

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



 SmartWire-DT®



Productcatalogue 2018

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

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

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



## Optimized busbar profile

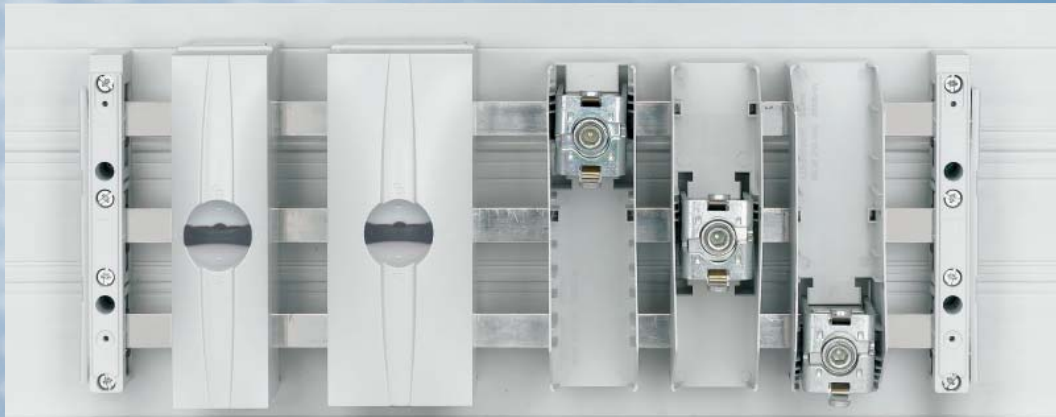
The system offers many advantages. For example, the SASY 60i uses double-T-profile bars, thus reducing the time and effort needed to prepare the contact points. The profile uses very few busbar supports for very high rated peak withstand currents ( $I_{pk}$ ); it thus optimally utilizes the limited cabinet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



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



# Sammelschienen-System SASY 60i für den Weltmarkt



## Short installation time thanks to pre-assembly

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

## Special features of the device adapters

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

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

## Safety is always first priority

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





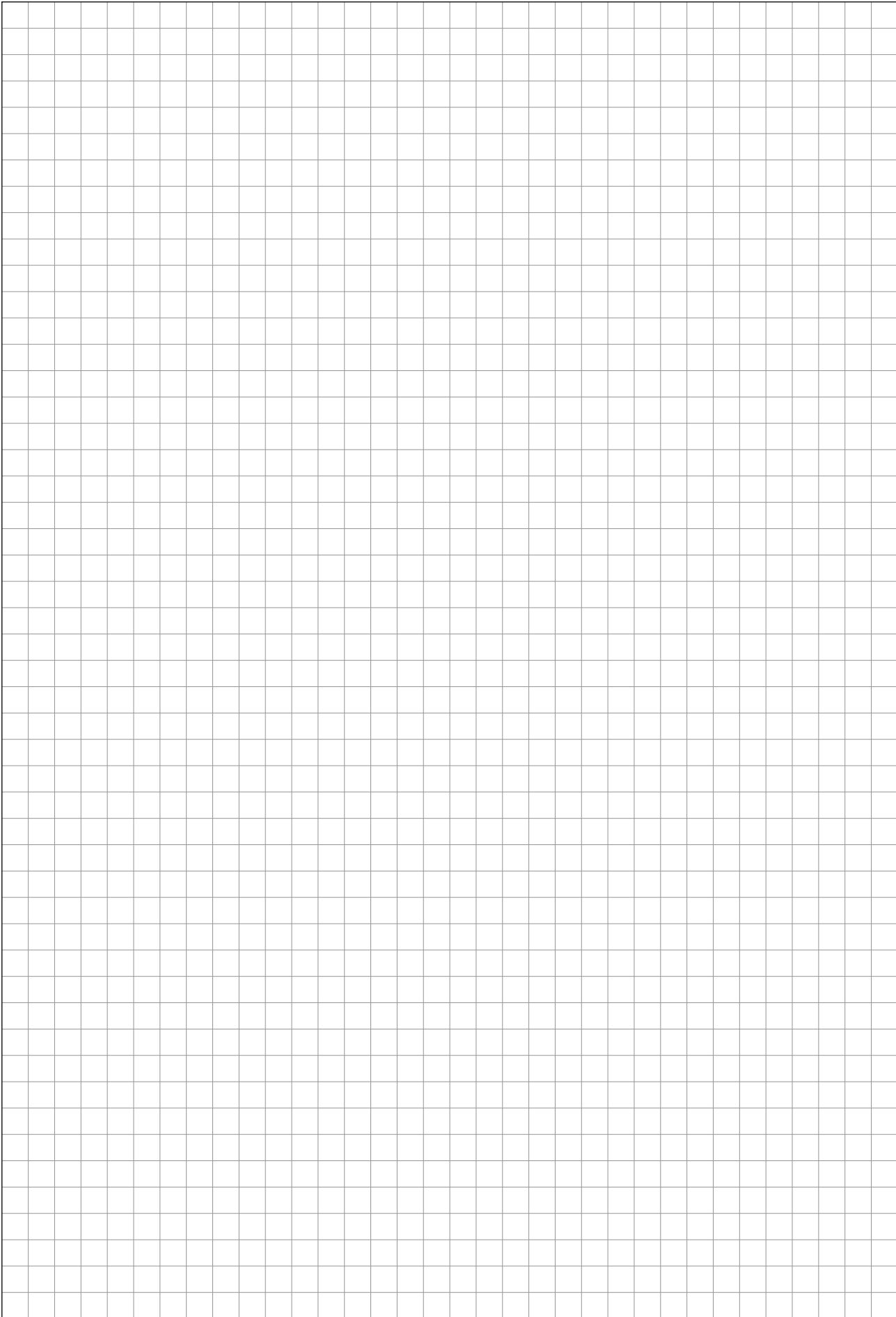
### **A system designed for worldwide use**

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

For busbar applications that have not been type-tested, UL508A allows an ampacity of 1000A/inch<sup>2</sup> (1.55A/mm<sup>2</sup>). This value may be higher if the product or the application has been tested accordingly. Eaton has conducted extensive tests for the user's maximum benefit in using SASY 60i busbar systems. The advantage of such tests is that one can use busbar systems designed for higher rated currents than the default value allows. SASY 60i components and combinations are listed under File No. E300273 and E140305UL.



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





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SASY 60i Busbar System

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### Description

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



Poles	Max. Rated Operational Current	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
Number	I <sub>b</sub> (A)						

### Systems up to 630 A for Flat Busbars

#### 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

wa\_vt09913



3	630	With snap-in slide for adapting to the respective size of the bar	12 x 5/10 15 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10	With pre-drilled holes inside for screw-fixing	BBS-3/FL	107066	10
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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	With pre-drilled holes inside for screw-fixing	BBS-4/FL	138381	10
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#### UL Busbar Support

wa\_vt10013



3	630	With snap-in slide for adapting to the respective size of the bar	12 x 5/10 15 x 5/10 30 x 5/10	With pre-drilled holes inside for screw-fixing	BBS-3/FL-NA	107067	10
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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 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	Can be mounted individually	BBS-2/FL	107069	10
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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	Can be mounted individually	BBS-1/FL	107161	10
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#### Compact Busbar Support

VT35310, VT35410









3	630	With a removable contact block to adjust it to the respective size of the bar	12 x 5/10	With pre-drilled holes inside for screw-fixing and integrated end covers	BBS-3/FL-C	138370	10
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# 1.4

## SASY 60i Busbar System

Systems up to 630 A for Flat Busbars

Poles	Max. Rated Operational Current I <sub>e</sub> (A)	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
End Cover							
	—	—	—	To cover the busbar ends for BBS-3/FL and BBS-3/FL-NA	—	ES-BBS-3/FL	107068 10
UL Base Plate							
<ul style="list-style-type: none"><li>• Silicone-free, chlorine-free</li><li>• Self-extinguishing according to UL 94</li><li>• Temperature-resistant up to 110 °C</li></ul>							
	—	—	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	1100 mm long	BBC-BT-NA	107172 2
Busbar Covers							
<ul style="list-style-type: none"><li>• Silicone-free, chlorine-free</li><li>• Self-extinguishing according to UL 94</li><li>• Temperature-resistant up to 110 °C</li></ul>							
	—	—	—	12 x 5 15 x 5 20 x 5 25 x 5 30 x 5	12-30 x 5 1000 mm long	BBC-FL5	107173 10
	—	—	—	12 x 5 15 x 5 20 x 5 25 x 5 30 x 5	12-30 x 10 1000 mm long	BBC-FL10	107174 10
Flat Copper Rails							
	160	12 x 5	1500	tinned	CU12X5	034121	10
			2250	tinned	CU12X5-2250	005093	10
	250	20 x 5	1500	tinned	CU20X5	044092	10
			2250	tinned	CU20X5-2250	007466	10
	460	20 x 10	1500	tinned	CU20X10	041719	10
			2250	tinned	CU20X10-2250	009839	10
	630	30 x 10	1500	untreated	CU30X10	051211	10

# SASY 60i Busbar System

## Systems up to 1250, 1600 A for Profile Bars

# 1.5

Poles	Max. Rated Operational Current $I_b$ (A)	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
Number							

### Systems up to 1250, 1600 A for Profile Bars

#### 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	With pre-drilled holes inside for screw-fixing	BBS-3/PR	107162	3
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VT19814



1	1600	Suitable for setting up a PE or N bar	Double-T-Profile	With pre-drilled holes inside for screw-fixing	BBS-1/PR	107165	10
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#### End Cover

wa\_vt10313



—	—	—	For the BBS-3/PR support	—	ES-BBS-3/PR	107164	4
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#### UL Base Plate

- Silicone-free, chlorine-free
- Self-extinguishing according to UL 94
- Temperature-resistant up to 110 °C

wa\_vt10713



—	—	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	1100 mm long	BBC-BT-NA	107172	2
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#### Double-T-Profile Busbar

wa\_vt13113



—	1250 <sup>1)</sup>	Tin-plated Cross-section 500 mm <sup>2</sup>	For BBS-3/PR and BBS-1/PR supports	2400 mm long	CU-BAR-500/T	107166	1
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wa\_vt13013



—	1600 <sup>1)</sup>	Tin-plated Cross-section 720 mm <sup>2</sup>	For BBS-3/PR and BBS-1/PR supports	2400 mm long	CU-BAR-720/T	107167	1
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<sup>1)</sup> 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.

Poles	Max. Rated Operational Current	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
Number	$I_b$ (A)						

**Busbar Covers**

- Silicone-free, chlorine-free
- Self-extinguishing according to UL 94
- Temperature-resistant up to 110 °C

wa\_vt13413



—	—	—	For Double- T-Profile	1000 mm long	BBC-CU-BAR/PR	107175	5
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Utilisation

Notes

Type  
Designation

Article No.

Units per  
package

## Covers for 630, 1250 and 1600 A Systems

### Spare Section Cover - Modular

wa\_vt13213



To cover the front of the 60 mm system

700 mm long.  
To be used with  
BBC-MRCOV1 sup-  
port only

BBC-RCOV1

107178

2

### Support for Spare Section Cover

wa\_vt11613



Suits any thickness of bars

To be used with  
spare section cover  
BBC-RCOV1 only

BBC-MRCOV1

107179

10

### Cover complete

wa\_vt09613



For 3-pole systems

228 mm long

BBC-CS1

107209

1

01063500\_0



For 3-pole systems

270 mm long

BBC-CS3

138377

1

01063507\_0



For 4-pole systems

228 mm long

BBC-CS4

138387

1

### Single covers

#### Compartment Section Double-T

wa\_vt12913



For 3-pole systems with BBS-3/PR

48 mm high  
2400 mm long  
To be fixed at the  
(profile) bar support

BBC-CS48/PR

107176

1

wa\_vt12813



For 3-pole systems with BBS-3/PR

76 mm high  
2400 mm long  
To be fixed at the  
(profile) bar support

BBC-CS76/PR

107177

1

### Front Plate Cover for front plate cut-out

SG13506



Cover module for cut-out. Height = 195 mm

54 mm width

AM-195/54

107963

15

Utilisation

Notes

Type  
Designation

Article No.

Units per  
package**System Cover - Kit**

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

**For 3-pole systems**

Cover Profile Front	1100 mm long	BBC-CS2-F	107180	1
Cover Profile Top/Bottom	1100 mm long	BBC-CS2-T/B	107181	2
Support Set for Cover Profile	1 set includes a right and left side support	BBC-MCS2	107182	1

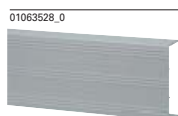
**For 4-pole systems**

Cover Profile Front	1100 mm long	BBC-CS4-F	138384	1
Cover Profile Top/Bottom	1100 mm long	BBC-CS4-T/B	138383	2
Support Set for Cover Profile	1 set includes a right and left side support	BBC-MCS4	138382	1

**System Cover - Compact****Empty-section Cover, Modular**

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

—	700 mm long	BBC-RCOV3-C	138371	2
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**Support for Spare Section Cover**

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

—	12 x 5/10	BBC-MRCOV3-C	138372	10
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## Feeder Circuit Adapters for 630, 1250 and 1600 A Systems

Poles	Max. Rated Operational Current	Type of Conductor <sup>1)</sup>	Utilisation	Notes	Type Designation	Article No.	Units per package
Number	I <sub>b</sub> (A)						

### Feeder Circuit Adapters for 630, 1250 and 1600 A Systems

#### Connecting Terminal Plates

wa\_vt15113



3	80	1.5 - 16 mm <sup>2</sup> AWG 16 - AWG 6 ⊙ ⊙ ⊙	12x5/10 15x5/10 20x5/10 25x5/10 30x5/10 Double-T-Profile	20 mm width. With spring-type terminal technology.	BBA-TP3/16	107205	1
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3	300	6 - 50 mm <sup>2</sup> AWG 10 - AWG 2/0 ⊙ ⊙ ⊙ ⊙ 6x9x0.8	12x5/10 15x5/10 20x5/10 25x5/10 30x5/10 Double-T-Profile	54 mm width. Terminals can be removed for connecting non-cut conductors. Looping them through is possible. Termination space 10 x 15 mm.	BBA-TP3/50	107183	1
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wa\_vt09713



3	440	35 - 120 mm <sup>2</sup> AWG 2 - MCM 250 ⊙ ⊙ ⊙ ⊙ 10x16x0.8	12x5/10 15x5/10 20x5/10 25x5/10 30x5/10 Double-T-Profile	81 mm width. Terminals can be removed for connecting non-cut conductors. Looping them through is possible. Termination space 15 x 15 mm.	BBA-TP3/120	107184	1
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#### Connecting Terminal Plates Compact

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3	480	35 - 150 mm <sup>2</sup> AWG 2 - MCM 300 ⊙ ⊙ ⊙ ⊙ 10x20x1	12x5/10	90 mm width. Terminals can be removed for connecting non-cut conductors. Contacting is provided for through the cable bed. Compact System.	BBA-TP3/100-C	138373	1
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<sup>1)</sup> ⊙ 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

Poles	Max. Rated Operational Current	Type of Conductor <sup>1)</sup>	Utilisation	Notes	Type Designation	Article No.	Units per package
Number	I <sub>b</sub> (A)						

### Connecting Set with Cover 3-pole

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

wa\_vt13513



wa\_vt09613



3	560	95 - 300 mm <sup>2</sup> MCM300 - MCM600 directly terminated:    	20x5/10 25x5/10 30x5/10 Double-T- Profile	180 - 240 mm width. Clearance between poles can be adjust- ed as required. To be fixed directly on top of the bus- bar terminal. Incl. cover cap in flexible width. Looping them through is possible.	BBA-TP3/300	107185	1
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wa\_vt13513



wa\_vt09613



3	800	Up to  10x32x1  30x25	20x5/10 25x5/10 30x5/10 Double-T- Profile	180 - 240 mm width. Clearance between poles can be adjust- ed as required. To be fixed directly on top of the bus- bar terminal. Incl. cover cap in flexible width. Looping them through is possible. Termination space 32 x 25 mm.	BBA-TP3/CU-BAND	107186	1
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wa\_vt61313



wa\_vt09613



3	1600	Up to  (2x)10x50x1 Up to  (2x)50x10	30x10 Double-T- Profile	228 mm width. Co-ordinated up for Eaton NZM4. To be fixed directly on top of the bus- bar terminal. Incl. cover cap in flexible width. Looping them through is possible. Termination space 5 x 28 mm.	BBA-TP3/1000	107207	1
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<sup>1)</sup> 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



Poles	Max. Rated Operational Current	Type of Conductor <sup>1)</sup>	Utilisation	Notes	Type Designation	Article No.	Units per package
Number	I <sub>b</sub> (A)						

### Connecting Set with Cover 4-pole





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

wa\_vt13513



wa\_vt09613





4	560	95 - 300 mm <sup>2</sup> MCM300 - MCM600 directly terminated:    	20x5/10 25x5/10 30x5/10 Double-T- Profile	180 - 240 mm width. Clearance between poles can be adjust- ed as required. To be fixed directly on top of the bus- bar terminal. Incl. cover cap in flexible width. Looping them through is possible.	BBA-TP4/300	138385	1
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











4	800	Up to  10x32x1  30x25	20x5/10 25x5/10 30x5/10 Double-T- Profile	180 - 240 mm width. Clearance between poles can be adjust- ed as required. To be fixed directly on top of the bus- bar terminal. Incl. cover cap in flexible width. Looping them through is possible. Termination space 32 x 25 mm.	BBA-TP4/CU-BAND	138386	1
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


<sup>1)</sup>  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

# 1.12

## SASY 60i Busbar System

### Terminals for 630, 1250 and 1600 A Systems

Max. Rated Operational Current $I_e$ (A)	Type of Conductor <sup>1)</sup>	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
<b>Terminals for 630, 1250 and 1600 A Systems</b>							
<b>Brace Terminals</b>							
• Connection method to busbars without drilling							
 VT35910	480	38 - 150 mm <sup>2</sup> , AWG2/0 - MCM300. directly terminated:   	Connection method to busbars without drilling	12x5/10 20x5/10	Contacting of wire and busbar via a cable bed	AKS150	138374 6
 VT13306	500	95 - 185 mm <sup>2</sup> , AWG3/0 - MCM350. directly terminated:   	Connection method to busbars without drilling	20x5/10 25x5/10 30x5/10 Double-T-Profile	Contacting of wire and busbar via a cable bed	AKS185	107195 6
 VT13406	600	95 - 300 mm <sup>2</sup> , MCM300 - MCM600. directly terminated:   	Connection method to busbars without drilling	20x5/10 25x5/10 30x5/10 Double-T-Profile	Contacting of wire and busbar via a cable bed	AKS300	107196 6
 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	Contacting of wire and busbar via a contacting block	AKS-CU-BAND	107197 3
 wib_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	Contacting of wire and busbar via a contacting block	AKS1000	107208 1
 01063437.0	1600	Up to  (2x)60x10	Connection method to busbars without drilling Termination space 68 x 28 mm.	30x10 Double-T-Profile Triple-T-Profile	Contacting of wire and busbar via a contacting block	AKS1200	138375 3
 01063444.0	1600	Up to  (2x)100x10	Connection method to busbars without drilling Termination space 105 x 28 mm.	30x10 Double-T-Profile Triple-T-Profile	Contacting of wire and busbar via a contacting block	AKS2000	138376 3

<sup>1)</sup>  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


Max. Rated Operational Current $I_e$ (A)	Type of Conductor <sup>1)</sup>	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
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### Profile Terminals<sup>2)</sup>

- Connection method to busbars without drilling
- In case of parallel connection of two multi-layer copper bars, please place spacers in bet


01063395\_0



1600	750 mm <sup>2</sup> , Termination space 51 x 5-28 	Connection method to busbars without drilling	Double-T- Profile	Width 82 mm	AKP750	138364	3
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1600	800 mm <sup>2</sup> , Termination space 41 x 20-42 	Connection method to busbars without drilling	Double-T- Profile	Width 72 mm	AKP800	107198	3
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1600	900 mm <sup>2</sup> , Termination space 64 x 5-28 	Connection method to busbars without drilling	Double-T- Profile	Width 94 mm	AKP900	138365	3
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wa\_vt12313



1600	1000 mm <sup>2</sup> , Termination space 51 x 20-42 	Connection method to busbars without drilling	Double-T- Profile	Width 94 mm	AKP1000	107199	3
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01063409\_0



2000	1200 mm <sup>2</sup> , Termination space 64 x 20-42 	Connection method to busbars without drilling	Double-T- Profile	Width 94 mm	AKP1200	138366	3
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01063416\_0










2500	1600 mm <sup>2</sup> , Termination space 81 x 20-42 	Connection method to busbars without drilling	Double-T- Profile	Width 112 mm	AKP1600	138367	3
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01063430\_0



3200	3600 mm <sup>2</sup> , Termination space 101 x 23-45 	Connection method to busbars without drilling	Triple-T- Profile	Width 132 mm	AKP3600	138369	3
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








- <sup>1)</sup>  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








<sup>2)</sup> Für UL508A-System with Profilklemme ist die Utilisation der UL Base Plate BBC-BT-NA and Sammelschienenabdeckung BBC-CU-BAR/PR erforderlich.

# 1.14























## SASY 60i Busbar System








Terminals for 630, 1250 and 1600 A Systems

	Max. Rated Operational Current $I_e$ (A)	Type of Conductor <sup>1)</sup>	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
<b>Universal Conductor Terminal 5 mm</b>								
 VT18406	180	1.5 - 16 mm <sup>2</sup> , AWG14 - AWG6. directly terminated:     8x6x0.5	With integrated retaining spring, captive terminal screw, opened termination space 7.5 x 7.5 mm	All flat	—	AKU16/5	107187	100
 VT18306	270	4 - 35 mm <sup>2</sup> , AWG10 - AWG2. directly terminated:     3x9x0.8 or 6x9x0.8	With integrated retaining spring, captive terminal screw, opened termination space 10.5 x 11 mm	All flat	—	AKU35/5	107188	50
 VT18206	400	16 - 70 mm <sup>2</sup> , AWG4 - AWG2/0. directly terminated:    2x(3x9x0.8) or 6x9x0.8	With integrated retaining spring, captive terminal screw, opened termination space 14 x 14 mm	All flat	—	AKU70/5	107189	25
 VT18106	440	16 - 120 mm <sup>2</sup> , AWG4 - MCM250. 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	—	AKU120/5	107190	25

<sup>1)</sup>  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



Max. Rated Operational Current $I_e$ (A)	Type of Conductor <sup>1)</sup>	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
<b>Universal Conductor Terminal 10 mm</b>							
 VT13806	180	1.5 - 16 mm <sup>2</sup> , AWG14 - AWG6. 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
 VT13706	270	4 - 35 mm <sup>2</sup> , AWG10 - AWG2. 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
 VT13606	400	16 - 70 mm <sup>2</sup> , AWG4 - AWG2/0. 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
 VT13506	440	16 - 120 mm <sup>2</sup> , AWG4 - MCM250. 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
 01063451_0	490	Cable lug M8	With integrated retaining spring, captive terminal screw, opened termination space, bolt M8x8	All flat busbars of a thickness of 10 mm, Double-T-Profile	—	AKU-M8/10	138362 20
 01063458_0	630	Cable lug M10	With integrated retaining spring, captive terminal screw, opened termination space, bolt M10x10	All flat busbars of a thickness of 10 mm, Double-T-Profile	—	AKU-M10/10	138361 6

<sup>1)</sup>  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

Max. Rated Operational Current $I_e$ (A)	Type of Conductor <sup>1)</sup>	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
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### Brace Terminals

01063605\_0



630	—	Width 50 mm	All flat busbars of a thickness of 10 mm and CU-BAND11x21x1	—	PK900	138378	3
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### Connection Terminals

01063388\_0



630	95 - 300 mm <sup>2</sup>	Width 48 mm. Contacting of wire and busbar via a cable bed.	30 x 10 mm Double-T-Profile Triple-T-Profile	—	AK300	138336	3
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<sup>1)</sup> ○ Round conductor, single-wired  
 ⊗ Round conductor, fine-wired with expertly pressed wire end ferrule  
 ⊙ Round conductor, multi-wired  
 ◊ Sector conductor, single-wired  
 ⊠ Sector conductor, multi-wired  
 ▨ Cu-Band  
 ■ Cu-Bar

## Lengthwise Bar Connections for 630, 1250 and 1600 A Systems

Max. Rated Operational Current $I_e$ (A)	Width  mm	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
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### Lengthwise Bar Connections for 630, 1250 and 1600 A Systems

#### 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	Spacing between sys-tems 100 - 110 mm. Max. permissible mis-alignment of bars is 1 mm	BBT-CU12-20X5/10-38	138379	12
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wa\_vt12513



630	150	For identically shaped, flat copper bars	12 x 5/10 15 x 5/10 20 x 5/10	Spacing between sys-tems 100 - 110 mm. Max. permissible mis-alignment of bars is 1 mm	BBT-CU12-20X5/10-150	107200	3
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01063549\_0



630	40	For identically shaped, flat copper bars	20 x 5/10 25 x 5/10 30 x 5/10	Spacing between sys-tems 50 - 60 mm. Max. permissible mis-alignment of bars is 5 mm	BBT-CU20-30X5/10-40	138380	6
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wa\_vt12113



630	95	For identically shaped, flat copper bars	20 x 5/10 25 x 5/10 30 x 5/10	Spacing between sys-tems 50 - 60 mm. Max. permissible mis-alignment of bars is 5 mm	BBT-CU20-30X5/10-95	107201	3
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wa\_vt12013



630	150	For identically shaped, flat copper bars	20 x 5/10 25 x 5/10 30 x 5/10	Spacing between sys-tems 100 - 110 mm. Max. permissible mis-alignment of bars is 5 mm	BBT-CU20-30X5/10-150	107202	3
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wa\_vt11913



1600	50	For different and identical types of double-T-profile bars	Double-T-Profile	Spacing between sys-tems 9 - 20 mm. Max. permissible mis-alignment of bars is 2 mm	BBT-CU-BAR500/720-50	107203	6
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wa\_vt11813



1600	150	For different and identical types of double-T-profile bars	Double-T-Profile	Spacing between sys-tems 100 - 110 mm. Max. permissible mis-alignment of bars is 5 mm	BBT-CU-BAR500/720-150	107204	3
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Max. Rated Operational Current $I_e$ (A)	Rated Operational Voltage $U_e$ (V)	Adapter Width (mm)	Adapter Length (mm)	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
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### NZM Busbar Adapter, 3-pole

#### Busbar Adapter NZM

- For use on flat copper bars 12 - 30 x 5/10, Double-T-Profiles and Triple-T-Profiles
- Self-extinguishing according to UL 94
- Track resistance CTI 200
- Temperature-resistant up to 120 °C

1230PIC-668 AO



160	690	92	200	For connecting to the system at the top or bottom through fixed connection bars included in the scope of delivery <sup>1) 2)</sup>	NZM1 PN1 N1 NS1	For switches with standard connection frame-type terminals. To be snapped onto the busbar by means of a combi-base.	NZM1-XAD160	104554	1
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wa\_vt12213



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. <sup>3)</sup>	NZM2 PN2 N2 NS2	Use only in combination with auxiliary type (+)NZM2-XKR4 To be screwed onto the busbar by means of a claw-type of clamp.	NZM2-XAD250	104555	1
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wa\_vt22513, wa\_vt12213



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. <sup>3)</sup>	NZM3 PN3 N3	Use only in combination with auxiliary type (+)NZM3-XKR13 To be screwed onto the busbar by means of a claw-type of clamp.	NZM3-XAD630	107206	1
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#### Terminal for Device Adapter NZM

wa\_vt12713



250	690	—	—	To cover the connection to the system at the top/bottom	NZM2 PN2 N2 NS2	For device combination NZM2 use with auxiliary type +NZM2-XKR40 or +NZM2-XKR4U	NZM2-XKR4	281666	1
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wa\_vt12613



630	690	—	—	To cover the connection to the system at the top/bottom	NZM3 PN3 N3	For device combination NZM3 use with auxiliary type +NZM3-XKR130 or +NZM3-XKR13U	NZM3-XKR13	281668	1
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<sup>1)</sup> To be snapped onto the voltage-free busbar.

<sup>2)</sup> Thanks to the combi-base it can be adjusted to a bar width of both 5 and 10 mm.

<sup>3)</sup> To be screwed onto the voltage-free busbar.



Max. Rated Operational Current $I_e$ (A)	Rated Operational Voltage $U_e$ (V)	Adapter Width (mm)	Adapter Length (mm)	Special Features	Utilisation	Notes	Type Designation	Article No.	Units per package
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### NZM Busbar Adapter, 4-pole

#### Busbar Adapter NZM

- For use on flat copper bars 12 - 30 x 5/10, Double-T-Profiles and Triple-T-Profiles
- Self-extinguishing according to UL 94
- Track resistance CTI 200
- Temperature-resistant up to 120 °C

01063591\_0



250	690	140	—	For connecting to the system at the top through a tubetype of connection at the rear. Tube included in the scope of delivery. <sup>3)</sup>	NZM2(-4) PN2(-4) N2(-4) NS2(-4)	Use only in combination with auxiliary type (+)NZM2-4-XKR4 To be screwed onto the busbar by means of a claw-type of clamp.	NZM2-4-XAD250	138388	1
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01063598\_0



630	690	185	—	For connecting to the system at the top through a tubetype of connection at the rear. Tube included in the scope of delivery. <sup>3)</sup>	NZM3(-4) PN3(-4) N3(-4) NS3(-4)	Use only in combination with auxiliary type (+)NZM3-4-XKR13 To be screwed onto the busbar by means of a claw-type of clamp.	NZM3-4-XAD630	138389	1
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#### Terminal for Device Adapter NZM

NZM2-4-XKR4



250	690	—	—	To cover the connection to the system at the top	NZM2-4 PN2-4 N2-4 NS2-4	For device combination NZM2 use with auxiliary type +NZM2-4-XKR40	NZM2-4-XKR4	118907	1
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NZM3-4-XKR13



630	690	—	—	To cover the connection to the system at the top	NZM3-4 PN3-4 N3-4 NS3-4	For device combination NZM3 use with auxiliary type +NZM3-4-XKR130	NZM3-4-XKR13	119020	1
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<sup>1)</sup> To be snapped onto the voltage-free busbar.

<sup>2)</sup> 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.

<sup>3)</sup> To be screwed onto the voltage-free busbar.

Max. Rated Operational Current I <sub>e</sub> (A)	Rated Operational Voltage U <sub>e</sub> (V)	Wire Cross Section	Adapter Width (mm)	Adapter Length (mm)	Sup- port Rails	Utilisation	Notes	Type Designation	Article No.	Units per package
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**xStart Busbar Adaptor, 3-pole<sup>1)</sup>****Busbar Adapter xStart 25 A**

wa\_vt10913



25	690	AWG12	45	200	1	PKZM0+ Contactor DIL M 7 Contactor DIL M 9 Contactor DIL M 12 Contactor DIL M 15 MSC-D-0,25-M7... to MSC-D-16-M15...	Direct starter set PKZM0-XDM12	BBA0-25	101451	4
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wa\_vt10513



25	690	AWG12	90	200	1	PKZM0+ 2x Contactor DIL M 7-01 2x Contactor DIL M 9-01 2x Contactor DIL M 12-01 MSC-R-0,25-M7... to MSC-R-12-M12...	Reversing starter set PKZM0-XRM12	BBA0R-25	101453	2
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**Busbar Adapter xStart 25 A, Universal Type**

wa\_vt10713



25	690	AWG12	45	200	12	Support rail adjustable on the 1.25 mm grid	—	BBA0- 25/2TS	101481	4
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**Busbar Adapter xStart 32 A**

wa\_vt10813



32	690	AWG10	45	200	2	PKZM0+ Contactor DIL M 17 Contactor DIL M 25 Contactor DIL M 32 MSC-D-16-M17... to MSC-D-32-M32...	Electrical contact module PKZM0-XM32 DE	BBA0-32	101452	4
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wa\_vt10613



32	690	AWG10	90	200	3	PKZM0+ 2x Contactor DIL M 17-01 2x Contactor DIL M 25-01 2x Contactor DIL M 32-01 MSC-R-16-M17... to MSC-R-32-M32...	Electrical contact module PKZM0-XM32 DE Reverse wiring set DILM32-XRL	BBA0R-32	101454	2
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**Busbar Adapter xStart 32 A, for Spring-type Terminal**

wa\_vt30913



32	690	—	45	200	2	Support rail adjustable on the 1.25 mm grid	With spring- type terminal technology, to 1.5-6 mm <sup>2</sup> . For example for 1-phase applica- tions..	BBA0- 32/2TS-C	116708	4
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<sup>1)</sup> 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.

Max. Rated Operational Current $I_e$ (A)	Rated Operational Voltage $U_e$ (V)	Wire Cross Section	Adapter Width (mm)	Adapter Length (mm)	Sup- port Rails	Utilisation	Notes	Type Designation	Article No.	Units per package
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**Busbar Adapter xStart 63 A**

wa\_vt11213



63	690	AWG8	72	260	2	PKZ2+ Contactor DIL M 7 Contactor DIL M 9 Contactor DIL M 12 Contactor DIL M 17 Contactor DIL M 25 Contactor DIL M 32 Contactor DIL M 40	—	BBA2L-63	101480	2
63	690	AWG8	72	200	1	PKZ2	—	BBA2-63	101458	4

00581455\_0



63	690	AWG8	72	200	2	PKZ2+ Contactor DILM7 - DILM15 DILM17 - DILM38 DILM40 - DILM 65 Switch drive SE1A-PKZ2 and S-PKZ2 in connec- tion with clipsplate C-PKZ2	—	BBA2- 63/2TS	116900	2
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wa\_vt11313



63	690	AWG8	55	260	2	PKZM4+ Contactor DIL M 17 Contactor DIL M 25 Contactor DIL M 32 Contactor DIL M 40 Contactor DIL M 50 Contactor DIL M 65	Electrical con- nector for PKZM4+DILM40...65: PKZM4-XM65 DE	BBA4L-63	101459	4
63	690	AWG8	55	200	1	PKZM4	—	BBA4-63	101457	4

**Busbar Adapter xStart 80 A**

00581461\_0



80	690	—	72	200	2	universal	With screw- type terminal technology up to AWG6, for example for 1-phase (not UL/ CSA compatible without an addi- tional component)	BBA2- 80/2TS-S	116901	4
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<sup>1)</sup> 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.

Max. Rated Operational Current $I_e$ (A)	Rated Operational Voltage $U_e$ (V)	Wire Cross Section	Adapter Width (mm)	Adapter Length (mm)	Sup- port Rails	Utilisation	Notes	Type Designation	Article No.	Units per package
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### Busbar Adapter xStart, Universal Type

wa\_vt11013



—	—	—	45	200	2	Support rail adjustable on the 1.25 mm grid	Without electrical contacting, auxiliary to BBA... for the setup of reversing starters, for example	BBA0/2TS-L	101482	4
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wa\_vt11413



—	—	—	54	260	2	Support rail adjustable on the 1.25 mm grid	Without electrical contacting, auxiliary to BBA... for the setup of reversing starters, for example	BBA4/2TS-L	101483	4
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### Side Module

wa\_vt11513



—	—	—	9	200	—	—	Can be placed on both sides of BBA, to increase the add-on width	BBA-XSM	101484	10
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Notes	Width (mm)	Type Designation	Article No.	Units per package
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### Accessories - Support rail/Connecting cable

#### Support rail

Used for for BBA... adapter	45	PKZM0-XMR	239364	10
	54	PKZM0-XMR54	113911	10
	72	PKZM0-XMR72	113912	10

#### Connecting cable

Used for BBA with screw-type or spring-type terminals	—	BBA-XLT-6-130	116902	30
	—	BBA-XLT-16-142	116903	30

Width (mm)	MU	Cross-section (mm <sup>2</sup> )	Type Designation	Article No.	Units per package
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### Busbar Double Adapter for DIN modular devices

- Cross-section 6 mm<sup>2</sup> -  $I_g = 35$  A

4300PIC-343



45	2.5	6	Z-SS-60-ADD/6-45	288790	1 / 10
54	3	6	Z-SS-60-ADD/6-54	288791	1 / 10
72	4	6	Z-SS-60-ADD/6-72	288792	1 / 10
81	4.5	6	Z-SS-60-ADD/6-81	288793	1 / 10

<sup>1)</sup> 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.

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

01087651\_0



Example illustration

<sup>\*)</sup> Technical details see Eaton main catalogue Industrial Switch Gear

<sup>1)</sup> 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.

01088617\_0



Example illustration

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

<sup>\*)</sup> Technical details see Eaton main catalogue Industrial Switch Gear

<sup>1)</sup> 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.

Max. Rated Operational Current $I_e$ (A)	Rated Voltage $U_e$ (V AC)	Size	Utilisation	Width	Notes	Type Designation	Article No.	Units per package
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### Slide Fuse Equipment, 3-pole

#### D-Type Slide Fuse-Base

- Delivered empty, without screw caps

sg03516, sg03716, sg03616



63	400	E18, D02	12 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10 Double-T	27	Cartridge-ring adapter insert	D02-SO/63/3-R-27 <sup>1)</sup>	114315	10
				36	Cartridge-ring adapter insert	Z-D02/R/3-36 <sup>2)</sup>	100663	10
				54	Cartridge-ring adapter insert	Z-D02/R/3-54 <sup>2)</sup>	100664	10

wa\_sg01112



25	500	E27, DII	12 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10 Double-T	45	Gauge ring	DII-SO/25/3-R <sup>1)</sup>	107965	10
					Screw-in gauge ring	DII-SO/25/3-R-PS <sup>1)</sup>	110394	10

wa\_sg01212



63	690	E33, DIII	12 x 5/10 20 x 5/10 25 x 5/10 30 x 5/10 Double-T	45	Gauge ring	DIII-SO/63/3-R <sup>1)</sup>	107966	10
					Screw-in gauge ring	DIII-SO/63/3-R-PS <sup>1)</sup>	110395	10

#### D-Type Slide Fuse-Base, compact-type

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

SG82411



63	400	E18, D02	12 x 5/10	36	Cartridge-ring adapter insert, snap-on mechanism mechanism when sliding it onto the busbar.	FCFBD02BBC60-3-36 <sup>1)</sup>	139532	6
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Designation	Utilisation	Width	Notes	Type Designation	Article No.	Units per package
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#### Covers

SG60412



Set for covering busbar support	D02	36	Suitable for D02-SO/63/3-R-27	Z-D02-S-AB-SET	100662	10
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wa\_sg01713



Side cover	DII	—	Suitable for DII.-SO/.../3-R(-PS)	SBS-RS60	060541	10
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<sup>1)</sup> Incl. shock hazard protection cover with front and bottom plate

<sup>2)</sup> Incl. shock hazard protection cover without front and bottom plate



Max. Rated Operational Current $I_e$ (A)	Rated Voltage $U_e$ (V AC)	Size	Width	Utilisation	Notes	Type Designation	Article No.	Units per package
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**Screw Caps**

wa\_sg04013



63	400	E18, D02	—	D02-SO...	—	Z-D02/SK	100651	20/500
25	500	E27, D II	—	DII-SO...	—	Z-DII/SK	112148	50/600
63	500	E33, D III	—	DIII-SO...	—	Z-DIII/SK	112149	30/360
63	690	E33, D III	—	DIII-SO...	—	Z-DIII/SK-690	118904	3

**Adapter Spring**

- To accommodate D01 fuse-links in Z-D02/SK screw caps

wa\_sg02612



16	—	D02-D01	—	—	—	Z-D02/SIKA-HF	263149	50/3000
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**D02 Switch-Disconnect-Fuse**

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

SG45912



63	400	E18, D02	20 x 5/10 30 x 5/10 Double-T	36	Cartridge-ring adapter insert	D02-S/63/3-RS	284649	10
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**Screw Caps**

wa\_sg04013



63	400	E18, D02	—	D02-SO...	—	Z-D02/SK	100651	20/500
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**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
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Max. Rated Operational Current $I_e$ (A)	Rated Voltage $U_e$ (V AC)	Size	Width	Utilisation	Notes	Type Designation	Article No.	Units per package
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**Switch-Disconnecter-Fuse D02 (+D01) + C**

- Visual 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
- Plug-in technique without screw caps
- All-pole and hand independent switching of load
- Version D02-LTS/63/3-R-HK with incorporated auxiliary switch
- Lead-seal- and lockable

**3P**

63	400	E18, D02	27	12 x 5/10 15 x 5/10	Cartridge-ring adapter insert without auxiliary switch	D02-LTS/63/3-R	114316	3
32	400	C 10x38		20 x 5/10 25 x 5/10 30 x 5/10 Double-T	Cartridge-ring adapter insert with auxiliary switch	D02-LTS/63/3-R-HK	114318	3

SG82311

**3P+N**

63	400	E18, D02	27	12 x 5/10 15 x 5/10	Cartridge-ring adapter insert without auxiliary switch	D02-LTS/63/3N-R	114317	3
32	400	C 10x38		20 x 5/10 25 x 5/10 30 x 5/10 Double-T	Cartridge-ring adapter insert with auxiliary switch	D02-LTS/63/3N-R-HK	114319	3

SG82211

**Accessories for D02-LTS/63..**

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)



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

See Fuse Material Accessories

**Adapter Spring**

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

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

SG81811



**Current Load Busbars, according to DIN EN 13601**

For busbar applications that have not been type-tested, UL508A allows an ampacity of 1000A/inch<sup>2</sup> (1.55A/mm<sup>2</sup>) if no tests have been carried out. This value may be higher if the product or the application has been tested accordingly. Eaton has conducted extensive tests for the user's maximum benefit in using the SASY 60i busbar system. The advantage of such tests is that one can use the SASY60i busbar system with higher rated currents than the default value allows. A busbar of size 30x10 mm for example can be charged with 630A instead of 465A only.

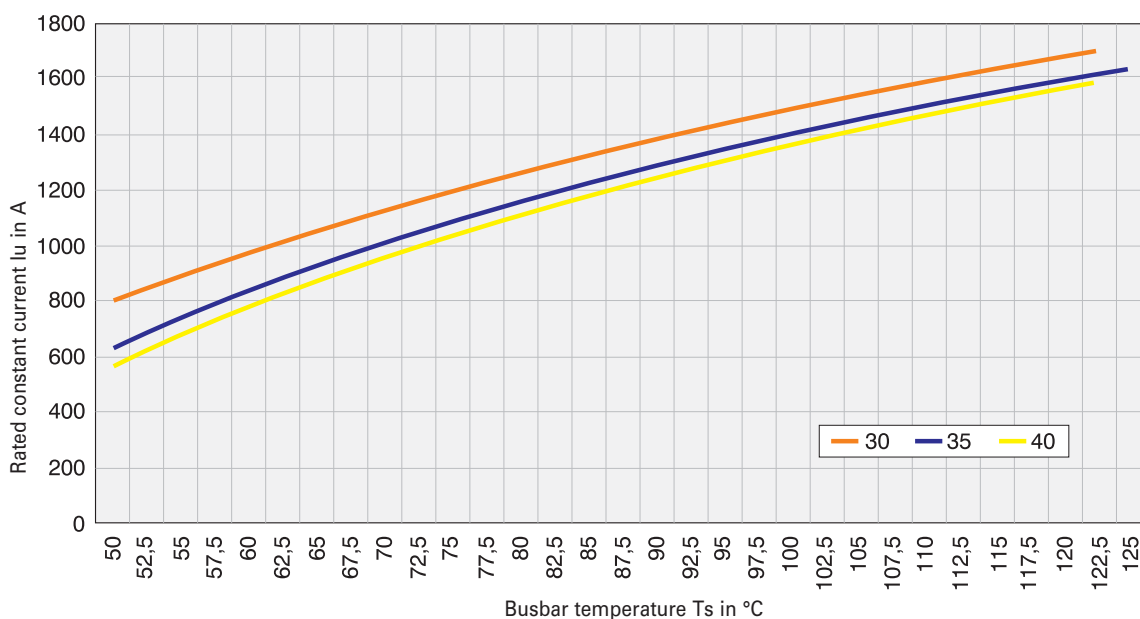
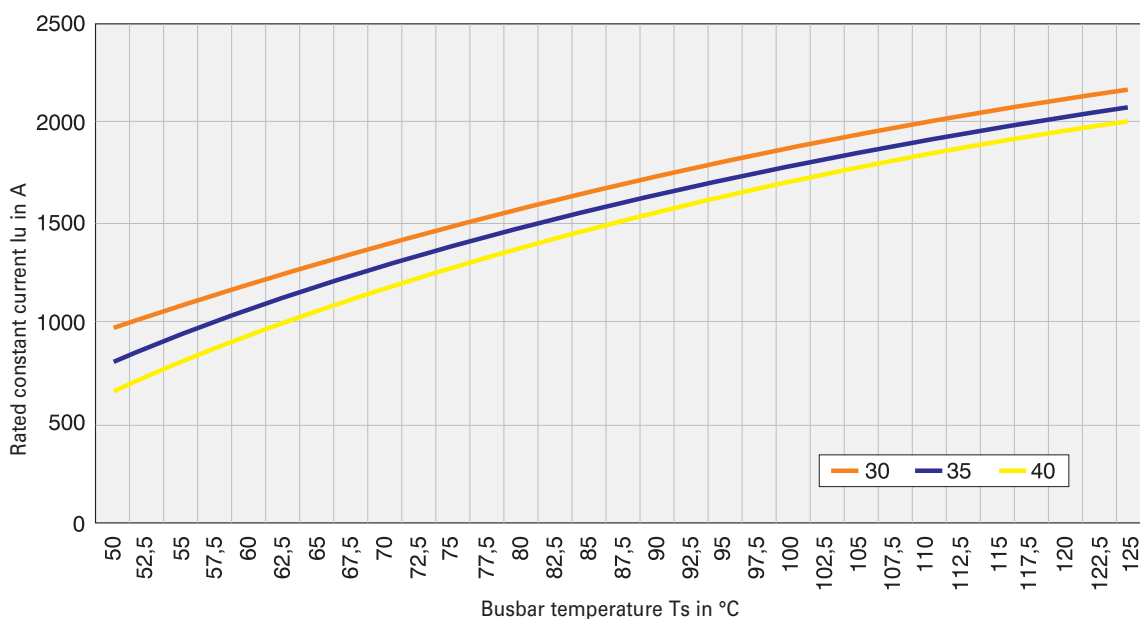
Higher current carrying capacities to DIN 43671 were obtained under operating conditions.

Busbar temperature is normally positively influenced by mounting components on the busbar and by air circulation within the installation.

Depending on the respective ambient temperature, you can calculate the correction factor k<sub>2</sub> according to DIN 43 671 for flat busbars. If ambient conditions change, a correction factor needs to be taken into account.

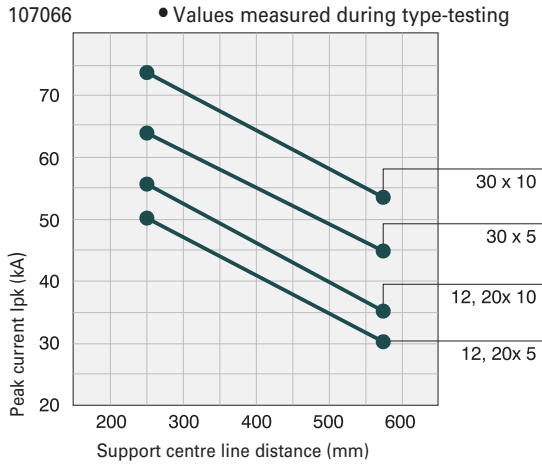
On the other hand, increased loads may occur if the components feature a correspondingly high temperature resistance.

A 30 x 10 tin-plated busbar can under normal conditions be loaded with 630 A. With a load of 800A, for instance, a k<sub>2</sub> 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.

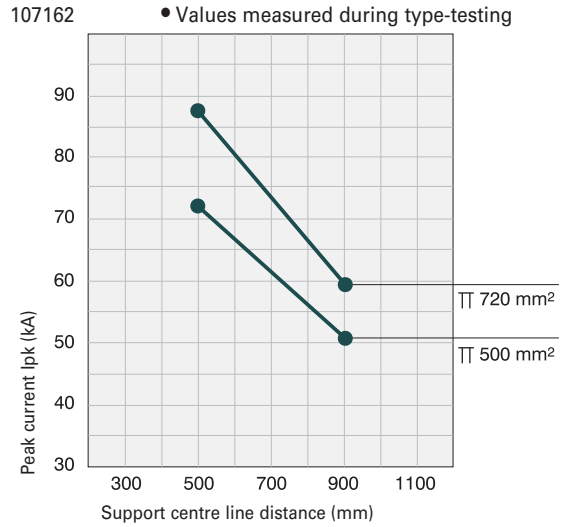
**Current load CU-BAR-500/T****Current load CU-BAR-720/T**

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

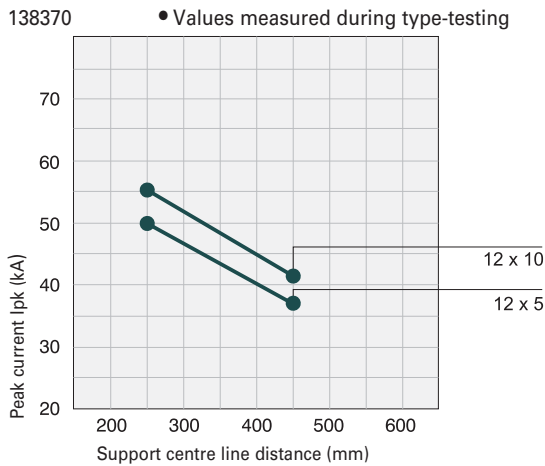
### BBS-3/FL



### BBS-3/PR

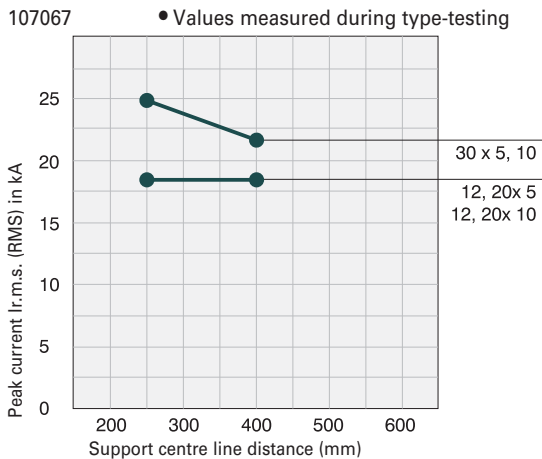


### BBS-3/FL-C

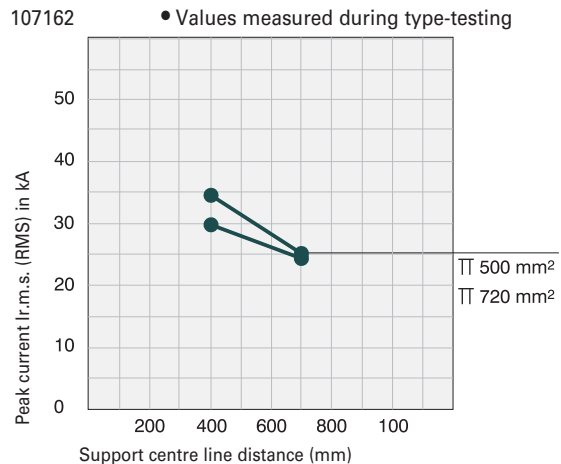


## Short-circuit strength diagrams according to UL 845 for 60 mm SASY 60i Busbar Systems

### BBS-3/FL-NA



### BBS-3/PR



## Technical Data Bar Support

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

## Technical Data Copper Bars

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

**Conductor connections**

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

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

**Busbar Support****60 mm system according to IEC**

1-pole for busbars 12x5 – 30x10, double-T-bars

2-pole for busbars 12x5 – 30x10

3-pole for busbars 12x5 – 30x10 and 12/20/ 30 x 5/10

3-pole for double-T-bars

Tighten screws for fixing the cover and bottom of the support at a torque of 4 Nm min.

**60 mm system according to UL**

3-pole for busbars 12/20/ 30 x 5/10

3-pole for double-T-bars

Tighten screws for fixing the cover and bottom of the support at a torque of 4 Nm min.

Silicone-free, chlorine-free

Temperature resistant up to

120 °C

Self-extinguishing

according to UL 94

Track resistance

CTI 200

**Busbars according to DIN EN 13601**

Tin-plated Cu-bars significantly reduce the work necessary for preparing the contact points.

Cu-busbars are r.m. selectively protected against aggressive environments.

Dimension	Cross-section
Double-T	500 mm <sup>2</sup>
Triple-T	720 mm <sup>2</sup>

**Permissible tolerances**

Radius	R	0.3 ... 0.7
Width		+ 0.1 / – 0.5
Thickness		+ 0.1 / – 0.1

**Center line distance**

60 mm system	± 0.5 mm
Variance on the contacting level	0.4 mm

**Ampacity with copper bars**

Cross-sections of bars	Surface	Ampacity according to IEC 35 °C ambient temp., 65 °C bar temp.	Ampacity according to UL/CSA
mm	mm <sup>2</sup>	A	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
Triple-T	720	1200	1200

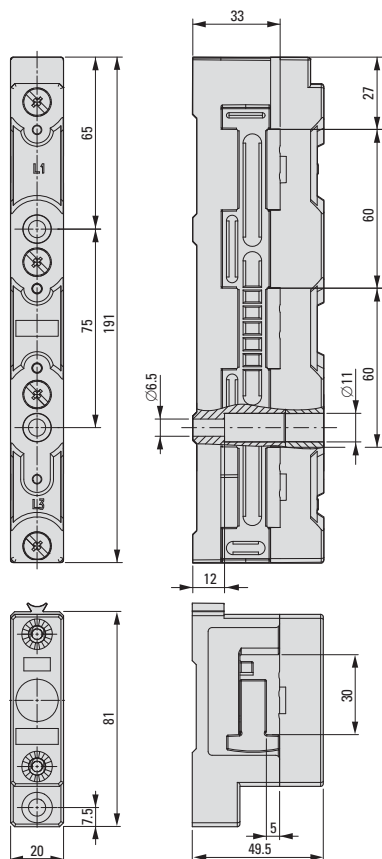
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## SASY 60i Busbar System

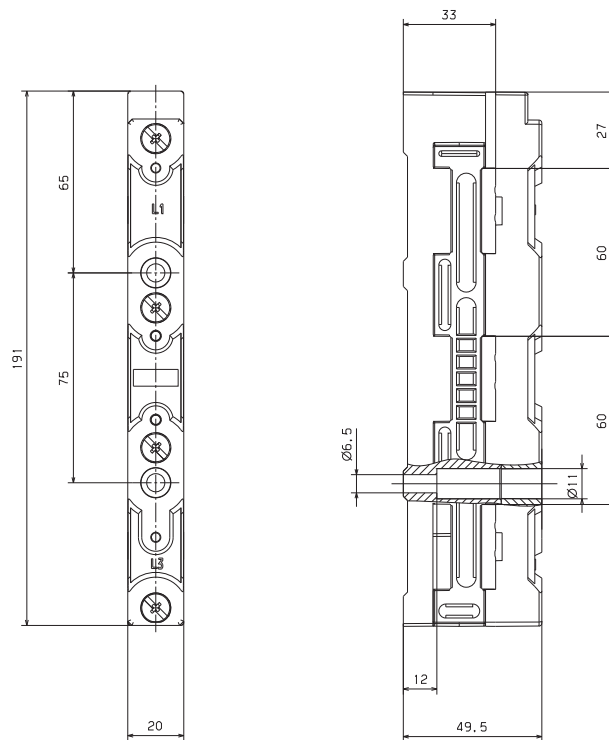
### Dimensions

#### Dimensions

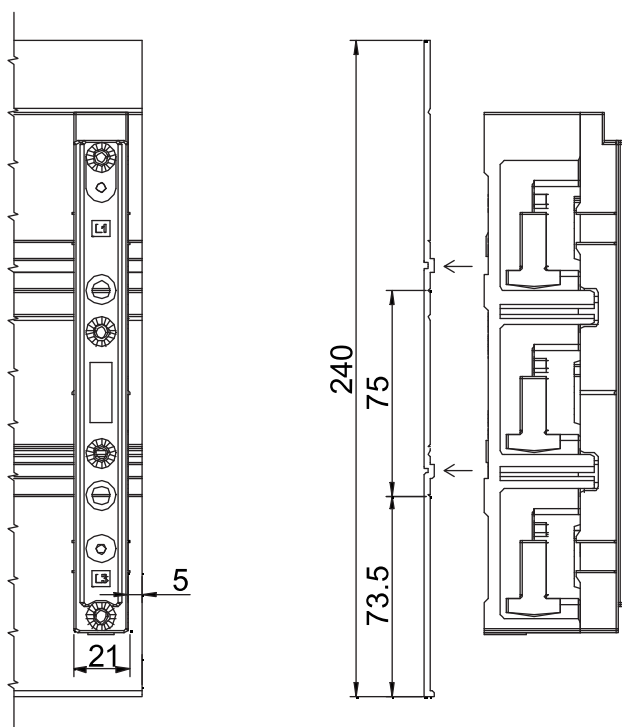
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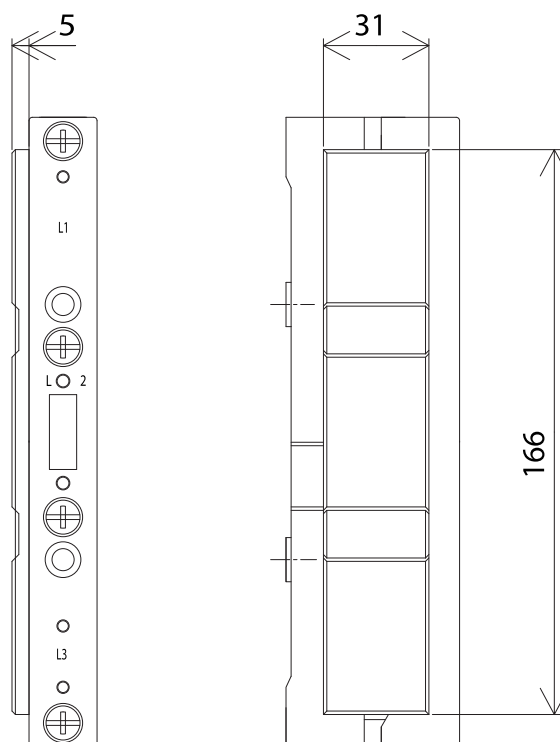
##### BBS-3/FL



##### BBS-3/FL-NA

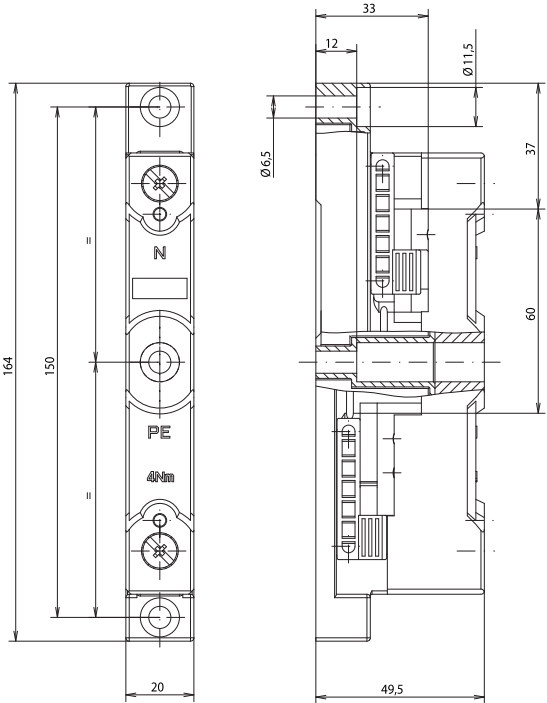


##### ES-BBS-3/FL





BBS-2/FL

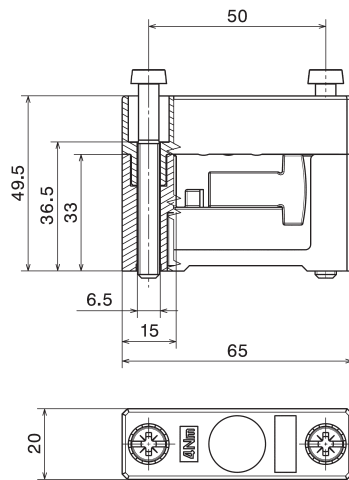


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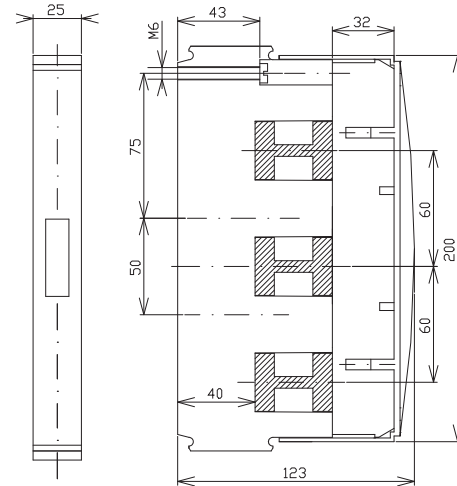
## SASY 60i Busbar System

### Dimensions

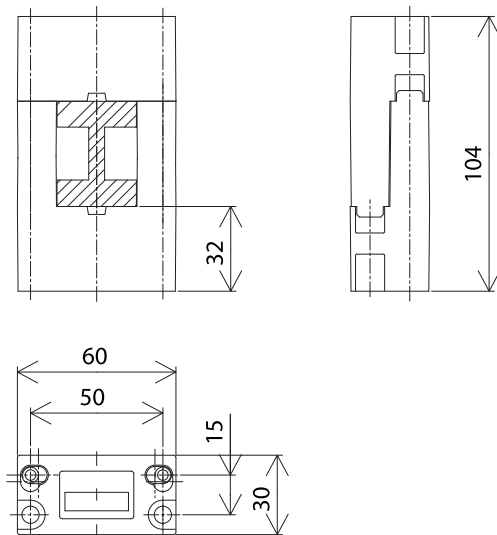
**BBS-1/FL**



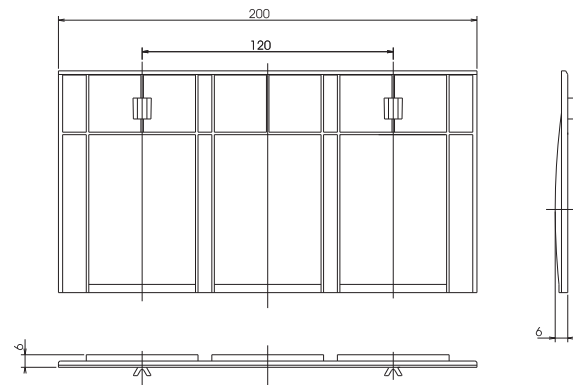
**BBS-3/PR**



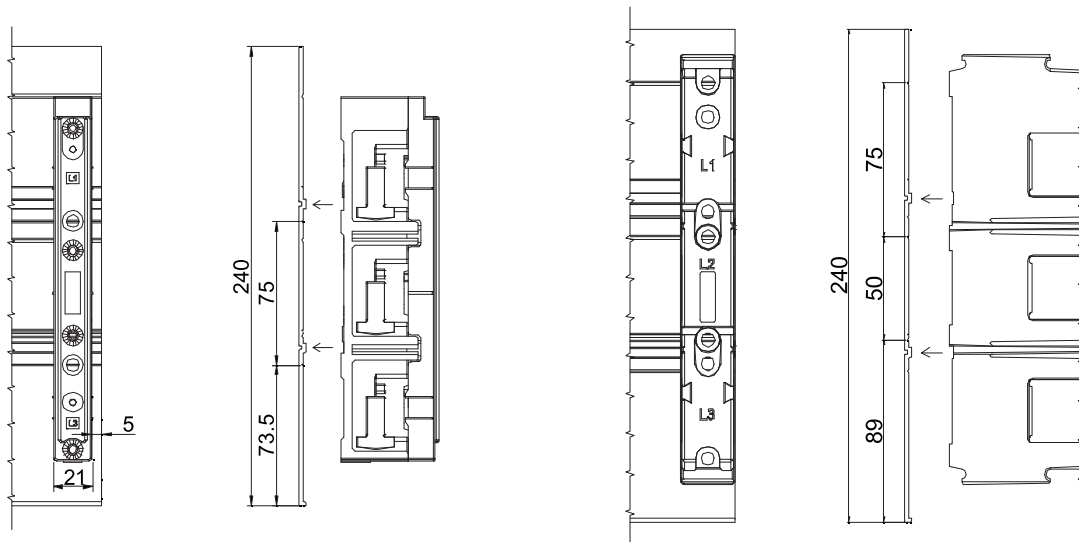
**BBS-1/PR**



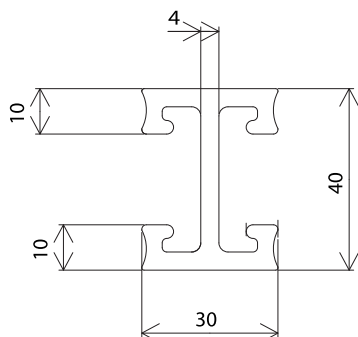
**ES-BBS-3/PR**



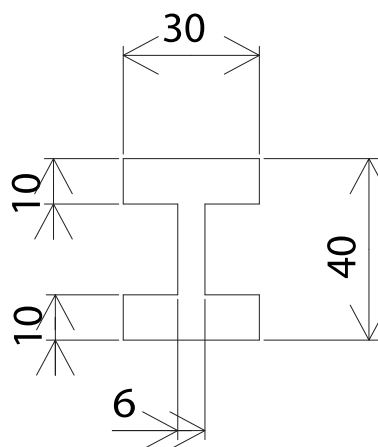
**BBC-BT-NA**



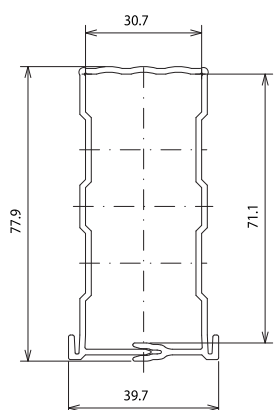
**CU-BAR-500/T**



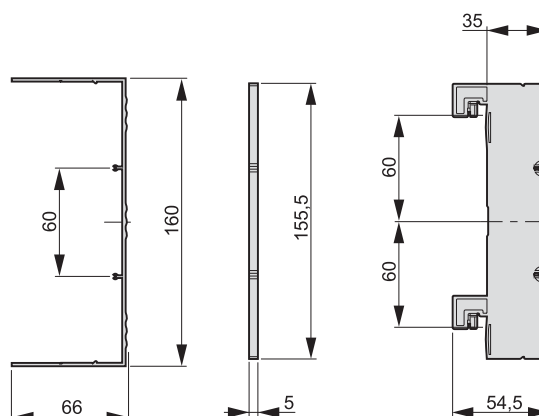
## CU-BAR-720/T



**BBC-CU-BAR/PR**

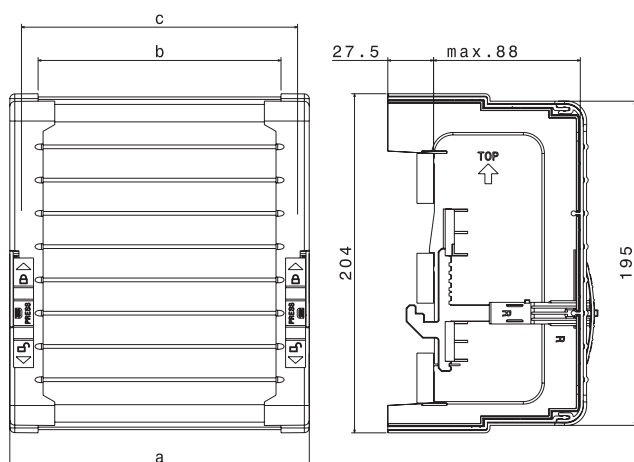


**BBC-RCOV1, BBC-MRCOV1**

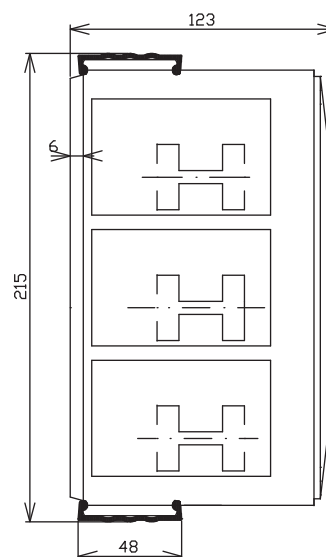


### BBC-CS1, BBC-CS2

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



## BBC-CS48/PR

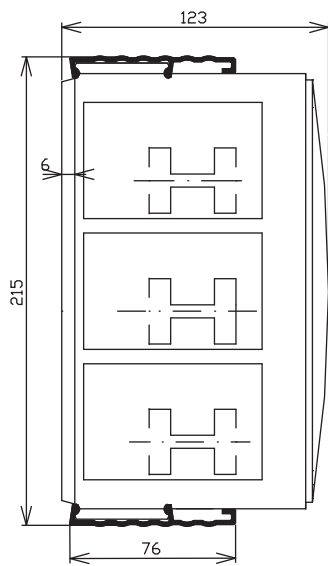


# 1.36

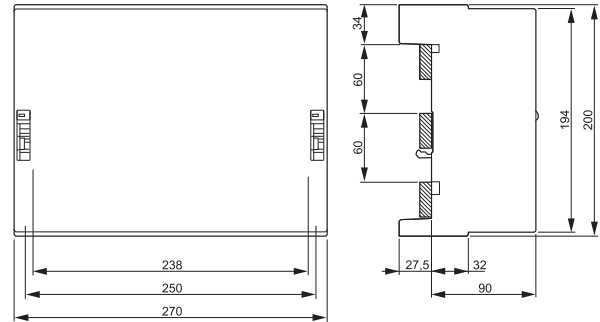
## SASY 60i Busbar System

### Dimensions

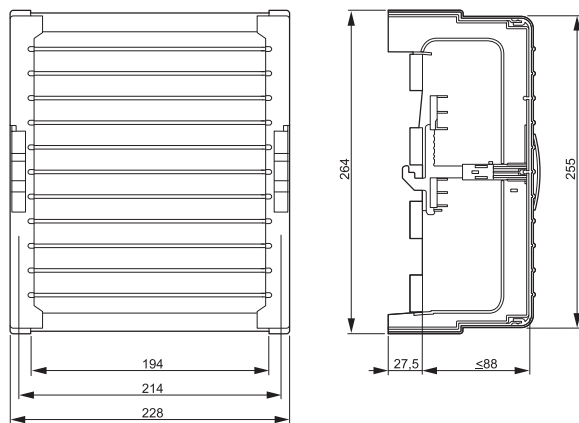
**BBC-CS76/PR**



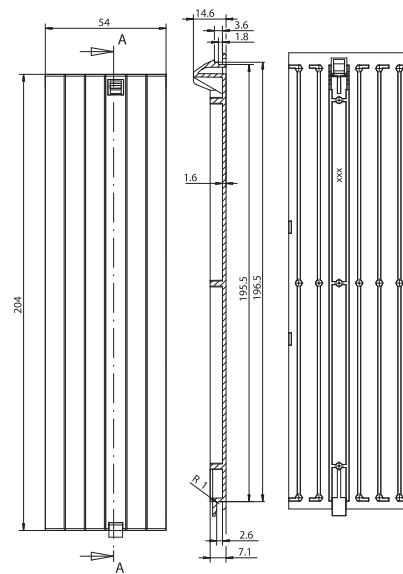
**BBC-CS3**



**BBC-CS4**











**AM-195/54**








**Connecting Terminal Plates BBA-TP**

Incl. cover cap	<b>BBA-TP</b>
16, 50, 120 mm <sup>2</sup>	
3-pol., 690 V~	
Centre line distance of busbars 60 mm	
Busbars ... x 5 – 10, Double-T-Profiles	
<b>Terminal plates</b>	
Silicone-free, chlorine-free	
Temperature resistant up to	120 °C
Self-extinguishing	according to UL 94
Track resistance	CTI 200
<b>Cover cap</b>	
Silicone-free, chlorine-free	
Temperature resistant up to	120 °C
Self-extinguishing	according to UL 94

Suitable conductors <sup>1)</sup>	Current carrying capacity of contact point*	Termination space BxH mm	Busbars BxH mm	Typ
1.5–16 mm <sup>2</sup> Cu,  ,  **	80 A	–	... x 5 – 10 TT	BBA-TP3/16
6–50 (70) mm <sup>2</sup> Cu,  ,  **,  6 x 9 x 0.8	300 A	10 x 15	... x 5 – 10 TT	BBA-TP3/50
35–120 mm <sup>2</sup> Cu,  ,  **,  6 / 10 x 16 x 0.8	40 A	15 x 15	... x 5 – 10 TT	BBA-TP3/120








**Connecting set, 3-pole, BBA-TP, AKS**

Incl. cover cap				
Suitable conductors <sup>1)</sup>	Current carrying capacity of contact point*	Termination space BxH mm	Busbars BxH mm	Typ
95–300 mm <sup>2</sup> Cu, Al***,  ,  , 	560 A		20x5 - 30x10 TT	BBA-TP3/300
 3 x 20 x 1 to 10 x 32 x 1	800 A	32 x 25	20x5 - 30x10 TT	BBA-TP3/CUBAND
 (2x) 50 x 10	1600 A	55 x 28	20x5 - 30x10 TT	AKS1000

\* 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

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

- <sup>1)</sup>  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

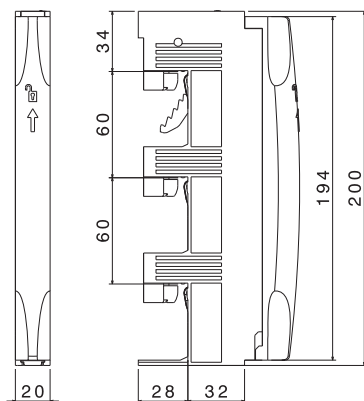
# 1.38

## SASY 60i Busbar System

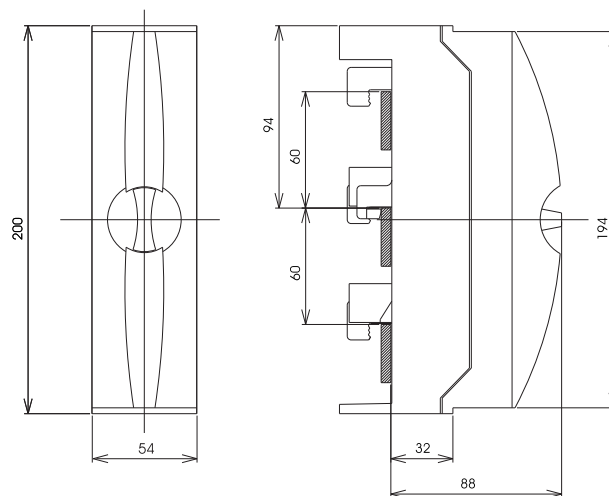
### Dimensions

#### Dimensions

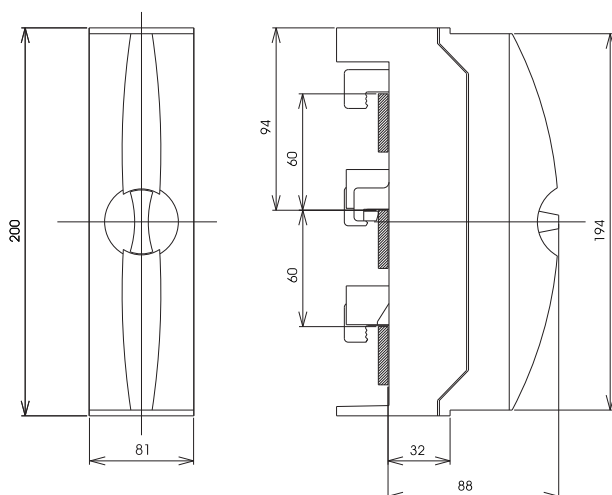
##### BBA-TP3/16



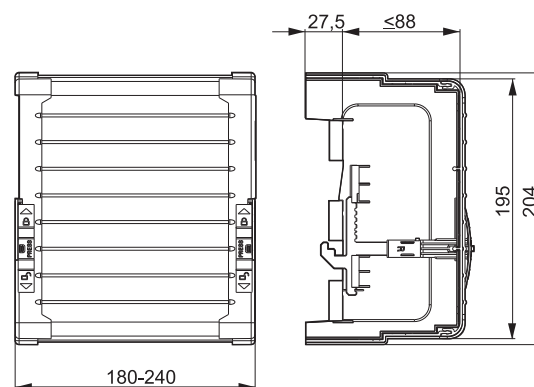
##### BBA-TP3/50



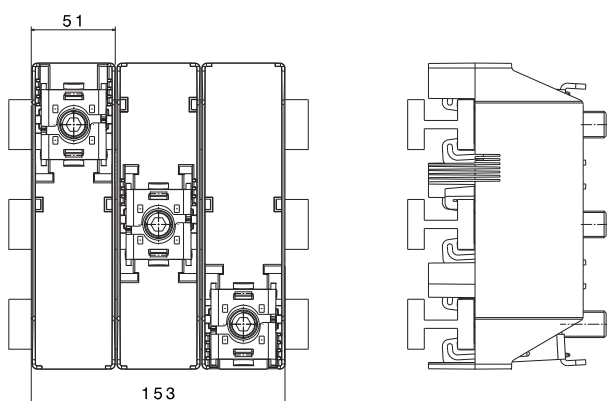
##### BBA-TP3/120



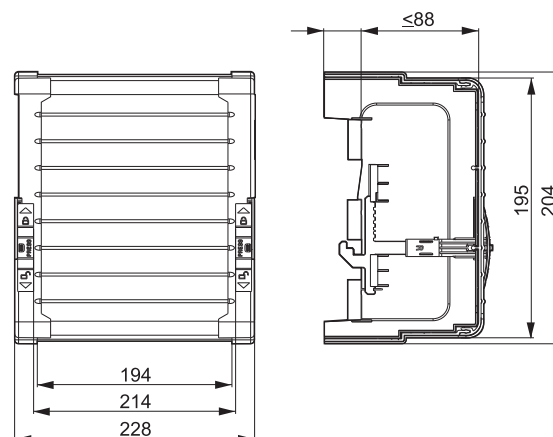
##### BBA-TP3/300



##### BBA-TP3/CU-BAND

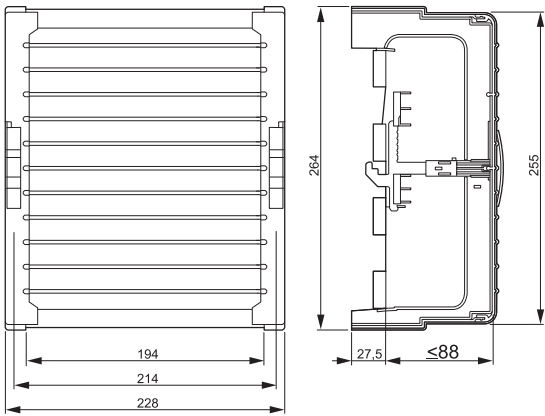


##### BBA-TP3/1000

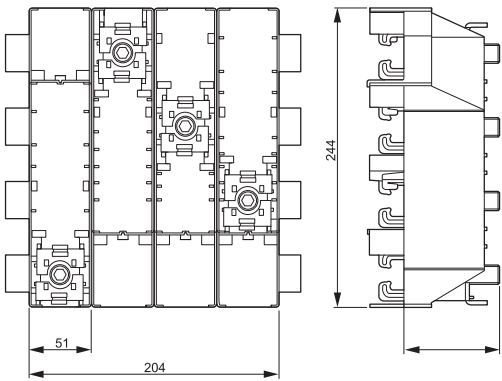


Note:  
BBA-TP3/1000 consists of 3x AKS1000 and 1x BBC-CS1.

BBA-TP4/300



BBA-TP4/CU-BAND













**Brace Terminals AKS**

For connecting round conductors of 95–300 mm<sup>2</sup> 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 <sup>1)</sup>	Current carrying capacity of contact point*	Termination space BxH mm	Busbars BxH mm	Typ
95–185 mm <sup>2</sup> Cu, Al***,   	500 A	–	20x5 - 30x10 TT	AKS185
95–300 mm <sup>2</sup> 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

**Profile Terminals for Double-T-Bars AKP**

















Current carrying capacity of contact point	Profile	Termination space B x H (without spacers)	Typ
1600 A	TT	41 x 20 – 42	AKP800
1600 A	TT	51 x 20 – 42	AKP1000

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

**Universal Conductor Terminals AKU**

Used for connecting conductors featuring cross-sections of 1.5–120 mm<sup>2</sup> 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 <sup>1)</sup>	Current carrying capacity of contact point*	Termination space BxH mm	Busbars BxH mm	Typ
1.5–16 mm <sup>2</sup> Cu,     8 x 6 x 0.5	180 A	7.5 x 7.5	... x 5 ... x 10	AKU16/5 AKU16/10
4–35 mm <sup>2</sup> Cu,     3/6 x 9 x 0.8	270 A	10.5 x 11	... x 5 ... x 10	AKU35/5 AKU35/10
16–70 mm <sup>2</sup> Cu,    2x  3/6 x 9 x 0.8, 6 x 13 x 0.5	400 A	14 x 14	... x 5 ... x 10	AKU70/5 AKU70/10
16–120 mm <sup>2</sup> Cu,     4/6/10 x 16 x 0.8	440 A	17 x 15	... x 5 ... x 10	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.

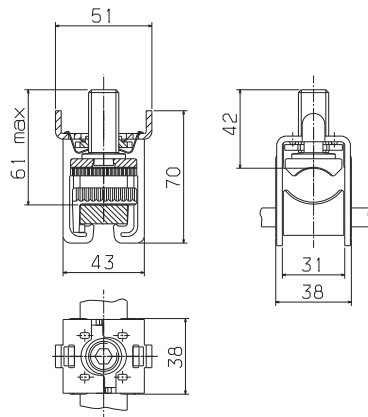
\*\* A reduction of maximum conductor cross-sections might be necessary

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

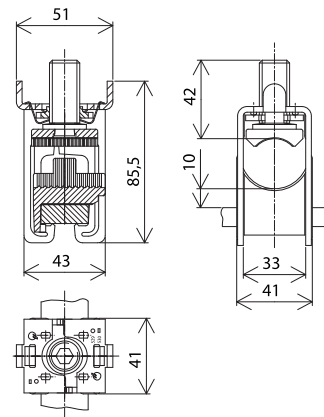
- <sup>1)</sup>  Round conductor, single-wired  
 Round conductor, fine-wired with expertly pressed wire end ferrule  
 Round conductor, multi-wired  
 Sector conductor, single-wired  
 Sector conductor, multi-wired  
 Cu-Band  
 Cu-Bar

### Dimensions

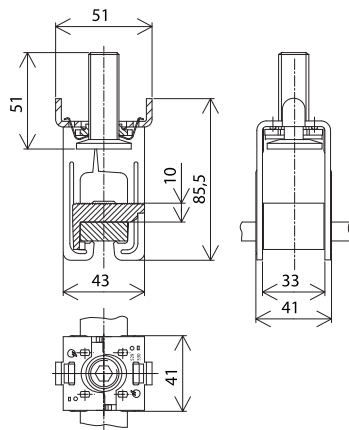
#### AKS185



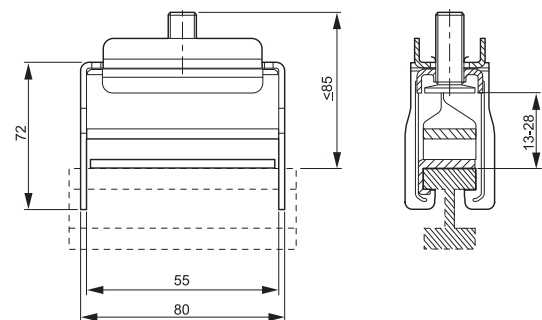
#### AKS300



#### AKS-CU-BAND

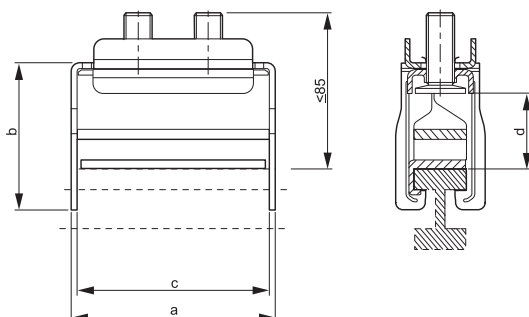


#### AKS1000



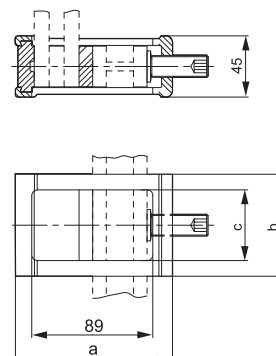
#### AKS1200, AKS2000

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



#### AKP800, AKP1000

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



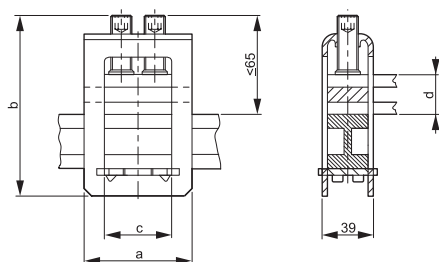
# 1.42

## SASY 60i Busbar System

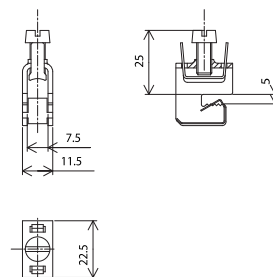
### Dimensions

#### AKP750-AKP3600

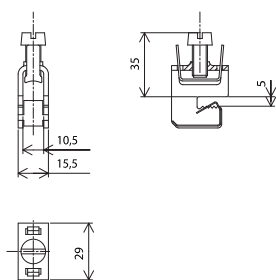
Type	a (mm)	b (mm)	c (mm)	d (mm)
AKP750	82	103	51	5-28
AKP900	94	103	64	5-28
AKP1200	94	118	64	20-42
AKP1600	112	118	81	20-42
AKP2000	132	118	101	20-42
AKP3600	132	154	101	23-45



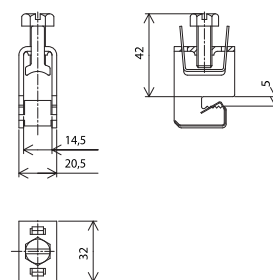
#### AKU16/5



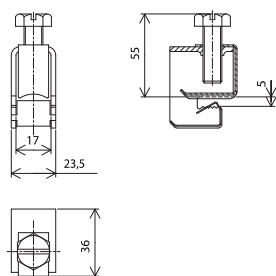
#### AKU35/5



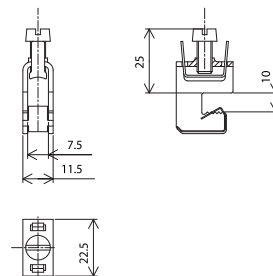
#### AKU70/5



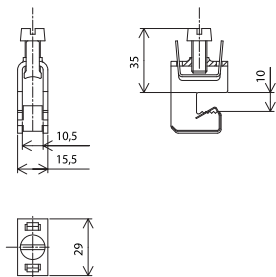
#### AKU120/5



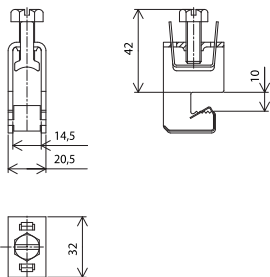
#### AKU16/10



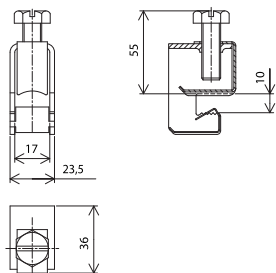
AKU35/10



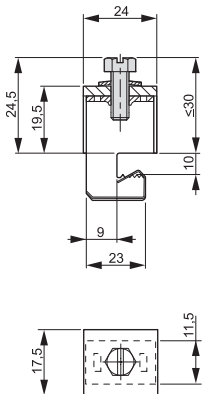
AKU70/10



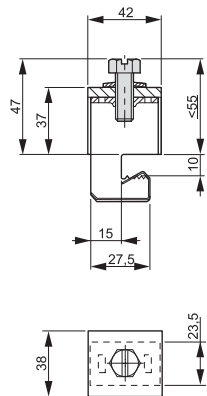
AKU120/10



AKUM8/10



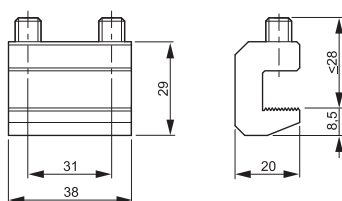
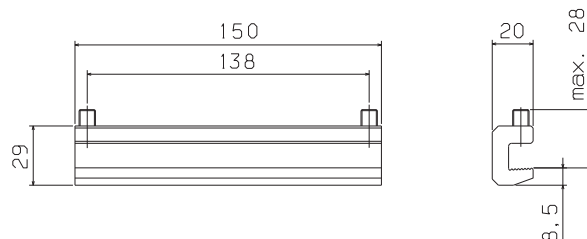
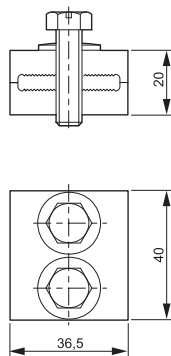
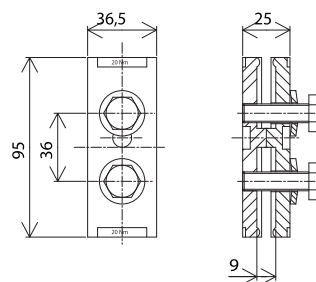
AKUM10/10



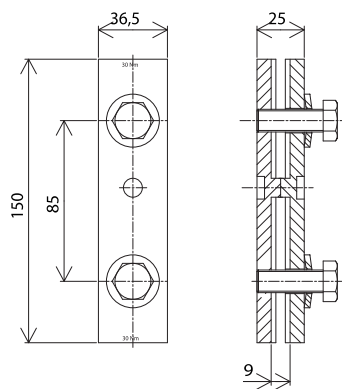
**Busbar Connecting Terminals BBT-CU**

For drill-free connection of identical types of busbars

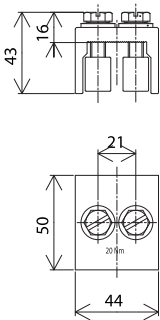
Current carrying capacity of contact point	Overall length mm	Permissible misalignment of bars mm	Spacing between systems mm	Type
630 A	150	1	100 - 110	BBT-CU12-20X5/10-150
630 A	95	5	50 - 60	BBT-CU20-30X5/10-95
630 A	150	5	100 - 110	BBT-CU20-30X5/10-150
1600 A	50	2	9 - 20	BBT-CU-BAR500/720-50
1600 A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

**Dimensions****BBT-CU12-20X5/10-38****BBT-CU12-20X5/10-150****BBT-CU20-30X5/10-40****BBT-CU20-30X5/10-95**

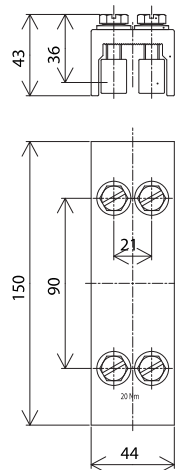
BBT-CU20-30X5/10-150



BBT-CU-BAR500/720-50



BBT-CU-BAR500/720-150



**Busbar Adapter NZM**

	<b>NZM1-XAD160</b>	<b>NZM2-XAD250</b>	<b>NZM3-XAD630</b>
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 rating SCCR	32 kA at 480 V	35 kA at 480 V 50 kA at 600 V	65 kA at 480 V 50 kA at 600 V

**NZM1-XAD160****Base body:**

Thermoplastic

Temperature resistant up to 120 °C

Self-extinguishing according to UL 94

Track resistance CTI 200

Halogen-free

**Derating:**

Ambient temperature	25	30	35	40	45	50	55
Permissible rated current	160	155	150	146	141	136	130
Derating to 160 A	1	0.97	0.94	0.91	0.88	0.85	0.81

**NZM2-XAD250****Base body:**

Thermoplastic

Temperature resistant up to 120 °C

Self-extinguishing according to UL 94

Track resistance CTI 200

Halogen-free

**NZM3-XAD630****Base body:**

Thermoplastic

Temperature resistant up to 120 °C

Self-extinguishing according to UL 94

Track resistance CTI 200

Halogen-free

**Derating:**

Ambient temperature	20	30	40	50	60	65	70
Permissible rated current	630	605	580	554	529	517	504
Derating to 630 A	1	0.96	0.92	0.88	0.84	0.82	0.80

**Notes:**

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

**Example:**

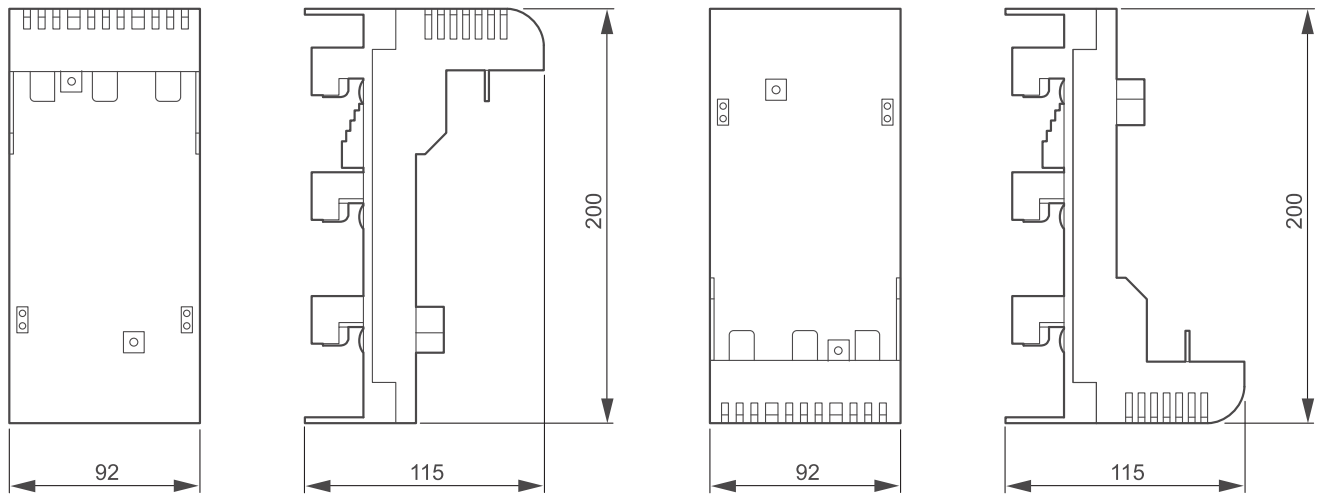
An NZM3...3...630... device with an NZM3-XAD630 device adapter should be operated at an ambient temperature of 50 °C.

**Question:**What is the maximum rated operating current  $I_e$  allowed  $I_e$  ? =>**Solution:**At an ambient temperature of 50 °C, the de-rating coefficient is 0.88. This means that  $I_e = 630 \text{ A} \times 0.88 = 544 \text{ A}$ .At an ambient temperature of 50 °C, the device can therefore be operated at a maximum of  $I_e = 544 \text{ A}$ .

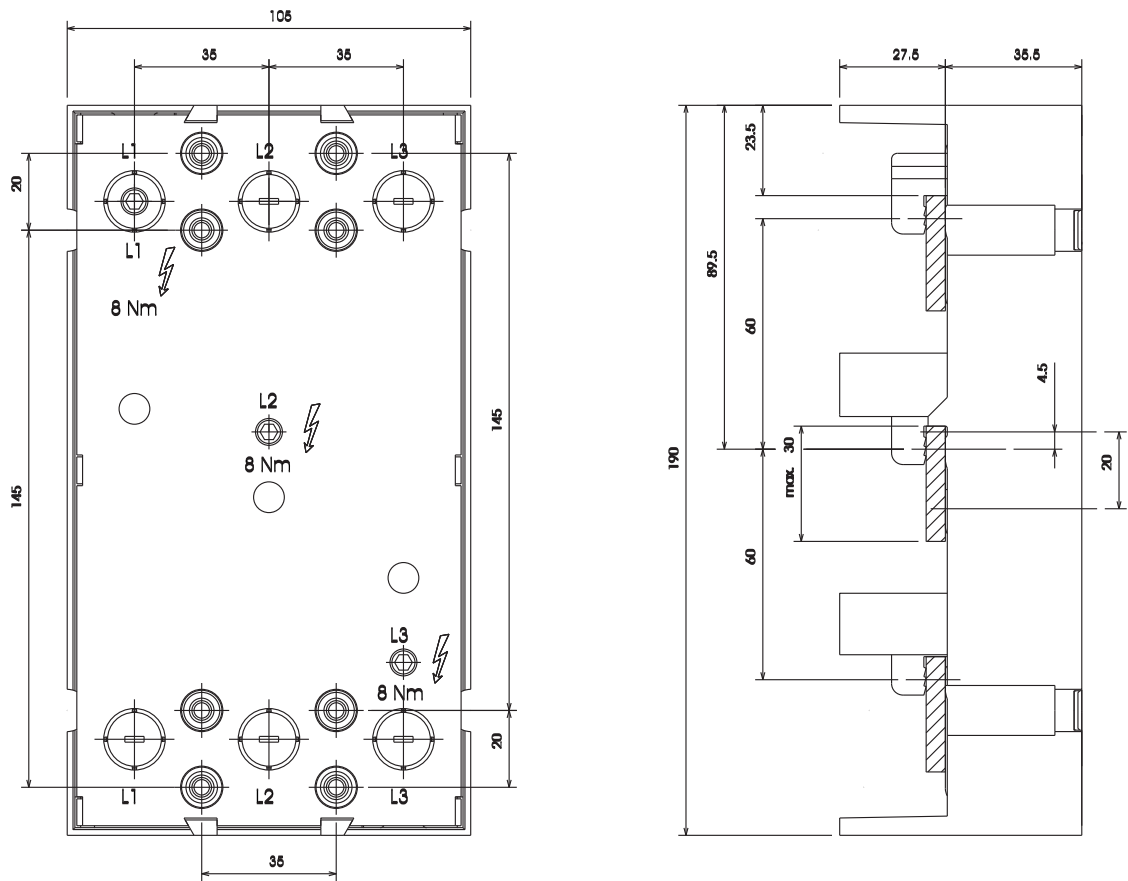


Dimensions

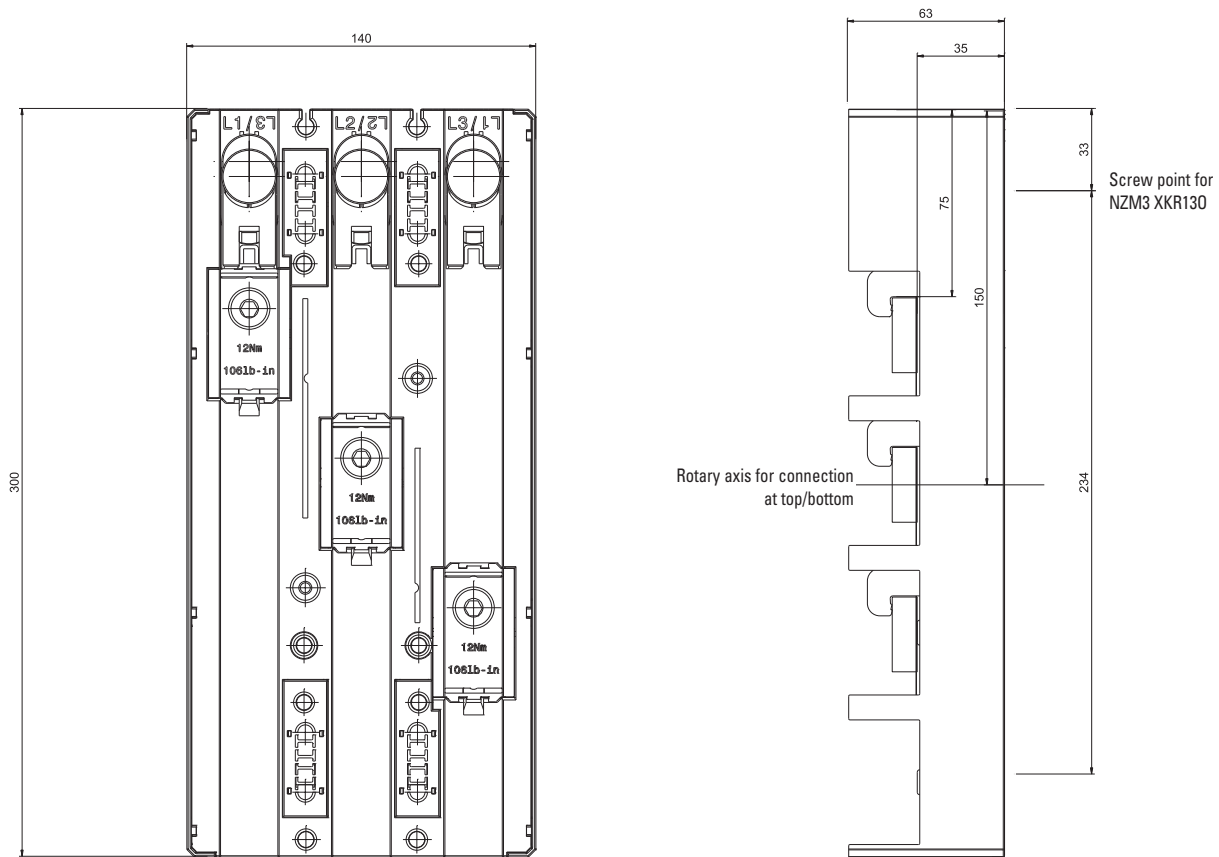
NZM1-XAD160



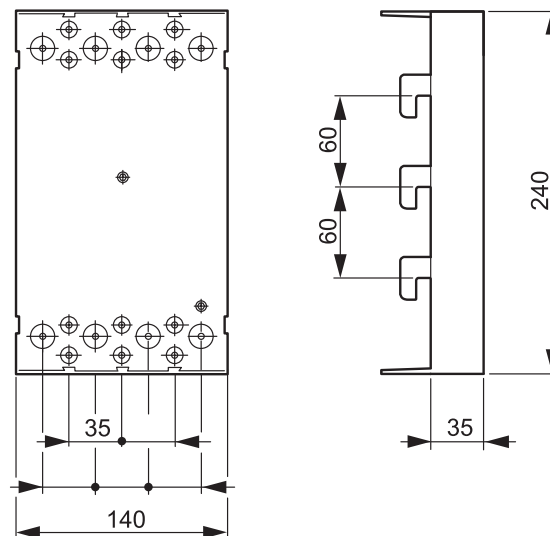
NZM2-XAD250



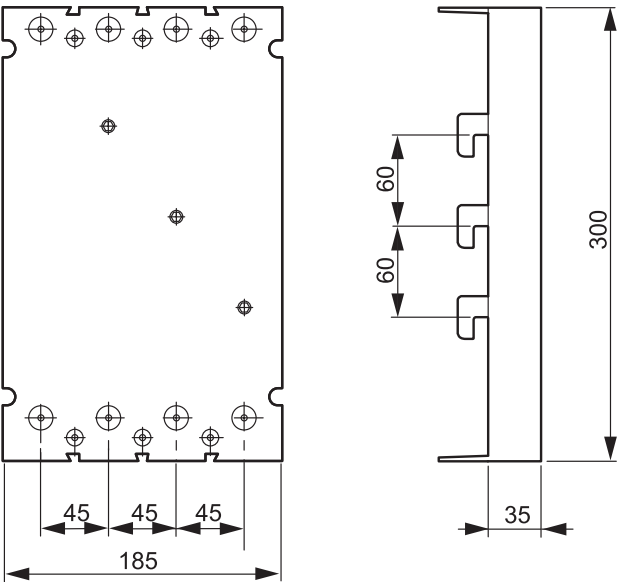
## NZM3-XAD630



## NZM2-4-XAD250



NZM3-4-XAD630



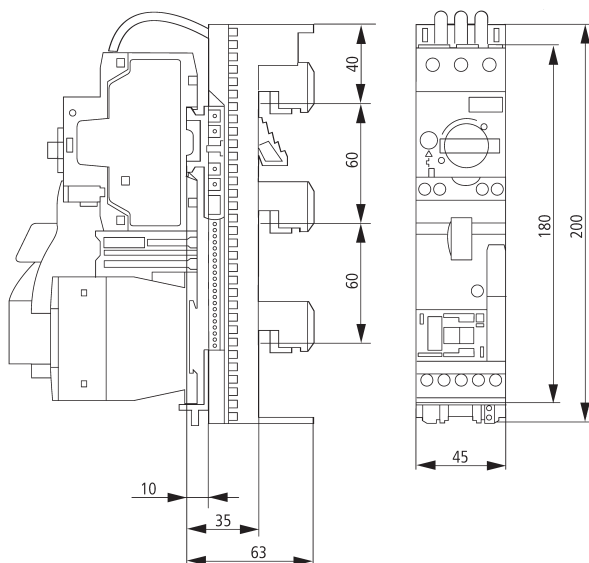
**Busbar Adapter xStart BBA**

<b>BBA</b>	
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.	
Ultrasonically welded copper pipes	
<b>Base body</b>	
Silicone-free, chlorine-free	
Temperature resistant up to	120 °C
Self-extinguishing according to UL 94	according to UL 94
Track resistance	CTI 200
<b>Support rail</b>	
Silicone-free, chlorine-free	
Temperature resistant up to	100 °C
<b>PVC conductor insulation</b>	
Temperature resistant up to	105 °C
<b>Overall length of the connecting cables</b>	
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
<b>Short circuit current rating SCCR</b>	
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 <sup>1)</sup> or MSC + BBA up to 32 A on busbar adapters and busbar system SASY 60i	

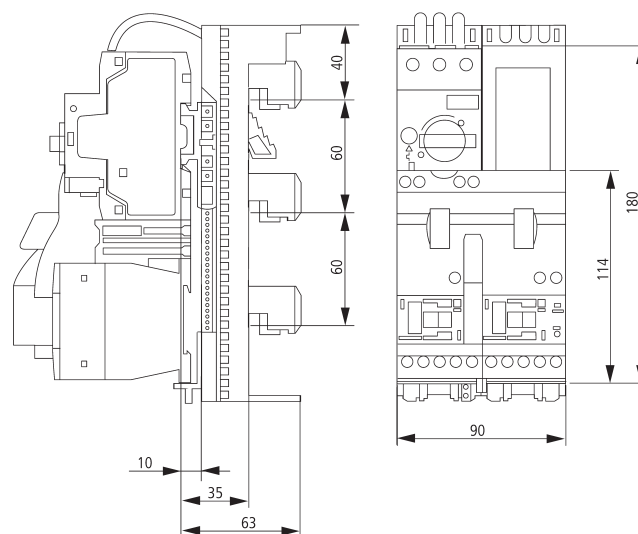
<sup>1)</sup> any type of connection between PKZM and DILM

### Dimensions

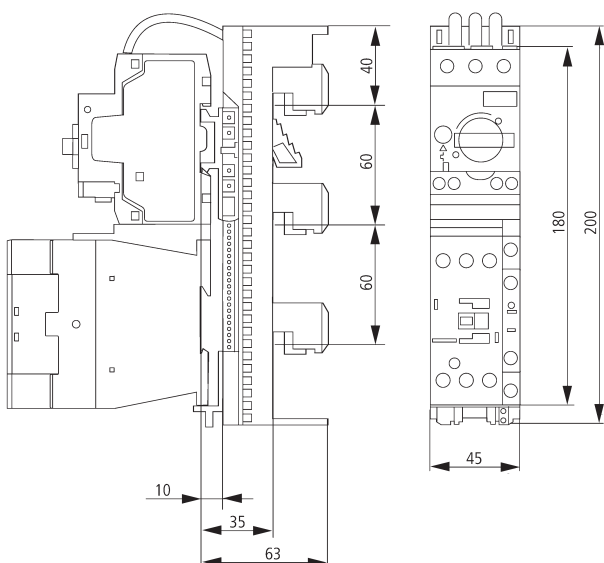
#### BBA0-25



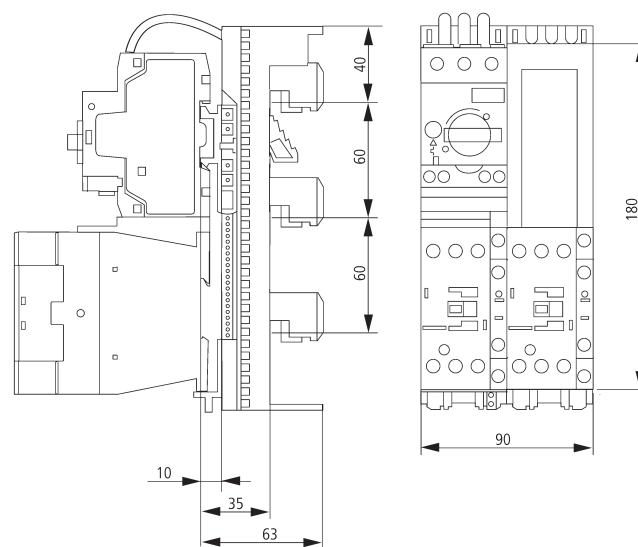
#### BBA0R-25



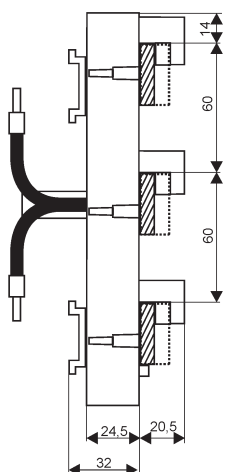
#### BBA0-32



#### BBA0R-32



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



**Technical Data D-Type Slide Fuse-Base**

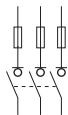
- Design according to IEC/EN 60269-1, VDE 0636 Part 301
- Vertical and horizontal mounting possible
- Delivered empty, without screw caps

		<b>D02-S0/63/3-R-27 Z-D02/R/3...</b>	<b>DII-S0/25/3-R(-PS)</b>	<b>DIII-S0/63/3-R(-PS)</b>
<b>Electrical</b>				
Number of poles		3	3	3
Rated operational voltage	$U_e$	400 V AC	500 V AC	690 V AC
Rated frequency		40-60 Hz	40-60 Hz	40-60 Hz
Rated operational current	$I_e$	63 A	25 A	63 A
Conventional thermal current with fuse-links	$I_{th}$	63 A	25 A	63 A
Rated duty		uninterrupted duty	uninterrupted duty	uninterrupted duty
Rated conditional short-circuit current		50 kA <sub>r.m.s</sub>	50 kA <sub>r.m.s</sub>	50 kA <sub>r.m.s</sub>
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
<b>Mechanical</b>				
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 <sup>2</sup>	1.5-25 mm <sup>2</sup>	1.5-25 mm <sup>2</sup>
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 according to IEC 60068-2-78, cyclical according to IEC 60068-2-30		

**Technical Data Busbar-Slide Switch Disconnecter with Fuses D02-S/63/3-RS**

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

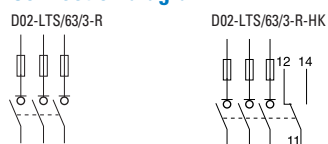
		D02-S/63/3-RS
<b>Electrical</b>		
Number of poles		3
Rated operational voltage	$U_e$	400 V AC
Rated frequency		40-60 Hz
Rated operational current	$I_e$	63 A
Conventional thermal current with fuse-links	$I_{th}$	63 A
Rated duty		uninterrupted duty
Rated conditional short-circuit current		50 kA <sub>r.m.s</sub>
Utilization category		AC-23B
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
<b>Mechanical</b>		
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		IP20
Terminals		lift terminals
Terminal capacity		1.5-25 mm <sup>2</sup> Cu
Tightening torque of terminal screws		max. 2.6 Nm
Electrical thread type		E18
Ambient temperature range		-25 to +55 °C
Pollution degree		3
Climatic resistance: moist heat		constant according to IEC 60068-2-78, cyclical according to IEC 60068-2-30

**Connection diagram**

**Technical Data Busbar-Slide Switch Disconnecter with Fuses D02-LTS/63/3-R(-HK)**

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

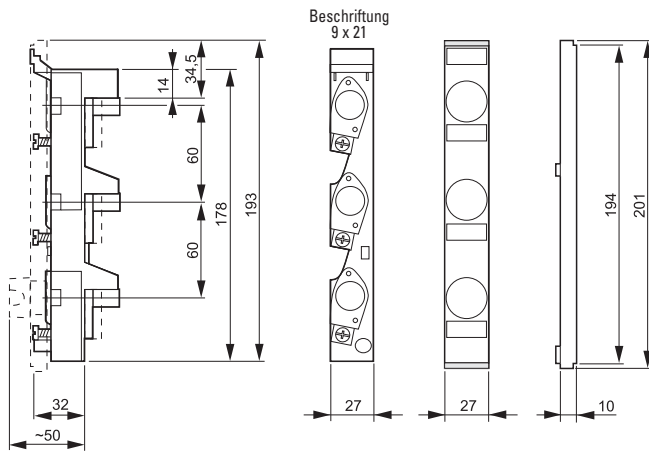
		D02-LTS/63/3-R(-HK)
<b>Electrical</b>		
Number of poles		3
Rated operational voltage	$U_e$	400 V AC
Rated frequency		40-60 Hz
Rated operational current	$I_e$	63 A
Conventional thermal current with fuse-links	$I_{th}$	63 A
Rated duty		uninterrupted duty
Rated conditional short-circuit current		50 kA <sub>r.m.s</sub>
Utilization category		AC-22B
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
<b>Mechanical</b>		
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		IP20
Degree of protection built-in		IP40
Terminals		lift terminals
Terminal capacity		1.5-35 mm <sup>2</sup> Cu
Tightening torque of terminal screws		max. 4 Nm
Ambient temperature range		-25 to +55 °C
Pollution degree		3
Climatic resistance: moist heat		constant according to IEC 60068-2-78, cyclical according to IEC 60068-2-30
<b>Auxiliary switch electrical</b>		
1 CO		5 A / 250 V AC
Max. thermal back-up fuse		2 A gL PLSM-B4/...-HS / CLS6-B4/...-HS
<b>Connection</b>		
Femal push-on connector		2.8 x 0.5 mm

**Connection diagram**



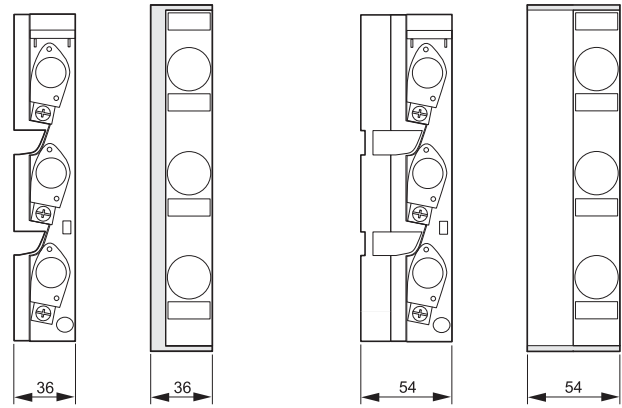
### Dimensions

#### D02-S0/63/3-R-27



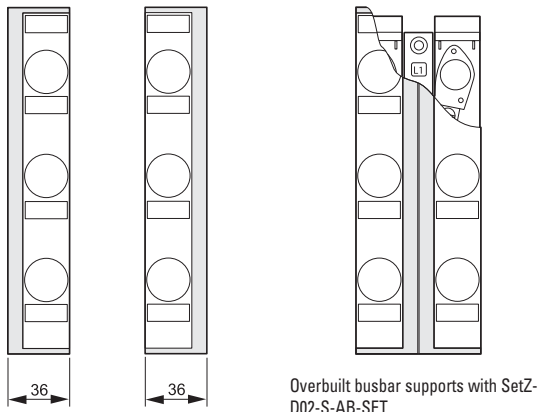
Front plate support

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



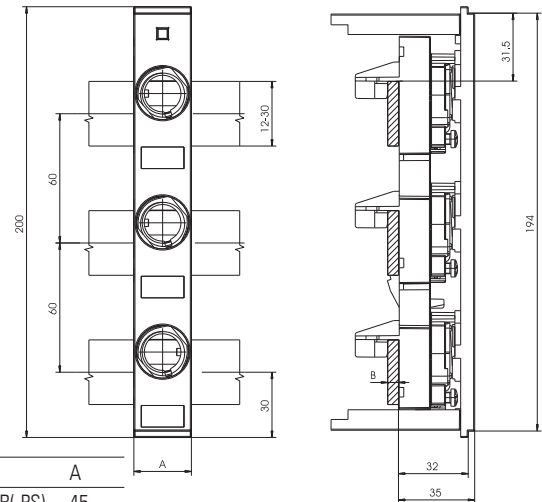
Front plate support

#### Z-D02-S-AB-SET



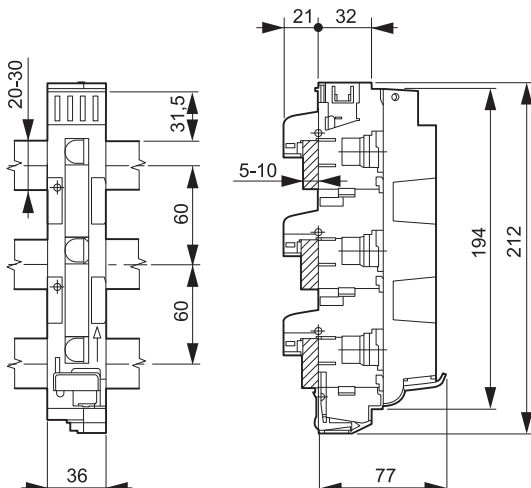
Front plate support

#### D...S0/.../3-R(-PS)

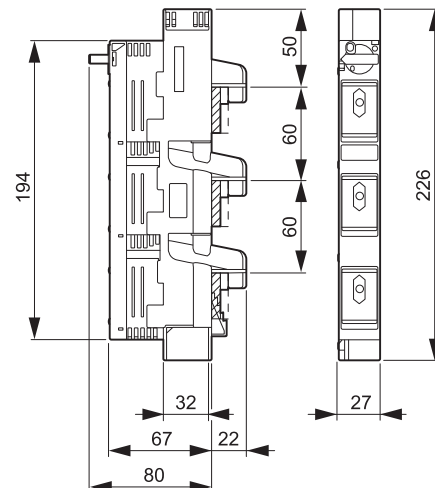


Type	A
DII-S0/25/3-R(-PS)	45
DIII-S0/63/3-R(-PS)	54

#### D02-S/63/3-RS



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



vi61615



vi64215



vi64015



vi61715



## Description

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

Size	I <sub>e</sub> (A)	Type of connection	Type Designation	Article No.	Units per package
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vt64215



### Fuse Switch Disconnectors XNH...

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

### Basic

#### 3-pole for SASY 60i

00	160	Flat connection M8 max. 95 mm <sup>2</sup>	XNH00-S160	183033	1
		Box terminal 1.5 - 95 mm <sup>2</sup>	XNH00-S160-BT1	183034	1
			XNH00-S160-BT2	183035	1
1	250	Flat connection M10 max. 150 mm <sup>2</sup>	XNH1-S250	183051	1
		Box terminal 35 - 150 mm <sup>2</sup>	XNH1-S250-BT	183052	1
2	400	Flat connection M10 max. 240 mm <sup>2</sup>	XNH2-S400	183065	1
		Box terminal 95 - 300 mm <sup>2</sup>	XNH2-S400-BT	183066	1
3	630	Flat connection M10 max. 300 mm <sup>2</sup>	XNH3-S630	183077	1
		Box terminal 95 - 300 mm <sup>2</sup>	XNH3-S630-BT	183078	1

### Fuse Control Light

#### 3-pole for SASY 60i

00	160	Flat connection M8 max. 95 mm <sup>2</sup>	XNH00-FCL-S160	183036	1
		Box terminal 1.5 - 95 mm <sup>2</sup>	XNH00-FCL-S160-BT1	183037	1
			XNH00-FCL-S160-BT2	183038	1
1	250	Flat connection M10 max. 150 mm <sup>2</sup>	XNH1-FCL-S250	183053	1
		Box terminal 35 - 150 mm <sup>2</sup>	XNH1-FCL-S250-BT	183054	1
2	400	Flat connection M10 max. 240 mm <sup>2</sup>	XNH2-FCL-S400	183067	1
		Box terminal 95 - 300 mm <sup>2</sup>	XNH2-FCL-S400-BT	183068	1
3	630	Flat connection M10 max. 300 mm <sup>2</sup>	XNH3-FCL-S630	183079	1
		Box terminal 95 - 300 mm <sup>2</sup>	XNH3-FCL-S630-BT	183080	1

### Fuse Control FCE

#### 3-pole for SASY 60i

00	160	Flat connection M8 max. 95 mm <sup>2</sup>	XNH00-FCE-S160	183039	1
		Box terminal 1.5 - 95 mm <sup>2</sup>	XNH00-FCE-S160-BT1	183040	1
			XNH00-FCE-S160-BT2	183041	1
1	250	Flat connection M10 max. 150 mm <sup>2</sup>	XNH1-FCE-S250	183055	1
		Box terminal 35 - 150 mm <sup>2</sup>	XNH1-FCE-S250-BT	183056	1
2	400	Flat connection M10 max. 240 mm <sup>2</sup>	XNH2-FCE-S400	183069	1
		Box terminal 95 - 300 mm <sup>2</sup>	XNH2-FCE-S400-BT	183070	1
3	630	Flat connection M10 max. 300 mm <sup>2</sup>	XNH3-FCE-S630	183081	1
		Box terminal 95 - 300 mm <sup>2</sup>	XNH3-FCE-S630-BT	183082	1

#### 1-pole for SASY 60i

00	160	Flat connection M8 max. 95 mm <sup>2</sup>	XNH00-1-S160	183042	1
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vt61915



wa\_vt14215



vt03016



Description

Suitable for size

Type  
Designation

Article No.

Units per  
package**SmartWire-DT®, Module Kit**

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

vt00417



SWD module with 2 digital inputs for switch position indication and trip signal. Complete set for [direct mounting at the switchgear](#).

SWD module with 2 digital inputs for switch position indication and trip signal and 3 analog inputs for current measurement. For fixing on the [mounting plate](#).

00 with FCE	XNH00-SWD-KIT	183083	1
1 with FCE	XNH1-SWD-KIT	183084	1
2 with FCE	XNH2-SWD-KIT	183085	1
3 with FCE	XNH3-SWD-KIT	183086	1
00 with FCE	XNH00-SWD-KIT-EXT	183087	1
1/2/3 with FCE	XNH123-SWD-KIT-EXT	183088	1

**Cover for connection area, 3-pole**

vt09816



Cable entries can be knocked out as required. 36, 42 and 66 mm length for top and bottom. Multiple use per device is possible.

00	XNH00-XKSA-36	183091	2
	XNH00-XKSA-66	183092	2
1	XNH1-XKSA-42	183093	2
2	XNH2-XKSA-42	183094	2
3	XNH3-XKSA-42	183095	2

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

vt10016



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

00	XNH00-XKSV-39-34	183096	2
	XNH00-XKSV-32	183097	2

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

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

vt09916



For flat connection or box terminal	00	XNH00-XKSS-39-34	183098	2
		XNH00-XKSS-32	183099	2
For BT2 box terminal	00	XNH00-XKSS-BT-39-34	183100	2
		XNH00-XKSS-BT-32	183101	2
For flat connection or box terminal	1	XNH1-XKSS-39-34	183102	2
		XNH1-XKSS-32	183103	2
	2	XNH2-XKSS-39-34	183104	2
		XNH2-XKSS-32	183105	2
	3	XNH3-XKSS-39-34	183106	2
		XNH3-XKSS-32	183107	2

**Current-theft protection**

vt10916



For manipulation-protected blocking of the inspection window	00, 1, 2, 3	XNH-XSECUR	183113	1 Set
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Note: 1 set includes current-theft protection for a 3-pole XNH.

**Locking device**

vt11016



For locking with a padlock when using a closed XNH disconnector	00, 1, 2, 3	XNH-XLOCK	182993	1
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Note: Padlock with a shackle diameter of 6 mm max.

Description	Suitable for size	Type Designation	Article No.	Units per package
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### Device locking with sign

vt11116



For keyless locking of the XNH switching devices in combination with XNH-XLOCK. Language German.

00, 1, 2, 3

XNH-XLDG-G

184805

5

### Internal lock for contact-protection

wa\_vt15815



Tool-requiring lock of internal contact protection covers

00, 1, 2, 3

XNH-XLATCH

182992

1

### Switch position indicator

vt67815



1 change-over contact, AC 250 V, 10/3 A

00

XNH00-XPOS

182995

1

1, 2, 3

XNH123-XPOS

182996

1

### Mechanical fuse monitoring

vt67915



1 change-over contact, AC 250 V, 10/3 A

00

XNH00-XMFM

182997

3

1, 2, 3

XNH123-XMFM

182998

3

Note: Only in combination with NH fuse links equipped with a striker pin.  
Not for use in combination with box terminal or double-prism terminals.

### Connnection kit, 2- and 4-pole

vt00517



To mechanically connect 2x 1-pole or 3-pole and 1-pole XNH disconnectors

00, 1, 3/(2)

XNH-XLINK

182999

1

Description

Suitable for size

Type  
Designation

Article No.

Units per  
package

vt68215

**Connection technology****Clamp-type terminal**

1.5 - 50 mm², Cu	00	XNH00-XCT	183002	3
25 - 150 mm², Cu	1	XNH1-XCT	183003	3
25 - 240 mm², Cu	2	XNH2-XCT	183004	3
CU-BAND-11x21x1	3	XNH3-XCT	183005	3

vt67515

**Prism terminal**

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

vt67315

**Double-prism terminal**

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

vt68615

**Box terminal**

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

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

**Spare handle cover, 3-pole**

vt08016



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

vt08116



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

vt08216



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

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

## Technical Data

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

		<b>XNH00...-S160...</b>	<b>XNH1...-S250...</b>
Standard		IEC/EN 60947-3	IEC/EN 60947-3
NH fuses <sup>1)</sup> according to DIN VDE 0636-2		000 / 00	1
Rated operational voltage	$U_e$	690 V AC, 440 V DC	690 V AC, 440 V DC
Rated operational current	$I_e$	160 A	250 A
Rated frequency	$f$	40 - 60 Hz	40 - 60 Hz
Rated insulation voltage	$U_i$	800 V AC	800 V AC
Total power loss at $I_{th}$ (without fuses)	$P_v$	14 W	22 W
Power loss at 80% (without fuses)	$P_v$	9 W	14.1 W
Rated impulse withstand voltage	$U_{imp}$	8 kV	8 kV
Utilization category		AC-23B (400 V / 160 A) AC-22B (500 V / 160 A) AC-21B (690 V / 160 A) DC-22B (250 V / 160 A) DC-21B (440 V / 160 A)	AC-23B (400 V / 250 A) AC-22B (500 V / 250 A) AC-21B (690 V / 250 A) DC values on request
Rated conditional short-circuit current		120 kA (500 V) 100 kA (690 V)	120 kA (500 V) 100 kA (690 V)
Rated short-time withstand current	$I_{cw}$	77 kA	10 kA
Max. permitted power loss per fuse link	$P_{NH}$	12 W	23 W
Degree of protection - front (XNH installed)		operating status IP20 contact protection IP2XC handle cover open IP10	operating status IP20 contact protection IP2XC handle cover open IP10
Ambient temperature	$T_{35}$	-25 to +55 °C	-25 to +55 °C
Rated duty		uninterrupted duty	uninterrupted duty
Activation		dependent manual activation	dependent manual activation
Fitting position		vertical/horizontal	vertical/horizontal
Altitude		max. 2000 m	max. 2000 m
Pollution degree		3	3
Overvoltage category		III	III
Colour		grey	grey
RoHs		yes	yes
Energy feeder direction		any (FLEX System)	any (FLEX System)
Lockable		yes, optional	yes, optional
Sealable		yes, standard	yes, standard
Material		Polyamide	Polyamide
Reaction to fire		self-extinguishing according to UL94	self-extinguishing according to UL94
Halogen-free		yes	yes
Voltage test		yes, sliding inspection windows	yes, sliding inspection windows
Electrical service life		300 operating cycles	200 operating cycles
Mechanical service life		1400 operating cycles	1400 operating cycles
Track resistance		CTI 600	CTI 600
Temperature resistance		up to 125 °C	up to 125 °C
Terminal capacities			
Flat connection			
Bolt diameter		M8	M10
Cable lug max. width		25 mm	37 mm
Flat rail		20x10 mm	30x10 mm
Box terminal			
multi-wire		1.5 - 95 mm <sup>2</sup> Cu	35 - 150 mm <sup>2</sup> Cu/Al
Cu-Band		9x9x0.8 mm	10x16x0.8 mm
Clamp-type terminal			
multi-wire		1.5 - 50 mm <sup>2</sup> Cu	25 - 150 mm <sup>2</sup> Cu
Cu-Band		6x9x0.8 mm	6x16x0.8 mm
Prism terminal			
multi-wire		10 - 70 mm <sup>2</sup> Cu/Al	10 - 150 mm <sup>2</sup> Cu/Al
Double-prism terminal			
multi-wire		—	2x (70 - 95) mm <sup>2</sup> Cu/Al

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

Exception DC-21B: Seitlich = 50 mm, top = 100 mm (valid for XNH00...).

<sup>1)</sup> Type-tested with NH fuse links of characteristic gG. Safety control FCE and FCL only in combination with NH fuses equipped with live handle straps.

## Technical Data

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

		<b>XNH2...-S400...</b>	<b>XNH3...-S630...</b>
Standard		IEC/EN 60947-3	IEC/EN 60947-3
NH fuses <sup>1)</sup> according to DIN VDE 0636-2		2	3 / 2
Rated operational voltage	$U_e$	690 V AC, 440 V DC	690 V AC, 440 V DC
Rated operational current	$I_e$	400 A	630 A
Rated frequency	$f$	40 - 60 Hz	40 - 60 Hz
Rated insulation voltage	$U_i$	800 V AC	800 V AC
Total power loss at $I_{th}$ (without fuses)	$P_v$	36 W	86 W
Power loss at 80% (without fuses)	$P_v$	22.9 W	54.8 W
Rated impulse withstand voltage	$U_{imp}$	8 kV	8 kV
Utilization category		AC-23B (400 V / 400 A) AC-22B (500 V / 400 A) AC-21B (690 V / 400 A) DC values on request	AC-23B (400 V / 630 A) AC-22B (500 V / 630 A) AC-21B (690 V / 630 A) DC values on request
Rated conditional short-circuit current		120 kA (500 V) 100 kA (690 V)	120 kA (500 V) 100 kA (690 V)
Rated short-time withstand current	$I_{cw}$	10 kA	10 kA
Max. permitted power loss per fuse link	$P_{NH}$	34 W	48 W
Degree of protection - front (XNH installed)		operating status IP20 contact protection IP2XC handle cover open IP10	operating status IP20 contact protection IP2XC handle cover open IP10
Ambient temperature	$T_{35}$	-25 to +55 °C	-25 to +55 °C
Rated duty		uninterrupted duty	uninterrupted duty
Activation		dependent manual activation	dependent manual activation
Fitting position		vertical/horizontal	vertical/horizontal
Altitude		max. 2000 m	max. 2000 m
Pollution degree		3	3
Overvoltage category		III	III
Colour		grey	grey
RoHs		yes	yes
Energy feeder direction		any (FLEX System)	any (FLEX System)
Lockable		yes, optional	yes, optional
Sealable		yes, standard	yes, standard
Material		Polyamide	Polyamide
Reaction to fire		self-extinguishing according to UL94	self-extinguishing according to UL94
Halogen-free		yes	yes
Voltage test		yes, sliding inspection windows	yes, sliding inspection windows
Electrical service life		200 operating cycles	200 operating cycles
Mechanical service life		800 operating cycles	800 operating cycles
Track resistance		CTI 600	CTI 600
Temperature resistance		up to 125 °C	up to 125 °C
Terminal capacities			
Flat connection			
Bolt diameter		M10	M10
Cable lug max. width		48 mm	56 mm
Flat rail		40x10 mm	50x10 mm
Box terminal			
multi-wire		95 - 300 mm <sup>2</sup> Cu	95 - 300 mm <sup>2</sup> Cu
Cu-Band		6x16x0.8 to 10x32x1 mm	6x16x0.8 to 10x32x1 mm
Clamp-type terminal			
multi-wire		25 - 240 mm <sup>2</sup> Cu	on request
Cu-Band		10x16x0.8 mm	11x21x1 mm
Prism terminal			
multi-wire		120 - 240 mm <sup>2</sup> Cu/Al	120 - 300 mm <sup>2</sup> Cu/Al
Double-prism terminal			
multi-wire		2x (120 - 150) mm <sup>2</sup> Cu/Al	2x (120 - 240) mm <sup>2</sup> Cu/Al

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

<sup>1)</sup> Type-tested with NH fuse links of characteristic gG. Safety control FCE and FCL only in combination with NH fuses equipped with live handle straps.



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

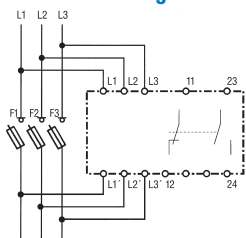
Number of layers	x	Width	x	Thickness of layers	II	Cross-section (mm <sup>2</sup> )	Height copper band (mm)	max. Rated operational current (A)				
									XNH00...-BT	XNH1...-BT	XNH2...-BT	XNH3...-BT
3	x	9	x	0.8	=	21.6	2.4	100	●	●	-	-
6	x	9	x	0.8	=	43.2	4.8	160	●	●	-	-
9	x	9	x	0.8	=	64.8	7.2	200	●	●	-	-
6	x	16	x	0.8	=	74.4	4.65	250	-	●	●	●
10	x	16	x	0.8	=	124	7.75	400	-	●	●	●
5	x	24	x	1.0	=	120	5	400	-	-	●	●
11	x	21	x	1.0	=	231	11	630	-	-	●	●
8	x	24	x	1.0	=	192	8	630	-	-	●	●
10	x	24	x	1.0	=	240	10	630	-	-	●	●
5	x	32	x	1.0	=	160	5	160	-	-	●	●
10	x	32	x	1.0	=	320	10	800	-	-	●	●
10	x	40	x	1.0	=	400	10	1000	-	-	-	-
10	x	50	x	1.0	=	500	10	1250	-	-	-	-
10	x	80	x	1.0	=	800	10	1600	-	-	-	-

## Technical Data Fuse Control FCE

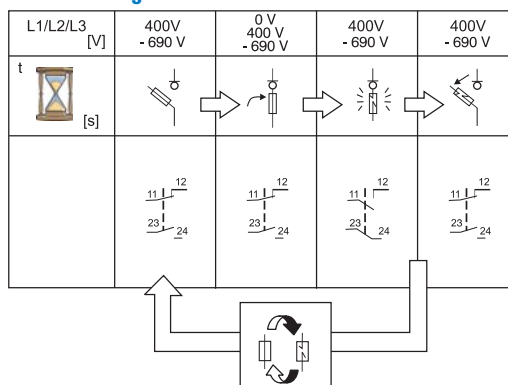
	XNH...FCE...
Power supply	self-supplied
Power consumption	1.5 VA
Overvoltage category	
230/400 V	III
500 V	II
Frequency range	50 - 60 Hz
Input resistance	>1 kOhm/V
Voltage inputs	400 - 500 V AC (+/-10%)
Temperature range	-5 to +55 °C
Operation indicator	1 LED green
Failure indicator	3 LEDs (F1, F2, F3)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

Note: Not suitable for single-phase application!

## Connection diagram

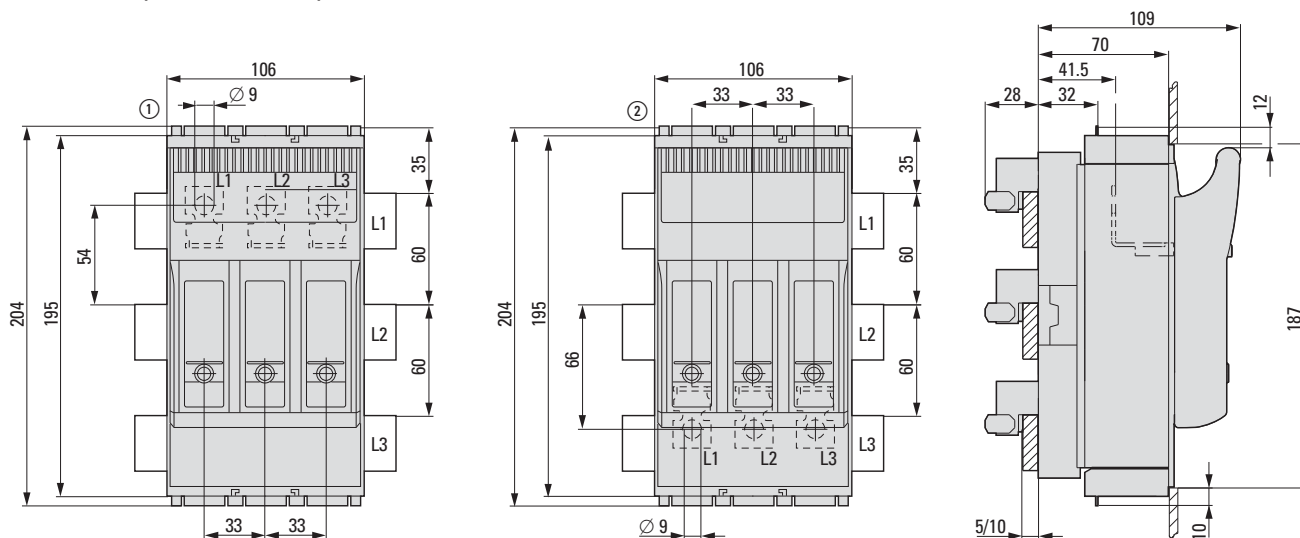


## Function diagram



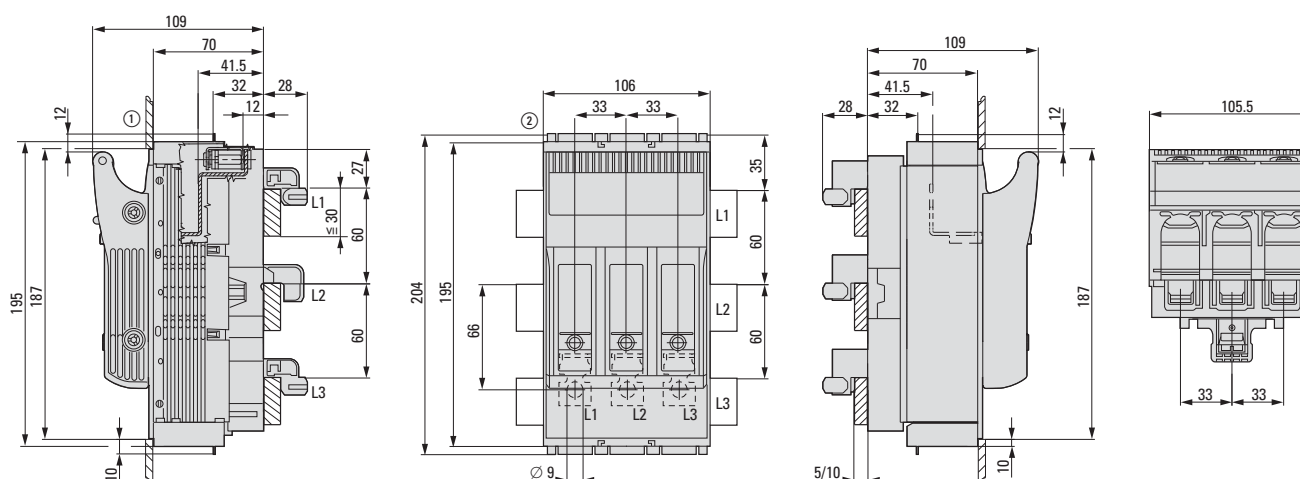
#### Dimensions

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



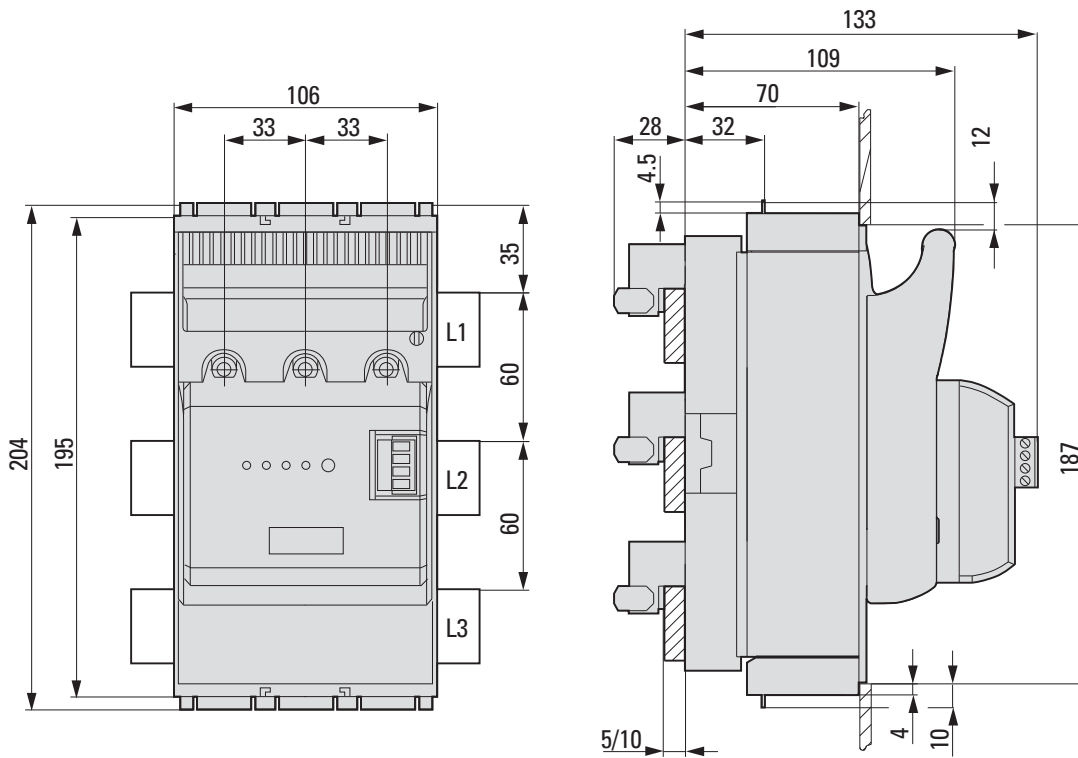
1230DIM-362

##### XNH00-FCL-S160-BT2



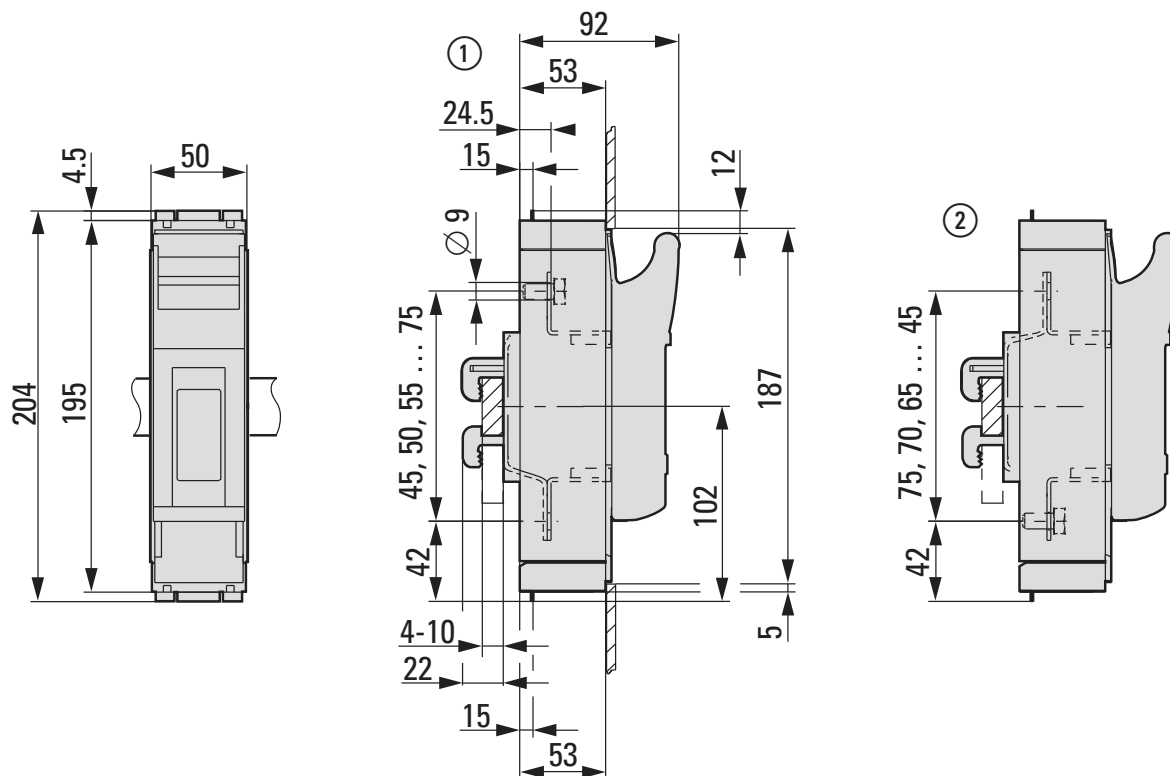
1230DIM-363

### XNH00-FCE-S160...



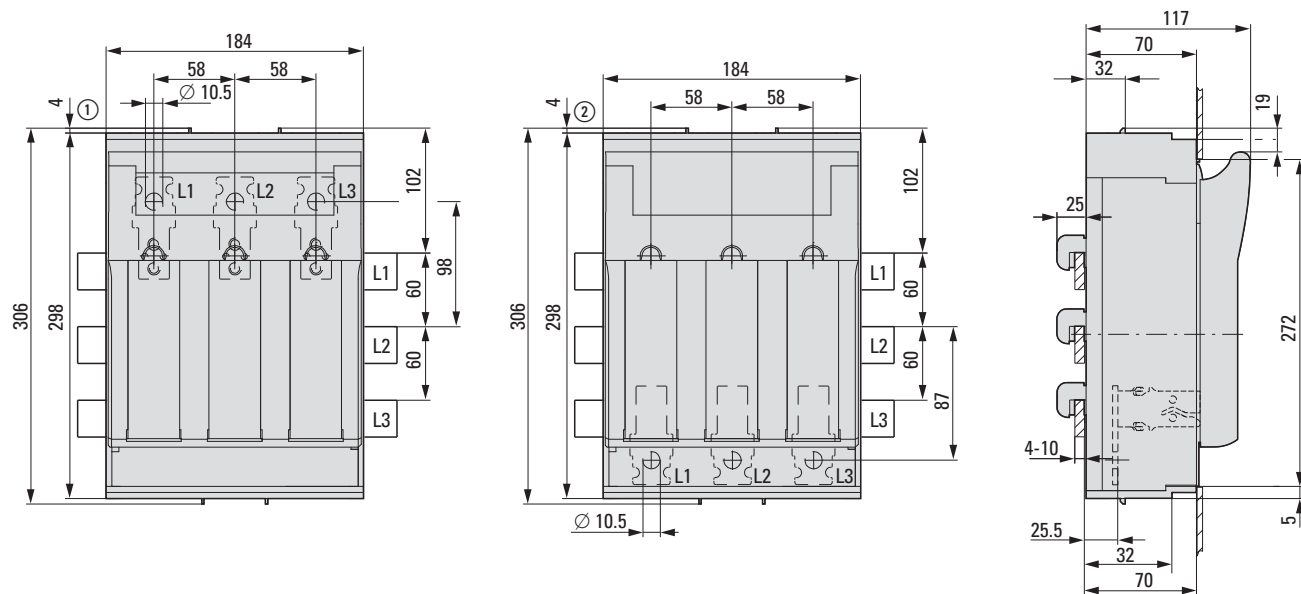
1230DIM-364

### XNH00-1-S160



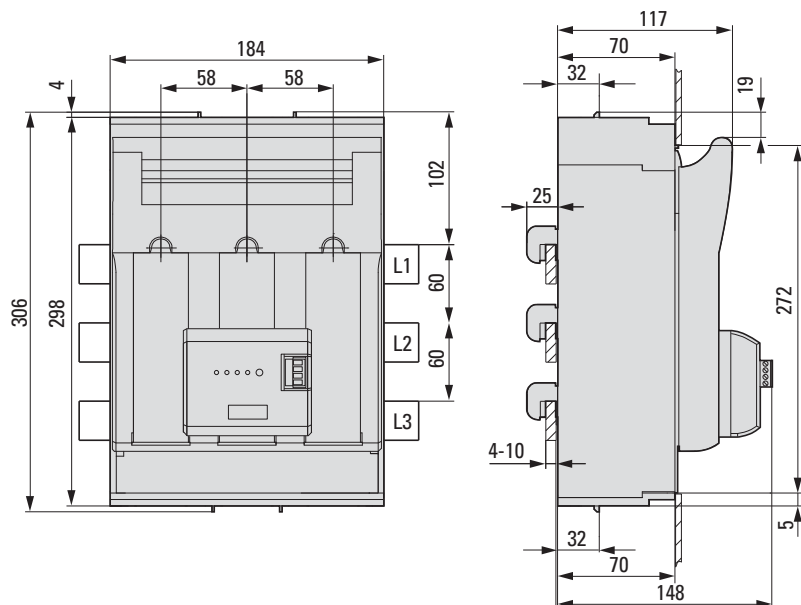
1230DIM-375

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



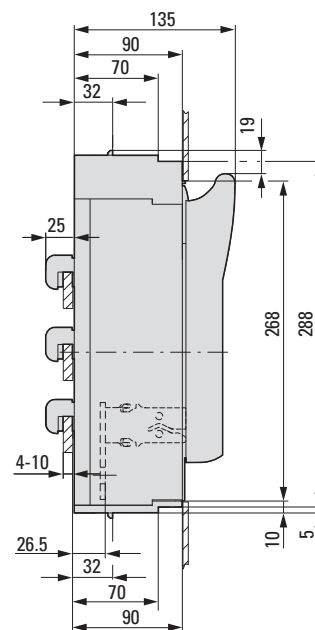
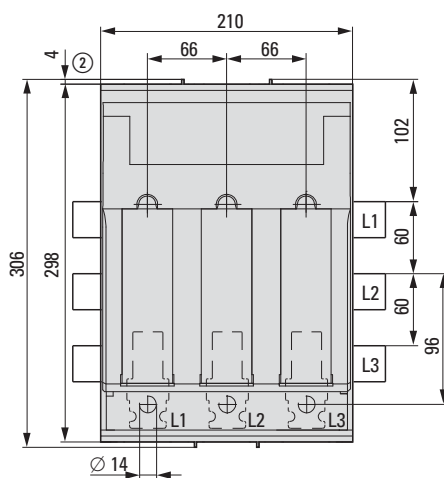
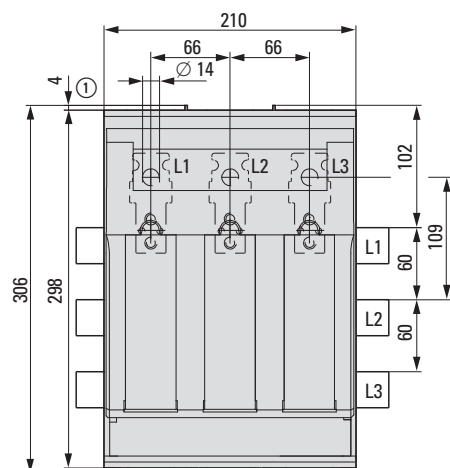
1230DIM-366

#### XNH1-FCE-S250...



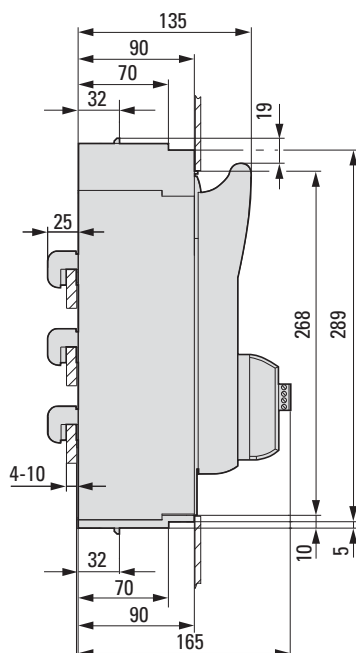
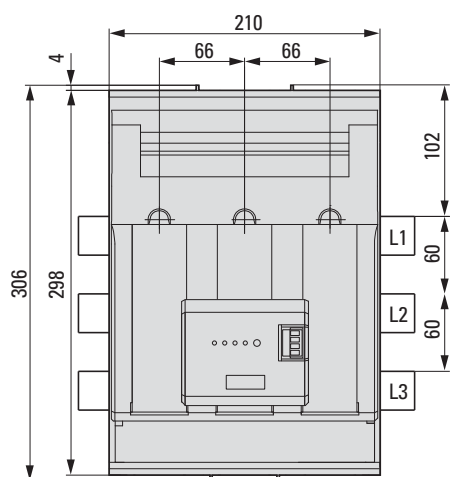
1230DIM-370

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



1230DIM-367

## XNH2-FCE-S400...



1230DIM-371

## Fuse Switch Disconnectors XNH...

1230DIM-368

1230DIM-372

SG46812

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SG46912



## Description

### NH-Fuse-Switch-Disconnecter LTS-100/ C00/3-R:

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

### Compact NH-Fuse-Switch-Disconnecter FCFSDNH000BBC60-3:

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

### NH-Vertical Fuse-Switch-Disconnecter NH-SLS-00/160-60:

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

Size	I <sub>e</sub> (A)	Type of connection	Type Designation	Article No.	Units per package
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### NH-Fuse-Switch-Disconnectors LTS-100/C00/3-R

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

SG45812



000	125	Connection at the bottom Lift terminal 1.5 - 50 mm <sup>2</sup>	LTS-100/C00/3-R	284690	1
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### Compact NH-Fuse-Switch-Disconnectors, FCFSDNH000BBC60-3

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

01063563\_0



000	100	Connection top or bottom Lift terminal 1.5 - 50 mm <sup>2</sup>	FCFSDNH000BBC60-3	139533	1
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Size	I <sub>e</sub> (A)	Type of connection	Type Designation	Article No.	Units per package
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### NH-Vertical Fuse-Switch-Disconnecter NH-SLS-00/160-60

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

SG46912



#### Without fuse monitoring

00	160	Connection top or bottom	NH-SLS-00/160-60	106211	1/182
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#### With fuse monitoring

00	160	Connection top or bottom	NH-SLS-00/160-60-SI	106216	1/112
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Suitable with	Type Designation	Article No.	Units per package
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### Terminal Cover/Size Compensation for GST...

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

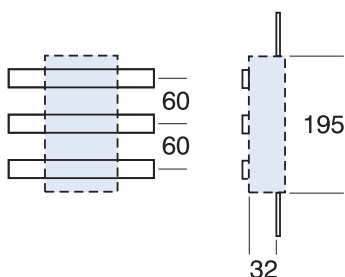
wa\_sg01712



for NH-SLS-00/160-60	Z-NH-SLS-KA	106223	2
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### Coordination Table

- Combinations possible without bending the copper busbar



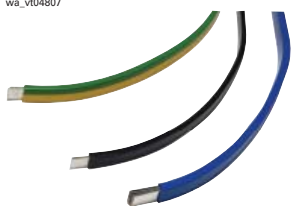
Device	XNH00-S160	LTS-100/C00/3-R	D02-S/63/3-RS	D02-LTS/63/3-R(-HK)	D02-SO/63/3-R-27 Z-D02/R/3-..	DII-SO/25/3-R(-PS)	DIII-SO/63/3-R(-PS)	AM195
Accessory	XNH00-KSS-32					SBS-RS60	SBS-RS60	
Cu	12x5/10	X		X	X	X	X	X
	20x5/10	X	X	X	X	X	X	X
	25x5/10	X		X	X	X	X	X
	30x5/10	X	X	X	X	X	X	X
	Double-T	X	X	X	X	X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

Rated current range <sup>1)</sup>	Dimensions (number of layers x width x thickness for a single layer) mm	Cross-section <sup>2)</sup> mm <sup>2</sup>	Utilisation	Type Designation	Article No.	Units per package
A						

### Multi-layer Copper Band, insulated

- E-Cu conductor, tinned
- Rated operating voltage 1000 V AC / 1500 V DC
- UL approved for max. 600 V AC
- Insulation resistance 20 kV/mm
- Insulating material heat resistant up to +105 °C
- Self-extinguishing according to UL 94 V0
- 2000 mm long
- Continuous currents according to DIN 43671, see technical data

wa\_vt04807



100	3 x 9 x 0.8	21.6	black	CU-BAND3X9X0.8-BK	081167	20
	3 x 9 x 0.8	21.6	blue	CU-BAND3X9X0.8-BU	080960	20
	3 x 9 x 0.8	21.6	green/yellow	CU-BAND3X9X0.8-GNYE	081006	20
160	6 x 9 x 0.8	43.2	black	CU-BAND6X9X0.8-BK	081414	10
	6 x 9 x 0.8	43.2	blue	CU-BAND6X9X0.8-BU	081344	10
	6 x 9 x 0.8	43.2	green/yellow	CU-BAND6X9X0.8-GNYE	081367	10
200	9 x 9 x 0.8	64.8	black	CU-BAND9X9X0.8-BK	081515	10
	9 x 9 x 0.8	64.8	blue	CU-BAND9X9X0.8-BU	081436	10
	9 x 9 x 0.8	64.8	green/yellow	CU-BAND9X9X0.8-GNYE	081485	10
250	6 x 16 x 0.8	74.4	black	CU-BAND6X16X0.8-BK	081310	10
	6 x 16 x 0.8	74.4	blue	CU-BAND6X16X0.8-BU	081222	10
	6 x 16 x 0.8	74.4	green/yellow	CU-BAND6X16X0.8-GNYE	081275	10
400	10 x 16 x 0.8	124	black	CU-BAND10X16X0.8-BK	080739	5
	10 x 16 x 0.8	124	blue	CU-BAND10X16X0.8-BU	079736	5
	10 x 16 x 0.8	124	green/yellow	CU-BAND10X16X0.8-GNYE	080698	5
	5 x 24 x 1	120	black	CU-BAND5X24X1-BK	119032	5
630	11 x 21 x 1	231	black	CU-BAND11X21X1-BK	080923	5
	11 x 21 x 1	231	blue	CU-BAND11X21X1-BU	080769	5
	11 x 21 x 1	231	green/yellow	CU-BAND11X21X1-GNYE	080836	5
	8 x 24 x 1	192	black	CU-BAND8X24X1-BK	119033	5
	10 x 24 x 1	240	black	CU-BAND10X24X1-BK	119034	5
	5 x 32 x 1	160	black	CU-BAND5X32X1-BK	119035	5
800	10 x 32 x 1	320	black	CU-BAND10X32X1-BK	119036	3
1000	10 x 40 x 1	400	black	CU-BAND10X40X1-BK	119037	3
1250	10 x 50 x 1	500	black	CU-BAND10X50X1-BK	119038	2
1600	10 x 80 x 1	800	black	CU-BAND10X80X1-BK	119039	1

Notes <sup>1)</sup> Continuous currents according to DIN 43671

<sup>2)</sup> Cross-sectional area: Wiring instructions for devices (e.g., minimum terminal capacity of ... mm<sup>2</sup>) must be given priority

Used for

Type  
Designation

Article No. Units per  
package

### Line Supports

wa\_vt22613



#### Profile ledge

Clamp clips	BZ248	076516	10
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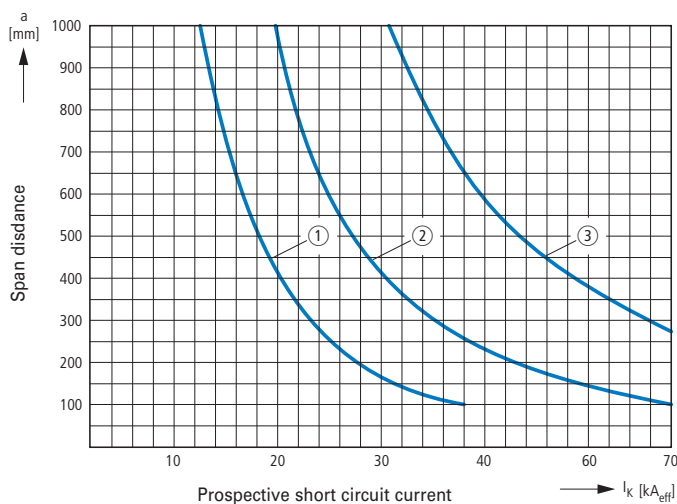
wa\_vt34013



#### Clamp clips

3 x 9 x 0.8	BZ249	078889	10
6 x 9 x 0.8			
4 x 16 x 0.8	BZ251	081262	10
6 x 16 x 0.8			
10 x 16 x 0.8			
11 x 21 x 1	BZ252	083635	10

### Short-circuit strength diagrams



- ① BZ249
- ② BZ251
- ③ BZ252

## Technical Data

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

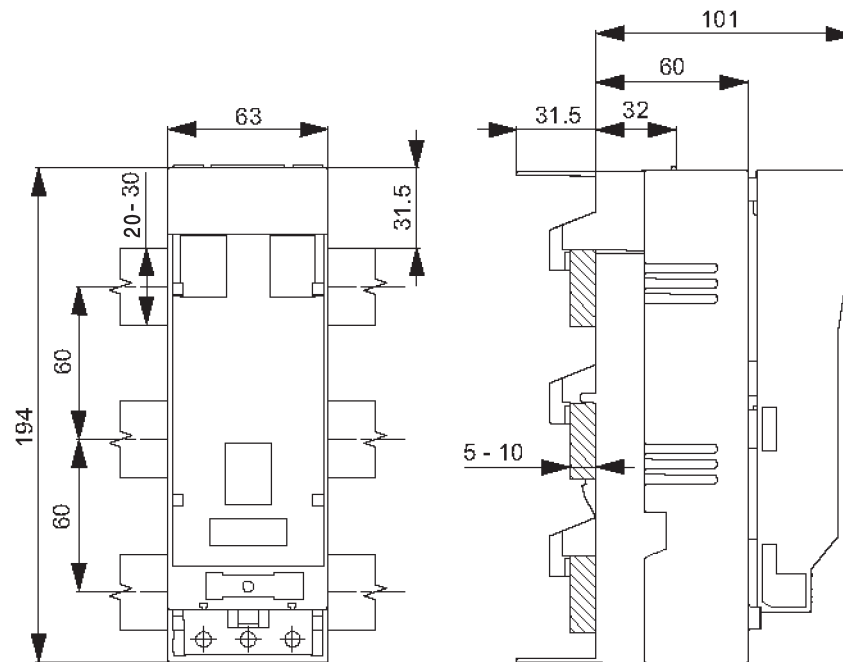
		<b>LTS-100/000/3-R</b>	<b>FCFSDNH000BBC60-3</b>	<b>NH-SLS-00/160-60</b>
Standard		IEC/EN 60947-3	IEC/EN 60947-3	IEC/EN 60947-3
NH fuses <sup>1)</sup> according to DIN VDE 0636-2		000	000	00
Rated operational voltage	$U_e$	500 V AC	690 V AC, 440 V DC	690 V AC
Rated operational current	$I_e$	125 A	125 A	160 A
Rated frequency	$f$	40 - 60 Hz	40 - 60 Hz	40 - 60 Hz
Rated insulation voltage	$U_i$	500 V AC	800 V AC	800 V AC
Total power loss at $I_{th}$ (without fuses)	$P_v$	18 W	13,8 W	27 W
Power loss at 80% (without fuses)	$P_v$	14	14.1 W	17,3 W
Rated impulse withstand voltage	$U_{imp}$	8 kV	6 kV	8 kV
Utilization category		AC-22B (500 V / 125 A)	AC-23B (400 V / 125 A)	AC-23B (400 V / 160 A)
		—	AC-22B (500 V / 125 A)	AC-23B (500 V / 125 A)
		—	AC-21B (690 V / 125 A)	AC-22B (690 V / 160 A)
		DC-22B (220 V / 100 A)	DC-22B (440 V / 63 A)	—
		—	DC-21B (440 V / 125 A)	—
Rated conditional short-circuit current		50 kA (500 V)	50 kA (100 A) (500 V) 50 kA (80 A) (690 V)	50 kA (690 V)
Rated short-time withstand current	$I_{cw}$	—	—	—
Max. permitted power loss per fuse link	$P_{NH}$	12 W	9 W	12 W
Degree of protection - front (XNH installed)		operating status IP20	operating status IP20	operating status IP20
		handle cover open IP10	handle cover open IP10	handle cover open IP10
Ambient temperature	$T_{35}$	-25 to +55 °C	-25 to +55 °C	-25 to +55 °C
Rated duty		uninterrupted duty	uninterrupted duty	uninterrupted duty
Activation		dependent manual activation	dependent manual activation	dependent manual activation
Fitting position		vertical	vertical/horizontal	vertical
Altitude		max. 2000 m	max. 2000 m	max. 2000 m
Pollution degree		3	3	3
Overvoltage category		III	III	III
Colour		grey/black	grey	grey
RoHs		yes	yes	yes
Energy feeder direction		bottom	any (FLEX System)	any (FLEX System)
Lockable		—	—	—
Sealable		yes, standard	—	—
Material		Polyamide	Polyamide	Polyamide
Reaction to fire		self-extinguishing according to UL94	self-extinguishing according to UL94	self-extinguishing according to UL94
Halogen-free		yes	yes	yes
Voltage test		—	yes, sliding inspection windows	—
Electrical service life		200 operating cycles	300 operating cycles	200 operating cycles
Mechanical service life		1400 operating cycles	1700 operating cycles	1400 operating cycles
Track resistance		CTI 400	CTI 200	CTI 200
Temperature resistance		up to 125 °C	up to 125 °C	up to 125 °C
Terminal capacities				
Flat connection				
Bolt diameter		—	—	M8
Cable lug max. width		—	—	27 mm
Flat rail		—	—	20x10 mm
Box terminal				
multi-wire		1.5 - 50 mm <sup>2</sup> Cu	1.5 - 50 mm <sup>2</sup> Cu	—
Cu-Band		6x9x0.8 mm	6x9x0.8 mm	—

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

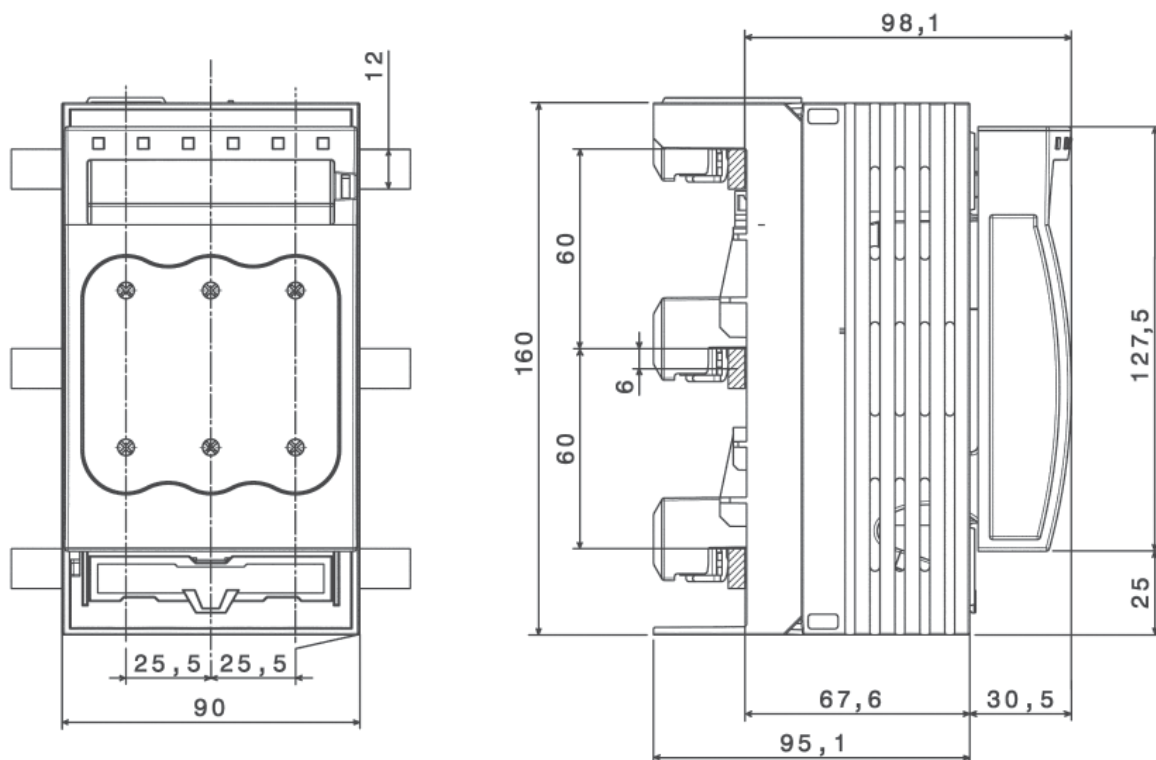
<sup>1)</sup> Type-tested with NH fuse links of characteristic gG.

## Dimensions

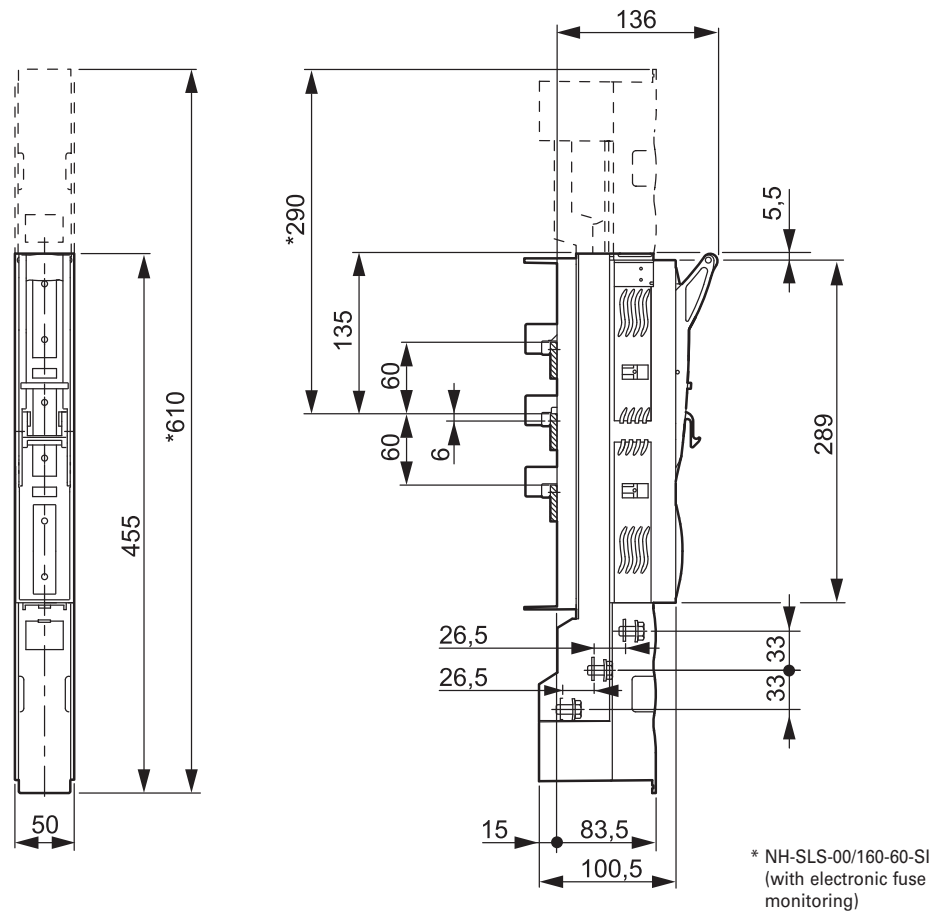
### LTS-100/C00/3-R



### FCFSDNH000BBC60-3



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



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

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

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

Rated current range	Dimensions Number of layers x Width x thickness of a layer [mm]	Cross-section [mm <sup>2</sup> ]	Continuous current AC			Type	Colour
			X = 65 °C	X = 85 °C	X = 105 °C		
			ΔT = 30 K	ΔT = 50 K	ΔT = 70 K		
100 A	3 x 9 x 0.8	21.6	98 A	<b>130 A</b>	152 A	CU-BAND3X9X0.8-...	BK, BU, GNYE
160 A	6 x 9 x 0.8	43.2	147 A	<b>196 A</b>	228 A	CU-BAND6X9X0.8-...	BK, BU, GNYE
200 A	9 x 9 x 0.8	64.8	179 A	<b>238 A</b>	277 A	CU-BAND9X9X0.8-...	BK, BU, GNYE
250 A	6 x 16 x 0.8	74.4	252 A	<b>335 A</b>	391 A	CU-BAND6X16X0.8-...	BK, BU, GNYE
400 A	10 x 16 x 0.8	128	330 A	<b>439 A</b>	512 A	CU-BAND10X16X0.8-...	BK, BU, GNYE
400 A	5 x 24 x 1	120	369 A	<b>491 A</b>	572 A	CU-BAND5X24X1-...	BK
630 A	11 x 21 x 1	231	563 A	<b>749 A</b>	873 A	CU-BAND11X21X1-...	BK, BU, GNYE
630 A	8 x 24 x 1	192	483 A	<b>642 A</b>	749 A	CU-BAND8X24X1-...	BK
630 A	10 x 24 x 1	240	559 A	<b>743 A</b>	866 A	CU-BAND10X24X1-...	BK
630 A	5 x 32 x 1	160	477 A	<b>634 A</b>	739 A	CU-BAND5X32X1-...	BK
800 A	10 x 32 x 1	320	721 A	<b>959 A</b>	1118 A	CU-BAND10X32X1-...	BK
1000 A	10 x 40 x 1	400	850 A	<b>1131 A</b>	1318 A	CU-BAND10X40X1-...	BK
1250 A	10 x 50 x 1	500	1020 A	<b>1357 A</b>	1581 A	CU-BAND10X50X1-...	BK
1600 A	10 x 80 x 1	800	1500 A	<b>1995 A</b>	2325 A	CU-BAND10X80X1-...	BK

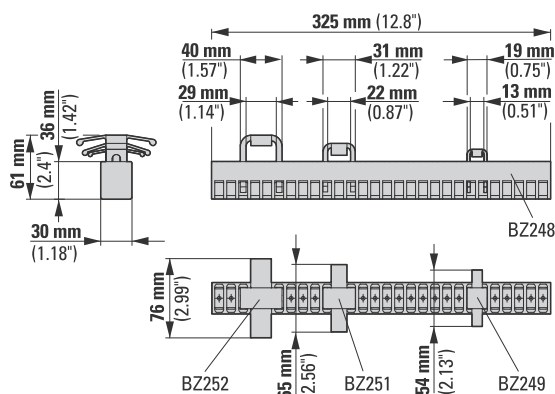
The rated currents and wiring instructions for devices (e.g. connection cross-section at least ... mm<sup>2</sup>) are primarily to be observed.

Multiplication factor 1.72 using 2x CU-BAND in parallel.

Multiplication factor 2.25 when using 3x CU-BAND in parallel arrangement according to DIN 43671.

## Dimensions

### Line Supports BZ



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Printed in Austria  
Publication No. FK4300-1167 GB  
Article number 111003-MK  
February 2018  
Graphics: SRA, Schrems

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