SASY 60i busbar system provides highest efficiency in the control panel

Productcatalogue 2016

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Customer-focused and Innovative SASY 60i - now a UL-certified Component

SASY 60i - safe and reliable: In combination with the new generation of Eaton's motor protectors and circuit breakers, SASY 60i provides a universal UL-certified solution for switching, protecting and distributing power.

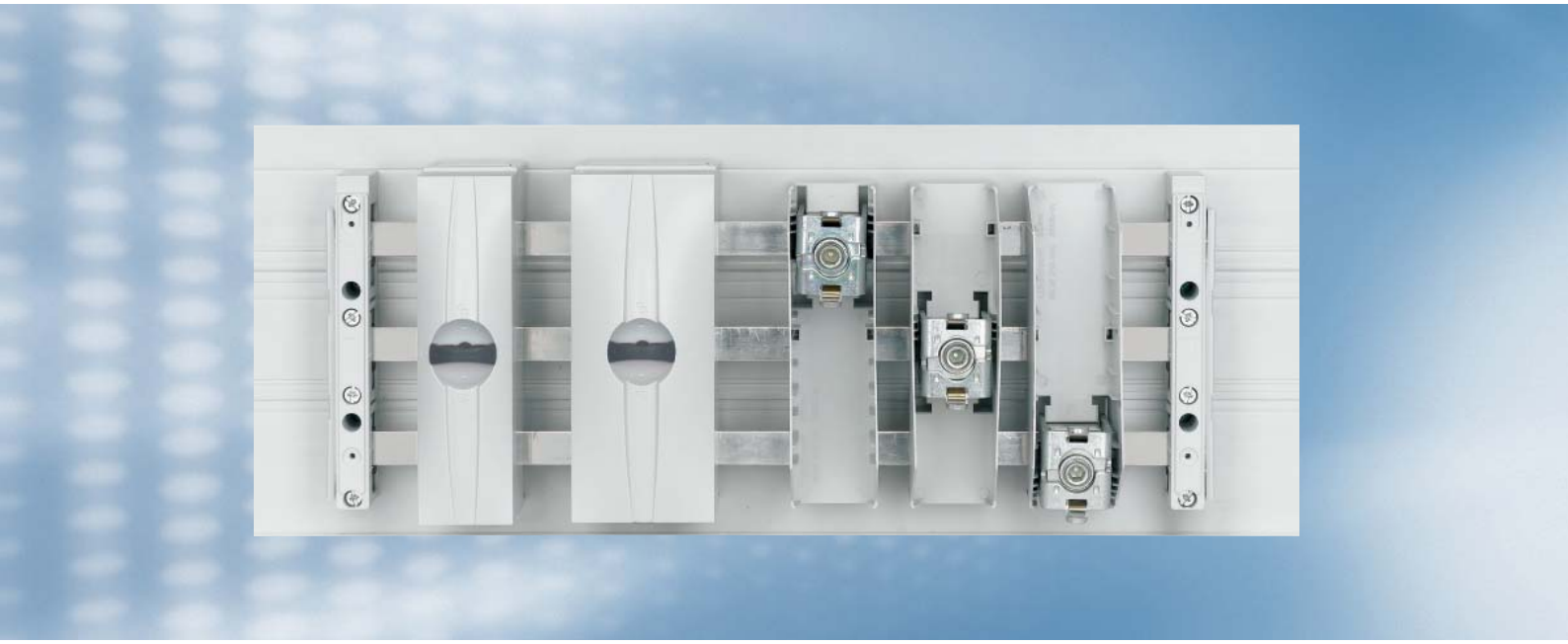
The modular SASY 60i busbar system by Eaton has been conceived for the efficient distribution of power in the switching cabinet. Thanks to busbar adapters, feed and output switches can be mounted directly onto the busbar system in a quick and a space-saving way.

Optimized busbar profile

The system offers many advantages. For example, the SASY 60i uses double-T-profile bars, thus reducing the time and effort needed to prepare the contact points. The profile uses very few busbar supports for very high rated peak withstand currents (Ipk); it thus optimally utilizes the limited cabinet volume. In addition, dissipated heat is conducted in the best possible manner thanks to the large surface area of the busbar profile. Thanks to the market-conforming 60 mm center-to-center distance between the busbars, the system is compatible to other set-up components such as bus-mounting fuse bases or NH fuse switch disconnectors or the new D0-load disconnector switch using the D02-LTS/63/3-R type of fuse.

The latter provides for all-pole switching of the load (quick break) independent from manual switching, and safe fuse replacement in a voltage-free status. The device comes as standard with a flashing signal and contact position indicator, which either inform the user about a faulty fuse or show the switching status 0 or I of the device. The plug-type technology without fuse carriers (fuse plug) not only reduces the dissipated heat of the protective device while it is in operation, but also enables the user to replace a hot fuse after tripping without having to touch it with his hands. D02-LTS/63/3-R is available as a 3-pole and 4-pole version and it is extremely space-saving thanks to its overall width of 27 mm only. Retention springs making it easy to insert type D01 and cylindrical size 10x38 fuses in the fuse plugs are included in the scope of delivery. The load disconnector switch can of course be locked out and sealed.

Sammelschienen-System SASY 60i für den Weltmarkt



Short installation time thanks to pre-assembly

Eaton offers direct and reversing starters up to 15 kW, fully mounted on busbar adapters. These fully assembled units consist of one PKZM0 motor protector and one or two DILM contactor(s). In order to mount these, they only need to be clicked in place on the busbar; this guarantees reduced assembly times and costs.

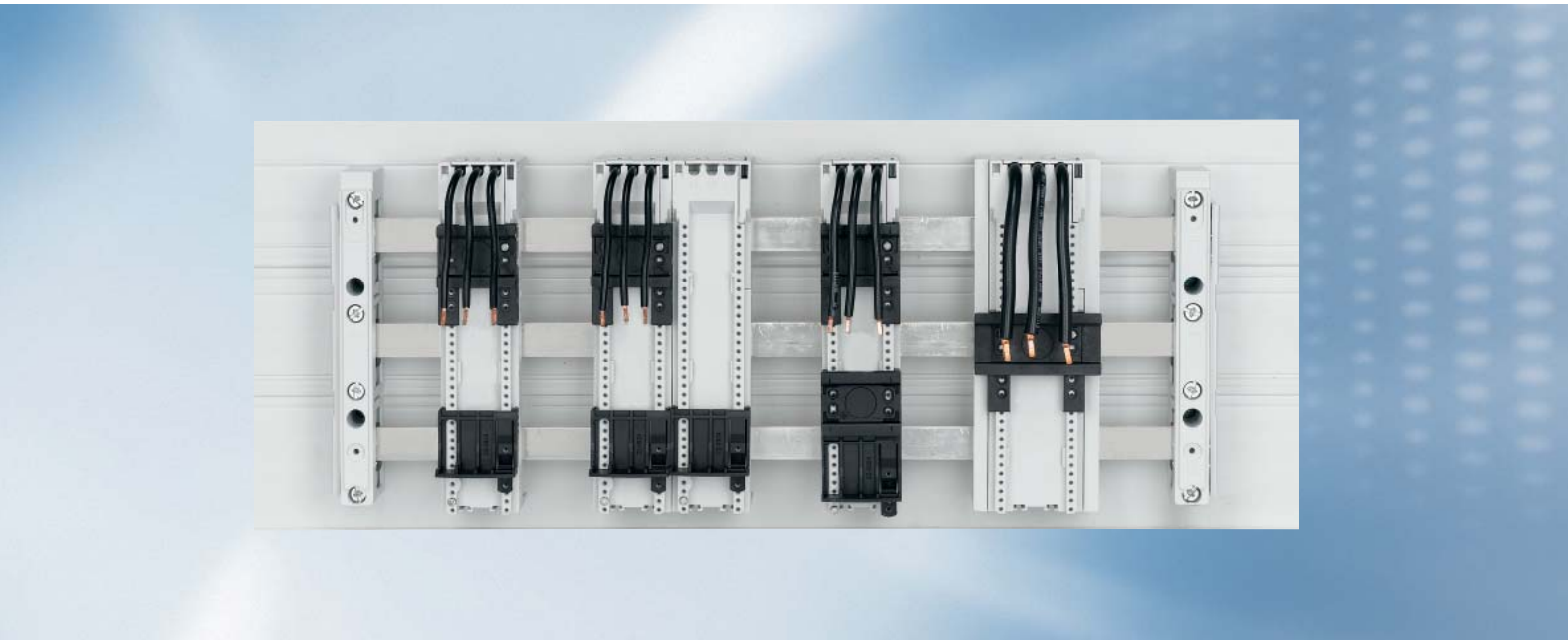
Special features of the device adapters

The device adapters offer a special functionality in that they can be mounted onto different profiles and busbar thicknesses. The adapters connect to the motor protector and circuit breaker directly over the busbars, comfortably and without requiring any boreholes, up to 630 A.

By reducing the width of the adapter to 45 mm, it has been possible to match it to the width of the motor protectors and contactors. The actual mounting surface on the busbar system is thus optimized, helping to save room in the switching cabinet.

Safety is always first priority

Safety for people and for the system is the most important factor with all our developments. Here, this prerequisite has been met with a comfortable connection on the rear side. It allows for a safe connection from the circuit breakers to the busbar adapters. In addition, mounting times are significantly reduced. Modular system covers guarantee optimized shock protection all around, and thus the highest possible level of safety.



A system designed for worldwide use

Together with its system components, the SASY 60i busbar system is designed for worldwide use in control cabinets for mechanical and system engineering. Its design has even taken into account the greater clearance and creepage distances that must be observed in the U.S. pursuant to UL 508A.

For busbar applications that have not been type-tested, UL508A allows an ampacity of 1000A/inch2 (1.55A/mm2). This value may be higher if the product or the application has been tested accordingly. Eaton has conducted extensive tests for the user's maximum benefit in using SASY 60i busbar systems. The advantage of such tests is that one can use busbar systems designed for higher rated currents than the default value allows. SASY 60i components and combinations are listed under File No. E300273 and E140305UL.

Since SASY 60i requires fewer system components, the need to stock parts and to place orders is diminished with the new Eaton busbar system.

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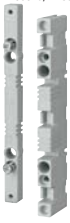
SASY 60i Busbar System

wa_vt01412

- Selected components are also conforming with UL-standards for control systems
- 60 mm spacing between busbars
- 630, 1250 and 1600 A rated current
- Adapter technology for Switch Disconnectors
- Adapter technology for Motor Starters
- Slide fuse equipment
- Connection technique

Systems up to 630 A for Flat Busbars

	Poles Number	Max. Rated Operational Current I_e (A)	Special Features	Utilisation	Type Designation	Article No.	Notes	Units per Package
Busbar Support								
• Thermoplasticic, silicone-free, chlorine-free • Halogen-free • Self-extinguishing according to UL 94 • RAL 7035 • Track resistance CTI 200 • Temperature-resistant up to 120°C								
IEC Busbar Support								
wa_vt09913 	3	630	With snap-in slide for adapting to the respective size of the bar	12 x 5/10 15 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10	BBS-3/FL	107066	With pre-drilled holes inside for screw-fixing	10
01063535_0 	4	630	With snap-in slide for adapting to the respective size of the bar	12 x 5/10 15 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10	BBS-4/FL	138381	With pre-drilled holes inside for screw-fixing	10
UL Busbar Support								
wa_vt10013 	3	630	With snap-in slide for adapting to the respective size of the bar	12 x 5/10 20 x 5/10 30 x 5/10	BBS-3/FL-NA	107067	With pre-drilled holes inside for screw-fixing	10
If used in feeder circuits according to UL 508A up to 600 V, it is necessary use the BBC-BT-NA base plate in addition.								
PE/N Earth/Neutral Busbar Support								
wa_vt10213 	2	630	With snap-in slide for adapting to the respective size of the bar	12 x 5/10 15 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10	BBS-2/FL	107069	Can be mounted individually	10
wa_vt11713 	1	630	With snap-in slide for adapting to the respective size of the bar	12 x 5/10 20 x 5/10 30 x 5/10	BBS-1/FL	107161	Can be mounted individually	10
Compact Busbar Support								
VT35310, VT35410 	3	630	With a removable contact block to adjust it to the respective size of the bar	12 x 5/10	BBS-3/FL-C	138370	With pre-drilled holes inside for screw-fixing and integrated end covers	10

SASY 60i Busbar System

	Poles Number	Max. Rated Operational Current I_e (A)	Special Features	Utilisation	Type Designation	Article No.	Notes	Units per Package
End Cover								
wa_vt10413	–	–	–	To cover the busbar ends for BBS-3/FL and BBS-3/FL-NA	ES-BBS-3/FL	107068	–	10
UL Base Plate • Silicone-free, chlorine-free • Self-extinguishing according to UL 94 • Temperature-resistant up to 110°C								
wa_vt13713 	––	–	To be used when the air gap between fully equipped busbar systems and mounting plate is insufficient	Necessary for UL support BBS-3/FL-NA	BBC-BT-NA	107172	1100 mm long	2
Busbar Covers • Silicone-free, chlorine-free • Self-extinguishing according to UL 94 • Temperature-resistant up to 110°C								
wa_vt13613 	–	–	–	12 x 5 15 x 5 20 x 5 25 x 5 30 x 5	BBC-FL5	107173	12-30x5 1000 mm long	10
wa_vt13313 	–	–	–	12 x 10 15 x 10 20 x 10 25 x 10 30 x 10	BBC-FL10	107174	12-30x10 1000 mm long	10

	Max. Rated Operational Current I_e (A)	Dimension (mm x mm)	Length (mm)	Type Designation	Article No.	Notes	Units per Package
Flat Copper Rails							
wa_vt00408 	160	12 x 5	1500	CU12X5	034121	tinned	10
			2250	CU12X5-2250	005093	tinned	10
	250	20 x 5	1500	CU20X5	044092	tinned	10
			2250	CU20X5-2250	007466	tinned	10
	460	20 x 10	1500	CU20X10	041719	tinned	10
			2250	CU20X10-2250	009839	tinned	10
wa_vt00308 	630	30 x 10	1500	CU30X10	051211	untreatedly	10

Systems up to 1250, 1600 A for Profile Bars

	Poles Number	Max. Rated Operational Current I_e (A)	Special Features	Utilisation	Type Designation	Article No.	Notes	Units per Package
Busbar Support								
• Thermoplastic, silicone-free, chlorine-free • Halogen-free • Self-extinguishing according to UL 94 • RAL 7035 • Track resistance CTI 200 • Temperature-resistant up to 120°C								
Busbar Support Double-T-Profile								
wa_vt10113 	3	1600	Suitable as lateral and central support	Double-T-Profile	BBS-3/PR	107162	With pre-drilled holes inside for screw-fixing	3
VT19814 	1	1600	Suitable for setting up a PE or N bar	Double-T-Profile	BBS-1/PR	107165	With pre-drilled holes inside for screw-fixing	10
End Cover								
wa_vt10313	–	–	–	For the BBS-3/PR support	ES-BBS-3/PR	107164	–	4
UL Base Plate								
• Silicone-free, chlorine-free • Self-extinguishing according to UL 94 • Temperature-resistant up to 110°C								
wa_vt13713 	––	–	To be used when the air gap between fully equipped busbar systems and mounting plate is insufficient	Necessary for UL support BBS-3/FL-NA	BBC-BT-NA	107172	1100 mm long	2

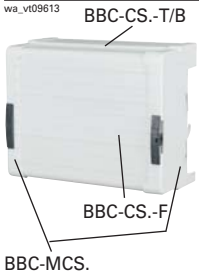
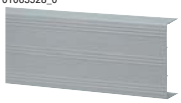
SASY 60i Busbar System

	Poles Number	Max. Rated Operational Current I_e (A)	Special Features	Utilisation	Type Designation	Article No.	Notes	Units per Package
Double-T-Profile Busbar								
wa_vt13113 	–	1250[1)]	Tin-plated Cross-section 500 mm^2	For BBS-3/PR and BBS-1/PR supports	CU-BAR-500/T	107166	2400 mm long	1
wa_vt13013 	–	1600[1)]	Tin-plated Cross-section 720 mm^2	For BBS-3/PR and BBS-1/PR supports	CU-BAR-720/T	107167	2400 mm long	1
Busbar Covers • Silicone-free, chlorine-free • Self-extinguishing according to UL 94 • Temperature-resistant up to 110°C								
wa_vt13413 	–	–	–	For Double-T-Profile	BBC-CU-BAR/PR	107175	1000 mm long	5

[1)] At a busbar temperature of 87.5°C and an ambient temperature of 35°C, please refer to the current load diagram in the Technical Data section for further values.

Covers for 630, 1250 and 1600 A Systems

	Utilisation	Type Designation	Article No.	Notes	Units per Package
Spare Section Cover - Modular					
wa_vt13213 	To cover the front of the 60 mm system	BBC-RCOV1	107178	700 mm long. To be used with BBC-MRCOV1 support only	2
Support for Spare Section Cover					
wa_vt11613 	Suits any thickness of bars	BBC-MRCOV1	107179	To be used with spare section cover BBC-RCOV1 only	10
Cover complete					
wa_vt09613 	For 3-pole systems	BBC-CS1	107209	228 mm long	1
01063500_0 	For 3-pole systems	BBC-CS3	138377	270 mm long	1
01063507_0 	For 4-pole systems	BBC-CS4	138387	228 mm long	1
Single covers					
Compartment Section Double-T					
wa_vt12913	For 3-pole systems with BBS-3/PR	BBC-CS48/PR	107176	48 mm high 2400 mm long To be fixed at the (profile) bar support	1
wa_vt12813 	For 3-pole systems with BBS-3/PR	BBC-CS76/PR	107177	76 mm high 2400 mm long To be fixed at the (profile) bar support	1
Front Plate Cover for front plate cut-out					
SG13506 	Cover module for cut-out. Height = 195 mm	AM-195/54	107963	54 mm width	15

	Utilisation	Type Designation	Article No.	Notes	Units per Package
System Cover - Kit					
• Silicone-free, chlorine-free • Self-extinguishing according to UL 94 •Temperature-resistant up to 120°C					
wa_vt09613  	**For 3-pole systems**				
	Cover Profile Front	BBC-CS2-F	107180	1100 mm long	1
	Cover Profile Top/Bottom	BBC-CS2-T/B	107181	1100 mm long	2
	Support Set for Cover Profile	BBC-MCS2	107182	1 set includes a right and left side support	1
wa_vt09613  	**For 4-pole systems**				
	Cover Profile Front	BBC-CS4-F	138384	1100 mm long	1
	Cover Profile Top/Bottom	BBC-CS4-T/B	138383	1100 mm long	2
	Support Set for Cover Profile	BBC-MCS4	138382	1 set includes a right and left side support	1
System Cover - Compact					
Empty-section Cover, Modular					
• To cover the front of the Compact System • For use with BBC-MRCOV3-C only					
01063528_0 	–	BBC-RCOV3-C	138371	700 mm long	2
Support for Spare Section Cover					
• Suitable for 5 and 10 mm bar thickness • For use with BBC-RCOV3-C only					
VT35710 	–	BBC-MRCOV3-C	138372	12 x 5/10	10

Feeder Circuit Adapters for 630, 1250 and 1600 A Systems

	Poles Number	Max. Rated Operational Current I_e (A)	Type of Conductor [1]	Utilisation	Type Designation	Article No.	Notes	Units per Package
Connecting Terminal Plates								
wa_vt15113 	3	80	1.5 - 16 mm² AWG 16 - AWG 6 ◎ ⊙	12x5/10 15x5/10 20x5/10 25x5/10 30x5/10 Double-T-Profile	BBA-TP3/16	107205	20 mm width. With spring-type terminal technology.	1
wa_vt09813 	3	300	6 - 50 mm² AWG 10 - AWG 2/0 ◎ ⊙ ▤ 6x9x0.8	12x5/10 15x5/10 20x5/10 25x5/10 30x5/10 Double-T-Profile	BBA-TP3/50	107183	54 mm width. Terminals can be removed for connecting non-cut conductors. Looping them through is possible. Termination space 10 x 15 mm.	1
wa_vt09713 	3	440	35 - 120 mm² AWG 2 - MCM 250 ◎ ⊙ ▤ 10x16x0.8	12x5/10 15x5/10 20x5/10 25x5/10 30x5/10 Double-T-Profile	BBA-TP3/120	107184	81 mm width. Terminals can be removed for connecting non-cut conductors. Looping them through is possible. Termination space 15 x 15 mm.	1
Connecting Terminal Plates Compact								
01063465_0 	3	480	35 - 120 mm² AWG 2 - MCM 300 ◎ ⊙ ▤ 10x20x1	12x5/10	BBA-TP3/100-C	138373	90 mm width. Terminals can be removed for connecting non-cut conductors. Contacting is provided for through the cable bed. Compact System.	1

[1]
- ○ Round conductor, single-wired
- ◎ Round conductor, fine-wired with expertly pressed wire end ferrule
- ⊙ Round conductor, multi-wired
- ◇ Sector conductor, single-wired
- ◈ Sector conductor, multi-wired
- ▤ Cu-Band
- ■ Cu-Bar

Feeder Circuit Adapters for 630, 1250 and 1600 A Systems

	Poles Number	Max. Rated Operational Current I_e (A)	Type of Conductor [1]	Utilisation	Type Designation	Article No.	Notes	Units per Package
Connecting Set with Cover 3-pole • Silicone-free, chlorine-free • Self-extinguishing according to UL 94 • Track resistance CTI 200 • Temperature-resistant up to 120°C								
wa_vt13513  wa_vt09613 	3	560	120 - 300 mm² MCM300 - MCM600 ◎ ⊙ ◇	20x5/10 25x5/10 30x5/10 Double-T-Profile	BBA-TP3/300	107185	180-240 mm width. Clearance between poles can be adjusted as required. To be fixed directly on top of the busbar terminal. Incl. cover cap in flexible width. Looping through is possible.	1
wa_vt13513  wa_vt09613 	3	800	Up to ▤ 10x32x1 ■ 30x25	20x5/10 25x5/10 30x5/10 Double-T-Profile	BBA-TP3/CU-BAND	107186	180-240 mm width. Clearance between poles can be adjusted as required. To be fixed directly on top of the busbar terminal. Incl. cover cap in flexible width. Looping through is possible. Termination space 32 x 25 mm.	1
wa_vt61313  wa_vt09613 	3	1600	Up to ▤ (2x)10x50x1 Up to ■ (2x)50x10	30x10 Double-T-Profile	BBA-TP3/1000	107207	228 mm width. Co-ordinated up for Eaton NZM4. To be fixed directly on top of the busbar terminal. Incl. cover cap. Looping through is possible. Termination space 5 x 28 mm.	1

[1]
◯ Round conductor, single-wired
◎ Round conductor, fine-wired with expertly pressed wire end ferrule
⊙ Round conductor, multi-wired
◇ Sector conductor, single-wired
◈ Sector conductor, multi-wired
▤ Cu-Band
■ Cu-Bar

Feeder Circuit Adapters for 630, 1250 and 1600 A Systems

	Poles Number	Max. Rated Operational Current I_e (A)	Type of Conductor [1]	Utilisation	Type Designation	Article No.	Notes	Units per Package
Connecting Set with Cover 4-pole • Silicone-free, chlorine-free • Self-extinguishing according to UL 94 • Track resistance CTI 200 • Temperature-resistant up to 120°C								
wa_vt13513  wa_vt09613 	4	560	120 - 300 mm² MCM300 - MCM600 ◎ ⊙ ◇	20x5/10 25x5/10 30x5/10 Double-T-Profile	BBA-TP4/300	138385	180-228 mm width. Clearance between poles can be adjusted as required. To be fixed directly on top of the busbar terminal. Incl. cover cap in flexible width. Looping through is possible.	1
wa_vt13513  wa_vt09613 	4	800	Up to ▤ 10x32x1 ■ 30x25	20x5/10 25x5/10 30x5/10 Double-T-Profile	BBA-TP4/CU-BAND	138386	180-228 mm width. Clearance between poles can be adjusted as required. To be fixed directly on top of the busbar terminal. Incl. cover cap in flexible width. Looping through is possible. Termination space 32 x 25 mm.	1

[1]
- ○ Round conductor, single-wired
- ◎ Round conductor, fine-wired with expertly pressed wire end ferrule
- ⊙ Round conductor, multi-wired
- ◇ Sector conductor, single-wired
- ◈ Sector conductor, multi-wired
- ▤ Cu-Band
- ■ Cu-Bar

Terminals for 630, 1250 and 1600 A Systems

	Max. Rated Operational Current I_e (A)	Type of Conductor [1]	Special Features	Utilisation	Type Designation	Article No.	Notes	Units per Package
Brace Terminals								
• Connection method to busbars without drilling								
 VT35910	480	38 - 150 mm², AWG2/0 - MCM300. directy terminated,	Connection method to busbars without drilling	12x5/10 20x5/10	AKS150	138374	Contacting of wire and busbar via a cable bed	6
 VT13306	500	95 - 185 mm², AWG3/0 - MCM350. directy terminated,	Connection method to busbars without drilling	20x5/10 25x5/10 30x5/10 Double-T-Profile	AKS185	107195	Contacting of wire and busbar via a cable bed	6
 VT13406	600	150 - 300mm², MCM300 - MCM600. directy terminated,	Connection method to busbars without drilling	20x5/10 25x5/10 30x5/10 Double-T-Profile	AKS300	107196	Contacting of wire and busbar via a cable bed	3
 VT13206	800	3x20x1 to 2x(10x32x1) 32x25	Connection method to busbars without drilling Termination space 32 x 25 mm.	20x5/10 25x5/10 30x5/10 Double-T-Profile	AKS-CU-BAND	107197	Contacting of wire and busbar via a contacting block	3
 wa_vt61313	1600	Up to (2x)10x50x1 Up to (2x)50x10	Connection method to busbars without drilling. Termination space 55 x 28 mm.	20x5/10 25x5/10 30x5/10 Double-T-Profile	AKS1000	107208	Contacting of wire and busbar via a contacting block	1
 01063437_0	1600	Up to (2x)60x10	Connection method to busbars without drilling. Termination space 68 x 28 mm.	30x10 Double-T-Profile Triple-T-Profile	AKS1200	138375	Contacting of wire and busbar via a contacting block	3
 01063444_0	1600	Up to (2x)100x10	Connection method to busbars without drilling. Termination space 105 x 28 mm.	30x10 Double-T-Profile Triple-T-Profile	AKS2000	138376	Contacting of wire and busbar via a contacting block	3

[1]
- Round conductor, single-wired
- Round conductor, fine-wired with expertly pressed wire end ferrule
- Round conductor, multi-wired
- Sector conductor, single-wired
- Sector conductor, multi-wired
- Cu-Band
- Cu-Bar

Terminals for 630, 1250 and 1600 A Systems

	Max. Rated Operational Current I_e (A)	Type of Conductor [1]	Special Features	Utilisation	Type Designation	Article No.	Notes	Units per Package
Profile Terminals [2]								
• Connection method to busbars without drilling								
• In case of parallel connection of two multi-layer copper bars, please place spacers in bet								
 01063395_0	1600	750 mm², Termination space 51 x 5-28 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	AKP750	138364	Width 82 mm	3
 wa_vt12413	1600	800 mm², Termination space 41 x 20-42 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	AKP800	107198	Width 72 mm	3
 01063402_0	1600	900 mm², Termination space 64 x 5-28 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	AKP900	138365	Width 94 mm	3
 wa_vt12313	1600	1000 mm², Termination space 51 x 20-42 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	AKP1000	107199	Width 94 mm	3
 01063409_0	2000	1200 mm², Termination space 64 x 20-42 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	AKP1200	138366	Width 94 mm	3
 01063416_0	2500	1600 mm², Termination space 81 x 20-42 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	AKP1600	138367	Width 112 mm	3
 01063430_0	3200	3600 mm², Termination space 101 x 23-45 ■ ▤	Connection method to busbars without drilling	Triple-T-Profile	AKP3600	138369	Width 132 mm	3

[1] ◯ Round conductor, single-wired
⦾ Round conductor, fine-wired with expertly pressed wire end ferrule
⦾ Round conductor, multi-wired
◇ Sector conductor, single-wired
◈ Sector conductor, multi-wired
▤ Cu-Band
■ Cu-Bar

[2] For a UL508A system with profile terminals you need to use the UL base plate BBC-BT-NA and the busbar cover BBC-CU-BAR/PR.

Terminals for 630, 1250 and 1600 A Systems

Universal Conductor Terminal 5 mm

	Max. Rated Operational Current I_e (A)	Type of Conductor [1]	Special Features	Utilisation	Type Designation	Article No.	Units per Package
VT18406 	180	1.5 - 16 mm², AWG 14 - AWG 6. directy terminated, ◯ 8x6x0.5	With integrated retaining spring, captive terminal screw, opened termination space 7.5 x 7.5 mm	All flat busbars of a thickness of 5 mm	AKU16/5	107187	100
VT18306 	270	4 - 35 mm², AWG 10 - AWG 2. directy terminated, ◯ 3x9x0.8 or 6x9x0.8	With integrated retaining spring, captive terminal screw, opened termination space 10.5 x 11 mm	All flat busbars of a thickness of 5 mm	AKU35/5	107188	50
VT18206 	400	16 - 70 mm², AWG 4 - AWG 2/0. directy terminated, 2x(3x9x0.8) or 6x9x0.8	With integrated retaining spring, captive terminal screw, opened termination space 14 x 14 mm	All flat busbars of a thickness of 5 mm	AKU70/5	107189	25
VT18106 	440	16 - 120 mm², AWG 4 - MCM 250. directy terminated, 4x16x0.8 or 6x16x0.8 or 10x16x0.8	With integrated retaining spring, captive terminal screw, opened termination space 17 x 15 mm	All flat busbars of a thickness of 5 mm	AKU120/5	107190	25

[1]
- ◯ Round conductor, single-wired
- Round conductor, fine-wired with expertly pressed wire end ferrule
- Round conductor, multi-wired
- Sector conductor, single-wired
- Sector conductor, multi-wired
- Cu-Band
- Cu-Bar

Terminals for 630, 1250 and 1600 A Systems

	Max. Rated Operational Current I_e (A)	Type of Conductor [1]	Special Features	Utilisation	Type Designation	Article No.	Units per Package
Universal Conductor Terminal 10 mm							
VT13806 	180	1.5 - 16 mm², AWG 14 - AWG 6. ⊛ directy terminated, ◯ ⊛ ▤ 8x6x0.5	With integrated retaining spring, captive terminal screw, opened termination space 7.5 x 7.5 mm	All flat busbars of a thickness of 10 mm	AKU16/10	107191	100
VT13706 	270	4 - 35 mm², AWG 10 - AWG 2. ⊛ directy terminated, ◯ ⊛ ▤ 3x9x0.8 or 6x9x0.8	With integrated retaining spring, captive terminal screw, opened termination space 10.5 x 11 mm	All flat busbars of a thickness of 10 mm	AKU35/10	107192	50
VT13606 	400	16 - 70 mm², AWG 4 - AWG 2/0. ⊛ directy terminated, ⊛ ▤ 2x(3x9x0.8) or 6x9x0.8	With integrated retaining spring, captive terminal screw, opened termination space 14 x 14 mm	All flat busbars of a thickness of 10 mm	AKU70/10	107193	25
VT13506 	440	16 - 120 mm², AWG 4 - MCM 250. ⊛ directy terminated, ⊛ ▤ 4x16x0.8 or 6x16x0.8 or 10x16x0.8	With integrated retaining spring, captive terminal screw, opened termination space 17 x 15 mm	All flat busbars of a thickness of 10 mm	AKU120/10	107194	25
01063451_0 	490	Cable lug M8	With integrated retaining spring, captive terminal screw, opened termination space, bolt M8x8	All flat busbars of a thickness of 10 mm, Double-T-Profile	AKU-M8/10	138362	20
01063458_0 	630	Cable lug M10	With integrated retaining spring, captive terminal screw, opened termination space, bolt M10x10	All flat busbars of a thickness of 10 mm, Double-T-Profile	AKU-M10/10	138361	6

[1] ◯ Round conductor, single-wired
⊛ Round conductor, fine-wired with expertly pressed wire end ferrule
⊛ Round conductor, multi-wired
◇ Sector conductor, single-wired
◈ Sector conductor, multi-wired
▤ Cu-Band
■ Cu-Bar

Terminals for 630, 1250 and 1600 A Systems

	Max. Rated Operational Current I_e (A)	Type of Conductor [1]	Special Features	Utilisation	Type Designation	Article No.	Units per Package
Brace Terminals							
01063605_0 	630	–	Width 50 mm	All flat busbars of a thickness of 10 mm and CU-BAND11x21x1	PK900	138378	3
Connection Terminals							
01063388_0 	630	95 - 300 mm^2	Width 48 mm. Contacting of wire and busbar via a cable bed	30 x 10 mm Double-T-Profile Triple-T-Profile	AK300	138336	3

[1] ◯ Round conductor, single-wired
◯ Round conductor, fine-wired with expertly pressed wire end ferrule
◯ Round conductor, multi-wired
◇ Sector conductor, single-wired
◇ Sector conductor, multi-wired
▤ Cu-Band
■ Cu-Bar

Lengthwise Bar Connections for 630, 1250 and 1600 A Systems

	Max. Rated Operational Current I_e (A)	Width mm	Special Features	Utilisation	Type Designation	Article No.	Notes	Units per Package
Busbar Connecting Terminals								
• For drill-free connection of identical types of busbars								
 wa_vt27113	630	38	For identically shaped, flat copper bars	12 x 5/10 15 x 5/10 20 x 5/10	BBT-CU12-20X5/10-38	138379	Spacing between systems 100 - 110 mm. Max. permissible mis-alignment of bars is 1 mm	12
 wa_vt12513	630	150	For identically shaped, flat copper bars	12 x 5/10 15 x 5/10 20 x 5/10	BBT-CU12-20X5/10-150	107200	Spacing between systems 100 - 110 mm. Max. permissible mis-alignment of bars is 1 mm	3
 01063549_0	630	40	For identically shaped, flat copper bars	20 x 5/10 25 x 5/10 30 x 5/10	BBT-CU20-30X5/10-40	138380	Spacing between systems 50 - 60 mm. Max. permissible mis-alignment of bars is 5 mm	6
 wa_vt12113	630	95	For identically shaped, flat copper bars	20 x 5/10 25 x 5/10 30 x 5/10	BBT-CU20-30X5/10-95	107201	Spacing between systems 50 - 60 mm. Max. permissible mis-alignment of bars is 5 mm	3
 wa_vt12013	630	150	For identically shaped, flat copper bars	20 x 5/10 25 x 5/10 30 x 5/10	BBT-CU20-30X5/10-150	107202	Spacing between systems 100 - 110 mm. Max. permissible mis-alignment of bars is 5 mm	3
 wa_vt11913	1600	50	For different and identical types of double-T-profile bars	Double-T-Profile	BBT-CU-BAR500/720-50	107203	Spacing between systems 9 - 20 mm. Max. permissible mis-alignment of bars is 2 mm	6
 wa_vt11813	1600	150	For different and identical types of double-T-profile bars	Double-T-Profile	BBT-CU-BAR500/720-150	107204	Spacing between systems 100 - 110 mm. Max. permissible mis-alignment of bars is 5 mm	3

NZM Busbar Adapter, 3-pole

	Max. Rated Oper. Current I_e (A)	Rated Operational Voltage U_e (V)	Adapter Width (mm)	Adapter Length (mm)	Special Features	Utili-sation	Type Designation	Article No.	Notes	Units per Package
Busbar Adapter NZM										
• For use on flat copper bars 12 - 30 x 5/10, Double-T-Profiles and Triple-T-Profiles • Self-extinguishing according to UL 94 • Track resistance CTI 200 • Temperature-resistant up to 120°C										
1230PIC-668 AO 	160	690	92	200	For connecting to the system **at the top** or **bottom** through fixed connection bars included in the scope of delivery [1) 2)]	NZM1 PN1 N1 NS1	NZM1-XAD160	104554	For switches with standard connection frame-type terminals. To be snapped onto the busbar by means of a combi-base.	1
wa_vt12213 	250	690	106	190	For connecting to the system **at the top/bottom** through a tubetype of connection at the rear. Tube included in the scope of delivery. [3)]	NZM2 PN2 N2 NS2	NZM2-XAD250	104555	Use only in combination with auxiliary type (+)NZM2-XKR4 To be screwed onto the busbar by means of a claw-type of clamp.	1
wa_vt22513, wa_vt12213 	630	690	140	300	For connecting to the system **at the top/bottom** through a tubetype of connection at the rear. Tube included in the scope of delivery. [3)]	NZM3 PN3 N3	NZM3-XAD630	107206	Use only in combination with auxiliary type (+)NZM3-XKR13 To be screwed onto the busbar by means of a claw-type of clamp.	1
Terminal for Device Adadpter NZM										
wa_vt12713 	250	690	–	–	To cover the connection to the system **at the top/bottom**	NZM2 PN2 N2 NS2	NZM2-XKR4	281666	For device combination NZM2 use with auxiliary type +NZM2-XKR40 or +NZM2-XKR4U	1
wa_vt12613 	630	690	–	–	To cover the connection to the system **at the top/bottom**	NZM3 PN3 N3	NZM3-XKR13	281668	For device combination NZM3 use with auxiliary type +NZM3-XKR130 or +NZM3-XKR13U	1

1) To be snapped onto the voltage-free busbar.
2) Thanks to the combi-base it can be adjusted to a bar width of both 5 and 10 mm.
3) To be screwed onto the voltage-free busbar.

NZM Busbar Adapter, 4-pole

	Max. Rated Oper. Current I_e (A)	Rated Operational Voltage U_e (V)	Adapter Width (mm)	Adapter Length (mm)	Special Features	Utili-sation	Type Designation	Article No.	Notes	Units per Package
Busbar Adapter NZM										
• For use on flat copper bars 12 - 30 x 5/10, Double-T-Profiles and Triple-T-Profiles • Self-extinguishing according to UL 94 • Track resistance CTI 200 • Temperature-resistant up to 120°C										
01063591_0 	250	690	140	–	For connecting to the system **at the top** through a tubetype of connection at the rear. Tube included in the scope of delivery. [3]	NZM2(-4) PN2(-4) N2(-4) NS2(-4)	NZM2-4-XAD250	138388	Use only in combination with auxiliary type (+)NZM2-4-XKR4 To be screwed onto the busbar by means of a claw-type of clamp.	1
01063598_0 	630	690	185	–	For connecting to the system **at the top** through a tubetype of connection at the rear. Tube included in the scope of delivery. [3]	NZM3(-4) PN3(-4) N3(-4) NS3(-4)	NZM3-4-XAD630	138389	Use only in combination with auxiliary type (+)NZM3-4-XKR13 To be screwed onto the busbar by means of a claw-type of clamp.	1
Terminal for Device Adadpter NZM										
NZM2-4-XKR4 	250	690	–	–	To cover the connection to the system **at the top**	NZM2-4 PN2-4 N2-4 NS2-4	NZM2-4-XKR4	118907	For device combination NZM2 use with auxiliary type +NZM2-4-XKR40	1
NZM2-4-XKR4 	630	690	–	–	To cover the connection to the system **at the top**	NZM3-4 PN3-4 N3-4 NS3-4	NZM3-4-XKR13	119020	For device combination NZM3 use with auxiliary type +NZM3-4-XKR130	1

1) To be snapped onto the voltage-free busbar.
2) Thanks to the combi-base it can be adjusted to a bar width of both 5 and 10 mm, cross-section of conductor 6 x 9 x 0.8.
3) To be screwed onto the voltage-free busbar.

xStart Busbar Adaptor, 3-pole [1)]

	Max. Rated Operational Current I_e (A)	Rated Operational Voltage U_e (V)	Wire Cross Section	Adapter Width (mm)	Adapter Length (mm)	Support Rails	Utilisation	Type Designation	Article No.	Notes	Units per Package
Busbar Adapter xStart 25 A											
 wa_vt10913	25	690	AWG12	45	200	1	PKZM0+ Contactor DIL M 7 Contactor DIL M 9 Contactor DIL M 12 Contactor DIL M 15 MSC-D-0,25-M7… to MSC-D-16-M15…	BBA0-25	101451	Direct starter set PKZM0-XDM12	4
 wa_vt10513	25	690	AWG12	90	200	1	PKZM0+ 2x Contactor DIL M 7-01 2x Contactor DIL M 9-01 2x Contactor DIL M 12-01 MSC-R-0,25-M7... to MSC-R-12-M12…	BBA0R-25	101453	Reversing starter set PKZM0-XRM12	2
Busbar Adapter xStart 25 A, Universal Type											
 wa_vt10713	25	690	AWG12	45	200	12	Support rail adjustable on the 1.25 mm grid	BBA0-25/2TS	101481	–	4
Busbar Adapter xStart 32 A											
 wa_vt10813	32	690	AWG10	45	200	2	PKZM0+ Contactor DIL M 17 Contactor DIL M 25 Contactor DIL M 32 MSC-D-16-M17... to MSC-D-32-M32…	BBA0-32	101452	Electrical contact module PKZM0-XM32 DE	4
 wa_vt10613	32	690	AWG10	90	200	3	PKZM0+ 2x Contactor DIL M 17-01 2x Contactor DIL M 25-01 2x Contactor DIL M 32-01 MSC-R-16-M17... to MSC-R-32-M32…	BBA0R-32	101454	Electrical contact module PKZM0-XM32 DE Reverse wiring set DILM32-XRL	2
Busbar Adapter xStart 32 A, for Spring-type Terminal											
 wa_vt30913	32	690	–	45	200	2	Support rail adjustable on the 1.25 mm grid	BBA0-32/2TS-C	116708	With spring-type terminal technology, to 1.5-6mm^2. For example for 1-phase applikations.	4

1) Can be used with all busbars in a 60 mm system. Thanks to the combi-base it is suitable for both 5 mm and 10 mm thickness of the bar as well as for double-T-profile bars. To be snapped onto the voltage-free busbar.

xStart Busbar Adaptor, 3-pole [1)]

	Max. Rated Operational Current I_e (A)	Rated Operational Voltage U_e (V)	Wire Cross Section	Adapter Width (mm)	Adapter Length (mm)	Support Rails	Utilisation	Type Designation	Article No.	Notes	Units per Package
Busbar Adapter xStart 63 A											
 wa_vt11213	63	690	AWG8	72	260	2	PKZ2+ Contactor DIL M 7 Contactor DIL M 9 Contactor DIL M 12 Contactor DIL M 17 Contactor DIL M 25 Contactor DIL M 32 Contactor DIL M 40	BBA2L-63	101480	–	2
	63	690	AWG8	72	200	1	PKZ2	BBA2-63	101458	–	4
 00581455_0	63	690	AWG8	72	200	2	PKZ2+ Contactor DILM7 - DILM15 DILM17 - DILM38 DILM40 - DILM 65 Switch drive SE1A-PKZ2 and S-PKZ2 in connection with clipsplate C-PKZ2	BBA2-63/2TS	116900	–	2
 wa_vt11313	63	690	AWG8	55	260	2	PKZM4+ Contactor DIL M 17 Contactor DIL M 25 Contactor DIL M 32 Contactor DIL M 40 Contactor DIL M 50 Contactor DIL M 65	BBA4L-63	101459	Electrical connector for PKZM4+DILM40…65: PKZM4-XM65 DE	4
	63	690	AWG8	55	200	1	PKZM4	BBA4-63	101457	–	4
Busbar Adapter xStart 80 A											
 00581461_0	80	690	–	72	200	2	universal	BBA2-80/2TS-S	116901	with screw-type terminal technology up to AWG6, for example for 1-phase (not UL/CSA compatible without an additional component)	4

1) Can be used with all busbars in a 60 mm system. Thanks to the combi-base it is suitable for both 5 mm and 10 mm thickness of the bar as well as for double-T-profile bars. To be snapped onto the voltage-free busbar.

xStart Busbar Adaptor, 3-pole [1)]

	Max. Rated Operational Current I_e (A)	Rated Operational Voltage U_e (V)	Wire Cross Section	Adapter Width (mm)	Adapter Length (mm)	Support Rails	Utilisation	Type Designation	Article No.	Notes	Units per Package
Busbar Adapter xStart, Universal Type											
 wa_vt11013	–	–	–	45	200	2	Support rail adjustable on the 1.25 mm grid	BBA0/2TS-L	101482	Without electrical contacting, auxiliary to BBA… for the setup of reversing starters, for example	4
 wa_vt11413	–	–	–	54	260	2	Support rail adjustable on the 1.25 mm grid	BBA4/2TS-L	101483	Without electrical contacting, auxiliary to BBA… for the setup of reversing starters, for example	4
Side Module											
wa_vt11513	–	–	–	9	200	–	–	BBA-XSM	101484	Can be placed on both sides of BBA, to increase the add-on width	10

Accessories - Support rail/Connecting cable

	Width (mm)	Note	Type Designation	Article No.	Units per Package
	Support rail				
 wa_vt30813	45	Used for for BBA... adapter	PKZM0-XMR	239364	10
	54		PKZM0-XMR54	113911	10
	72		PKZM0-XMR72	113912	10
	Connecting cable				
 01063486_0	–	Used for BBA with screw-type or spring-type terminals	BBA-XLT-6-130	116902	30
			BBA-XLT-16-142	116903	30

Double adapter Z-SS-60-ADD/6

• Cross-section 6 mm^2 - I_e = 35 A

	Width (mm) / MU / Cross-section	Type Designation	Article No.	Units per Package
 4300PIC-343	45 / 2.5 / 6 mm^2	Z-SS-60-ADD/6-45	288790	1 / 10
	54 / 3 / 6 mm^2	Z-SS-60-ADD/6-54	288791	1 / 10
	72 / 4 / 6 mm^2	Z-SS-60-ADD/6-72	288792	1 / 10
	81 / 4.5 / 6 mm^2	Z-SS-60-ADD/6-81	288793	1 / 10

1) Can be used with all busbars in a 60 mm system. Thanks to the combi-base it is suitable for both 5 mm and 10 mm thickness of the bar as well as for double-T-profile bars. To be snapped onto the voltage-free busbar.

xStart Busbar Adaptor, 3-pole[1], MSC-D.../BBA

01087651_0

Symbol photo

Motor data			Motorstarter Control voltage 230 V 50 Hz			Motorstarter Control voltage 24 V DC		
Rated Operational Power AC3 380 V 400 V 415 V P (kW)	Rated Operational Current 400 V I_e (A)	Components	Type Designation	Article No.	Units per Package	Type Designation	Article No.	Units per Package
*)								
0.06	0.21	PKZM0-0,25 +DILM7-10 +PKZM0-XDM12 +BBA0-25	MSC-D-0,25-M7(230V50Hz)/BBA	102737	1	MSC-D-0,25-M7(24VDC)/BBA	102964	1
0.09	0.31	PKZM0-0,4 +DILM7-10 +PKZM0-XDM12 +BBA0-25	MSC-D-0,4-M7(230V50Hz)/BBA	102738	1	MSC-D-0,4-M7(24VDC)/BBA	102965	1
0.12 0.18	0.41 0.6	PKZM0-0,63 +DILM7-10 +PKZM0-XDM12 +BBA0-25	MSC-D-0,63-M7(230V50Hz)/BBA	102739	1	MSC-D-0,63-M7(24VDC)/BBA	102966	1
0.25	0.8	PKZM0-1 +DILM7-10 +PKZM0-XDM12 +BBA0-25	MSC-D-1-M7(230V50Hz)/BBA	102950	1	MSC-D-1-M7(24VDC)/BBA	102967	1
0.37 0.55	1.1 1.5	PKZM0-1,6 +DILM7-10 +PKZM0-XDM12 +BBA0-25	MSC-D-1,6-M7(230V50Hz)/BBA	102951	1	MSC-D-1,6-M7(24VDC)/BBA	102968	1
0.75	1.9	PKZM0-2,5 +DILM7-10 +PKZM0-XDM12 +BBA0-25	MSC-D-2,5-M7(230V50Hz)/BBA	102952	1	MSC-D-2,5-M7(24VDC)/BBA	102969	1
1.1 1.5	2.6 3.6	PKZM0-4 +DILM7-10 +PKZM0-XDM12 +BBA0-25	MSC-D-4-M7(230V50Hz)/BBA	102953	1	MSC-D-4-M7(24VDC)/BBA	102970	1
2.2	5	PKZM0-6,3 +DILM7-10 +PKZM0-XDM12 +BBA0-25	MSC-D-6,3-M7(230V50Hz)/BBA	102954	1	MSC-D-6,3-M7(24VDC)/BBA	102971	1
3	6.6	PKZM0-10 +DILM7-10 +PKZM0-XDM12 +BBA0-25	MSC-D-10-M7(230V50Hz)/BBA	102955	1	MSC-D-10-M7(24VDC)/BBA	102972	1
4	8.5	PKZM0-10 +DILM9-10 +PKZM0-XDM12 +BBA0-25	MSC-D-10-M9(230V50Hz)/BBA	102956	1	MSC-D-10-M9(24VDC)/BBA	102973	1
5.5	11.3	PKZM0-12 +DILM12-10 +PKZM0-XDM12 +BBA0-25	MSC-D-12-M12(230V50Hz)/BBA	102957	1	MSC-D-12-M12(24VDC)/BBA	102974	1
7.5	15.2	PKZM0-16 +DILM17-10 +PKZM0-XM32 +BBA0-32	MSC-D-16-M17(230V50Hz)/BBA	102961	1	MSC-D-16-M17(24VDC)/BBA	102978	1
11	21.7	PKZM0-25 +DILM25-10 +PKZM0-XM32 +BBA0-32	MSC-D-25-M25(230V50Hz)/BBA	102962	1	MSC-D-25-M25(24VDC)/BBA	102979	1
15	29.3	PKZM0-32 +DILM32-10 +PKZM0-XM32 +BBA0-32	MSC-D-32-M32(230V50Hz)/BBA	102963	1	MSC-D-32-M32(24VDC)/BBA	102980	1

*) Technical details see Eaton main catalogue Industrial Switch Gear

1) Can be used with all busbars in a 60 mm system. Thanks to the combi-base it is suitable for both 5 mm and 10 mm thickness of the bar as well as for double-T-profile bars. To be snapped onto the voltage-free busbar.

xStart Busbar Adaptor, 3-pole[1], MSC-R.../BBA

01088617_0

Symbol photo

Motor data			Motorstarter Control voltage 230 V 50 Hz			Motorstarter Control voltage 24 V DC		
Rated Operational Power AC3 380 V 400 V 415 V P (kW)	Rated Operational Current 400 V I_e (A)	Components	Type Designation	Article No.	Units per Package	Type Designation	Article No.	Units per Package
*)								
0.06	0.21	PKZM0-0,25 +2xDILM7-01 +PKZM0-XMR12 +BBA0R-25	MSC-R-0,25-M7(230V50Hz)/BBA	102981	1	MSC-R-0,25-M7(24VDC)/BBA	102997	1
0.09	0.31	PKZM0-0,4 +2xDILM7-01 +PKZM0-XMR12 +BBA0R-25	MSC-R-0,4-M7(230V50Hz)/BBA	102982	1	MSC-R-0,4-M7(24VDC)/BBA	102998	1
0.12 0.18	0.41 0.6	PKZM0-0,63 +2xDILM7-01 +PKZM0-XMR12 +BBA0R-25	MSC-R-0,63-M7(230V50Hz)/BBA	102983	1	MSC-R-0,63-M7(24VDC)/BBA	102999	1
0.25	0.8	PKZM0-1 +2xDILM7-01 +PKZM0-XMR12 +BBA0R-25	MSC-R-1-M7(230V50Hz)/BBA	102984	1	MSC-R-1-M7(24VDC)/BBA	103000	1
0.37 0.55	1.1 1.5	PKZM0-1,6 +2xDILM7-01 +PKZM0-XMR12 +BBA0R-25	MSC-R-1,6-M7(230V50Hz)/BBA	102985	1	MSC-R-1,6-M7(24VDC)/BBA	103001	1
0.75	1.9	PKZM0-2,5 +2xDILM7-01 +PKZM0-XMR12 +BBA0R-25	MSC-R-2,5-M7(230V50Hz)/BBA	102986	1	MSC-R-2,5-M7(24VDC)/BBA	103002	1
1.1 1.5	2.6 3.6	PKZM0-4 +2xDILM7-01 +PKZM0-XMR12 +BBA0R-25	MSC-R-4-M7(230V50Hz)/BBA	102987	1	MSC-R-4-M7(24VDC)/BBA	103003	1
2.2	5	PKZM0-6,3 +2xDILM7-01 +PKZM0-XMR12 +BBA0R-25	MSC-R-6,3-M7(230V50Hz)/BBA	102988	1	MSC-R-6,3-M7(24VDC)/BBA	103004	1
3	6.6	PKZM0-10 +2xDILM7-01 +PKZM0-XMR12 +BBA0R-25	MSC-R-10-M7(230V50Hz)/BBA	102989	1	MSC-R-10-M7(24VDC)/BBA	103005	1
4	8.5	PKZM0-10 +2xDILM9-01 +PKZM0-XMR12 +BBA0R-25	MSC-R-10-M9(230V50Hz)/BBA	102990	1	MSC-R-10-M9(24VDC)/BBA	103006	1
5.5	11.3	PKZM0-12 +2xDILM12-01 +PKZM0-XMR12 +BBA0R-25	MSC-R-12-M12(230V50Hz)/BBA	102991	1	MSC-R-12-M12(24VDC)/BBA	103007	1
7.5	15.2	PKZM0-16 +2xDILM17-01 +PKZM0-XMR32 +DILM32-XRL	MSC-R-16-M17(230V50Hz)/BBA	102994	1	MSC-R-16-M17(24VDC)/BBA	103010	1
11	21.7	PKZM0-25 +2xDILM25-01 +PKZM0-XMR32 +DILM32-XRL	MSC-R-25-M25(230V50Hz)/BBA	102995	1	MSC-R-25-M25(24VDC)/BBA	103011	1
15	29.3	PKZM0-32 +2xDILM32-01 +PKZM0-XMR32 +DILM32-XRL	MSC-R-32-M32(230V50Hz)/BBA	102996	1	MSC-R-32-M32(24VDC)/BBA	103012	1

*) Technical details see Eaton main catalogue Industrial Switch Gear

1) Can be used with all busbars in a 60 mm system. Thanks to the combi-base it is suitable for both 5 mm and 10 mm thickness of the bar as well as for double-T-profile bars. To be snapped onto the voltage-free busbar.

Slide Fuse Equipment, 3-pole

	Max. Rated Operational Current I_e (A)	Rated Voltage U_e (V AC)	Size	Width	Utilisation	Type Designation	Article No.	Notes	Units per Package
D-Type Slide Fuse-Base									
• Delivered empty, without screw caps									
 sg03516, sg03716, sg03616	63	400	E18, D02	27	12 x 5/10 20 x 5/10 25 x 5/10	D02-SO/63/3-R-27 [1]	114315	Cartridge-ring adapter insert	10
				36	30 x 5/10 Double-T	Z-D02/R/3-36 [2]	100663	Cartridge-ring adapter insert	10
				54		Z-D02/R/3-54 [2]	100664	Cartridge-ring adapter insert	10
 wa_sg01112	25	500	E27, D II	45	12 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10 Double-T	DII-SO/25/3-R [1]	107965	Gauge ring	10
						DII-SO/25/3-R-PS [1]	110394	Screw-in gauge ring	10
 wa_sg01212	63	690	E33, D III	54	12 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10 Double-T	DIII-SO/63/3-R [1]	107966	Gauge ring	10
						DIII-SO/63/3-R-PS [1]	110395	Screw-in gauge ring	10
D-Type Slide Fuse-Base, compact-type									
• Incl. shock hazard protection cover with front and bottom plate and marking label									
• Delivered empty, without screw caps									
 SG82411	63	400	E18, D02	36	12 x 5/10	FCFBD02BBC60-3-36 [1]	139532	Cartridge-ring, adapter insert, snap-on mechanism mechanism when sliding it onto the busbar.	6
Covers									
 SG60412	Set for covering busbar support			36	D02	Z-D02-S-AB-SET	100662	Suitable for D02-SO/63/3-R-27	10
 wa_sg01713	Side cover			–	DII	SBS-RS60	060541	Suitable for DII.-SO/.../3-R(-PS)	10

1) Incl. shock hazard protection cover with front and bottom plate
2) Incl. shock hazard protection cover without front and bottom plate

Slide Fuse Equipment, 3-pole

	Max. Rated Operational Current I_e (A)	Rated Voltage U_e (V AC)	Size	Width	Utilisation	Type Designation	Article No.	Notes	Units per Package
Screw Caps									
wa_sg04013 	63	400	E18, D02	–	D02-SO...	Z-D02/SK	100651	–	20/500
	25	500	E27, D II	–	DII-SO...	Z-DII/SK	112148	–	50/600
	63	500	E33, D III	–	DIII-SO...	Z-DIII/SK	112149	–	30/360
	63	690	E33, D III	–	DIII-SO...	Z-DIII/SK-690	118904	–	3
Adapter Spring									
• To accommodate D01 fuse-links in Z-D02/SK screw caps									
wa_sg02612 	16	–	D02-D01	–	–	Z-D02/SIKA-HF	263149	–	50/3000

D02 Switch-Disconnector-Fuse

• Incl. shock hazard protection cover with front and bottom plate
• Delivered empty, without screw caps

SG45912 	63	400	E18, D02	36	20 x 5/10 30 x 5/10 Double-T	D02-S/63/3-RS	284649	Cartridge-ring adapter insert	10
Screw Caps									
wa_sg04013 	63	400	E18, D02	–	D02-SO...	Z-D02/SK	100651	–	20/500
Adapter Spring									
• To accommodate D01 fuse-links in Z-D02/SK screw caps									
wa_sg02612 	16	–	D02-D01	–	–	Z-D02/SIKA-HF	263149	–	50/3000

Slide Fuse Equipment, 3-pole

Switch-Disconnector-Fuse D02 (+D01) + C

- Visiual tripping indicator is flashing
- Delivered empty, without cartridge-ring adapter inserts and fuse-links
- Delivered with adapter springs for fuse-links D01 or cylindrical fuse-links 10x38
- Contact position indicator red - green
- Plug-in technique without screw caps
- All-pole and hand independent switching of load
- Version D02-LTS/63/3-R-HK with incorporated auxliliary switch
- Lead-seal- and lockable

3P

	Max. Rated Operational Current I_e (A)	Rated Voltage U_e (V AC)	Size	Width	Utilisation	Type Designation	Article No.	Notes	Units per Package
SG82311 	63 32	400 400	E18, D02 C 10x38	27	12 x 5/10 15 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10 Double-T	D02-LTS/63/3-R	114316	Cartridge-ring adapter insert without auxiliary switch	3
						D02-LTS/63/3-R-HK	114318	Cartridge-ring adapter insert with auxiliary switch	3

3P+N

	Max. Rated Operational Current I_e (A)	Rated Voltage U_e (V AC)	Size	Width	Utilisation	Type Designation	Article No.	Notes	Units per Package
SG82211 	63 32	400 400	E18, D02 C 10x38	27	12 x 5/10 15 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10 Double-T	D02-LTS/63/3N-R	114317	Cartridge-ring adapter insert without auxiliary switch	3
						D02-LTS/63/3N-R-HK	114319	Cartridge-ring adapter insert with auxiliary switch	3

Accessories for D02-LTS/63..

D0

Fuse-links Z-D0./SE-...
Cartridge-ring adapter inserts D01: Z-D02-D01/PE-...
D02: Z-D02/PE-...
Adapter spring Z-D02-LTS-HF (scope of delivery)

C

Fuse-links Z-C10/SE-...
Adapter spring Z-D02-LTS-HF (scope of delivery)

Adapter Spring

- To accommodate D01 fuse-links or cylindrical fuse-links 10x38 in the Switch-disconnector-fuse D02-LTS/63...

	Max. Rated Operational Current I_e (A)	Rated Voltage U_e (V AC)	Size	Width	Utilisation	Type Designation	Article No.	Notes	Units per Package
SG81811 	16 32	–	D02-D01 C 10x38	–	–	Z-D02-LTS-HF	114323	–	12/288

Fuse Switch Disconnectors XNH...

vt61615

vt64215

vt64015

vt61715

- For fuse links NH000 to NH3
- Rated operating current of 160, 250, 400 and 630A
- Sizes 00, 1, 2 and 3
- Degree of protection IP2XC
- Frame widths of 106, 184, 210 and 250 mm
- For 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

Fuse Switch Disconnectors XNH...

- Degree of protection IP2XC in operating mode
- According to IEC/EN 60947-3
- AC 690 V / DC 440 V
- Conditional rated short-circuit current 120kA (500V) and 100kA (690V)
- Reaction to fire according to UL 94, self-extinguishing
- Current paths of electrolytic copper, silver-plated
- For fixing on busbars of 60mm (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

vt64215

Size	Type of connection	I_e (A)	Type designation	Article No.	Pack (pcs.)

Basic
3-pole for SASY 60i

vt61915

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
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 SASY 60i

wa_vt14215

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 SASY 60i

vt03016

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 SASY 60i

00	Flat connection M8 max. 95 mm²	160	XNH00-1-S160	183042	1

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

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

Cover for connection area, 3-pole

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

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

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

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

Current-theft protection

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

Locking device

	Description	Suitable for size	Type designation	Article No.	Pack (pcs.)
vt11016 	For locking with a padlock when using a closed XNH disconnector Note: Padlock with a shackle diameter of 6mm max.	00, 1, 2, 3	XNH-XLOCK	182993	1

Device locking with sign

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

	Description	Suitable for size	Type designation	Article No.	Pack (pcs.)
wa_vt15815 	Tool-requiring lock of internal contact protection covers	00, 1, 2, 3	XNH-XLATCH	182992	1

Switch position indicator

	Description	Suitable for size	Type designation	Article No.	Pack (pcs.)
vt67815 	1 change-over contact, AC 250V, 10/3A	00	XNH00-XPOS	182995	1
		1, 2, 3	XNH123-XPOS	182996	1

Mechanical fuse monitoring

	Description	Suitable for size	Type designation	Article No.	Pack (pcs.)
vt67915 	1 change-over contact, AC 250V, 10/3A	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.

Conncection kit, 2 and 4 poles

	Description	Suitable for size	Type designation	Article No.	Pack (pcs.)
	To mechanically connect 2x 1-pole or 3-pole+ 1-pole XNH disconnectors	00, 1, 3/(2)	XNH-XLINK	182999	1

Connection technology

vt68215

vt67515

vt67315

vt68615

Description	Suitable for size	Type designation	Article No.	Pack (pcs.)
Clamp-type terminal				
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				
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				
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				
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

vt08116

vt08216

Description	Suitable for size	Type designation	Article No.	Pack (pcs.)
Cover for XNH disconnector Basic	00	XNH00-XGRIP	183013	1
	1	XNH1-XGRIP	183014	1
	2	XNH2-XGRIP	183015	1
	3	XNH3-XGRIP	183016	1
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
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.

Fuse Switch Disconnectors LTS, FC, NH-SLS

SG45812

NH-Fuse-Switch-Disconnector LTS-100/C00/3-R:

- For fuse links NH000
- Rated operating current 125 A
- Width only 63 mm, Height 195 mm

01063563_0

Compact NH-Fuse-Switch-Disconnector FCFSDNH000BBC60-3:

- For fuse links NH000
- Rated operating current 125 A
- Width 90 mm, Height 160 mm

SG46912

NH-Vertical Fuse-Switch-Disconnector NH-SLS-00/160-60:

- For fuse links NH00
- Rated operating current 160 A
- Width 50 mm, Height 455 mm

NH-Fuse-Switch-Disconnector LTS-100/C00/3-R

- Incl. shock hazard protection at the top and bottom
- Drill-free mounting
- Max. Fuse-link 500V: 125 A
- Width only 63 mm
- Utilisation: 20 x 5/10, 30 x 5/10, Double-T

	Size	Type of connection	I_e (A)	Type designation	Article No.	Pack (pcs.)
SG45812 	000	Connection at the bottom Lift terminal 1.5 - 50 mm²	125	LTS-100/C00/3-R	284690	1

Compact NH-Fuse-Switch-Disconnector, FCFSDNHOOOBBC60-3

- Incl. shock hazard protection at the top and bottom
- Drill-free mounting
- For mounting onto busbars with distance between busbars 60 mm
- Max. Fuse-link
  500V: 100 A
  690V: 100 A
- Width 90 mm
- Utilisation: 12 x 5/10

	Size	Type of connection	I_e (A)	Type designation	Article No.	Pack (pcs.)
01063563_0 	000	Connection at the top or bottom Lift terminal 1.5 - 50 mm²	100	FCFSDNHOOOBBC60-3	139533	1

NH-Vertical Fuse-Switch-Disconnector NH-SLS-00/160-60

- Incl. cover for termination space
- Drill-free mounting
- Max. Fuse-link
  400V: 160 A
  690V: 160 A (only NH-SLS-00/160-60)
- Clamp-type terminals included in the delivery
- 60 mm distance between busbars
- Utilisation: 12 x 5/10, 20 x 5/10, 25 x 5/10, 30 x 5/10, Double-T

SG46912

Size	Type of connection	I_e (A)	Type designation	Article No.	Pack (pcs.)
Without fuse monitoring					
00	Connection at the top or bottom	160	NH-SLS-00/160-60	106211	1/182
With fuse monitoring					
00	Connection at the top or bottom	160	NH-SLS-00/160-60-SI	106216	1/112

Teminal Cover/Size Compensation for GST...

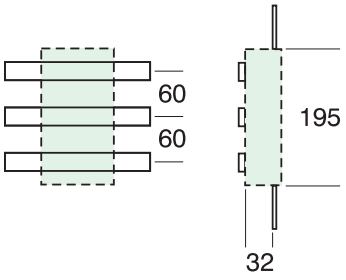
- For NH-fuse-links Z-NH/00... and solid-links Z-NH-00/TR see chapter Accessories Fuse Devices

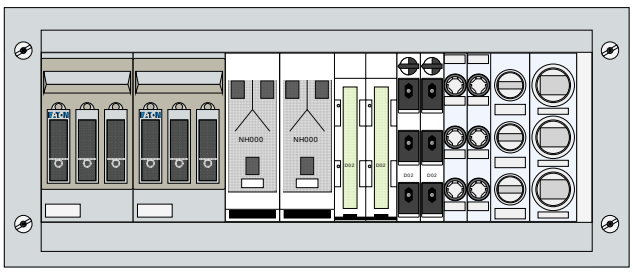
wa_sg01712

suitable with	Type designation	Article No.	Pack (pcs.)
for NH-SLS-00/160-60	Z-NH-SLS-KA	106223	2

Coordination Table

- Combinations possible without bending the copper busbar





	Device	XNH00-S160	LTS-100/C00/3-R	D02-S/63/3-RS	D02-LTS/63/3-R(-HK)	D02-SO/63/3-R-27 Z-D02/R/3-..	DII-SO/25/3-R(-PS)	DIII-SO/63/3-R(-PS)	AM195
	Accessory	XNH00-KSS-32					SBS-RS60	SBS-RS60	
Cu	12x5/10	X			X	X	X	X	X
	20x5/10	X	X	X	X	X	X	X	X
	25x5/10	X			X	X	X	X	X
	30x5/10	X	X	X	X	X	X	X	X
	Double-T	X	X	X	X	X	X	X	–

Multi-layer Copper Band, insulated

- E-Cu conductor, tin-plated
- Rated voltage 1000 V AC
- UL-listed for max. 600 V AC
- Breakdown voltage 20 kV/mm
- Insulating material heat resistant up to +105° Celsius
- Self-extinguishing according to UL94VO
- 2000 mm long

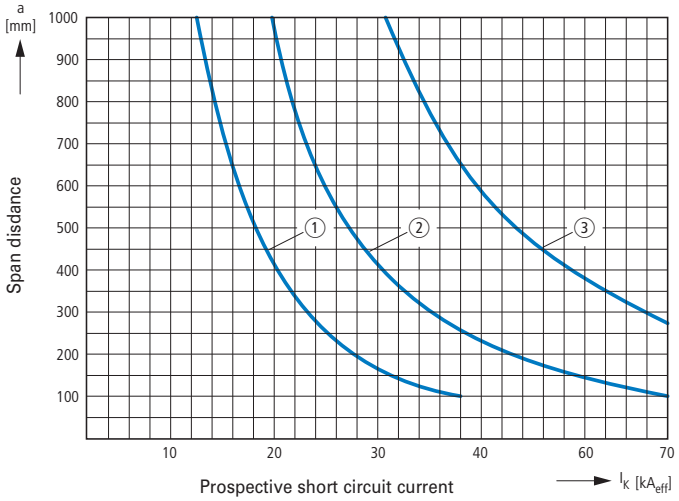
wa_vt04807

Max. Rated Operational Current I_e (A)	Dimensions (Number of layers x width x thickness of layers) (mm)	Cross Section (mm^2)	Type Designation	Article No.	Notes	Units per Package
100	3 x 9 x 0.8	21.6	CU-BAND3X9X0,8-BK	081167	black	20
	3 x 9 x 0.8	21.6	CU-BAND3X9X0,8-BU	080960	blue	20
	3 x 9 x 0.8	21.6	CU-BAND3X9X0,8-GNYE	081006	green/yellow	20
160	6 x 9 x 0.8	43.2	CU-BAND6X9X0,8-BK	081414	black	10
	6 x 9 x 0.8	43.2	CU-BAND6X9X0,8-BU	081344	blue	10
	6 x 9 x 0.8	43.2	CU-BAND6X9X0,8-GNYE	081367	green/yellow	10
200	9 x 9 x 0.8	64.8	CU-BAND9X9X0,8-BK	081515	black	10
	9 x 9 x 0.8	64.8	CU-BAND9X9X0,8-BU	081436	blue	10
	9 x 9 x 0.8	64.8	CU-BAND9X9X0,8-GNYE	081485	green/yellow	10
250	6 x 16 x 0.8	74.4	CU-BAND6X16X0,8-BK	081310	black	10
	6 x 16 x 0.8	74.4	CU-BAND6X16X0,8-BU	081222	blue	10
	6 x 16 x 0.8	74.4	CU-BAND6X16X0,8-GNYE	081275	green/yellow	10
400	10 x 16 x 0.8	124	CU-BAND10X16X0,8-BK	080739	black	5
	10 x 16 x 0.8	124	CU-BAND10X16X0,8-BU	079736	blue	5
	10 x 16 x 0.8	124	CU-BAND10X16X0,8-GNYE	080698	green/yellow	5
	5 x 24 x 1	120	CU-BAND5X24X1-BK	119032	black	5
630	11 x 21 x 1	231	CU-BAND11X21X1-BK	080923	black	5
	11 x 21 x 1	231	CU-BAND11X21X1-BU	080769	blue	5
	11 x 21 x 1	231	CU-BAND11X21X1-GNYE	080836	green/yellow	5
	8 x 24 x 1	192	CU-BAND8X24X1-BK	119033	black	5
	10 x 24 x 1	240	CU-BAND10X24X1-BK	119034	black	5
	5 x 32 x 1	160	CU-BAND5X32X1-BK	119035	black	5
800	10 x 32 x 1	320	CU-BAND10X32X1-BK	119036	black	3
1000	10 x 40 x 1	400	CU-BAND10X40X1-BK	119037	black	3
1250	10 x 50 x 1	500	CU-BAND10X50X1-BK	119038	black	2
1600	10 x 80 x 1	800	CU-BAND10X80X1-BK	119039	black	1

Line Supports

	Used for	Type Designation	Article No.	Notes	Units per Package
wa_vt22613 	**Profile ledge**				
	Clamp clips	BZ248	076516	–	10
wa_vt34013 	**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



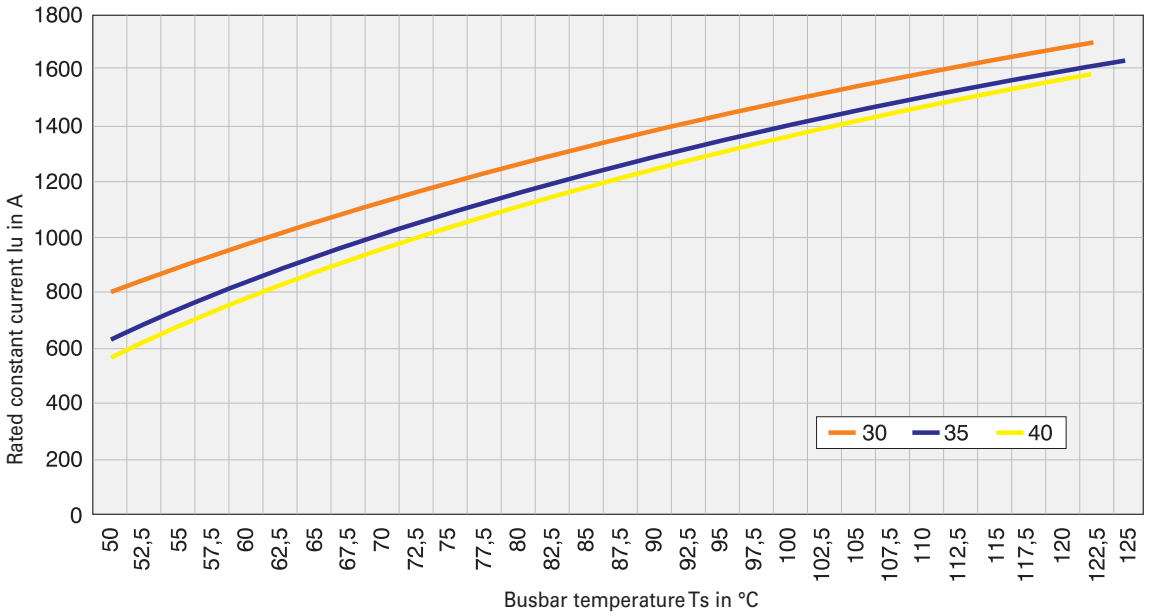
① BZ249
② BZ251
③ BZ252

Technical Data

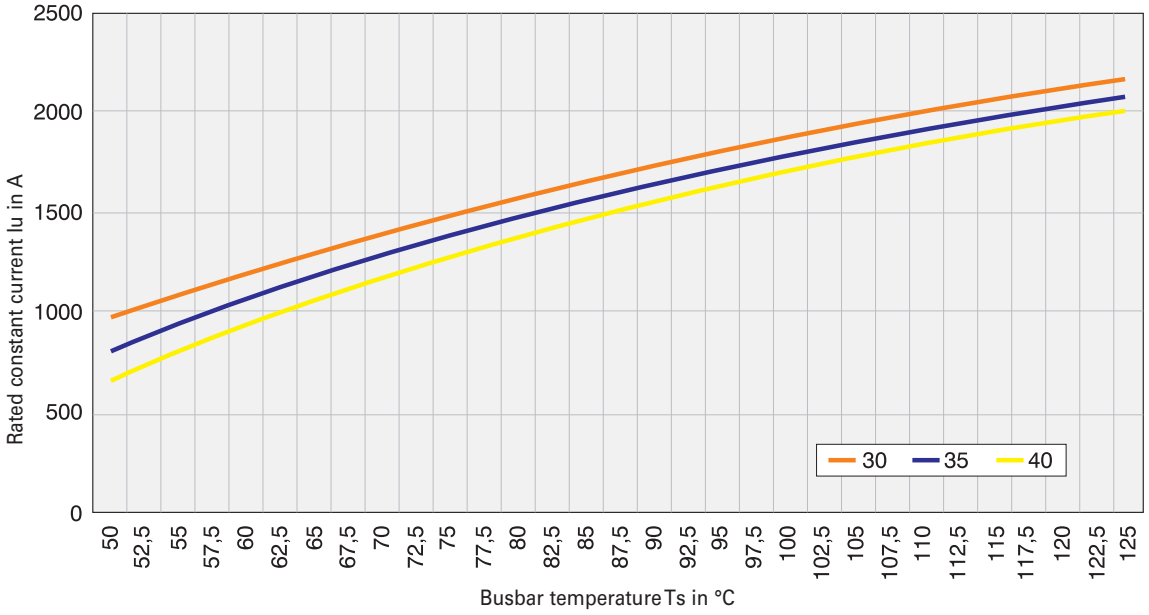
Current Load Busbars, according to DIN EN 13601

For busbar applications that have **not** been type-tested, UL508A allows an ampacity of 1000A/inch^2 (1.55A/mm^2) if no tests have been carried out. This value may be higher if the product or the application has been tested accordingly. Eaton has **conducted extensive tests** for the user's maximum benefit in using the SASY 60i busbar system. The advantage of such tests is that one can use the SASY60i busbar system with higher rated currents than the default value allows. A busbar of size 30x10 mm for example can be charged with 630A instead of 465A only.
Higher current carrying capacities to DIN 43671 were obtained under operating conditions.
Busbar temperature is normally positively influenced by mounting components on the busbar and by air circulation within the installation.
Depending on the respective ambient temperature, you can calculate the correction factor k2 according to DIN 43 671 for flat busbars. If ambient conditions change, a correction factor needs to be taken into account.
On the other hand, increased loads may occur if the components feature a correspondingly high temperature resistance.
A 30 x 10 tin-plated busbar can under normal conditions be loaded with 630 A. With a load of 800A, for instance, a k2 correction factor of 1.3 is necessary. It follows from the diagram that with this factor and 35°C air temperature, the busbar heats up to approx. 85°C.

Current load CU-BAR-500/T



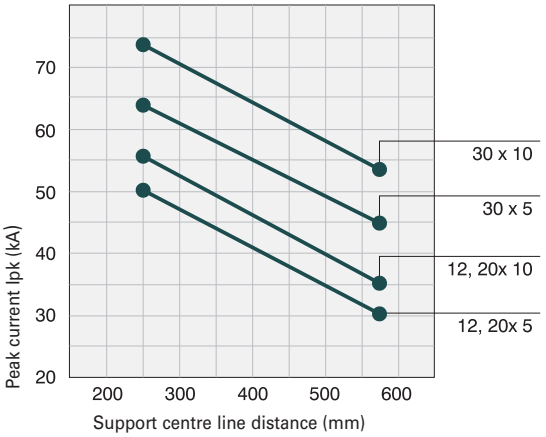
Current load CU-BAR-720/T



Short-circuit strength diagrams according to IEC/EN 61439-1 for 60 mm SASY 60i Busbar Systems

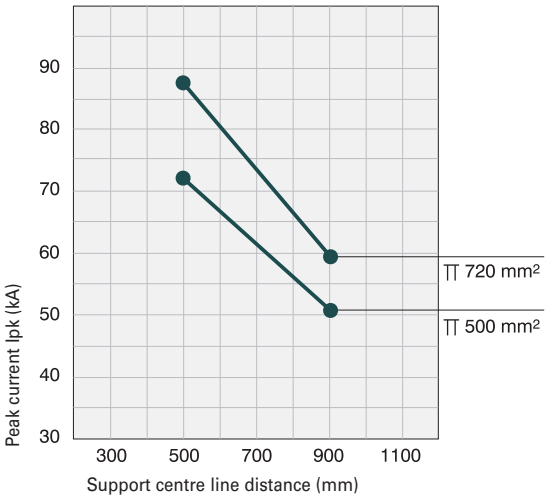
BBS-3/FL

107066 • Values measured during type-testing



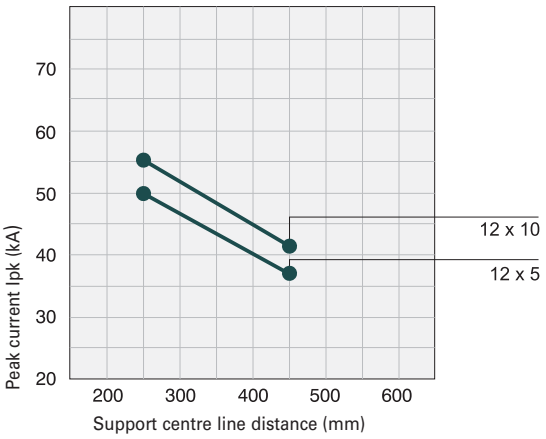
BBS-3/PR

107162 • Values measured during type-testing



BBS-3/FL-C

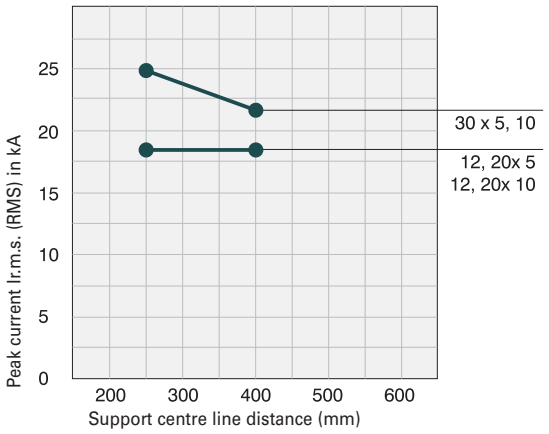
138370 • Values measured during type-testing



Short-circuit strength diagrams according to UL 845 for 60 mm SASY 60i Busbar Systems

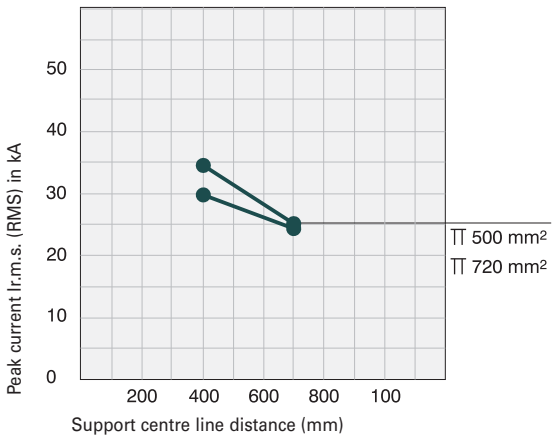
BBS-3/FL-NA

107067 • Values measured during type-testing



BBS-3/PR

107162 • Values measured during type-testing



Technical Data Bar Support

			BBS-./FL(-NA)	BBS-./PR	BBS-3/FL-C
General Information					
Standards and regulations			type-tested according to VDE 0660 Part 500, IEC/EN 61439-1		
Fitting position			vertical, horizontal		
Material					
Material			Thermoplastic, silicone-free, chlorine-free		
Halogen-free			yes	yes	yes
Flammability			self-extinguishing according to UL 94		
Colour			RAL 7035	RAL 7035	RAL 7035
Track resistance			CTI 200	CTI 200	CTI 200
Uninterrupted duty temperature		°C	120	120	120
Current Paths					
Rated insulation voltage	U_i	V	3000	3000	3000
Rated operational voltage	U_e	V	690	690	690
Rated frequency	f	Hz	50/60	50/60	50/60
Centre line distance of busbars		mm	60	60	60
Rated uninterrupted current	In case of temperature variances, DIN 43671 requires a kA correction factor to be taken into account				
with busbar 12 x 5 mm	I_u	A	218	-	200
with busbar 15 x 5 mm	I_u	A	273	-	-
with busbar 20 x 5 mm	I_u	A	349	-	-
with busbar 25 x 5 mm	I_u	A	436	-	-
with busbar 30 x 5 mm	I_u	A	491	-	-
with busbar 12 x 10 mm	I_u	A	392	-	360
with busbar 20 x 10 mm	I_u	A	567	-	-
with busbar 30 x 10 mm	I_u	A	687	-	-
bei 500 mm^2	I_u	A	-	1003	-
bei 720 mm^2	I_u	A	-	1281	-
Ambient temperature		°C	35	35	35
Temperature of busbar		°C	70	70	70
Rated peak withstand current					
with busbar 12 x 5 mm	I_{pk}	kA	50	-	50
with busbar 15 x 5 mm	I_{pk}	kA	50	-	-
with busbar 20 x 5 mm	I_{pk}	kA	50	-	-
with busbar 25 x 5 mm	I_{pk}	kA	50	-	-
with busbar 30 x 5 mm	I_{pk}	kA	64	-	-
with busbar 12 x 10 mm	I_{pk}	kA	56	-	55
with busbar 20 x 10 mm	I_{pk}	kA	56	-	-
with busbar 30 x 10 mm	I_{pk}	kA	73	-	-
with 500 mm^2	I_{pk}	kA	-	72	-
with 720 mm^2	I_{pk}	kA	-	87	-
Short-circuit time	t	ms	20	20	20
Support centre line distance		mm	250	500	250

Technical Data on Copper Bars

			CU...	CU-BAR-...-T	CU-BAR-1140/T
General Information					
Standards and regulations			EN 13061, UL 508		
Current Paths					
Rated uninterrupted current	In case of temperature variances, DIN 43671 requires a kA correction factor to be taken into account				
T_u = 35°C and T_s = 65°C					
with busbar 12 x 5 mm	I_u	A	200	-	-
with busbar 20 x 5 mm	I_u	A	349	-	-
with busbar 30 x 5 mm	I_u	A	491	-	-
with busbar 12 x 10 mm	I_u	A	392	-	-
with busbar 20 x 10 mm	I_u	A	567	-	-
with busbar 30 x 10 mm	I_u	A	687	-	-
with 500 mm^2	I_u	A	-	1003	-
with 720 mm^2	I_u	A	-	1281	-
1140 mm^2	I_u	A	-	-	2500

Conductor connections

The ratios between conductor cross-sections in mm^2 and AWG/MCM-sizes are listed below:

1.5 mm^2	16 AWG
2.5 mm^2	14 AWG
4 mm^2	12 AWG
6 mm^2	10 AWG
10 mm^2	8 AWG
16 mm^2	6 AWG
25 mm^2	4 AWG
35 mm^2	2 AWG
50 mm^2	0 AWG
70 mm^2	2/0 AWG
95 mm^2	3/0 AWG
120 mm^2	250 MCM
150 mm^2	300 MCM
185 mm^2	350 MCM
240 mm^2	500 MCM
300 mm^2	600 MCM

Busbar Supports

60 mm system according to IEC

1-pole for busbars 12x5 – 30x10, double-T-bars
2-pole for busbars 12x5 – 30x10
3-pole for busbars 12x5 – 30x10 and 12/20/ 30 x 5/10
3-pole for double-T-bars
Tighten screws for fixing the cover and bottom of the support at a torque of 4 Nm min.

60 mm system according to UL

3-pole for busbars 12/20/ 30 x 5/10
3-pole for double-T-bars
Tighten screws for fixing the cover and bottom of the support at a torque of 4 Nm min.

Silicone-free, chlorine-free
Temperature resistant up to 120°C
Self-extinguishing according to UL 94
Track resistance CTI 200

Busbars according to DIN EN 13601

Tin-plated Cu-bars significantly reduce the work necessary for preparing the contact points.
Cu-busbars are effectively protected against aggressive environments.

Dimension	Cross-section
Double-T	500 mm^2
Double-T	720 mm^2

Permissible tolerances::
Radius R 0.3 … 0.7
Width: + 0.1 / – 0.5
Thickness: + 0.1 / – 0.1

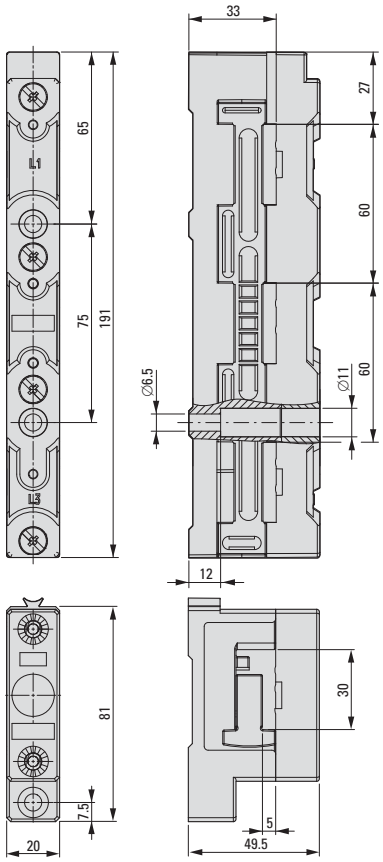
Center line distance:
± 0.5 mm (60 mm system))
Variance on the contacting level: 0.4 mm

Ampacity with copper bars

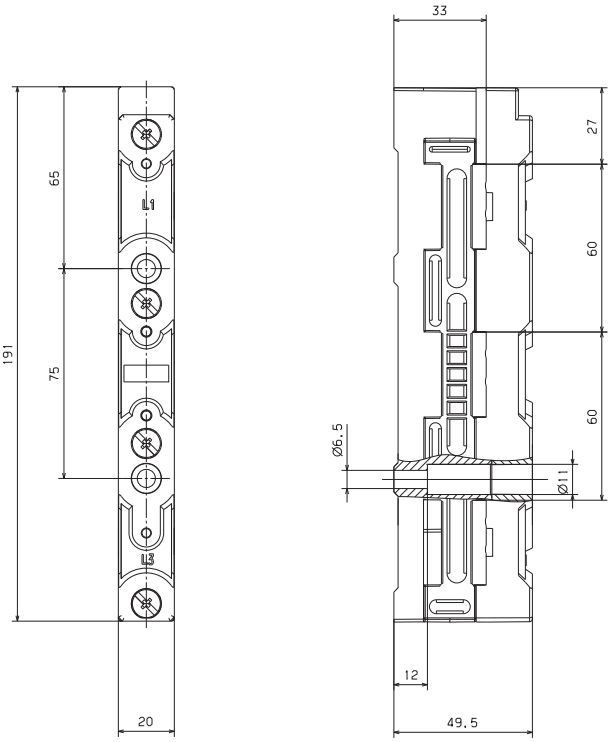
Cross-sections of bars mm	Surface mm^2	Ampacity according to IEC 35°C ambient temperature 65°C bar temperature A	Ampacity according to UL/CSA A
12 x 5	60	200	200
20 x 5	100	320	320
30 x 5	150	450	450
12 x 10	120	360	360
20 x 10	200	520	520
30 x 10	300	630	630
Double-T	500	950	950
Double-T	720	1200	1200

Dimensions

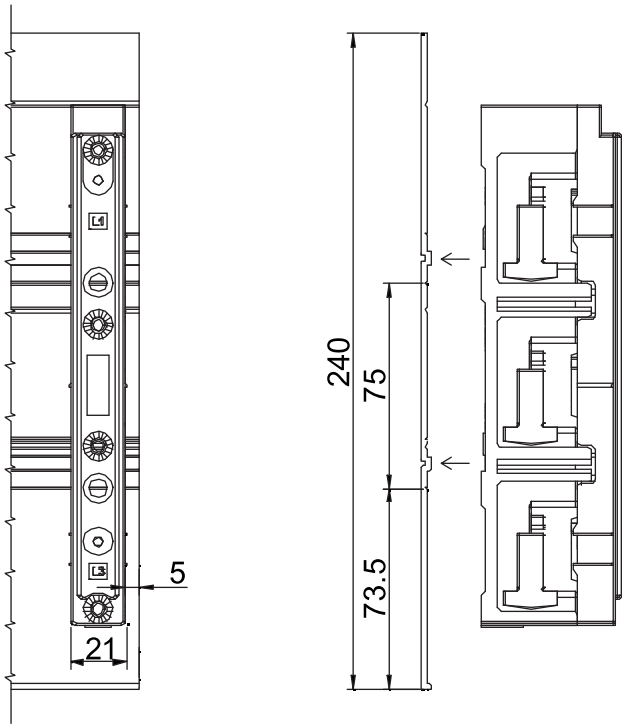
BBS-4/FL



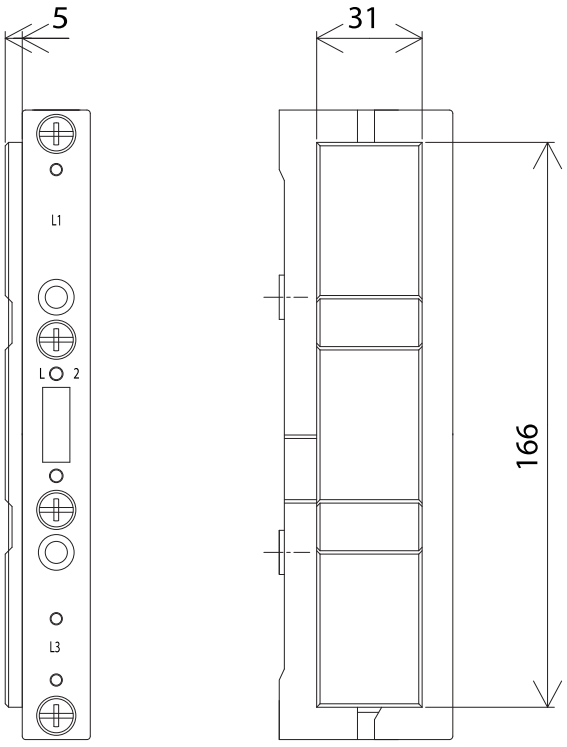
BBS-3/FL



BBS-3/FL-NA

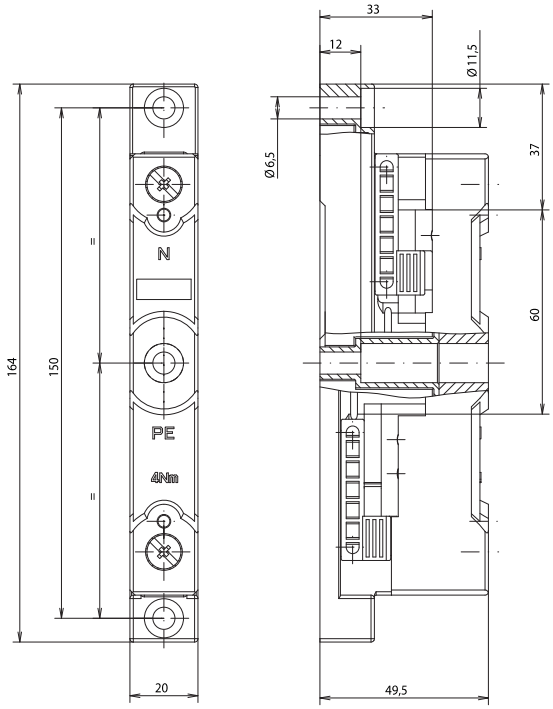


ES-BBS-3/FL



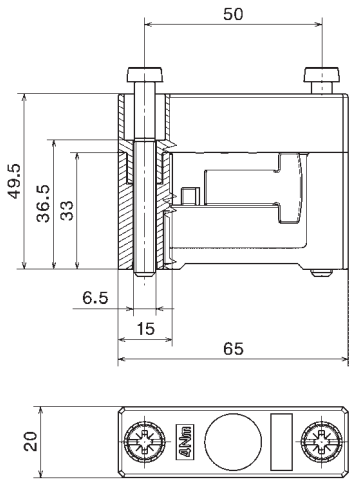
Dimensions

BBS-2/FL

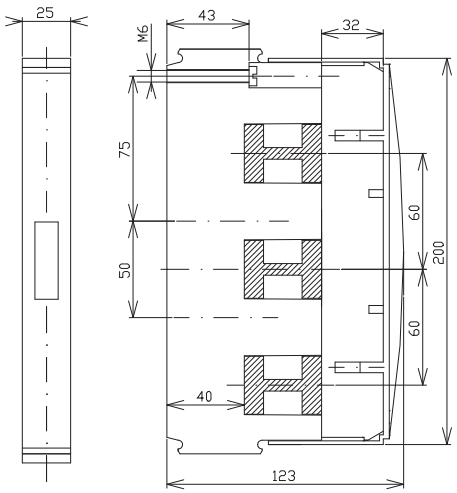


Dimensions

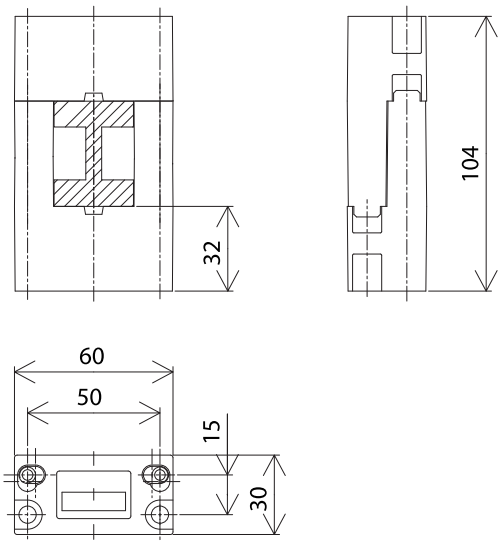
BBS-1/FL



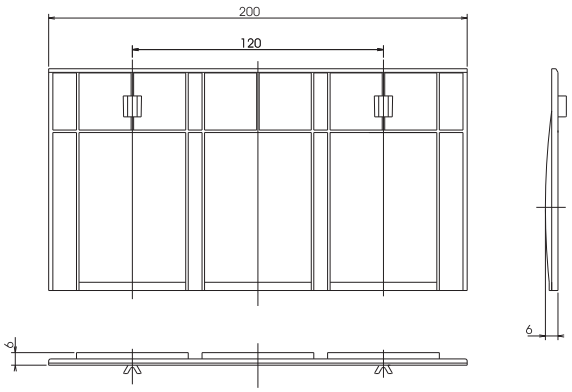
BBS-3/PR



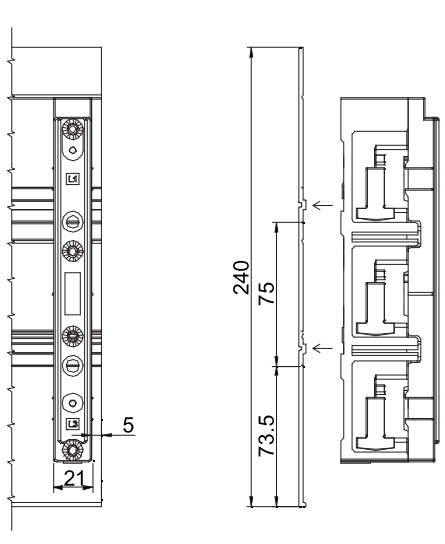
BBS-1/PR

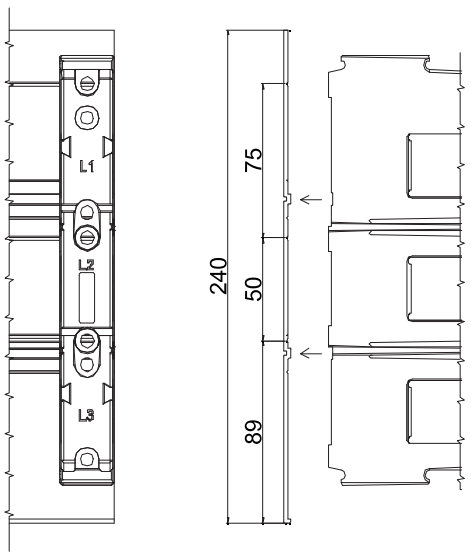


ES-BBS-3/PR



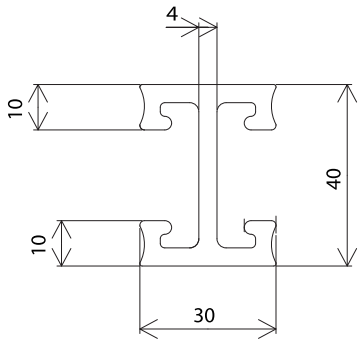
BBC-BT-NA



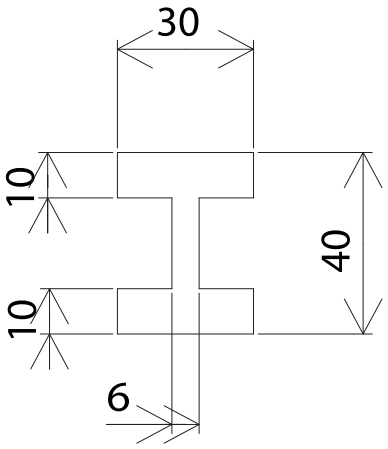


Dimensions

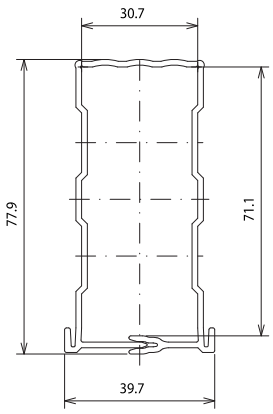
CU-BAR-500/T



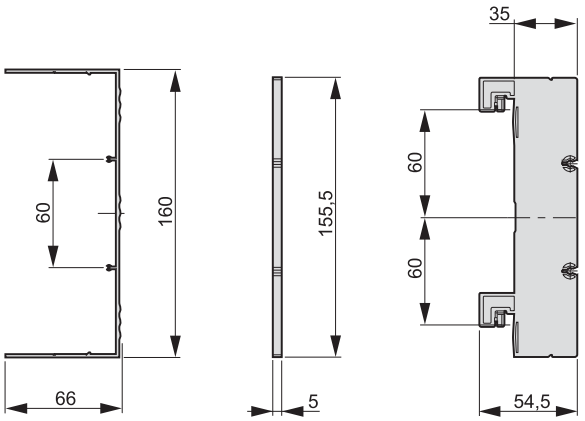
CU-BAR-720/T



BBC-CU-BAR/PR

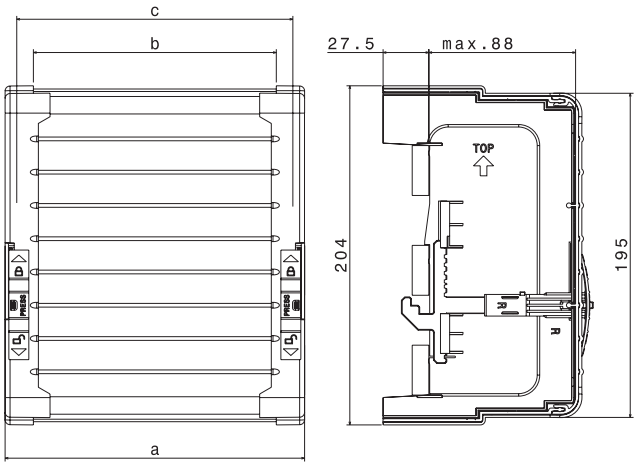


BBC-RCOV1, BBC-MRCOV1

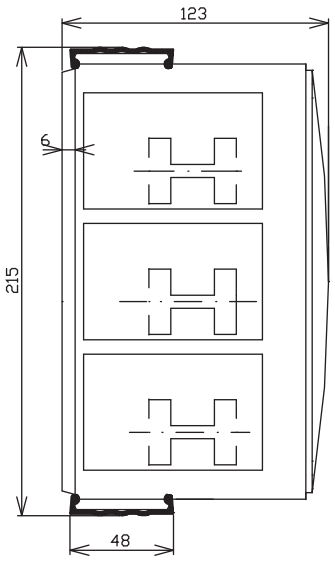


BBC-CS1, BBC-CS2

a (mm)	b (mm)	c (mm)
228	194	214

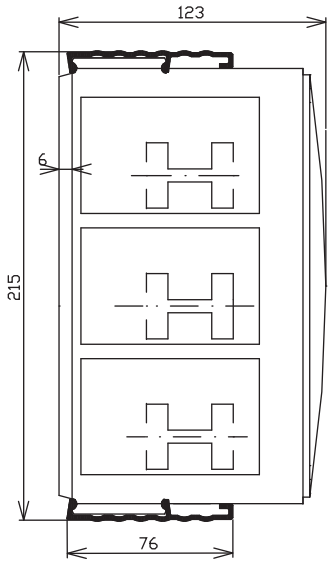


BBC-CS48/PR

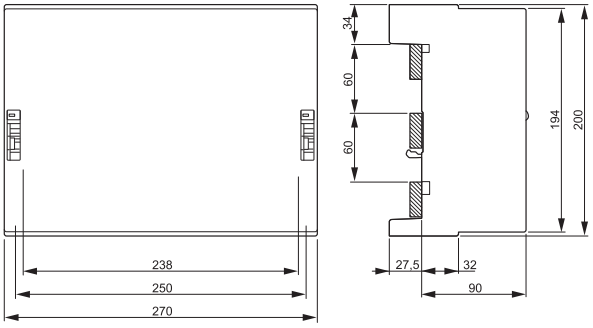


Dimensions

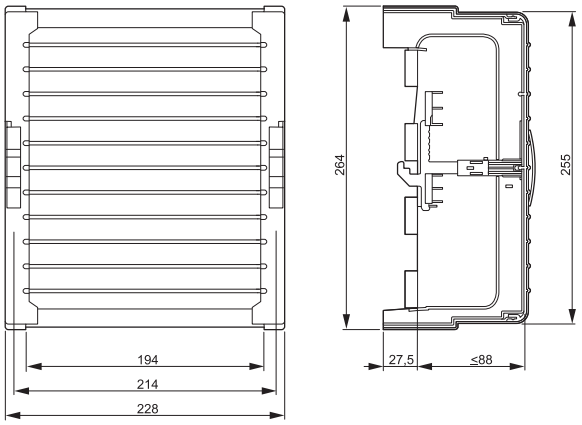
BBC-CS76/PR



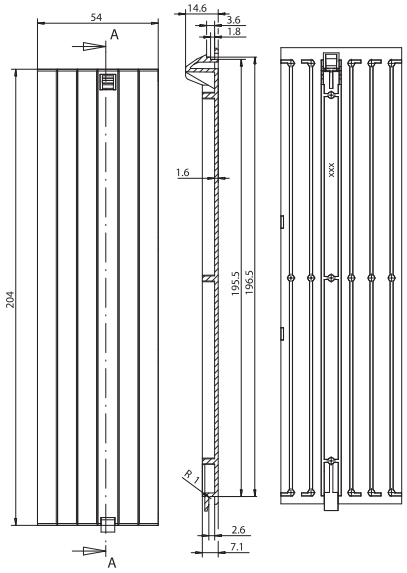
BBC-CS3



BBC-CS4



AM-195/54



Technical Data

Connecting Terminal Plates

Incl. cover cap

16, 50, 120 mm²
3-pol., 690 V~
Centre line distance of busbars 60 mm
Busbars … x 5 – 10,
Double-T-Profiles

Terminal plates:
Silicone-free, chlorine-free
Temperature resistant up to 120°C
Self-extinguishing according to UL 94
Track resistance CTI 200

Cover cap:
Silicone-free, chlorine-free
Temperature resistant up to 120°C
Self-extinguishing according to UL 94

Suitable conductors [1]	Current carrying capacity of contact point *	Terminal space WxH mm	Busbars WxH mm	Type
1.5 –16 mm² Cu, ○, ⊛**,	80 A	–	… x 5 – 10 TT	BBA-TP3/16
6 –50 (70) mm² Cu, ○, ⊛**, ▤ 6 x 9x 0.8	300 A	10 x 15	… x 5 – 10 TT	BBA-TP3/50
35 –120 mm² Cu, ○, ⊛**, ▤ 6 / 10 x 16 x 0.8	440 A	15 x 15	… x 5 – 10 TT	BBA-TP3/120

Connecting set, 3-pole

Incl. cover cap

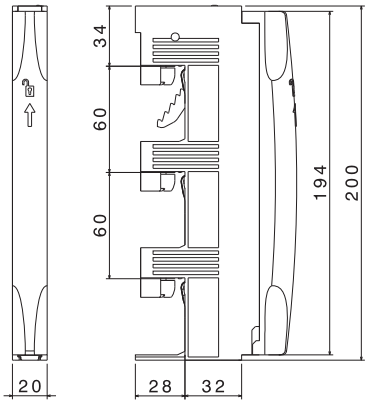
Suitable conductors	Current carrying capacity of contact point *	Terminal space WxH mm	Busbars WxH mm	Type
120–300 mm² Cu, Al***, ○, ◇, ⊛,	560 A		20x5 - 30x10 TT	BBA-TP3/300
▤ 3 x 20 x 1 to 10 x 32 x 1	800 A	32 x 25	20x5 - 30x10 TT	BBA-TP3/CUBAND
▤, ■ (2x) 50 x 10	1600 A	55 x 28	20x5 - 30x10 TT	AKS1000

** A reduction of maximum conductor cross-sections might be necessary.
*** Connections to aluminium conductors are not maintenance-free.

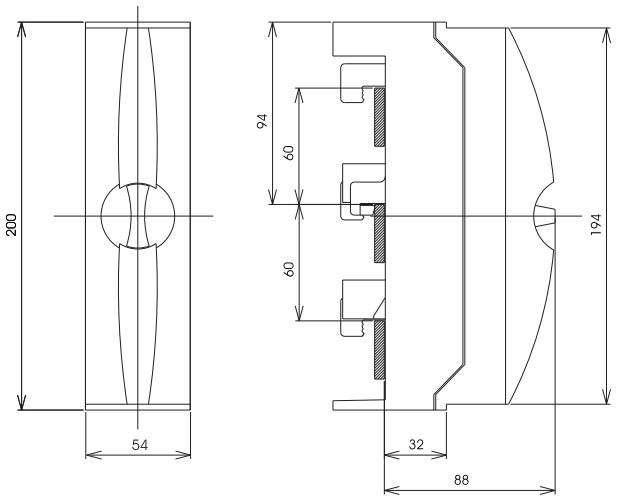
[1] ○ Round conductor, single-wired
⊛ Round conductor, fine-wired with expertly pressed wire end ferrule
○ Round conductor, multi-wired
◇ Sector conductor, single-wired
◈ Sector conductor, multi-wired
▤ Cu-Band
■ Cu-Bar

Dimensions

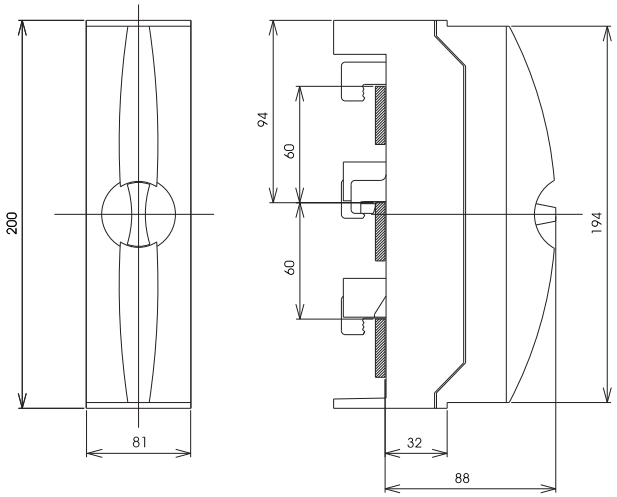
BBA-TP3/16



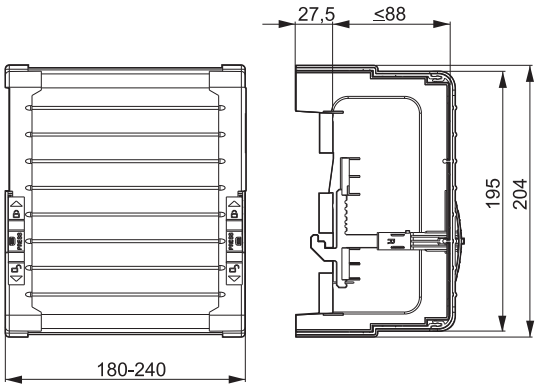
BBA-TP3/50



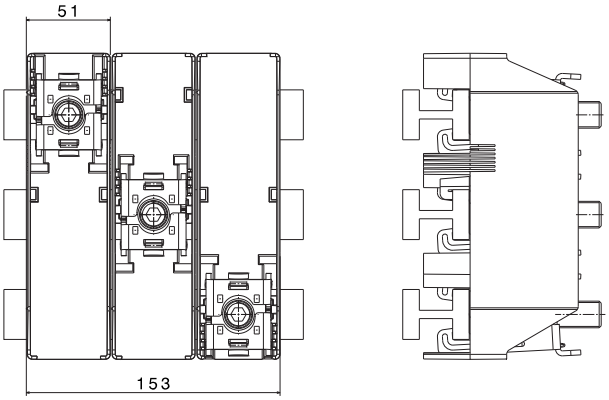
BBA-TP3/120



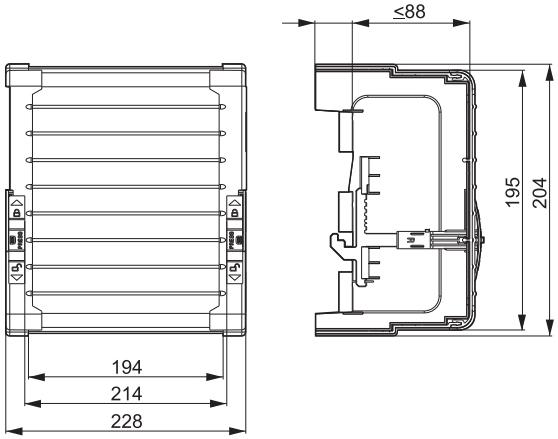
BBA-TP3/300



BBA-TP3/CU-BAND



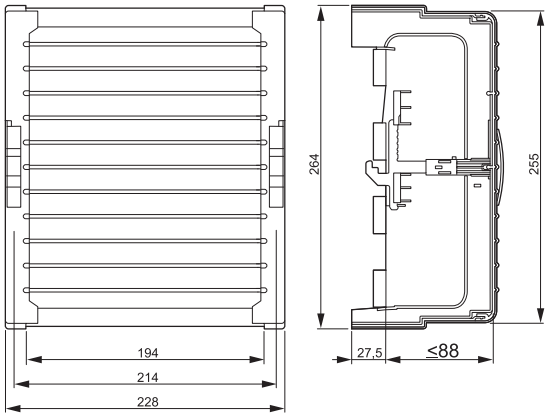
BBA-TP3/1000



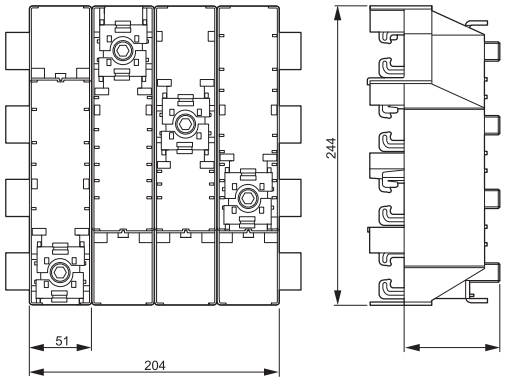
Note:
BBA-TP3/1000 consists of 3x AKS1000 and 1x BBC-CS1.

Dimensions

BBA-TP4/300



BBA-TP4/CU-BAND



Technical Data

Brace Terminals

For connecting round conductors of 95–300 mm² and multi-layer copper bars.
The gripper-type of termination technology allows to embrace both sides of the busbar and to connect the conductor without drilling.

Suitable conductors [1]	Current carrying capacity of contact point *	Terminal space WxH mm	Busbars WxH mm	Type
95–185 mm² Cu, Al***	500 A	–	20x5 - 30x10 TT	AKS185
150–300 mm² Cu, Al***	600 A	–	20x5 - 30x10 TT	AKS300
3 x 20 x 1 to 10 x 32 x 1	800 A	32 x 25	20x5 - 30x10 TT	AKS-CU-BAND
(2x) 50 x 10	1600 A	55 x 28	20x5 - 30x10 TT	AKS1000

*** Connections to aluminium conductors are not maintenance-free.

Profile Terminals für Double-T-Bars

Current carrying capacity of contact point	Profile	Terminal space W x H (ohne Distanzstücke)	Type
1600 A	TT	41 x 20 – 42	AKP800
1600 A	TT	51 x 20 – 42	AKP1000

Use spacers provided when two multi-layer CU-BAND types of copper busbars are connected in parallel.

Universal Conductor Terminals

Used for connecting conductors featuring cross-sections of 1.5–120 mm² on busbars 5 or 10 mm thick.
Integrated retaining springs, an open terminal space and captive terminal screws make the installation job easy.

Suitable conductors [1]	Current carrying capacity of contact point *	Terminal space WxH mm	Busbars WxH mm	Type
1.5–16 mm² Cu, ◯, ⊙, ⊛**, 8 x 6 x 0.5	180 A	7.5 x 7.5	… x 5 … x 10	AKU16/5 AKU16/10
4–35 mm² Cu, ◯, ⊙, ⊛**, 3/ 6 x 9 x 0.8	270 A	10.5 x 11	… x 5 … x 10	AKU35/5 AKU35/10
16–70 mm² Cu, ⊙, ⊛**, 2 x 3 / 6 x 9 x 0.8, 6 x 13 x 0.5	400 A	14 x 14	… x 5 … x 10, TT	AKU70/5 AKU70/10
16–120 mm² Cu, ⊙, ⊛**, 4 /6/ 10 x 16 x 0.8	440 A	17 x 15	… x 5 … x 10, TT	AKU120/5 AKU120/10

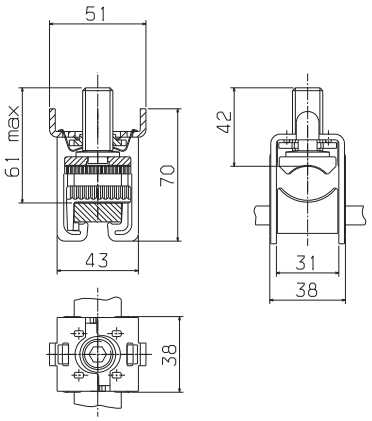
* Current carrying capacities specified reflect the thermal capacities of the contact points under favourable conditions (with a maximum of conductors that can be connected). They do not, however, invalidate the validity of conductor cross-sections and of current carrying capacities required by any national and international regulations.

** A reduction of maximum conductor cross-sections might be necessary.

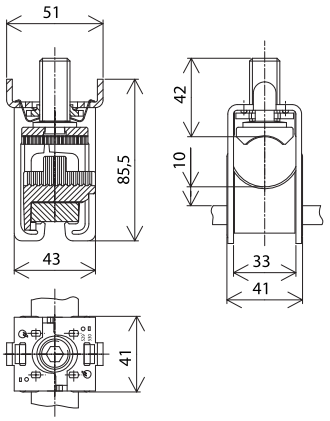
[1]
- ◯ Round conductor, single-wired
- ⊛ Round conductor, fine-wired with expertly pressed wire end ferrule
- ⊙ Round conductor, multi-wired
- ◇ Sector conductor, single-wired
- ◈ Sector conductor, multi-wired
- Cu-Band
- ■ Cu-Bar

Dimensions

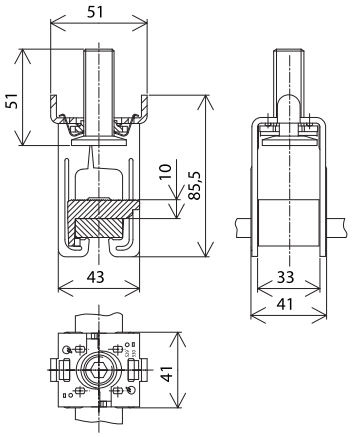
AKS185



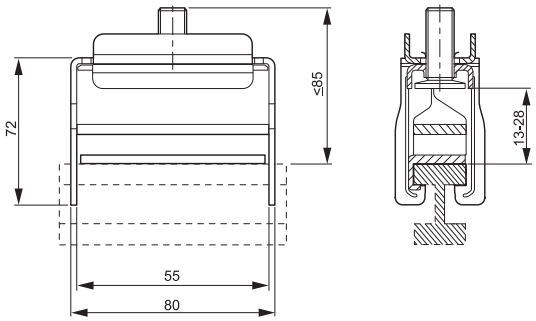
AKS300



AKS-CU-BAND

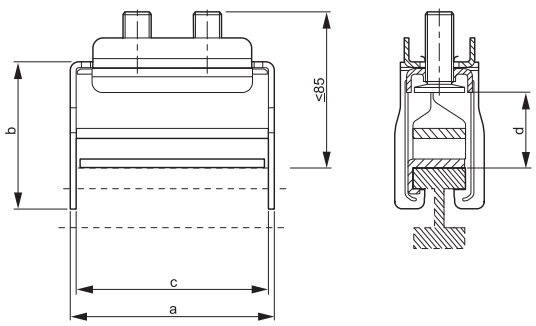


AKS1000



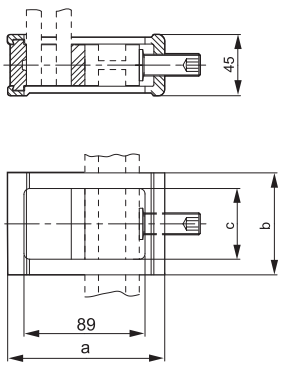
AKS1200, AKS2000

Type	a (mm)	b (mm)	c (mm)	d (mm)
AKS1200	85	80	68	13-38
AKS2000	122	80	105	13-38



AKP800, AKP1000

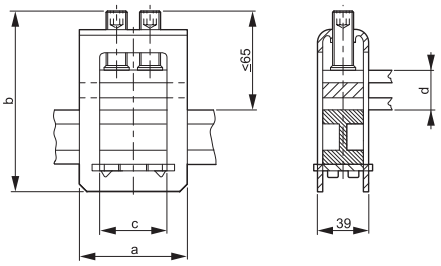
Type	a (mm)	b (mm)	c (mm)
AKP800	118	72	41
AKP1000	103	94	64



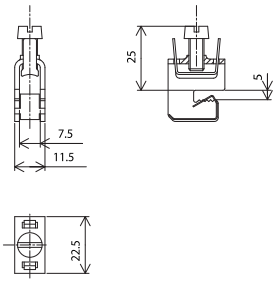
Dimensions

AKP750-AKP3600

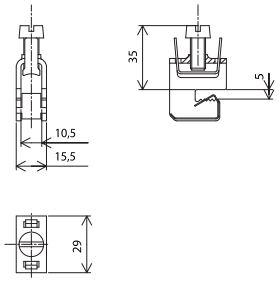
Type	a (mm)	b (mm)	c (mm)	d (mm)
AKP750	82	103	51	5-28
AKP900	94	103	64	5-28
AKP1200	94	118	64	20-42
AKP1600	112	118	81	20-42
AKP2000	132	118	101	20-42
AKP3600	132	154	101	23-45



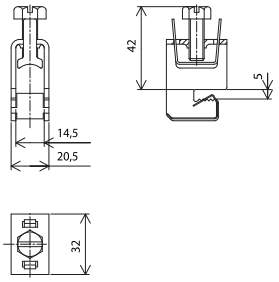
AKU16/5



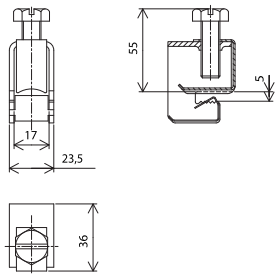
AKU35/5



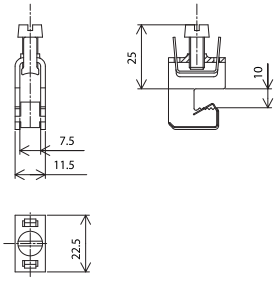
AKU70/5



AKU120/5

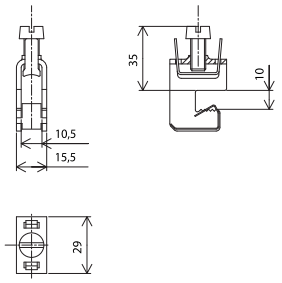


AKU16/10

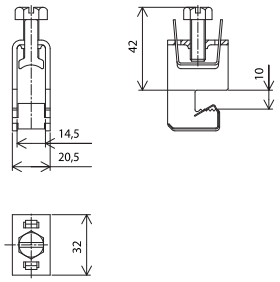


Dimensions

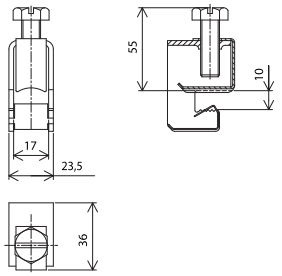
AKU35/10



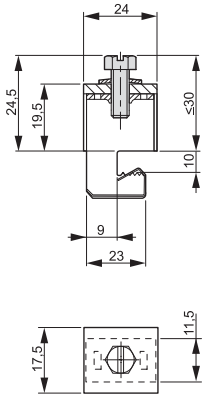
AKU70/10



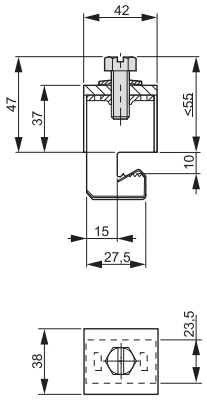
AKU120/10



AKUM8/10



AKUM10/10



Technical Data

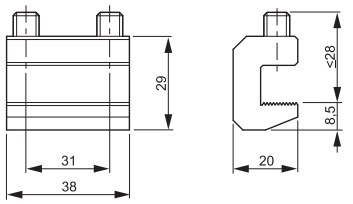
Busbar Connecting Terminals

For drill-free connection of identical types of busbars

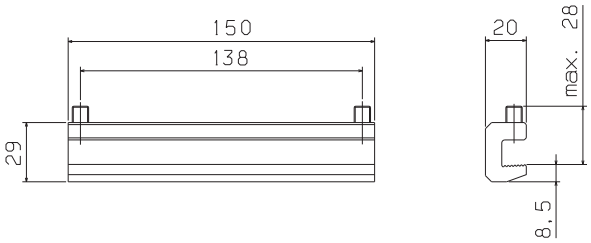
Current carrying capacity of contact point	Overall length mm	Permissible mis-alignment of bars	Spacing between systems in mm	Type
630 A	150	1 mm	100 - 110	BBT-CU12-20X5/10-150
630 A	95	5 mm	50 - 60	BBT-CU20-30X5/10-95
630 A	150	5 mm	100 - 110	BBT-CU20-30X5/10-150
1600 A	50	2 mm	9 -20	BBT-CU-BAR500/720-50
1600 A	150	5 mm	100 - 110	BBT-CU-BAR500/720-150

Dimensions

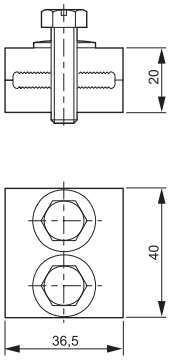
BBT-CU12-20X5/10-38



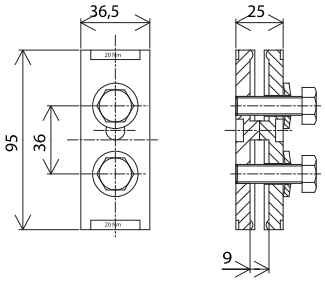
BBT-CU12-20X5/10-150



BBT-CU20-30X5/10-40

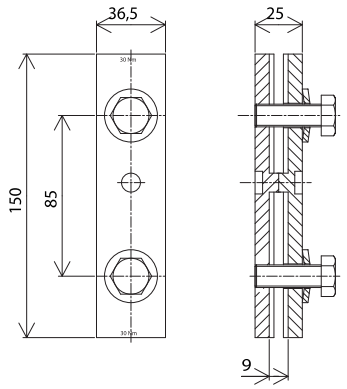


BBT-CU20-30X5/10-95

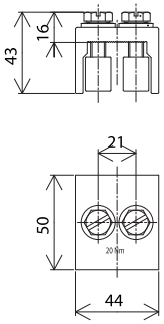


Dimensions

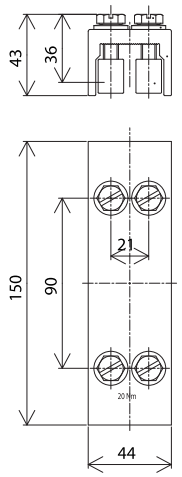
BBT-CU20-30X5/10-150



BBT-CU-BAR500/720-50



BBT-CU-BAR500/720-150



Technical Data

Busbar Adapter NZM

Parameter	NZM1-XAD160	NZM2-XAD250	NZM3-XAD630
Design	3-pole, 690 V~	3-pole, 690 V~	3-pole, 690 V~
Bar system	60 mm	60 mm	60 mm
Bar contacting	combi-base	claw-type terminal	claw-type terminal
Connection of the switchgear	top/bottom	top or bottom	top or bottom
Short Circuit Current Ratings SCCR	32 kA at 480 V	35 kA at 480 V 50 kA at 600 V	65 kA at 480 V 50 kA at 600 V

NZM1-XAD160							
Base body:							
Thermoplastic							
Temperature resistant up to 120°C,							
Self-extinguishing according to UL 94,							
Track resistance CTI 200,							
Halogen-free							
Derating:							
Ambient temperature [°C]	25	30	35	40	45	50	55
Permissible rated current [A]	160	155	150	146	141	136	130
Derating to 160 A	1	0.97	0.94	0.91	0.88	0.85	0.81

NZM2-XAD250
Base body:
Thermoplastic
Temperature resistant up to 120°C,
Self-extinguishing according to UL 94,
Track resistance CTI 200,
Halogen-free

NZM3-XAD630							
Base body:							
Thermoplastic							
Temperature resistant up to 120°C,							
Self-extinguishing according to UL 94,							
Track resistance CTI 200,							
Halogen-free							
Derating:							
Ambient temperature [°C]	20	30	40	50	60	65	70
Permissible rated current [A]	630	605	580	554	529	517	504
Derating to 630 A	1	0.96	0.92	0.88	0.84	0.82	0.80

Note
Please observe the de-rating coefficients listed in the table above to determine the maximum ampacity allowed at different ambient temperatures!

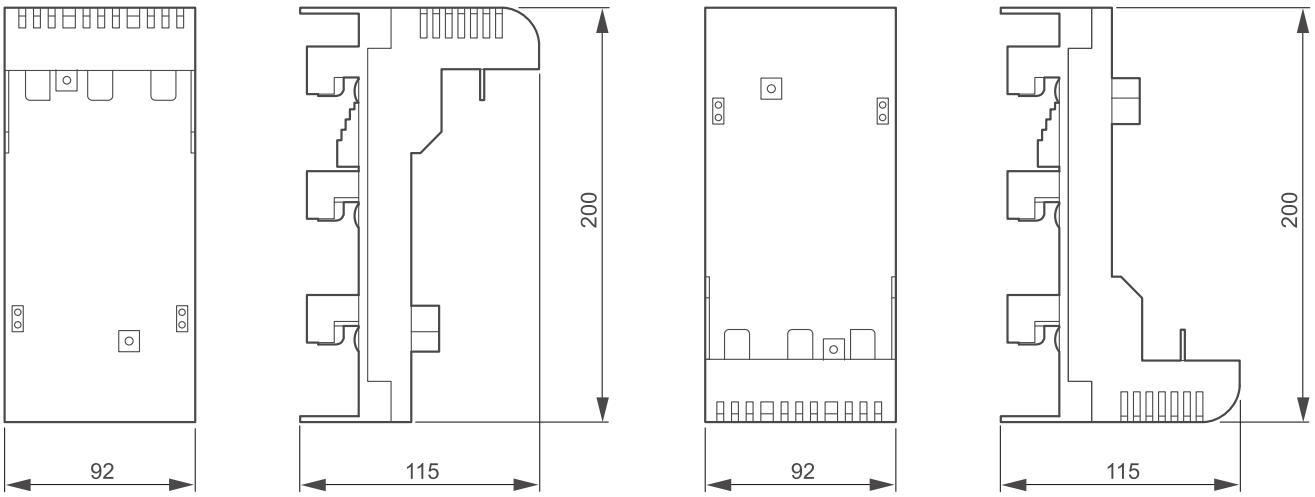
Example
An NZM3...3-...630... device with an NZM3-XAD630 device adapter should be operated at an ambient temperature of 50°C.

Question
What is the maximum rated operating current Ie allowed I_e ? =>

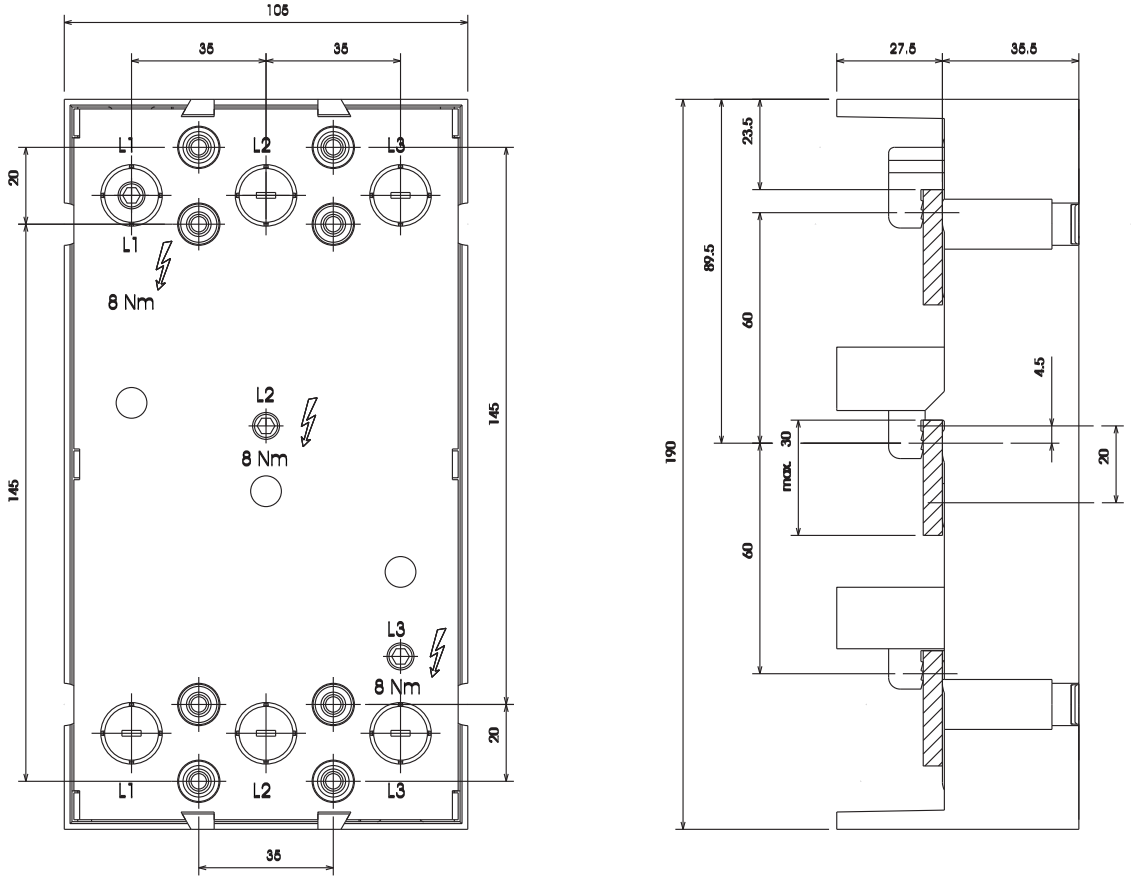
Solution
At an ambient temperature of 50°C, the de-rating coefficient is 0.88. This means that I_e = 630A x 0.88 = 544A.
At an ambient temperature of 50°C, the device can therefore be operated at a maximum of I_e = 544 A.

Dimensions

NZM1-XAD160

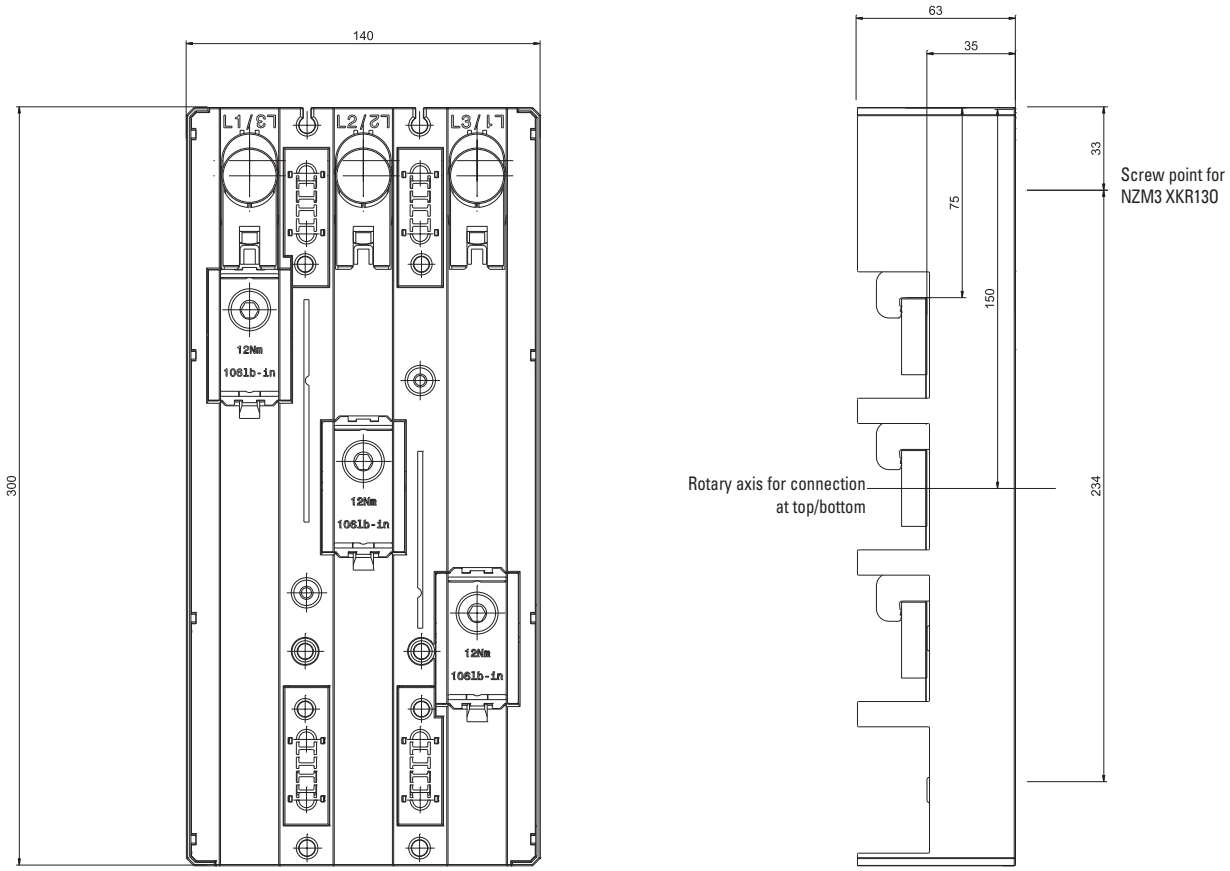


NZM2-XAD250

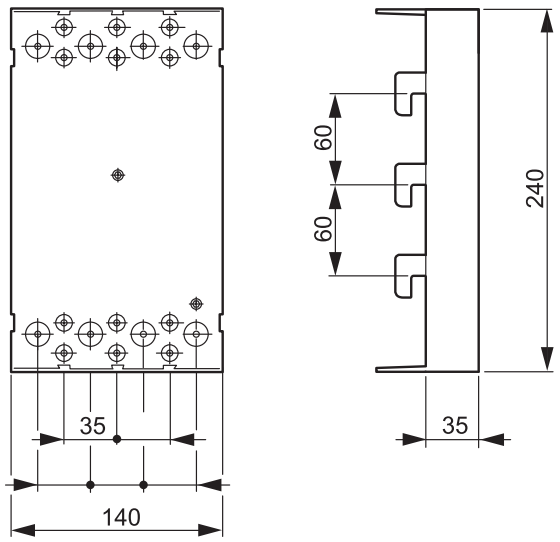


Dimensions

NZM3-XAD630

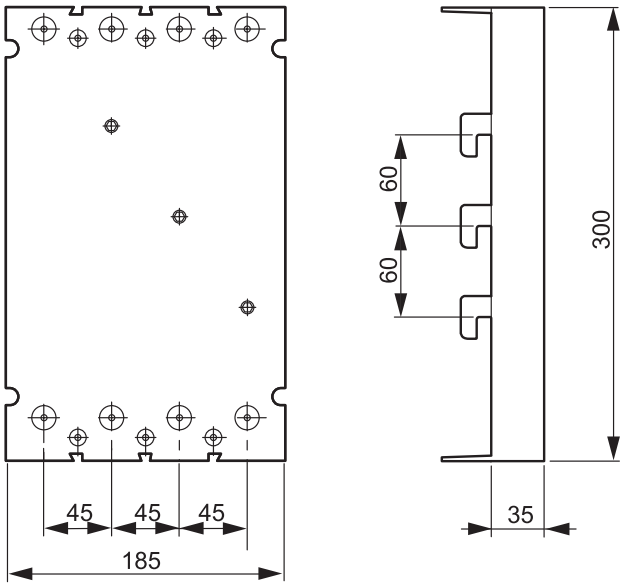


NZM2-4-XAD250



Dimensions

NZM3-4-XAD630



Technical Data

Busbar Adapter xStart

3-pole, 690 V~
Can be used on all busbars in a 60 mm system.
Thanks to the combi-base it is suitable for a thickness of both 5 and 10 mm.
DIN EN 60715 support rail, plastic, can be adjusted on a 1.25-mm grid.
DIN EN 60715 support rail, plastic, can be adjusted on a 1.25-mm grid.

Base body:
Silicone-free, chlorine-free
Temperature resistant up to 120°C
Self-extinguishing according to UL 94
Track resistance CTI 200

Support rails:
Silicone-free, chlorine-free
Temperature resistant up to 100°C

PVC conductor insulation:
Temperature resistant up to 105°C

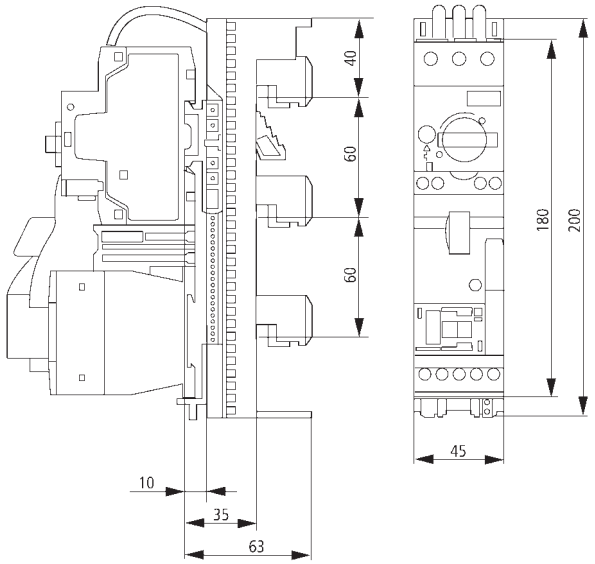
Overall length of the connecting cables:
BBA0-25, BBA0-32, BBA0R-25, BBA0R-32, BBA0-25/2TS, BBA0/2TS-L: 93 mm
BBA0C-16, BBA0RC-16: 125 mm
BBA4-63, BBA2-63, BBA4L-63, BBA2L-63: 115 mm

Short circuit current ratings SCCR:
PKZM0-0,16 to PKZM0-10: 50 kA
PKZM0-12, -16: 50 kA
PKZM0-20, -25, -32: 18 kA
Direct and reverse motor starters PKZM0 + DILM [1] or MSC + BBA up to 32 A on busbar adapters and busbar system SASY 60i

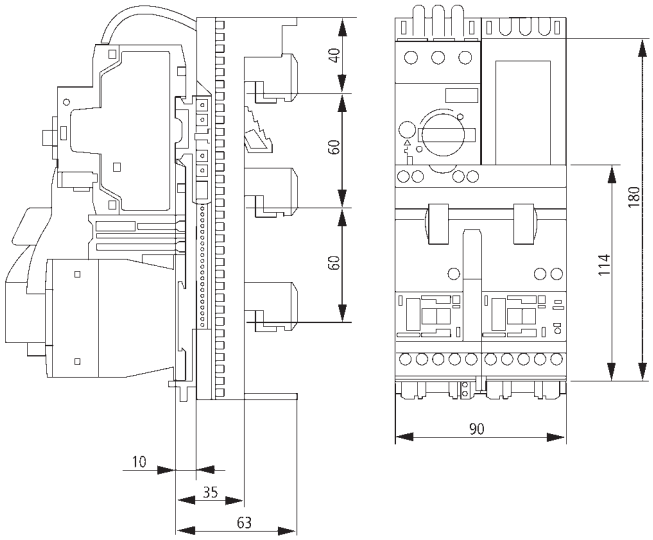
[1] any type of connection between PKZM and DILM

Dimensions

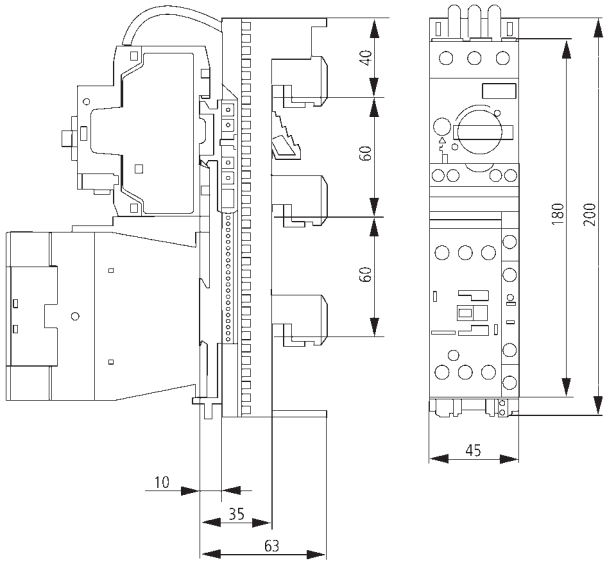
BBA0-25



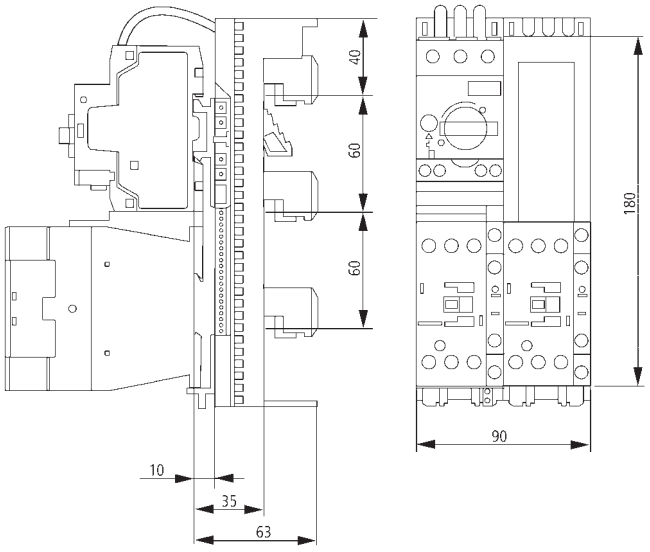
BBA0R-25



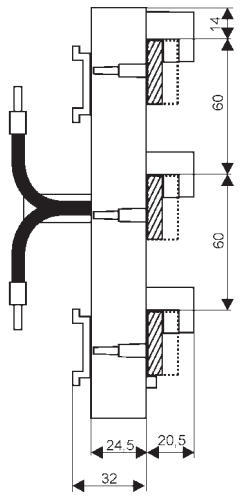
BBA0-32



BBA0R-32



Z-SS-60-ADD/6...



Technical Data

D-Type Slide Fuse-Base

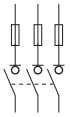
- Design according to IEC/EN 60269-1, VDE 0636 Part 301
- Vertical and horizontal mounting possible
- Delivered empty, without screw caps

	D02-SO/63/3-R-27 Z-D02/R/3...	DII-SO/25/3-R(-PS)	DIII-SO/63/3-R(-PS)
Electrical			
Number of poles	3	3	3
Rated operational voltage U_e	400 V AC	500 V AC	690 V AC
Rated frequency	40-60 Hz	40-60 Hz	40-60 Hz
Rated operational current I_e	63 A	25 A	63 A
Conventional thermal current with fuse-links I_{th}	63 A	25 A	63 A
Rated duty	uninterrupted duty	uninterrupted duty	uninterrupted duty
Rated conditional short-circuit current	50 kA_{eff}	50 kA_{eff}	50 kA_{eff}
Overvoltage category	IV	III	III
Rated impulse withstand voltage U_{imp}	6 kV	4 kV	4 kV
Power loss per current path	0.5 W	0.4 W	3.34 W
Power loss of base without fuse-links	1.5 W	1.2 W	10 W
Max. permissible power loss of fuse-links	5.5 W	4 W	7 W
Mechanical			
Device height	201 mm	200 mm	200 mm
Width	27 mm	45 mm	54 mm
Weight	150 g	140 g	150 g
Mounting onto busbars, without drilling or screwing	12x5/10	12x5/10	12x5/10
	15x5/10	-	-
	20x5/10	20x5/10	20x5/10
	25x5/10	25x5/10	25x5/10
	30x5/10	30x5/10	30x5/10
Degree of protection while operating	IP20	IP20	IP20
Terminals	Lift terminals	Lift terminals	Lift terminals
Terminal capacity	1.5-35 mm^2	1.5-25 mm^2	1.5-25 mm^2
Tightening torque of terminal screws	3-4 Nm	2.6 Nm	2.6 Nm
Electrical thread type	E18	E27	E33
Ambient temperature range *) (35°C normal temperature, at 55°C with reduced operating current)	-25 to +55°C	-25 to +55°C *)	-25 to +55°C *)
Pollution degree	3	3	3
Climatic resistance: moist heat	constant acc. to IEC 60068-2-78, cyclical acc. to IEC 60068-2-30		

Busbar-Slide Switch Disconnector with Fuses D02-S/63/3-RS

- Design according to IEC/EN 60947-3
- Vertical and horizontal mounting possible
- Delivered empty, without screw caps
- Current coding by means of cartridge-ring adapter insert
- Suitable for fuse-links
  D01: 2, 4, 6, 10, 16 A in combination with cartridge-ring adapter inserts Z-D02-D01/PE-.. and adapter spring Z-D02/SIKA-HF
  D02: 20, 25, 35, 50, 63 A
- Can be sealed with lead

Connection diagram



Electrical	
Number of poles	3P
Rated operational voltage U_e AC	400 V / 40-60 Hz
Rated operational current I_e	63 A
Conventional thermal current with fuse-links I_{th}	63 A
Rated duty	uninterrupted duty
Rated conditional short-circuit current	50 kA_{eff}
Utilization category	AC 23 B
Overvoltage category	III
Rated impulse withstand voltage U_{imp}	8 kV
Power loss per current path	2 W at I_e
Power loss per current path with fuse-link	7.5 W at I_e
Max. permissible power loss of fuse-links	5.5 W

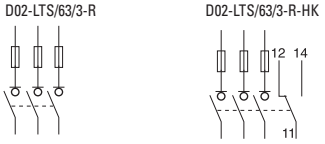
Mechanical	
Device height	212 mm
Width	36 mm
Weight	260 g
Mounting onto busbars, without drilling or screwing	20x5/10 mm 30x5/10 mm
Degree of protection while operating	IP30
Terminals	Lift terminals
Terminal capacity	1.5-25 mm^2 Cu
Tightening torque of terminal screws	max. 2.6 Nm
Electrical thread type	E18
Temperature range	-25 to +55°C
Pollution degree	3
Climatic resistance: moist heat	constant acc. to IEC 60068-2-78, cyclical acc. to IEC 60068-2-30

Technical Data

Busbar-Slide Switch Disconnector with Fuses D02-LTS/63/3-R(-HK)

- Design according to IEC/EN 60947-3
- Vertical and horizontal mounting possible
- Supplied empty
- Current coding by means of cartridge-ring adapter insert
- Suitable for fuse-links
  D01: 2, 4, 6, 10, 16 A in combination with cartridge-ring adapter inserts Z-D02-D01/PE-.. and adapter spring Z-D02-LTS-HF
  D02: 20, 25, 35, 50, 63 A
  Cylindrical 10x38: 1 - 32 A
- Can be sealed with leads, lockable

Connection diagram



Electrical	
Number of poles	3P
Rated operational voltage U_e AC	400 V / 40-60 Hz
Rated operational current I_e	63 A
Rated uninterrupted current I_u	63 A
Rated duty	uninterrupted duty
Rated short-circuit capacity I_{cm}, I_{cn}	50 kA_{eff}
Utilization category	AC 22 B
Overvoltage category	IV
Rated impulse withstand voltage U_{imp}	6 kV
Power loss per current path	1.5 W at I_e
Power loss per current path with fuse-link	7 W at I_e
Max. permissible power loss of fuse-links	5.5 W

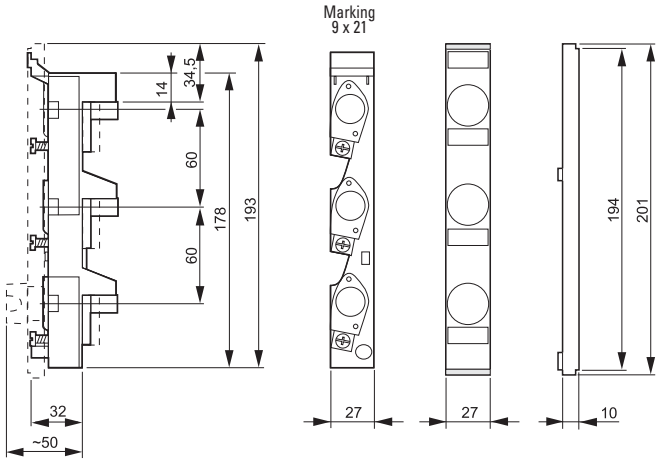
Mechanical	
Device height	226 mm
Width	27 mm
Weight	340 g
Mounting onto busbars, without drilling or screwing	12x5/10 mm 15x5/10 mm 20x5/10 mm 25x5/10 mm 30x5/10 mm
Degree of protection while operating (built-in)	IP20/IP40
Terminals	Lift terminals
Terminal capacity	1.5-35 mm^2 Cu
Tightening torque of terminal screws	max. 4 Nm
Temperature range	-25 to +55°C
Pollution degree	3
Climatic resistance: moist heat	constant acc. to IEC 60068-2-78, cyclical acc. to IEC 60068-2-30

Auxiliary switch electrical	
1 CO	5 A / 250 V AC
Max. thermal back-up fuse	2 A gL PLSM-B4/..-HS / CLS6-B4/...-HS

Connection	
Femal push-on connector	2.8 x 0.5 mm

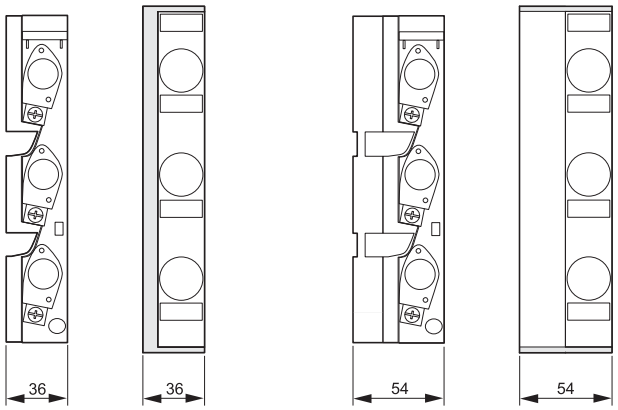
Dimensions

D02-SO/63/3-R-27



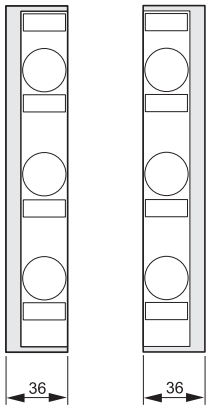
Front plate support

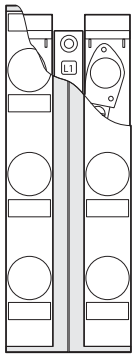
Z-D02/R/3-36, Z-D02/R/3-54



Front plate support

Z-D02-S-AB-SET

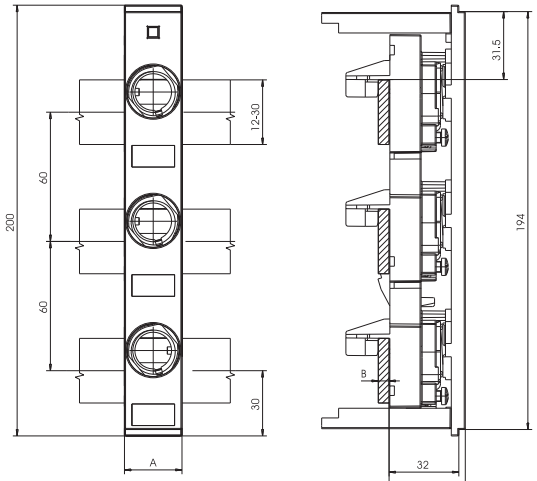




Overbuilt busbar supports with Set
Z-D02-S-AB-SET

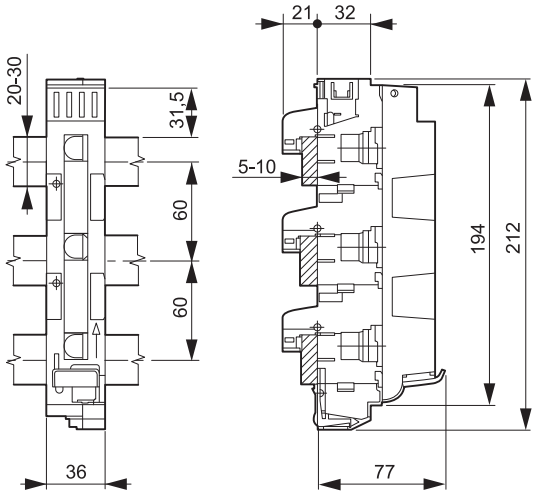
Front plate support

D...SO/.../3-R(-PS)

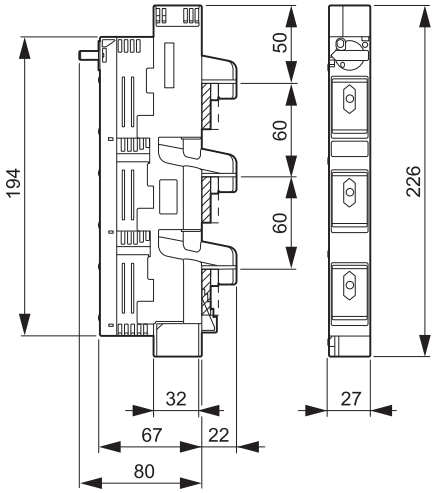


Type	A
DII-SO/25/3-R(-PS)	45
DIII-SO/63/3-R(-PS)	54

D02-S/63/3-RS



D02-LTS/63/3-R(-HK)



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.

Technical Data

			XNH00...-S160...	XNH1...-S250...
Standard			IEC/EN 60947-3	IEC/EN 60947-3
NH fuses [1] according to DIN VDE 0636-2			000 / 00	1
Rated operating voltage	U_e	V	AC 690, DC 440	AC 690, DC 440
Rated operating current	I_e	A	160	250
Rated frequency	f	Hz	40 - 60	40 - 60
Rated insulation voltage	U_i	V	AC 800	AC 800
Total power loss at I_{th} (without fuses)	P_v	W	14	22
Power loss at 80% (without fuses)	P_v	W	9	14.1
Rated impulse withstand voltage	U_{imp}	kV	8	8
Utilization category			AC-23B (400V/160A) AC-22B (500V/160A) AC-21B (690V/160A) DC-22B (250V/160A) DC-21B (440V/160A)	AC-23B (400V/250A) AC-22B (500V/250A) AC-21B (690V/250A) DC values on request
Conditional rated short-circuit current		kA	120 (500V) 100 (690V)	120 (500V) 100 (690V)
Rated short-time withstand current	I_{cw}	kA	7	10
Max. permitted power loss per fuse link	P_{NH}	W	12	23
Degree of protection - front (XNH installed)			Operating status IP20 Contact prot. IP2XC Handle cover open IP10	Operating status IP20 Contact prot. IP2XC Handle cover open IP10
Ambient temperature	T_{35}	°C	-25 to +55	-25 to +55
Rated operating mode			Permanent operation	Permanent operation
Activation			Dependent manual activation	Dependent manual activation
Position			Vertical/horizontal	Vertical/horizontal
Altitude		m	max. 2000	max. 2000
Degree of pollution			3	3
Overvoltage category			III	III
Colour			Grey	Grey
RoHs			Yes	Yes
Energy feeder direction			Any (FLEX System)	Any (FLEX System)
Lockable			Yes, optional	Yes, optional
Sealable			Yes, standard	Yes, standard
Material			Polyamide	Polyamide
Reaction to fire			Self-extinguishing acc. to UL94	Self-extinguishing acc. to UL94
Halogen-free			Yes	Yes
Voltage test			Yes, sliding inspection windows	Yes, sliding inspection windows
Electrical service life (operating cycles)			300	200
Mechanical service life (operating cycles)			1400	1400
Track resistance			CTI 600	CTI 600
Temperature resistance up to		°C	125	125
Terminal capacities:				
Flat connection				
Bolt diameter			M8	M10
Cable lug max. width		mm	25	37
Flat rail		mm	220x10	30x10
Box terminal				
multi-wire		mm²	1.5 - 95 Cu	35 - 150 Cu/Al
Cu-Band			9x9x0.8	10x16x0.8
Clamp-type terminal				
multi-wire		mm²	1.5 - 50 Cu	25 - 150 Cu
Cu-Band			6x9x0.8	6x16x0.8
Prism terminal				
multi-wire		mm²	10 - 70 Cu/Al	10 - 150 Cu/Al
Double-prism terminal				
multi-wire		mm²	–	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.

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.

Technical Data

			XNH2...-S400...	XNH3...-S630...
Standard			IEC/EN 60947-3	IEC/EN 60947-3
NH fuses [1] acc. to DIN VDE 0636-2			2	3 / 2
Rated operating voltage	U_e	V	AAC 690, DC 440	AC 690, DC 440
Rated operating current	I_e	A	4400	630
Rated frequency	f	Hz	440 - 60	40 - 60
Rated insulation voltage	U_i	V	AC 800	AC 800
Total power loss at I_{th} (without fuses)	P_v	W	36	86
Power loss at 80% (without fuses)	P_v	W	22.9	54.8
Rated impulse withstand voltage	U_{imp}	kV	8	8
Utilization category			AAC-23B (400V/400A) AC-22B (500V/400A) AC-21B (690V/400A) DC values on request	AC-23B (400V/630A) AC-22B (500V/630A) AC-21B (690V/630A) DC values on request
Conditional rated short-circuit current		kA	120 (500V) 100 (690V)	120 (500V) 100 (690V)
Rated short-time withstand current	I_{cw}	kA	10	10
Max. permitted power loss per fuse link	P_{NH}	W	34	48
Degree of protection - front (XNH installed)			Operating status IP20 Contact prot. IP2XC Handle cover open IP10	Operating status IP20 Contact prot. IP2XC Handle cover open IP10
Ambient temperature	T_{35}	°C	-25 to +55	-25 to +55
Rated operating mode			Permanent operation	Permanent operation
Activation			Dependent manual activation	Dependent manual activation
Position			Vertical/horizontal	Vertical/horizontal
Altitude		m	max. 2000	max. 2000
Degree of pollution			3	3
Overvoltage category			III	III
Colour			Grey	Grey
RoHs			Yes	Yes
Energy feeder direction			Any (FLEX System)	Any (FLEX System)
Lockable			Yes, optional	Yes, optional
Sealable			Yes, standard	Yes, standard
Material			Polyamide	Polyamide
Reaction to fire			Self-extinguishing acc. to UL94	Self-extinguishing acc. to UL94
Halogen-free			Yes	Yes
Voltage test			Yes, sliding in-spection windows	Yes, sliding in-sspection windows
Electrical service life (operating cycles)			200	200
Mechanical service life (operating cycles)			800	800
Track resistance			CTI 600	CTI 600
Temperature resistance up to		°C	125	125
Terminal capacities:				
Flat connection				
Bolt diameter			M10	M10
Cable lug max. width		mm	48	56
Flat rail		mm	40x10	50x10
Box terminal				
multi-wire		mm²	95 - 300 Cu/Al	95 - 300 Cu/Al
Cu-Band			6x16x0.8 up to 10x32x1	6x16x0.8 up to 10x32x1
Clamp-type terminal				
multi-wire		mm²	25 - 240 Cu	on request
Cu-Band			0x16x0.8	11x21x1
Prism terminal				
multi-wire		mm²	120 - 240 Cu/Al	120 - 300 Cu/Al
Double-prism terminal				
multi-wire		mm²	2x (120 - 150) Cu/Al	2x (120 - 240) Cu/Al

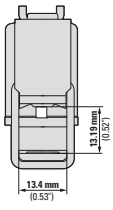
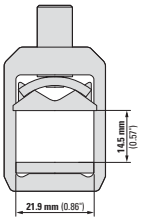
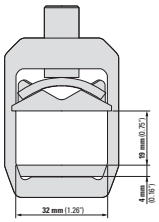
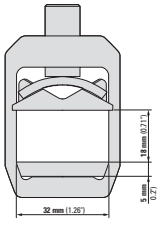
Note: Please leave a minimum distance to grounded live parts: Side = 20 mm, top = 50 mm.

[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

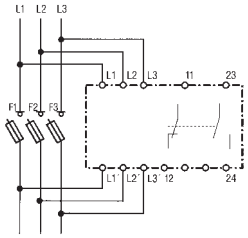
Number of layers	x	Width	x	Thickness of layers	=	Cross-section (mm^2)	Hight copper band (mm)	Max. rated operating current (A)	 XNH00…-BT	 XNH1…-BT	 XNH2…-BT	 XNH3…-BT
3	x	9	x	0.8	=	21.6	2.4	100	x	x	-	-
6	x	9	x	0.8	=	43.2	4.8	160	x	x	-	-
9	x	9	x	0.8	=	64.8	7.2	200	x	x	-	-
6	x	16	x	0.8	=	74.4	4.65	250	-	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	-	-	-	-

Technical Data

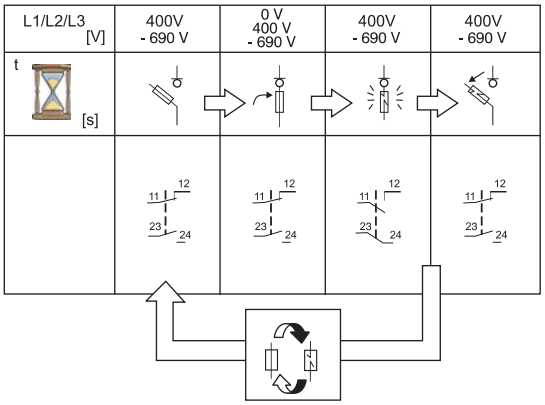
		XNH...FCE...
Power supply	V	Self-supplied
Power consumption	VA	1.5
Overvoltage category		230/400V : III 500V : II
Frequency range	HZ	50 - 60
Input resistance		>1 kOhm/V
Voltage inputs	V	AC 400 - 500 (+/-10%)
Temperature range	°C	-5 to +55
Operation indicator		1 LED green
Failure indicator		3 LEDs (F1, 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



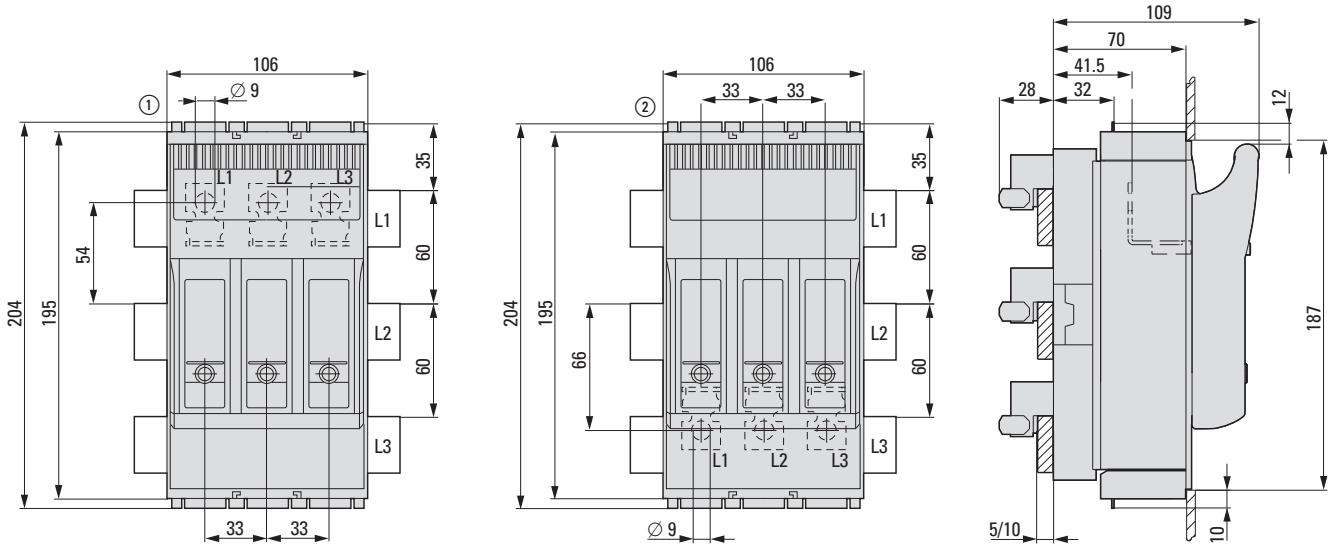
Function diagram



Note: Not suitable for single-phase application!

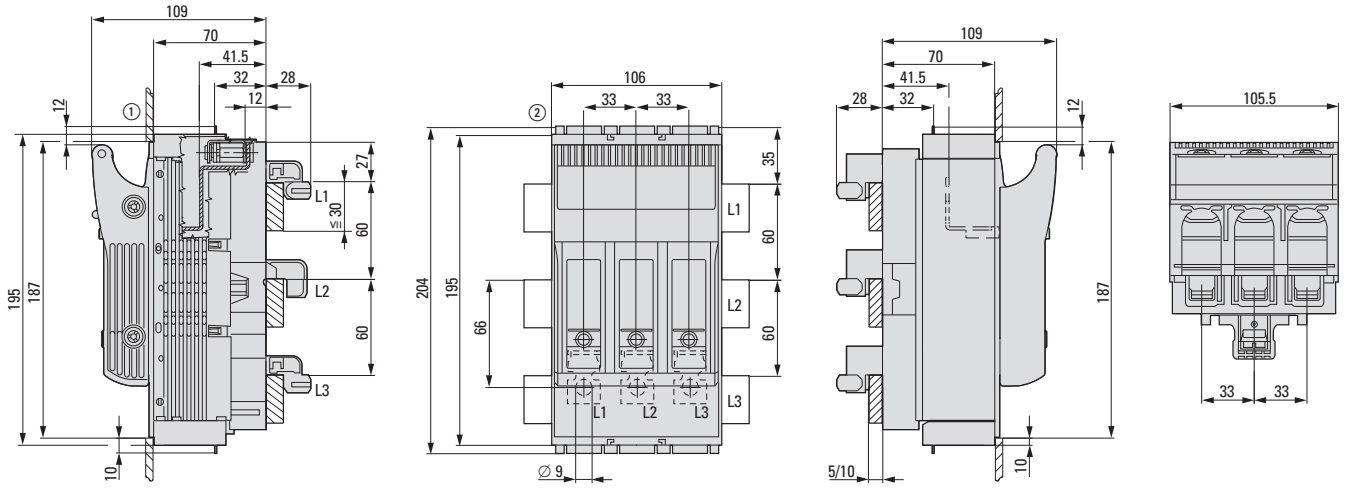
Dimensional drawings

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



1230DIM-362

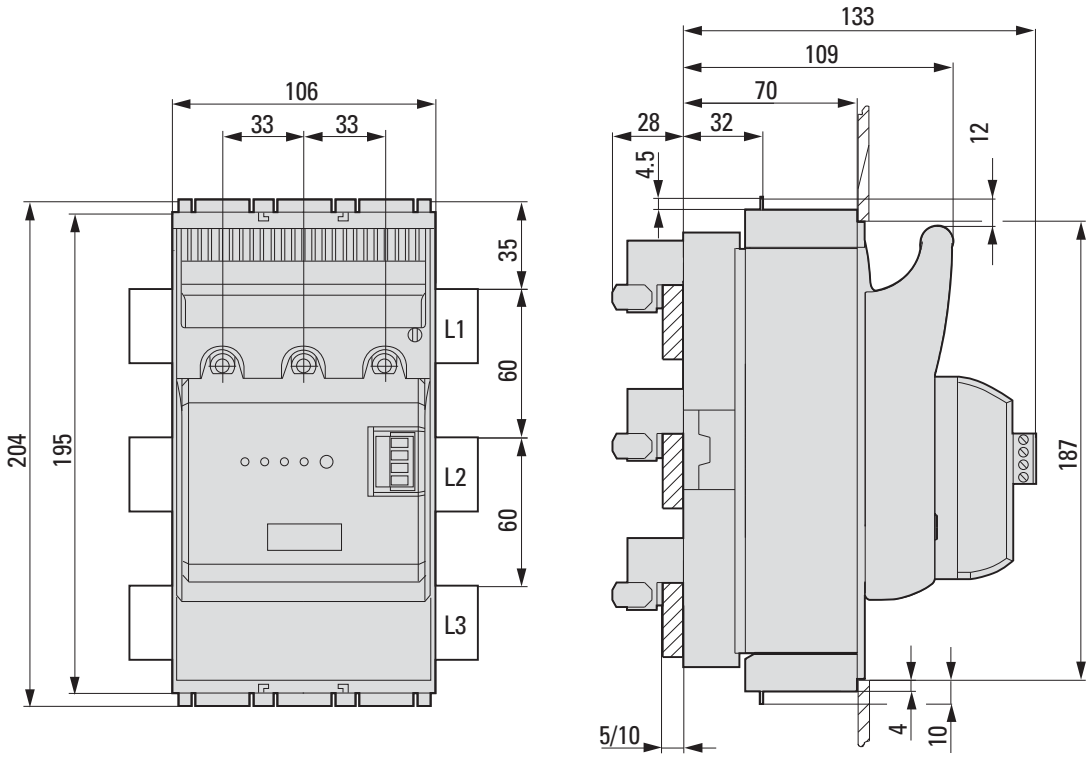
XNH00-FCL-S160-BT2



1230DIM-363

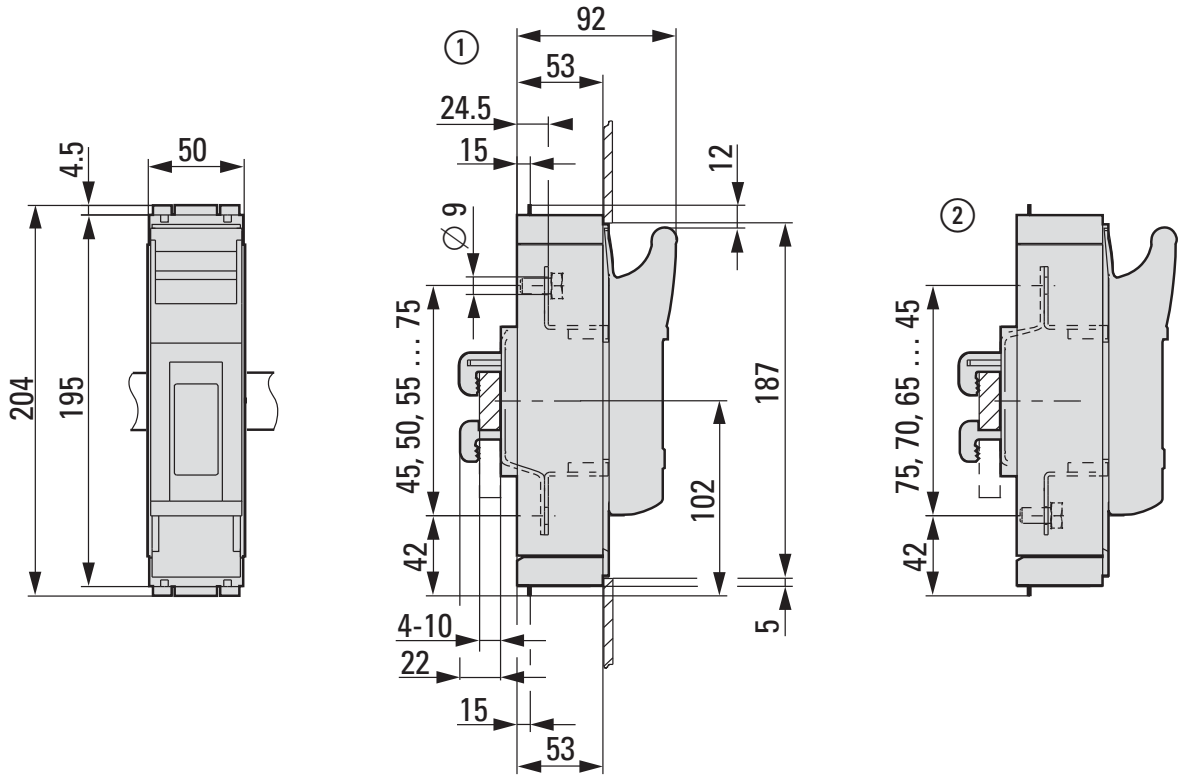
Dimensional drawings

XNH00-FCE-S160...



1230DIM-364

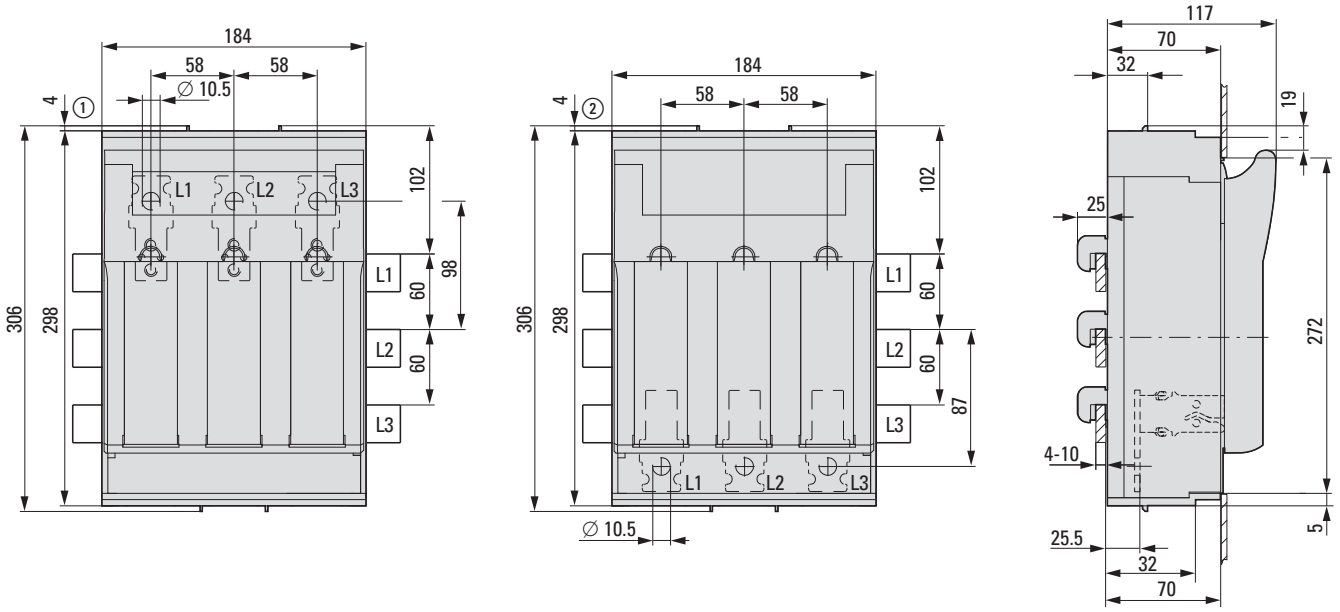
XNH00-1-S160



1230DIM-375

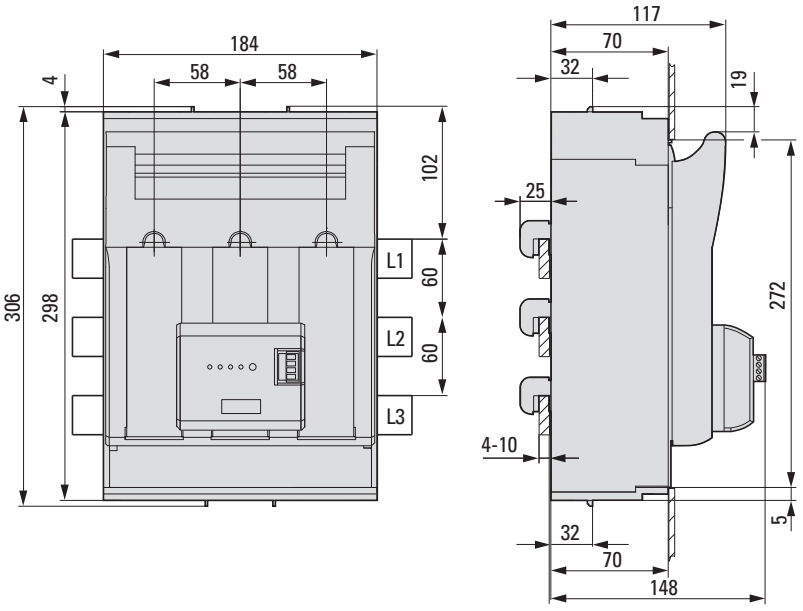
Dimensional drawings

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



1230DIM-366

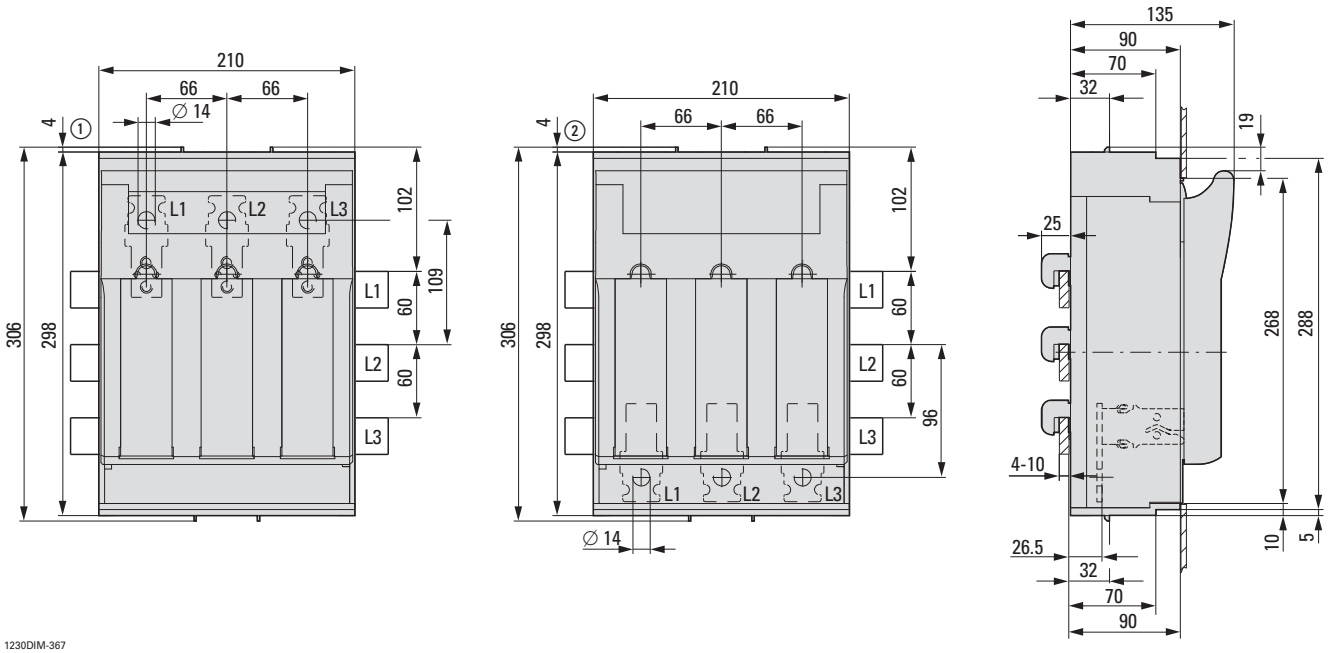
XNH1-FCE-S250...



1230DIM-370

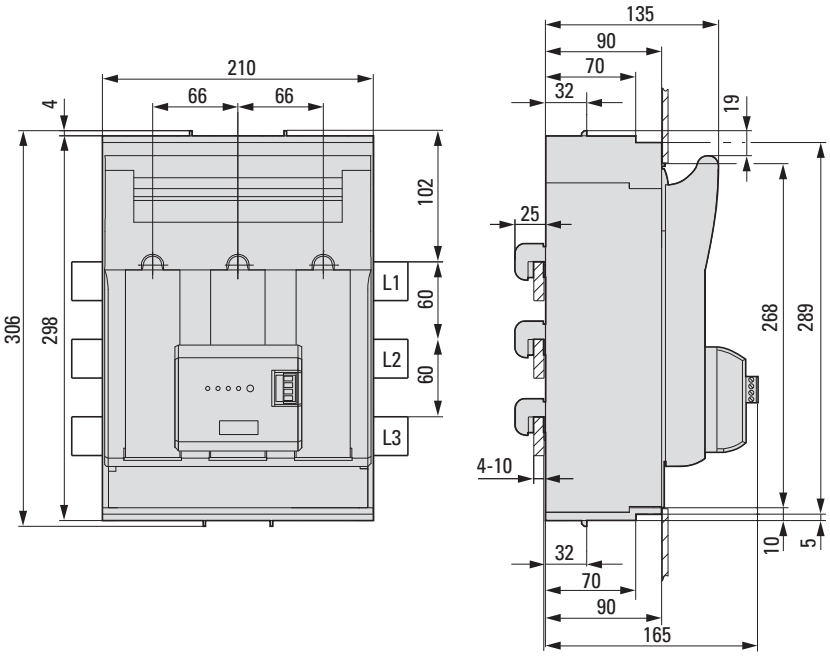
Dimensional drawings

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



1230DIM-367

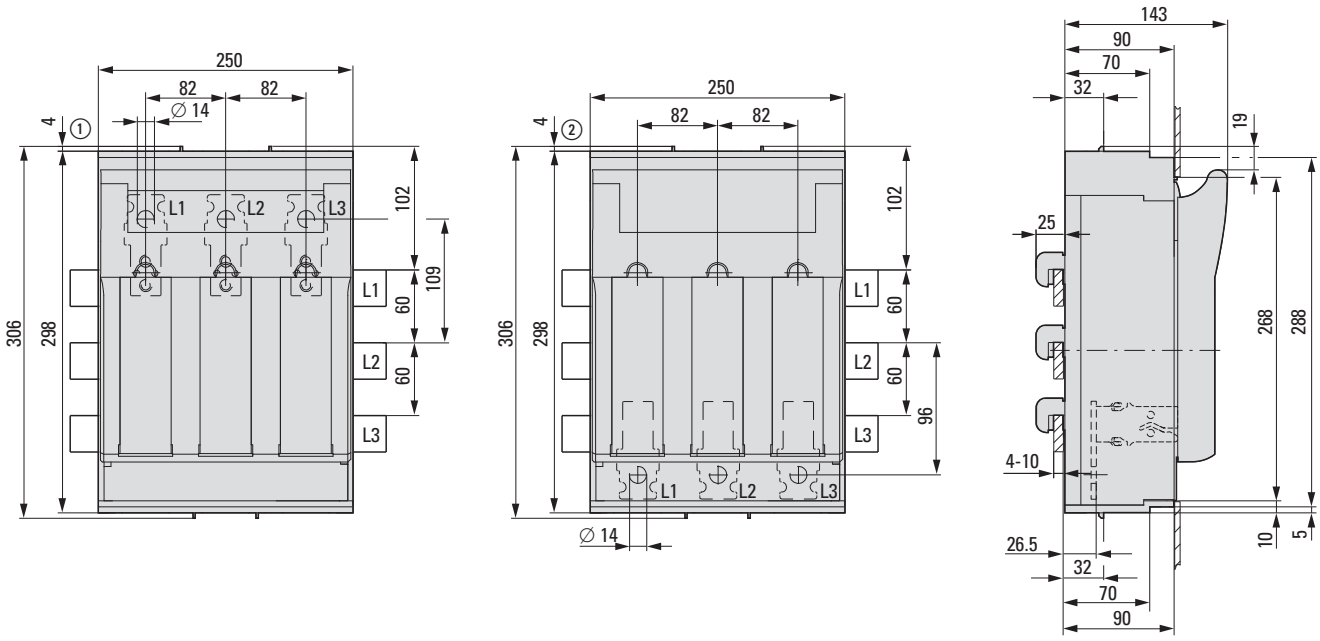
XNH2-FCE-S400...



1230DIM-371

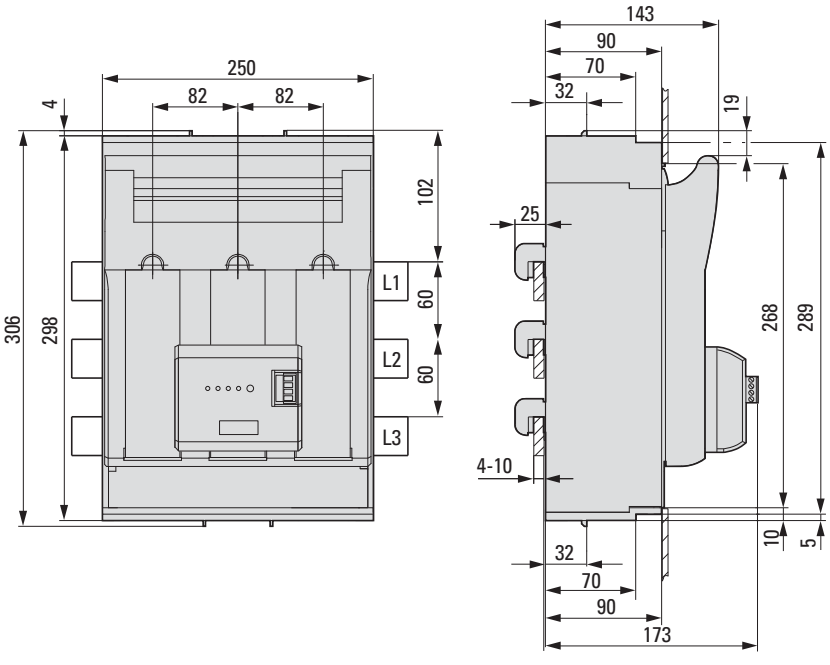
Dimensional drawings

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



1230DIM-368

XNH3-FCE-S630...



1230DIM-372

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.

Technical Data

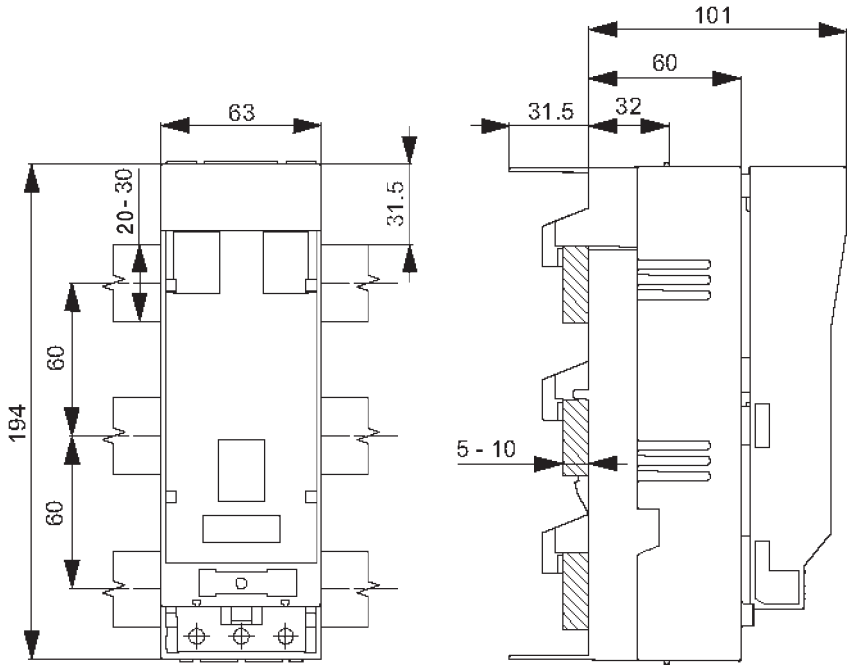
			LTS-100/000/3-R	FCFSDNHOOOBBC60-3	NH-SLS-00/160-60
Standard			IEC/EN 60947-3	IEC/EN 60947-3	IEC/EN 60947-3
NH fuses [1] according to DIN VDE 0636-2			000	000	00
Rated operating voltage	U_e	V	AC 500	AC 690, DC 440	AC 690
Rated operating current	I_e	A	125	125	160
Rated frequency	f	Hz	40 - 60	40 - 60	40 - 60
Rated insulation voltage	U_i	V	AC 500	AC 800	AC 800
Total power loss at I_{th} (without fuses)	P_v	W	18	13.8	27
Power loss at 80% (without fuses)	P_v	W	14	14.1	17.3
Rated impulse withstand voltage	U_{imp}	kV	8	6	8
Utilization category			AC-22B (500V/125A) – – DC-22B (220V/100A) –	AC-23B (400V/125A) AC-22B (500V/125A) AC-21B (690V/125A) DC-22B (440V/63A) DC-21B (440V/125A)	AC-23B (400V/160A) AC-23B (500V/125A) AC-22B (690V/160A) – –
Conditional rated short-circuit current		kA	50 (500V)	50 (100A) (500V) 50 (80A) (690V)	50 (690V)
Rated short-time withstand current	I_{cw}	kA	–	–	–
Max. permitted power loss per fuse link	P_{NH}	W	12	9	12
Degree of protection - front (installed)			Operating status IP20 Handle cover open IP10	Operating status IP20 Handle cover open IP10	Operating status IP30 Handle cover open IP10
Ambient temperature	T_{35}	°C	-25 to +55	-25 to +55	-25 to +55
Rated operating mode			Permanent operation	Permanent operation	Permanent operation
Activation			Dependent manual activation	Dependent manual activation	Dependent manual activation
Position			Vertical	Vertical/horizontal	Vertical
Altitude		m	max. 2000	max. 2000	max. 2000
Degree of pollution			3	3	3
Overvoltage category			III	III	III
Colour			Grey/black	Grey/blue	Grey
RoHs			Yes	Yes	Yes
Energy feeder direction			Bottom	Any	Any
Lockable			–	–	–
Sealable			Yes, standard	–	–
Material			Polyamide	Polyamide	Polyamide
Reaction to fire			Self-extinguishing acc. to UL94	Self-extinguishing acc. to UL94	Self-extinguishing acc. to UL94
Halogen-free			Yes	Yes	Yes
Voltage test			–	Yes, sliding inspection windows	–
Electrical service life (operating cycles)			200	300	200
Mechanical service life (operating cycles)			1400	1700	1400
Track resistance			CTI 400	CTI 200	CTI 200
Temperature resistance up to		°C	125	125	125
Terminal capacities:					
Flat connection					
Bolt diameter			–	–	M8
Cable lug max. width		mm	–	–	27
Flat rail		mm	–	–	20x10
Box terminal					
multi-wire		mm²	1.5 - 50 Cu	1.5 - 50 Cu	–
Cu-Band			6x9x0.8	6x9x0.8	–
Clamp-type terminal					
multi-wire		mm²	–	–	–
Cu-Band			–	–	–
Prism terminal					
multi-wire		mm²	–	–	–
Double-prism terminal					
multi-wire		mm²	–	–	–

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

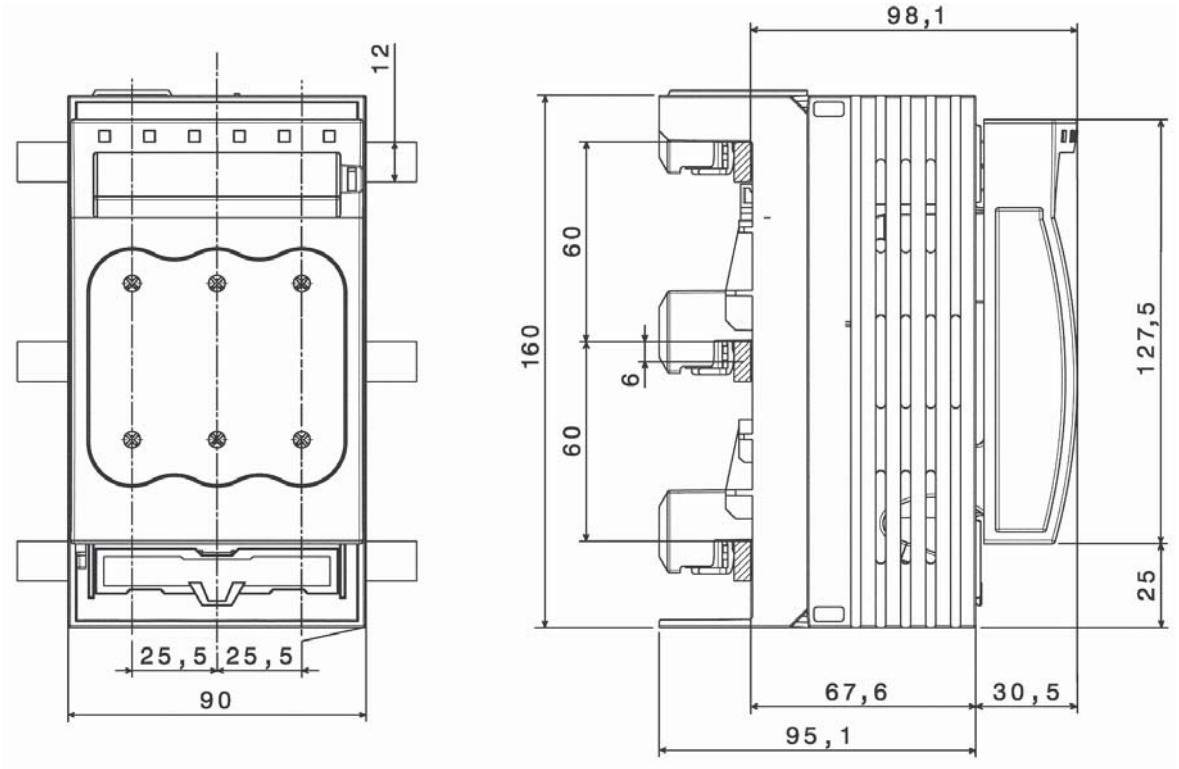
[1] Type-tested with NH fuse links of characteristic gG.

Dimensional drawings

LTS-100/C00/3-R

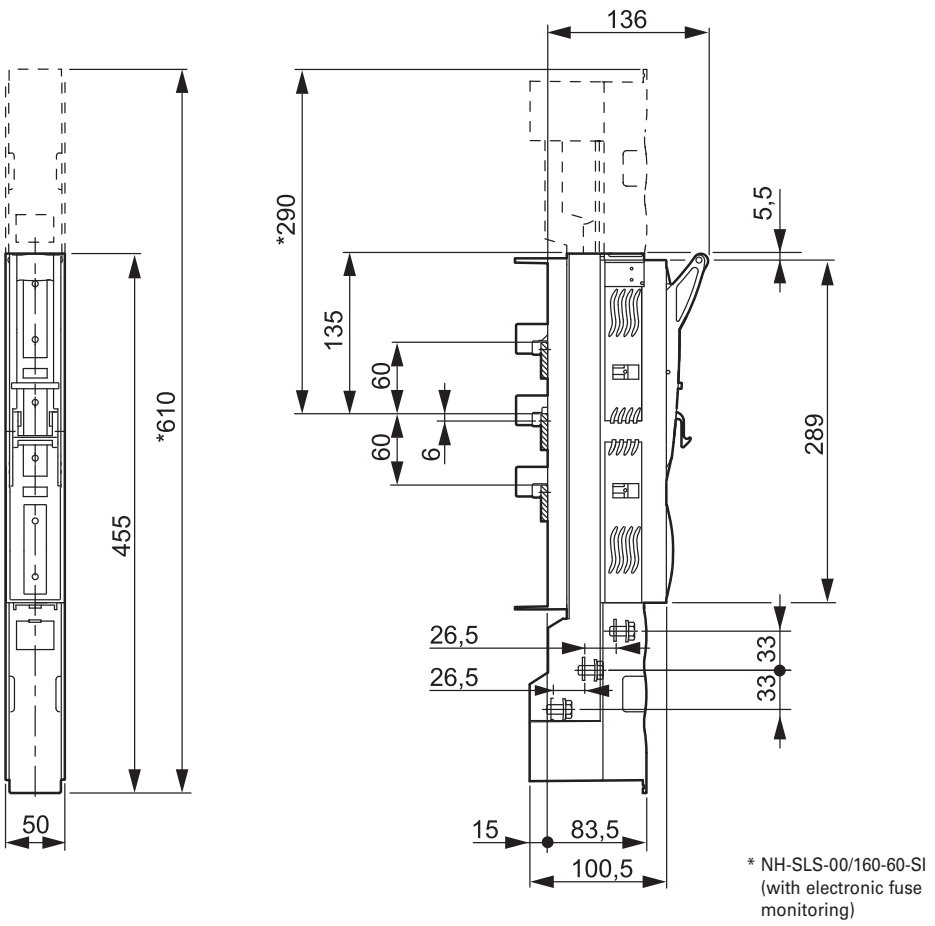


FCFSDNH000BBC60-3



Dimensional drawings

NH-SLS-00/160-60(-SI)



* NH-SLS-00/160-60-SI (with electronic fuse monitoring)

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