Sasy 60i

Productcatalogue 2015

Powering Business Worldwide




Energizing a world that demands more.

We deliver:

- **Electrical solutions** that use less energy, improve power reliability and make the places we live and work safer and more comfortable
- **Hydraulic and electrical solutions** that enable machines to deliver more productivity without wasting power
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- **Vehicle drivetrain and powertrain solutions** that deliver more power to cars, trucks and buses, while reducing fuel consumption and emissions

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Powering Business Worldwide

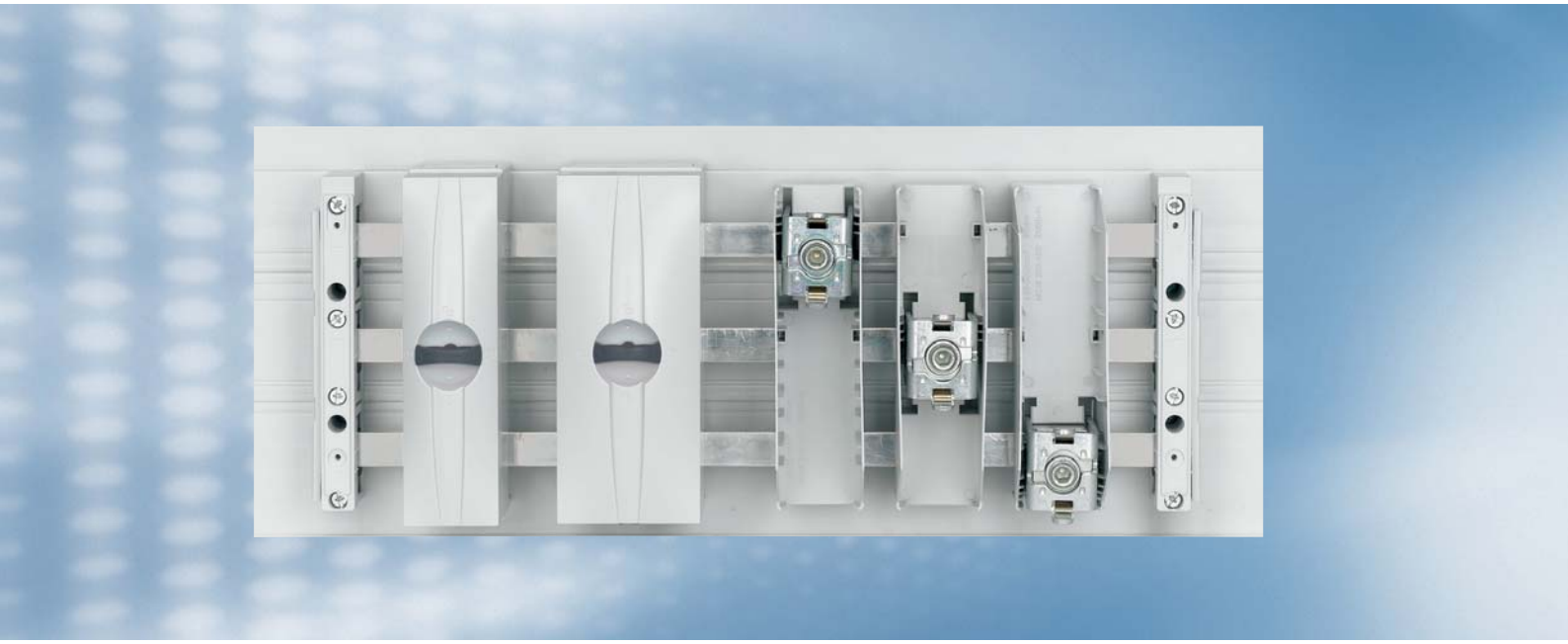
Customer-focused and Innovative SASY 60i - now a UL-certified Component

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.

The Busbar System for the Global Market



Short installation time thanks to pre-assembly

EEaton 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.

SASY 60i Busbar System

Table of Contents Ordering Data
SASY 60i Busbar System

SASY 60i Busbar System

- Components now also conforming to UL-standards for control systems
- 60 mm spacing between busbars
- 630, 1250 and 1600 A rated current
- Adapter technology for NZM1 to 3
- Adapter technology for xStart
- Slide fuse equipment
- Connection technique

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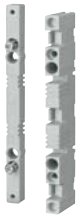
Systems up to 630 A for Flat Busbars

Poles Number	Max. Rated Operational Current Ie (A)	Special Features	Utilisation	Designation	Notes Article No.	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						
IEC Busbar Support						
 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 units
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 units
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 units
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 units
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 units
Compact Busbar Support						
VT35310, VT35410  3	360	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 units

xBoard

Poles Number	Max. Rated Operational Current Ie (A)	Special Features	Utilisation	**Designation**	Notes Article No.	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 units
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 units
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 units
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 units

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

Systems up to 1250, 1600 A for Profile Bars

Poles Number	Max. Rated Operational Current Ie (A)	Special Features	Utilisation	**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 units
VT18606 						
1	1600	Suitable for setting up a PE or N bar	Double-T-Profile	**BBS-1/PR** 107165	With pre-drilled holes inside for scew-fixing	10 units
End Cover						
wa_vt10313						
–	–	–	For the BBS-3/PR support	**ES-BBS-3/PR** 107164		4 units
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 units
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 unit
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 unit

xBoard

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Poles Number	Max. Rated Operational Current Ie (A)	Special Features	Utilisation	**Designation** Article No.	Notes	Units per Package
Busbar Cover						
• Silicone-free, chlorine-free • Self-extinguishing according to UL 94 • Temperature-resistant up to 110°C						
–	–	–	For Double-T-profile	**BBC-CU-BAR/PR** 107175	1000 mm long	5 units

[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	**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	1100 mm long. To be used with BBC-MRCOV1 support only	2 units
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 units
Cover complete			
 wa_vt09613 For 3-pole systems	**BBC-CS1** 107209	228 mm long	1 unit
 01063500_0 For 3-pole systems	**BBC-CS3** 138377	270 mm long	1 unit
 01063507_0 For 4-pole systems	**BBC-CS4** 138387	228 mm long	1 unit
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 unit
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 unit
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 units

Utilisation	**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

Cover Profile - Front

Utilisation	Designation Article No.	Notes	Units per Package
For 3-pole systems	**BBC-CS2-F** 107180	1100 mm long	1 unit

Cover Profile -Top/Bottom

Utilisation	Designation Article No.	Notes	Units per Package
For 3-pole systems	**BBC-CS2-T/B** 107181	1100 mm long	2 units

Support Set for Cover Profile

Utilisation	Designation Article No.	Notes	Units per Package
For 3-pole systems	**BBC-MCS2** 107182	1 set includes a right and left side support	1 unit

Cover Profile - Front

Utilisation	Designation Article No.	Notes	Units per Package
For 4-pole systems	**BBC-CS4-F** 138834	1100 mm long	1 unit

Cover Profile -Top/Bottom

Utilisation	Designation Article No.	Notes	Units per Package
For 4-pole systems	**BBC-CS4-T/B** 138383	1100 mm long	2 units

Support Set for Cover Profile

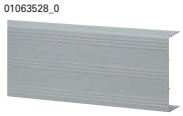
Utilisation	Designation Article No.	Notes	Units per Package
For 4-pole systems	**BBC-MCS4** 138382	1 set includes a right and left side support	1 unit

Utilisation	**Designation** Article No.	Notes	Units per Package

System Cover - Compact

Empty-section Cover, Modular

- To cover the front of the Compact System
- For use with BBC-MRCOV3-C only



Utilisation	Designation Article No.	Notes	Units per Package
	BBC-RCOV3-C 138371	1100 mm long	2 units

Support for Empty-section Cover

- Suitable for 5 and 10 mm bar thickness
- For use with BBC-RCOV3-C only

Utilisation	Designation Article No.	Notes	Units per Package
	BBC-MRCOV3-C 138372	12 x 5/10	10 units

Feeder Circuit Adapters for 630, 1250 and 1600 A Systems

Poles Number	Max. Rated Operational Current Ie (A)	Type of Conductor [1]	Utilisation	Designation Article No.	Notes	Units per Package
Connecting Terminal Plates						
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** 107183	20 mm wide. With spring-type terminal technology.	1 unit
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 wide. Terminals can be removed for connecting non-cut conductors. Looping them through is possible. Termination space 10 x 15 mm.	1 unit
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 wide. Terminals can be removed for connecting non-cut conductors Looping them through is possible. Termination space 15 x 15 mm.	1 unit
Connecting Terminal Plates Compact						
3	480	35 - 120 mm² AWG 2 - MCM 300. 10x20x1	12x5/10 15x5/10 20x5/10	**BBA-TP3/100-C** 138373	90 mm wide. Terminals can be removed for connecting non-cut conductors Contacting is provided for through the cable bed. Compact System.	1 unit

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[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

xBoard

Feeder Circuit Adapters for 630, 1250 and 1600 A Systems

Poles	Max. Rated Operational Current Ie (A)	Type of Conductor [1]	Utilisation	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

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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 wide. 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 unit

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 wide. 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 unit

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wa_vt09613

3	1600	Up to ▤ (2x)10x50x1 Up to ■ (2x)50x10	30x10 Double-T-Profile	**BBA-TP3/1000** 107207	228 mm wide. 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 unit

[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	Max. Rated Operational Current Ie (A)	Type of Conductor [1]	Utilisation	**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						
4	560	120 - 300 mm² MCM300 - MCM600.	20x5/10 25x5/10 30x5/10 Double-T-Profile	**BBA-TP4/300** 138385	180 - 228 mm wide. 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 unit
4	800	Up to 10x32x1 30x25	20x5/10 25x5/10 30x5/10 Double-T-Profile	**BBA-TP4/CU-BAND** 138386	180 - 228 mm wide. 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 unit

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[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

xBoard

Terminals for 630, 1250 and 1600 A Systems

Max. Rated Operational Current Ie (A)	Type of [1] Conductor	Special Features	Utilisation	**Designation** Article No.	Notes	Units per Package
Brace Terminals						
• Connection method to busbars without drilling						
VT35910  480	35 - 150mm², 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 units
VT13306  500	95 - 185mm², 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 units
VT13406  600	150 - 300mm², MCM300 - MCM600. directly 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 units
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 units
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 unit
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 units
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 units

[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

xBoard

Terminals for 630, 1250 and 1600 A Systems

Max. Rated Operational Current Ie (A)	Type of [1] Conductor	Special Features	Utilisation	**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 between						
1600	750 mm², Termination space 51 x 5-28 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	**AKP750** 138364	Width 82 mm	3 units
1600	800 mm², Termination space 41 x 20-42 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	**AKP800** 107198	Width 72 mm	3 units
1600	900 mm², Termination space 64 x 5-28 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	**AKP900** 138365	Width 94 mm	3 units
1600	1000 mm², Termination space 51 x 20-42 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	**AKP1000** 107199	Width 94 mm	3 units
2000	1200 mm², Termination space 64 x 20-42 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	**AKP1200** 138366	Width 94 mm	3 units
2500	1600 mm², Termination space 81 x 20-42 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	**AKP1600** 138367	Width 112 mm	3 units
3000	2000 mm², Termination space 101 x 20-42 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	**AKP2000** 138368	Width 132 mm	3 units
3200	3600 mm², Termination space 101 x 23-45 ■ ▤	Connection method to busbars without drilling	Double-T-Profile	**AKP3600** 138369	Width 132 mm	3 units

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01063430_0

[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.

xBoard

Terminals for 630, 1250 and 1600 A Systems

	Max. Rated Operational Current Ie (A)	Type of Conductor [1]	Special Features	Utilisation	**Designation** Article No.	Units per Package
	Universal Conductor Terminal 5 mm					
VT18406 	180	1.5 - 16mm^2, AWG 14 - AWG 6. ⊛ directly 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 units
VT18306 	270	4 - 35mm^2, AWG 10 - AWG 2. ⊛ directly 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 units
VT18206 	400	16 - 70mm^2, AWG 4 - AWG 2/0. ⊛ directly 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 units
VT18106 	440	16 - 120mm^2, AWG 4 - MCM 250. ⊛ directly 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 units

[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

xBoard

Terminals for 630, 1250 and 1600 A Systems

	Max. Rated Operational Current Ie (A)	Type of Conductor [1]	Special Features	Utilisation	Designation Article No.	Units per Package
		Universal Connection Terminal 10 mm				
VT13806 	180	1.5 - 16mm², AWG 14 - AWG 6. ⊛ directly 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 units
VT13706 	270	4 - 35mm², AWG 10 - AWG 2. ⊛ directly 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 units
VT13606 	400	16 - 70mm², AWG 4 - AWG 2/0. ⊛ directly 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 units
VT13506 	440	16 - 120mm², AWG 4 - MCM 250. ⊛ directly 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 units
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 units
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 units

[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

xBoard

Terminals for 630, 1250 and 1600 A Systems

Max. Rated Operational Current Ie (A)	Type of Conductor [1]	Special Features	Utilisation	**Designation** Article No.	Units per Package
Plattenklemmen					
630	–	Width 50 mm	All flat busbars of a thickness of 10 mm	**PK900** 138378	3 units
Anschlussklemmen					
630	95 - 300mm^2	Width 48 mm. Kontaktierung der Leitung mit der Sammelschiene erfolgt über Kabelbett.	30 x 10mm Double-T-profile Triple-T-profile	**AK300** 138336	3 units

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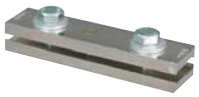
01063388_0

[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

xBoard

Lengthwise Bar Connections for 630, 1250 and 1600 A Systems

Max. Rated Operational Current Ie (A)	Width (mm)	Special Features	Utilisation	**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 units
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 units
01063549_0  630	40	For identically shaped, flat copper bars	12 x 5/10 15 x 5/10 20 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 units
wa_vt12113  630	95	For identically shaped, flat copper bars	12 x 5/10 15 x 5/10 20 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 units
wa_vt12013  630	150	For identically shaped, flat copper bars	12 x 5/10 15 x 5/10 20 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 units
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 units
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 units

NZM Busbar Adapter, 3-pole [1]

Max. Rated Oper. Current Ie (A)	Rated Operational Voltage Ue (V)	Adapter Width (mm)	Adapter Length (mm)	Special Features	Utili-sation	**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								
160	690	92	200	For connecting to the system **at the top** or **bottom** through fixed connection bars included in the scope of delivery[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 unit
250	690	106	190	For connecting to the system **at the top/bottom** through a tube-type of connection at the rear. Tube included in the scope of delivery.	NZM2 PN2 N2 NS2	**NZM2-XAD250** 104555	Use only in combinatiion with auxiliary type (+)NZM2-XKR4. To be screwed onto the busbar by means of a claw-type of clamp.	1 unit
630	690	140	300	For connecting to the system **at the top/bottom** through a tube-type of connection at the rear. Tube included in the scope of delivery.	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 unit
Terminal for device adadpter NZM								
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-XKR4O or +NZM2-XKR4U	1 unit
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-XKR13O or +NZM3-XKR13U	1 unit

1230PIC-668 AO

wa_vt12213

wa_vt22513, wa_vt12213

wa_vt12713

wa_vt12613

[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.

xBoard

NZM Busbar Adapter, 4-pole [1)]

Max. Rated Oper. Current Ie (A)	Rated Operational Voltage Ue (V)	Adapter Width (mm)	Adapter Length (mm)	Special Features	Utili-sation	**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								
250	690	140	–	For connecting to the system **at the top** through a tube-type of connection at the rear. Tube included in the scope of delivery.	NZM2(-4) PN2(-4) N2(-4) NS2(-4)	**NZM2-4-XAD250** 138388	Use only in combinatiion with auxiliary type (+)NZM2-4-XKR4. To be screwed onto the busbar by means of a claw-type of clamp.	1 unit
630	690	185	–	For connecting to the system **at the top** through a tube-type of connection at the rear. Tube included in the scope of delivery.	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 unit
Terminal for Device Adadpter NZM								
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-XKR4O	1 unit
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-XKR13O	1 unit

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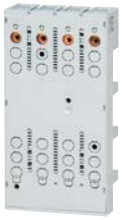

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NZM2-4-XKR4

NZM2-4-XKR4

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.

xStart Busbar Adaptor, 3-pole [1)]

Max. Rated Operational Current Ie (A)	Rated Operational Voltage Ue (V)	Wire Cross Section	Adapter Width (mm)	Adapter Length (mm)	Support Rails	Utilisation	Designation Article No.	Notes	Units per Package
xStart Busbar Adaptor 25 A									
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 units
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 units
xStart Busbar Adaptor 25 A, Universal Type									
25	690	AWG12	45	200	2	Support rail adjustable on the 1.25 mm grid	**BBA0-25/2TS** 101481		4 units
xStart Busbar Adaptor 32 A									
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 units
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 units
xStart Busbar Adaptor 32 A, for Spring-type Terminal									
32	690	–	45	200	2	Support rail adjustable on the 1.25 mm grid	**BBA0-32/2TS-C** 116708	With spring-type terminal technology, up to 1.5-6 mm^2. For example for 1-phase applikations.	4 units

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wa_vt10513

wa_vt10713

wa_vt10813

wa_vt10613

wa_vt30913

[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 Ie (A)	Rated Operational Voltage Ue (V)	Wire Cross Section	Adapter Width (mm)	Adapter Length (mm)	Support Rails	Utilisation	Designation Article No.	Notes	Units per Package
xStart Busbar Adaptor 63 A									
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 units
63	690	AWG8	72	200	1	PKZ2	**BBA2-63** 101458		4 units
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		4 units
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 units
63	690	AWG8	55	200	1	PKZM4	**BBA4-63** 101457		4 units
xStart Busbar Adaptor 80 A									
80	690	–	72	200	2	universal	**BBA2-80/2TS-S** 116901	with screw-type terminal technology up to AWG6, for example for 1-phase applications (not UL/CSA compatible without an additional component)	4 units

wa_vt11213

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wa_vt11313

00581461_0

[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 Ie (A)	Rated Operational Voltage Ue (V)	Wire Cross Section	Adapter Width (mm)	Adapter Length (mm)	Support Rails	Utilisation	Designation Article No.	Notes	Units per Package
xStart Busbar Adaptor, Universal Type									
–	–	–	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 units
–	–	–	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 units
Side Module									
–	–	–	9	200	–		**BBA-XSM** 101484	Can be placed on both sides of BBA, to increase the add-on width	10 units

wa_vt11013

wa_vt11413

wa_vt11513

Accessories

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

wa_vt30813

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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
45 / 2,5 / 6mm^2	Z-SS-60-ADD/6-45	288790	1 / 10 units
54 / 3 / 6mm^2	Z-SS-60-ADD/6-54	288791	1 / 10 units
72 / 4 / 6mm^2	Z-SS-60-ADD/6-72	288792	1 / 10 units
81 / 4,5 / 6mm^2	Z-SS-60-ADD/6-81	288793	1 / 10 units

wa_sg09804

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

*) 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

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

*) 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 Ie (A)	Rated Voltage Ue (V AC)	Component Size	Width	Utilisation	**Designation** Article No.	Notes	Units per Package
D-Type Slide Fuse-Base							
• Incl. shock hazard protection cover with front and bottom plate and marking label • Delivered empty, without screw caps							
SG82411 							
63	400	E18, D02	27	12 x 5/10 20 x 5/10 25 x 5/10	**D02-SO/63/3-R-27** 114315	Cartridge-ring adapter insert	10 units
			36	30 x 5/10 Double-T	**Z-D02/R/3-36** 100663	Cartridge-ring adapter insert	60 units
			54		**Z-D02/R/3-54** 100664	Cartridge-ring adapter insert	40 units
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** 107965	Gauge ring	10 units
					DII-SO/25/3-R-PS 110394	Screw-in gauge ring	10 units
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** 107966	Gauge ring	10 units
					DIII-SO/63/3-R-PS 110395	Screw-in gauge ring	10 units
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							
SG62812 							
63	400	E18, D02	36	12 x 5/10	**FCFBD02BBC60-3-36** 139532	Cartridge-ring adapter insert, snap-on mechanism when sliding it onto the busbar.	6 units
Covers							
SG60412 							
Set for covering busbar support			36	D02	**Z-D02-S-AB-SET** 100662	Suitable for D02-SO/63/3-R-27	10 units
wa_sg01713 							
Side cover			–	DII	**SBS-RS60** 060541	Suitable for DII.-SO/.../3-R(-PS)	10 units

xBoard

Slide Fuse Equipment, 3-pole

Screw Caps

wa_sg04013

Max. Rated Operational Current Ie (A)	Rated Voltage Ue (V AC)	Component Size	Width	Utilisation	**Designation** Article No.	Notes	Units per Package
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

Accessories: For fuse-links, cartridge-ring adapter inserts, gauge rings and screw-in gauge rings see chapter Accessories Fuse Devices

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 units

Screw Cap

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

Accessories: For fuse-links, cartridge-ring adapter inserts see chapter Accessories Fuse Devices

Slide Fuse Equipment, 3-pole

Rated Operational Current Ie (A)	Rated Voltage Ue (V AC)	Size	Width	Utilisation	**Designation** Article No.	Notes	Units per Package

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

SG82311

max. 63 max. 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

SG82211

max. 63 max. 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)

See chapter Accessories Fuse Devices

Adapter Spring

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

SG81811

16 32	–	D02-D01 C 10x38	–	–	**Z-D02-LTS-HF** 114323	–	12 / 288

Accessories: For fuse-links, cartridge-ring adapter inserts see chapter Accessories Fuse Devices

Slide Fuse Equipment, 3-pole

Rated Operational Current Ie (A)	Max. Fuse-link 500V (A)	690V (A)	Size	Utilisation	Designation Article No.	Notes	Units per Package
NH-Fuse-Switch-Disconnector							
• Incl. shock hazard protection at the top and bottom (except with GST00-160-40-60-AOU, GST00-160-40-60-AOU-F) • Drill-free mounting							
SG45812  100	100	–	000	20 x 5/10 30 x 5/10 Double-T	**LTS-100/C00/3-R** 284690	Width 63 mm. Connection at the bottom. Lift terminal 1.5-50mm^2	1
SG45712  160	160	100	00	20 x 5/10 25 x 5/10 30 x 5/10 Double-T	**GST00-160-40-60-AOU** 224550	Connection at the top or bottom. Lift Terminal 1.5-50mm^2 No shock hazard	1
For ordering information on shock hazard protection BS-SET-GST00 see “Accessories” protection.							
SG45612  160	160	100	00	20 x 5/10 25 x 5/10 30 x 5/10 Double-T	**GST00-160-40-60-AOU-F** 149418	Connection at the top or bottom. Screw M8.	1
For ordering information on shock hazard protection BS-SET-GST00 see “Accessories” protection.							
SG46512  250	250	200	1	20 x 5/10 25 x 5/10 30 x 5/10 Double-T	**GST1-AO** 107250	Connection at the top. Screw M10.	1
					GST1-AU 107251	Connection at the bottom. Screw M10.	1
SG46412  400	400	315	2	20 x 5/10 25 x 5/10 30 x 5/10 Double-T	**GST2-AO** 107252	Connection at the top. Screw M10.	1
					GST2-AU 107253	Connection at the bottom. Screw M10.	1
SG46212  630	630	500	3	20 x 5/10 25 x 5/10 30 x 5/10 Double-T	**GST3-AO** 107254	Connection at the top. Screw M10.	1
					GST3-AU 107255	Connection at the bottom. Screw M10.	1

Accessories for NH-Fuse-Switch-Disconnector

Shock Hazard Protection Set GST00

wa_sg02912  –	–	–	–	GST00...	**BS-SET-GST00** 107955	1 set includes shock hazard protection at the top and bottom.	1

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

xBoard

Slide Fuse Equipment, 3-pole

Max. Rated Operational Current Ie (A)	Max. Fuse-link 500V (A)	690V (A)	Component Size	Utilisation	**Designation** Article No.	Notes	Units per Package
NH-Fuse-Switch-Disconnector							
• Incl. shock hazard protection at the top and bottom • Drill-free mounting • For mounting onto busbars with distance between busbars 60 mm							
100	100	100	NH00(0) (width max. 21 mm)	12 x 5/10	**FCFSDNHOOOBBC60-3** 139533	–	1

01063563_0

Slide Fuse Equipment, 3-pole

Switch cover with Fuse Monitoring for NH-Fuse-Switch-Disconnector

- Operating indication 1 green LED
  Error indication 3 red LEDs (F1, F2, F3)
- Error indication via relay contacts (potential-free)
  1 NO + 1 NC contact
  AC15: 24 V / 4 A, 230 V / 3 A
  AC13: 24 V / 1 A, 220 V / 0.5 A
  Terminal capacity: 0.25 - 1.5 mm²
- Not for single-phase use

wa_sg01312

Rated Operational Voltage	Component Size	Utilisation	**Designation** Article No.	Notes	Units per Package
400-690 V / 50-60 Hz	00	GST00...-A...	**GST00-DSI** 107956		1 unit
	1	GST1.-A..	**GST1-DSI** 107957		1 unit
	2	GST2-A...	**GST2-DSI** 107958		1 unit
	3	GST3-A...	**GST3-DSI** 107959		1 unit

Terminal Capacity	Utilisation	**Designation** Article No.	Notes	Units per Package
Sets of Prism Terminals				
70-150 mm² Cu/Al	GST1...	**PSK1** 038734	One set includes 3 prism terminals	1 unit
120-240 mm² Cu/Al	GST2...	**PSK2** 043480	One set includes 3 prism terminals	1 unit
120-300 mm² Cu/Al	GST3...	**PSK3** 048226	One set includes 3 prism terminals	1 unit
Sets of Double-Prism Terminals				
2x(70-95) mm² Cu/Al	GST1...	**PSK12** 041107	One set includes 3 double-prism terminals	1 unit
2x(120-150) mm² Cu/Al	GST2...	**PSK22** 045853	One set includes 3 double-prism terminals	1 unit
2x(120-240) mm² Cu/Al	GST3...	**PSK32** 050599	One set includes 3 double-prism terminals	1 unit
Clamp-Type Terminals				
25-150 mm² Cu-Band 6 x 16 x 0.8 mm	GST1...	**SK1-GS** 107960	You need 3 units per GST...	3 units
25-240 mm² Cu-Band 10 x 16 x 0.8 mm	GST2...	**SK2-GS** 107961	You need 3 units per GST...	3 units
25-300 mm² Cu-Band 11 x 21 x 1 mm	GST3...	**SK3-GS** 107962	You need 3 units per GST...	3 units

wa_vt00406

wa_vt00506

wa_vt00306

Slide Fuse Equipment, 3-pole

Max. Rated Operational Current Ie (A)	Max. Fuse-link 400V (A)	690V (A)	Component Size	Utilisation	Designation Article No.	Notes	Units per Package
NH-Vertical Fuse-Switch-Disconnector							
• Incl. cover for termination space • Drill-free mounting • Clamp-type terminals included in the delivery • 60 mm distance between busbars when mounted onto busbars							
Without fuse monitoring							
160	160	160	00	12 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10 Double-T	**NH-SLS-00/160-60** 106211	Connection at the top or bottom	1 / 182
With fuse monitoring							
160	160	–	00	12 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10 Double-T	**NH-SLS-00/160-60-SI** 106216	Connection at the top or bottom	1 / 112
Teminal Cover/Size Compensation for GST...							
For NH-SLS-00/160-60					**Z-NH-SLS-KA** 106223		2 units

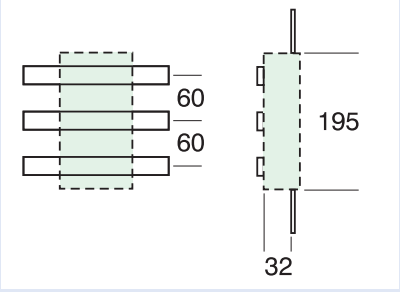
SG46912

wa_sg01712

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

Coordination Table

- Combinations possible without bending the copper busbar



	Device	GST-00-160-40-60-AOU	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)
	Accessory	BS-SET-GST00					SBS-RS60	SBS-RS60
Cu	12x5/10				X	X	X	X
	20x5/10	X	X	X	X	X	X	X
	25x5/10	X			X	X	X	X
	30x5/10	X	X	X	X	X	X	X
	Double-T	X	X	X	X	X	X	X

wa_vt04807

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

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

wa_vt22613

wa_vt34013

	Used for	**Designation** Article No.	Notes	Units per Package
Line supports (Short-circuit strength diagrams see Technical Datas)				
Profile ledge	Clamp clips	**BZ248** 076516		10 units
Clamp clips	3 x 9 x 0.8 6 x 9 x 0.8	**BZ249** 078889		10 units
	4 x 16 x 0.8 6 x 16 x 0.8 10 x 16 x 0.8	**BZ251** 081262		10 units
	11 x 21 x 1	**BZ252** 083635		10 units

Note

Note

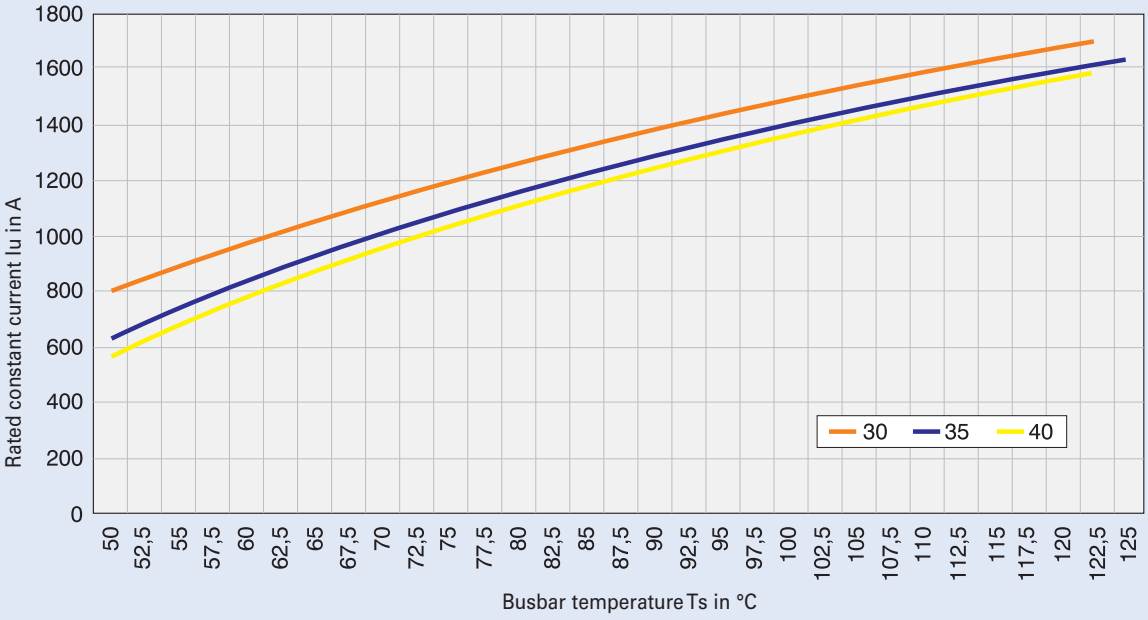
Table of Contents Technical Data
SASY 60i Busbar System

Technical Data on the 60 mm System

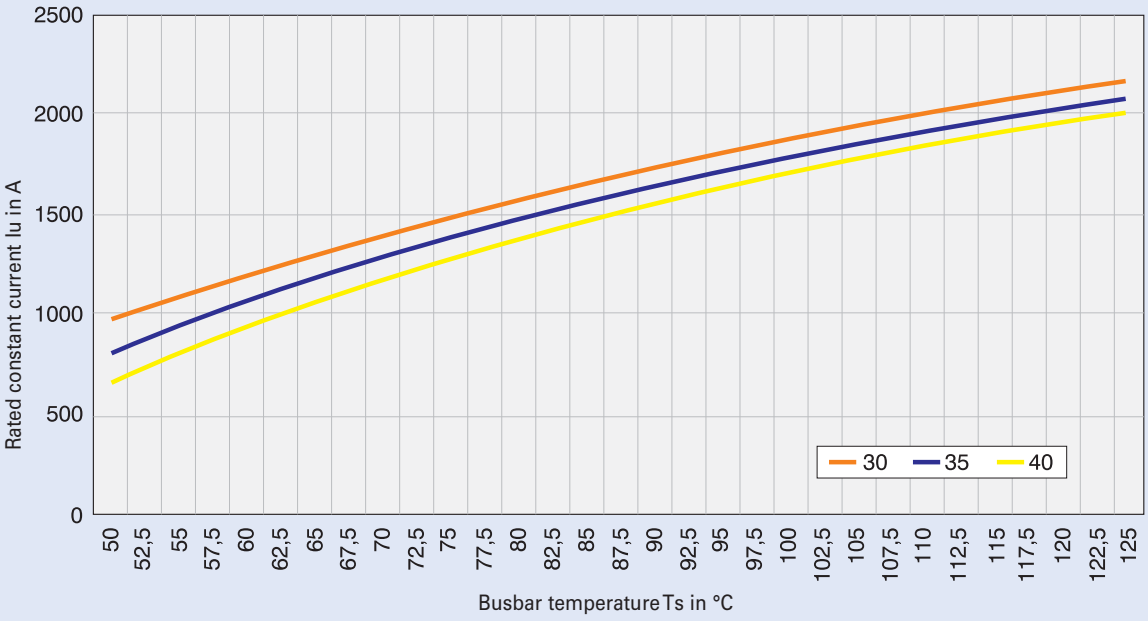
Current Load Busbars, according to DIN EN 13601

For busbar applications that have **not** been type-tested, UL508A allows an ampacity of 1000A/inch2 (1.55A/mm²) if no tests have been carried out. This value may be higher if the product or the application has been tested accordingly. Moeller 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



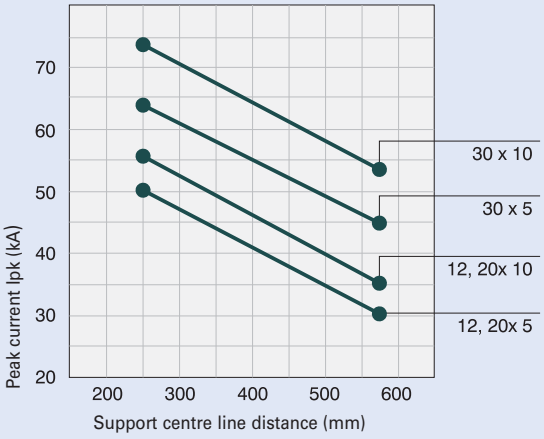
Current load CU-BAR-720/T



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

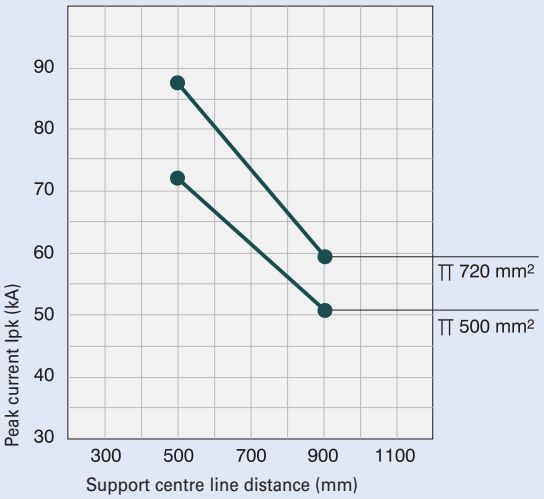
BBS-3/FL

107066 • Values measured during type-testing



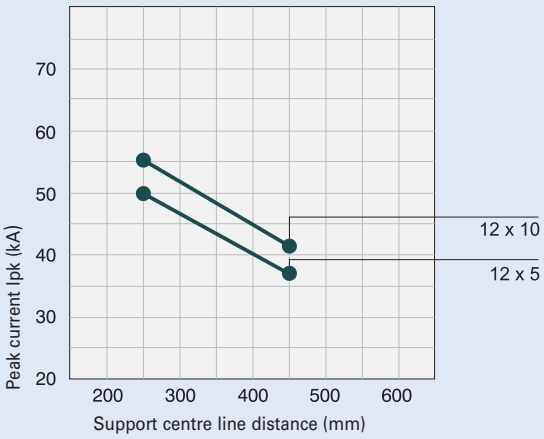
BBS-3/PR

107162 • Values measured during type-testing



BBS-3/FL-C

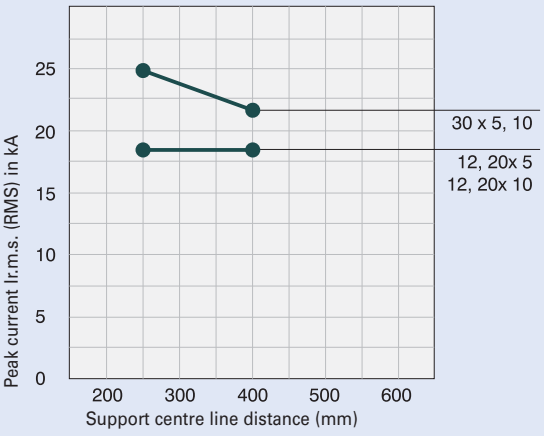
138370 • Values measured during type-testing



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

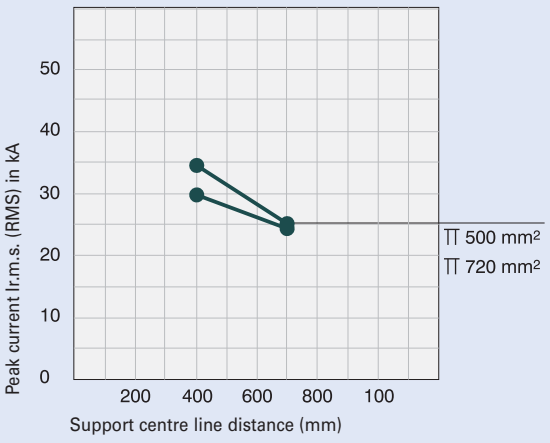
BBS-3/FL-NA

107067 • Values measured during type-testing



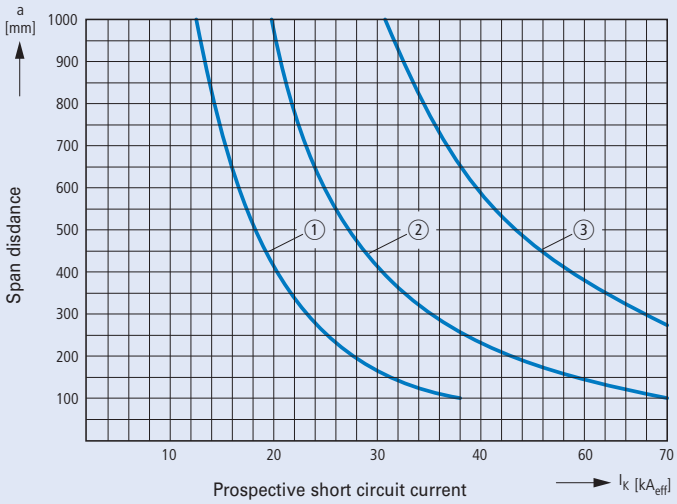
BBS-3/PR

107162 • Values measured during type-testing



Technical Data on Line Supports BZ

Short-circuit strength diagrams for Line Supports BZ



① BZ249
② BZ251
③ BZ252

Technical Data on Busbar Supports

			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			Thermoplast, silicone-free, chlorine-free		
Halogen-free			yes	yes	yes
Flammability			self-extinguishing according to UL 94		
Colour			RAL 7035	RAL 7035	RAL 7035
Comparative tracking index			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	-	-
with 500 mm²	I_u	A	-	1003	-
with 720 mm²	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 mm²	I_{pk}	kA	-	72	-
with 720 mm²	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	320	-	-
with busbar 30 x 5 mm	I_u	A	450	-	-
with busbar 12 x 10 mm	I_u	A	360	-	-
with busbar 20 x 10 mm	I_u	A	520	-	-
with busbar 30 x 10 mm	I_u	A	630	-	-
with 500 mm²	I_u	A	-	950	-
with 720 mm²	I_u	A	-	1200	-
1140 mm²	I_u	A	-	-	2500

Technical Data on the 60 mm System

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
Comparative tracking index 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

Technical Data on the 60 mm System

Universal conductor terminal

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.

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

[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

Technical Data on the 60 mm System

Connecting terminal plates

Incl. cover cap

16, 50, 120 mm²
3-pole, 690 V~
Centre line distance of bars 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
Comparative tracking index 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 TP3/CUBAND ▤ ■	800 A	32 x 25	20x5 - 30x10 TT	BBA-
, (2x) 50 x 10	1600 A	55 x 28	20x5 - 30x10 TT	AKS1000

** It might be necessary to reduce maximum conductor cross-sections.
*** Connections to aluminium conductors are not maintenance-free.

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

Technical Data on the 60 mm System

Busbar connecting terminal

For lenghtwise connection of identically shaped busbars without drilling

Current carrying capacity of contact point	Overall length mm	Permissible misalignment 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

Profile terminals for double-T-bars

Current carrying capacity of contact point	Profile	Terminal space W x H (without spacers)	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.

xStart busbar adapter

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.
Copper conductors are ultrasound welded.

Base body:
Silicone-free, chlorine-free
Temperature resistant up to 120°C
Self-extinguishing according to UL 94
Comparative tracking index 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

Technical Data on the 60 mm System

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:
Thermoplast
Temperature resistant up to 120°C
Self-extinguishing according to UL 94
Comparative tracking index 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:
Thermoplast
Temperature resistant up to 120°C,
Self-extinguishing according to UL 94,
Comparative tracking index CTI 200,
Halogen-free

NZM3-XAD630

Base body:
Thermoplast
Temperature resistant up to 120°C,
Self-extinguishing according to UL 94,
Comparative tracking index 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.
Der Schalter darf also bei 50°C, the device can therefore be operated at a maximum of I_e = 544 A.

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

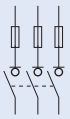
Technical Data

	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
Conv. 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 $kA_{r.m.s.}$	50 $kA_{r.m.s.}$	50 $kA_{r.m.s.}$
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	-25 to +55°C	-25 to +55°C *)	-25 to +55°C *)
*) (35°C normal temperature, at 55°C with reduced operating current)			
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
- Supplied 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



Technical Data

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

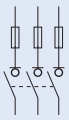
Mechanical	
Device height	212 mm
Width	36 mm
Weight	260 g
Mounting onto busbars, without drilling or screwing	20x5/10 mm 30x5/10 mm
Degree of protection while operating	IP30
Terminals	Lift terminals
Terminal capacity	1.5-25 mm^2 Cu
Tightening torque of terminal screws	max. 2.6 Nm
Electrical thread type	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

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

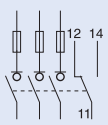
- Design according to IEC/EN 60947-3
- Vertical and horizontal mounting possible
- Supplied empty
- Current coding by means of cartridge-ring adapter insert
- Suitable for fuse-links
  D01: 2, 4, 6, 10, 16 A in combination with cartridge-ring adapter inserts Z-D02-D01/PE-.. and adapter spring Z-D02-LTS-HF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

Connection diagram

D02-LTS/63/3-R



D02-LTS/63/3-R-HK



Technical Data

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 $kA_{r.m.s.}$
Utilization category	AC 22 B
Overvoltage category	IV
Rated impulse withstand voltage U_{imp}	6 kV
Power loss per current path	1.5 W with I_e
Power loss per current path with fuse-link	7 W with 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

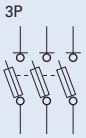
Auxiliary switch electrical	
1 CO	5 A / 250 V AC
Max. thermal back-up fuse	2 A gL PLSM-B4/..-HS / CLS6-B4/...-HS

Connection	
Femal push-on connector	2.8 x 0.5 mm

NH-Fuse-Switch-Disconnector LTS-100/C00/3-R, GST00-160-40-60-AOU..

- Mounting height max. 2000 m
- Break-proof, flexible connection chamber
- Fully insulated, shock hazard protected in acc. with IEC/EN 60947 or BGV A3
- The base body is made of glass fibre reinforced, high-temperature resistant, self-extinguishing and halogen-free plastic
- The contact system consists of separately spring-loaded silver-plated copper contacts
- The switch cover is made of glass fibre reinforced, self-extinguishing, silicone and chlorine-free thermoplast
- The switch cover features large viewing windows allowing to read the labelling and to see the flat indicator of the NH-fuse-links
- The viewing windows provide test holes
- Vertical and horizontal mounting position is possible
- Delivery without NH-fuse-links

Connection diagram



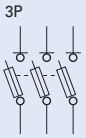
			LTS-100/C00/3-R	GST00-...-AOU	GST00-...-AOU-F
Electrical					
Technical data according to			IEC/EN 60947-3		
Rated operational voltage	Ue	V AC	500	500 / 690	500 / 690
Rated operational voltage	Ue	V DC	220	220 / 440	220 / 440
Rated operational current	Ie	A	100	160 / 100	160 / 100
Rated frequency		Hz	40 - 60	40 - 60	40 - 60
Rated conditional short-circuit current AC		kAr.m.s.	50	50	50
Rated conditional short-circuit current DC		kAr.m.s.	25	25	25
Utilization category AC 22 B					
Rated making capacity		A	300	480 / 300	480 / 300
Rated breaking capacity		A	300	480 / 300	480 / 300
Utilization category DC 21 B					
Rated making capacity		A	400	150	150
Rated breaking capacity		A	400	150	150
Service life electrical - operating cycles			300	300	300
Service life mechanical - operating cycles			1700	1700	1700
Power loss with Ith AC, without NH-SE		W	11.5	6.9 / 2.7	6.9 / 2.7
Power loss with Ith DC, without NH-SE		W	7.7	4.6 / 1.8	4.6 / 1.8
Rated insulation voltage	Ui	V AC	500	750	750
Overvoltage category			III	III	III
Rated impulse withstand voltage	U_{imp}	kV	8	8	8
Max. Fuse-link					
Size			NH000	NH00	NH00
Max. rated current gL/gG		A	100	160	160
Max. permissible power loss of NH-SE	Pv	W	7.5	12	12
Mechanical					
Busbar mounting		mm	20x5/10 30x5/10	20x5/10 25x5/10 30x5/10	20x5/10 25x5/10 30x5/10
Tightening torque		Nm	–	4	4
Ambient temperature range		°C	-25 to +55	-25 to +55	-25 to +55
Degree of protection (open front cover)			IP20 (IP10)	IP20 (IP10)	IP20 (IP10)
Pollution degree			3	3	3
Weight		kg	0.57	0.93	0.93
Climatic resistance: moist heat			constant according to IEC 60068-2-78, cyclical according to IEC 60068-2-30		
Cross sections of connections					
Flat connection (F)					F[1)]
Screw					M8
Cable lug		mm^2			1 x 10-95
Flat busbar		mm			20 x 10
Tightening torque		Nm			12 - 15
Clamp-type terminal (S) / Lift terminal (K)			K[1)]	K[1)]	S
Stranded Cu		mm^2	1.5 - 50	1,5 - 70	10 - 95
Cu-Band, No. of layers	x width x thickness	mm	6 x 9 x 0.8	6 x 9 x 0.8	6 x 9 x 0.8
Tightening torque		Nm	2.6	2.6	2.6
Prism terminal					
Stranded Al/Cu		mm^2			10 - 70
Tightening torque		Nm			2.6
Double-prism terminal					
Stranded Al/Cu		mm^2			
Tightening torque		Nm			

[1)] Standard-connection in the delivery condition

NH-Fuse-Switch-Disconnector GST...

- Mounting height max. 2000 m
- Break-proof, flexible connection chamber
- Fully insulated, shock hazard protected in acc. with IEC/EN 60947 or BGV A3
- The base body is made of glass fibre reinforced, high-temperature resistant, self-extinguishing and halogen-free plastic
- The contact system consists of separately spring-loaded silver-plated copper contacts
- The switch cover is made of glass fibre reinforced, self-extinguishing, silicone and chlorine-free thermoplast
- The switch cover features large viewing windows allowing to read the labelling and to see the flat indicator of the NH-fuse-links
- The viewing windows provide test holes
- Vertical and horizontal mounting position is possible
- Delivery without NH-fuse-links

Connection diagram



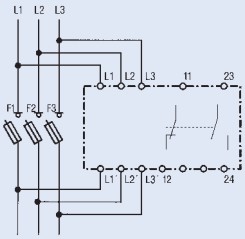
			GST1..	GST2..	GST3..
Electrical					
Technical data according to			IEC/EN 60947-3		
Rated operational voltage	Ue	V AC	500 / 690	500 / 690	500 / 690
Rated operational voltage	Ue	V DC	220 / 440	220 / 440	220 / 440
Rated operational current	Ie	A	250 / 200	400 / 315	630 / 500
Rated frequency		Hz	40 - 60	40 - 60	40 - 60
Rated conditional short-circuit current AC		kAr.m.s.	50	50	50
Rated conditional short-circuit current DC		kAr.m.s.	25	25	25
Utilization category AC 22 B					
Rated making capacity		A	750 / 600	1200 / 945	1890 / 1500
Rated breaking capacity		A	750 / 600	1200 / 945	1890 / 1500
Utilization category DC 21 B					
Rated making capacity		A	300	475	750
Rated breaking capacity		A	300	475	750
Service life electrical - operating cycles			200	200	200
Service life mechanical - operating cycles			1400	800	800
Power loss with Ith AC, without NH-SE		W	12.9 / 8.3	27 / 16.7	52 / 32.8
Power loss with Ith DC, without NH-SE		W	8.6 / 5.5	18 / 11.2	34.7 / 21.8
Rated insulation voltage	Ui	V AC	750	750	750
Overvoltage category			III	III	III
Rated impulse withstand voltage	U_{imp}	kV	8	8	8
Max. Fuse-link					
Size			NH1	NH2	NH3
Max. rated current gL/gG		A	250	400	630
Max. permissible power loss of NH-SE	Pv	W	23	34	48
Mechanical					
Busbar mounting		mm	20x5/10 30x5/10	20x5/10 30x5/10	20x5/10 30x5/10
Tightening torque		Nm	6	6	6
Ambient temperature range		°C	-25 to +55	-25 to +55	-25 to +55
Degree of protection (open front cover)			IP20 (IP10)	IP20 (IP10)	IP20 (IP10)
Pollution degree			3	3	3
Weight		kg	4.4	5.3	6.6
Climatic resistance: moist heat			constant according to IEC 60068-2-78, cyclical according to IEC 60068-2-30		
Cross sections of connections					
Flat connection (F)			F[1)]	F[1)]	F[1)]
Screw			M10	M10	M10
Cable lug		mm^2	1 x 25-150	1 x 25-240	1 x 25-300
Flat busbar		mm	30 x 10	30 x 10	30 x 10
Tightening torque		Nm	30 - 35	30 - 35	30 - 35
Clamp-type terminal (S) / Lift terminal (K)			S	S	S
Stranded Cu		mm^2	25 - 150	25 - 240	25 - 300
Cu-Band, No. of layers		mm	6 x 16 x 0.8	10 x 16 x 0.8	11 x 21 x 1
	x width x thickness				
Tightening torque		Nm	9.5	23	23
Prism terminal					
Stranded Al/Cu		mm^2	70 - 150	120 - 240	120 - 300
Tightening torque		Nm	4.5	11	11
Double-prism terminal					
Stranded Al/Cu		mm^2	2x70-95	2x120-150	2x120-240
Tightening torque		Nm	4.5	11	11

[1)] Standard-connection in the delivery condition

Switch Cover with Fuse Monitoring for NH-Fuse-Switch-Disconnector GST...

- Operation indication
  In working order –> 1 green LED
  Fuse blown –> 3 red LEDs L1, L2, L3
- Working current principle
- VDE-requirements regarding touch voltage (> 1000 Ohm/V) are complied with.
  To release, turn off the upstream main switch!
- Not applicable for single phase application

Connection diagram



Technical data

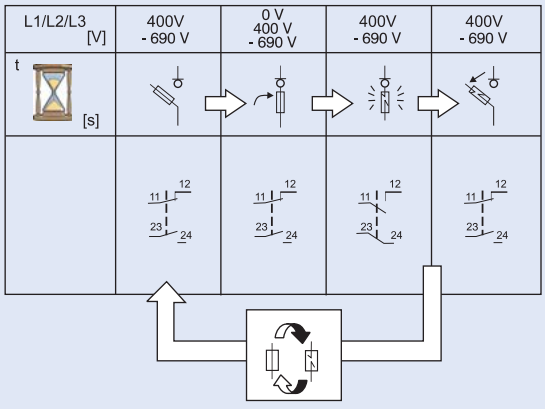
Electrical

Technical data according to	IEC/EN 60255, VDE 0435 Part 303
Rated voltage U_e	3 x 400 V AC - 690 V AC
Voltage range	0,9 ... 1,1xU_e
Rated frequency	50-60 Hz
Consumption	1.5 VA (L2/L3)
Rated insulation voltage U_i	690 V
Overvoltage category	III
Rated impulse withstand voltage U_{imp}	6 kV
Relay contacts	1 NC, 1 NO
Technical data according to	EN 60204, EN 50178, VDE 0106
Rated voltage	250 V AC
Rated current I_{th}	8 A DC
Max. making current	15 A
Utilization category	AC 15 DC13
Rated operational voltage U_e	230VAC 24VAC 24VDC 220VDC
Rated operational current I_e	1 A 4 A 1 A 0,5 A
Minimum switching load	5 V AC/DC, 300 mW, 5 mA
Max. switching capacity	
AC 1	2000 VA
250 V AC 15	400 VA
250 V AC 3	300 W
Endurance electrical comp.	80 x 10^3 operating cycles AC 1
Maximum back-up fuse	4 A gL/gG / PLSM-B4...-HS

Mechanical

Terminals	Lift terminals
Terminal capacity	
stranded	0.25 - 1.5 mm^2
Tightening torque of terminal screws	0.5 - 0.6 Nm
Endurance mechanical comp.	> 10 x 10^6 operating cycles
Response/Release time	< 500 ms
Depree of protection	IP20
Temperature range	-10 to +55°C
Pollution degree	3

Functional diagram

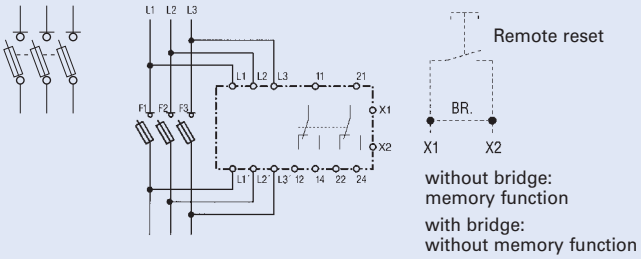


xBoard

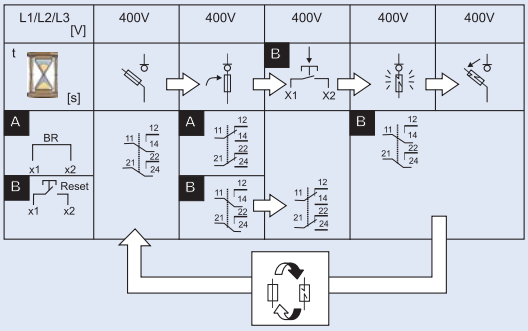
NH-Vertical Fuse-Switch-Disconnector NH-SLS, 3-pole

- Supplied without NH-fuse-links
- Can be installed both in a vertical and horizontal position
- Symmetrical device - top or bottom connection is possible
- Break-proof, flexible connection chamber
- Fully insulated, shock hazard protected in accordance with IEC/EN 60947 or BGV A3
- The base body is made of glass fibre reinforced, high-temperature resistant, self-extinguishing and halogen-free plastic
- The contact system consists of separately spring-loaded silver-plated copper contacts
- The switch cover is made of glass fibre reinforced, self-extinguishing, silicone and chlorine-free thermoplast
- The switch cover features large viewing windows allowing to read the labelling and to see the flat indicator of the NH-fuse-links
- The viewing windows provide self-closing test holes
- The switch cover can be deposited ("park position")

Connection diagram



Functional diagram



Electronic Fuse Monitoring

- Operation indication
  Fuse in working order –> 1 green LED
  Fuse blown, cover open –> 1 red LED
- Working current principle, alternatively with memory function/remote reset
- Internal resistance of the measuring paths within the MOhm-range, VDE-requirements regarding touch voltage (> 1000 Ohm/V) are complied with. To release, turn off the upstream main switch!
- When using feeder bars the lines connected to the fuse monitoring system must be changed as follows: L1<>L1', L2<>L2', L3<>L3'

Technical Data

	NH-SLS-00/160-60(-SI)
Electrical	
Technical data according to	IEC/EN 60947-3
Size	00
Number of poles/phases	3
Conventional free air thermal current I_{th} with NH-fuse-links	160 A
Max. permissible power loss of NH-fuse-links	12 W
Utilization category AC 23 B	
Rated operational voltage U_e	400 V AC
Rated operational current I_e	160 A
Rated conditional short-circuit current with fuse-links	50 kA
Utilization categories AC 22 B, AC 21 B	
Rated operational voltage U_e	690 V AC (400 V AC)
Rated operational current I_e	160 A
Rated conditional short-circuit current with fuse-links	50 kA
Rated insulation voltage U_i	1000 V (400 V)
Overvoltage category	III
Rated impulse withstand voltage U_{imp}	8 kV (4 kV)
Rated frequency	50-60 Hz
Rated duty	uninterrupted duty *
Power loss without NH-fuse-links	20 W at 160A
Mechanical	
Mounting onto busbar system without drilling or screwing	
	12x5/10 mm
	20x5/10 mm
	25x5/10 mm
	30x5/10 mm
Standard connection - screw	M8
Cable lugs - Cu-conductor according to rated currents as detailed in IEC/EN 60947-1	1 x 70 mm^2
Flat busbars	20x8 mm
Tightening torque	12 Nm
Standard connection - clamp strap	2 x M5
Stranded Cu	1.5 x 70 mm^2
Copper band: No. of layers x width x height	9 x 9 x 0.8 mm
Flat busbars	12x10 mm
Tightening torque	3 Nm
Ambient temperature range	-5°C to +40°C
Degree of protection	IP30
Pollution degree	3

	Electronic Fuse Monitoring
Electrical	
Technical data according to	IEC/EN 60255, VDE 0435 Part 303
Rated voltage U_e	3 x 400 V AC
Voltage range	0,8 ... 1,1xU_e
Rated frequency	50-60 Hz
Consumption	2 VA (L2/L3)
Rated insulation voltage U_i	400 V
Overvoltage category	III
Rated impulse withstand voltage U_{imp}	4 kV
Relay contacts	2 CO
Technical data according to	EN 60947-5-1
Rated voltage	250 V AC
Rated current I_{th}	4 A
Utilization category	AC 15
Rated operational voltage U_e	230 V AC
Rated operational current I_e	1 A
Endurance electrical comp.	1.5 x 10^5 operating cycles
Maximum back-up fuse	4 A gL/gG / PLSM-B4...-HS
Mechanical	
Terminals	Lift terminals
Terminal capacity	
solid	2 x 2.5 mm^2
stranded	2 x 1.5 mm^2
Tightening torque of terminal screws	0.8 Nm
Endurance mechanical comp.	> 10^8 operating cycles
Response/Release time	< 500 ms

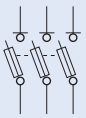
* In case of uninterrupted duty of several devices placed side by side, please take account of the rated load factor detailed in VDE 0660 Part 500 / EN 61439-1, Table 1.
For sizes 00/1-3 the distance to grounded elements must be at least 50/100 mm at the top and 25/50 mm at the side.

NH-Vertical Fuse-Switch-Disconnector NH-SLS, 3-pole

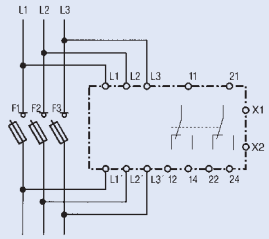
- Supplied without NH-fuse-links
- Can be installed both in a vertical and horizontal position
- Symmetrical device - top or bottom connection is possible
- Break-proof, flexible connection chamber
- Fully insulated, finger and hand touch-save in accordance with IEC/EN 60947 or BGV A3
- The base body is made of glass fibre-reinforced, high-temperature resistant, self-extinguishing and halogen-free plastic
- The contact system consists of separately spring-loaded silver-plated copper contacts
- The switch cover is made of glass fibre-reinforced, self-extinguishing, silicone and chlorine-free thermoplast
- The switch cover features large viewing windows allowing to read the labelling and to see the flat indicator of the NH-fuse-links
- The viewing windows provide self-closing test holes
- The switch cover can be deposited ("park position")

Connection diagram

NH-SLS



NH-SLS-...-SI



Technical Data

	NH-SLS-00/160(-SI)	NH-SLS-1/250(-SI)	NH-SLS-2/400(-SI)	NH-SLS-3/630(-SI)
Electrical				
Technical data according to	IEC/EN 60947-3	IEC/EN 60947-3	IEC/EN 60947-3	IEC/EN 60947-3
Size	00	1	2	3
Number of poles/phases	3	3	3	3
Conventional free air thermal current I_{th} with NH-fuse-links	160 A	250 A	400 A	630 A
Max. permissible power loss of NH-fuse-links	12 W	23 W	34 W	48 W
Utilization category AC 23 B				
Rated operational voltage U_e	400 V AC	500 (400) V AC	500 (400) V AC	500 (400) V AC
Rated operational current I_e	160 A	250 A	400 A	630 A
Rated conditional short-circuit current with fuse-links	50 kA	100 kA	100 kA	100 kA
Utilization categories AC 22 B, AC 21 B				
Rated operational voltage U_e	690 (–) V AC	690 (–) V AC	690 (–) V AC	690 (–) V AC
Rated operational current I_e	160 (–) A	250 (–) A	400 (–) A	630 (–) A
Rated conditional short-circuit current with fuse-links	50 kA	100 kA	100 kA	100 kA
Rated insulation voltage U_i	1000 V	1000 V	1000 V	1000 V
Overvoltage category	III	III	III	III
Rated impulse withstand voltage U_{imp}	8 (4) kV	12 (4) kV	12 (4) kV	12 (4) kV
Rated frequency	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz
Rated duty	uninterrupted duty *	uninterrupted duty *	uninterrupted duty *	uninterrupted duty *
Power loss without NH-fuse-links	20 W at 160A	30 W at 250A	67 W at 400A	116 W at 630A
Mechanical				
Mounting onto busbar system				
Terminal clamps for busbar thickness	10 mm	10 mm	10 mm	10 mm
Screws for busbar thickness	5-10 mm M8	5-10 mm M12	5-10 mm M12	5-10 mm M12
Standard connection - screw	M8	M10	M10	M12
Cable lugs - Cu-conductor according to rated currents as detailed in IEC/EN 60947-1	1 x 70 mm^2	120 mm^2	240 mm^2	2 x 185 mm^2
Busbars of a max. width of	20 mm	30 mm	30 mm	30 mm
Ambient temperature range	-5°C to +40°C	-5°C to +40°C	-5°C to +40°C	-5°C to +40°C
Degree of protection	IP30	IP30	IP30	IP30
Pollution degree	3	3	3	3

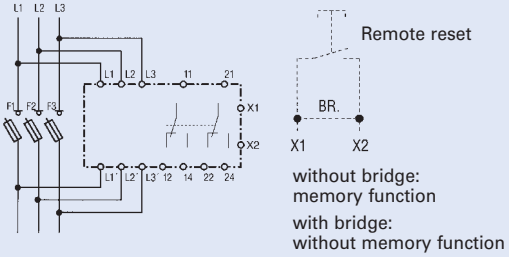
* In case of uninterrupted duty of several devices placed side by side, please take account of the rated load factor detailed in VDE 0660 Part 500 / EN 61439-1, Table 1.
For sizes 00/1-3 the distance to grounded elements must be at least 50/100 mm at the top and 25/50 mm at the side.

NH-Vertical Fuse-Switch-Disconnector NH-SLS-...-SI, 3-pole

Electronic Fuse Monitoring

- Operation indication
  Fuse in working order –> 1 green LED
  Fuse blown, cover open –> 1 red LED
- Working current principle, alternatively with memory function/remote reset
- Internal resistance of the measuring paths within the MOhm-range, VDE-requirements regarding touch voltage (> 1000 Ohm/V) are complied with.
  To release, turn off the upstream main switch!
- When using feeder bars the lines connected to the fuse monitoring system must be changed as follows: L1<>L1', L2<>L2', L3<>L3'

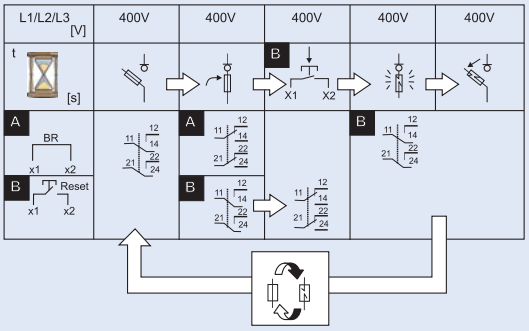
Connection diagram



without bridge:
memory function

with bridge:
without memory function

Functional diagram



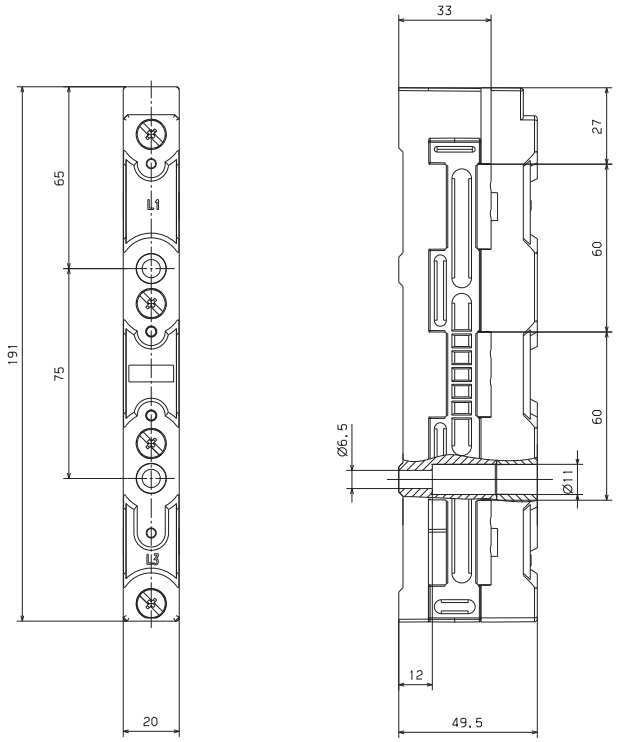
Technical Data

Electrical	
Technical data according to	IEC/EN 60255, VDE 0435 Part 303
Rated voltage U_e	3 x 400 V AC
Voltage range	0,8 ... 1,1xU_e
Rated frequency	50-60 Hz
Consumption	2 VA (L2/L3)
Rated insulation voltage U_i	400 V
Overvoltage category	III
Rated impulse withstand voltage U_{imp}	4 kV
Relay contacts	2 CO
Technical data according to	EN 60947-5-1
Rated voltage	250 V AC
Rated current I_{th}	4 A
Utilization category	AC 15
Rated operational voltage U_e	230 V AC
Rated operational current I_e	1 A
Endurance electrical comp.	1.5 x 10^5 operating cycles
Maximum back-up fuse	4 A gL/gG / PLSM-B4...-HS

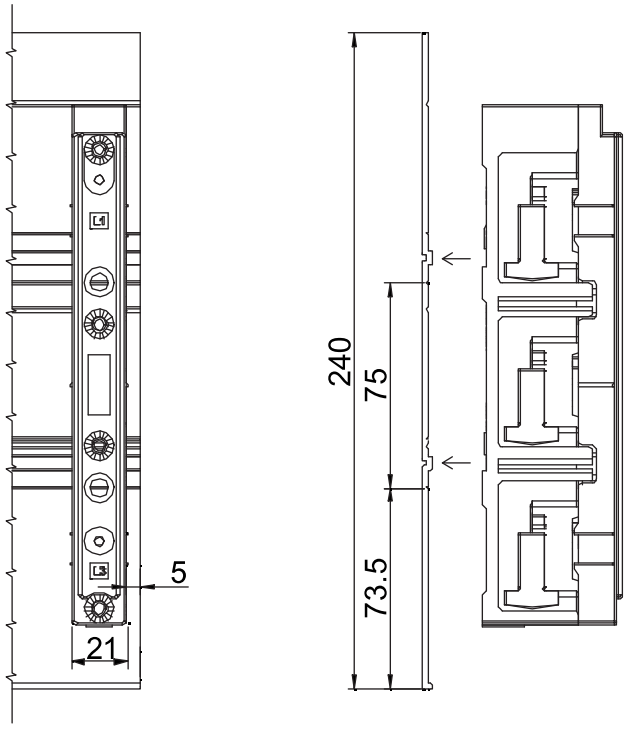
Mechanical	
Terminals	Lift terminals
Terminal capacity	
solid	2 x 2.5 mm^2
stranded	2 x 1.5 mm^2
Tightening torque of terminal screws	0.8 Nm
Endurance mechanical comp.	> 10^8 operating cycles
Response/Release time	< 500 ms

Dimensions

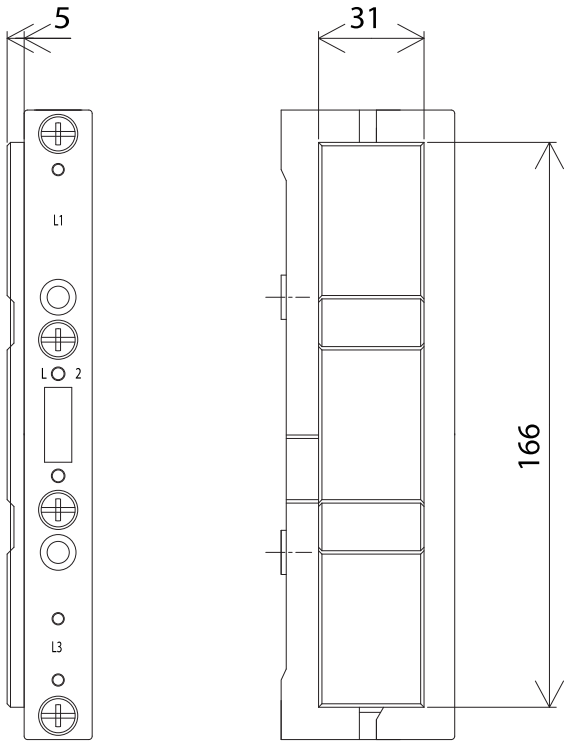
BBS-3/FL



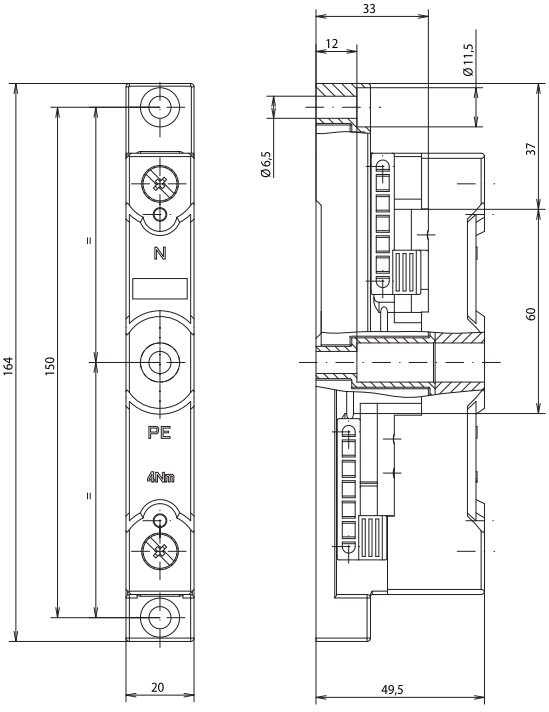
BBS-3/FL-NA



ES-BBS-3/FL

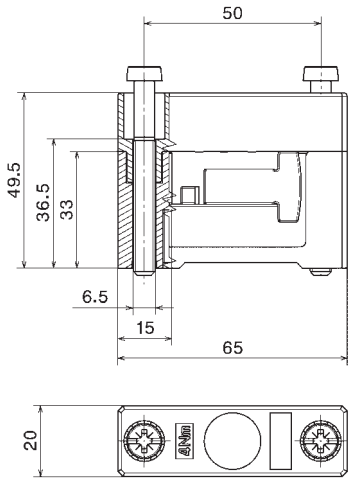


BBS-2/FL

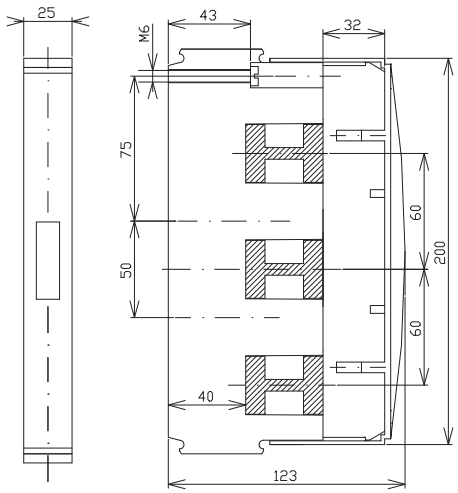


Dimensions

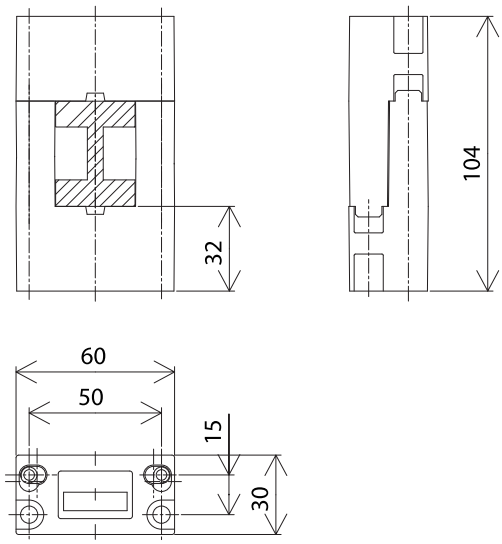
BBS-1/FL



BBS-3/PR



BBS-1/PR



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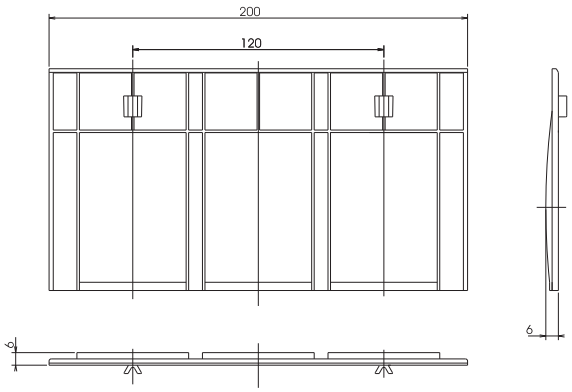
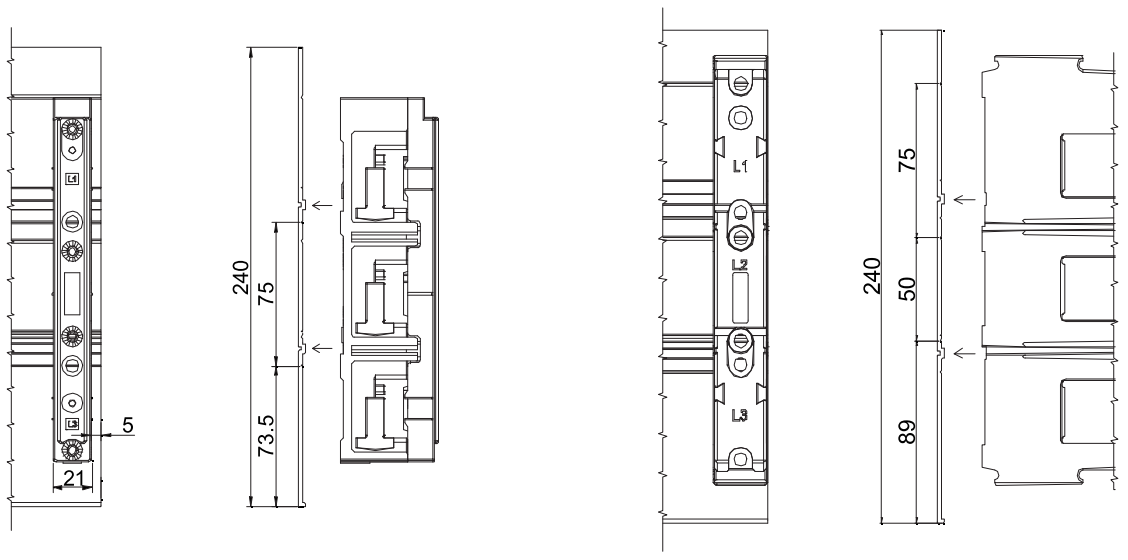


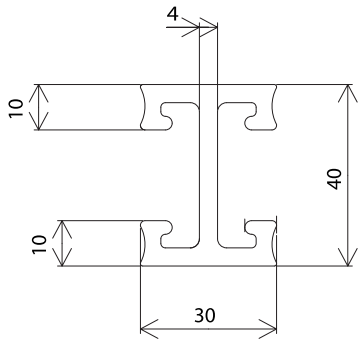
BBC-BT-NA



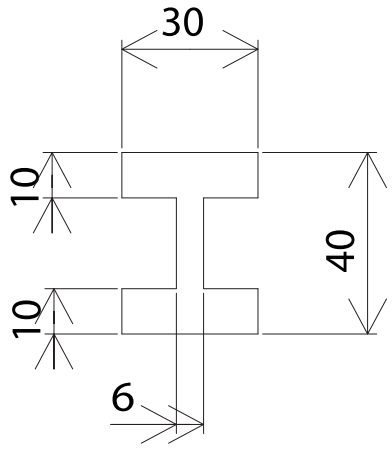
xBoard

Dimensions

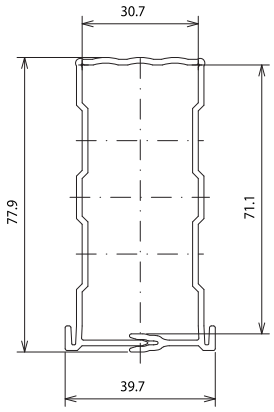
CU-BAR-500/T



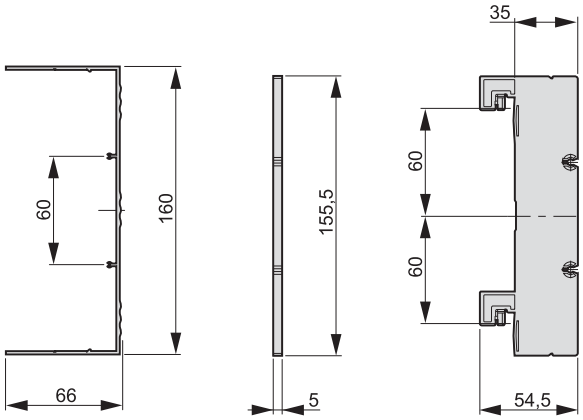
CU-BAR-720/T



BBC-CU-BAR/PR

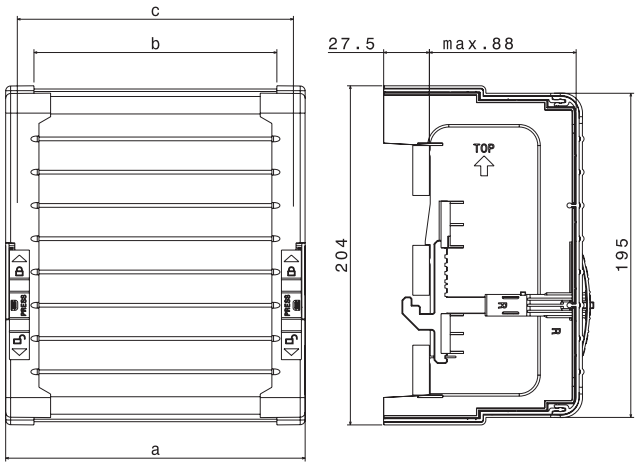


BBC-RCOV1, BBC-MRCOV1

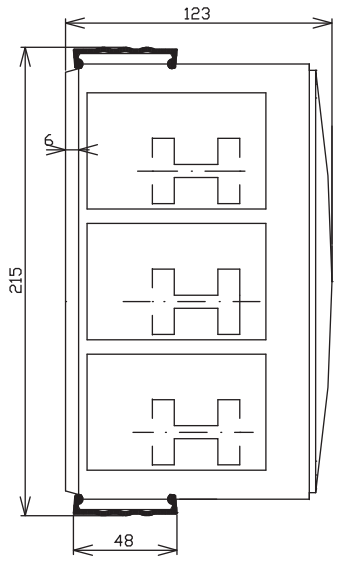


BBC-CS1, BBC-CS2

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

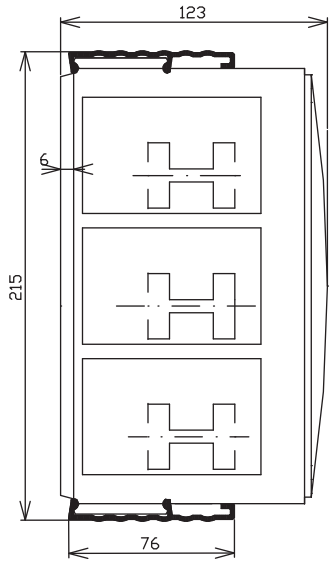


BBC-CS48/PR

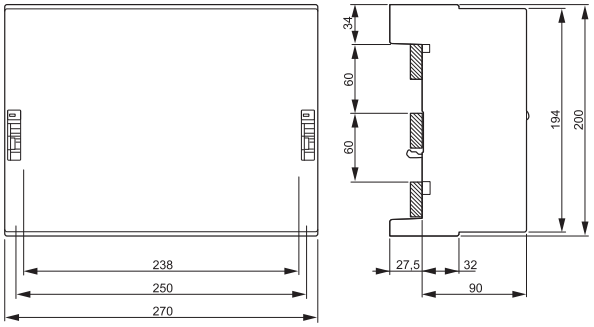


Dimensions

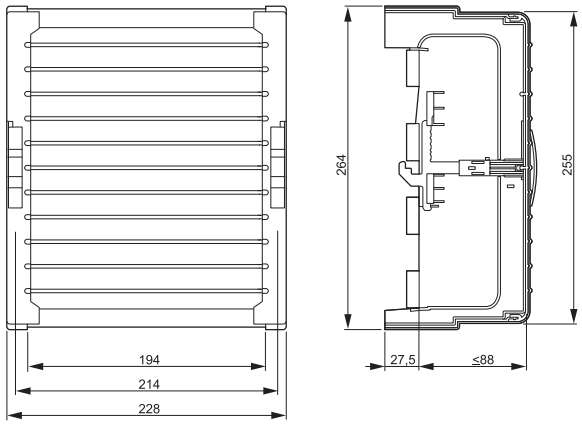
BBC-CS76/PR



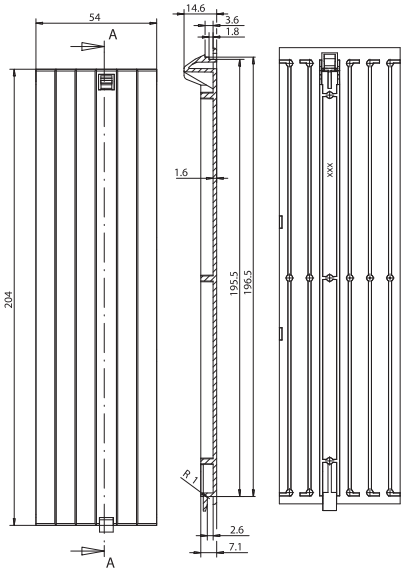
BBC-CS3



BBC-CS4



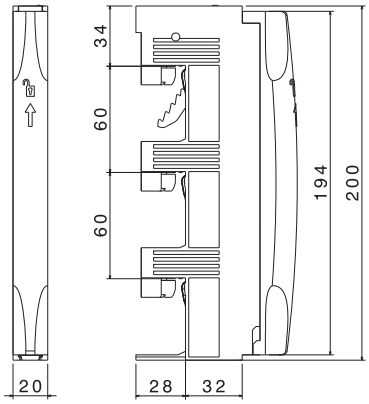
AM-195/54



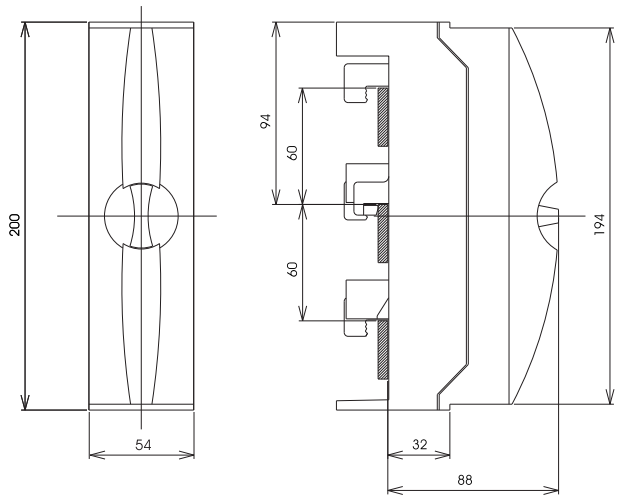
xBoard

Dimensions

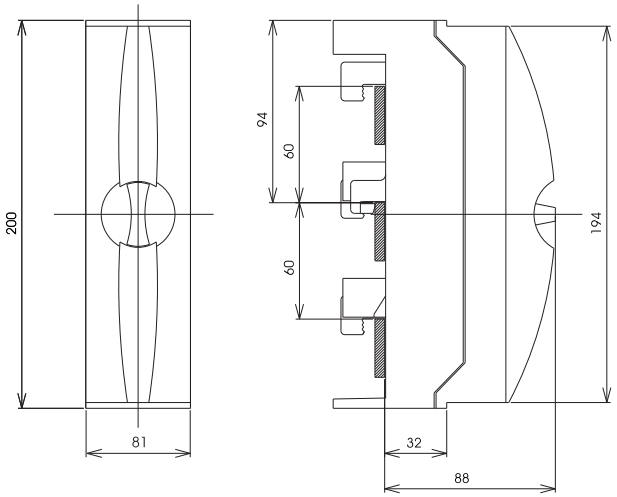
BBA-TP3/16



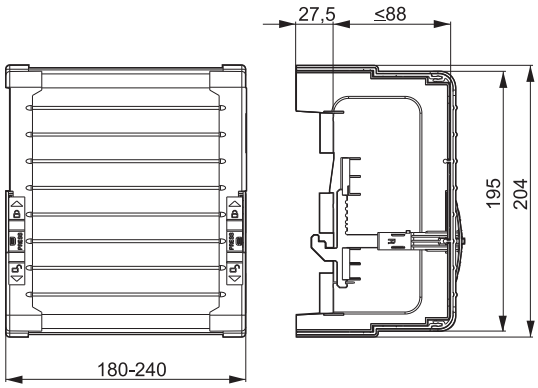
BBA-TP3/50



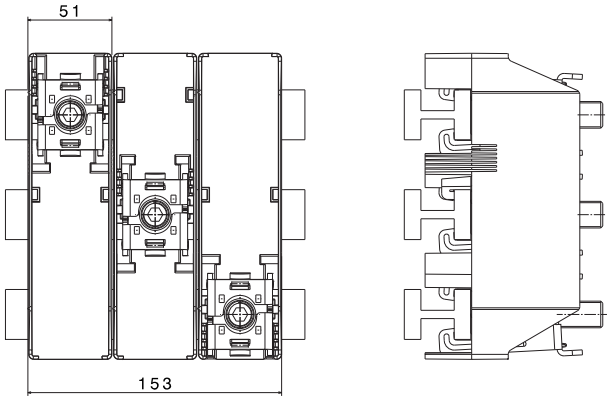
BBA-TP3/120



BBA-TP3/300

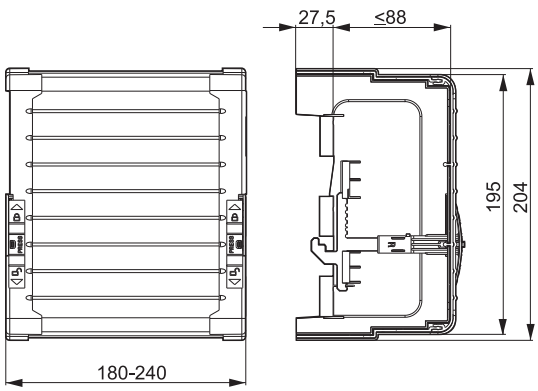


BBA-TP3/CU-BAND



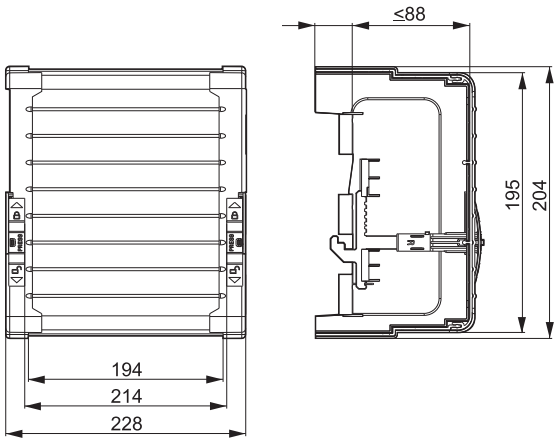
Note:
BBA-TP3/1000 consists of 3x AKS1000 and 1x BBC-CS1.

BBA-TP3/300

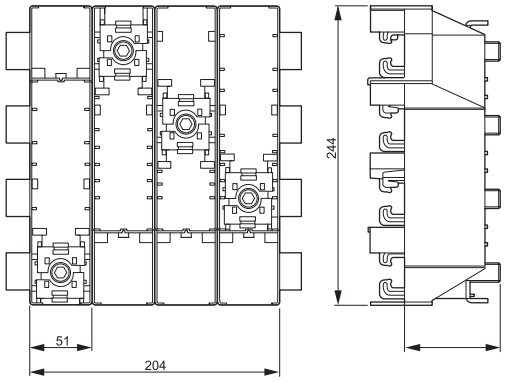


Dimensions

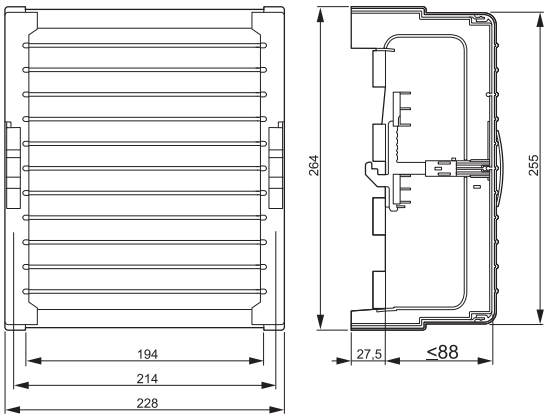
BBA-TP3/1000



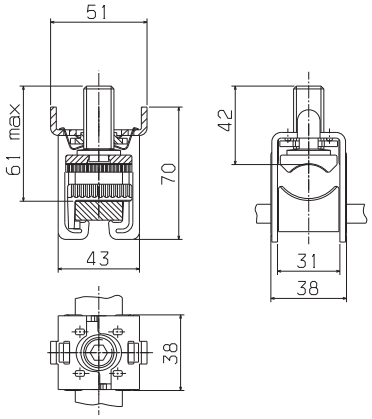
BBA-TP4/CU-BAND



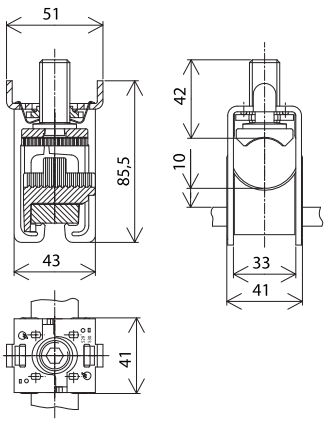
BBA-TP4/300



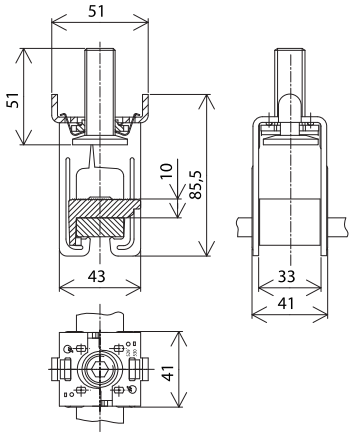
AKS185



AKS300



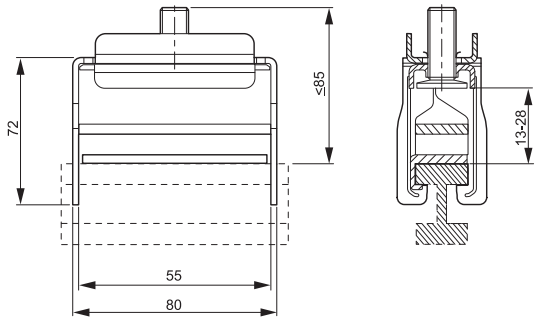
AKS-CU-BAND



xBoard

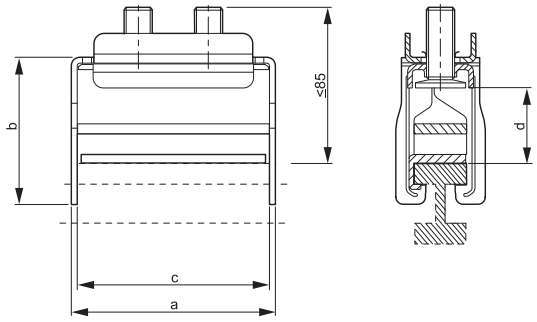
Dimensions

AKS1000



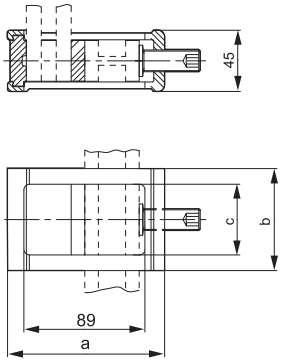
AKS1200, AKS2000

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



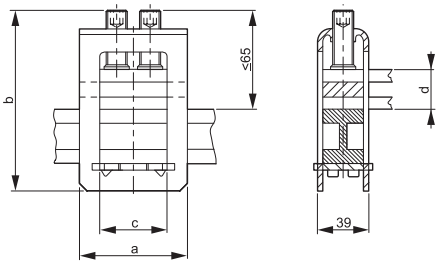
AKP800, AKP1000

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

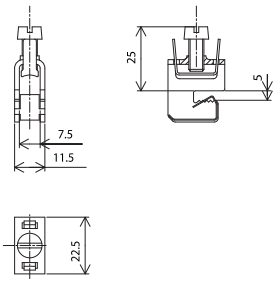


AKP750-AKP3600

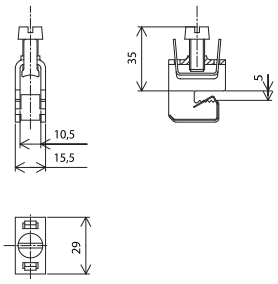
Type	a (mm)	b (mm)	c (mm)	d (mm)
AKP750	82	103	51	5-28
AKP900	94	103	64	5-28
AKP1200	94	118	64	20-42
AKP1600	112	118	81	20-42
AKP2000	132	118	101	20-42
AKP3600	132	154	101	23-45



AKU 16/5

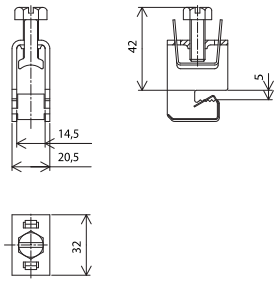


AKU 35/5

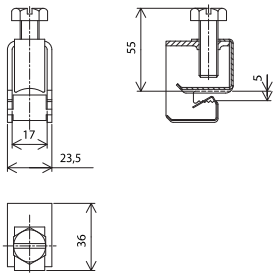


Dimensions

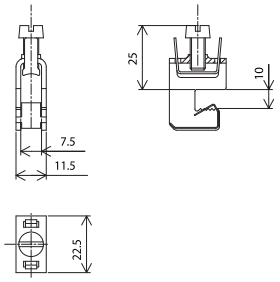
AKU 70/5



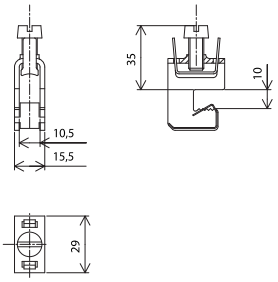
AKU 120/5



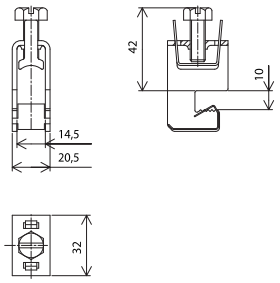
AKU 16/10



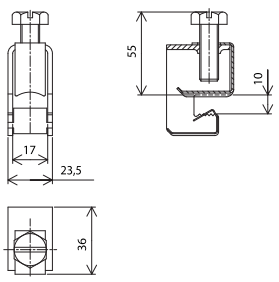
AKU 35/10



AKU 70/10

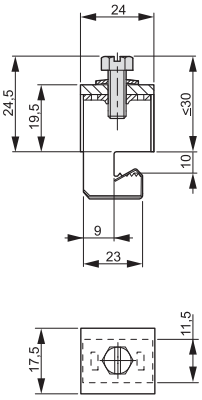


AKU 120/10

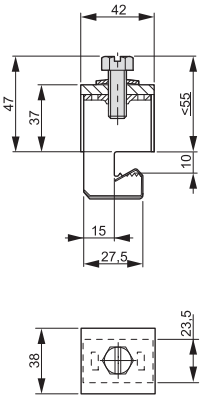


Dimensions

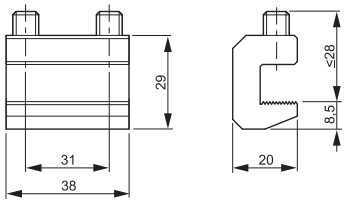
AKUM8/10



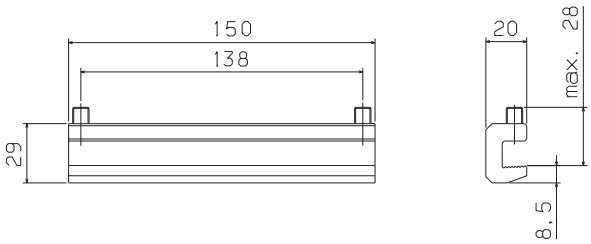
AKUM10/10



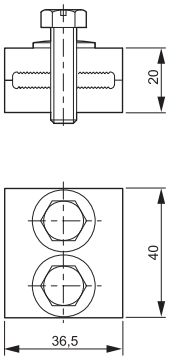
BBT-CU12-20X5/10-38



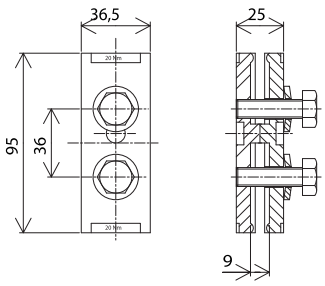
BBT-CU12-20X5/10-150



BBT-CU20-30X5/10-40

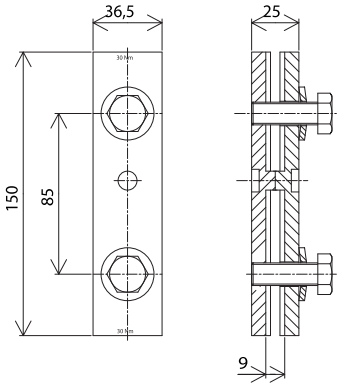


BBT-CU20-30X5/10-95

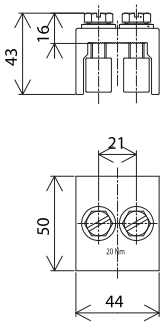


Dimensions

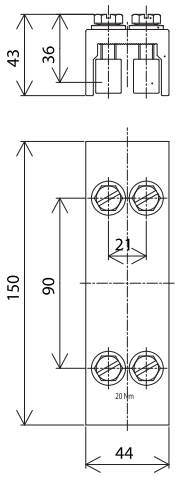
BBT-CU20-30X5/10-150



BBT-CU-BAR500/720-50

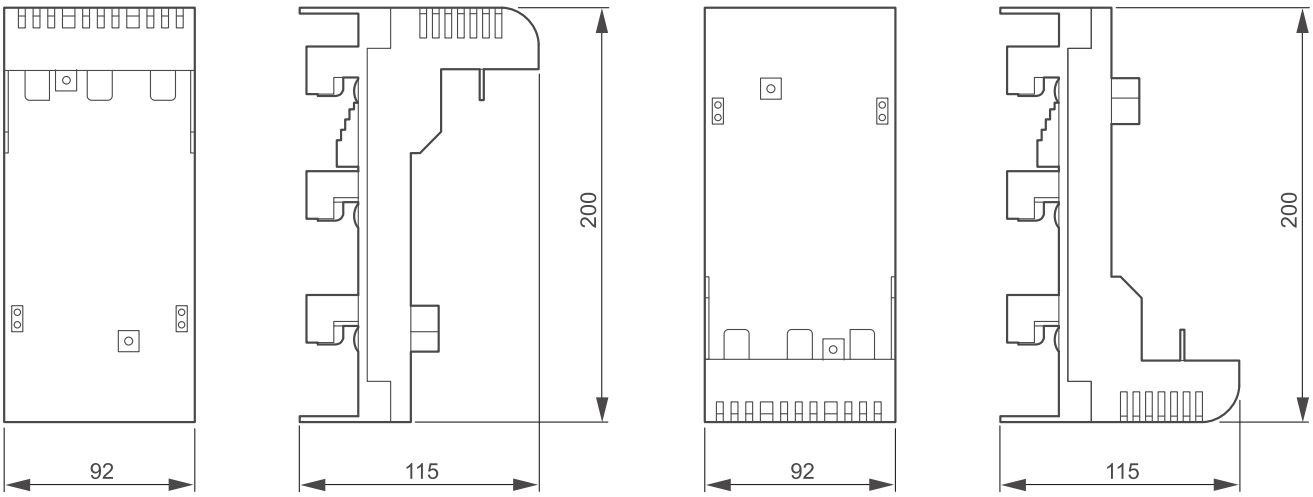


BBT-CU-BAR500/720-150

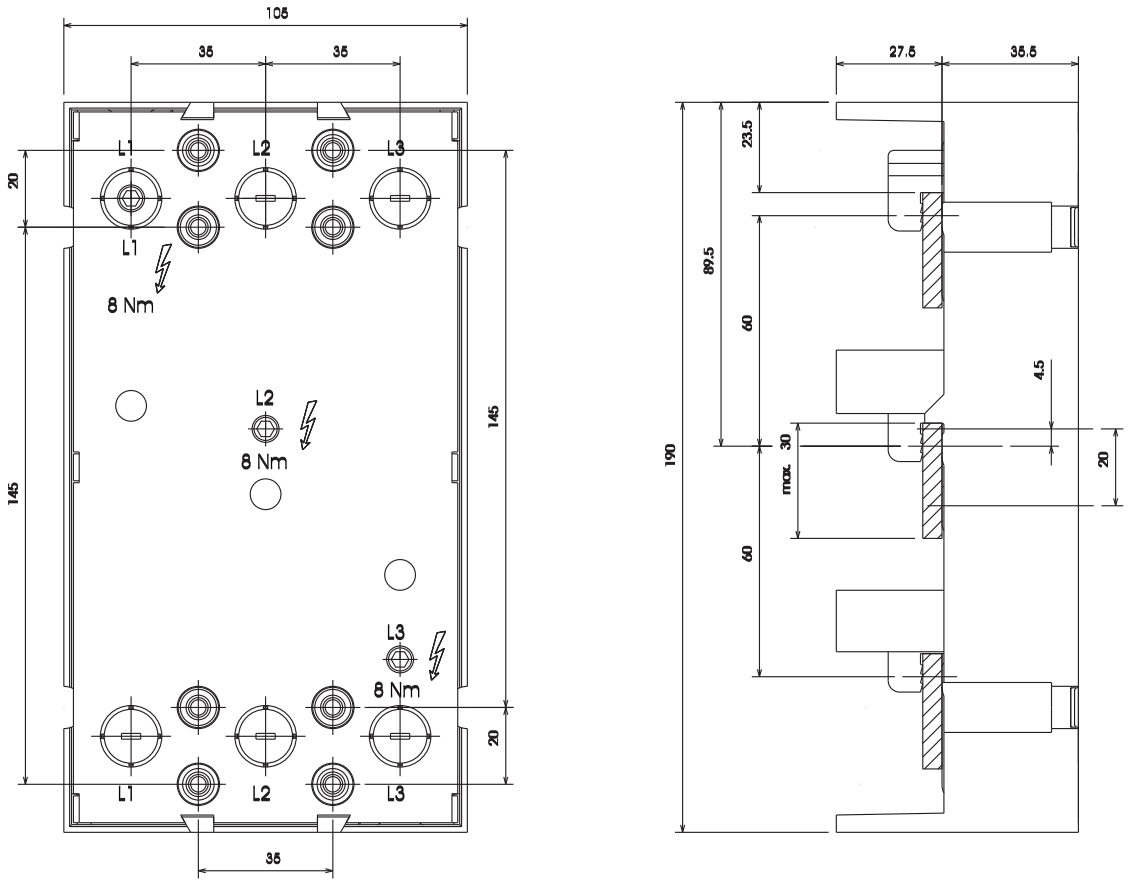


Dimensions

NZM1-XAD160

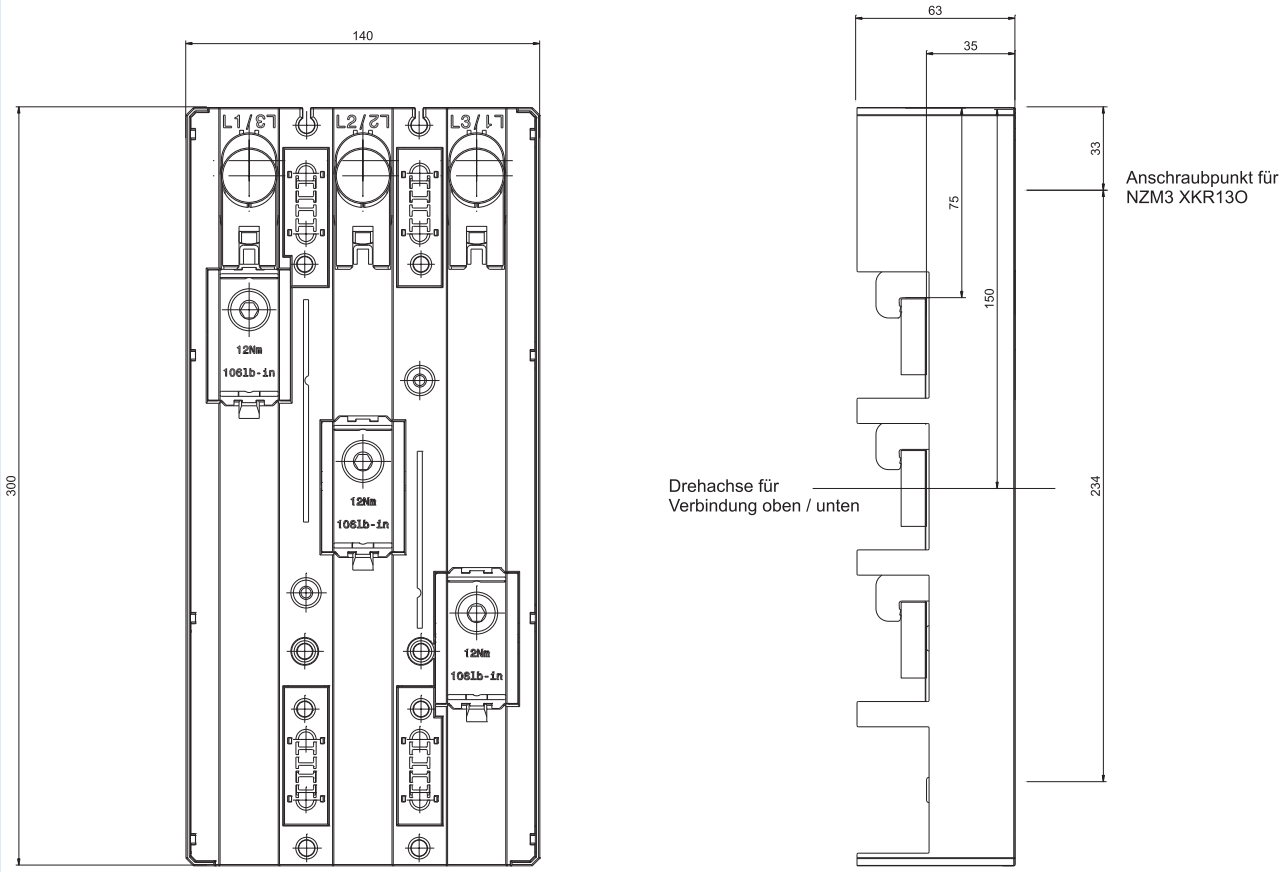


NZM2-XAD250



Dimensions

NZM3-XAD630



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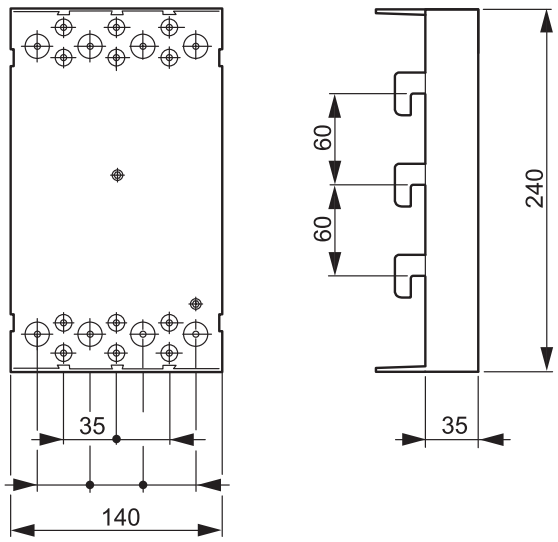
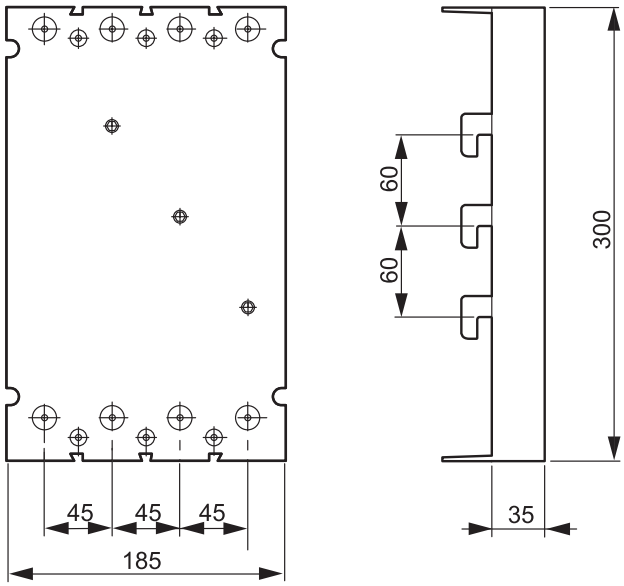


xBoard

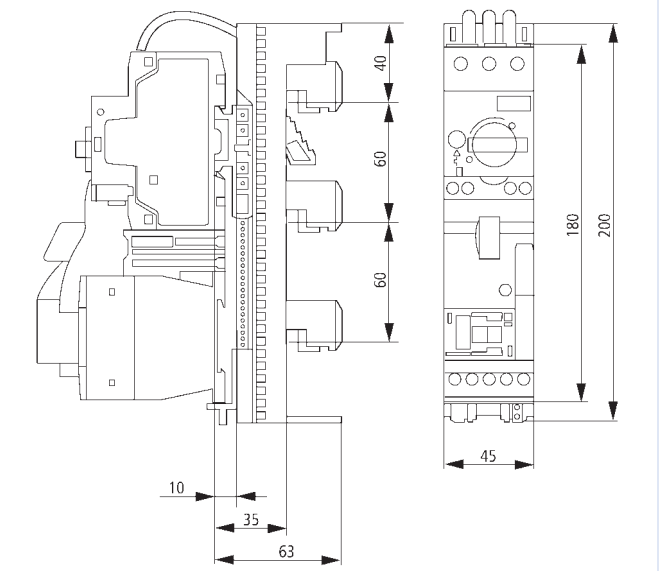
Dimensions

NZM3-4-XAD630

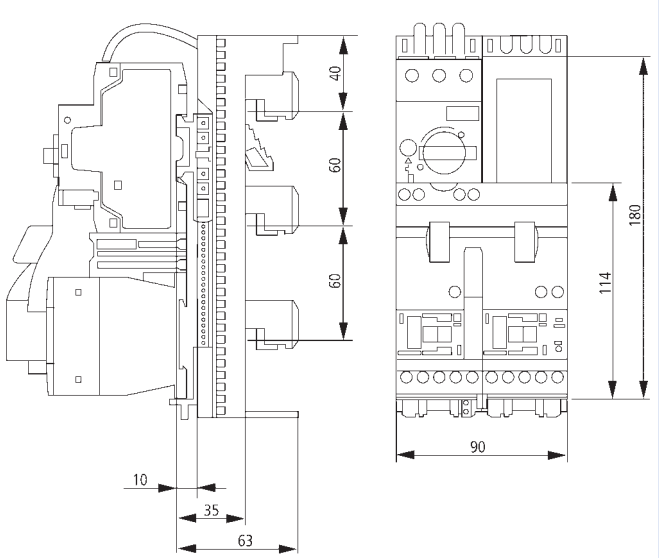


Dimensions

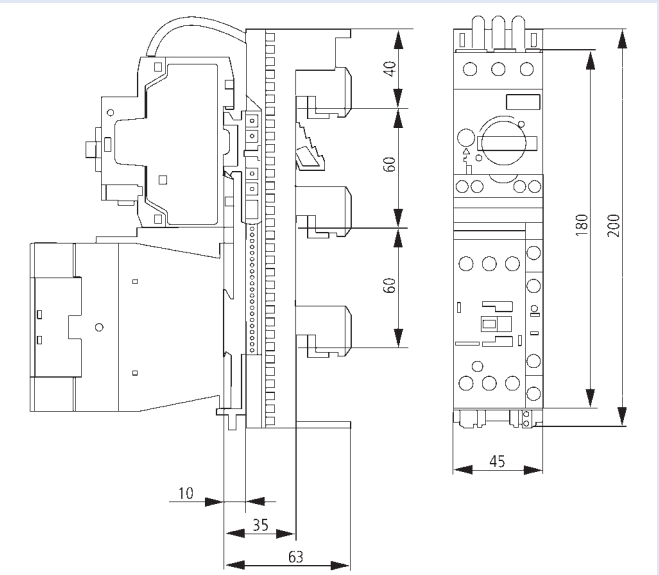
BBA0-25



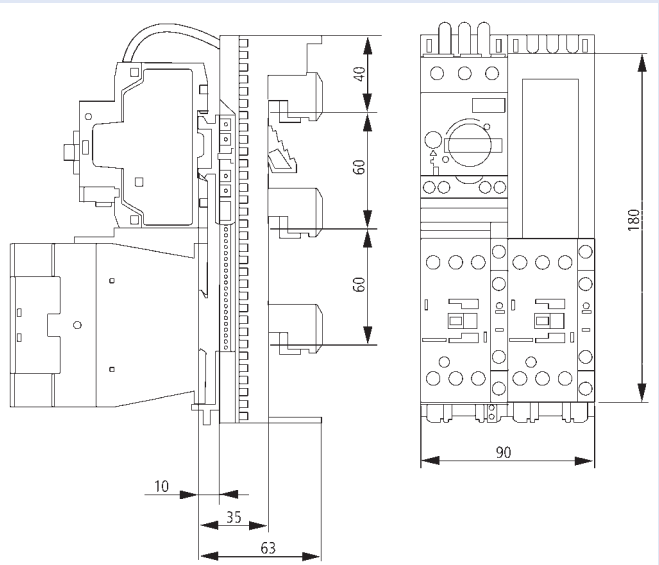
BBA0R-25



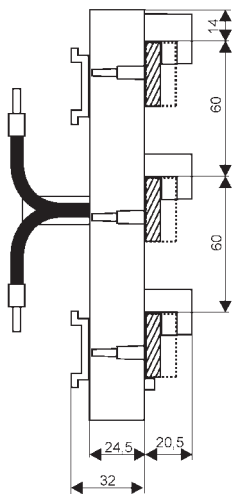
BBA0-32



BBA0R-32



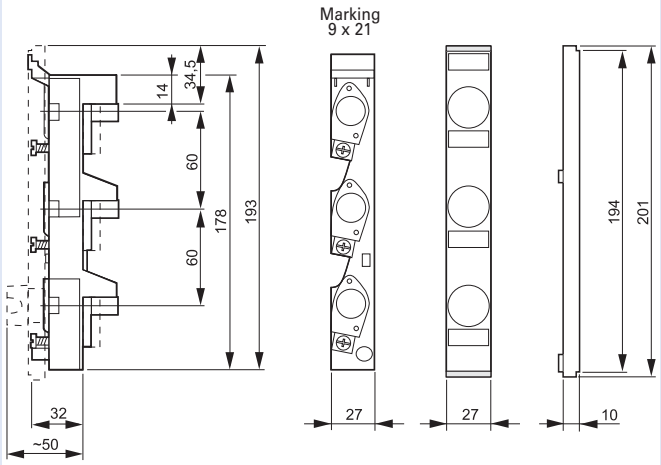
Z-SS-60-ADD/6...



xBoard

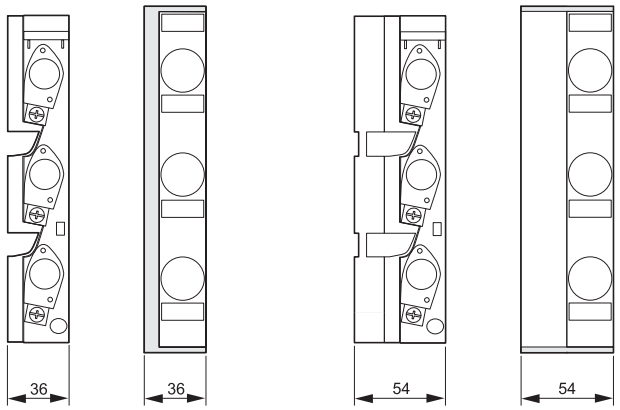
Dimensions

D02-SO/63/3-R-27



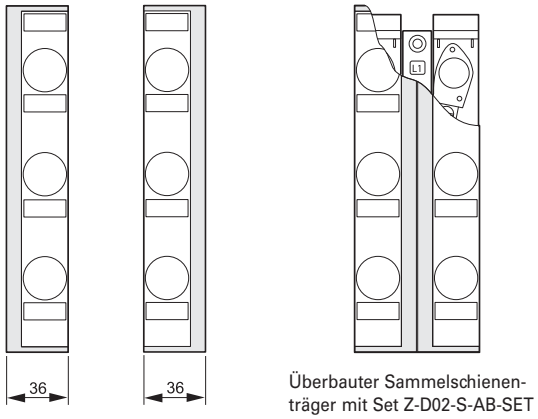
Front plate support

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



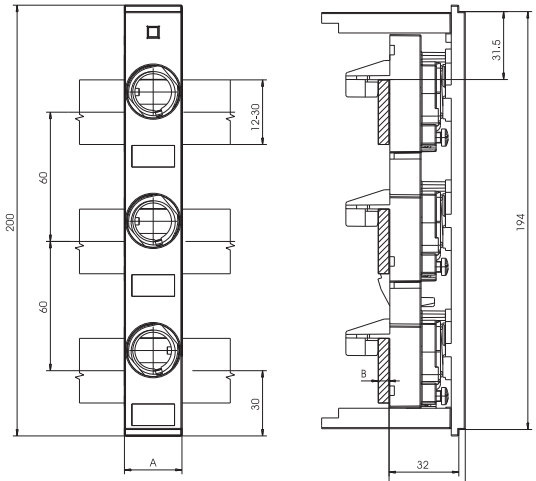
Front plate support

Z-D02-S-AB-SET



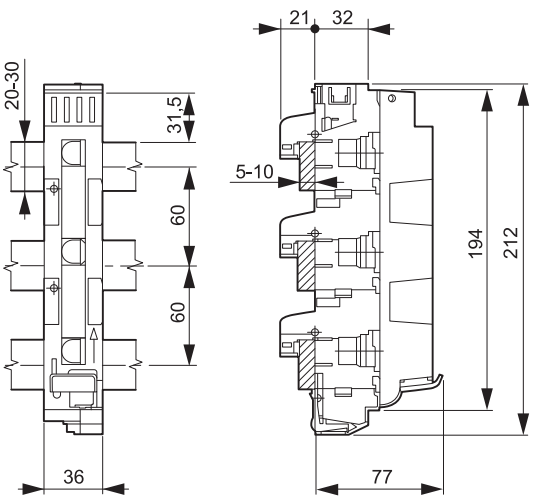
Front plate support

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

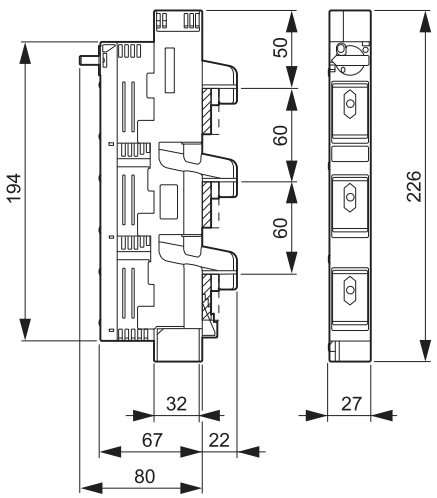


Type	A
DII-SO/25/3-R(-PS)	45
DIII-SO/63/3-R(-PS)	54

D02-S/63/3-RS

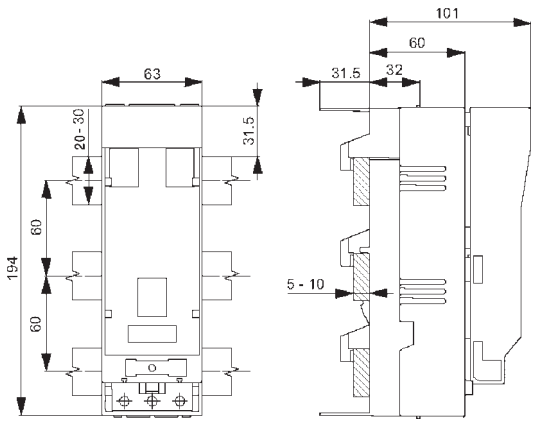


D02-LTS/63/3-R(-HK)

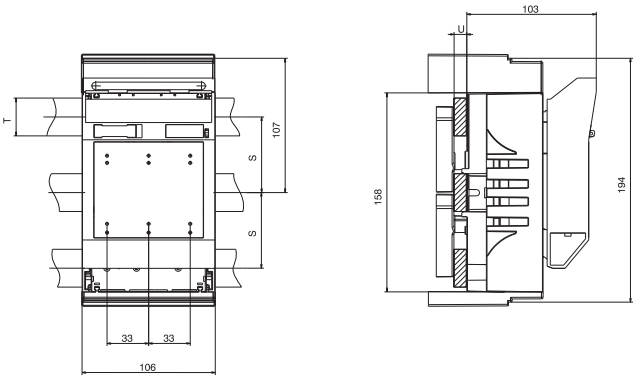


Dimensions

LTS-100/C00/3-R

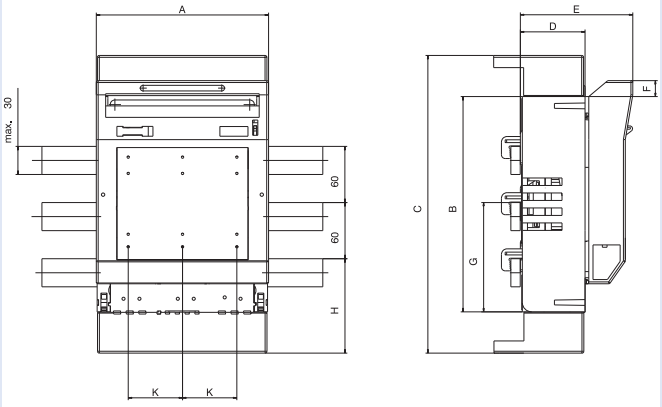


GST00-160-40-60-AOU



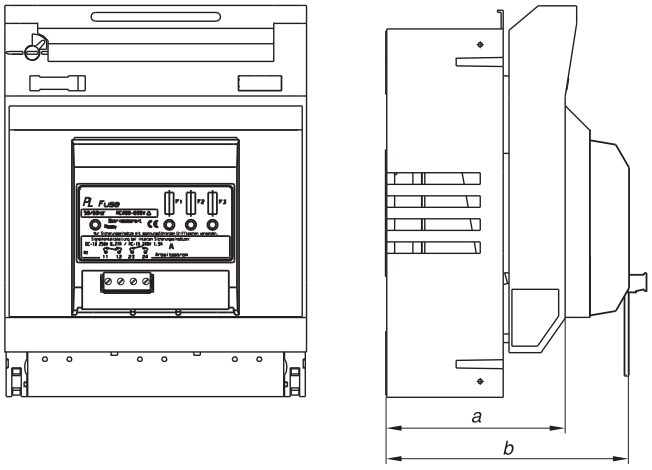
Type	S	T	U
GST00-160-40-60-AOU	40	12	5-10
	50	20	5-15
	60	20-30	5-10

GST.-AO / GST.-AU



Type	A	B	C	D	E	F	G	H	K
GST1-A.	184	230	322	70	121	16,5	115	104	58
GST2-A.	210	256	408	83	135	16,5	128	145	66
GST3-A.	254	270	434	98	149	9	135	156	82

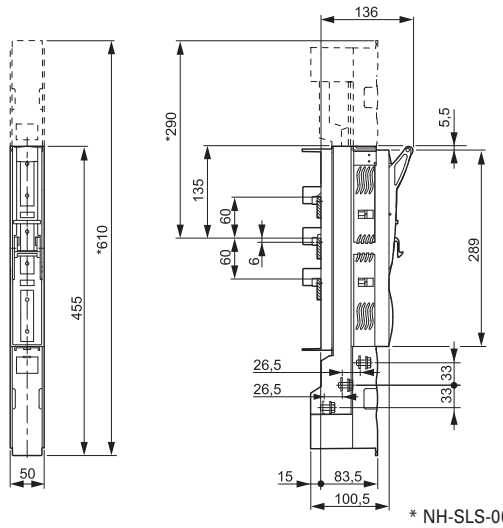
GST...-DSI



Type	Size	a	b
GST00...	NH00	90	123
GST1...	NH1	120	151
GST2...	NH2	135	166
GST3...	NH3	145	176

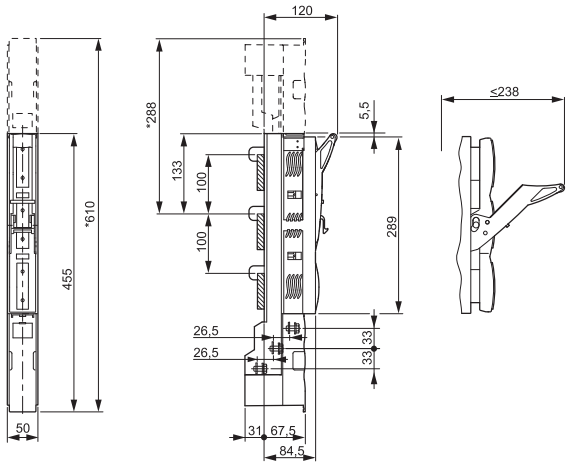
Dimensions

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



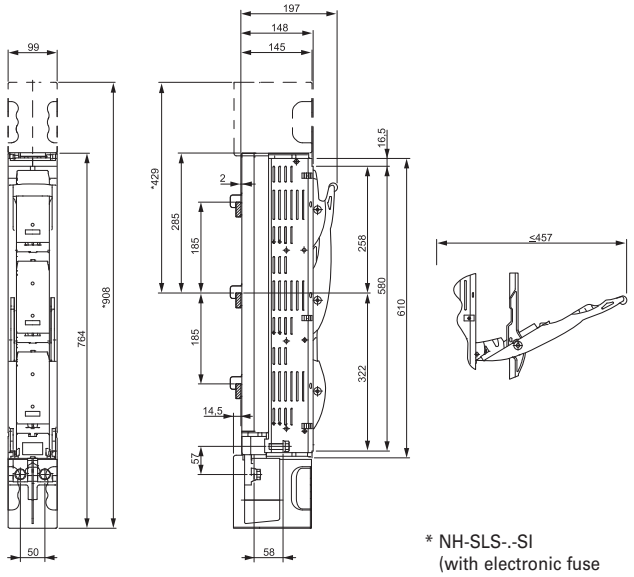
* NH-SLS-00/160-60-SI
(with electronic fuse monitoring)

NH-SLS-00/160(-SI)



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

NH-SLS-1, NH-SLS-2, NH-SLS-3



* NH-SLS-.-SI
(with electronic fuse monitoring)

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Printed in Austria (04/15)
Publication number FK4300-1167 GB

Grafics: SRA
DigiPics, Lithos:
Print:

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