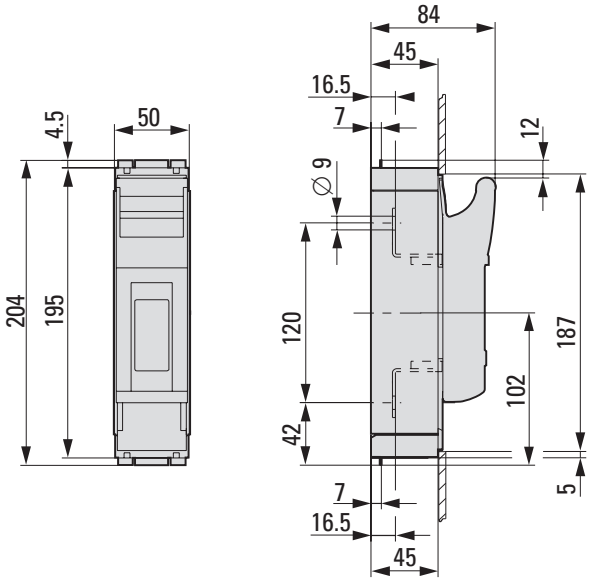
XNH00-FCE-A160...,



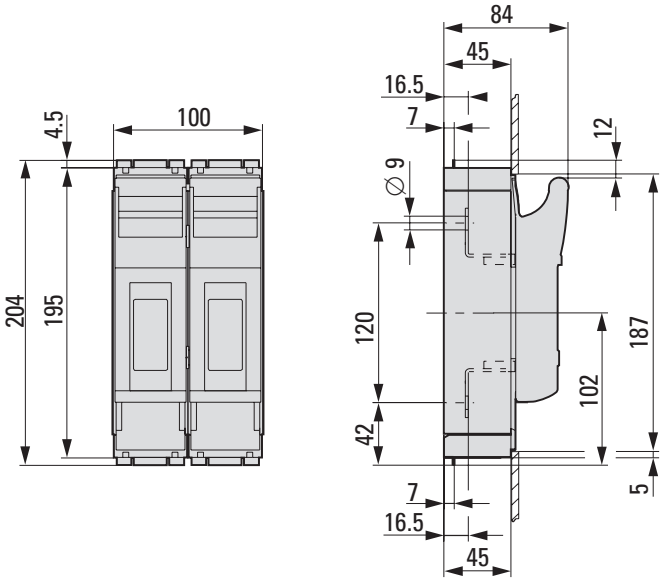
1230DIM-353

Dimensional drawings

1x XNH00-1-A160...

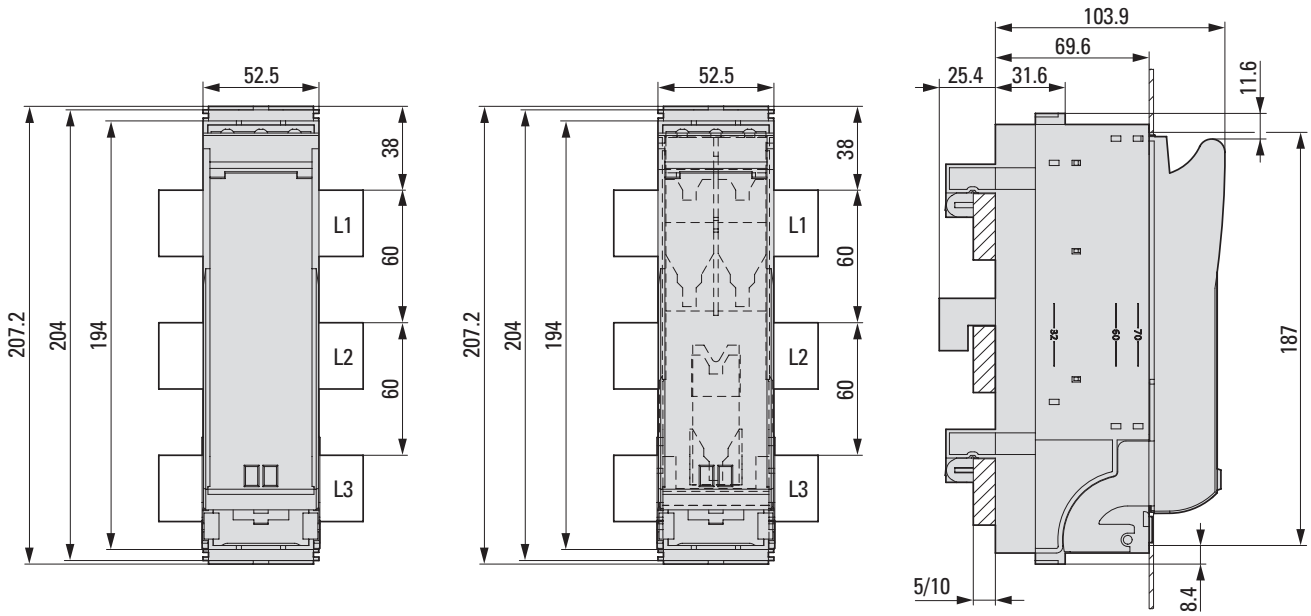


2x XNH00-1-A160...



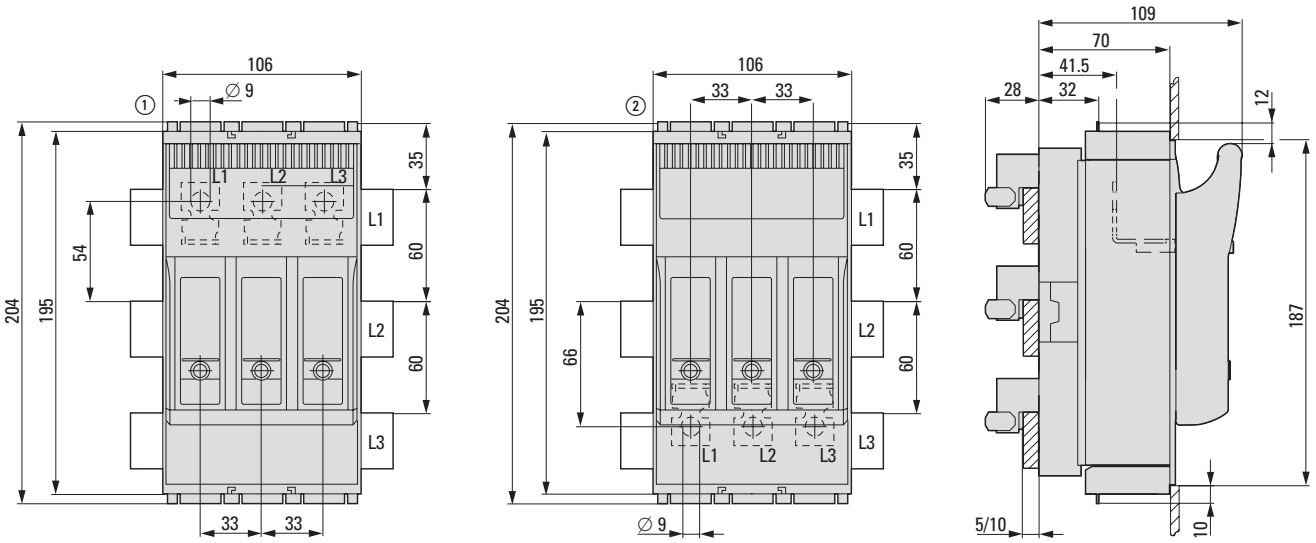
1230DIM-373, 1230DIM-374

XNH000-S125-BT-BOT, XNH000-S125-BT-TOP



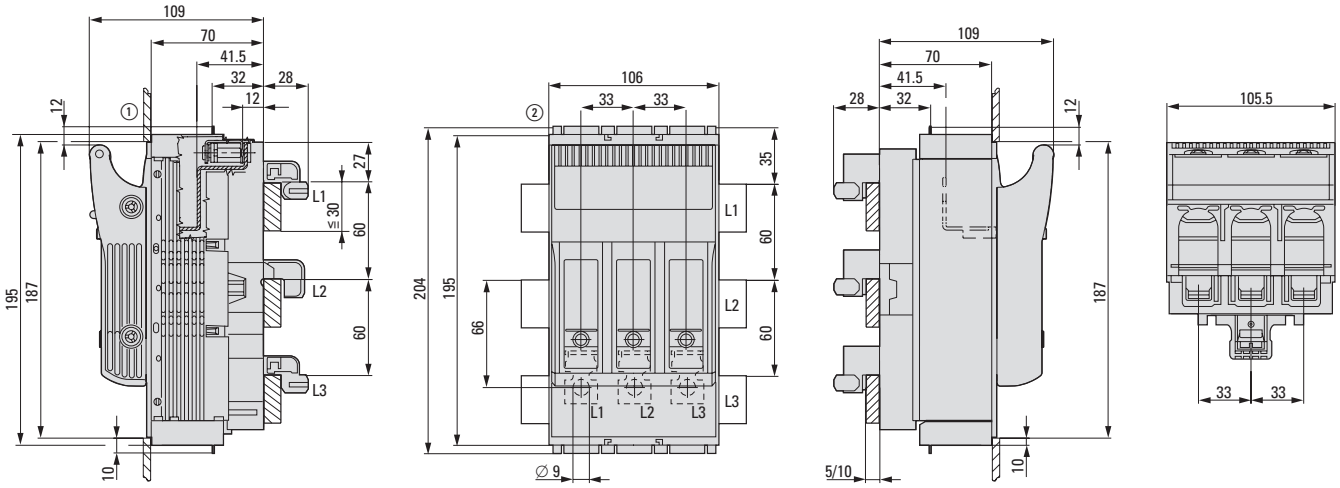
Dimensional drawings

XNH00-S160..., XNH00-FCL-S160, XNH00-FCL-S160-BT1



1230DIM-362

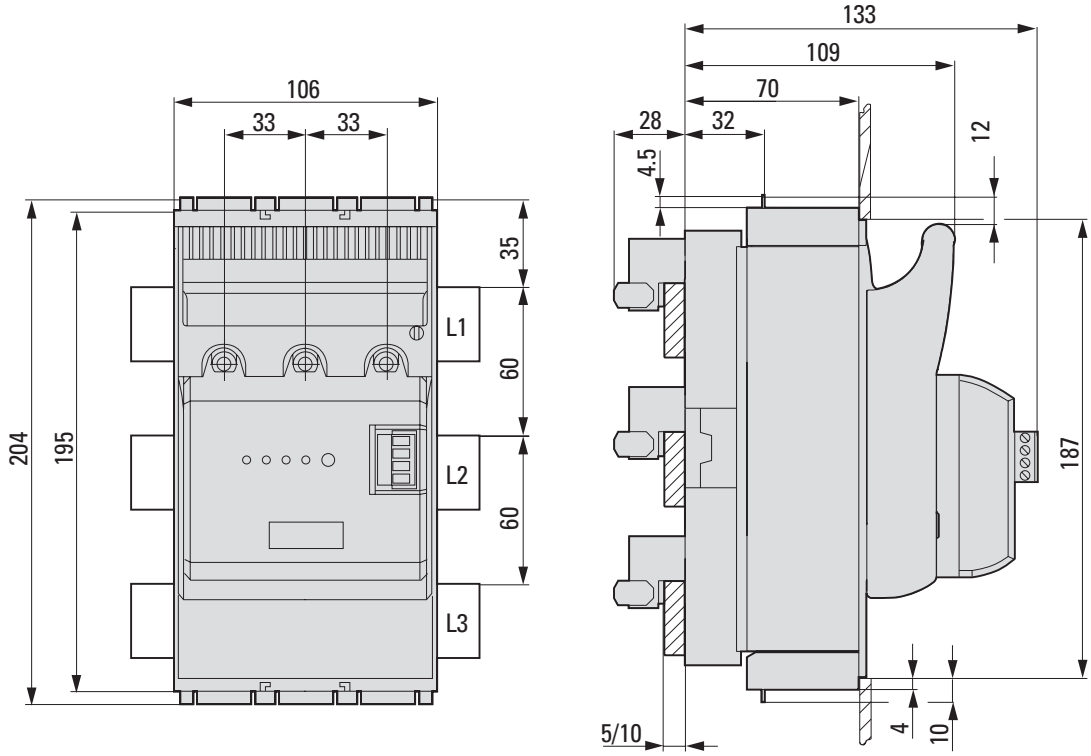
XNH00-FCL-S160-BT2



1230DIM-363

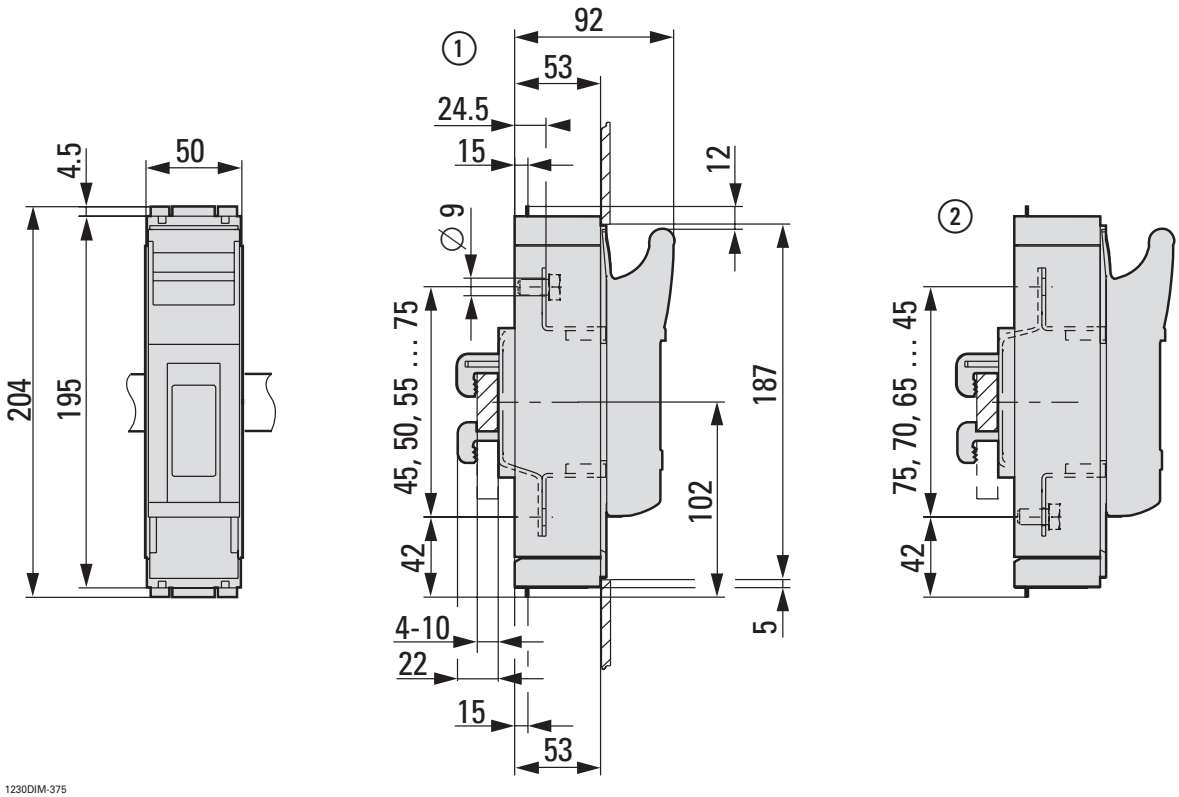
Dimensional drawings

XNH00-FCE-S160...



1230DIM-364

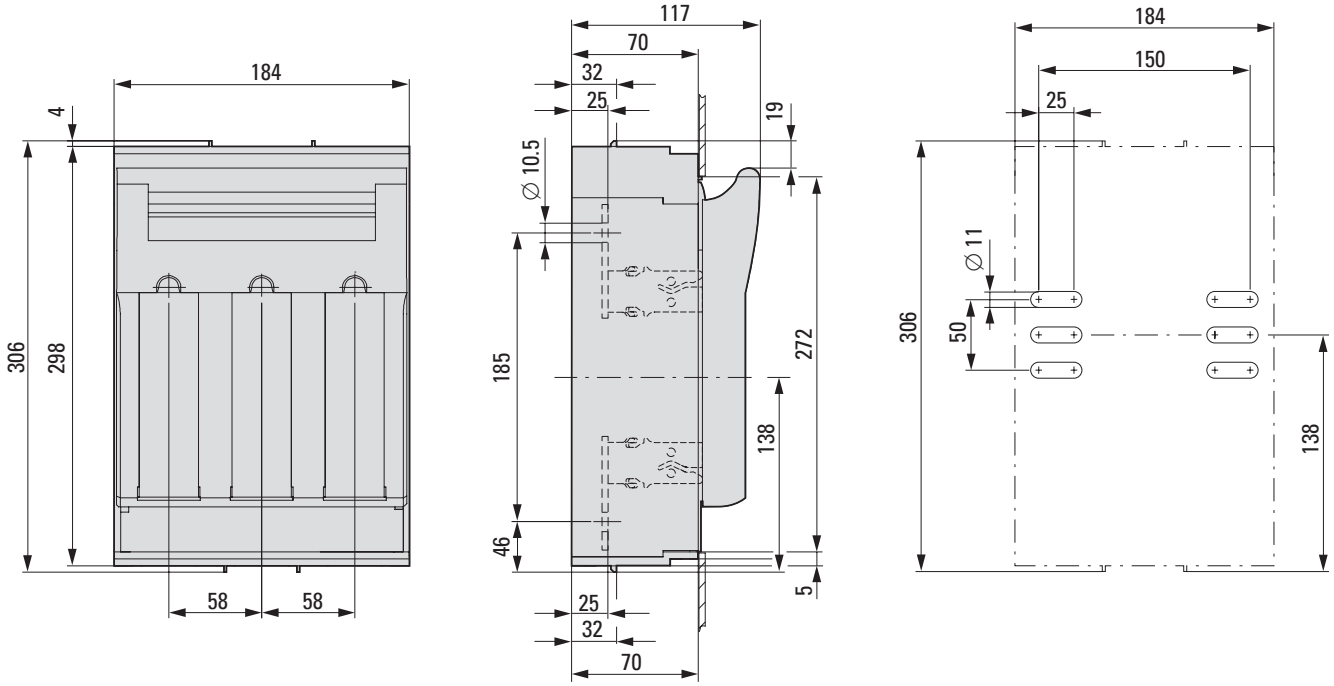
XNH00-1-S160



1230DIM-375

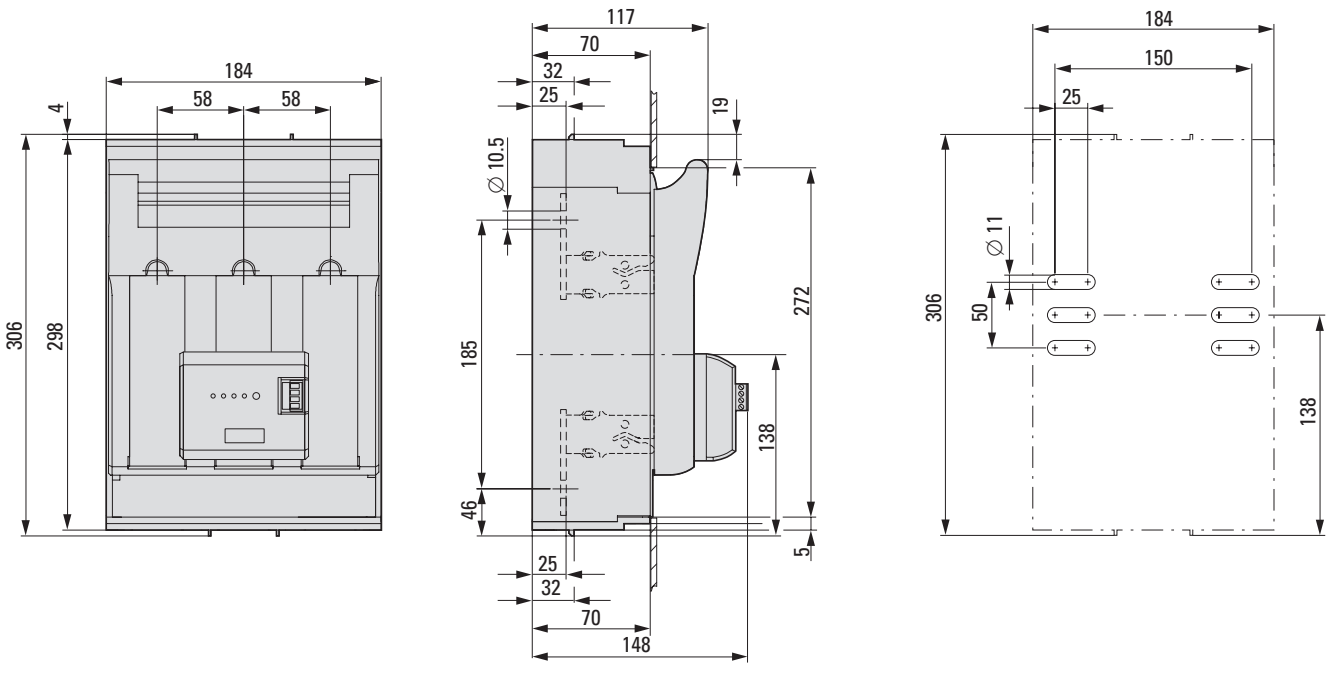
Dimensional drawings

XNH1-A250..., XNH1-FCL-A250...



1230DIM-355

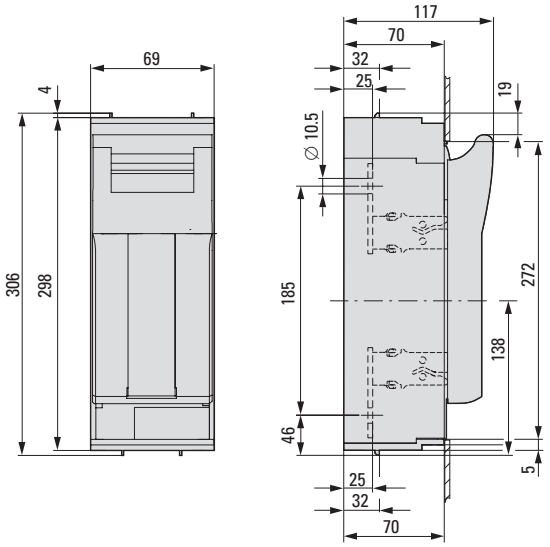
XNH1-FCE-A250...



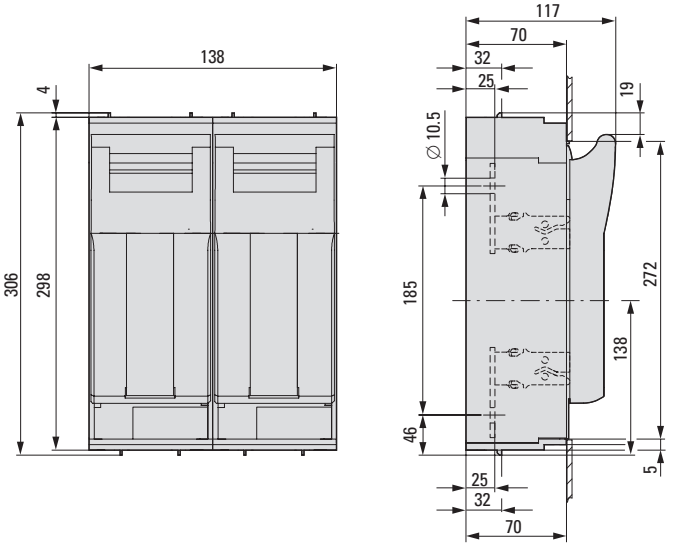
1230DIM-359

Dimensional drawings

1x XNH1-1-A250...



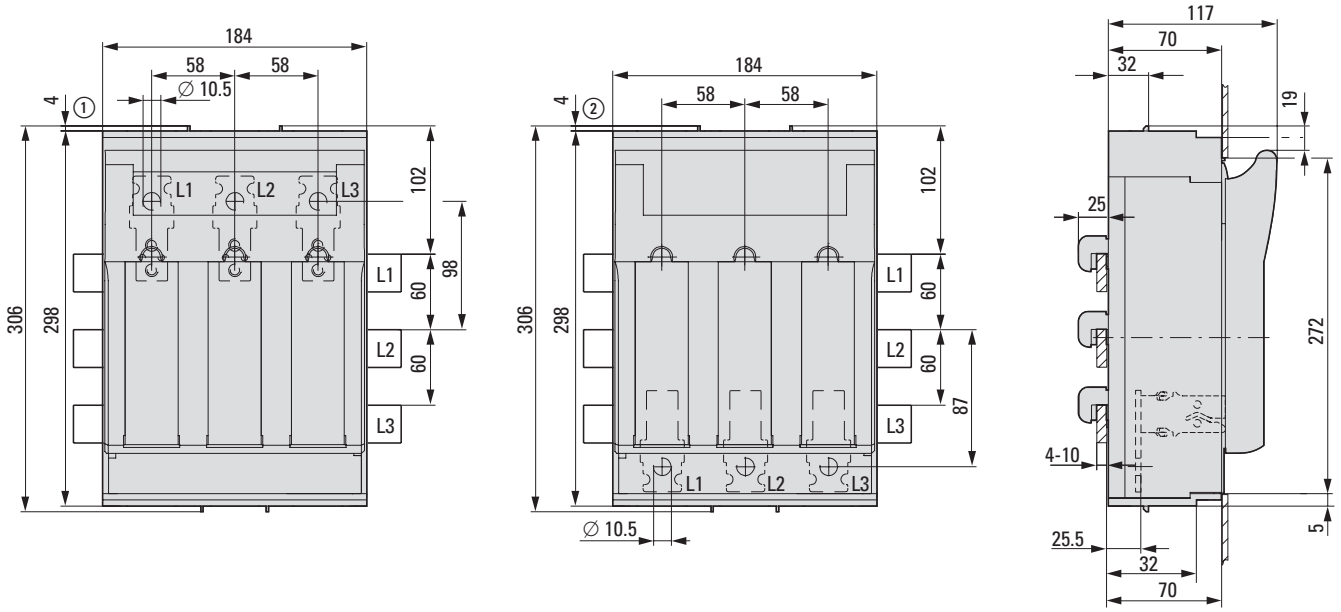
2x XNH1-1-A250...



1230DIM-377, 1230DIM-380

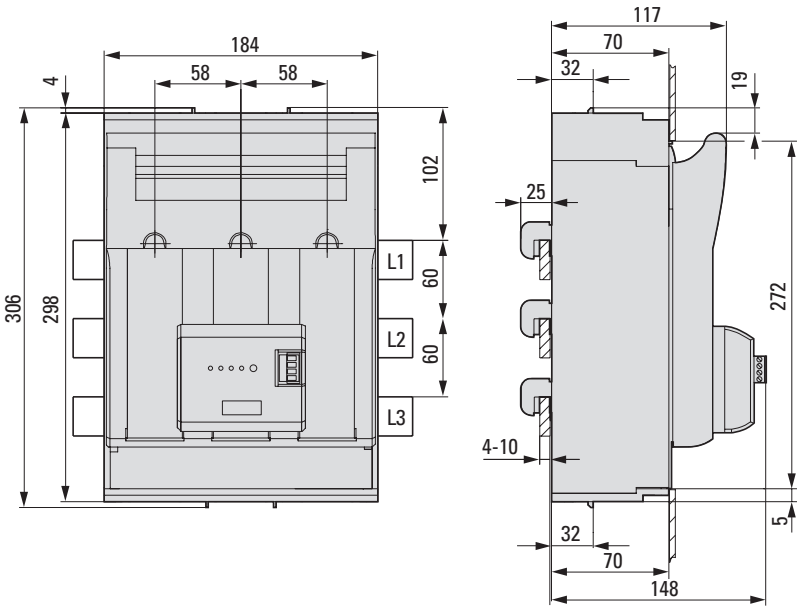
Dimensional drawings

XNH1-S250..., XNH1-FCL-S250...



1230DIM-366

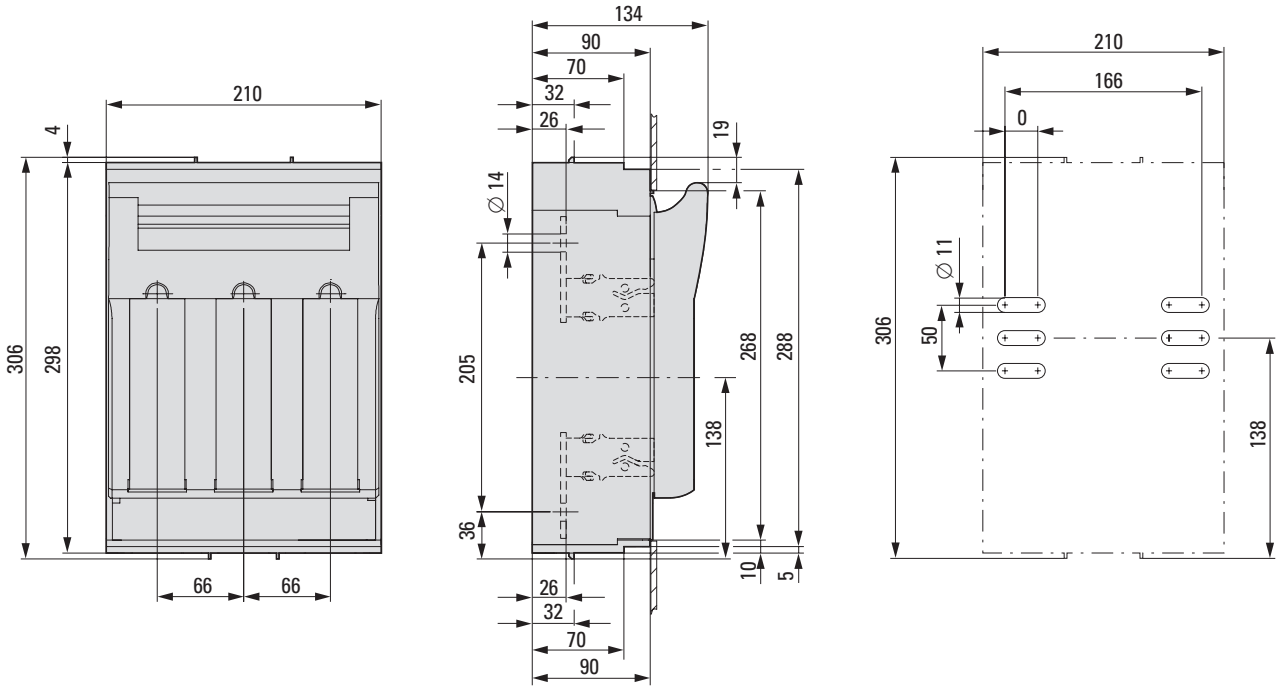
XNH1-FCE-S250...



1230DIM-370

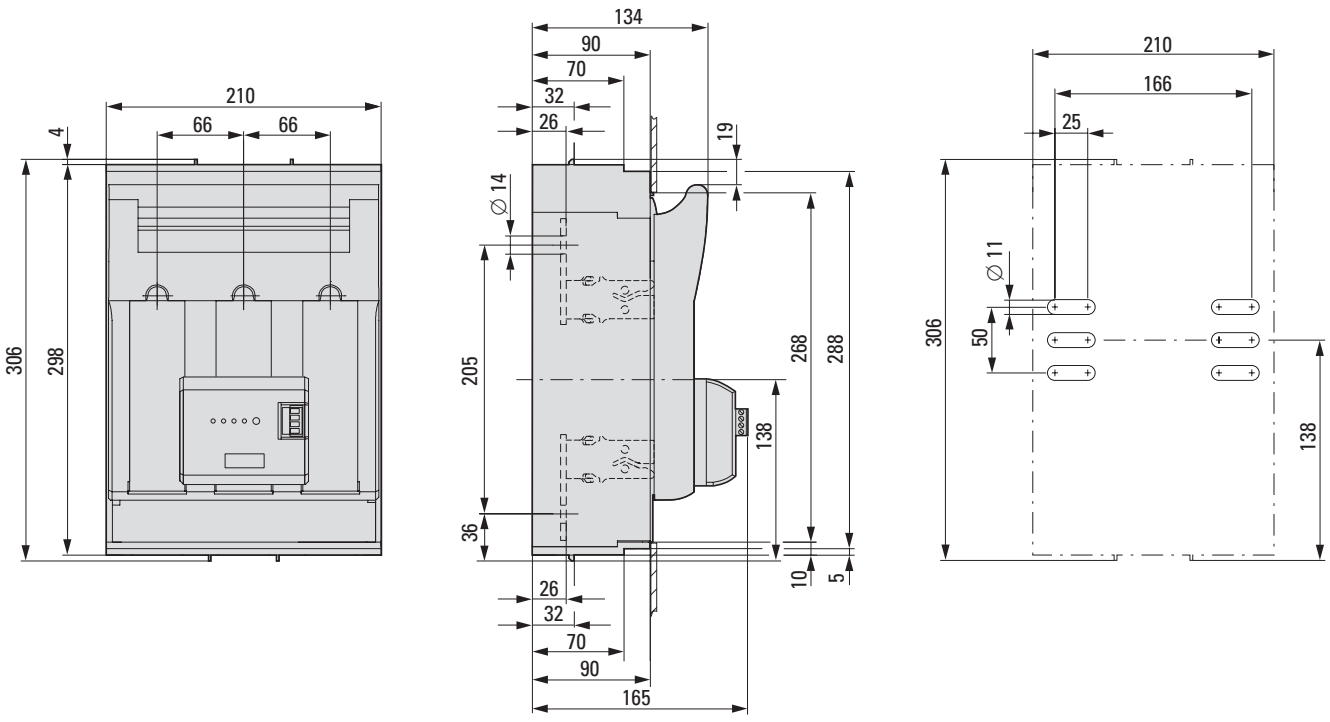
Dimensional drawings

XNH2-A400..., XNH2-FCL-A400...



1230DIM-356

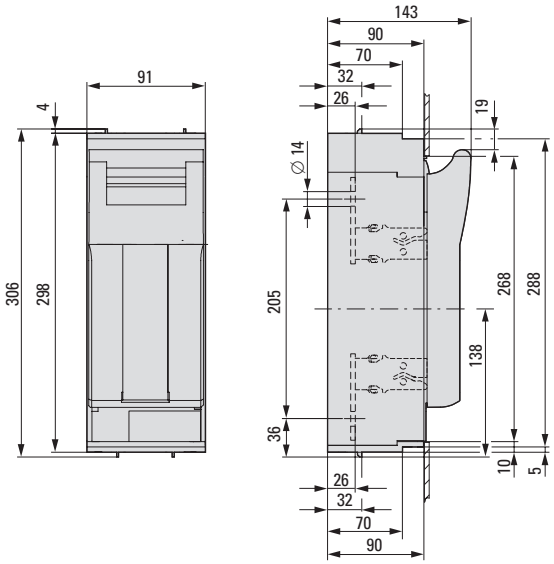
XNH2-FCE-A400...



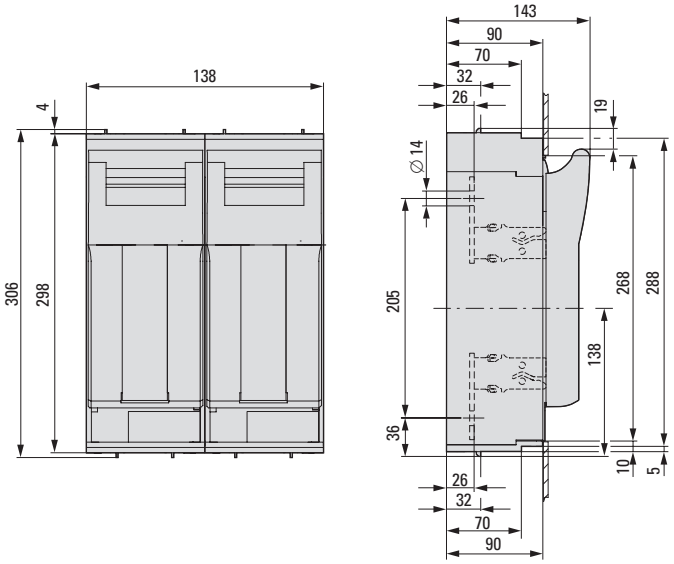
1230DIM-360

Dimensional drawings

1x XNH32-1-A630...



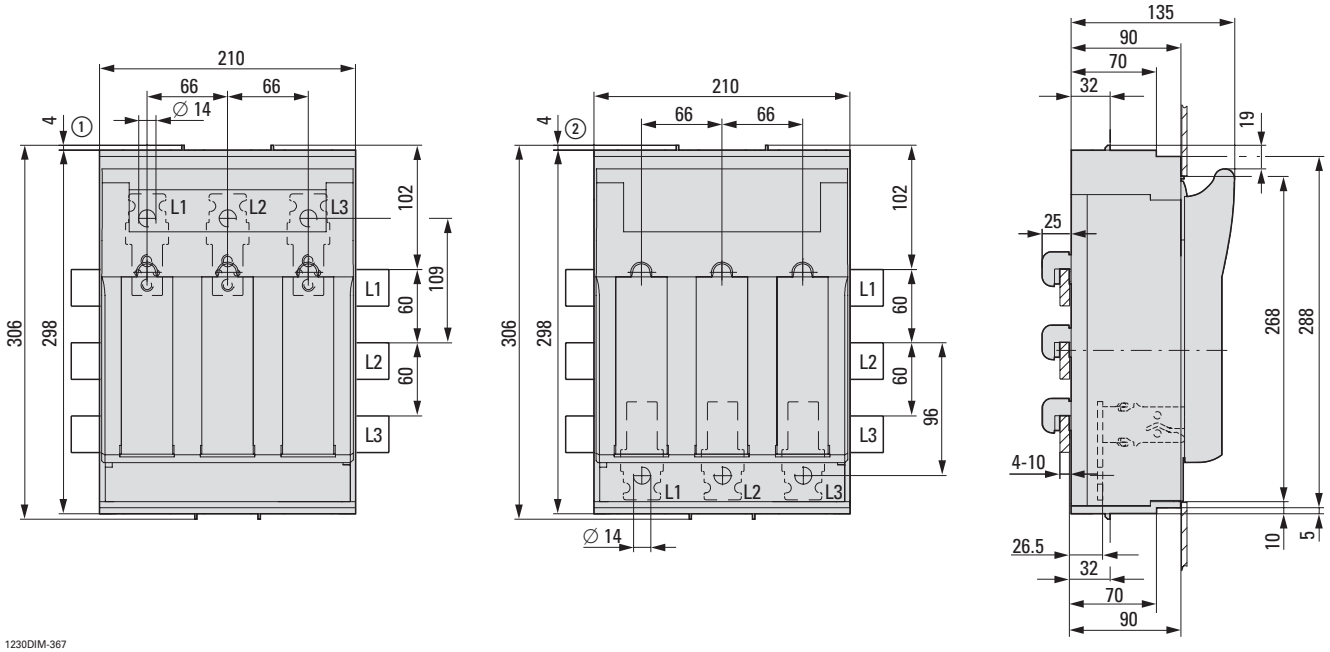
2x XNH32-1-A630...



1230DIM-378, 1230DIM-381

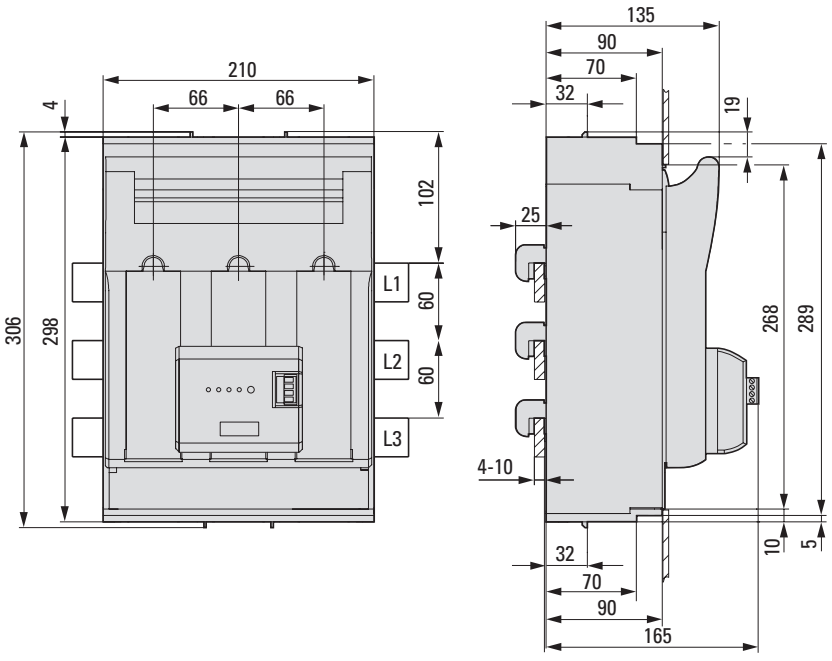
Dimensional drawings

XNH2-S400..., XNH2-FCL-S400...



1230DIM-367

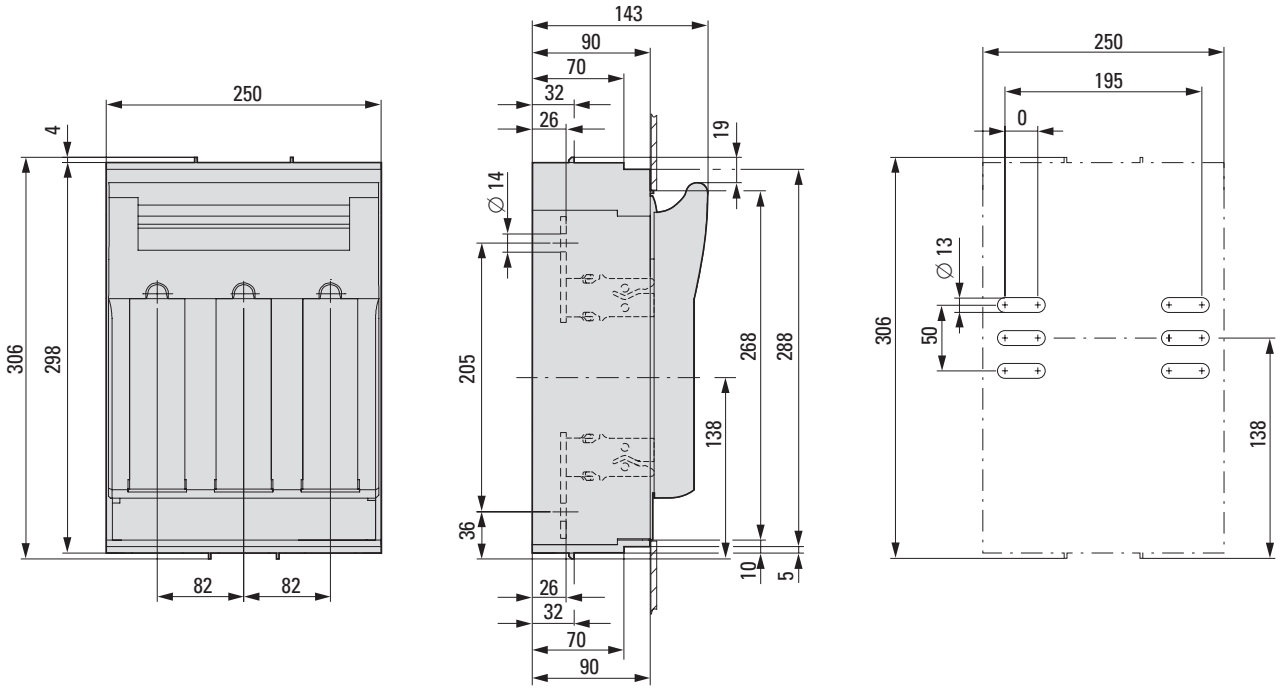
XNH2-FCE-S400...



1230DIM-371

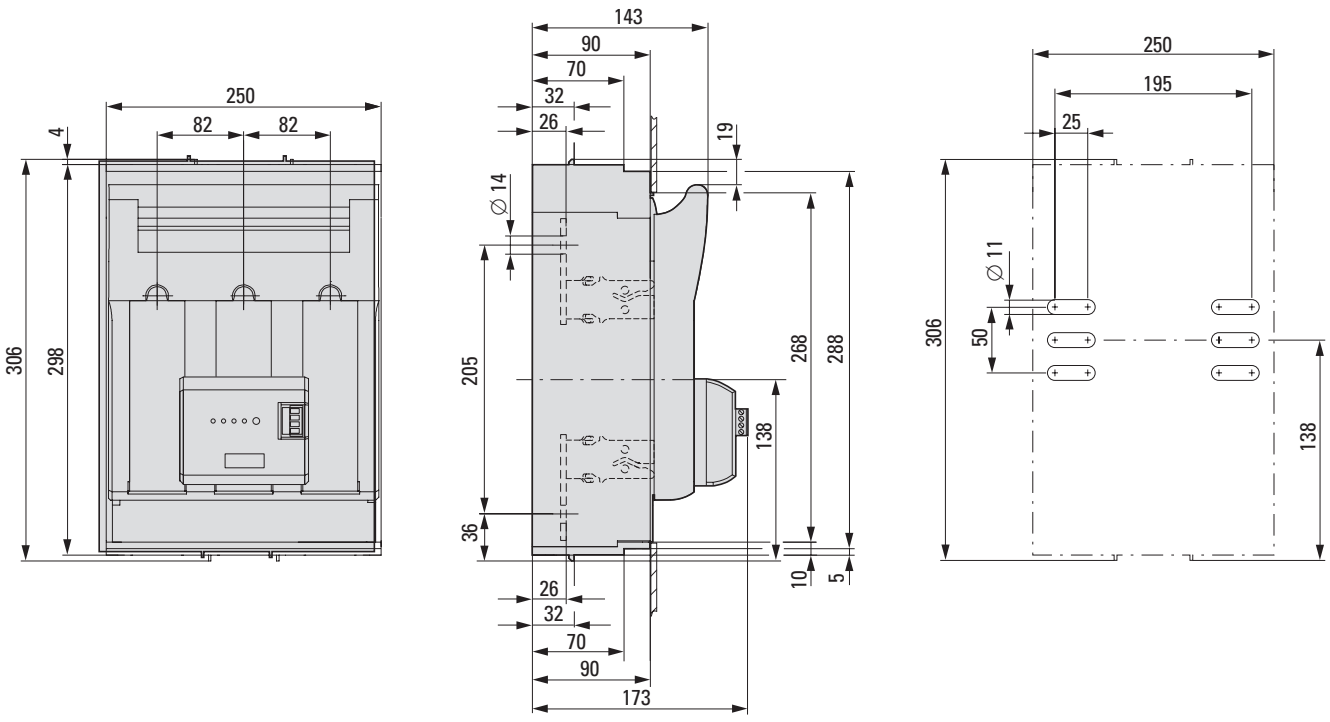
Dimensional drawings

XNH3-A630..., XNH3-FCL-A630...



1230DIM-357

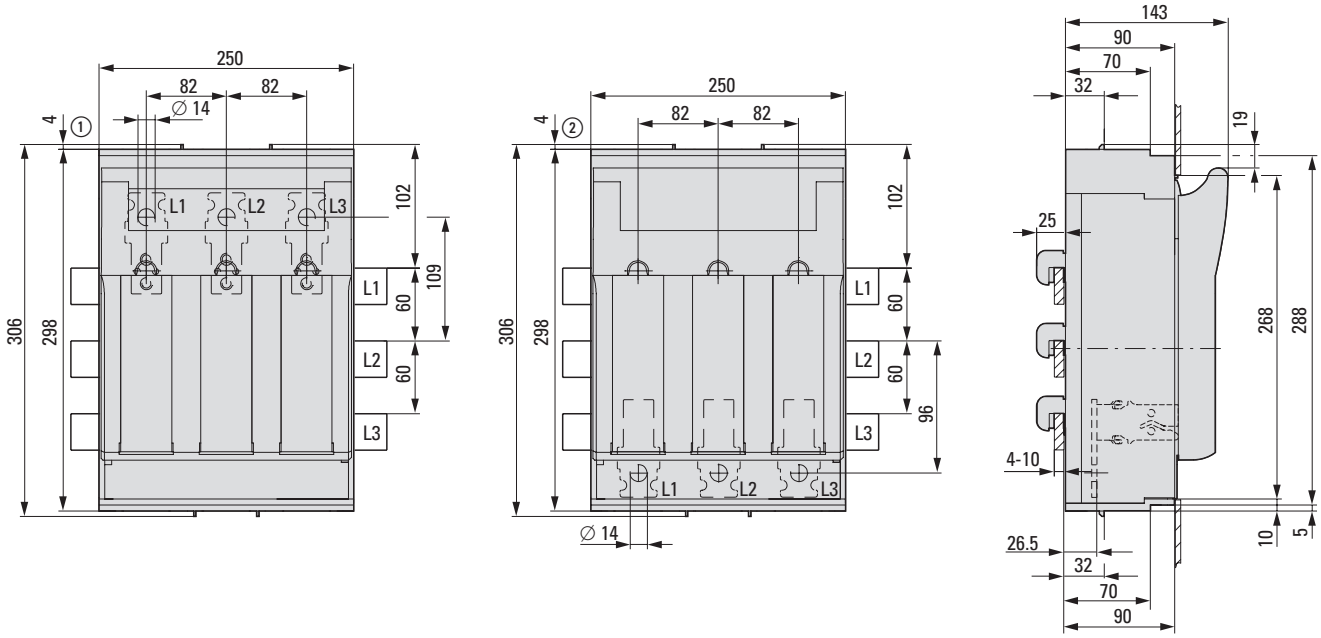
XNH3-FCE-A630...



1230DIM-361

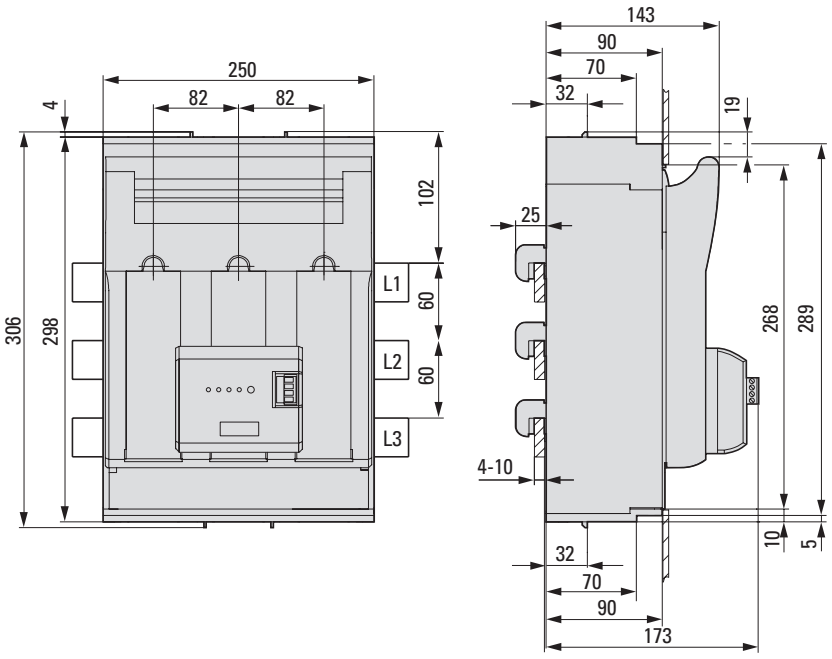
Dimensional drawings

XNH3-S630..., XNH3-FCL-S630...



1230DIM-368

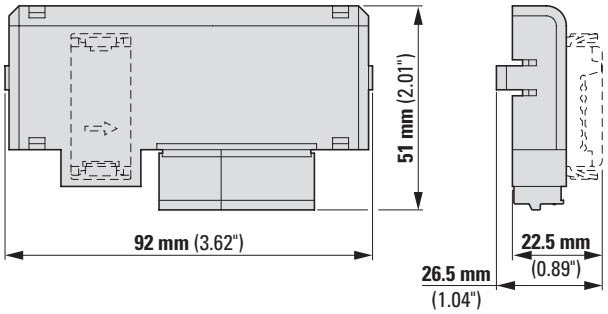
XNH3-FCE-S630...



1230DIM-372

Dimensional drawings

XNH-SWD-2DX-1...

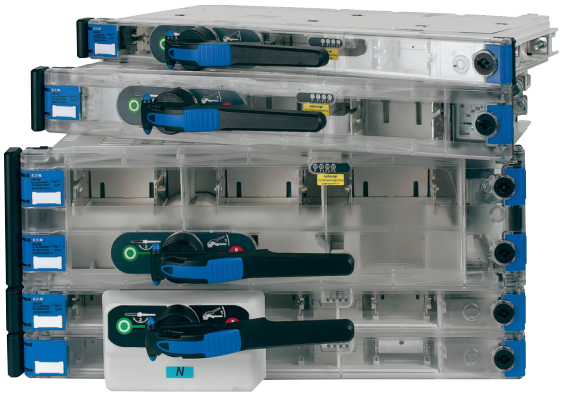


2723DIM-55

1.40 PIFT - Plug in Fuse Terminal

Switch-disconnector-fuse in strip version in accordance with IEC/EN 60947-3

SG04711



Description

- Secure power
- High availability
- Rapid adaptation to changing conditions during operation
- Low susceptibility
- High safety standards (personal security)
- Permanent monitoring of the operating modes
- High switching capacity in the event of overload and short-circuit
- A scale in Switching and Controls

Type code

PIFT	1	L	3	1	1	C10	1	B	M	C	A	E

PIFT **Designation:**
PIFT = Plug in Fuse Terminal

X **Size:**
0 = DIN NH Size 00
1 = DIN NH Size 1
2 = DIN NH Size 2
3 = DIN NH Size 3

X **Switching capacity:**
L = Switching capacity Normal AC22
H = Switching capacity High AC23

X **Number of poles:**
3 = 3-pole
4 = 4-pole

X **Number of transformers:**
0 = 0 transformers
1 = 1 transformer
3 = 3 transformers
4 = 4 transformers

X **Transformer class:**
0 = no transformer
1 = class 1
5 = class 0.5 with registration mark, certified, without calibration certificate
5b = class 0.5 with registration mark, certified, with calibration certificate and specification of measuring values

CXX **Current transformer (primary):**

C07 = 75A	C30 = 300A
C10 = 100	C40 = 400A
C15 = 150A	C50 = 500A
C20 = 200A	C60 = 600A
C25 = 250A	

X **Current transformer (secondary):**
1 = 1A
5 = 5A

X **Wiring of the transformer:**
P = Prepared for mounting directly on the measuring device, plug-in terminal and auxiliary switch
M = Only on measuring device
B = On plug-in terminal and measuring device
C = Only on plug-in terminal

X **Measuring device:**
M = Prepared for a measuring device

X **Plug-in terminal for auxiliary current wiring:**
C = Plug-in terminal is required for: 3-pole current measuring, inst. of an auxiliary switch, electronic fuse monitoring

X **Auxiliary switch for switch-position indication:**
A = Auxiliary switch NC+NO

X **Electronic module:**
E = Electronic fuse monitoring

1.42 PIFT - Plug in Fuse Terminal

Switch-disconnector with fuse

PIFT 3-pole

- Basic terminal without accessories


SG03411

Breaking capacity	Max. Rated Operational Current I_e (A)	Size	Type designation	Article No.	Pack (pcs.)
AC-22B	160	00	PIFT0L300	163403	1
	250	1	PIFT1L300	158651	1
	400	2	PIFT2L300	160115	1
	630	3	PIFT3L300	161579	1
AC-23B	160	00	PIFT0H300	163835	1
	250	1	PIFT1H300	159383	1
	400	2	PIFT2H300	160847	1
	630	3	PIFT3H300	162491	1

- Basic terminal
- Plug-in terminal for auxiliary current wiring
- Electronic fuse monitoring


SG03411

Breaking capacity	Max. Rated Operational Current I_e (A)	Size	Type designation	Article No.	Pack (pcs.)
AC-22B	160	00	PIFT0L300CE	163405	1
	250	1	PIFT1L300CE	158653	1
	400	2	PIFT2L300CE	160117	1
	630	3	PIFT3L300CE	161581	1
AC-23B	160	00	PIFT0H300CE	163837	1
	250	1	PIFT1H300CE	159385	1
	400	2	PIFT2H300CE	160849	1
	630	3	PIFT3H300CE	162493	1

- Basic terminal
- 1 current transformer; class 1; secondary current 1 A
- Transformer wiring on plug-in position of the measuring device


SG03411

Breaking capacity	Max. Rated Operational Current I_e (A)	Size	Trans-former class	Primary current (A)	Secondary current A)	Type designation	Article No.	Pack (pcs.)
AC-22B	160	00	1	150	1	PIFT0L311C151MM	163429	1
	250	1	1	250	1	PIFT1L311C251MM	158702	1
	400	2	1	400	1	PIFT2L311C401MM	160166	1
	630	3	1	600	1	PIFT3L311C601MM	161645	1
AC-23B	160	00	1	150	1	PIFT0H311C151MM	163861	1
	250	1	1	250	1	PIFT1H311C251MM	159434	1
	400	2	1	400	1	PIFT2H311C401MM	160898	1
	630	3	1	600	1	PIFT3H311C601MM	162557	1

- Basic terminal
- 3 current transformers; class 1; secondary current 1 A
- Transformer wiring on plug-in terminal
- Plug-in terminal for auxiliary current wiring
- Auxiliary switch for switch-position indication NC+NO


SG03411

Breaking capacity	Max. Rated Operational Current I_e (A)	Size	Trans-former class	Primary current (A)	Secondary current A)	Type designation	Article No.	Pack (pcs.)
AC-22B	160	00	1	150	1	PIFT0L331C151CCA	163477	1
	250	1	1	250	1	PIFT1L331C251CCA	158790	1
	400	2	1	400	1	PIFT2L331C401CCA	160254	1
	630	3	1	600	1	PIFT3L331C601CCA	161757	1
AC-23B	160	00	1	150	1	PIFT0H331C151CCA	163909	1
	250	1	1	250	1	PIFT1H331C251CCA	159522	1
	400	2	1	400	1	PIFT2H331C401CCA	160986	1
	630	3	1	600	1	PIFT3H331C601CCA	162669	1

- Basic terminal
- 1 current transformer; class 1; secondary current 5 A
- Transformer wiring on plug-in position of the measuring device

SG03411



Breaking capacity	Max. Rated Operational Current I_e (A)	Size	Trans-former class	Primary current (A)	Secondary current A)	Type designation	Article No.	Pack (pcs.)
AC-22B	160	00	1	150	5	PIFT0L311C155MM	163520	1
	250	1	1	250	5	PIFT1L311C255MM	158858	1
	400	2	1	400	5	PIFT2L311C405MM	160322	1
	630	3	1	600	5	PIFT3L311C605MM	161840	1
AC-23B	160	00	1	150	5	PIFT0H311C155MM	163952	1
	250	1	1	250	5	PIFT1H311C255MM	159590	1
	400	2	1	400	5	PIFT2H311C405MM	161054	1
	630	3	1	600	5	PIFT3H311C605MM	162752	1

- Basic terminal
- 1 current transformer; class 1; secondary current 1 A
- Transformer wiring on plug-in terminal
- Plug-in terminal for auxiliary current wiring
- Auxiliary switch for switch-position indication NC+NO
- Electronic fuse monitoring

SG03411



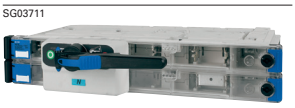
AC-22B	160	00	1	150	1	PIFT0L331C151CCAE	163479	1
	250	1	1	250	1	PIFT1L331C251CCAE	158792	1
	400	2	1	400	1	PIFT2L331C401CCAE	160256	1
	630	3	1	600	1	PIFT3L331C601CCAE	161759	1
AC-23B	160	00	1	150	1	PIFT0H331C151CCAE	163911	1
	250	1	1	250	1	PIFT1H331C251CCAE	159524	1
	400	2	1	400	1	PIFT2H331C401CCAE	160988	1
	630	3	1	600	1	PIFT3H331C601CCAE	162671	1

1.44 PIFT - Plug in Fuse Terminal

Switch-disconnector with fuse

PIFT 4-pole

- Basic terminal without accessories


SG03711

Breaking capacity	Max. Rated Operational Current I_e (A)	Size	Type designation	Article No.	Pack (pcs.)
AC-22B	160	00	PIFT0L400	163619	1
	250	1	PIFT1L400	159017	1
	400	2	PIFT2L400	160481	1
	630	3	PIFT3L400	162035	1
AC-23B	160	00	PIFT0H400	164051	1
	250	1	PIFT1H400	159749	1
	400	2	PIFT2H400	161213	1
	630	3	PIFT3H400	162947	1

- Basic terminal
- 3 current transformers; class 1; secondary current 1 A
- Transformer wiring on plug-in terminal
- Plug-in terminal for auxiliary current wiring
- Auxiliary switch for switch-position indication NC+NO


SG03711

Breaking capacity	Max. Rated Operational Current I_e (A)	Size	Trans-former class	Primary current (A)	Secondary current A)	Type designation	Article No.	Pack (pcs.)
AC-22B	160	00	1	150	1	PIFT0L431C151CCA	163693	1
	250	1	1	250	1	PIFT1L431C251CCA	159156	1
	400	2	1	400	1	PIFT2L431C401CCA	160620	1
	630	3	1	600	1	PIFT3L431C601CCA	162213	1
AC-23B	160	00	1	150	1	PIFT0H431C151CCA	164125	1
	250	1	1	250	1	PIFT1H431C251CCA	159888	1
	400	2	1	400	1	PIFT2H431C401CCA	161352	1
	630	3	1	600	1	PIFT3H431C601CCA	163125	1

- Basic terminal
- 1 current transformer; class 1; secondary current 1 A
- Transformer wiring on plug-in terminal
- Plug-in terminal for auxiliary current wiring
- Auxiliary switch for switch-position indication NC+NO
- Electronic fuse monitoring


SG03711

AC-22B	160	00	1	150	1	PIFT0L431C151CCAE	163695	1
	250	1	1	250	1	PIFT1L431C251CCAE	159158	1
	400	2	1	400	1	PIFT2L431C401CCAE	160622	1
	630	3	1	600	1	PIFT3L431C601CCAE	162215	1
AC-23B	160	00	1	150	1	PIFT0H431C151CCAE	164127	1
	250	1	1	250	1	PIFT1H431C251CCAE	159890	1
	400	2	1	400	1	PIFT2H431C401CCAE	161354	1
	630	3	1	600	1	PIFT3H431C601CCAE	163127	1

	Description	Type designation	Article No.	Pack (pcs.)
	Terminal guide-rails for installation of PIFT in xEnergy Main			
SG02811 	Size 00 / Module height 50 mm (set of 2)	ASPIFT00SG	166271	1
	Size 1 / Module height 75 mm (set of 2)	ASPIFT1SG	166272	1
	Size 2-3 / Module height 150 mm (set of 2)	ASPIFT23SG	166273	1
	Cable separation for PIFT			
SG02611 	Size 00 (set of 3)	ASPIFT00CS	166274	1
	Size 1 (set of 3)	ASPIFT1CS	166275	1
	Size 2-3 (set of 3)	ASPIFT23CS	166276	1
	Safety shields for terminal guide-rails			
SG02311 	Set of 3	ASPIFTURP	166277	1
	Connector strip			
SG02111 	Connector strip 16-pole (terminal cross-section max. 2.5 mm²)	ASPIFTUSC	166278	1
	Switch-on lock			
wa_sg03812 	Size 00 / Module height 50 mm	ASPIFT00CL	166279	1
	Size 2-3 / Module height 150 mm	ASPIFT23CL	166280	1
	Pull-out tool			
SG02211 	For pulling out the PIFT	ASPIFTUDT	166281	1
	Transparent spare-space cover			
wa_sg04012 	Size 00 / Module height 50 mm	ASPIFT00PC	166282	1
	Size 1 / Module height 75 mm	ASPIFT1PC	166283	1
	Size 2-3 / Module height 150 mm	ASPIFT23PC	166284	1

1.46 PIFT - Plug in Fuse Terminal

Switch-disconnector with fuse - Accessories

SG03111



PIFT cover with switch-handle

Description	Type designation	Article No.	Pack (pcs.)
Size 00 / Module height 50 mm	ASPIFT00SC	166285	1
Size 1 / Module height 75 mm	ASPIFT1SC	166286	1
Size 2 / Module height 150 mm	ASPIFT2SC	166287	1
Size 3 / Module height 150 mm	ASPIFT3SC	166288	1

SG02011



Auxiliary switch NC+NO

Description	Type designation	Article No.	Pack (pcs.)
1 NO + 1 NC	ASPIFTUAX	166289	1

SG01711



Analog measuring device for horizontal application

Transformer ratio (A)	Size	Scale (A)	Type designation	Article No.	Pack (pcs.)
N/1A	0	0-60/120	ASPIFT00CT1AM120	166290	1
	00	0-150/300	ASPIFT00CT1AM300	166291	1
	1-3	0-60/120	ASPIFTUCT1AM120	166292	1
	1-3	0-75/150	ASPIFTUCT1AM150	173118	1
	1-3	0-100/200	ASPIFTUCT1AM200	166293	1
	1-3	0-150/300	ASPIFTUCT1AM300	173119	1
	1-3	0-200/400	ASPIFTUCT1AM400	166294	1
	1-3	0-250/500	ASPIFTUCT1AM500	173112	1
	1-3	0-300/600	ASPIFTUCT1AM600	166295	1
	1-3	0-400/800	ASPIFTUCT1AM800	166296	1
	1-3	0-500/1000	ASPIFTUCT1AM1000	173113	1
	1-3	0-600/1200	ASPIFTUCT1AM1200	166297	1
N/5A	00	0-60/120	ASPIFT00CT5AM120	166298	1
	00	0-150/300	ASPIFT00CT5AM300	166299	1
	1-3	0-60/120	ASPIFTUCT5AM120	166300	1
	1-3	0-75/150	ASPIFTUCT5AM150	173114	1
	1-3	0-100/200	ASPIFTUCT5AM200	166301	1
	1-3	0-150/300	ASPIFTUCT5AM300	173115	1
	1-3	0-200/400	ASPIFTUCT5AM400	166302	1
	1-3	0-250/500	ASPIFTUCT5AM500	173116	1
	1-3	0-300/600	ASPIFTUCT5AM600	166303	1
	1-3	0-400/800	ASPIFTUCT5AM800	166304	1
	1-3	0-500/1000	ASPIFTUCT5AM1000	173117	1
	1-3	0-600/1200	ASPIFTUCT5AM1200	166305	1

Transformer class 1

SG01911



Class	Secondary current (A)	Primary current (A)	Rated power (VA)	Type designation	Article No.	Pack (pcs.)
1	1	75	1.5	ASPIFTUCTC0711	166306	1
		100	2	ASPIFTUCTC1011	166307	1
		150	2.5	ASPIFTUCTC1511	166308	1
		200	2.5	ASPIFTUCTC2011	166309	1
		250	2.5	ASPIFTUCTC2511	166310	1
		300	3.75	ASPIFTUCTC3011	166311	1
		400	5	ASPIFTUCTC4011	166312	1
		500	5	ASPIFTUCTC5011	166313	1
		600	5	ASPIFTUCTC6011	166314	1
	5	75	1.5	ASPIFTUCTC0751	166315	1
		100	2	ASPIFTUCTC1051	166316	1
		150	2.5	ASPIFTUCTC1551	166317	1
		200	3.75	ASPIFTUCTC2051	166318	1
		250	3.75	ASPIFTUCTC2551	166319	1
		300	3.75	ASPIFTUCTC3051	166320	1
		400	5	ASPIFTUCTC4051	166321	1
		500	5	ASPIFTUCTC5051	166322	1
		600	5	ASPIFTUCTC6051	166323	1

Transformer class 0.5

SG01911



Class	Secondary current (A)	Primary current (A)	Rated power (VA)	Type designation	Article No.	Pack (pcs.)
0.5	1	100	1.5	ASPIFTUCTC1015	166324	1
		150	1.5	ASPIFTUCTC1515	166325	1
		200	2.5	ASPIFTUCTC2015	166326	1
		250	2.5	ASPIFTUCTC2515	166327	1
		300	2.5	ASPIFTUCTC3015	166328	1
		400	5	ASPIFTUCTC4015	166329	1
		500	5	ASPIFTUCTC5015	166330	1
		600	5	ASPIFTUCTC6015	166331	1
	5	100	1.5	ASPIFTUCTC1055	166332	1
		150	1.5	ASPIFTUCTC1555	166333	1
		200	2.5	ASPIFTUCTC2055	166334	1
		250	2.5	ASPIFTUCTC2555	166335	1
		300	2.5	ASPIFTUCTC3055	166336	1
		400	5	ASPIFTUCTC4055	166337	1
		500	5	ASPIFTUCTC5055	166338	1
		600	5	ASPIFTUCTC6055	166339	1

1.48 PIFT - Plug in Fuse Terminal

Switch-disconnector with fuse - Technical Data

Technical Data PIFT

			PIFT00		PIFT1		PIFT2		PIFT3	
Electrical properties										
Rated operating voltage	U_e	V	AC500	AC690	AC500	AC690	AC500	AC690	AC500	AC690
Rated operating current	I_e	A	160	160	250	250	400	400	630	630
Conventional free air thermal current	I_{th}	A	160	160	250	250	400	400	630	630
Rated frequency		Hz	40-60	40-60	40-60	40-60	40-60	40-60	40-60	40-60
Rated insulation voltage	U_i	V	AC1000	AC1000	AC1000	AC1000	AC1000	AC1000	AC1000	AC1000
Rated impulse withstand voltage	U_{imp}	kV	8	8	8	8	8	8	8	8
Electrical service life (operating cycles)			200	200	200	200	200	200	200	200
Total power loss at I_{th} (without fuse)	P_v	W	47	47	82	82	136	136	295	295
Normal switching capacity										
Conditional rated short-circuit current [7]		kA_{eff}	55	55	55	55	55	55	55	55
Utilization category			AC-22B	AC-22B	AC-22B	AC-22B	AC-22B	AC-22B	AC-22B	AC-22B
Rated making capacity		A	480	480	750	750	1200	1200	1890	1890
Rated breaking capacity		A	480	480	750	750	1200	1200	1890	1890
High switching capacity										
Conditional rated short-circuit current [7]		kA_{eff}	100	80	100	80	100	80	100	80
Utilization category			AC-23B	AC-23B	AC-23B	AC-23B	AC-23B	AC-23B	AC-23B	AC-23B
Rated making capacity		A	1600	1600	2500	2500	4000	4000	6300	6300
Rated breaking capacity		A	1280	1280	2000	2000	3200	3200	5040	5040
Fuse links										
Size according to DIN 43 620			00	00	1	1	2	2	3	3
Max. rated current (gL/gG)	I_N	A	160	160	250	250	400	400	630	630
Max. permitted power loss per fuse link	P_v	W	12	12	32	32	45	45	60	60
Mechanical properties										
Operating cycles without current			1400	1400	1400	1400	800	800	800	800
Weight [1]		kg	4,1	4,1	6	6	13,15	13,15	13,35	13,35
Busbar distance		mm	185	185	185	185	185	185	185	185
Busbar thickness [3]		mm	10	10	10	10	10	10	10	10
Cable connection (flat connection)										
Bolt diameter			M8	M8	M10	M10	M12	M12	M12	M12
Cable lug (DIN 46 235)		mm^2	1x10-95 [6]	1x10-95	1x25-150	1x25-150	1x35-300	1x35-300	1x35-300	1x35-300
					2x25-70	2x25-70	2x35-240	2x35-240	2x35-240	2x35-240
Flat bar		mm	24x5	24x5	30x10	30x10	40x10	40x10	40x10	40x10
Tightening torque	M_a	Nm	10	10	15	15	30	30	30	30
Type of protection (front, device incorporated)										
Operating condition			IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40
Operational state			IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Operating conditions										
Ambient temperature [2]	T_u	°C	- 25 up to + 55							
Rated operating mode			Permanent operation							
Activation			Independent manual actuation							
Mounting position			Horizontal [4], vertical [5]							
Altitude		m	Up to 2000							
Degree of pollution			3							
Overvoltage category			III							

[1] Without packaging, 3-pole

[2] 35 °C normal temperature, at 55 °C with reduced operating current

[3] Upright busbar

[4] Cable connection right side

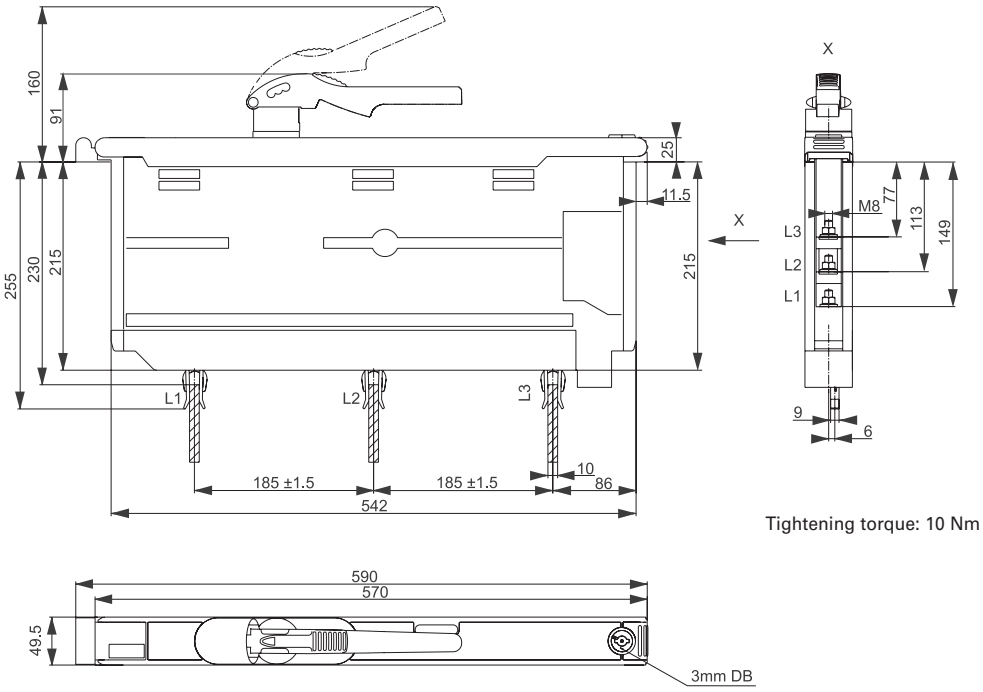
[5] Cable connection bottom

[6] Max. cable connection width 24 mm

[7] Distance to grounded parts 0 mm

Dimensional drawings

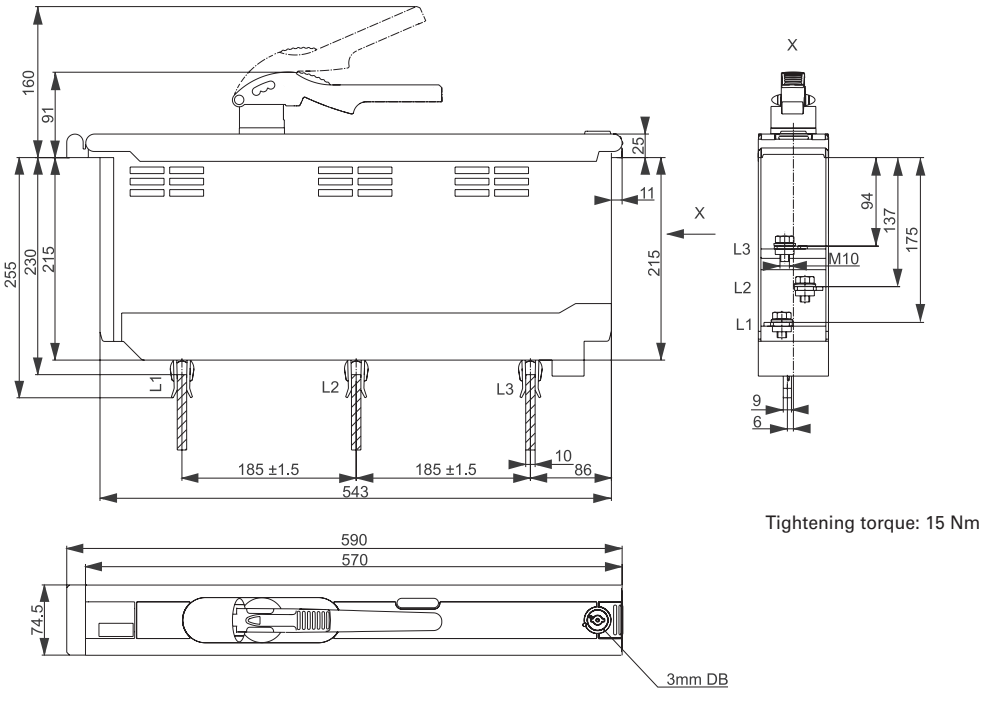
PIFT00 3-pole



Tightening torque: 10 Nm

Mas_PIFT00_3p

PIFT1 3-pole

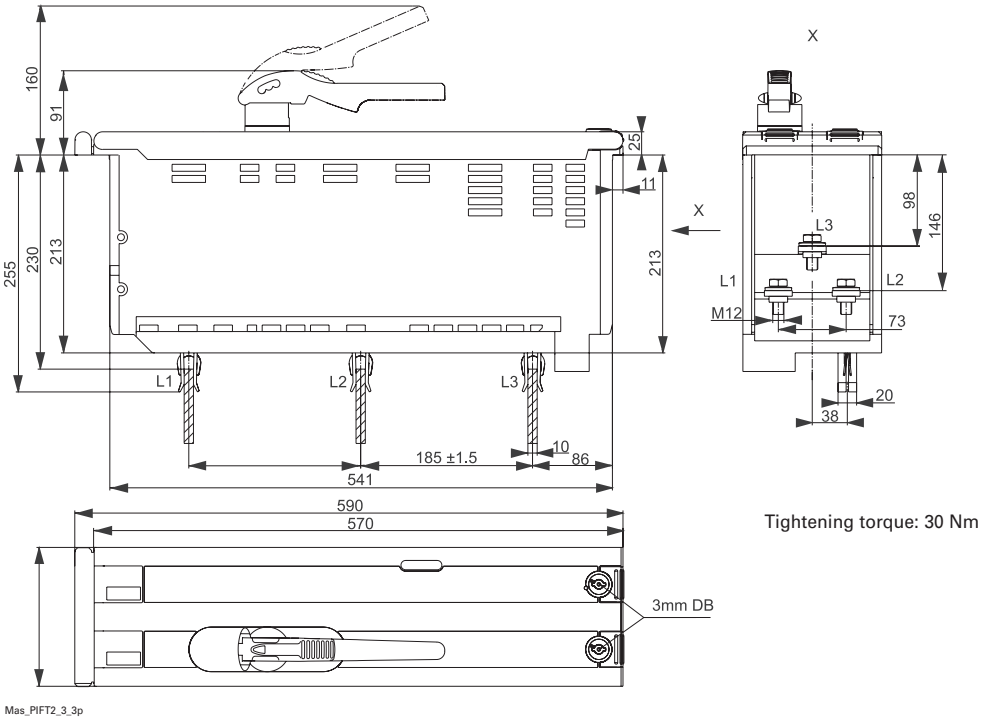


Tightening torque: 15 Nm

Mas_PIFT1_3p

Dimensional drawings

PIFT2, PIFT3 3-pole

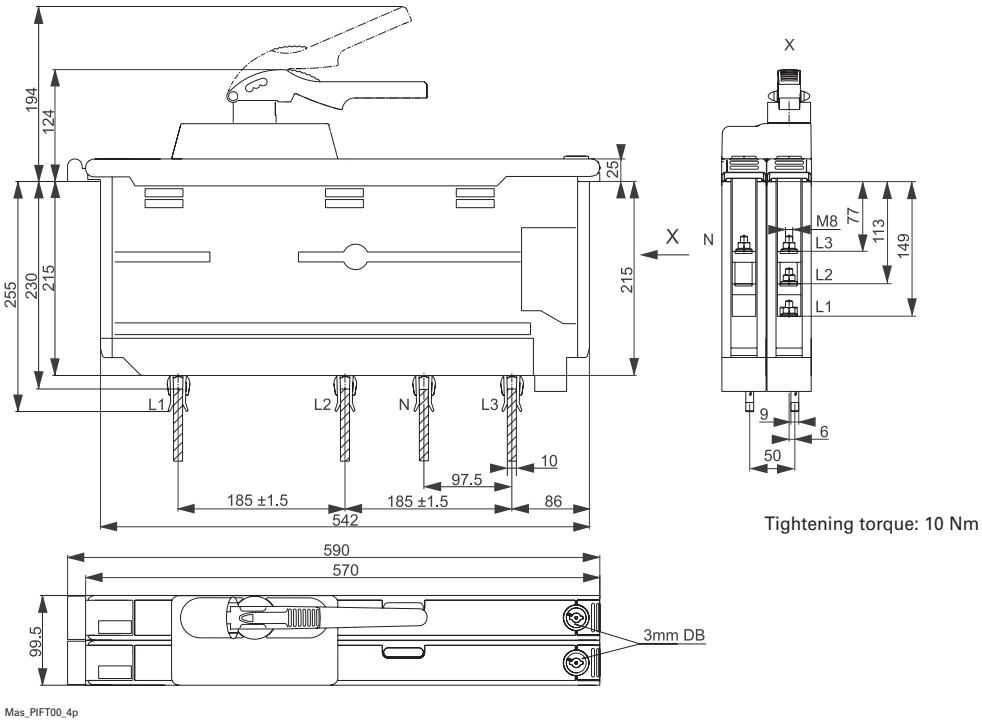


Mas_PIFT2_3_3p

Tightening torque: 30 Nm

Dimensional drawings

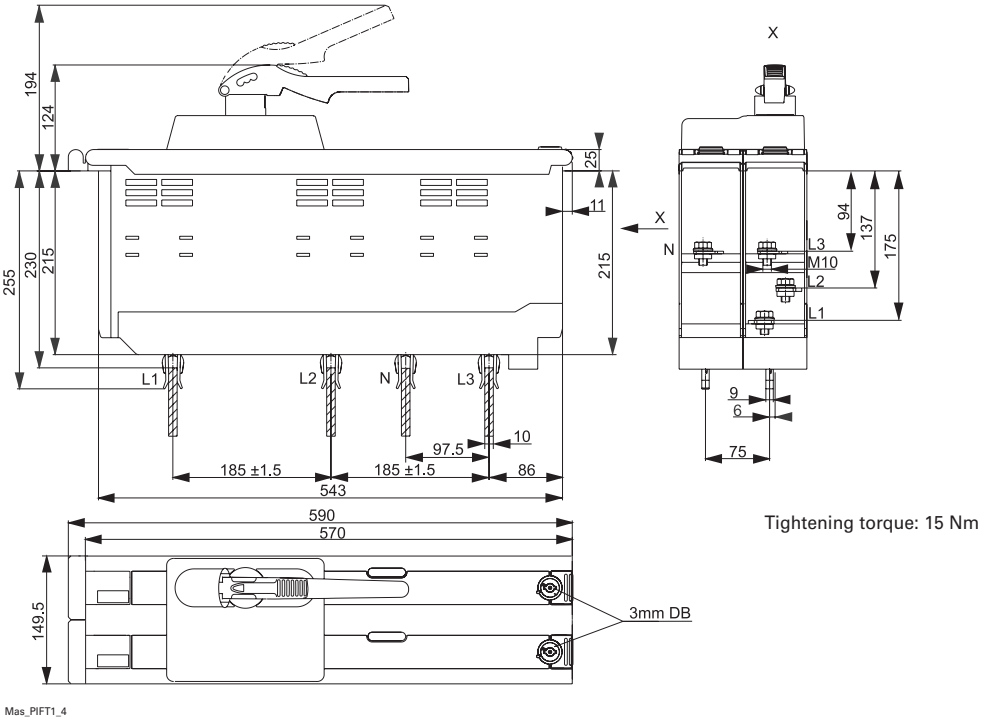
PIFT00 4-pole



Tightening torque: 10 Nm

Mas_PIFT00_4p

PIFT1 4-pole

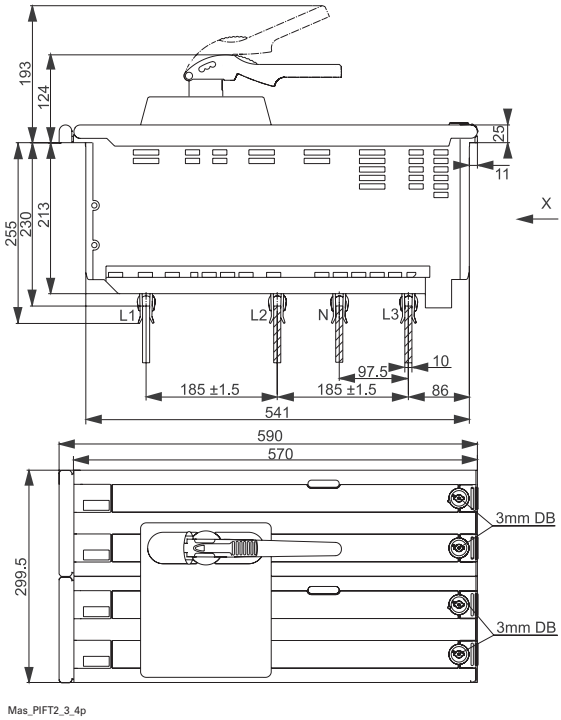


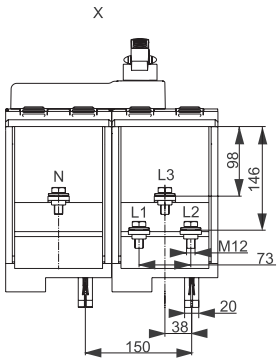
Tightening torque: 15 Nm

Mas_PIFT1_4

Dimensional drawings

PIFT2, PIFT3 4-pole



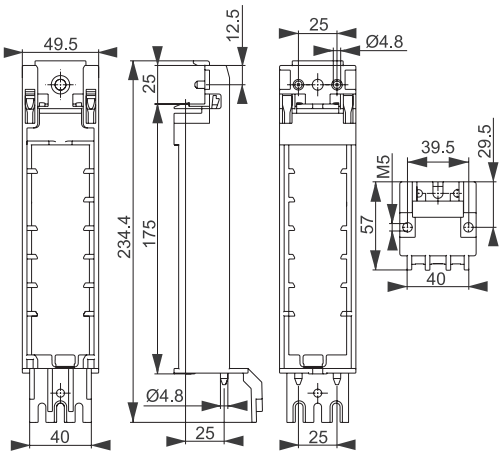


Tightening torque: 30 Nm

Mas_PIFT2_3_4p

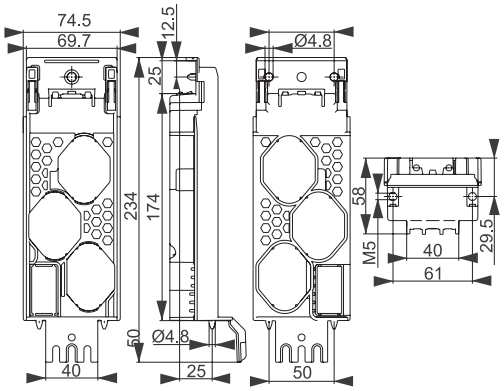
Dimensional drawings - Accessories

Terminal guide-rail ASPIFT00SG



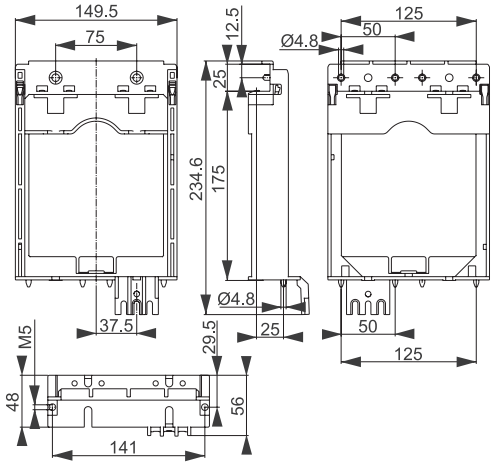
Mas_ASPIFT00SG

Terminal guide-rail ASPIFT1SG



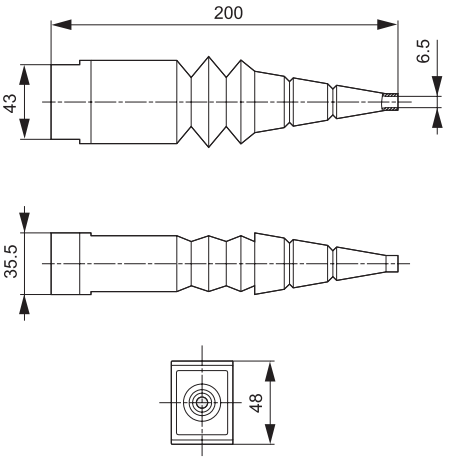
Mas_ASPIFT1SG

Terminal guide-rail ASPIFT23SG



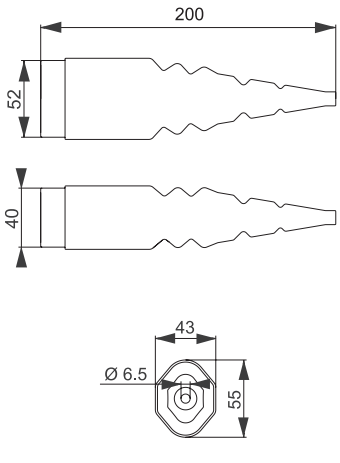
Mas_ASPIFT23SG

Cable separation ASPIFT00CS



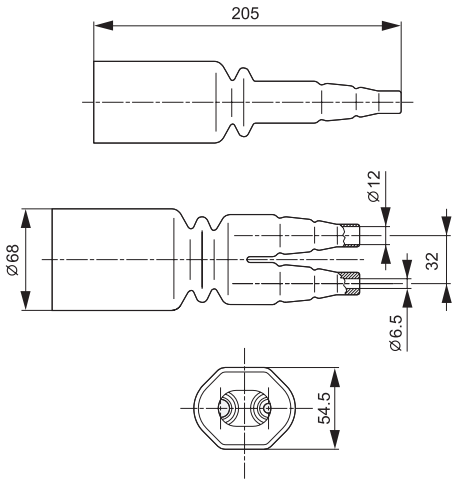
Mas_ASPIFT00CS

Cable separation ASPIFT1CS



Mas_ASPIFT1CS

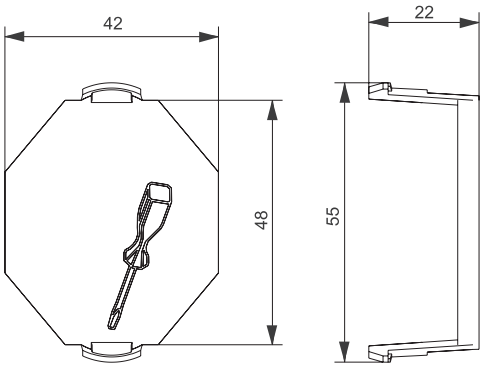
Cable separation ASPIFT23CS



Mas_ASPIFT23CS

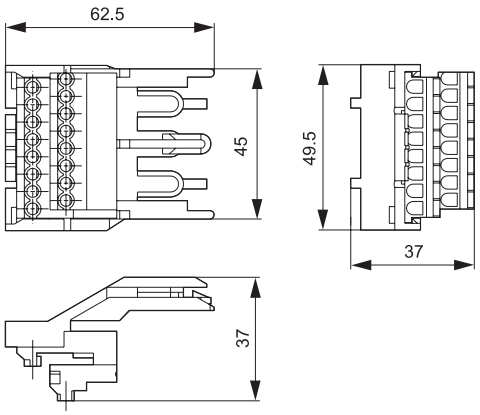
Dimensional drawings - Accessories

Safety shields for terminal guide-rails ASPIFTURP



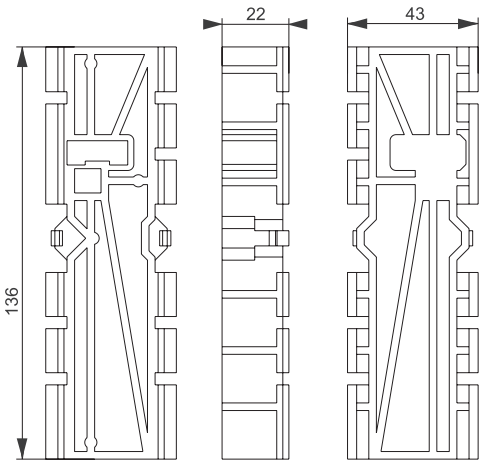
Mas_ASPIFTURP

Connector strip ASPIFTUSC



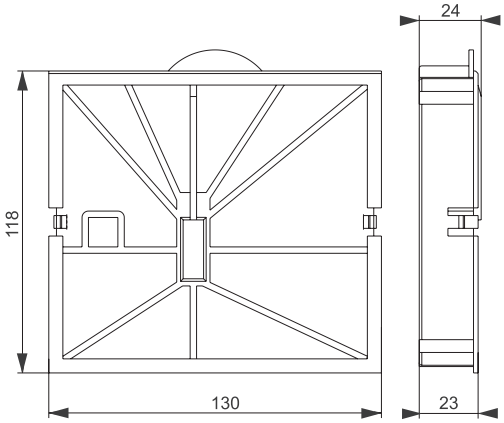
Mas_ASPIFTUSC

Switch-on lock ASPIFT00CL



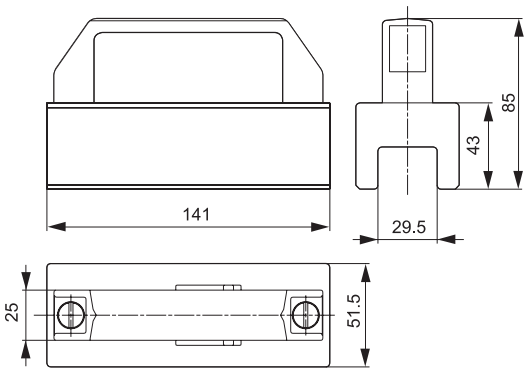
Mas_ASPIFT00CL

Switch-on lock ASPIFT23CL



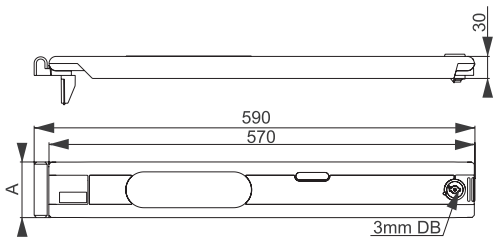
Mas_ASPIFT23CL

Pull-out tool ASPIFTUDT



Mas_ASPIFTUDT

Spare-space cover ASPIFT00PC, ASPIFT1PC, ASPIFT23PC

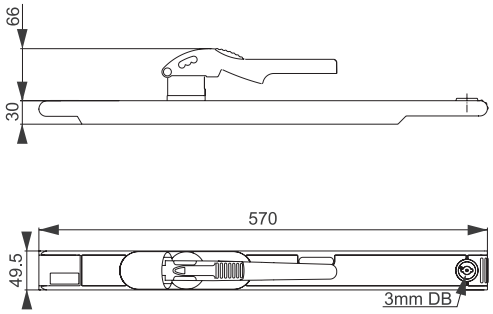


Type	A
ASPIFT00PC	49.5
ASPIFT1PC	74.5
ASPIFT23PC	149.5

Mas_ASPIFT00PC

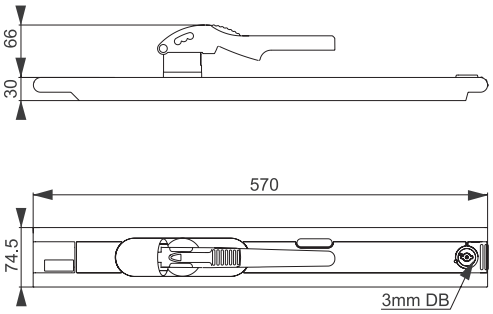
Dimensional drawings - Accessories

Cover with switch-handle ASPIFT00SC



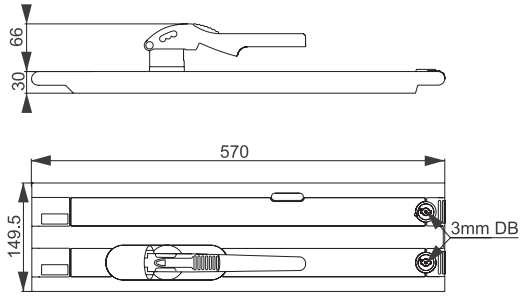
Mas_ASPIFT00SC

Cover with switch-handle ASPIFT1SC



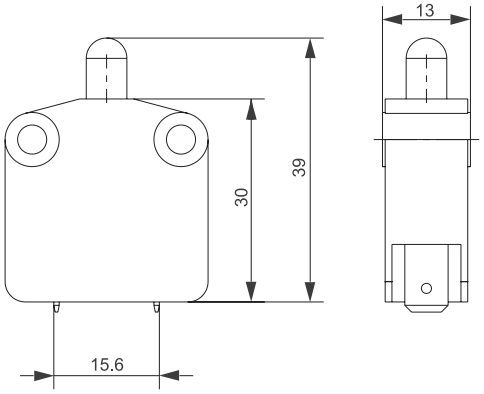
Mas_ASPIFT1SC

Cover with switch-handle ASPIFT2SC, ASPIFT3SC



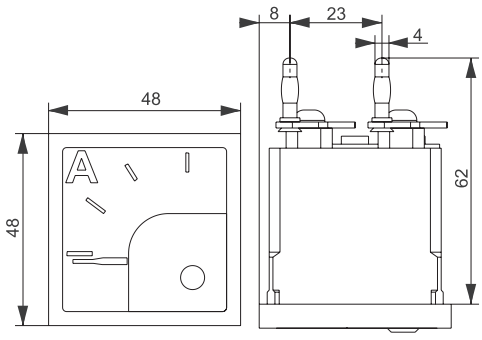
Mas_ASPIFT2SC

Auxiliary switch ASPIFTUAX



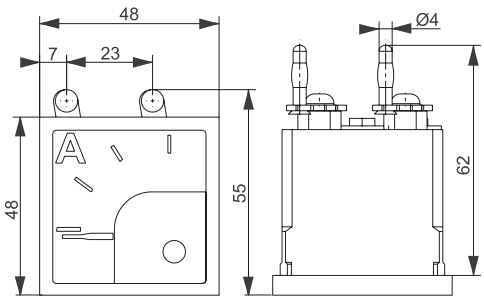
Mas_ASPIFTUAX

Analog measuring device ASPIFT00CT



Mas_ASPIFT00CT

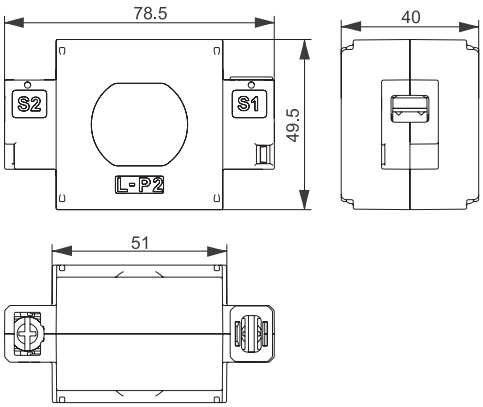
Analog measuring device ASPIFTUCT



Mas_ASPIFTUCT

Dimensional drawings - Accessories

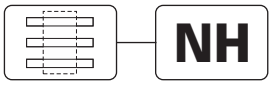
Current transformer ASPIFTUCTC



Mas_ASPIFTUCTC

SG09610





Max. Rated Operational Current I_e (A)	Max. Fuse-link 500 V (A)	690 V (A)	Size	Type designation	Article No.	Pack (pcs.)

NH In-line Fuse Switch Disconnectors 3-pole, FCFSDNH

- Incl. cover for connection area
- Mounting without the need of drilling (Accessories)
- Connection either at the top or at the bottom

Center-to-center distance of 100 mm between the phases - size 00

SG09310



160	160	160	00	FCFSDNH00BB100	149430	1

Center-to-center distance of 100 mm between the phases - size 00 - for installing current transformers

- Equipped with spacer pins for retro-fitting of current transformers if ever the need should araise

160	160	160	00	FCFSDNH00BB100-CTO	149431	1

185 mm center-to-center distance between phases - size 1 - Size 3

SG09410



250	250	250	1	FCFSDNH1BB185	149436	1
400	400	400	2	FCFSDNH2BB185	149437	1
630	630	630	3	FCFSDNH3BB185	149438	1

185 mm center-to-center distance between phases - size 1 - Size 3 - for installing current transformers

- Equipped with spacer pins for retro-fitting of current transformers if ever the need should araise

250	250	250	1	FCFSDNH1BB185-CTO	149439	1
400	400	400	2	FCFSDNH2BB185-CTO	149440	1
630	630	630	3	FCFSDNH3BB185-CTO	149441	1

	Description	Type designation	Article No.	Pack (pcs.)
	Double adapter to adjust the center-to-center distance between the phases from 100 to 185 mm			
SG10010 	Adapater for fixing two strips of size 00 on a busbar of 185 mm	ASNH100BABB100	149454	1
	Adapter clip to adjust the center-to-center distance between the phases from 100 to 185 mm			
SG10910 	Clip for fixing one stip of size 00 on a busbar of 185 mm	ASNH100ACBB100	149455	1
	Busbar Terminal Size 00			
SG10610 	For mounting the NH in-line fuse switch disconnector without the need of drilling Size 00 for a busbar thickness of 5 - 10 mm	ASNH100CT	149457	15
	Compensation Cover			
SG09710 	For height adjustment of a size 00 strip to a strip of size 1 to size 3	ASNH185CP100	149458	1
	Prism terminal			
vt68315 		ASPT70	149456	3
	Connection-Set			
SG11210 	Set for 2 cable lugs suitable for a strip of 185 mm size 2-3	ASNH185	149459	1
	Cover for connection area			
SG63212 	Cover for connection area, size 1-3	ASNH185CP123	170267	1

Connection Assembly Kit - consisting of 3 different items

- For parallel switching of 2 strips of size 2 or 3

	Description	Type designation	Article No.	Pack (pcs.)
SG11010 	Handle connection	ASNH185HCK	149460	10
SG10710 	Busbar kit	ASNH185RK	149461	1
SG09910 	Cover for connection area	ASNH185CP	149462	1

Current transformer for 100 mm center-to-center distance between the phases

	G Class	Transformer ratio (A)	Rated Apparent Power (VA)	Type designation	Article No.	Pack (pcs.)
SG00611 	0.5	100/5	1	ASCNH100CT100-5-05	149432	3
		150/5	1.5	ASCNH100CT150-5-05	149433	3
	1	100/5	1.5	ASCNH100CT100-5-1	149434	3
		150/5	2.5	ASCNH100CT150-5-1	149435	3

Current transformer for 185 mm center-to-center distance between the phases

	G Class	Transformer ratio (A)	Rated Apparent Power (VA)	Type designation	Article No.	Pack (pcs.)
SG00611 	0.5	150/5	1.5	ASCNH185CT150-5-05	149442	3
		250/5	2.5	ASCNH185CT250-5-05	149443	3
		300/5	2.5	ASCNH185CT300-5-05	149444	3
		400/5	2.5	ASCNH185CT400-5-05	149445	3
		500/5	2.5	ASCNH185CT400-5-05	149446	3
		600/5	2.5	ASCNH185CT600-5-05	149447	3
	1	150/5	2.5	ASCNH185CT150-5-1	149448	3
		250/5	3.75	ASCNH185CT250-5-1	149449	3
		300/5	3.75	ASCNH185CT300-5-1	149450	3
		400/5	5	ASCNH185CT400-5-1	149451	3
		500/5	5	ASCNH185CT500-5-1	149452	3
		600/5	5	ASCNH185CT600-5-1	149453	3

Technical Data FCFSDNH00BB100(-CTO)

- Center-to-center distance of 100 mm between the phases
- Size 00

			FCFSDNH00BB100(-CTO)
Electrical			
For LV HRC fuse-links acc. to DIN VDE 0636-2		Size	000/00
Rated operating voltage	U_e	V AC	690
Rated operating current [1]	I_e	A	160
Conv. free air thermal current with fuse-links [1]	I_{th}	A	160
Conv. free air thermal current with solid-links [1]	I_{th}	A	210
Rated frequency		Hz	40 - 60
Rated insulation voltage	U_i	V AC	800
Total power loss at I_{th} (without fuses)	P_v	W	18
Rated impuls withstand voltage	U_{imp}	kV	8
Utilization category (AC-22B)			
400 V		A	160
500 V		A	160
690 V		A	100
Conditional rated short-circuit current [2]		kA	80
Rated short-time withstand current	I_{cw}	kA	–
Max. permissible power loss per fuse-link	P_a	W	12
Mechanical			
Flat connection			
Bolt diameter			M8
Cable lug (DIN 46235)		mm^2	1 x 10-95 (max. 25 mm width)
Flat bar		mm	20 x 10
Tightening torque	M_a	Nm	12 - 15
Terminal			
Terminal capacity		mm^2	round 1.5 - 70 Cu / flat 6 x 9 x 0.8
Tightening torque	M_a	Nm	2.6
Degree of protection, front side, device fitted			
Operating condition			IP30
Switching element open			IP10
Ambient temperature [3]	T_{amb}	°C	-25 up to +55
Rated operating mode			Permanent operation
Activation			Dependent manual operation
Mounting position			Vertical, horizontal
Altitude		m	Up to 2000
Degree of pollution			3
Overvoltage category			III

[1] In case of mounting several units in low voltage switchgear-combinations , please consider rated diversity factors acc. to EN 60439-1.

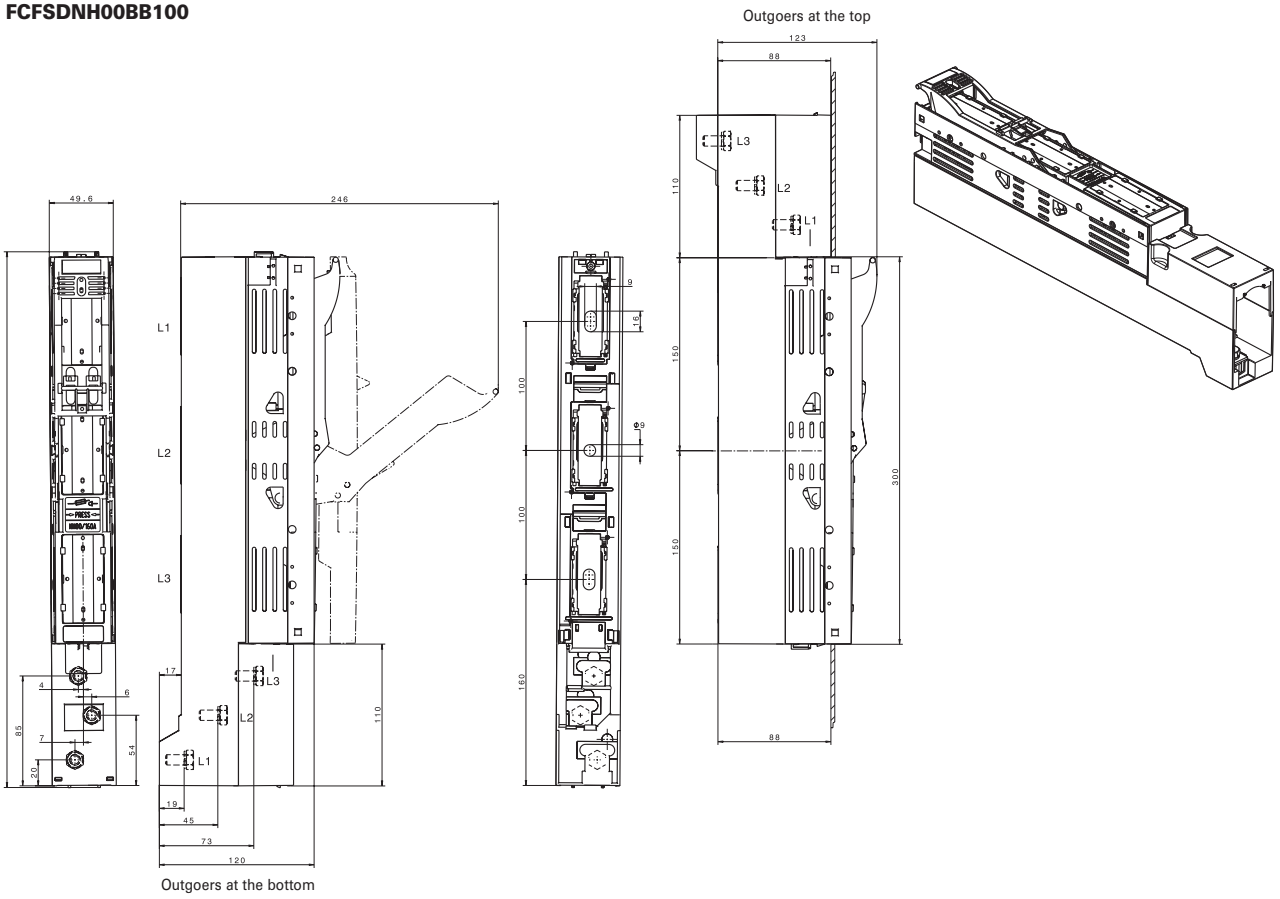
[2] Type-tested with LV-HRC-fuse-links characteristic gG.

[3] 35 °C normal temperature, at 55 °C with reduced operating current.

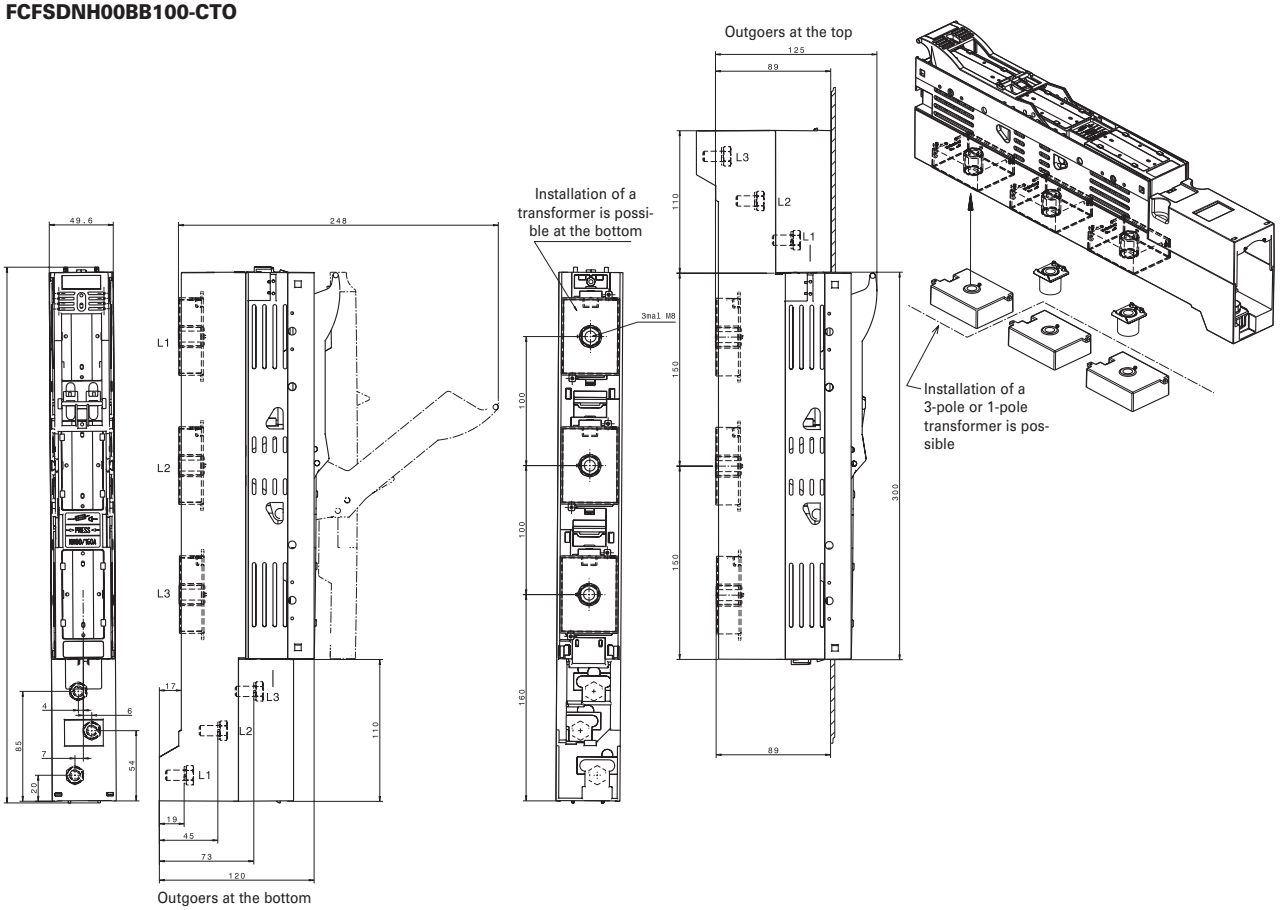
Dimensions (mm)

NH In-line Fuse Switch Disconnectors, 3 poles, center-to-center distance of 100 mm between the phases, size 00

FCFSDNH00BB100



FCFSDNH00BB100-CTO



Technical Data FCFSDNH.BB185...

- 185 mm center-to-center distance between phases
- Size 1, 2, 3

			FCFSDNH1BB185(-CTO)	FCFSDNH2BB185(-CTO)	FCFSDNH3BB185(-CTO)
Electrical					
For LV HRC fuse-links acc. to DIN VDE 0636-2		Size	1	2	3
Rated operating voltage	U_e	V AC	690	690	690
Rated operating current [1]	I_e	A	250	400	630
Conv. free air thermal current with fuse-links [1]	I_{th}	A	250	400	630
Conv. free air thermal current with solid-links [1]	I_{th}	A	400	630	800
Rated frequency		Hz	40 - 60	40 - 60	40 - 60
Rated insulation voltage	U_i	V AC	1000	1000	1000
Total power loss at I_{th} (without fuses)	P_v	W	23	54	115
Rated impuls withstand voltage	U_{imp}	kV	12	12	12
Utilization category (AC-22B)					
400 V		A	250 (AC-23B)	400 (AC-23B)	630 (AC-22B)
500 V		A	250 (AC-22B)	400 (AC-22B)	630 (AC-22B)
690 V		A	250 (AC-22B)	400 (AC-22B)	630 (AC-21B)
Conditional rated short-circuit current [2]		kA	110	110	110
Rated short-time withstand current	I_{cw}	kA	14,5	14,5	14,5
Max. permissible power loss per fuse-link	P_a	W	32	45	48
Mechanical					
Flat connection					
Bolt diameter			M10	M12	M12
Cable lug (DIN 46235)		mm^2	1 x 25-150	1 x 25-240	1 x 25-300 (max. 43 mm width)
Flat bar		mm	30 x 10	30 x 10	30 x 10
Tightening torque	M_a	Nm	30 - 35	35 - 40	35 - 40
Degree of protection, front side, device fitted					
Operating condition			IP30	IP30	IP30
Switching element open			IP10	IP10	IP10
Ambient temperature [3]	T_{amb}	°C	-25 up to +55	-25 up to +55	-25 up to +55
Rated operating mode			Permanent operation	Permanent operation	Permanent operation
Activation			Dependent manual operation	Dependent manual operation	Dependent manual operation
Mounting position			Vertical, horizontal	Vertical, horizontal	Vertical, horizontal
Altitude		m	Up to 2000	Up to 2000	Up to 2000
Degree of pollution			3	3	3
Overvoltage category			IV	IV	IV

[1] In case of mounting several units in low voltage switchgear-combinations, please consider rated diversity factors acc. to EN 60439-1.

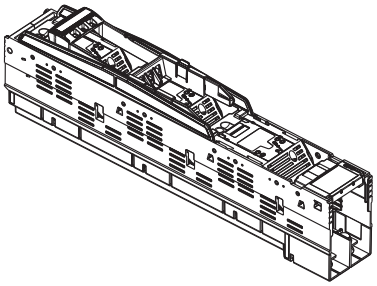
[2] Type-tested at AC 725 V with LV-HRC-fuse-links characteristic gG.

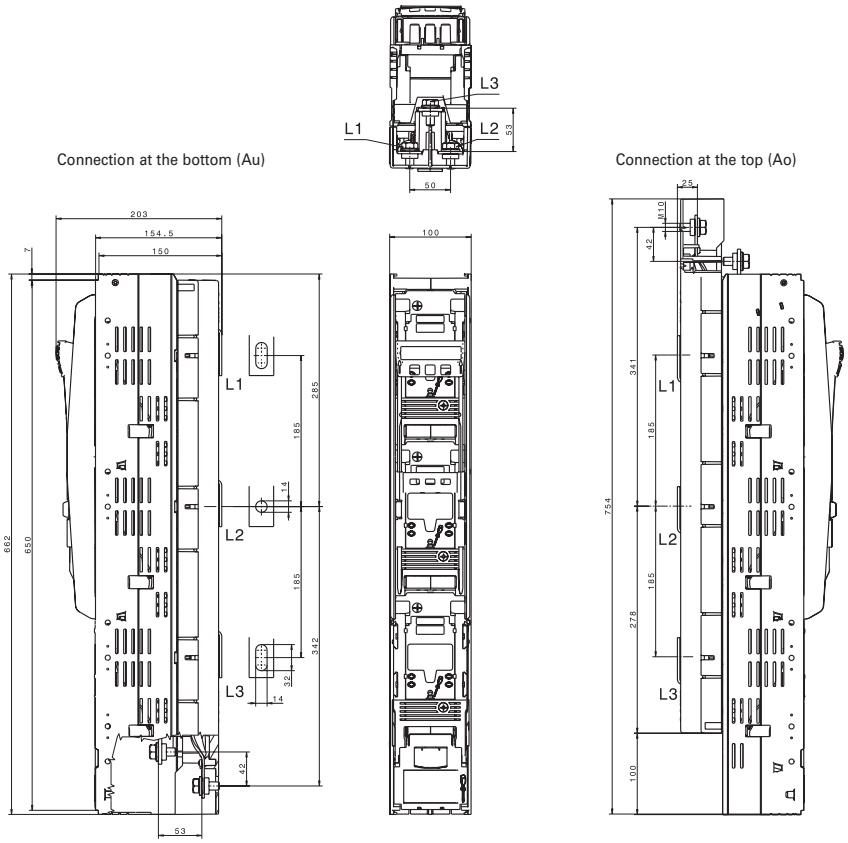
[3] 35 °C normal temperature, at 55 °C with reduced operating current.

Dimensions (mm)

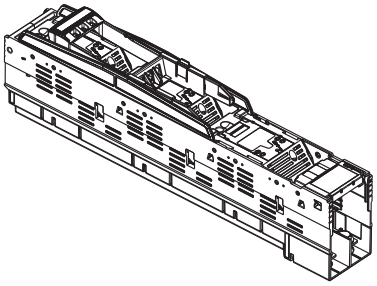
NH In-line Fuse Switch Disconnectors, 3 poles, center-to-center distance of 185 mm between the phases, size 1 - size 3

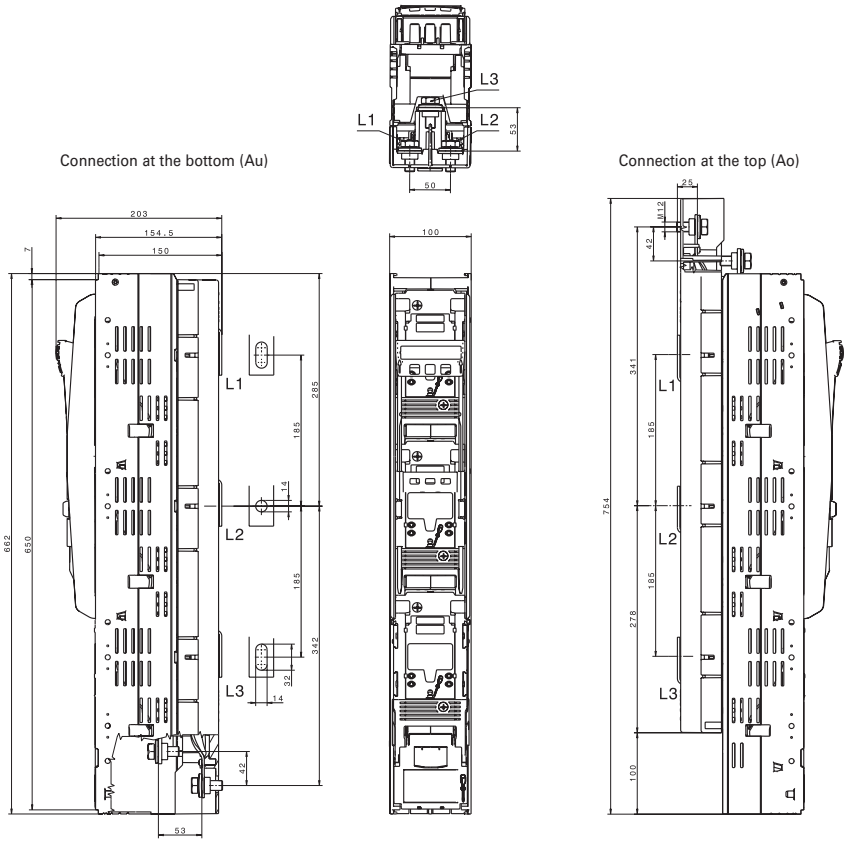
FCFSDNH1BB185





FCFSDNH2BB185, FCFSDNH3BB185

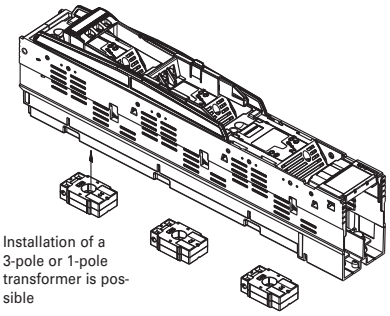




Dimensions (mm)

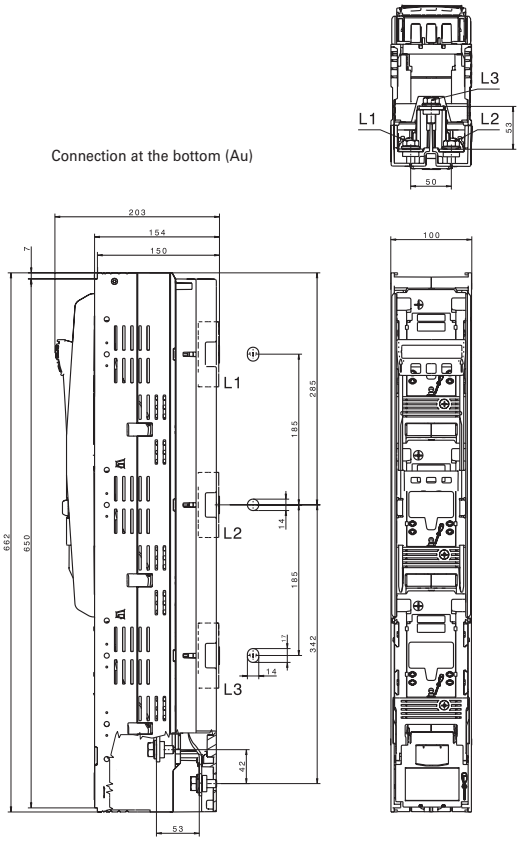
NH In-line Fuse Switch Disconnectors, 3 poles, center-to-center distance of 185 mm between the phases , size 1 - size 3, for installing transformers

FCFSDNH1BB185-CTO

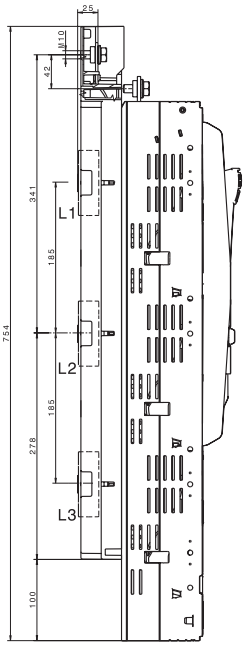


Installation of a 3-pole or 1-pole transformer is possible

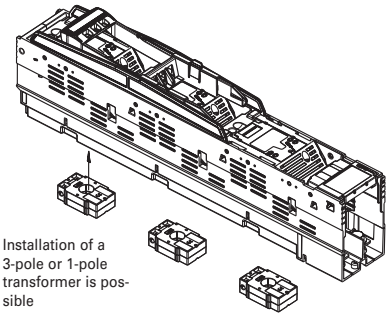
Connection at the bottom (Au)



Connection at the top (Ao)

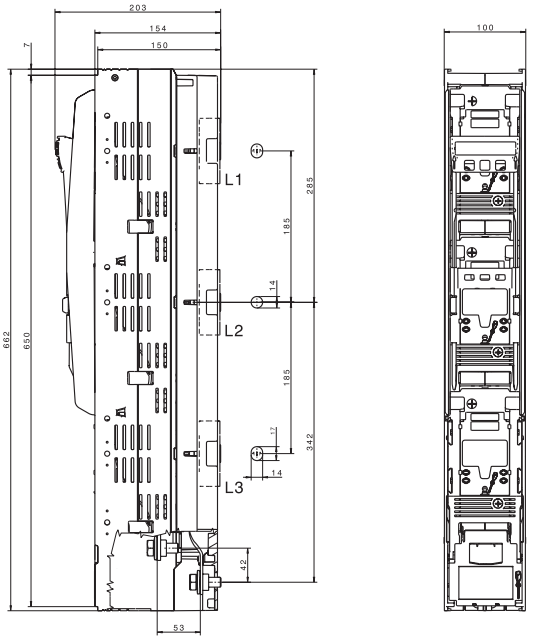


FCFSDNH2BB185-CTO, FCFSDNH3BB185-CTO

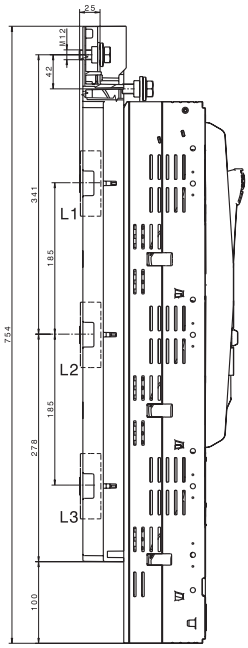


Installation of a 3-pole or 1-pole transformer is possible

Connection at the bottom (Au)



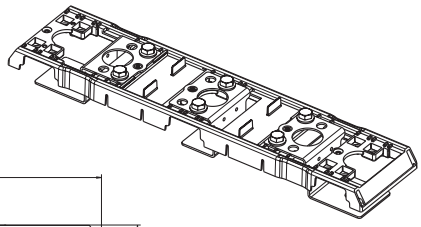
Connection at the top (Ao)

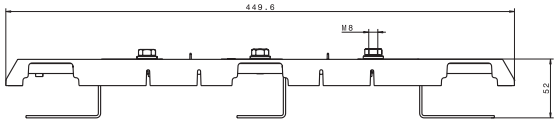


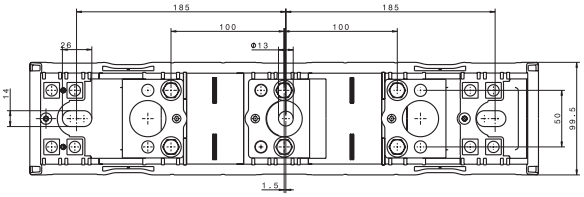
Dimensions (mm) - Accessories

Double Adapter

ASNH100BABB100

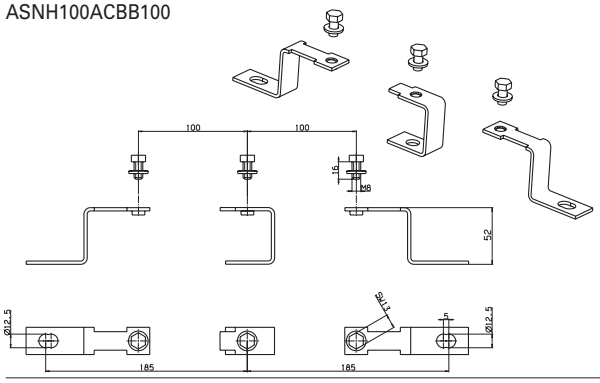






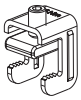
Adapter Clips

ASNH100ACBB100



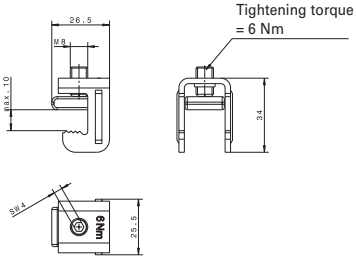
Busbar Terminal Size 00

ASNH100CT



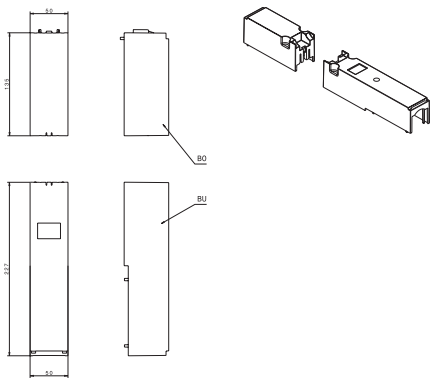
For mounting without the need of drilling, for a busbar thickness of 5-10 mm

Tightening torque = 6 Nm



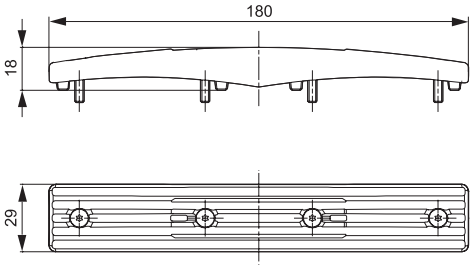
Compensation Cover

ASNH185CP100



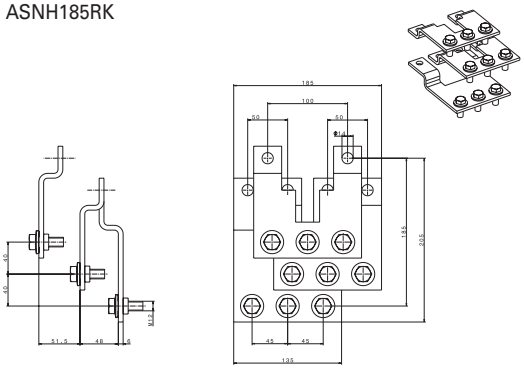
Handle Connection

ASNH185HCK



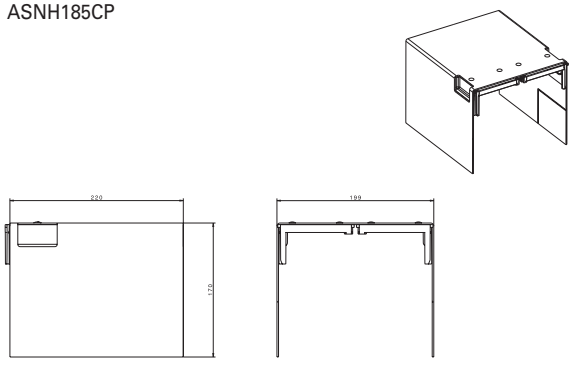
Busbar Kit

ASNH185RK



Cover for connection area

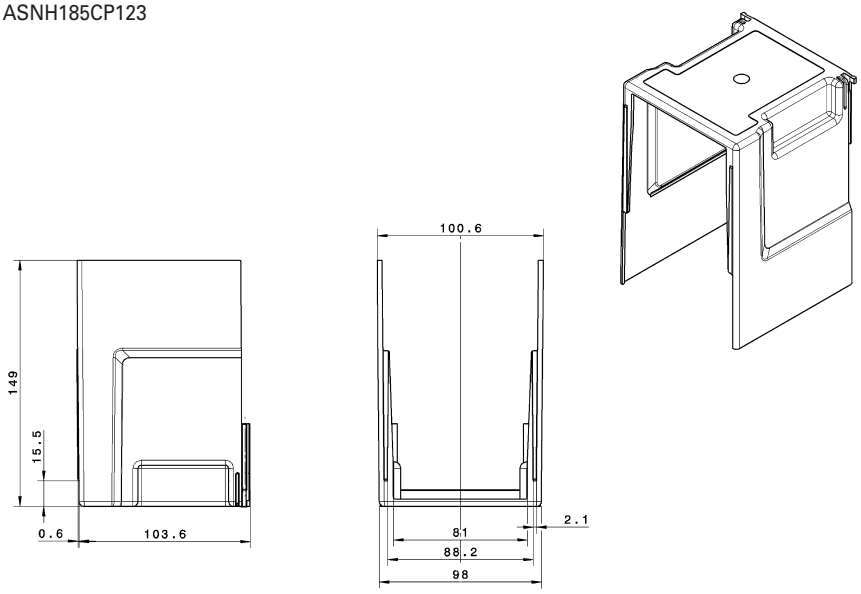
ASNH185CP



Dimensions (mm) - Accessories

Cover for connection area

ASNH185CP123



vt40815



Max. Rated Operational Current I_e (A)	Max. Fuse-link 400 V (A)	690 V (A)	Size	Use	Type designation	Article No.	Pack (pcs.)

NH Vertical Fuse Switch Disconnectors, 3-pole, 60 mm Center-to-Center Distance between Phases, NH-SLS

- Incl. cover for connection area
- To be mounted with snap-on mechanism
- Connection either at the top or at the bottom
- Scope of delivery NH-SLS Size 00: with a set of clips/screws for connecting
- Busbar mounting of NH-SLS Size 00: 60 mm center-to-center distance between the bars, to be mounted with snap-on mechanism
- Delivery includes connecting screw and box terminal

Without fuse monitoring

SG46912



160	160	160	00	12x5/10 15x5/10 20x5/10 25x5/10 30x5/10 Double T-profile Triple T-profile	NH-SLS-00/160-60	106211	1/182

Max. Rated Operational Current I_e (A)	Max. Fuse-link 500 V (A)	690 V (A)	Size	Use	Type designation	Article No.	Pack (pcs.)

NH Vertical Fuse Switch Disconnectors, 3-pole, 100 mm Center-to-Center Distance between Phases, NH-SLS

- Incl. cover for connection area
- M8 connection screw and clip-terminals are included
- Screwless or drill-free mounting with claw-type terminals
- In combination with fuse strips of sizes 1/2/3 NO mounting on a 185 mm busbar system possible (as there is no height compensation possible)
- Connection either at the top or at the bottom

Without fuse monitoring

SG46912



160	160	160	00	Z-NH-SLS-00-SAD...	NH-SLS-00/160	106210	1/182

NH Vertical Fuse Switch Disconnectors, 3-pole, 185 mm Center-to-Center Distance between Phases, NHW-SLS

- With integrated cover for the connection area (additional cover for cable area is possible)
- Drill-free mounting using claw-type terminals for size 00 (Z-NHW-SLS-00-BBC, Article No. 179770)
- Drill-free mounting using claw-type terminals for sizes 1,2,3 (Z-NHW-SLS-00-BBC, Article No. 179771)
- Self-closing test holes integrated in the cover
- High version for size 00 = suitable for mounting a current transformer
- Flat version for size 00 = NO direct mounting of a current transformer possible, height compensation to construction depth for sizes 1,2,3 via an adapter (NHW-SLS-00-185/185-SADD, Article No. 179764), mounting a current transformer is possible if an adapter is used
- Connection either at the top or at the bottom

Without fuse monitoring

VT40815



Max. Rated Operational Current I_e (A)	Max. Fuse-link 500 V (A)	690 V (A)	Size	Notes	Type designation	Article No.	Pack (pcs.)
160	160	160	00	high version	NHW-SLS-00/H	179754	1
160	160	160	00	flat version	NHW-SLS-00/F	179755	1
250	250	250	1		NHW-SLS-1	179756	1
400	400	400	2		NHW-SLS-2	179757	1
630	630	630	3		NHW-SLS-3	179758	1

With fuse monitoring

VT40515



Max. Rated Operational Current I_e (A)	Max. Fuse-link 500 V (A)	690 V (A)	Size	Notes	Type designation	Article No.	Pack (pcs.)
160	160	160	00	high version	NHW-SLS-00/H/SI	179759	1
160	160	160	00	flat version	NHW-SLS-00/F/SI	179760	1
250	250	250	1		NHW-SLS-1/SI	179761	1
400	400	400	2		NHW-SLS-2/SI	179762	1
630	630	630	3		NHW-SLS-3/SI	179763	1

Bar adapter - depth compensation (185/185)

• Adapter + NHW-SLS-00/F = same construction depth as NHW-SLS-1,2,3

VT41515



Description	Type designation	Article No.	Pack (pcs.)
Double adapter 185/185 - flat version	Z-NHW-SLS-00-185/185-SADD	179764	1

Claw-type terminals for size 00 (185 mm)

• Screwless fixing of size 00 fuse strips, 185 mm center-to-center distance between phases

VT42415



Can be used for	Type designation	Article No.	Pack (pcs.)
NHW-SLS-00/F+H	Z-NHW-SLS-00-BBC	179770	3

Claw-type terminals for size 1, 2, 3 (185 mm)

• Screwless fixing of size 1/2/3 fuse strips

VT42315



Can be used for	Type designation	Article No.	Pack (pcs.)
NHW-SLS-1+2+3	Z-NHW-SLS-1+2+3-BBC	179771	3

Cover for connection area, 185 mm center-to-center distance between phases

VT42015



For size 00

flat/bottom, NHW-SLS-00/F	Z-NHW-SLS-00-TC/F/D	179767	1
flat/top, NHW-SLS-00/F	Z-NHW-SLS-00-TC/F/U	179768	1
high/bottom, NHW-SLS-00/H	Z-NHW-SLS-00-TC/H/D	179752	1
high/top, NHW-SLS-00/H	Z-NHW-SLS-00-TC/H/U	179753	1

For size 1/2/3

NHW-SLS-1,2,3	Z-NHW-SLS-1+2+3-TC	179769	1

Box terminal

• Suitable for fuse strips of sizes 1/2/3

VT42615



Can be used for	Terminal capacity	Type designation	Article No.	Pack (pcs.)
HW-SLS-1, 2, 3	1x50-185 mm² rm Cu/Al 1x70-240 mm² sm/se Cu/Al	Z-NHW-SLS-1+2-VT	179765	3
NHW-SLS-1 ,2 ,3	1x185-240 mm² sm Cu/Al 1x150-300 mm² se Cu/Al 1x120-300 mm² rm Cu/Al	Z-NHW-SLS-3-VT	179766	3

Can be used for	Type designation	Article No.	Pack (pcs.)

Quick connector

- Suitable for fuse strips of sizes 00, 60 and 100 mm center-to-center distance between phases

VT42815



Size 00	Z-NHW-00-BK	179773	3

Screw (M8) universal

- M8

VT42715



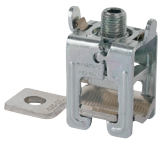
Size 00	Z-NHW-SCREW-M8	179772	3

	Type designation	Article No.	Pack (pcs.)

Connection strap with brace terminal

- Universal use
- Direct mounting on Cu rails
- Not suitable for fuse strips of the NHW-SLS series
- Drill hole for connection screw Ø 13 in the connection strap
- For cross sections of 120-300 mm^2

vt57115



	Z-NHW-SPK	182491	1

NH Vertical Fuse Switch Disconnectors, 3-pole, 60 and 100 mm Center-to-Center Distance between Phases, NH-SLS

Technical Data

Version in accordance with			IEC 60947-1: 2020 IEC 60947-3: 2020 AC ratings only
Connection			at the top and bottom
Arc quenching device			
For NH fuse links according to			IEC 60269-2-1 size NH00
Contact protection even with open switch covers and in parking position			
Mechanical interlock of fuse links			
Degree of protection (front side), Degree of protection in the connection area depends on the installation position			IP30
Connection contacts			- Screw M8, clip 2xM5, clear diameter 12 mm - Prismatic terminal connection Cu, Al *) 16-70 mm^2 rm, sm, f+AE *) Connections to aluminium conductors are not maintenance-free
For 60 mm center-to-center distance between bars			screwless busbar contacting
For 100 mm center-to-center distance between bars			- for screw-fixing on busbars with drill holes, screw M8 - drill-free mounting with clamping bracket
Version			3-pole switching
Type of current			AC (50-60 Hz)
Rated operating voltage [2]	U_e	V AC	690
Rated insulation voltage [2]	U_i	V	1000
Rated impulse withstand voltage without fuse monitoring [2]	U_{imp}	kV	8
Rated operating current [1]	I_e	A	160
Utilization categories without fuse monitoring [2]		kV	AC-22B (690 V / 160 A) AC-23B (400 V / 160 A) AC-23B (500 V / 125 A)
Conditional rated short-circuit current [3]		kA	50
For NH fuse links according to IEC 60269-2 with power loss per phase up to		W	12
Indicator switch for displaying the cover position			
2 switches (change-over) can be used			
Rated operating voltage		V AC	250
		V DC	30
Rated operating current		A AC	5
		A DC	4
Electronic fuse monitoring			
2 LED indicators			
Memory functions and remote reset can be programmed			
2 change-over contacts			
2x Cu 2.5 mm^2 massive, DIN 46288 or 2x Cu1.5 mm^2 litz wire with ferrule, DIN 46228-1 /-2 /-3			
Internal resistance of measurement paths within MOhm range, VDE regulations regarding contact voltage (> 1000 Ohm/V) are complied with.			
For disconnecting switch off the upstream main switch.			

[1] For permanent simultaneous operation of several devices please respect the rated load factor acc. to IEC/EN 61439-2, table 101. With AC23B please make sure a distance of 50 mm at the top and 25 mm at the side is guaranteed with regard to grounded components.

[2] Fuse monitoring U_e, U_i 400 V AC, U_{imp} 4 kV, VG2 (mains connections)

[3] Type-tested with fuse links of operating class gL/gG

NH Vertical Fuse Switch Disconnectors, 3-pole, 185 mm Center-to-Center Distance between Phases, NHW-SLS

Technical Data

Version in accordance with	IEC 60947-1: 2020, IEC 60947-3: 2020 AC ratings only
Version	3-pole switching
For NH fuse links according to	IEC 60269-2-1 size NH00, 1, 2, 3
Can be mounted on a 185mm system by screw-fixing on busbars with drill holes	Screw M8 for size 00, Screw M12 for size 1, 2, 3
Optionally drill-free with a clamping bracket for busbars (10 mm thick) and profile rails	
Cable connections at the top and bottom by turning the bottom part of the strip	
Contact protection and switch-on aids	
Contact protection even with open switch covers and in parking position	
Contact protection even with open switch covers and in parking position	
Degree of protection (front side), Degree of protection in the connection area depends on the installation position	IP20
Test holes in the switch covers are self-closing	
Cover of connection area (accessories) for lateral contact protection	

Conductor connections

Size	Screw-type connection	Direct connection terminals Cu and Al*	Box terminal	Clip or prismatic connection	Clip/Prismatic connection terminal area for flat Cu conductor
00	M8 70 mm² **	-	1x1.5-70 mm²	1x10-70 mm²	12x(1-10) mm rm, sm, f, f+AE 1x95 mm² rm, sm, f
1, 2	M12 2x185 mm² - 240 mm²	1x35-150 mm² sm 1x50-185 mm² se 1x35-70 mm² rm 1x50 mm² re Md 32-40 Nm 2x35-150 mm² sm 2x50-185 mm² se 2x35-70 mm² rm 2x35-50 mm² re Md 18-24 Nm	Cu/Al 1x50-185 mm² rm 1x70-240 mm² sm/se	-	-
3	M12 2x185 mm² - 240 mm²	1x35-150 mm² sm 1x50-185 mm² se 1x35-70 mm² rm 1x50 mm² re Md 32-40 Nm 2x35-150 mm² sm 2x50-185 mm² se 2x35-70 mm² rm 2x35-50 mm² re Md 18-24 Nm	Cu/Al 1x185-240 mm² sm 1x150-300 mm² se 1x120-300 mm² rm	-	-

* Connections to aluminium conductors are not maintenance-free
** Copper conductors for relevant rated currents according to IEC/EN 60947-1

NH Vertical Fuse Switch Disconnectors, 3-pole, 185 mm Center-to-Center Distance between Phases, NHW-SLS

Technical Data (continued)

Size			00	1	2	3
Type of current			AC (50/60 Hz)	AC (50/60 Hz)	AC (50/60 Hz)	AC (50/60 Hz)
Rated operating voltage [2]	U_e	V AC	800	800	800	800
Rated insulation voltage [2]	U_i	V	1000	1000	1000	1000
Power loss at 80% (without fuses)		W	17.9	15.4	38.4	75.5
Total power loss at Ith (without fuses)		W	28.0	24.0	60.0	118.0
Rated impulse withstand voltage without fuse monitoring [2]	U_{imp}	KV	8	12	8	12
Utilization categories AC without fuse monitoring			AC-22B (800 V / 63 A) AC-21B (690 V / 125 A) AC-22B (500 V / 160 A) AC-23B (400 V / 160 A)	AC-22B (800 V / 160 A) AC-22B (690 V / 250 A) AC-21B (690 V / 250 A) AC-22B (500 V / 250 A) AC-23B (400 V / 250 A)	AC-22B (800 V / 200 A) AC-22B (690 V / 400 A) AC-21B (690 V / 400 A) AC-22B (500 V / 400 A) AC-23B (400 V / 400 A)	AC-22B (800 V / 315 A) AC-21B (690 V / 500 A) AC-22B (500 V / 630 A) AC-23B (400 V / 630 A)
Utilization categories DC without fuse monitoring [2]			DC-20B	DC-20B max. voltage between the fuses: 1000V	DC-20B	DC-20B
Conditional rated short-circuit current, 3-pole switching [3]		kA	30 / 800 V (63 A) 100 / 690 V (125 A)	65 / 800 V (160 A) 100 / 690 V (250 A) 120 / 500 V (250 A)	65 / 800 V (200 A) 100 / 690 V (400 A) 120 / 400 V (400 A)	65 / 800 V (315 A) 80 / 690 V (630 A) 100 / 500 V (630 A)
Utilization categories AC with fuse monitoring			AC-22B (500 V / 160 A) AC-23B (400 V / 160 A)	AC-22B (690 V / 250 A) AC-21B (690 V / 250 A) AC-22B (500 V / 250 A) AC-23B (400 V / 250 A)	AC-22B (690 V / 400 A) AC-21B (690 V / 400 A) AC-22B (500 V / 400 A) AC-23B (400 V / 400 A)	AC-21B (690 V / 500 A) AC-22B (500 V / 630 A) AC-23B (400 V / 630 A)
Conditional rated short-circuit current with fuse monitoring		kA	100 / 400 V	120 / 400 V	120 / 400 V	100 / 400 V
For NH fuse links according to IEC 60269-2 [4] with power loss per phase up to		W	12	23	34	48

Visible information required: Do not switch under load

[1] For permanent simultaneous operation of several devices please respect the rated load factor acc. to IEC/EN 61439-2, table 101. Please make sure a distance of 50 mm at the top and 25 mm at the side is guaranteed with regard to grounded components.

[2] Fuse monitoring Ue, Ui 400 V AC, Uimp 4 kV, VG2 (mains connections)

[3] Type-tested with fuse links of operating class gL/gG

Size 3 as double NH vertical fuse disconnector

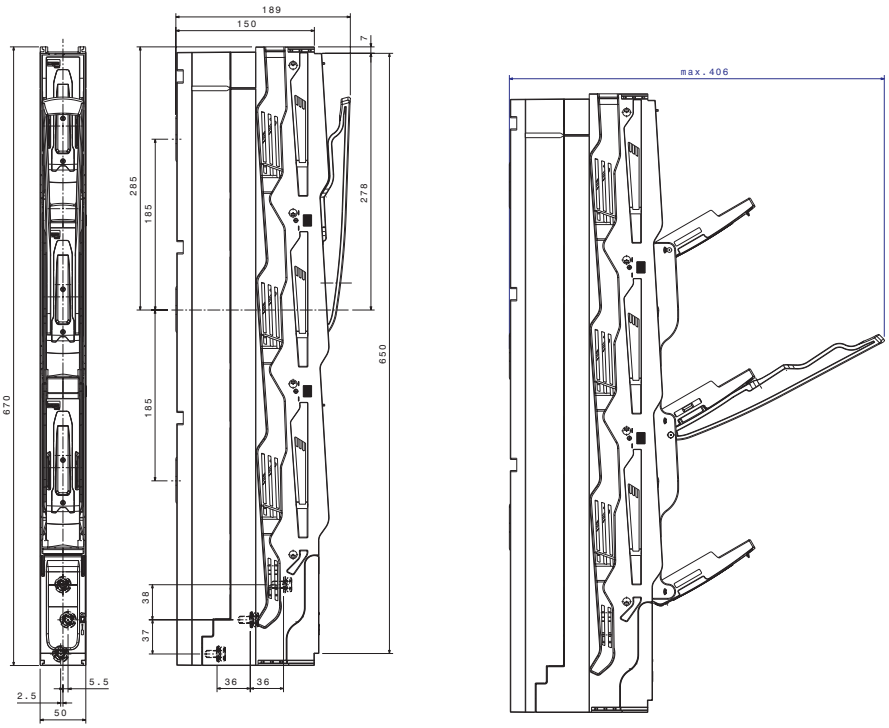
Technical Data

Size 3 as double NH vertical fuse disconnector			1250 A
Version			3-pole switching
Rated operating voltage	U_e	V AC	690
Conditional rated short-circuit current		kA	up to 80
With fuses			gL/gG
Utilization categories			AC20B (690 V)
2x630 A			
Indicator switch for displaying the cover position			
3 switches (change-over) can be used for sizes 00, 1, 2, 3			
Rated operating voltage		V AC	250
		V DC	30
Rated operating current		A AC	5
		A DC	4
Electronic fuse monitoring			
2 LED indicators			
Memory functions and remote reset can be programmed			
2 change-over contacts			
2x Cu 2.5 mm² massive, DIN 46288 or 2x Cu1.5 mm² litz wire with ferrule, DIN 46228-1 /-2 /-3			
Internal resistance of measurement paths within MOhm range, VDE regulations regarding contact voltage (> 1000 Ohm/V) are complied with.			
For disconnecting switch off the upstream main switch.			

Dimensions (mm)

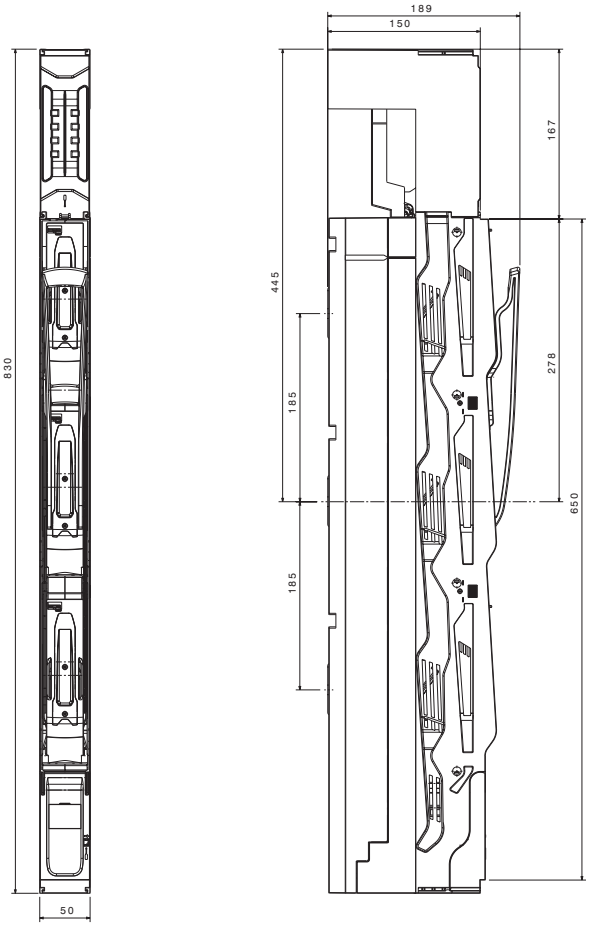
NH Vertical Fuse Switch Disconnector NHW-SLS-00/H

High version - Same height as sizes 1, 2, 3 - Installation of a transformer is possible!



NH Vertical Fuse Switch Disconnector NHW-SLS-00/H/SI

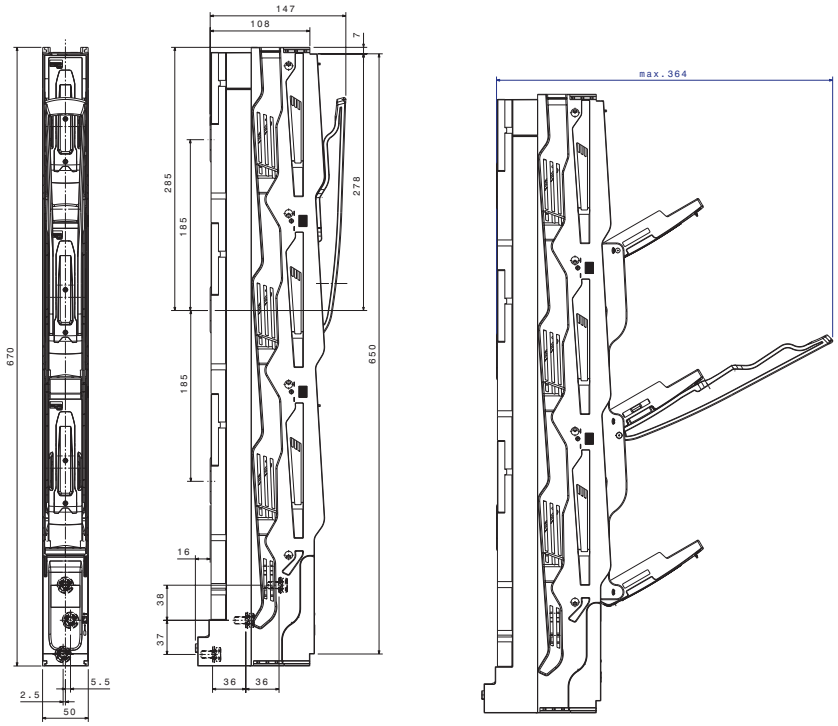
Incl. fuse monitoring - high version - Same height as sizes 1, 2, 3 - Installation of a transformer is possible!



Dimensions (mm)

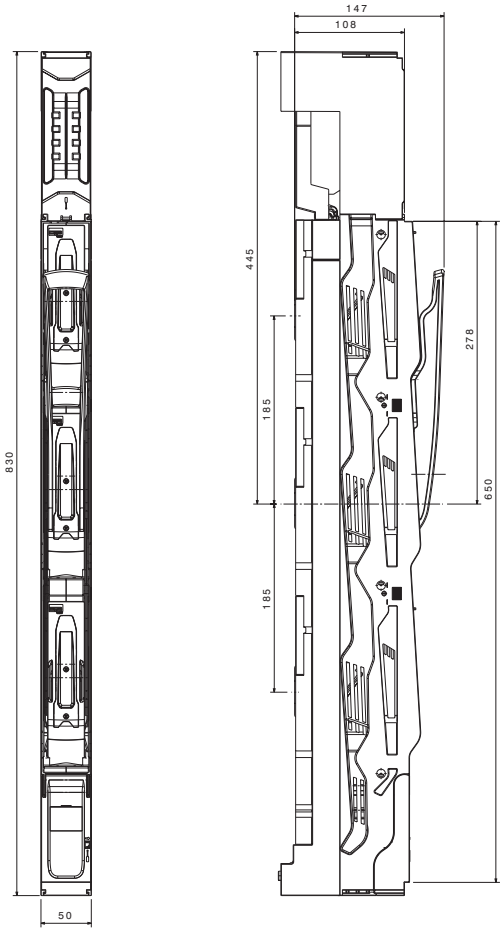
NH Vertical Fuse Switch Disconnector NHW-SLS-00/F

Flat version - In order to reach the same depth as with sizes 1, 2, 3 you need to use an additional adapter (NHW-SLS-00-185/185-SADD_179764) - Installation of a transformer is only possible if you use a device adapter



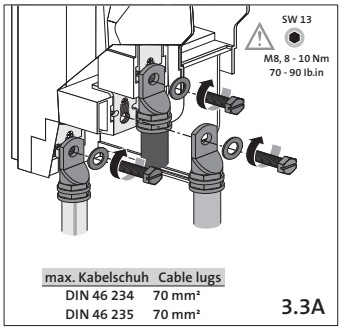
NH Vertical Fuse Switch Disconnector NHW-SLS-00/F/SI

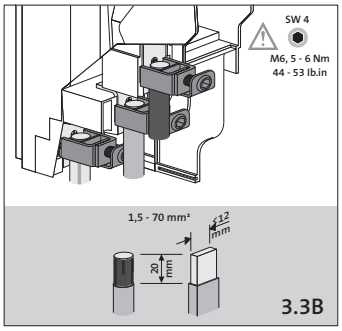
Incl. fuse monitoring - flat version - In order to reach the same depth as with sizes 1, 2, 3 you need to use an additional adapter (NHW-SLS-00-185/185-SADD_179764) - Installation of a transformer is only possible if you use a device adapter

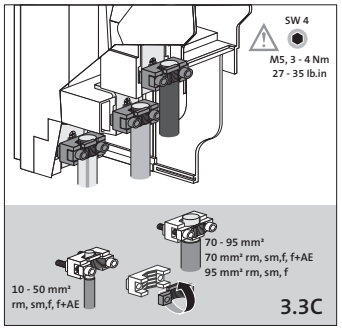


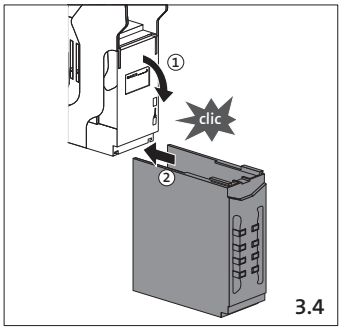
Dimensions (mm)

Cable connection for size 00 flat and high version:



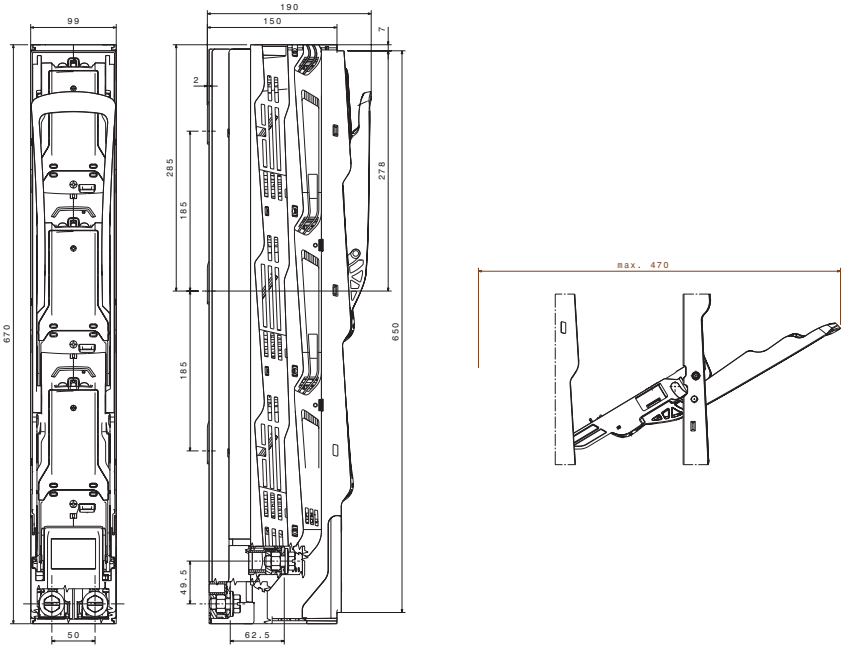




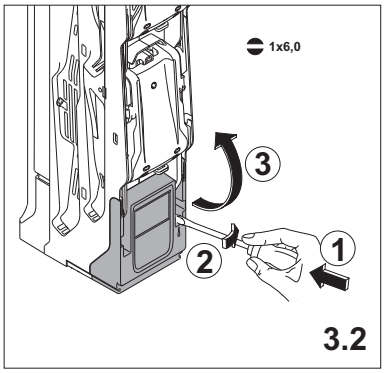


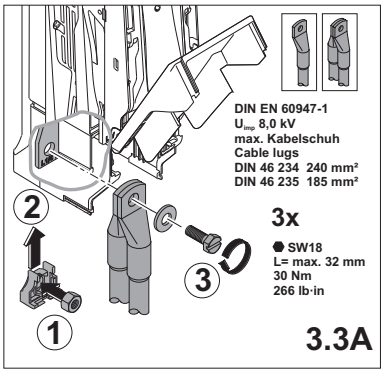
Dimensions (mm)

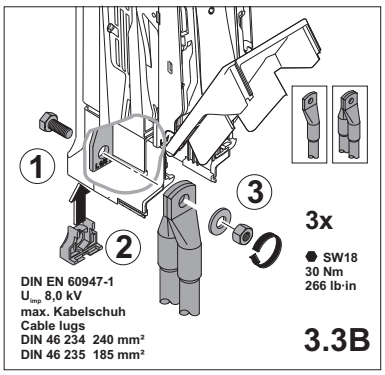
NH Vertical Fuse Switch Disconnector NHW-SLS-1/2/3

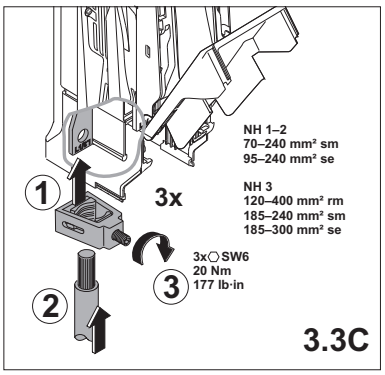


Cable connection NHW-SLS-1/2/3





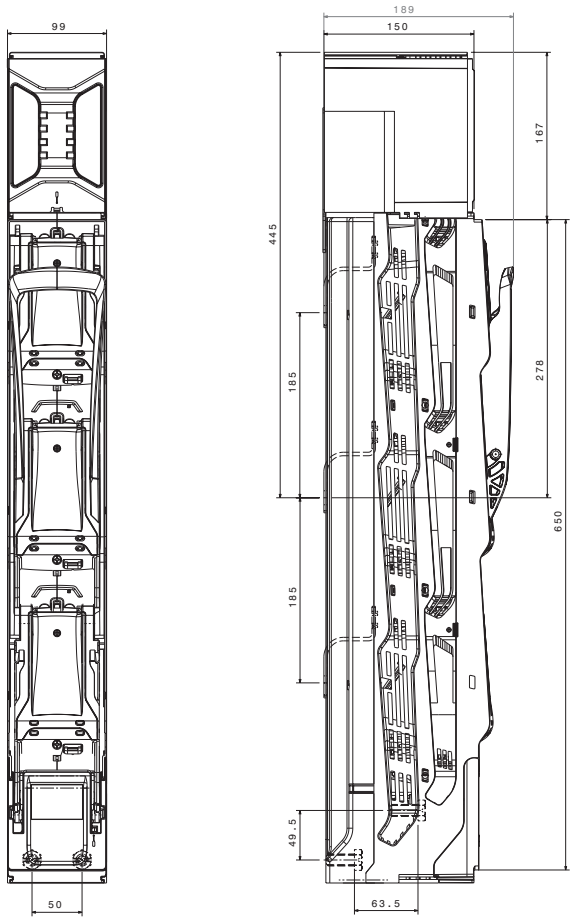




Dimensions (mm)

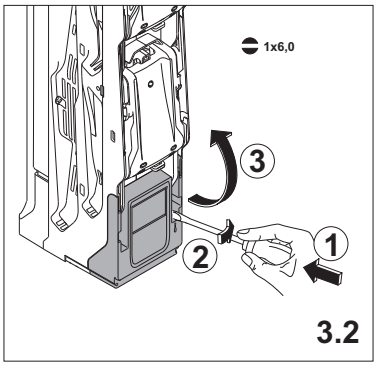
NH Vertical Fuse Switch Disconnector NHW-SLS-1/2/3-SI

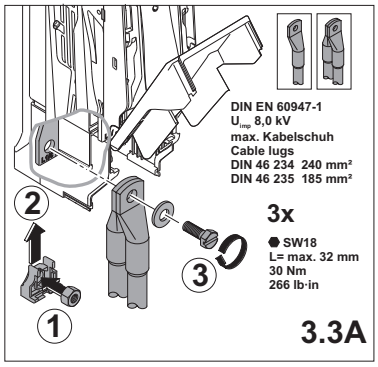
With fuse monitoring

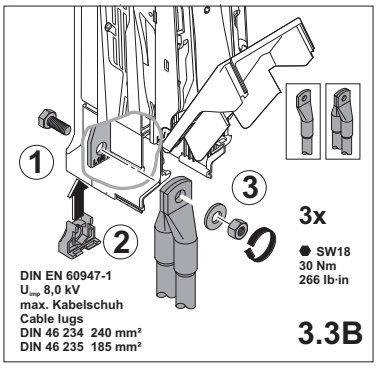


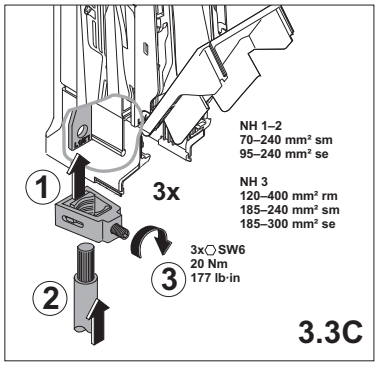
Cable connection NHW-SLS-1/2/3-SI

With fuse monitoring





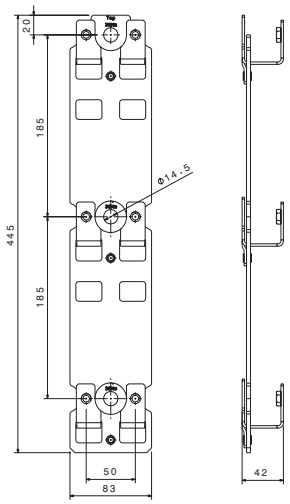




Dimensions (mm) - Accessories

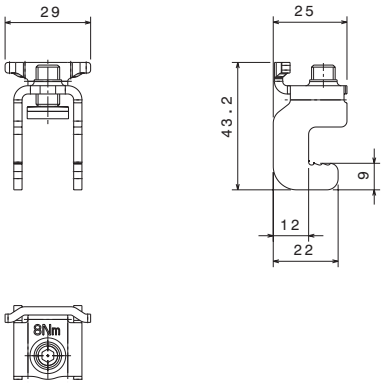
Double Adapter

Z-NHW-SLS-00-185/185-SADD

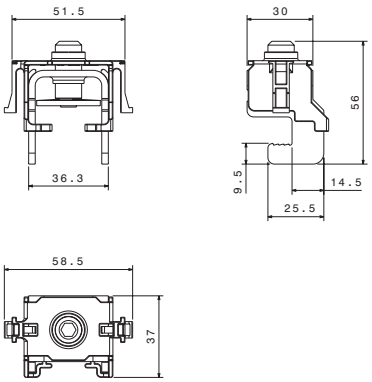


W x H x D:	83 x 450 x 50
Weight:	55 kg/100

Claw-type terminals for size 00



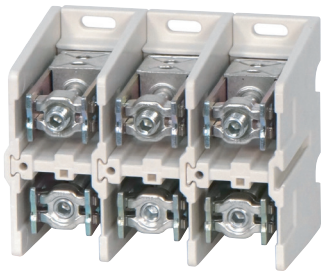
Claw-type terminals for size 1, 2, 3



4300PIC-326



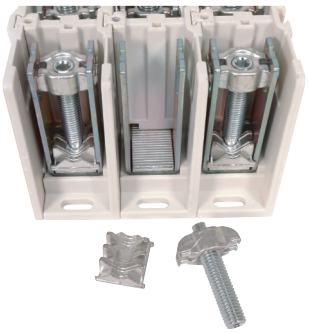
4300PIC-308



4300PIC-314



4300PIC-331



Description

- Add-on terminals 1-, 3-, 4-, 5-pole
- Round conductors - sector conductors - flat conductors
- 25 – 1000 A
- Conversion sets
- Connections for auxiliary conductors
- Terminal covers

K-Type Connection Terminals

- External connection for round or sector conductors, other end for Cu band
- Suitable for copper and aluminium conductors
- Adapter for band connection to cable connection
  U, V, W – X, Y, Z – L1, L2, L3 – T1, T2, T3 – PE, N, PEN – Erdung
- U_i = 1000 V AC
- Incl. terminal labels

Pole	Terminal Capacities [1] Cu / Al	Terminal Capacities [1] Al	Terminal Capacities [1] Cu Band	Cu Bar	Type designation	Article No.	Pack (pcs.)
n	mm²	mm²	mm	mm			
Rated operating current I_e 160 A							
1	1x16-95	1x35-70	(1x) 3x9x0.8	18x4	K95/1N	010773	1
3			up to		K95/3	025017	1
4			(1x) 6x9x0.8		K95/4	027390	1
5					K95/5	029763	1
1			–	–	K95/1N/BR	012336	1
Rated operating current I_e 250 A							
1	1x35-150	1x35-120	(1x) 4x16x0.8	18x4	K150/1N	089085	1
3	or	or	up to		K150/3	032136	1
4	2x16-70	2x35-50	(2x) 6x16x0.8		K150/4	034509	1
5					K150/5	036882	1
1			–	–	K150/1/BR	014709	1
Rated operating current I_e 400 A							
1	1x35-240	1x95-185	(1x) 6x16x0.8	25x15	K240/1N	091458	1
3	or	or	up to		K240/3	039255	1
4	2x35-120	2x50-95	(1x) 10x16x0.8		K240/4	041628	1
5					K240/5	044001	1
1			–	–	K240/1/BR	017082	1
Rated operating current I_e 630 A							
1	1x150-300	1x150-240	(1x) 10x16x0.8	40x15	K2X240/1N	093831	1
3	or	or	up to		K2X240/3	046374	1
4	2x50-240	2x95-185	(2x) 11x21x1		K2X240/4	048747	1
5					K2X240/5	051120	1
1			–	–	K2X240/1/BR	019455	1
Rated operating current I_e 800 A							
1	2x120-240	2x150-185	(2x) 11x21x1	50x20	K3X185/1	062985	1
3	or	or			K3X185/3	065358	1
4	3x50-185	3x95-150			K3X185/4	067731	1
5					K3X185/5	070104	1
Rated operating current I_e 1000 A							
1	2x150-300	2x150-240	(2x) 11x21x1	60x15	K3X240/1	060612	1
3	or	or	or		K3X240/3	058239	1
4	3x50-240	3x150-185	10x40x1		K3X240/4	055866	1
5			or		K3X240/5	053493	1
			10x50x1				
1	2x150-300	2x150-240	(2x) 11x21x1	60x15	K4X185/1	079596	1
3	or	or	or		K4X185/3	077223	1
4	4x50-185	4x120-150	10x40x1		K4X185/4	074850	1
5			or		K4X185/5	072477	1
			10x50x1				

4300PIC-323, 4300PIC-327



4300PIC-317, 4300PIC-321



4300PIC-306, 4300PIC-310



4300PIC-301, 4300PIC-304



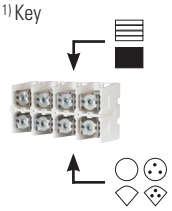
4300PIC-296, 4300PIC-299



4300PIC-291, 4300PIC-294



[1] Key



- Round cable, single-wired
- Round cable, multi-wired
- Sector cable, single-wired
- Sector cable, multi-wired
- Cu Band
- Cu Bar

Type K95/1N/BR, K150/1/BR, K240/1/BR and K2X240/1/BR = for round cable or sector cable connection on both sides

5-pole Terminal Cover

- Incl. warning sign
- According to DIN (electricity lightning bolt)
- 3 or 4-pole terminal covers can be obtained by splitting

3, 4 and 5-poles respectively

wa_vt23613



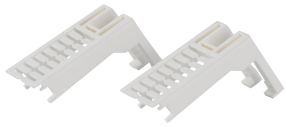
Suitable for	Type designation	Article No.	Pack (pcs.)
K95/...	H-K95/5	036888	4
K150/...	H-K150/5	039261	1
K240/...	H-K240/5	041634	1
K2X240/...	H-K2X240/5	044007	1
K3X185/...	H-K3X185/5	048753	1
K3X240/...	H-K3X240/5	046380	1
K4X185/...	H-K4X185/5	051126	1

3, 4, 5-pole Finger Protection IP2X

- For 3, 4, 5-pole K-Terminals
- Degree of protection IP2X
- Only in connection with terminal cover H-K...

3, 4 and 5-poles respectively

vt57915



Suitable for	Type designation	Article No.	Pack (pcs.)
K95/...	K95-IPK	182400	2
K150/...	K150-IPK	182401	2
K240/...	K240-IPK	182402	2
K2X240/...	K2X240-IPK	182403	2

Conversion Sets for K-Type Terminals 160-1000 A

- For one conductor
- For conversion from band-type connection to cable-type connection

VT21719



Suitable for	Rated Permanent Current I_u (A)	Type designation	Article No.	Pack (pcs.)
K95/...	160	D-K95	020277	1
K150/...	250	D-K150	022650	1
K240/...	400	D-K240	025023	1
K2X240/...	630	D-K2X240	027396	1
K3X185/...	800	D-K3X185	032142	1
K3X240/...	1000	D-K3X240	029769	1
K4X185/...	1000	D-K4X185	034515	1

- For one auxiliary conductor
- M4-screw with pressure shim
- Terminal capacity 0.5-2.5 mm²

VT12508



Suitable for	Type designation	Article No.	Pack (pcs.)
K95/... + K150/...	HK-K95-K150	001916	1
K240/...	HK-K240	098585	1
K2X240/...	HK-K2X240	010785	1
K3X185/...	HK-K3X185	015531	1
K3X240/...	HK-K3X240	013158	1
K3X240/... + K4X185/....	HK-K3X240-K4X185	001917	1

Insulated Individual Terminals

- Finger-proof on all sides, VDE approved
- For snap-fitting on top-hat rail to IEC/EN 60715
- Can be screwed onto mounting plates and directly on CI enclosure stacking mandrels
- Can be grouped with additional K50/1 terminals
- With L, N, and protective conductor markings

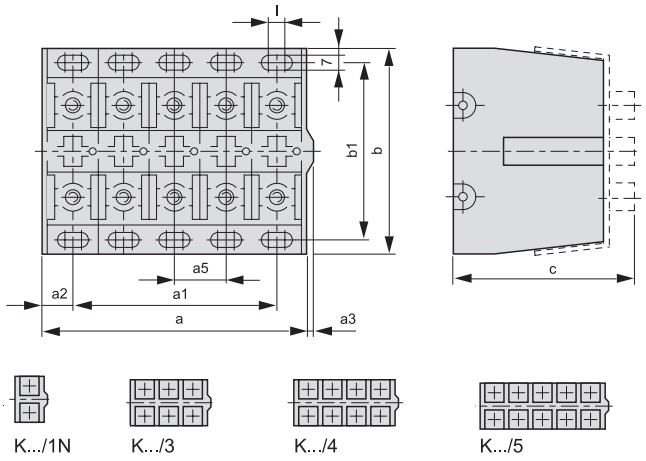
4300PIC-283



Circuit	Rated Permanent Current I_u A	Terminal Capacities [1] mm²	Cu Band mm	Type designation	Article No.	Pack (pcs.)
	150	◯ 2.5 - 50 ⊛ 2.5 - 50 ⊛ 2.5 - 35	▤ 3 x 9 x 0.8	K50/1	098573	10

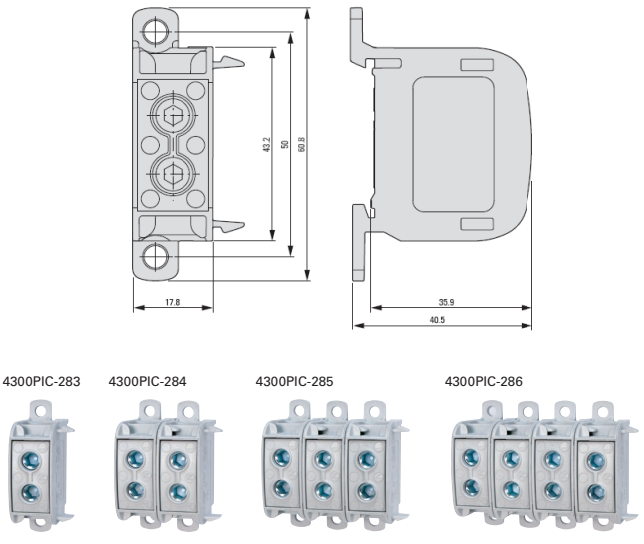
[1]
◯ Round cable, single-wired
⊛ Round cable, finely-wired with end sleeve professionally pressed
⊛ Round cable, multi-wired
◇ Sector cable, single-wired
◈ Sector cable, multi-wired
▤ Cu Band
■ Cu Bar

K-Type Connection Terminals



Type	a	a1	a2	a3	b	b1	c	a5	l
K95/1N	37	-	18.5	3	115	100	88	-	13
K95/3	99	75	12	3	115	100	88	31	13
K95/4	130	100	15	3	115	100	88	31	13
K95/5	161	125	18	3	115	100	88	31	13
K150/1N	37	-	18.5	3	115	100	105	-	13
K150/3	99	75	12	3	115	100	105	31	13
K150/4	130	100	15	3	115	100	105	31	13
K150/5	161	125	18	3	115	100	105	31	13
K240/1N	52	-	26	3	115	100	120	-	12
K240/3	144	100	22	3	115	100	120	46	12
K240/4	190	150	20	3	115	100	120	46	12
K240/5	236	175	30.5	3	115	100	120	46	12
K2X240/1N	68	-	34	4	140	125	127	-	15
K2X240/3	192	125	33.5	4	140	125	127	62	15
K2X240/4	254	200	27	4	140	125	127	62	15
K2X240/5	316	250	33	4	140	125	127	62	15
K3X185/1	78	-	39	4	140	125	166	-	15
K3X185/3	222	150	36	4	140	125	166	72	15
K3X185/4	294	225	34.5	4	140	125	166	72	15
K3X185/5	366	300	33	4	140	125	166	72	15
K3X240/1	88	-	44	4	165	150	196	-	20
K3X240/3	252	175	39	4	165	150	196	82	20
K3X240/4	334	250	42	4	165	150	196	82	20
K3X240/5	416	325	45.5	4	165	150	196	82	20
K4X185/1	88	-	44	4	165	150	196	-	20
K4X185/3	252	175	39	4	165	150	196	82	20
K4X185/4	334	250	42	4	165	150	196	82	20
K4X185/5	416	325	45.5	4	165	150	196	82	20

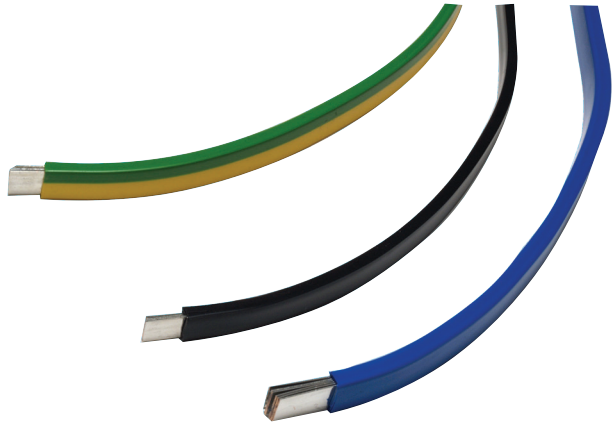
Insulated Individual Terminals K50/1



Standards	VDE approval according to DIN EN 60947-7-1 The product complies with the EC's RoHS Directives
Colour	RAL 7035 light grey
Materials	Terminal body: Brass (CuZn39Pb2) blank Housing: PA 6 (halogen-free) Screws: Steel Zn, thick-film passivated
Flame-retardant	self-extinguishing
Mechanical values	
Stripping lengths	50 mm², 16 mm
Screw heads	Hexagon socket-head screw: 5 mm
Dimensions	W × H × D (mm): 24.8 x 40.5 x 60.8
Electrical values	
Rated permanent current	150 A
Rated operational voltage	690 V
Terminal capacities	2x 50 mm² Cu Round cable, single-wired 2.5 – 50 mm² Cu Round cable, multi-wired 2.5 – 50 mm² Cu round conductor, flexible with ferrule 2.5 – 35 mm² Cu Bar 3 x 9 x 0.8 mm
Suitable for	CI, CI-K, cam switches T, switch-disconnectors P, circuit-breakers NZM; CU-BAND3X9x0.8-BK

Multi-layer Copper Band, insulated

wa_vt04807

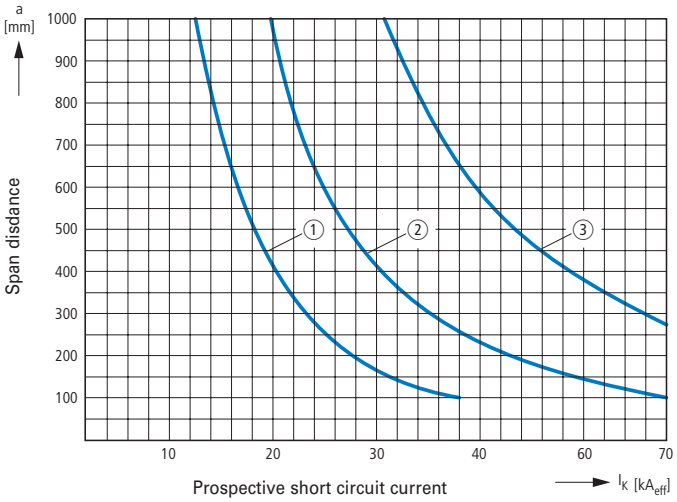






Used for	Type Designation	Article No.	Units per package
Line Supports			
Profile ledge			
Clamp clips	BZ248	076516	10
Clamp clips			
3 x 9 x 0.8 6 x 9 x 0.8	BZ249	078889	10
4 x 16 x 0.8 6 x 16 x 0.8 10 x 16 x 0.8	BZ251	081262	10
11 x 21 x 1	BZ252	083635	10

Short-circuit strength diagrams



① BZ249
② BZ251
③ BZ252

Technical Data Multi-layer Copper Band, insulated, CU-BAND

	CU-BAND
Standards	EN 61439-2 (max. 1000 V AC and 1500 V DC), UL 758 (max. 600 V AC and 750 V DC)
Insulating material	
Heat resistant	up to +105 °C
Self-extinguishing	according to UL 94 V0
Dielectric strength	20 kV/mm
Copper	E-CU, tinned
Operating temperature	-30 °C / +105 °C
Length	2 m
Colors	black (BK), blue (BU), green/yellow (GNYE)
UL File No.	E248096. UL report applies to both US and Canada.

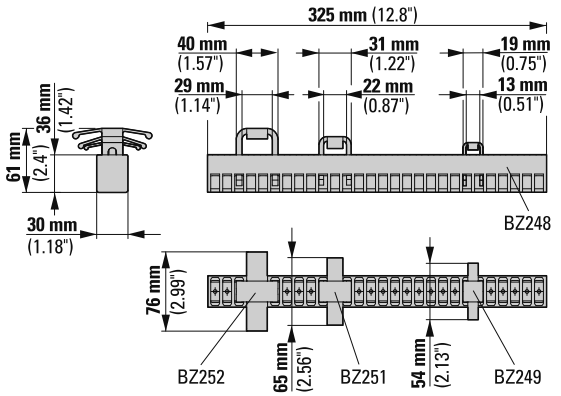
Continuous currents according to DIN 43671 for current rails from E-Cu in indoor facilities at 35 °C air temperature around the conductor and max. X °C busbar temperature.

Rated current range	Dimensions	Cross-section [mm²]	Continuous current AC			Type	Colour
	Number of layers x Width x thickness of a layer [mm]		X = 65 °C	X = 85 °C	X = 105 °C		
			ΔT = 30 K	ΔT = 50 K	ΔT = 70 K		
100 A	3 x 9 x 0.8	21.6	98 A	**130 A**	152 A	CU-BAND3X9X0.8-…	BK, BU, GNYE
160 A	6 x 9 x 0.8	43.2	147 A	**196 A**	228 A	CU-BAND6X9X0.8-...	BK, BU, GNYE
200 A	9 x 9 x 0.8	64.8	179 A	**238 A**	277 A	CU-BAND9X9X0.8-...	BK, BU, GNYE
250 A	6 x 16 x 0.8	74.4	252 A	**335 A**	391 A	CU-BAND6X16X0.8-...	BK, BU, GNYE
400 A	10 x 16 x 0.8	128	330 A	**439 A**	512 A	CU-BAND10X16X0.8-...	BK, BU, GNYE
400 A	5 x 24 x 1	120	369 A	**491 A**	572 A	CU-BAND5X24X1-...	BK
630 A	11 x 21 x 1	231	563 A	**749 A**	873 A	CU-BAND11X21X1-...	BK, BU, GNYE
630 A	8 x 24 x 1	192	483 A	**642 A**	749 A	CU-BAND8X24X1-...	BK
630 A	10 x 24 x 1	240	559 A	**743 A**	866 A	CU-BAND10X24X1-...	BK
630 A	5 x 32 x 1	160	477 A	**634 A**	739 A	CU-BAND5X32X1-...	BK
800 A	10 x 32 x 1	320	721 A	**959 A**	1118 A	CU-BAND10X32X1-...	BK
1000 A	10 x 40 x 1	400	850 A	**1131 A**	1318 A	CU-BAND10X40X1-...	BK
1250 A	10 x 50 x 1	500	1020 A	**1357 A**	1581 A	CU-BAND10X50X1-...	BK
1600 A	10 x 80 x 1	800	1500 A	**1995 A**	2325 A	CU-BAND10X80X1-...	BK

The rated currents and wiring instructions for devices (e.g. connection cross-section at least ... mm²) are primarily to be observed.
Multiplication factor 1.72 using 2x CU-BAND in parallel.
Multiplication factor 2.25 when using 3x CU-BAND in parallel arrangement according to DIN 43671.

Dimensions

Line Supports BZ



Technical Data

Multi-layer Copper Band, insulated

	CU-BAND…
Standards	EN 61439-2 (max. 1000 V AC and 1500 V DC) UL 758 (max. 600 V AC and 750 V DC)
Insulating material	Heat resistant up to +105 °C Self extinguishing according to UL 94 V0 Dielectric strength 20 kV/mm
Copper	E-CU, tin-plated
Operating temperature	-30 °C / +105 °C
Length	2 m
Colors	black (BK), blue (BU), green/yellow (GNYE)
UL File No.	E248096. UL report applies to both US and Canada.

Continuous currents according to DIN 43671 for current rails from E-Cu in indoor facilities at 35 °C air temperature around the conductor and max. X °C busbar temperature.

			Continuous current AC				
Rated current range	**Dimensions**	**Cross-section [mm²]**	**X = 65°C**	**X = 85°C**	**X = 105°C**	**Type**	**Colour**
	Number of layers x width x thickness of a layer [mm]		**ΔT = 30 K**	**ΔT = 50 K**	**ΔT = 70 K**		
100 A	3 x 9 x 0.8	21,6	98 A	**130 A**	152 A	CU-BAND3X9X0.8-…	BK, BU, GNYE
160 A	6 x 9 x 0.8	43,2	147 A	**196 A**	228 A	CU-BAND6X9X0.8-...	BK, BU, GNYE
200 A	9 x 9 x 0.8	64,8	179 A	**238 A**	277 A	CU-BAND9X9X0.8-...	BK, BU, GNYE
250 A	6 x 16 x 0.8	74,4	252 A	**335 A**	391 A	CU-BAND6X16X0.8-...	BK, BU, GNYE
400 A	10 x 16 x 0.8	128	330 A	**439 A**	512 A	CU-BAND10X16X0.8-...	BK, BU, GNYE
400 A	5 x 24 x 1	120	369 A	**491 A**	572 A	CU-BAND5X24X1-...	BK
630 A	11 x 21 x 1	231	563 A	**749 A**	873 A	CU-BAND11X21X1-...	BK, BU, GNYE
630 A	8 x 24 x 1	192	483 A	**642 A**	749 A	CU-BAND8X24X1-...	BK
630 A	10 x 24 x 1	240	559 A	**743 A**	866 A	CU-BAND10X24X1-...	BK
630 A	5 x 32 x 1	160	477 A	**634 A**	739 A	CU-BAND5X32X1-...	BK
800 A	10 x 32 x 1	320	721 A	**959 A**	1118 A	CU-BAND10X32X1-...	BK
1000 A	10 x 40 x 1	400	850 A	**1131 A**	1318 A	CU-BAND10X40X1-...	BK
1250 A	10 x 50 x 1	500	1020 A	**1357 A**	1581 A	CU-BAND10X50X1-...	BK
1600 A	10 x 80 x 1	800	1500 A	**1995 A**	2325 A	CU-BAND10X80X1-...	BK

The rated currents and wiring instructions for devices (e.g. connection cross-section at least ... mm²) are primarily to be observed.
Multiplication factor 1.72 using 2x CU-BAND in parallel.
Multiplication factor 2.25 when using 3x CU-BAND in parallel arrangement according to DIN 43671.

vt43716



vt43816



Description

- UL, cUL approval
- Degree of protection IP54 and IP55
- Rated voltage 230 V
- Fixing without any screws
- Fast changing of filter pads
- Thermoplastic material
- RAL 7035
- High class floating or ball bearing
- Self-extinguishing UL94 V0
- Simple change of air boost direction
- 4 corner arrester
- Variable connection per twisting of 90°
- Temperature range -40 °C ... +55 °C

Filter-based fan IP54

- Degree of protection IP54
- Rated operational voltage 230/240V AC 50/60Hz
- Simple change of air boost direction
- 4 corner arrester
- Variable connection per twisting of 90°
- RAL 7035
- High class floating or ball bearing
- Self-extinguishing UL94 V0
- Back-up fuse 6 A

vt44416



Dimensions [mm]	Cut-out HxW [mm]	Air flow free blowing [m³/h]	Type designation	Article No.	Pack (pcs.)
109x109	92x92	25/29	E-FAN1	167287	1
145x145	125x125	61/70	E-FAN2	167288	1
202x202	177x177	110/125	E-FAN3	167289	1
252x252	223x223	156/171	E-FAN4	167290	1
		256/292	E-FAN5	167291	1

Air exit filter IP54

- Degree of protection IP54
- Same design as filter-based fan
- Fixing in the door or in the side wall without any screws
- Easy change of filter pads during operation
- With integrated foam sealing towards the electrical cabinet

vt44016



Cut-out HxW [mm]	Type designation	Article No.	Pack (pcs.)
92x92	EX-FILT1	167292	1
125x125	EX-FILT2	167293	1
177x177	EX-FILT3	167294	1
223x223	EX-FILT4-5	167295	1

Filter-based fan IP55

- Degree of protection IP55
- UV resistant plastic enclosure
- Rated operational voltage 230/240V AC 50/60Hz
- Simple change of air boost direction
- 4 corner arrester
- Variable connection per twisting of 90°
- RAL 7035
- High class floating or ball bearing
- Self-extinguishing UL94 V0
- Back-up fuse 6 A

vt44316



Dimensions [mm]	Cut-out HxW [mm]	Air flow free blowing [m³/h]	Type designation	Article No.	Pack (pcs.)
145x145	125x125	56/64	E-FAN2-55	167296	1
202x202	177x177	100/110	E-FAN3-55	167297	1
252x252	223x223	145/160	E-FAN4-55	167298	1
		233/265	E-FAN5-55	167299	1

Air exit filter IP55

- Degree of protection IP55
- Same design as filter-based fan
- Fixing in the door without any screws
- Easy change of filter pads during operation
- With integrated foam sealing towards the electrical cabinet

vt44516



Cut-out HxW [mm]	Type designation	Article No.	Pack (pcs.)
125x125	EX-FILT2-55	167300	1
177x177	EX-FILT3-55	167301	1
223x223	EX-FILT4-5-55	167302	1

Filter pads for filter-based fans and air exit filters

- Replacement filters
- Degree of protection IP54/IP55
- 5 filters per package

vt46416, vt46516



Degree of protection	Suitable for	Dimensions [mm]	Type designation	Article No.	Pack (pcs.)
IP54	...FAN1/...FILT1	87x87	FILT1	167303	5
	...FAN2/...FILT2	119x119	FILT2	167304	5
	...FAN3/...FILT3	170x170	FILT3	167305	5
	...FAN4/...FILT4	216x216	FILT4	167306	5
IP55	...FAN2-55/...FILT2-55	116x108	FILT2-55	167307	5
	...FAN3-55/...FILT3-55	166x156	FILT3-55	167308	5
	...FAN4(-5)-55/...FILT4-5-55	212x200	FILT4-55	167309	5

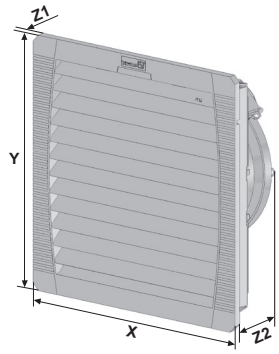
Filter-based fan IP54

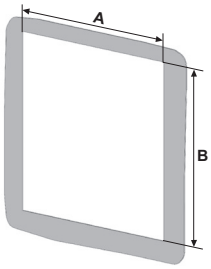
- Installation without tools
- Fast changing of filter pads
- Modular structure, easy installation of accessories and additional components
- Easy and variable electrical connection

Technical Data

	E-FAN1	E-FAN2	E-FAN3	E-FAN4	E-FAN5
Mains voltage ±10 %	230/240V AC, 50/60Hz	230/240V AC, 50/60Hz	230/240V AC, 50/60Hz	230/240V AC, 50/60Hz	230/240V AC, 50/60Hz
Air flow - freeblowing	25 / 29 m^3/h	61 / 70 m^3/h	110 / 125 m^3/h	156 / 171 m^3/h	256 / 292 m^3/h
Air flow - in combination with Air exit filter	16 / 18 m^3/h	44 / 52 m^3/h	82 / 93 m^3/h	116 / 127 m^3/h	231 / 265 m^3/h
Power consumption	12 W / 11 W	19 W / 18 W	19 W / 18 W	18 W / 17 W	45 W / 39 W
Current consumption	0.07 A / 0.06 A	0.12 A / 0.18 A	0.12 A / 0.18 A	0.12 A / 0.1 A	0.32 A / 0.26 A
Noise level according to EN ISO 3741	33 dB / 33 dB	44 dB / 44 dB	40 dB / 40 dB	40 dB / 43 dB	42 dB / 46d B
Weight	0.55 kg	0.7 kg	0.87 kg	1.18 kg	1.67 kg
Type of connection	Cable l = 310 mm	Terminal strip	Terminal strip	Spring-type terminal strip	Spring-type terminal strip
Fuse protection	6 A	6 A	6 A	6 A	6 A
Degree of protection according to EN60529 / UL 50	IP54	IP54	IP54	IP54	IP54
Filtration efficiency	88 %	88 %	88 %	88 %	88 %
Quality grade of filter pad according to DIN EN 779	G 3	G 3	G 3	G 3	G 3
Operating period	100 %	100 %	100 %	100 %	100 %
Type of bearing	Slide bearing	Slide bearing	Slide bearing	Ball bearing	Ball bearing
Service life L10 (+40 °C)	52,500 h	37,500 h	37,500 h	40,000 h	40,000 h
Temperature range	-40 °C ... +55 °C / -40 °F ... +131 °F				
Design (enclosure and contact protection)	made of injection-moulded, self-extinguishing thermoplastic, UL 94 VO				
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035

Dimensions (mm)





mm	E-FAN1	E-FAN2	E-FAN3	E-FAN4	E-FAN5
X	109	145	202	252	252
Y	109	145	202	252	252
Z1	4	5	6	6	6
Z2	62	70	87	97	97
A	92	125	177	223	223
B	92	125	177	223	223

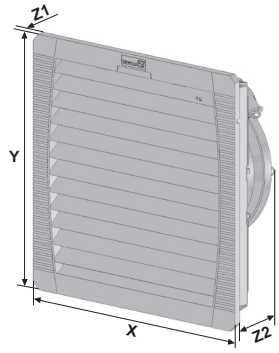
Filter-based fan IP55

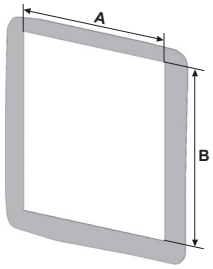
- Installation without tools
- Fast changing of filter pads
- Modular structure, easy installation of accessories and additional components
- Easy and variable electrical connection

Technical Data

	E-FAN2-55	E-FAN3-55	E-FAN4-55	E-FAN5-55
Mains voltage	230/240V AC, 50/60Hz	230/240V AC, 50/60Hz	230/240V AC, 50/60Hz	230/240V AC, 50/60Hz
Air flow - freeblowing	56 / 64 m^3/h	100 / 110 m^3/h	145 / 160 m^3/h	233 / 265 m^3/h
Air flow - in combination with Air exit filter	40 / 46 m^3/h	55 / 64 m^3/h	109 / 113 m^3/h	180 / 207 m^3/h
Power consumption	19 W / 18 W	19 W / 18 W	18 W / 17 W	45 W / 39 W
Current consumption	0.12 A / 0.18 A	0.12 A / 0.18 A	0.12 A / 0.1 A	0.32 A / 0.26 A
Noise level according to EN ISO 3741	44 dB / 44 dB	40 dB / 40 dB	40 dB / 43 dB	42 dB / 46 dB
Weight	0.7 kg	0.87 kg	1.18 kg	1.67 kg
Type of connection	Terminal strip	Terminal strip	Terminal strip	Spring-type terminal strip
Fuse protection	6 A	6 A	6 A	6 A
Degree of protection according to EN60529 / UL 50	IP55	IP55	IP55	IP55
Filtration efficiency	88 %	88 %	88 %	88 %
Quality grade of filter pad according to DIN EN 779	G 3	G 3	G 3	G 3
Operating period	100 %	100 %	100 %	100 %
Type of bearing	Slide bearing	Slide bearing	Slide bearing	Ball bearing
Service life L10 (+40 °C)	37,500 h	37,500 h	40,000 h	40,000 h
Temperature range	-40 °C ... +55 °C / -40 °F ... +131 °F			
Design (enclosure and contact protection)	made of injection-moulded, self-extinguishing thermoplastic, UL 94 V0			
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035

Dimensions (mm)





mm	E-FAN2-55	E-FAN3-55	E-FAN4-55	E-FAN5-55
X	145	202	252	252
Y	145	202	252	252
Z1	5	6	6	6
Z2	70	87	97	97
A	125	177	223	223
B	125	177	223	223

Air exit filter

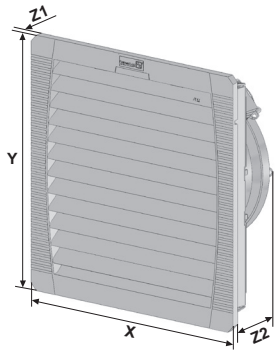
- Same design as filter-based fan
- Installation in the door without screws, according to VDE 0113 (EN 60204)
- Recently developed and patented snap-on fixing
- Filter is easy to change while operating
- With integrated foam sealing towards the electrical cabinet

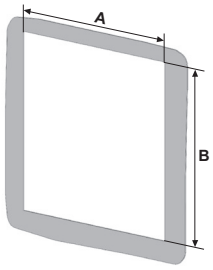
Technical Data

	EX-FILT1	EX-FILT2	EX-FILT3	EX-FILT4-5
Cut-outs (mm)	92 x 92	125 x 125	177 x 177	223 x 223
Degree of protection	IP 54	IP 54	IP 54	IP 54
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Material of enclosure	Thermo-plastic material			

	EX-FILT2-55	EX-FILT3-55	EX-FILT4-5-55
Cut-outs (mm)	125 x 125	177 x 177	223 x 223
Degree of protection	IP 55	IP 55	IP 55
Colour	RAL 7035	RAL 7035	RAL 7035
Material of enclosure	UV resistant plastic		

Dimensions (mm)





mm	EX-FILT1(-55)	EX-FILT2(-55)	EX-FILT3(-55)	EX-FILT4-5(-55)
X	109	145	202	252
Y	109	145	202	252
Z1	4	5	6	6
Z2	19	26	34	38
A	92	125	177	223
B	92	125	177	223

Filter pads for filter-based fans and air exit filters

- Replacement filter pads for filter fans

Technical Data

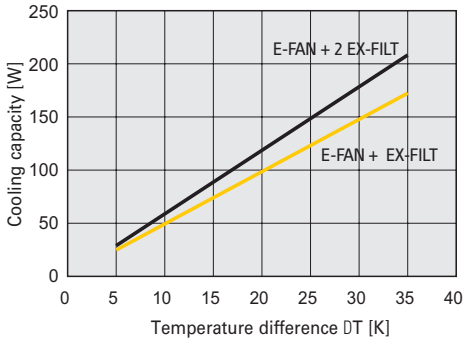
	FILT1	FILT2	FILT3	FILT4
Dimensions (mm)	87 x 87	119 x 119	170 x 170	216 x 216
Degree of protection	IP 54	IP 54	IP 54	IP 54
Material	LG3318	LG3318	LG3318	LG3318

	FILT2-55	FILT3-55	FILT4-55
Dimensions (mm)	116 x 108	166 x 156	212 x 200
Degree of protection	IP 55	IP 55	IP 55
Material	BN 2.208	BN 2.208	BN 2.208

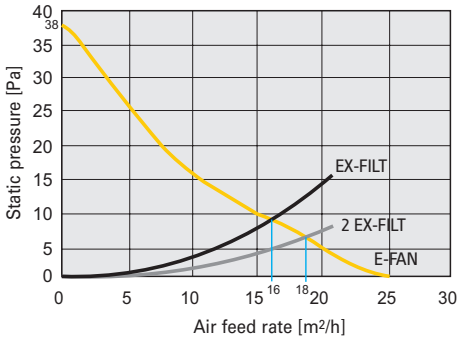
Filter characteristics

E-FAN1

Characteristics of cooling performance

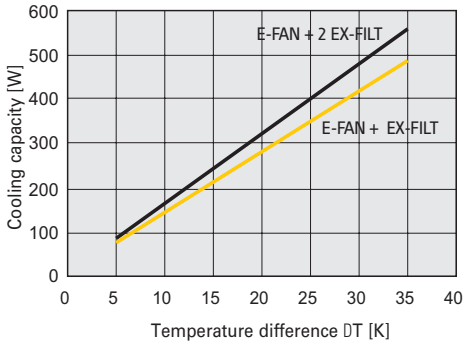


Characteristics of static pressure

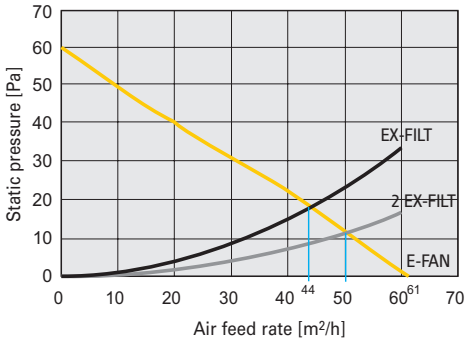


E-FAN2

Characteristics of cooling performance

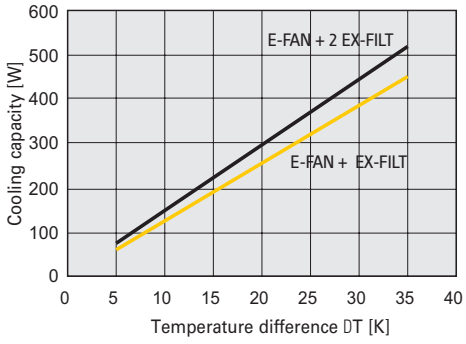


Characteristics of static pressure

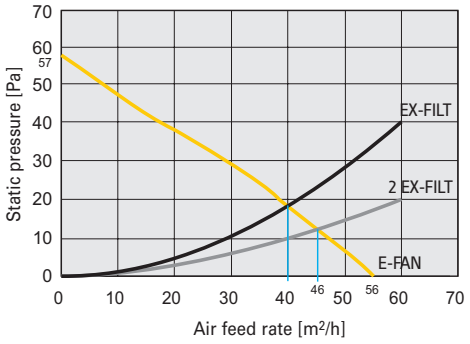


E-FAN2-55

Characteristics of cooling performance

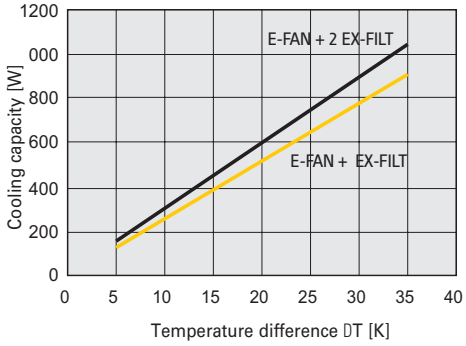


Characteristics of static pressure

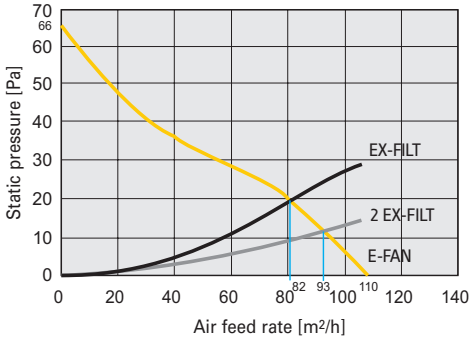


E-FAN3

Characteristics of cooling performance

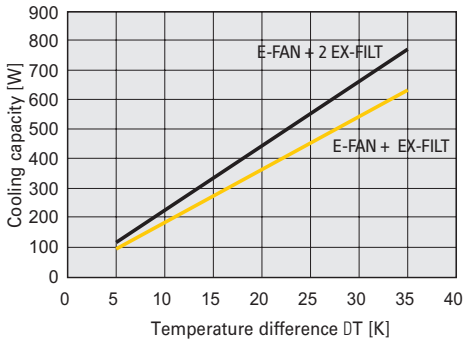


Characteristics of static pressure

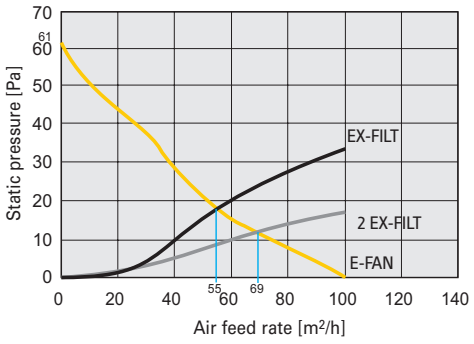


E-FAN3-55

Characteristics of cooling performance

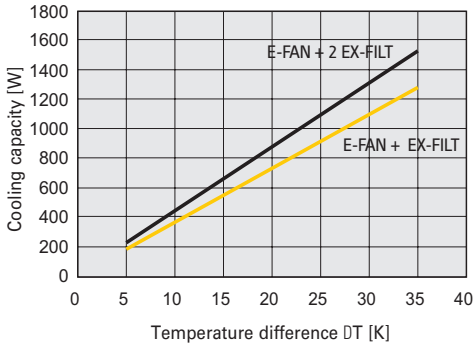


Characteristics of static pressure

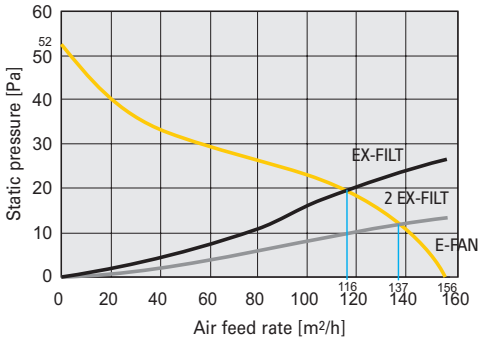


E-FAN4

Characteristics of cooling performance

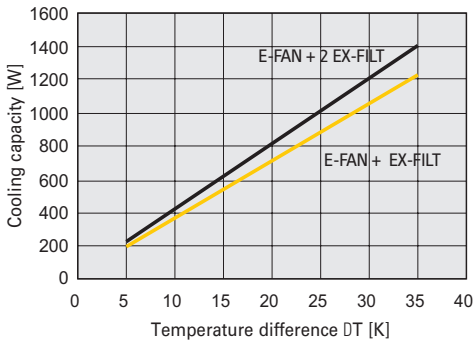


Characteristics of static pressure

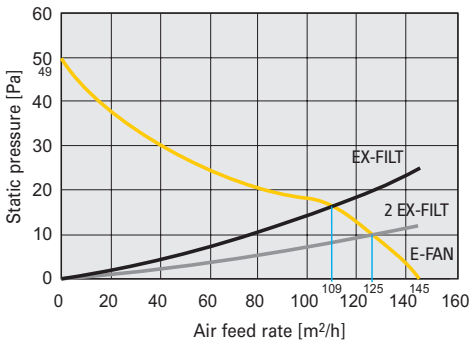


E-FAN4-55

Characteristics of cooling performance

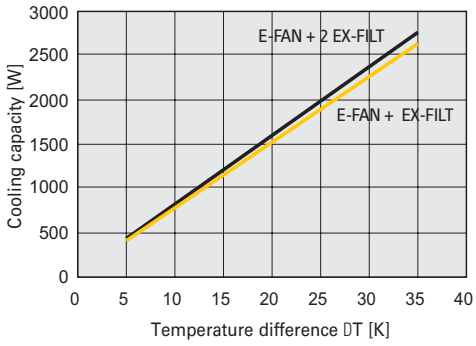


Characteristics of static pressure

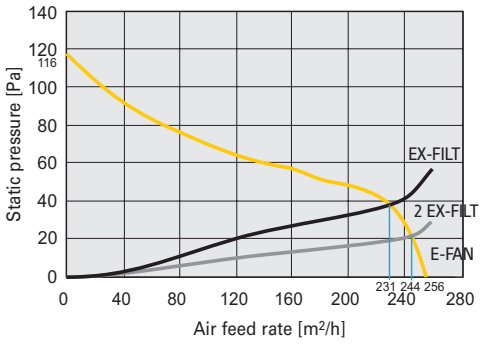


E-FAN5

Characteristics of cooling performance

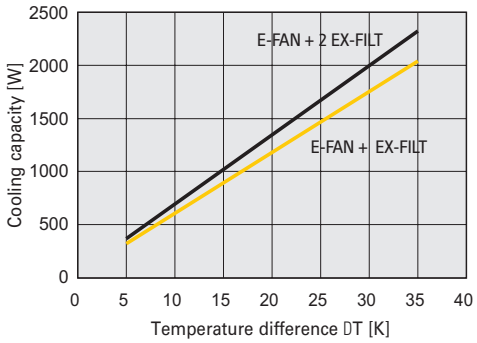


Characteristics of static pressure

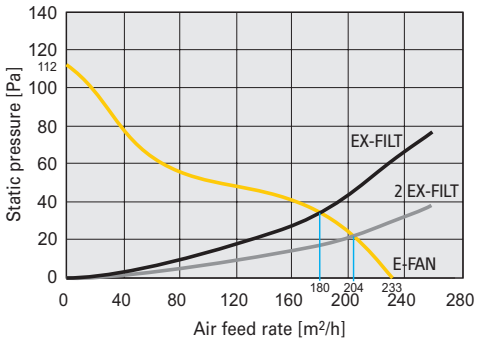


E-FAN5-55

Characteristics of cooling performance



Characteristics of static pressure



vt45916



vt45816



Description

- UL, cUL approval
- Degree of protection IP20
- With NC/NO/CO contacts
- For on-demand temperature regulation and ventilation in the electrical cabinet
- No more condensation
- Snap-on mounting onto mounting rail
- RAL 7035

Thermostats

- Version with NC/NO/CO contact
- Operating temperature range 0 … +60 °C
- Storage temperature range -40 ... +80 °C
- RAL 7035
- Degree of protection IP20
- Snap-on mounting onto mounting rail

wa_vt01214



Type of contact	Temperature difference for switching [K]	Type designation	Article No.	Pack (pcs.)
CO with snap-action contact	1	TH-TW-1K	167310	1
NC with snap-action contact	<7	TH-O	167312	1
NO with snap-action contact	<7	TH-C	167313	1
NC/NO with snap-action contact	<7	TH-TWIN	167266	1

Hygrostat/Thermostat

- Individual and combined devices
- Degree of protection IP20
- Setting range 40-90% rel. humidity
- RAL 7035
- Operating temperature range 0 … +60 °C
- Snap-on mounting onto mounting rail

vt45816



Type of contact	Temperature difference for switching [K]	Type designation	Article No.	Pack (pcs.)
CO	approx. 5 %	HYG	167267	1
CO/relay	approx. 4 %, 1 K	TH-HYG	167268	1

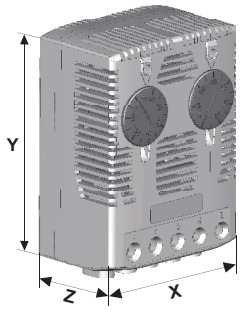
Thermostats

- Thermostats are used as temperature controls and therefore for controlling filter-based fans and heaters in electrical cabinets
- The series of twin thermostats unites two thermostats in all kinds of combinations for complex switching tasks

Technical Data

	TH-TW-1K	TH-O	TH-C	TH-TWIN
Type of contact	CO with snap-action contact	NC with snap-action contact	NO with snap-action contact	NC/NO with snap-action contact
Temperature difference for switching	1 K	<7 K	<7 K	<7 K
Tolerance for switching point	± 3 K	± 4 K	± 4 K	± 4 K
Max. switching capacity				
(Value between brackets: Inductive load cos j=0,6):	NC/NCC 100-250 V AC / 10 A (2 A)	240 V AC / 10 A (2 A)		
	NO/NCC 100-250 V AC / 5 A (2 A)	120 V AC / 15 A (2 A)		
DC:	max. 30 W	max. 30 W		
Temperature range for use	-40 ... +80 °C (-40 ... +176 °F)			
Temperature range for storage	-40 ... +80 °C (-40 ... +176 °F)			
Type of sensor	Bimetal	Bimetal	Bimetal	Bimetal
Degree of protection	IP 20	IP 20	IP 20	IP 20
Weight	75 g	50 g	50 g	95 g
Type of connection	Screw-type terminals for cable cross-sections of 0.5 up to 2.5 mm²			
Special features	thermal recovery system	-	-	-
Suitable for operation of	Fans and heaters	Heaters	Fans	Fans and heaters
Installation	Snap-on fixing for 35 mm profile rail according to EN 60715			
Colour	RAL 7035	RAL 7035	RAL 7035	RAL 7035

Dimensions (mm)



mm	TH-TW-1K	TH-O	TH-C	TH-TWIN
X	37	40	40	59
Y	36	72	72	80.5
Z	46	36	36	38

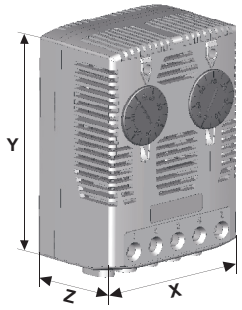
Hygrostat/Thermostat Kombigerät

- The electronic combined device includes a thermostat and a hygrostat in a single enclosure and monitors both the rel. humidity and the temperature at the same time and independ-lty from each other.

Technical Data

	HYG	TH-HYG
Device version	mechanical hygrostat	electronic combined device including hygrostat/thermostat
Type of contact	CO with snap-action contact	CO/relay
Operating voltage	-	230 V AC 50 Hz
Setting range	40-90 % rel. humidity	40-90 % rel. humidity / 0 ... +60 °C
Temperature difference for switching	approx. 5 %	approx. 2 K ±1 K / approx. 4 % rel. humidity ±1 %
Resistance to contact change-over	-	<10 mW
Max. switching capacity		
(Value between brackets: Inductive load cos j=0,6):	NC/NCC 24-250 V AC / 2 A (0,2 A)	240 V AC, 8 A (3 A) or 120 V AC, 8 A (3 A)
	NO/NCC 24-250 V AC / 5 A (0,2 A)	24 V DC, 4 A
DC:	max. 30 W	-
Temperature range for use	0 ... +60 °C (30 ... +140 °F)	-20 ... +60 °C (-4 ... +140 °F)
Temperature range for storage	-40 ... +80 °C (-40 ... +176 °F)	-40 ... +80 °C (-40 ... +176 °F)
Type of sensor	Polyamide ribbon	-
Degree of protection	IP 20	IP 20
Weight	55 g	85 g
Type of connection	Screw-type terminals for cable cross-sections of 0.5 up to 2.5 mm^2	
Operation indicator	-	LED
Suitable for operation of	Fans and heaters	Fans and heaters
Installation	Snap-on fixing for 35 mm profile rail according to EN 60715	
Colour	RAL 7035	RAL 7035

Dimensions (mm)



mm	HYG	TH-HYG
X	37	59
Y	64	80.5
Z	46	38

vt45116



vt44916



Description

- UL, cUL approval
- Degree of protection IP20 to IP55
- Rated voltage 230V / 50 Hz
- Heating power 10-250 W
- Radiator heating and heater fan

Radiator heating

- Degree of protection IP44
- Suitable for permanent operation
- Any mounting position, preferably vertical
- Aluminium profile, bright anodized
- Rated operational voltage 230 V / 50 Hz
- Snap-on mounting onto mounting rail



Heating power [W]	Max. surface temperature [°C]	Radiator size H/W/D [mm]	Type designation	Article No.	Pack (pcs.)
45	105	65x70x50	R-HEAT-45W	167269	1
100	130	140x70x50	R-HEAT-100W	167271	1
150	150	215x70x50	R-HEAT-150W	167272	1

Radiator heating with limited surface temperature

- Low surface temperature
- Degree of protection IP44
- Suitable for permanent operation
- Any mounting position, preferably vertical
- Aluminium profile, bright anodized
- Rated operational voltage 230 V / 50 Hz
- Snap-on mounting onto mounting rail



20	55 [1]	95x70x50	R-SHEAT-20W	167276	1
30	55 [1]	140x70x50	R-SHEAT-30W	167277	1
50	55 [1]	215x70x50	R-SHEAT-50W	167278	1

Note: [1] Surface temperature at maximal Enclosure inside temperature of +35 °C

Miniature radiator heating

- For use in small enclosures
- Degree of protection IP54
- Suitable for permanent operation
- Any mounting position, preferably vertical
- Aluminium profile, black anodized
- Rated operational voltage 230 V / 50 Hz
- Snap-on mounting onto mounting rail



10	95	45x50x29,5	R-MHEAT-10W	167273	1
20	115	45x50x29,5	R-MHEAT-20W	167274	1
30	140	45x75x29,5	R-MHEAT-30W	167275	1

Fan heater

- Optimal for use in large electrical cabinets
- Degree of protection IP20
- Suitable for permanent operation
- Any mounting position, preferably vertical
- Aluminium profile, bright anodized
- Rated operational voltage 230 V / 50 Hz
- Snap-on mounting onto mounting rail

vt44916



Heating power [W]	Max. surface temperature [°C]	Radiator size H/W/D [mm]	Type designation	Article No.	Pack (pcs.)
250	70	186.5x85x104	F-HEAT-250W	167279	1

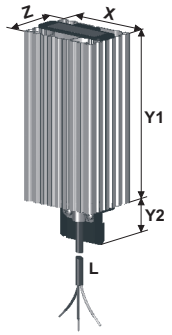
Radiator heating

- To avoid high levels of air humidity or levels of temperature that are too low
- Power of 45-150 W
- Easy to install thanks to snap-on fitting

Technical Data

	R-HEAT-45W	R-HEAT-100W	R-HEAT-150W
Heating power	45 W	100 W	150 W
Max. surface temperature	105 °C	130 °C	150 °C
Power consumption	45 W	100 W	150 W
Switch-on current	1.8 A	5.0 A	7.5 A
Degree of protection	IP44	IP44	IP44
Weight	250 g	510 g	770 g
Rated operational voltage	230 V AC 50/60 Hz		
Operating range	110-250 V AC 50/60 Hz		
Permanent operation	100 %		
Temperature range for use	-40 ... +70 °C (-40 ... +158 °K)		
Temperature range for storage	-40 ... +70 °C (-40 ... +158 °K)		
Mounting position	Any, preferably vertical		
Device design	Aluminium profile, bright anodized		
Installation type	Snap-on fixing for 35 mm profile rail according to EN 60715		
Protection class	I		
Type of connection	Connection cable (500 mm)		

Dimensions (mm)



mm	R-HEAT-45W	R-HEAT-100W	R-HEAT-150W
X	70	70	70
Y1	65	140	215
Y2	35	35	35
Z	50	50	50
L	500	500	500

Radiation Heaters with limitation of surface temperatures

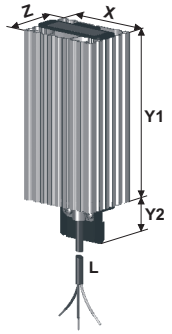
- Low surface temperature
- Power of 20-50 W
- Easy to install thanks to snap-on fitting

Technical Data

	R-SHEAT-20W	R-SHEAT-30W	R-SHEAT-50W
Heating power	20 W	30 W	50 W
Max. surface temperature [1]	55 °C	55 °C	55 °C
Power consumption	20 W	30 W	50 W
Switch-on current	1.1 A	1.2 A	2.3 A
Degree of protection	IP44	IP44	IP44
Weight	320 g	450 g	770 g
Rated operational voltage	230 V AC 50/60 Hz		
Operating range	110-250 V AC 50/60 Hz		
Permanent operation	100 %		
Temperature range for use	-40 ... +70 °C (-40 ... +158 °K)		
Temperature range for storage	-40 ... +70 °C (-40 ... +158 °K)		
Mounting position	Any, preferably vertical		
Device design	Aluminium profile, bright anodized		
Installation type	Snap-on fixing for 35 mm profile rail according to EN 60715		
Protection class	I		
Type of connection	Connection cable (500 mm)		

Note: [1] Surface temperature at maximal Enclosure inside temperature of +35 °C

Dimensions (mm)



mm	R-SHEAT-20W	R-SHEAT-30W	R-SHEAT-50W
X	70	70	70
Y1	95	140	215
Y2	37	37	37
Z	50	50	50
L	500	500	500

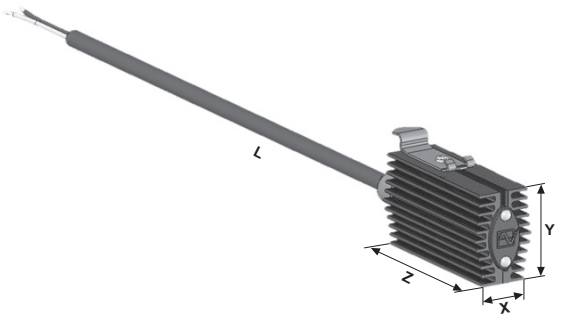
Miniature Radiator Heaters

- For use in small enclosures
- Power of 10-30 W
- Easy to install thanks to snap-on fitting

Technical Data

	R-MHEAT-10W	R-MHEAT-20W	R-MHEAT-30W
Heating power	10 W	20 W	30 W
Max. surface temperature	95 °C	115 °C	140 °C
Power consumption	10 W	20 W	30 W
Switch-on current	1.0 A	1.1 A	1.2 A
Degree of protection	IP54	IP54	IP54
Weight	85 g	120 g	120 g
Rated operational voltage	230 V AC 50/60 Hz		
Operating range	110-250 V AC 50/60 Hz		
Permanent operation	100 %		
Temperature range for use	-40 ... +70 °C (-40 ... +158 °K)		
Temperature range for storage	-40 ... +70 °C (-40 ... +158 °K)		
Mounting position	Any, preferably vertical		
Device design	Aluminium profile, black anodized		
Installation type	Snap-on fixing for 35 mm profile rail according to EN 60715		
Protection class	I		
Type of connection	Connection cable (500 mm)		

Dimensions (mm)



mm	R-MHEAT-..W
X	29.5
Y	45
Z	50
L	300

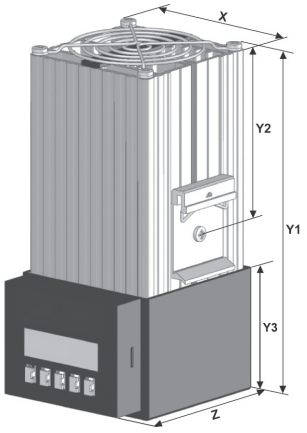
Fan Heaters

- Optimal for use in large electrical cabinets
- Power 250 W
- Easy to install thanks to snap-on fitting

Technical Data

	F-HEAT-250W
Heating power	250 W
Max. surface temperature	70 °C
Power consumption	260 W
Switch-on current	2.2 A
Degree of protection	IP20
Weight	1,035 g
Air flow	50 m^3/h (50 Hz) / 61 m^3/h (60 Hz)
Rated operational voltage	230 V AC 50/60 Hz
Operating range	207-258 V AC 50/60 Hz
Permanent operation	100 %
Temperature range for use	-40 ... +70 °C (-40 ... +158 °K)
Temperature range for storage	-40 ... +70 °C (-40 ... +158 °K)
Mounting position	Any, preferably vertical
Device design	Aluminium profile, bright anodized
Installation type	Snap-on fixing for 35 mm profile rail according to EN 60715
Protection class	I
Type of connection	Connection cable (500 mm)

Dimensions (mm)



mm	F-HEAT-250W
X	85
Y1	186.5
Y2	90
Y3	65
Z	104

VT33209



VT02610



Cable Insertion	Hole Diameter mm	Outer Cable Diameter mm	Use of Cable NYM/NYY, 4-wire mm^2	Type designation	Article No.	Pack (pcs.)

Cable Gland for Ventilation IP69K

- Colour RAL 7035

VT02610



M20	20.5	6-13	H05VV-F4x2.5/3x4 mm^2, NYM 5x1.5/5x2.5 mm^2	V-M20-VENT	120814	1

Cable Insertion	Hole Diameter mm	Type designation	Article No.	Pack (pcs.)

Ventilation grommet with filter disc, metric or PG

- For use at the bottom or side of the enclosures, PE and PVC
- Colour RAL 7035

VT06608



M25	25.5	KT-M25F	224556	50
PG16	23.5	KT16F	024404	100

Cable Insertion	Type designation	Article No.	Pack (pcs.)

Pressure Compensation Gland, IP66, metric

- Colour RAL 7035

VT33209



M40x1.5	DAV-M40	107225	2

Pressure Compensation Gland, IP55, PG

- Colour RAL 7035

VT01612



PG29	DA412	079219	2

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