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

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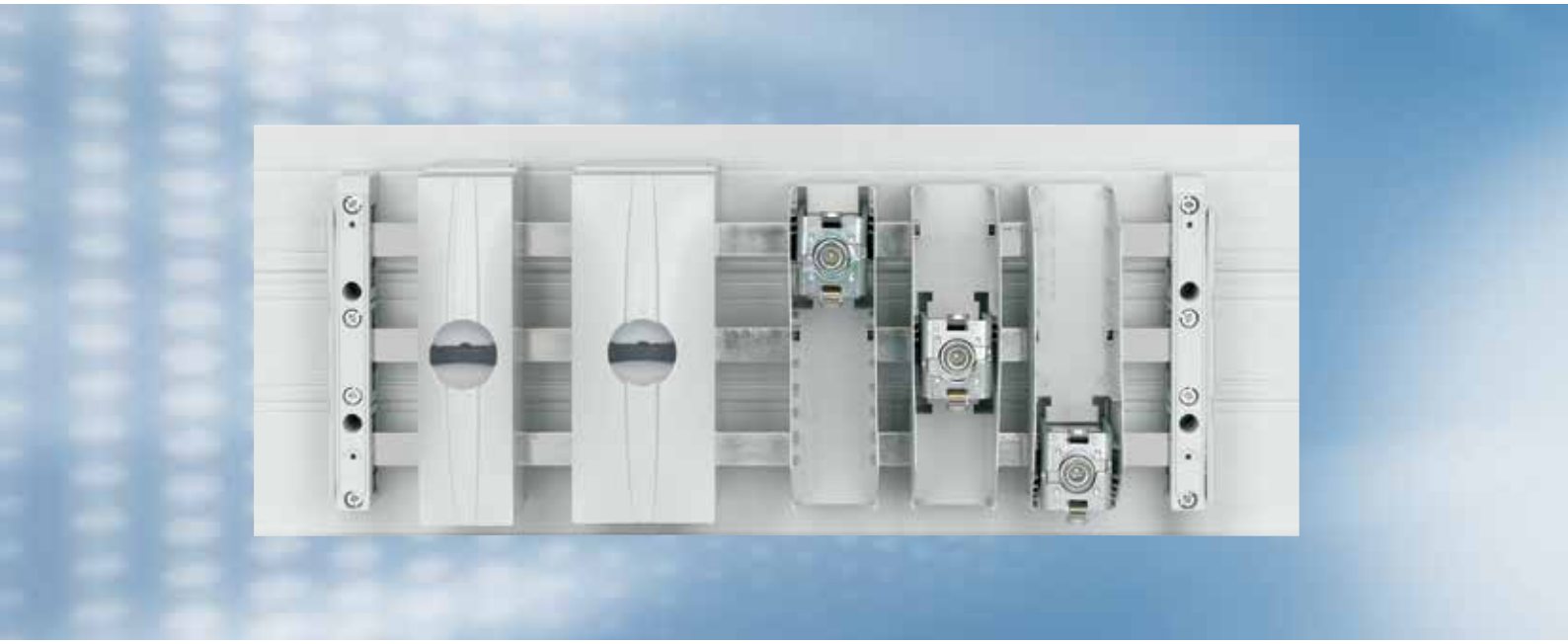
# Customer-focused and Innovative SASY 60i - now a UL-certified Component

**SASY 60i** - safe and reliable: In combination with the new generation of Eaton's motor protectors and circuit breakers, SASY 60i provides a universal UL-certified solution for switching, protecting and distributing power.
The modular SASY 60i busbar system by Eaton has been conceived for the efficient distribution of power in the switching cabinet. Thanks to busbar adapters, feed and output switches can be mounted directly onto the busbar system in a quick and a space-saving way.

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

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.

# Busbar system SASY 60i for the global market



**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 PKZ/PKE motor protector and one or two DILM contactor(s). In order to mount these, they only need to be clicked in place on the busbar; this guarantees reduced assembly times and costs.

**Special features of the device adapters**

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

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

**Safety is always first priority**

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

**A system designed for worldwide use**

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

For busbar applications that have not been type-tested, UL508A allows an ampacity of 1000A/inch2 (1.55A/mm2). This value may be higher if the product or the application has been tested accordingly. Eaton has conducted extensive tests for the user's maximum benefit in using SASY 60i busbar systems. The advantage of such tests is that one can use busbar systems designed for higher rated currents than the default value allows. SASY 60i components and combinations are listed under File No. E300273 and E140305.

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

wa_vt01412

## SASY 60i Busbar System

# 1.2 SASY 60i Busbar System

wa_vt01412

## 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
- Fuse devices
- Connection technique

## Systems up to 630 A for Flat Busbars

### Busbar Support

- Thermoplasticic, silicone-free, chlorine-free
- Halogen-free
- Self-extinguishing according to UL 94
- RAL 7035
- Track resistance CTI 200
- Temperature-resistant up to 120 °C

#### IEC Busbar Support

| | Poles Number | Max. Rated Operational Current $I_e$ (A) | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|
| wa_vt09913  | 3 | 630 | With snap-in slide for adapting to the respective size of the bar | 12 x 5/10<br>15 x 5/10<br>20 x 5/10<br>25 x 5/10<br>30 x 5/10 | With pre-drilled holes inside for screw-fixing | BBS-3/FL | 107066 | 10 |
| 01063535_0  | 4 | 630 | With snap-in slide for adapting to the respective size of the bar | 12 x 5/10<br>15 x 5/10<br>20 x 5/10<br>25 x 5/10<br>30 x 5/10 | With pre-drilled holes inside for screw-fixing | BBS-4/FL | 138381 | 10 |

#### UL Busbar Support

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| wa_vt10013  | 3 | 630 | With snap-in slide for adapting to the respective size of the bar | 12 x 5/10<br>20 x 5/10<br>30 x 5/10 | With pre-drilled holes inside for screw-fixing | BBS-3/FL-NA | 107067 | 10 |
| If used in feeder circuits according to UL 508A up to 600 V, it is necessary use the BBC-BT-NA base plate in addition. | | | | | | | | |

#### PE/N Busbar Support

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| wa_vt10213  | 2 | 630 | With snap-in slide for adapting to the respective size of the bar | 12 x 5/10<br>15 x 5/10<br>20 x 5/10<br>25 x 5/10<br>30 x 5/10 | Can be mounted individually | BBS-2/FL | 107069 | 10 |
| wa_vt11713  | 1 | 630 | With snap-in slide for adapting to the respective size of the bar | 12 x 5/10<br>20 x 5/10<br>30 x 5/10 | Can be mounted individually | BBS-1/FL | 107161 | 10 |

#### Compact Busbar Support

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| VT35310, VT35410  | 3 | 360 | With a removable contact block to adjust it to the respective size of the bar | 12 x 5/10 | With pre-drilled holes inside for screw-fixing and integrated end covers | BBS-3/FL-C | 138370 | 10 |

# 1.4 SASY 60i Busbar System

## Systems up to 630 A for Flat Busbars

### End Cover


wa_vt10413

| Poles Number | Max. Rated Operational Current $I_e$ (A) | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|
| – | – | – | To cover the busbar ends for BBS-3/FL and BBS-3/FL-NA | – | ES-BBS-3/FL | 107068 | 10 |

### UL Base Plate

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


wa_vt13713

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

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


wa_vt13613

| Poles Number | Max. Rated Operational Current $I_e$ (A) | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|
| – | – | – | 12 x 5<br>15 x 5<br>20 x 5<br>25 x 5<br>30 x 5 | 1000 mm long | BBC-FL5 | 107173 | 10 |


wa_vt13313

| Poles Number | Max. Rated Operational Current $I_e$ (A) | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|
| – | – | – | 12 x 10<br>15 x 10<br>20 x 10<br>25 x 10<br>30 x 10 | 1000 mm long | BBC-FL10 | 107174 | 10 |

### Flat Copper Rails


wa_vt00408


wa_vt00308

| Max. Rated Operational Current $I_e$ (A) | Dimension (mm x mm) | Length (mm) | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|
| 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 |

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

### Busbar Support

- Thermoplasticic, silicone-free, chlorine-free
- Halogen-free
- Self-extinguishing according to UL 94
- RAL 7035
- Track resistance CTI 200
- Temperature-resistant up to 120 °C

| | Poles Number | Max. Rated Operational Current $I_e$ (A) | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|
| **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 |
| 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 |
| | 1 | 1600 | Suitable for setting up a PE or N bar | Double-T-Profile | Standalone support or for attaching to BBS-3/PR | BBS-1/PR-N-PE | 302105 | 10 |
| **End Cover** | | | | | | | | |
| wa_vt10313  | 3 | – | – | For the BBS-3/PR support | – | ES-BBS-3/PR | 107164 | 4 |
| | 1 | – | – | For the BBS-1/PR-N-PE support | – | ES-BBS-1/PR-N-PE | 302107 | 4 |

| Poles<br>Number | Max. Rated Operational Current<br>$I_e$ (A) | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|
| **UL Base Plate** | | | | | | | |
| • Silicone-free, chlorine-free<br>• Self-extinguishing according to UL 94<br>• Temperature-resistant up to 110 °C | | | | | | | |
| wa_vt13713  – | – | To be used when the air gap between fully equipped busbar systems and mounting plate is insufficient | Necessary for UL support BBS-3/FL-NA | 1100 mm long | BBC-BT-NA | 107172 | 2 |
| **Double-T-Profile Busbar** | | | | | | | |
| wa_vt13113  – | 1250[1)] | Tin-plated Cross-section 500 mm² | For BBS-3/PR and BBS-1/PR supports | 2400 mm long | CU-BAR-500/T | 107166 | 1 |
| wa_vt13013  – | 1600[1)] | Tin-plated Cross-section 720 mm² | For BBS-3/PR and BBS-1/PR supports | 2400 mm long | CU-BAR-720/T | 107167 | 1 |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Busbar Covers** | | | | | | | |
| • Silicone-free, chlorine-free<br>• Self-extinguishing according to UL 94<br>• Temperature-resistant up to 110 °C | | | | | | | |
| wa_vt13413  – | – | – | For Double-T-Profile | 1000 mm long | BBC-CU-BAR/PR | 107175 | 5 |

| | 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 support 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 = 194 - 195 mm | 54 mm width | AM-195/54 | 107963 | 15 |

## System Cover - Kit

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

### For 3-pole systems

wa_vt09613


| Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| 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

wa_vt09613


| Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| 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

01063528_0

| Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| – | 700 mm long | BBC-RCOV3-C | 138371 | 2 |

### Support for Spare Section Cover

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

VT35710

| Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| – | 12 x 5/10 | BBC-MRCOV3-C | 138372 | 10 |

| | Poles<br>Number | Max. Rated Operational Current<br>$I_e$ (A) | Type of Conductor[1] | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|
| **Feeder Circuit Adapters for 630, 1250 and 1600 A Systems** | | | | | | | | |
| **Connecting Terminal Plates** | | | | | | | | |
|  wa_vt15113 | 3 | 80 | 1.5 - 16 mm²<br>AWG 16 - AWG 6<br>◎<br>⁘ | 12x5/10<br>15x5/10<br>20x5/10<br>25x5/10<br>30x5/10<br>Double-T-Profile | 20 mm width. With spring-type terminal technology. | BBA-TP3/16 | 107205 | 1 |
|  wa_vt09813 | 3 | 300 | 6 - 50 mm²<br>AWG 10 - AWG 2/0<br>◎<br>⁘<br>▤ 6x9x0.8 | 12x5/10<br>15x5/10<br>20x5/10<br>25x5/10<br>30x5/10<br>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 |
|  wa_vt09713 | 3 | 440 | 35 - 120 mm²<br>AWG 2 - MCM 250<br>◎<br>⁘<br>▤ 10x16x0.8 | 12x5/10<br>15x5/10<br>20x5/10<br>25x5/10<br>30x5/10<br>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 |
| **Connecting Terminal Plates Compact** | | | | | | | | |
|  01063465_0 | 3 | 480 | 35 - 150 mm²<br>AWG 2 - MCM 300<br>◎<br>⁘<br>▤ 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 |

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

| | Poles<br>Number | Max. Rated Operational Current<br>$I_e$ (A) | Type of Conductor[1] | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|
| **Connecting Set with Cover 3-pole** | | | | | | | | |
| • Silicone-free, chlorine-free<br>• Self-extinguishing according to UL 94<br>• Track resistance CTI 200<br>• Temperature-resistant up to 120 °C | | | | | | | | |
|  <br>wa_vt13513<br>  <br>wa_vt09613 | 3 | 560 | 95 - 300 mm²<br>MCM300 - MCM600<br>directly terminated:<br>◎<br>⁘<br>◇ | 20x5/10<br>25x5/10<br>30x5/10<br>Double-T-Profile | 180 - 240 mm width. Clearance between poles can be adjusted as required. To be fixed directly on top of the busbar terminal. Incl. cover cap in flexible width. Looping them through is possible. | BBA-TP3/300 | 107185 | 1 |
|  <br>wa_vt13513<br>  <br>wa_vt09613 | 3 | 800 | Up to<br>▤ 10x32x1<br>■ 30x25 | 20x5/10<br>25x5/10<br>30x5/10<br>Double-T-Profile | 180 - 240 mm width. Clearance between poles can be adjusted as required. To be fixed directly on top of the busbar terminal. Incl. cover cap in flexible width. Looping them through is possible. Termination space 32 x 25 mm. | BBA-TP3/CU-BAND | 107186 | 1 |
|  <br>wa_vt61313<br>  <br>wa_vt09613 | 3 | 1600 | Up to<br>▤ (2x)10x50x1<br>Up to<br>■ (2x)50x10 | 30x10<br>Double-T-Profile | 228 mm width. Co-ordinated up for Eaton NZM4. To be fixed directly on top of the busbar terminal. Incl. cover cap in flexible width. Looping them through is possible. Termination space 5 x 28 mm. | BBA-TP3/1000 | 107207 | 1 |

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

| | Poles<br>Number | Max. Rated Operational Current<br>$I_e$ (A) | Type of Conductor[1] | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|
| **Connecting Set with Cover 4-pole**<br>• Silicone-free, chlorine-free<br>• Self-extinguishing according to UL 94<br>• Track resistance CTI 200<br>• Temperature-resistant up to 120 °C | | | | | | | | |
| wa_vt13513<br>  <br>wa_vt09613<br>  | 4 | 560 | 95 - 300 mm²<br>MCM300 - MCM600<br>directly terminated:<br>◎<br>⁘<br>◇ | 20x5/10<br>25x5/10<br>30x5/10<br>Double-T-Profile | 180 - 240 mm width. Clearance between poles can be adjusted as required. To be fixed directly on top of the busbar terminal. Incl. cover cap in flexible width. Looping them through is possible. | BBA-TP4/300 | 138385 | 1 |
| wa_vt13513<br>  <br>wa_vt09613<br>  | 4 | 800 | Up to<br>▤ 10x32x1<br>■ 30x25 | 20x5/10<br>25x5/10<br>30x5/10<br>Double-T-Profile | 180 - 240 mm width. Clearance between poles can be adjusted as required. To be fixed directly on top of the busbar terminal. Incl. cover cap in flexible width. Looping them through is possible. Termination space 32 x 25 mm. | BBA-TP4/CU-BAND | 138386 | 1 |

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

| | Max. Rated Operational Current $I_e$ (A) | Type of Conductor[1] | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|
| **Terminals for 630, 1250 and 1600 A Systems** | | | | | | | | |
| **Brace Terminals** | | | | | | | | |
| • Connection method to busbars without drilling | | | | | | | | |
|  VT35910 | 480 | 38 - 150 mm², 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 mm², 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 mm², 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 |
|  wa_vt61313 | 1600 | Up to ▤ (2x)10x50x1 Up to ■ (2x)50x10 | Connection method to busbars without drilling Termination space 55 x 28 mm. | 20x5/10 25x5/10 30x5/10 Double-T-Profile | Contacting of wire and busbar via a contacting block | AKS1000 | 107208 | 1 |

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

| | Max. Rated Operational Current $I_e$ (A) | Type of Conductor[1] | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|
| **Profile Terminals[2]** | | | | | | | | |
| • Connection method to busbars without drilling<br>• In case of parallel connection of two multi-layer copper bars, please place spacers in bet | | | | | | | | |
|  01063395_0 | 1600 | 750 mm², Termination space 51 x 5-28 ■ ▤ | Connection method to busbars without drilling | Double-T-Profile | Width 82 mm | AKP750 | 138364 | 3 |
|  wa_vt12413 | 1600 | 800 mm², Termination space 41 x 20-42 ■ ▤ | Connection method to busbars without drilling | Double-T-Profile | Width 72 mm | AKP800 | 107198 | 3 |
|  wa_vt12313 | 1600 | 1000 mm², Termination space 51 x 20-42 ■ ▤ | Connection method to busbars without drilling | Double-T-Profile | Width 94 mm | AKP1000 | 107199 | 3 |
|  01063416_0 | 2500 | 1600 mm², Termination space 81 x 20-42 ■ ▤ | Connection method to busbars without drilling | Double-T-Profile | Width 112 mm | AKP1600 | 138367 | 3 |

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

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

| | Max. Rated Operational Current $I_e$ (A) | Type of Conductor[1] | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|
| **Universal Conductor Terminal 5 mm** | | | | | | | | |
| VT18406  | 180 | 1.5 - 16 mm², 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 5 mm | – | AKU16/5 | 107187 | 100 |
| VT18306  | 270 | 4 - 35 mm², 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 5 mm | – | AKU35/5 | 107188 | 50 |
| VT18206  | 400 | 16 - 70 mm², 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 5 mm | – | AKU70/5 | 107189 | 25 |
| VT18106  | 440 | 16 - 120 mm², 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 5 mm | – | AKU120/5 | 107190 | 25 |

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

| | Max. Rated Operational Current $I_e$ (A) | Type of Conductor[1] | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|
| **Universal Conductor Terminal 10 mm** | | | | | | | | |
| VT13806  | 180 | 1.5 - 16 mm², 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 mm², 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 mm², 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 mm², 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 |

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

## Brace Terminals


01063605_0

| Max. Rated Operational Current $I_e$ (A) | Type of Conductor[1] | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|
| 630 | – | Width 50 mm | All flat busbars of a thickness of 10 mm and CU-BAND 11x21x1 | – | PK900 | 138378 | 3 |

## Connection Terminals


01063388_0

| Max. Rated Operational Current $I_e$ (A) | Type of Conductor[1] | Special Features | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|
| 630 | 95 - 300 $mm^2$ | Width 48 mm. Contacting of wire and busbar via a cable bed. | 30 x 10 mm Double-T-Profile | – | AK300 | 138336 | 3 |

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

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

### Busbar Connecting Terminals

- For drill-free connection of identical types of busbars

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

| 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 |
|---|---|---|---|---|---|---|---|---|---|

## 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[1) 2)] | NZM1<br>PN1<br>N1<br>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 |
| 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.[3)] | NZM2<br>PN2<br>N2<br>NS2 | Use only in combination with auxiliary type (+)NZM2-XKR4 To be screwed tonto the busbar by means of a claw-type of clamp. | NZM2-XAD250 | 104555 | 1 |
| 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.[3)] | NZM3<br>PN3<br>N3 | Use only in combination with auxiliary type (+)NZM3-XKR13 To be screwed tonto the busbar by means of a claw-type of clamp. | NZM3-XAD630 | 107206 | 1 |

### Terminal for Device Adadpter NZM

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| wa_vt12713  | 250 | 690 | – | – | To cover the connection to the system at the top/bottom | NZM2<br>PN2<br>N2<br>NS2 | For device combination NZM2 use with auxiliary type +NZM2-XKR4O or +NZM2-XKR4U | NZM2-XKR4 | 281666 | 1 |
| wa_vt12613  | 630 | 690 | – | – | To cover the connection to the system at the top/bottom | NZM3<br>PN3<br>N3 | For device combination NZM3 use with auxiliary type +NZM3-XKR13O or +NZM3-XKR13U | NZM3-XKR13 | 281668 | 1 |

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

| | 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| **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<br>• Self-extinguishing according to UL 94<br>• Track resistance CTI 200<br>• Temperature-resistant up to 120 °C | | | | | | | | | | |
| 01063591_0  | 250 | 690 | 140 | – | For connecting to the system at the top through a tubetype of connection at the rear. Tube included in the scope of delivery.[3] | NZM2(-4)<br>PN2(-4)<br>N2(-4)<br>NS2(-4) | Use only in combination with auxiliary type (+)NZM2-4-XKR4 To be screwed tonto the busbar by means of a claw-type of clamp. | NZM2-4-XAD250 | 138388 | 1 |
| 01063598_0  | 630 | 690 | 185 | – | For connecting to the system at the top through a tubetype of connection at the rear. Tube included in the scope of delivery.[3] | NZM3(-4)<br>PN3(-4)<br>N3(-4)<br>NS3(-4) | Use only in combination with auxiliary type (+)NZM3-4-XKR13 To be screwed tonto the busbar by means of a claw-type of clamp. | NZM3-4-XAD630 | 138389 | 1 |
| **Terminal for Device Adadpter NZM** | | | | | | | | | | |
| NZM2-4-XKR4  | 250 | 690 | – | – | To cover the connection to the system at the top | NZM2-4<br>PN2-4<br>N2-4<br>NS2-4 | For device combination NZM2 use with auxiliary type +NZM2-4-XKR40 | NZM2-4-XKR4 | 118907 | 1 |
| NZM2-4-XKR4  | 630 | 690 | – | – | To cover the connection to the system at the top | NZM3-4<br>PN3-4<br>N3-4<br>NS3-4 | For device combination NZM3 use with auxiliary type +NZM3-4-XKR130 | NZM3-4-XKR13 | 119020 | 1 |

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

# xStart Busbar Adaptor, 3-pole[1)]

| | Max. Rated Operational Current $I_e$ (A) | Rated Operational Voltage $U_e$ (V) | Wire Cross Section | Adapter Width (mm) | Adapter Length (mm) | Support Rails | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **xStart Busbar Adaptor, 3-pole[1)]** | | | | | | | | | | | |
| **Busbar Adapter xStart 16 A, 25 A** | | | | | | | | | | | |
|  1210PIC-21 | 25 | 690 | AWG12 4 mm² | 45 | 200 | 1 | PKZM0, PKE + DILM7<br>PKZM0, PKE + DILM9<br>PKZM0, PKE + DILM12<br>PKZM0, PKE + DILM15<br>MSC-D(M)-0,25-M7…<br>to<br>MSC-D(M)-16-M15… | – | BBA0-25 | 101451 | 4 |
|  1210PIC-226 | 25 | 690 | AWG12 4 mm² | 45 | 260 | 1 | PKZM0, PKE + DS7...004N...<br>PKZM0, PKE + DS7...007N...<br>PKZM0, PKE + DS7...009N...<br>PKZM0, PKE + DS7...012N... | – | BBA0L-25 | 142526 | 1 |
|  1210PIC-22 | 25 | 690 | AWG12 4 mm² | 90 | 200 | 1 | PKZM0, PKE + 2 x DILM7-01<br>PKZM0, PKE + 2 x DILM9-01<br>PKZM0, PKE + 2 x DILM12-01<br>MSC-R-0,25-M7…<br>to<br>MSC-R-12-M12… | – | BBA0R-25 | 101453 | 2 |
|  1210PIC-89 | 16 | 690 | AWG14 2.5 mm² | 45 | 200 | 2 | PKZM0-C + DILMC7<br>PKZM0-C + DILMC9<br>PKZM0-C + DILMC12 | – | BBA0C-16 | 101455 | 4 |
| **Busbar Adapter xStart 25 A, Universal Type** | | | | | | | | | | | |
|  1210PIC-91 | 25 | 690 | AWG12 4 mm² | 45 | 200 | 2 | Support rail adjustable on the 1.25 mm grid | – | BBA0-25/2TS | 101481 | 4 |

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

## xStart Busbar Adaptor, 3-pole[1)]

| | Max. Rated Operational Current $I_e$ (A) | Rated Operational Voltage $U_e$ (V) | Wire Cross Section | Adapter Width (mm) | Adapter Length (mm) | Support Rails | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Busbar Adapter xStart 32 A** | | | | | | | | | | | |
|  BBA0-32_LTP | 32 | 690 | AWG10 6 mm² | 45 | 200 | 2 | PKZM0, PKE + DILM(C)17 PKZM0, PKE + DILM(C)25 PKZM0, PKE + DILM(C)32 | – | BBA0-32 | 101452 | 4 |
|  1210PIC-227 | 32 | 690 | AWG10 6 mm² | 45 | 260 | 2 | PKZM0, PKE + DS7...016N... PKZM0, PKE + DS7...024N... PKZM0, PKE + DS7...032N... | – | BBA0L-32 | 142527 | 1 |
|  1210PIC-24 | 32 | 690 | AWG10 6 mm² | 90 | 200 | 3 | PKZM0, PKE + 2 x DILM(C)17-01 PKZM0, PKE + 2 x DILM(C)25-01 PKZM0, PKE + 2 x DILM(C)32-01 | – | BBA0R-32 | 101454 | 2 |
|  1210PIC-352 | 32 | 690 | AWG10 6 mm² | 45 | 161 | 1 | PKZM0, PKE, BBS-3/FL-C | – | BBA0K-32 | 142528 | 1 |
| **Busbar Adapter xStart 32 A, for Spring-type Terminal** | | | | | | | | | | | |
|  4300PIC-139 | 32 | 690 | – | 45 | 200 | 2 | Support rail adjustable on the 1.25 mm grid | With spring-type terminal technology, to 1.5-6 mm². For example for 1-phase applications.. | BBA0-32/2TS-C | 116708 | 4 |

## xStart Busbar Adaptor, 3-pole[1)]

| | Max. Rated Operational Current $I_e$ (A) | Rated Operational Voltage $U_e$ (V) | Wire Cross Section | Adapter Width (mm) | Adapter Length (mm) | Support Rails | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Busbar Adapter xStart 63 A** | | | | | | | | | | | |
| 1210PIC-25  | 63 | 690 | AWG8 10 mm² | 72 | 260 | 2 | PKZM4, PKE65 + DILM(C)17<br>PKZM4, PKE65 + DILM(C)25<br>PKZM4, PKE65 + DILM(C)32<br>PKZM4, PKE65 + DILM(C)40<br>PKZM4, PKE65 + DILM(C)50<br>PKZM4, PKE65 + DILM(C)65 | – | BBA2L-63 | 101480 | 2 |
| 4300PIC-112  | 63 | 690 | AWG8 10 mm² | 72 | 200 | 1 | PKZM4, PKE65 | – | BBA2-63 | 101458 | 4 |
| 1210PIC-353  | 63 | 690 | AWG8 10 mm² | 55 | 260 | 2 | PKZM4, PKE65 + DILM(C)17<br>PKZM4, PKE65 + DILM(C)25<br>PKZM4, PKE65 + DILM(C)32<br>PKZM4, PKE65 + DILM(C)40<br>PKZM4, PKE65 + DILM(C)50<br>PKZM4, PKE65 + DILM(C)65 | – | BBA4L-63 | 101459 | 4 |
| 1210PIC-26  | 63 | 690 | AWG8 10 mm² | 55 | 200 | 1 | PKZM4, PKE65 | – | BBA4-63 | 101457 | 4 |

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

## xStart Busbar Adaptor, 3-pole[1)]

| Max. Rated Operational Current $I_e$ (A) | Rated Operational Voltage $U_e$ (V) | Wire Cross Section | Adapter Width (mm) | Adapter Length (mm) | Support Rails | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|---|---|
| **Busbar Adapter xStart 80 A** | | | | | | | | | | |
| 80 | 690 | – | 72 | 214 | 2 | universal | With screw-type terminal technology up to AWG6 (16 mm²), for example for 1-phase applications. (not UL/CSA compatible without an additional component) | BBA2-80/2TS-S | 116901 | 4 |

1210PIC-340

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

## xStart Busbar Adaptor, 3-pole[1)]

### Busbar Adapter xStart, Universal Type

| | Max. Rated Operational Current $I_e$ (A) | Rated Operational Voltage $U_e$ (V) | Wire Cross Section | Adapter Width (mm) | Adapter Length (mm) | Support Rails | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1210PIC-99  | – | – | – | 45 | 200 | 2 | Support rail adjustable on the 1.25 mm grid | – | BBA0/2TS-L | 101482 | 4 |
| 1210PIC-433  | – | – | – | 55 | 260 | 2 | Support rail adjustable on the 1.25 mm grid | – | BBA4/2TS-L | 101483 | 4 |

### Side Module

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| wa_vt11513  | – | – | – | 9 | 200 | – | Can be placed on both sides of BBA... to increase the add-on width | – | BBA-XSM | 101484 | 10 |

### Accessories - Support rail/Connecting cable

#### Support rail

| | Utilisation | Width (mm) | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|
| 1210PIC-120  | Used for BBA... adapter | 45 | – | PKZM0-XMR | 239364 | 10 |
| | | 54 | – | PKZM0-XMR54 | 113911 | 10 |
| | | 72 | – | PKZM0-XMR72 | 113912 | 10 |

#### Connecting cable

| | Utilisation | Width (mm) | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|
| 4300PIC-260  | Used for BBA with screw-type or spring-type terminals | – | 6 mm², 130 mm | BBA-XLT-6-130 | 116902 | 30 |
| | | – | 16 mm², 142 mm | BBA-XLT-16-142 | 116903 | 30 |

### Busbar Double Adapter for DIN modular devices

- Cross-section 6 mm² - $I_e$ = 35 A

| | Width (mm) | MU | Cross-section (mm²) | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|
| 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 |

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

2115PIC-21

Example illustration

## xStart Busbar DOL starters, complete devices, 3-pole[1], MSC-D.../BBA

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

*) Technical details and more DOL complete devices see Eaton catalogue of motor starters.

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

# SASY 60i Busbar System

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

2115PIC-23

Example illustration

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

*) Technical details and more REV complete devices see Eaton catalogue of motor starters.

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

## Slide Fuse Equipment, 3-pole

### D-Type Slide Fuse-Base

- Delivered empty, without screw caps

| | Max. Rated Operational Current $I_e$ (A) | Rated Voltage $U_e$ (V AC) | Size | Utilisation | Width | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|---|
| sg03516, sg03716, sg03616  | 63 | 400 | E18, D02 | 12 x 5/10<br>20 x 5/10<br>25 x 5/10<br>30 x 5/10<br>Double-T | 27 | Cartridge-ring adapter insert | D02-SO/63/3-R-27[1] | 114315 | 10 |
| | | | | | 36 | Cartridge-ring adapter insert | Z-D02/R/3-36[2] | 100663 | 10 |
| | | | | | 54 | Cartridge-ring adapter insert | Z-D02/R/3-54[2] | 100664 | 10 |
| wa_sg01112  | 25 | 500 | E27, DII | 12 x 5/10<br>20 x 5/10<br>25 x 5/10<br>30 x 5/10<br>Double-T | 45 | Gauge ring | DII-SO/25/3-R[1] | 107965 | 10 |
| | | | | | | Screw-in gauge ring | DII-SO/25/3-R-PS[1] | 110394 | 10 |
| wa_sg01212  | 63 | 690 | E33, DIII | 12 x 5/10<br>20 x 5/10<br>25 x 5/10<br>30 x 5/10<br>Double-T | 54 | Gauge ring | DIII-SO/63/3-R[1] | 107966 | 10 |
| | | | | | | Screw-in gauge ring | DIII-SO/63/3-R-PS[1] | 110395 | 10 |

| | Designation | Utilisation | Width | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|
| | **Covers** | | | | | | |
| SG60412  | Set for covering busbar support | D02 | 36 | Suitable for D02-SO/63/3-R-27 | Z-D02-S-AB-SET | 100662 | 10 |
| wa_sg01713  | Side cover | DII | – | Suitable for DII.-SO/.../3-R(-PS) | SBS-RS60 | 060541 | 10 |

[1] Incl. shock hazard protection cover with front and bottom plate
[2] 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 |
|---|---|---|---|---|---|---|---|---|
| **Screw Caps** | | | | | | | | |
| 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 |

wa_sg04013

**Adapter Spring**

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

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 16 | – | D02-D01 | – | – | – | Z-D02/SIKA-HF | 263149 | 50/3000 |

wa_sg02612

## D02 Fuse switch disconnector, 3-pole, 63 A

- With flashing function and contact position indicator
- Fuse plug without screw cap
- Switches the load on all poles and without touching by hand
- Sealable and lockable

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 63 | 400 | E18, D02 | 12 x 5/10<br>15 x 5/10<br>20 x 5/10<br>25 x 5/10<br>30 x 5/10<br>Double-T | 27 | for use in<br>xEnergy Basic<br>xEnergy Safety<br>xEnergy Light in<br>combination to front plates | D02-LTS/63/3-S60 | 194607 | 4 |

vt56916

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

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

### 3P

SG82311

| Max. Rated Operational Current $I_e$ (A) | Rated Voltage $U_e$ (V AC) | Size | Width | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|
| 63 | 400 | E18, D02 | 27 | 12 x 5/10<br>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<br>25 x 5/10<br>30 x 5/10<br>Double-T | Cartridge-ring adapter insert with auxiliary switch | D02-LTS/63/3-R-HK | 114318 | 3 |

### 3P+N

SG82211

| Max. Rated Operational Current $I_e$ (A) | Rated Voltage $U_e$ (V AC) | Size | Width | Utilisation | Notes | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|---|---|
| 63 | 400 | E18, D02 | 27 | 12 x 5/10<br>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<br>25 x 5/10<br>30 x 5/10<br>Double-T | Cartridge-ring adapter insert with auxiliary switch | D02-LTS/63/3N-R-HK | 114319 | 3 |

## Accessories for D02-LTS/63..

| | |
|---|---|
| D0 | Fuse-links Z-D0./SE-...<br>Cartridge-ring adapter inserts D01: Z-D02-D01/PE-...<br>D02: Z-D02/PE-...<br>Adapter spring Z-D02-LTS-HF (scope of delivery) |
| C | Fuse-links Z-C10/SE-...<br>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...

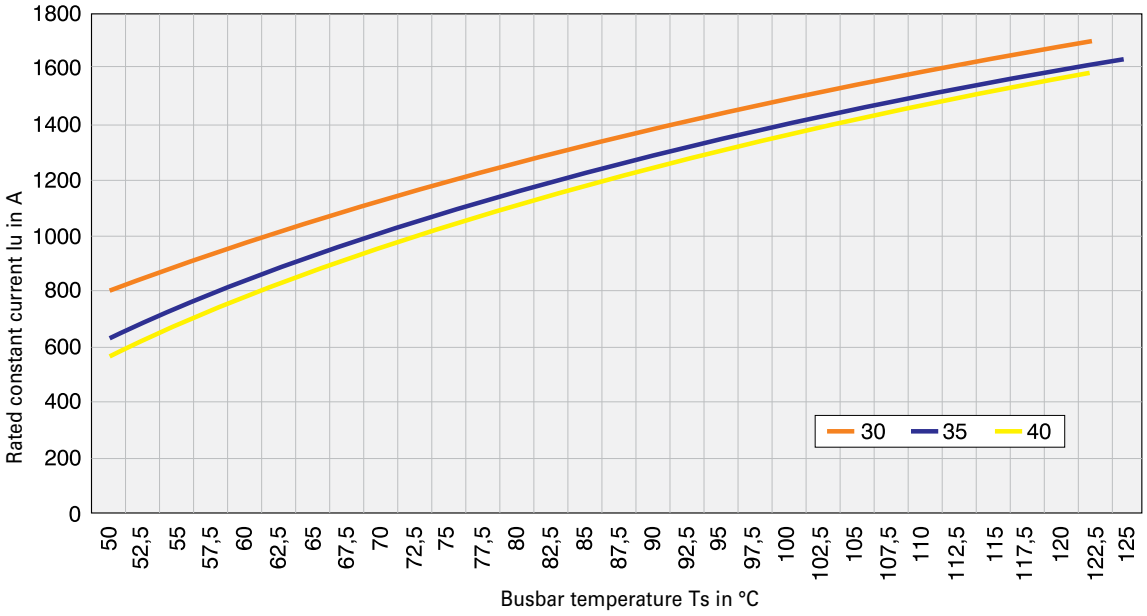
SG81811

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

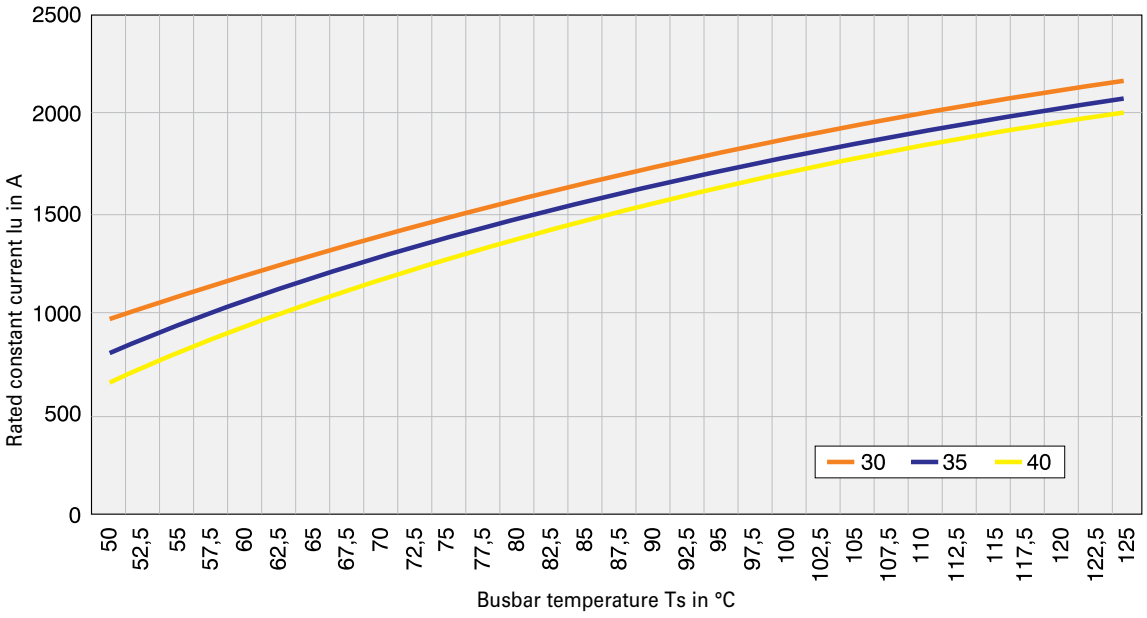
## Current Load Busbars, according to DIN EN 13601

For busbar applications that have not been type-tested, UL508A allows an ampacity of 1000A/inch² (1.55A/mm²) if no tests have been carried out. This value may be higher if the product or the application has been tested accordingly. Eaton has conducted extensive tests for the user's maximum benefit in using the SASY 60i busbar system. The advantage of such tests is that one can use the SASY60i busbar system with higher rated currents than the default value allows. A busbar of size 30x10 mm for example can be charged with 630A instead of 465A only.
Higher current carrying capacities to DIN 43671 were obtained under operating conditions.
Busbar temperature is normally positively influenced by mounting components on the busbar and by air circulation within the installation.
Depending on the respective ambient temperature, you can calculate the correction factor k2 according to DIN 43 671 for flat busbars. If ambient conditions change, a correction factor needs to be taken into account.
On the other hand, increased loads may occur if the components feature a correspondingly high temperature resistance.
A 30 x 10 tin-plated busbar can under normal conditions be loaded with 630 A. With a load of 800A, for instance, a k2 correction factor of 1.3 is necessary. It follows from the diagram that with this factor and 35°C air temperature, the busbar heats up to approx. 85°C.

### Current load CU-BAR-500/T



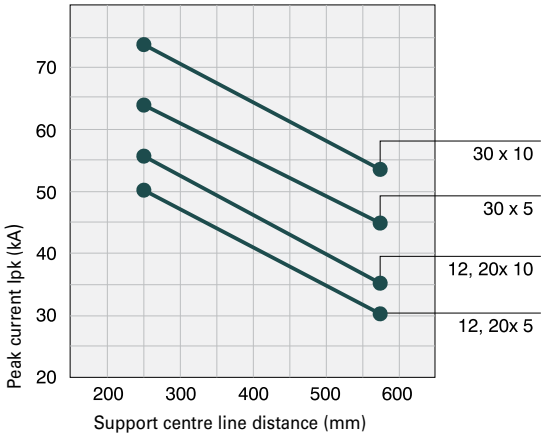

### Current load CU-BAR-720/T



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

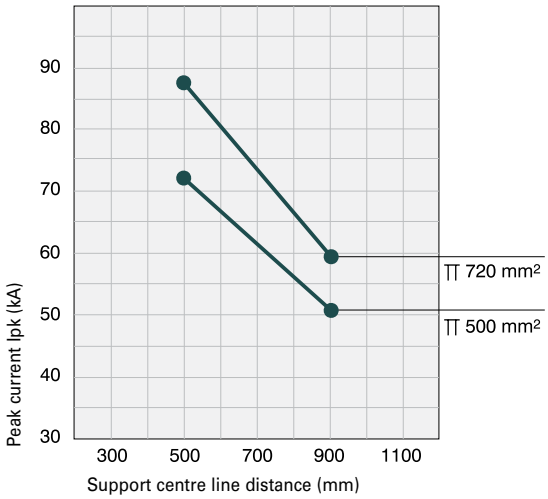
### BBS-3/FL

107066 • Values measured during type-testing



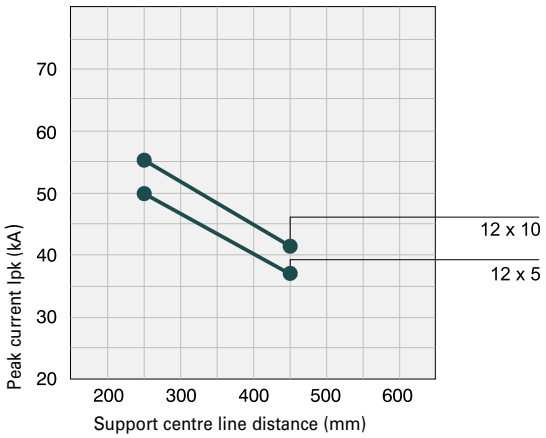

### BBS-3/PR

107162 • Values measured during type-testing




### BBS-3/FL-C

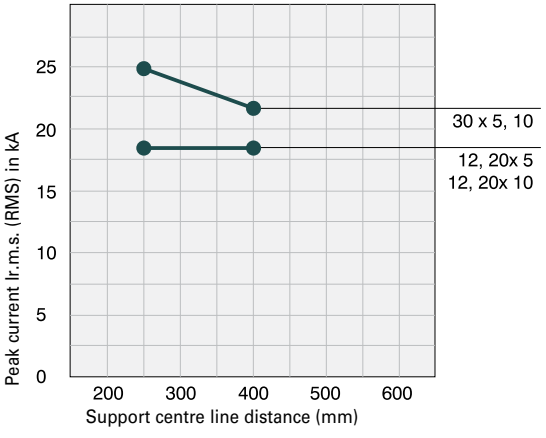
138370 • Values measured during type-testing




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

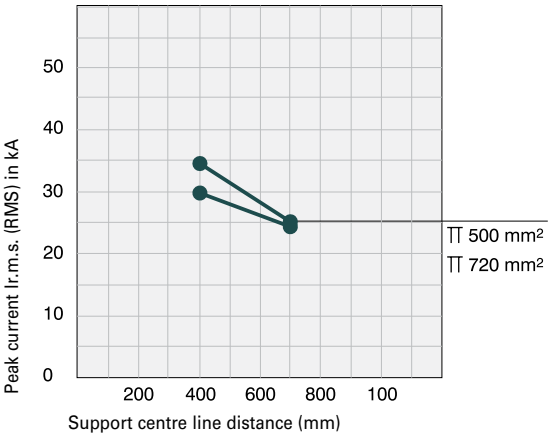
### BBS-3/FL-NA

107067 • Values measured during type-testing




### BBS-3/PR

107162 • Values measured during type-testing



## Technical Data Bar Support

| | | BBS-./FL(-NA) | BBS-./PR | BBS-3/FL-C |
|---|---|---|---|---|
| **General Information** | | | | |
| Standards and regulations | | type-tested according to VDE 0660 Part 500, IEC/EN 61439-1 | | |
| Fitting position | | vertical, horizontal | | |
| **Material** | | | | |
| Material | | 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 | $U_i$ | 3000 V | 3000 V | 3000 V |
| Rated operational voltage | $U_e$ | 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 | $I_u$ | 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 $mm^2$ | | - | 1003 A | - |
| with 720 $mm^2$ | | - | 1281 A | - |
| Ambient temperature | | 35 °C | 35 °C | 35 °C |
| Temperature of busbar | | 70 °C | 70 °C | 70 °C |
| Rated peak withstand current | $I_{pk}$ | | | |
| 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 $mm^2$ | | - | 72 kA | - |
| with 720 $mm^2$ | | - | 87 kA | - |
| Short-circuit time | | 20 ms | 20 ms | 20 ms |
| Support centre line distance | | 250 mm | 500 mm | 250 mm |

## Conductor connections

The ratios between conductor cross-sections in mm² and AWG/MCM-sizes are listed below:

| | |
|---|---|
| 1.5 mm² | 16 AWG |
| 2.5 mm² | 14 AWG |
| 4 mm² | 12 AWG |
| 6 mm² | 10 AWG |
| 10 mm² | 8 AWG |
| 16 mm² | 6 AWG |
| 25 mm² | 4 AWG |
| 35 mm² | 2 AWG |
| 50 mm² | 0 AWG |
| 70 mm² | 2/0 AWG |
| 95 mm² | 3/0 AWG |
| 120 mm² | 250 MCM |
| 150 mm² | 300 MCM |
| 185 mm² | 350 MCM |
| 240 mm² | 500 MCM |
| 300 mm² | 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.sectively protected against aggressive environments.

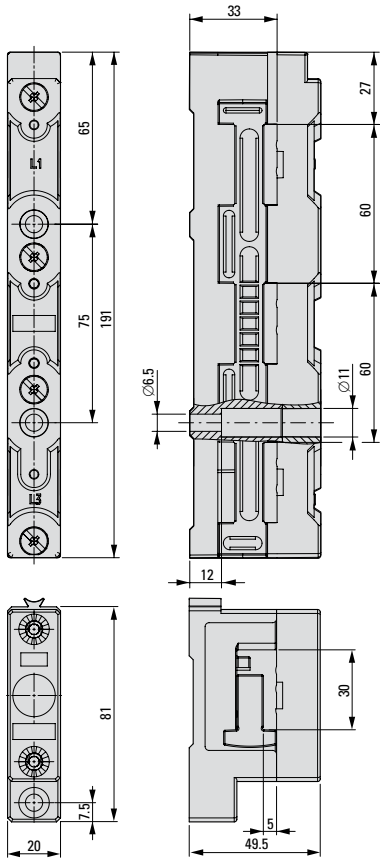
| | | |
|---|---|---|
| **Dimension** | | Cross-section |
| Double-T | | 500 mm² - 720 mm² |
| **Permissible tolerances** | | |
| Radius | R | 0.3 … 0.7 |
| Width | | + 0.1 / – 0.5 |
| Thickness | | + 0.1 / – 0.1 |
| **Center line distance** | | |
| 60 mm system | | ± 0.5 mm |
| Variance on the contacting level | | 0.4 mm |

## Ampacity with copper bars

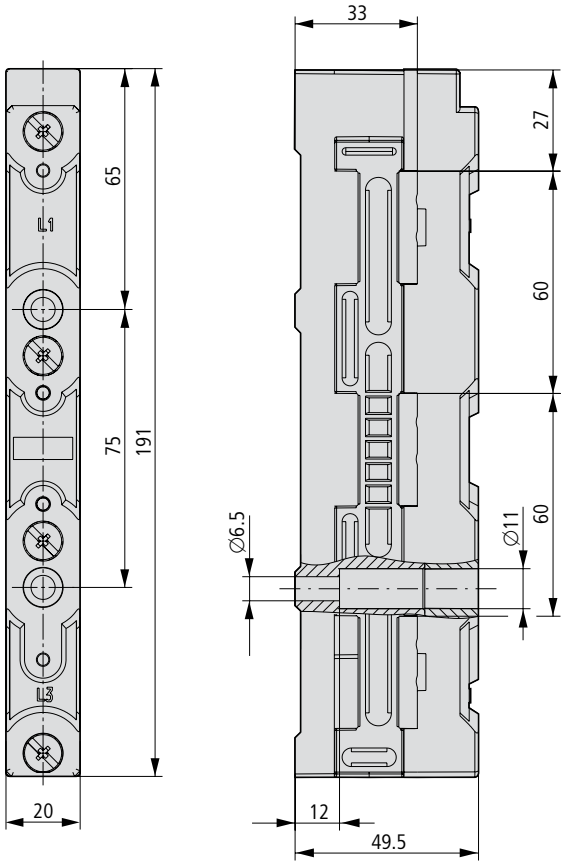
| Cross-sections of bars | Surface | Ampacity according to IEC<br>35 °C ambient temp., 65 °C bar temp. |
|---|---|---|
| mm | mm² | A |
| 12 x 5 | 60 | 200 |
| 20 x 5 | 100 | 320 |
| 30 x 5 | 150 | 450 |
| 12 x 10 | 120 | 360 |
| 20 x 10 | 200 | 520 |
| 30 x 10 | 300 | 630 |
| Double-T | 500 | 950 |

## Dimensions

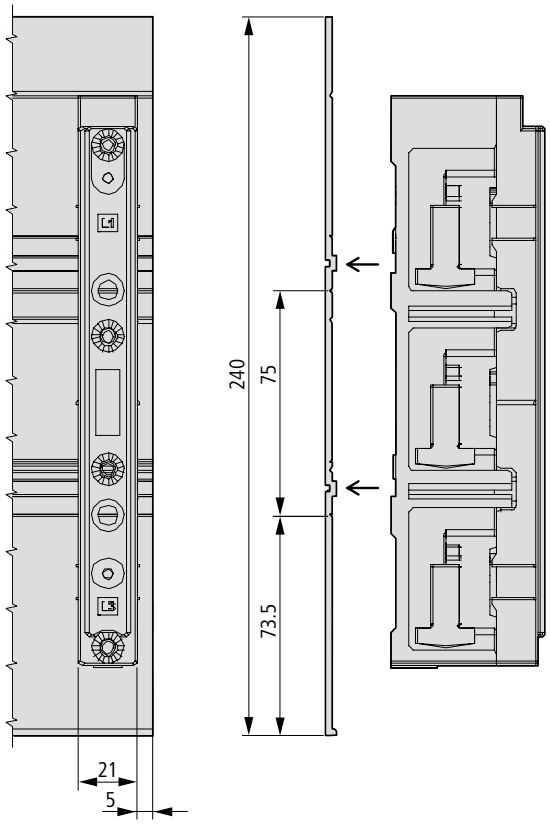
### BBS-4/FL



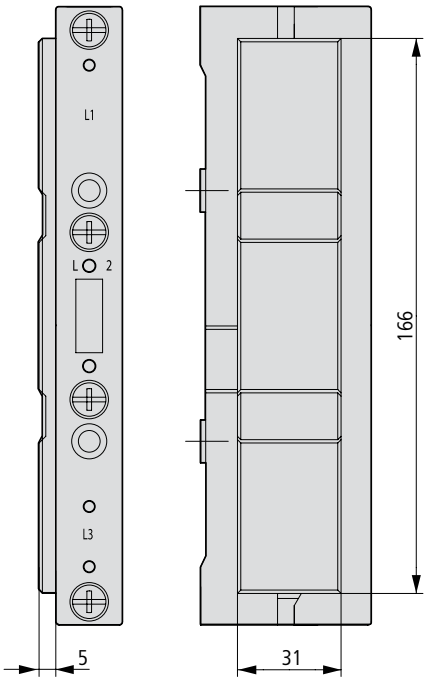

### BBS-3/FL



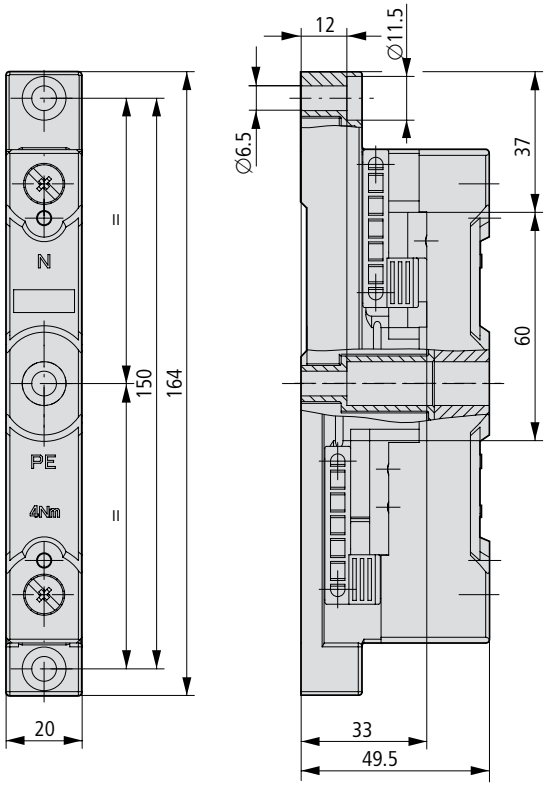

### BBS-3/FL-NA



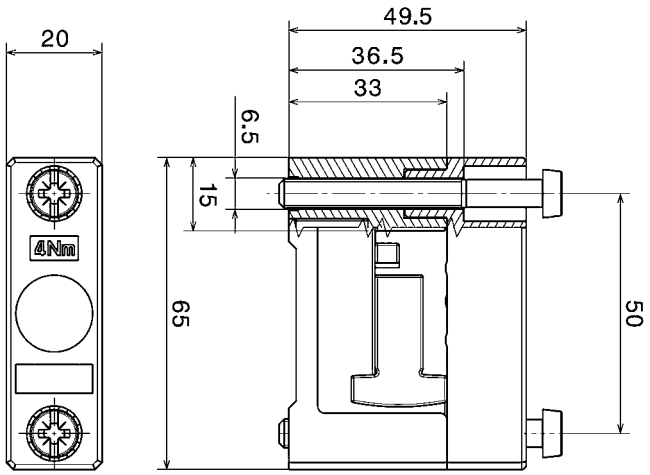

### ES-BBS-3/FL



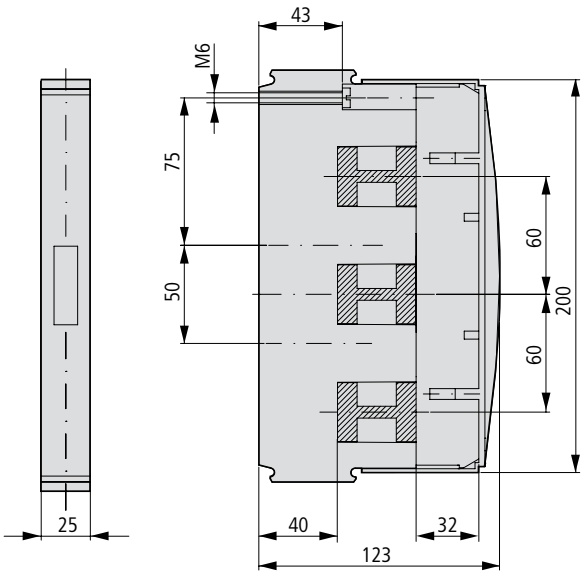
**BBS-2/FL**



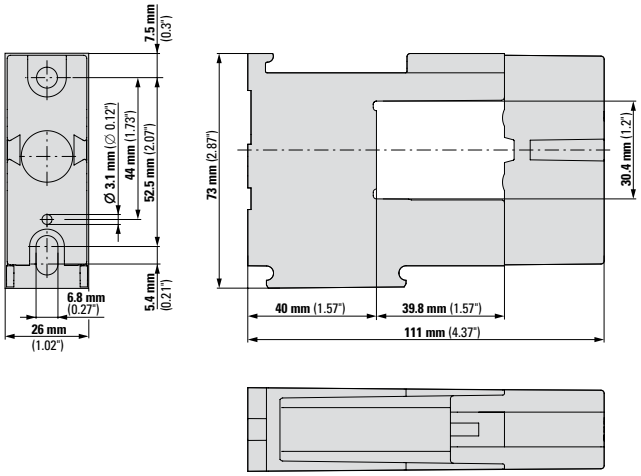
## BBS-1/FL



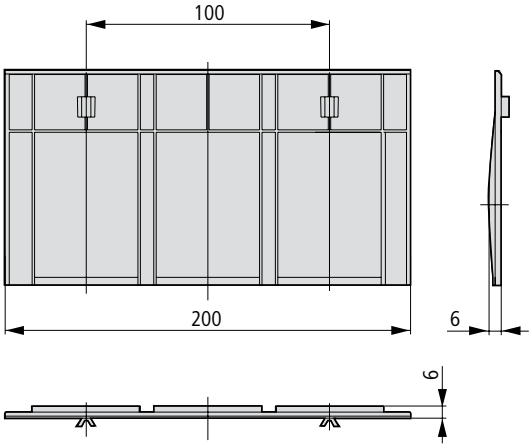

## BBS-3/PR



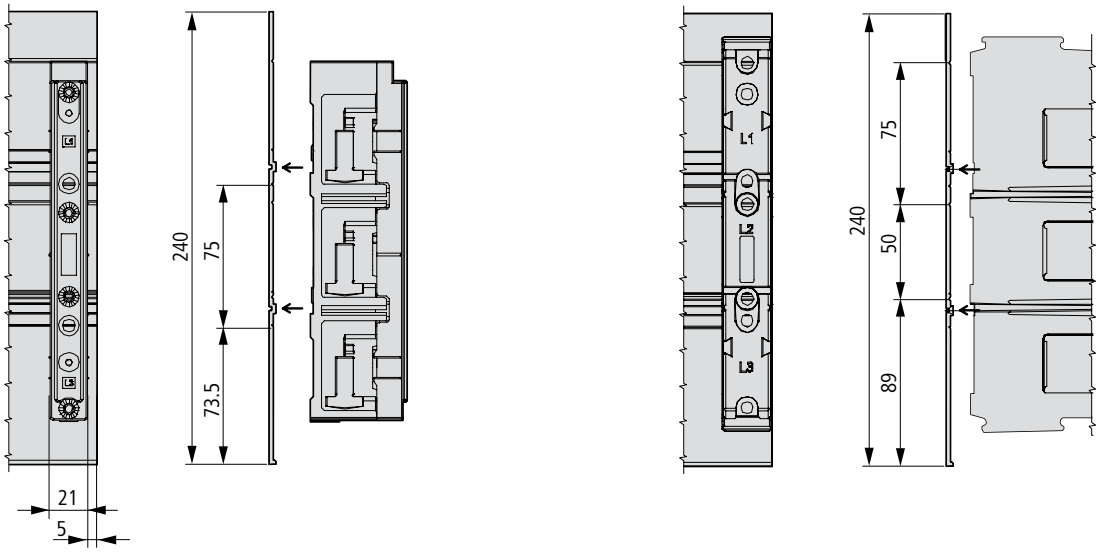

## BBS-1/PR-N-PE



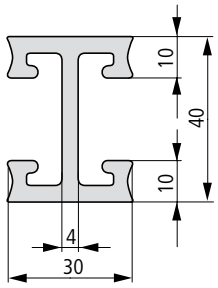

## ES-BBS-3/PR



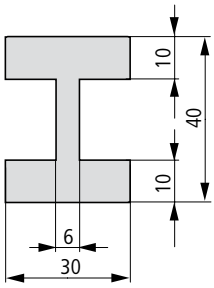

## BBC-BT-NA



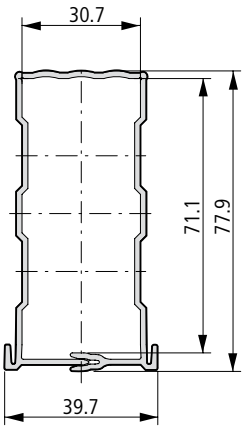
### CU-BAR-500/T



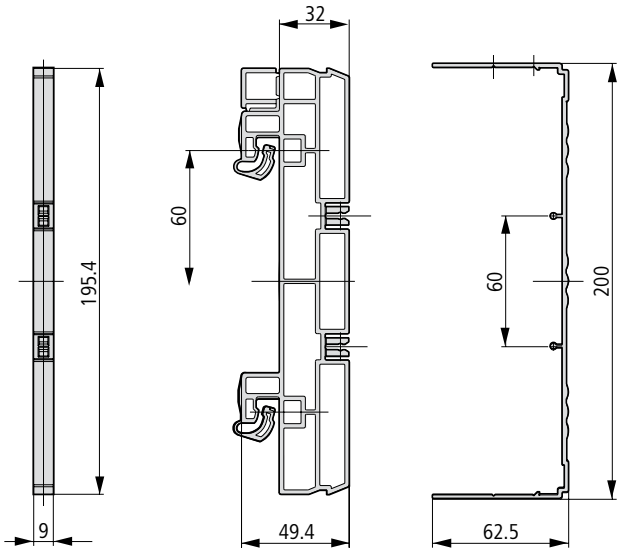

### CU-BAR-720/T



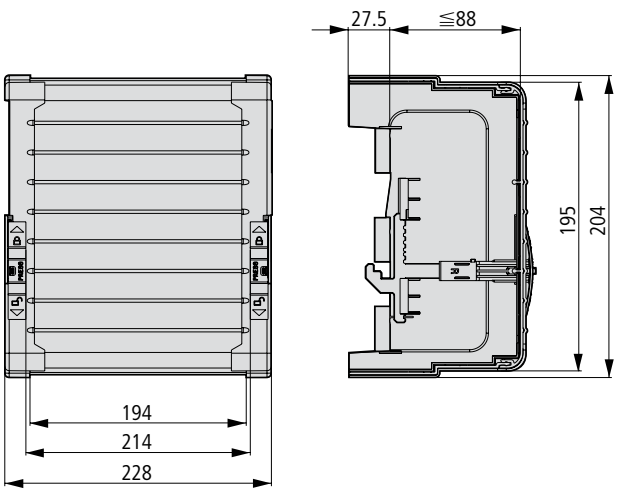

### BBC-CU-BAR/PR



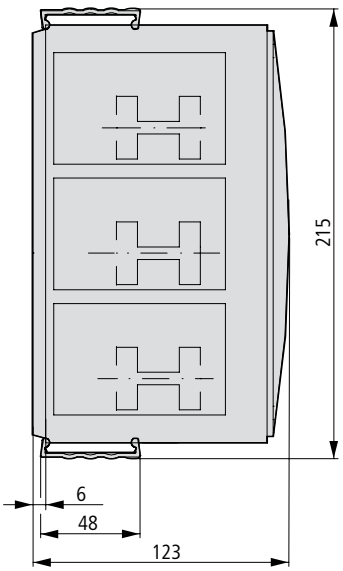

### BBC-RCOV1, BBC-MRCOV1



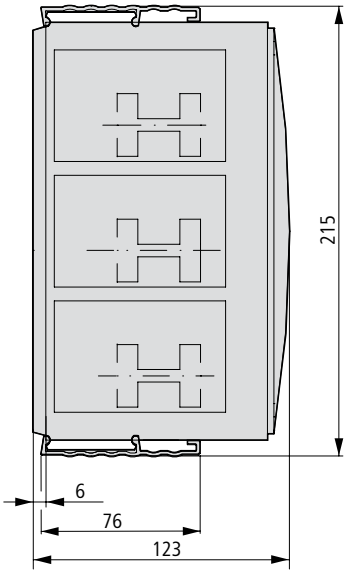

### BBC-CS1



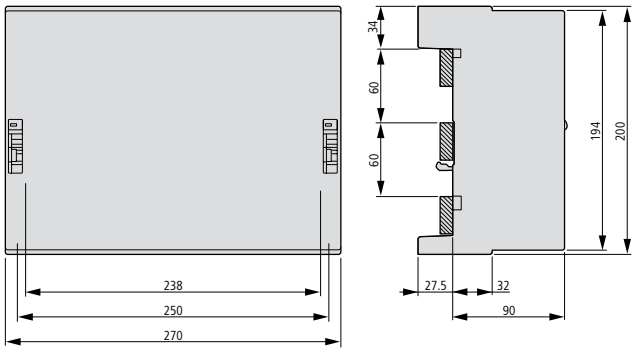

### BBC-CS48/PR



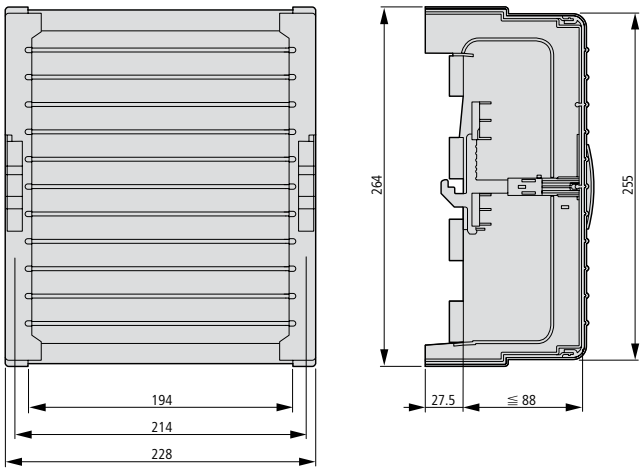
## BBC-CS76/PR



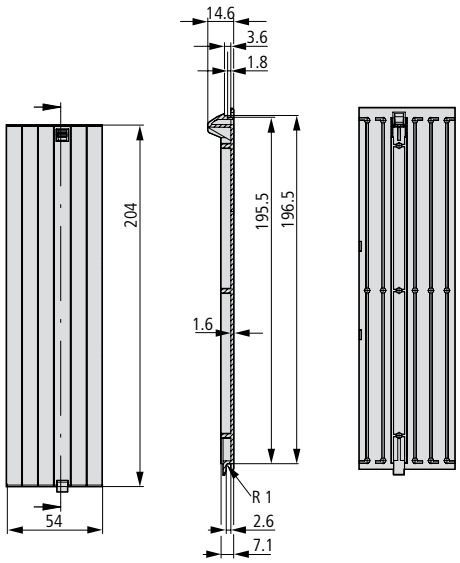

## BBC-CS3




## BBC-CS4




## AM-195/54



## Connecting Terminal Plates BBA-TP

| Incl. cover cap | **BBA-TP** |
|---|---|
| 16, 50, 120 mm² | |
| 3-pol., 690 V~ | |
| Centre line distance of busbars 60 mm | |
| Busbars … x 5 – 10, Double-T-Profiles | |
| **Terminal plates** | |
| Silicone-free, chlorine-free | |
| Temperature resistant up to | 120 °C |
| Self-extinguishing | according to UL 94 |
| Track resistance | CTI 200 |
| **Cover cap** | |
| Silicone-free, chlorine-free | |
| Temperature resistant up to | 120 °C |
| Self-extinguishing | according to UL 94 |

| Suitable conductors[1)] | Current carrying capacity of contact point* | Termination space BxH mm | Busbars BxH mm | Typ |
|---|---|---|---|---|
| 1.5–16 mm² Cu, ⊙, ⊛ ** | 80 A | – | … x 5 – 10 TT | BBA-TP3/16 |
| 6–50 (70) mm² Cu, ⊙, ⊛ **, ▤ 6 x 9x 0.8 | 300 A | 10 x 15 | … x 5 – 10 TT | BBA-TP3/50 |
| 35–120 mm² Cu, ⊙, ⊛ **, ▤ 6 / 10 x 16 x 0.8 | 40 A | 15 x 15 | … x 5 – 10 TT | BBA-TP3/120 |

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

Incl. cover cap

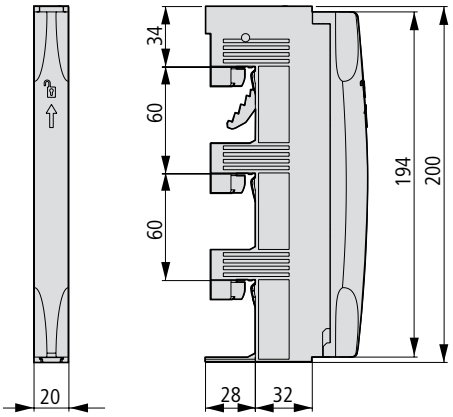
| Suitable conductors[1)] | Current carrying capacity of contact point* | Termination space BxH mm | Busbars BxH mm | Typ |
|---|---|---|---|---|
| 95–300 mm² Cu, Al***, ⊙, ◈, ⊛ | 560 A | | 20x5 - 30x10 TT | BBA-TP3/300 |
| ▤ 3 x 20 x 1 to 10 x 32 x 1 | 800 A | 32 x 25 | 20x5 - 30x10 TT | BBA-TP3/CUBAND |
| ▤, ■ (2x) 50 x 10 | 1600 A | 55 x 28 | 20x5 - 30x10 TT | AKS1000 |

* 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

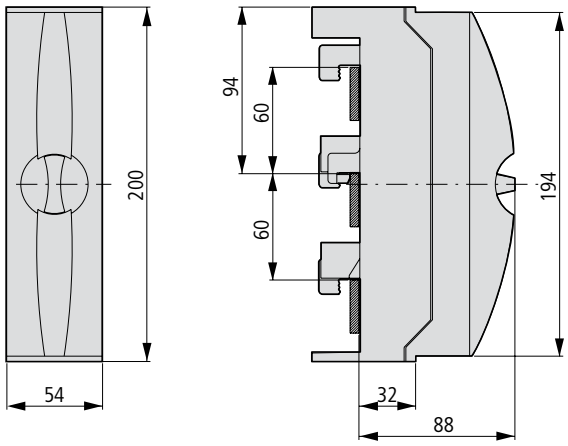
1) ○ Round conductor, single-wired
⊛ Round conductor, fine-wired with expertly pressed wire end ferrule
⊙ Round conductor, multi-wired
◇ Sector conductor, single-wired
◈ Sector conductor, multi-wired
▤ Cu-Band
■ Cu-Bar

## Dimensions

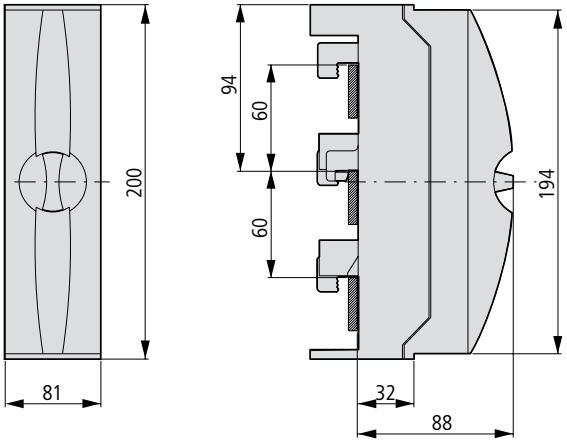
### BBA-TP3/16



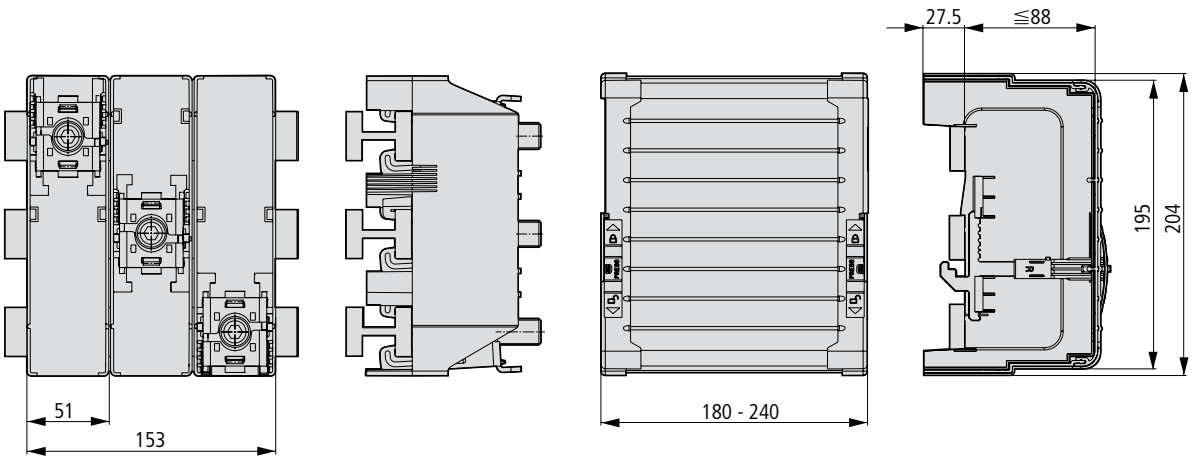

### BBA-TP3/50



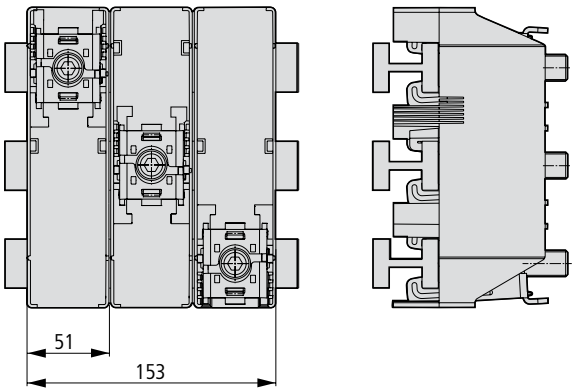

### BBA-TP3/120



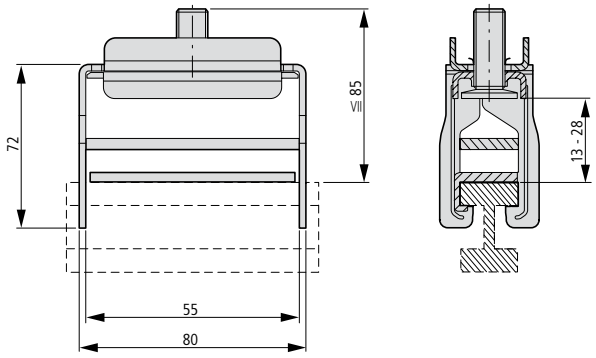

### BBA-TP3/300

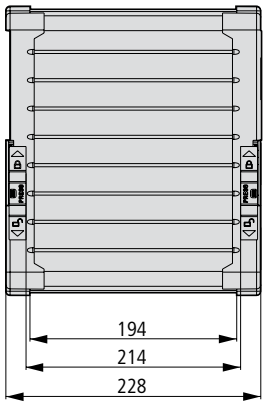


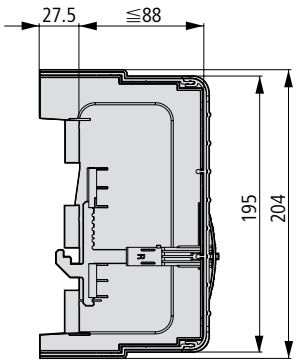
## BBA-TP3/CU-BAND




## BBA-TP3/1000

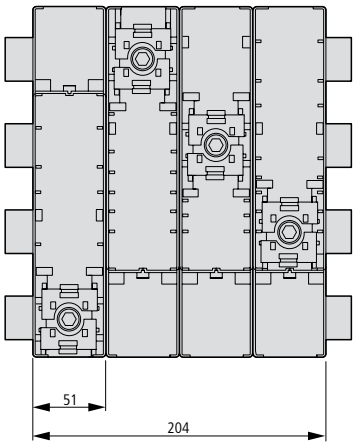


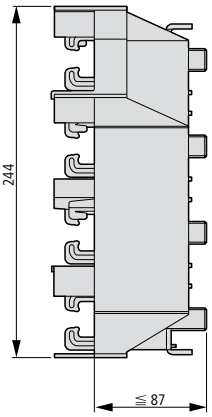



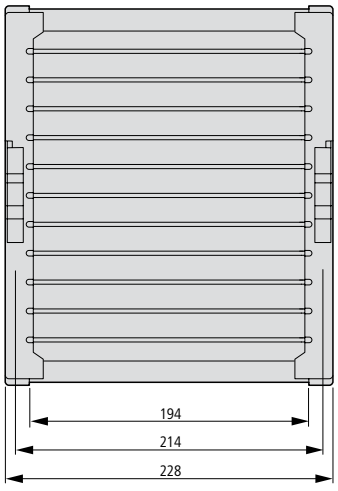



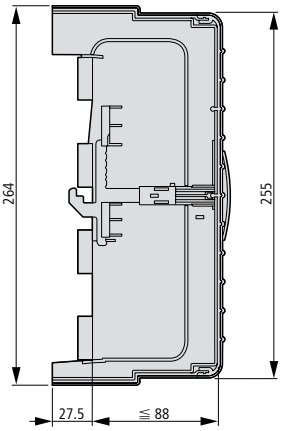

Note:
BBA-TP3/1000 consists of 3x AKS1000 and 1x BBC-CS1.

## BBA-TP4/300

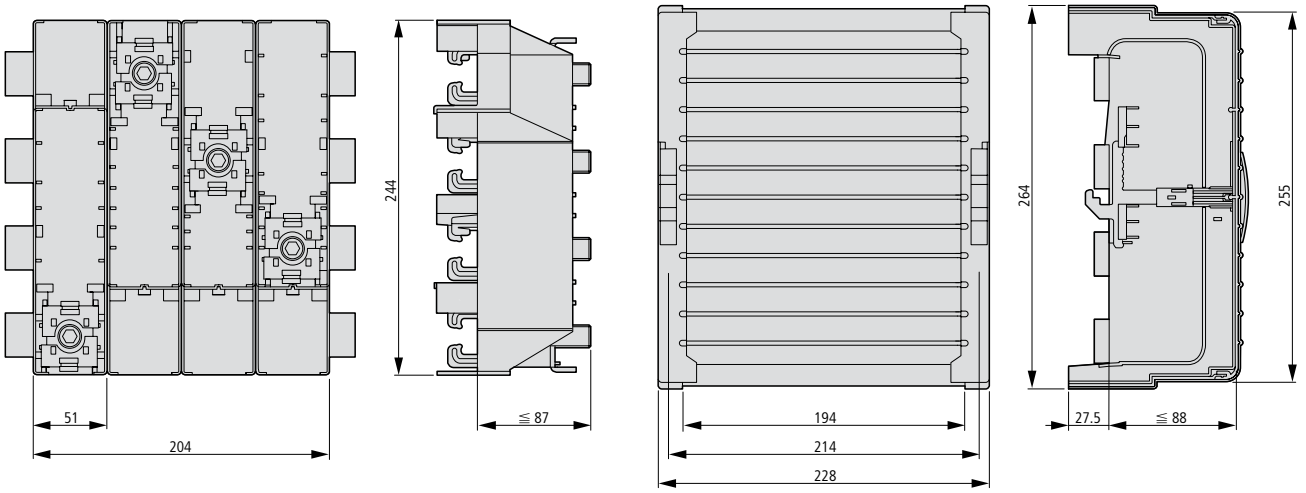


## BBA-TP4/CU-BAND



## Brace Terminals AKS

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

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

## Universal Conductor Terminals AKU

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

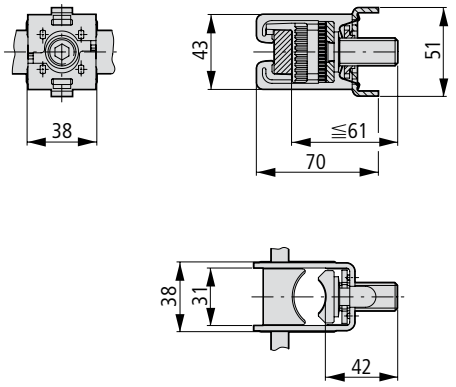
| Suitable conductors[1)] | Current carrying capacity of contact point* | Termination space BxH mm | Busbars BxH mm | Typ |
|---|---|---|---|---|
| 1.5–16 mm² Cu, , , , , **, 8 x 6 x 0.5 | 180 A | 7.5 x 7.5 | … x 5<br>… x 10 | AKU16/5<br>AKU16/10 |
| 4–35 mm² Cu, , , , , **, 3/6 x 9 x 0.8 | 270 A | 10.5 x 11 | … x 5<br>… x 10 | AKU35/5<br>AKU35/10 |
| 16–70 mm² Cu, , , **, 2x 3/6 x 9 x 0.8, 6 x 13 x 0.5 | 400 A | 14 x 14 | … x 5<br>… x 10 | AKU70/5<br>AKU70/10 |
| 16–120 mm² Cu, , , **, 4/6/10 x 16 x 0.8 | 440 A | 17 x 15 | … x 5<br>… x 10 | AKU120/5<br>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

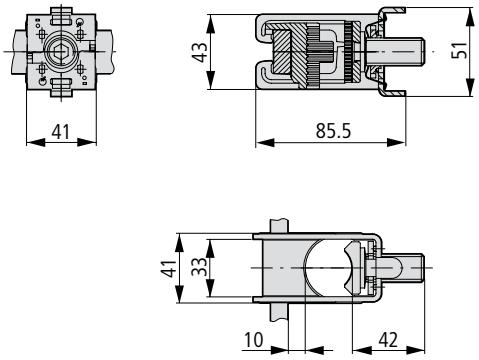
1) Round conductor, single-wired
Round conductor, fine-wired with expertly pressed wire end ferrule
Round conductor, multi-wired
Sector conductor, single-wired
Sector conductor, multi-wired
Cu-Band
Cu-Bar

## Dimensions

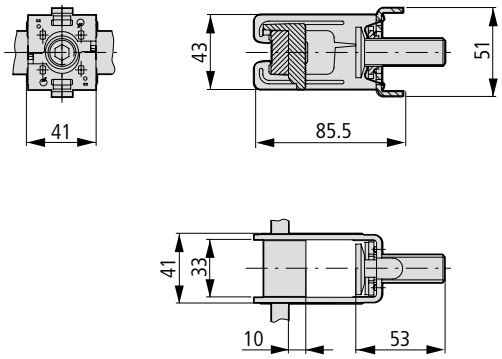
### AKS185



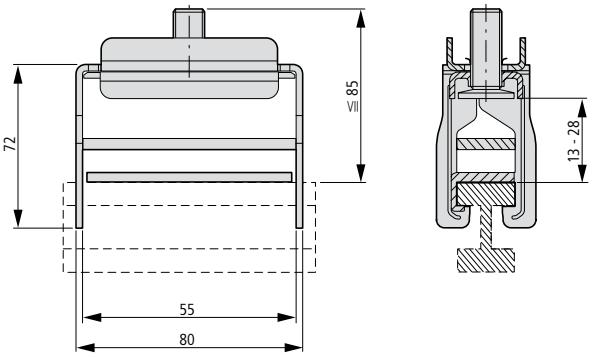

### AKS300




### AKS-CU-BAND

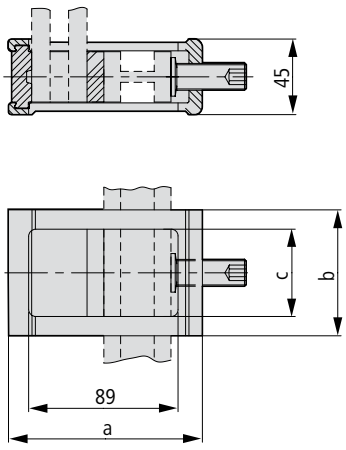



### AKS1000



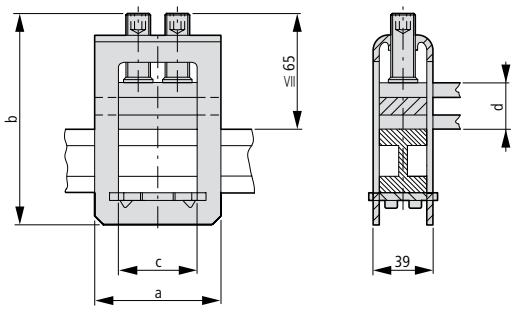

### AKP800, AKP1000

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

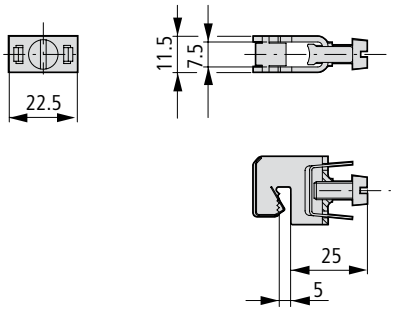


## AKP750-AKP1600

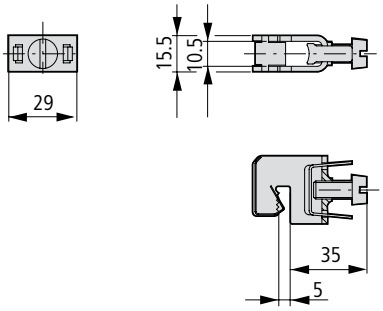
| Type | a (mm) | b (mm) | c (mm) | d (mm) |
|---|---|---|---|---|
| AKP750 | 82 | 103 | 51 | 5-28 |
| AKP1600 | 112 | 118 | 81 | 20-42 |



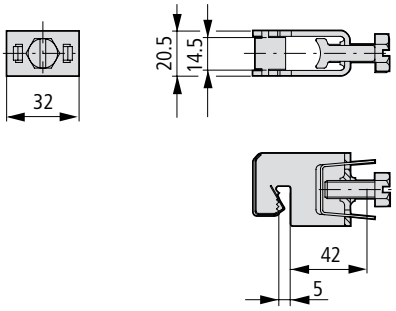

## AKU16/5



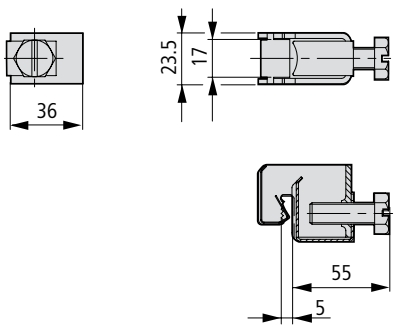

## AKU35/5



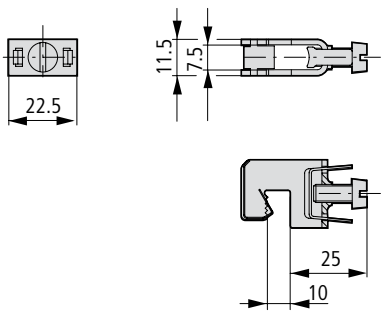

## AKU70/5



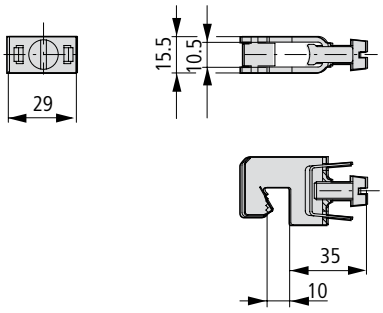

## AKU120/5



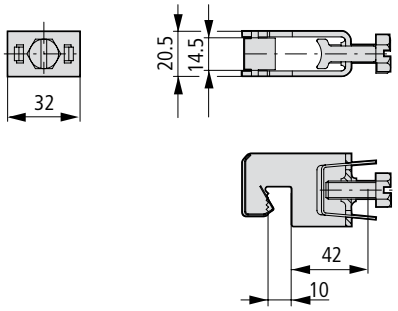

## AKU16/10



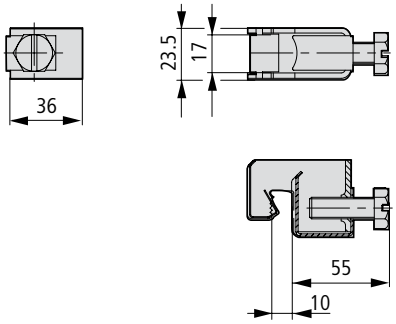
## AKU35/10



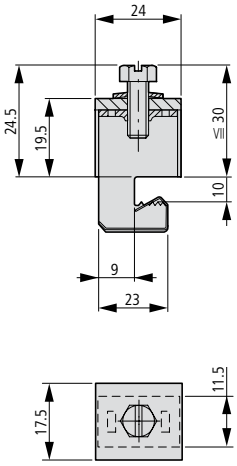

## AKU70/10



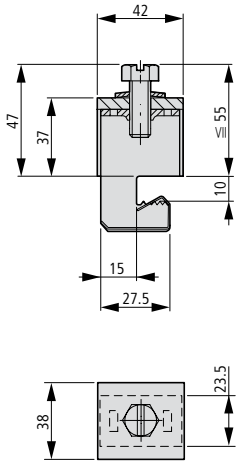

## AKU120/10




## AKU-M8/10




## AKU-M10/10



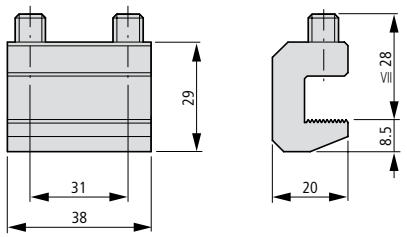
## Busbar Connecting Terminals BBT-CU

For drill-free connection of identical types of busbars

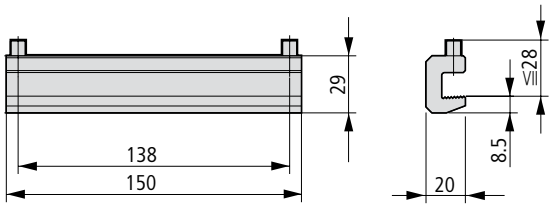
| Current carrying capacity of contact point | Overall length mm | Permissible misalignment of bars mm | Spacing between systems mm | Typ |
|---|---|---|---|---|
| 630 A | 150 | 1 | 100 - 110 | BBT-CU12-20X5/10-150 |
| 630 A | 95 | 5 | 50 - 60 | BBT-CU20-30X5/10-95 |
| 630 A | 150 | 5 | 100 - 110 | BBT-CU20-30X5/10-150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

## Dimensions

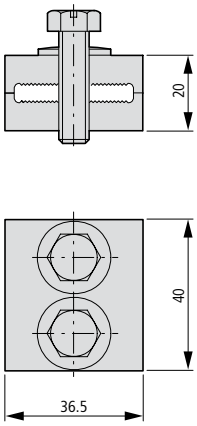
### BBT-CU12-20X5/10-38



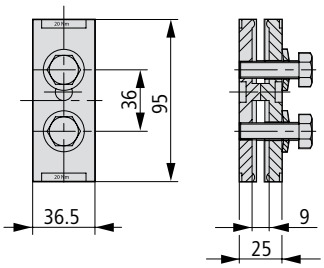

### BBT-CU12-20X5/10-150



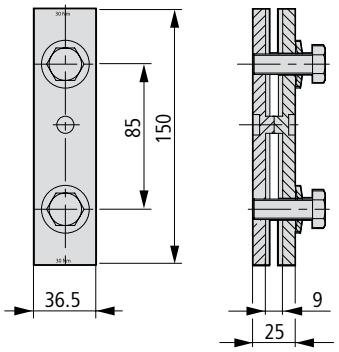

### BBT-CU20-30X5/10-40



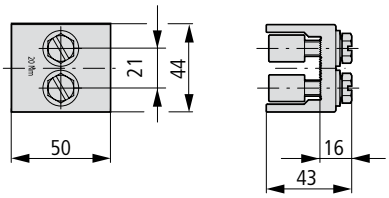

### BBT-CU20-30X5/10-95



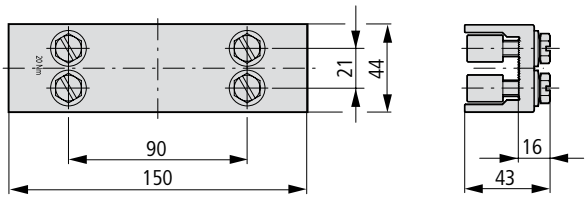
### BBT-CU20-30X5/10-150




### BBT-CU-BAR500/720-50




### BBT-CU-BAR500/720-150



## Busbar Adapter NZM

| | NZM1-XAD160 | NZM2-XAD250 | NZM3-XAD630 |
|---|---|---|---|
| Design | 3-pole, 690 V~ | 3-pole, 690 V~ | 3-pole, 690 V~ |
| Bar system | 60 mm | 60 mm | 60 mm |
| Bar contacting | combi-base | claw-type terminal | claw-type terminal |
| Connection of the switchgear | top or bottom | top or bottom | top or bottom |
| Short circuit current rating SCCR | 35 kA at 480 V | 65 kA at 480 V<br>50 kA at 600 V | 65 kA at 480 V<br>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:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Interior housing temperature [°C] | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| Permissible rated current [A] | 160 | 155 | 150 | 146 | 141 | 136 | 130 |
| Rated diversity factor RDF | 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:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Interior housing temperature [°C] | 20 | 30 | 40 | 50 | 60 | 65 | 70 |
| Permissible rated current [A] | 630 | 605 | 580 | 554 | 529 | 517 | 504 |
| Rated diversity factor RDF | 1 | 0.96 | 0.92 | 0.88 | 0.84 | 0.82 | 0.80 |

Notes:
Please observe the de-rating cor.m.sicients listed in the table above to determine the maximum ampacity allowed at different ambient temperatures!

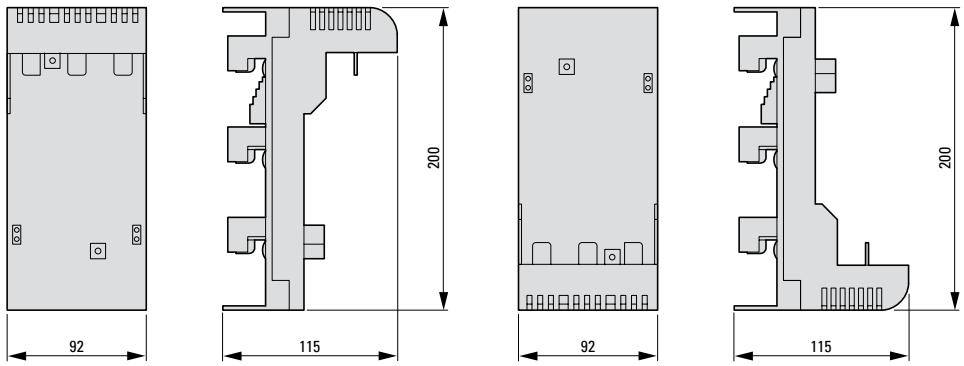
Example:
An NZM3...3-...630... device with an NZM3-XAD630 device adapter should be operated at an ambient temperature of 50 °C.

Question:
What is the maximum rated operating current Ie allowed $I_e$ ?

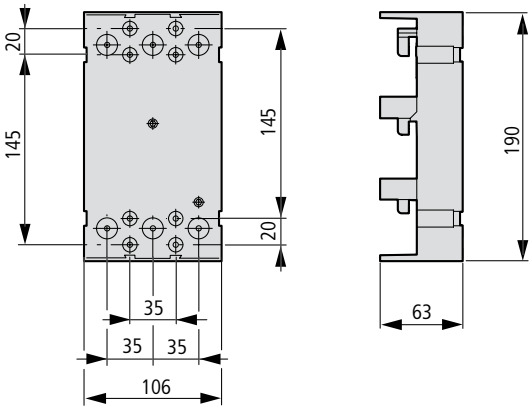
Solution:
At an ambient temperature of 50 °C, the rated diversity factor is 0.88. This means that $I_e$ = 630 A x 0.88 = 544 A.
At an ambient temperature of 50 °C, the device can therefore be operated at a maximum of 544 A.

## Dimensions

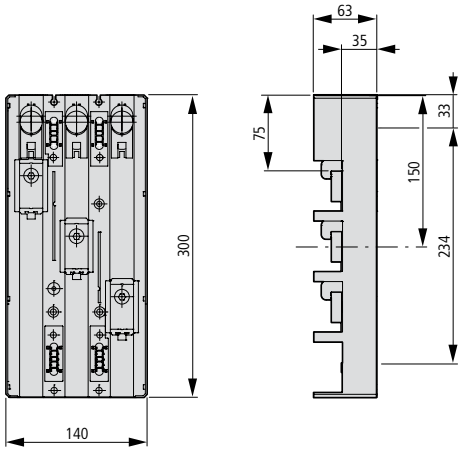
### NZM1-XAD160



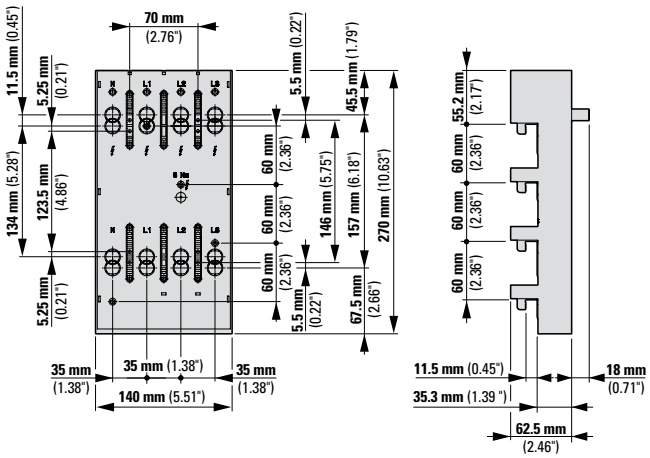

### NZM2-XAD250



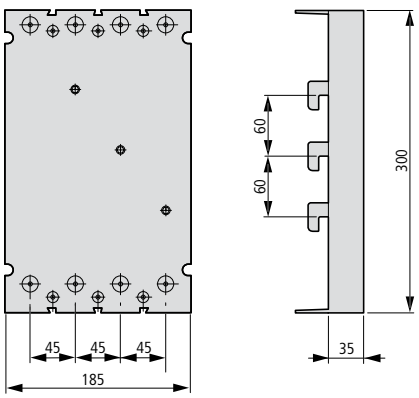

### NZM3-XAD630




### NZM2-4-XAD250




### NZM3-4-XAD630

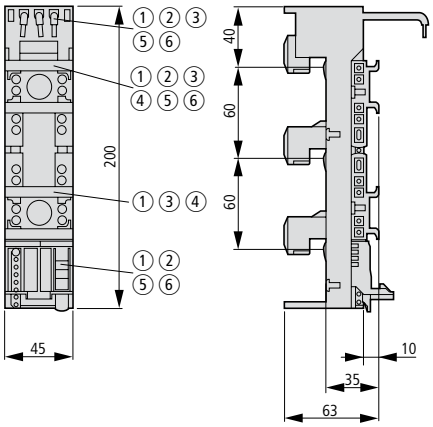


## Busbar Adapter xStart BBA

| | BBA |
|---|---|
| 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 | |
| **Base body** | |
| Silicone-free, chlorine-free | |
| Temperature resistant up to | 120 °C |
| Self-extinguishing according to UL 94 | according to UL 94 |
| Track resistance | CTI 200 |
| **Support rail** | |
| Silicone-free, chlorine-free | |
| Temperature resistant up to | 100 °C |
| **PVC conductor insulation** | |
| Temperature resistant up to | 105 °C |
| **Overall length of the connecting cables** | |
| BBA0-25, BBA0-32, BBA0R-25, BBA0R-32, BBA0-25/2TS, BBA0/2TS-L | 93 mm |
| BBA0C-16, BBA0RC-16 | 125 mm |
| BBA4-63, BBA2-63, BBA4L-63, BBA2L-63 | 115 mm |

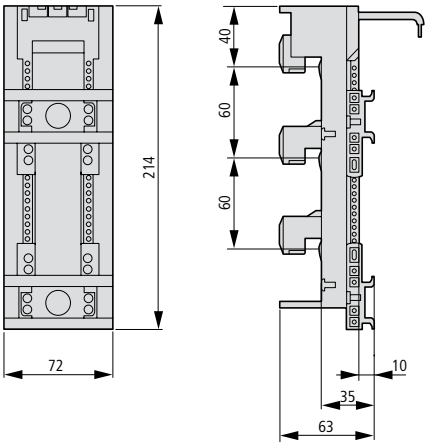
## Dimensions

### BBA0...

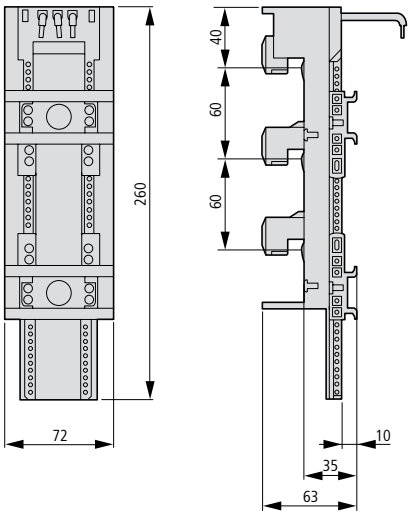



① BBA0-32/2TS-C
② BBA0-25/2TS
③ BBA0C-16
④ BBA0/2TS-L
⑤ BBA0-25
⑥ BBA0-32

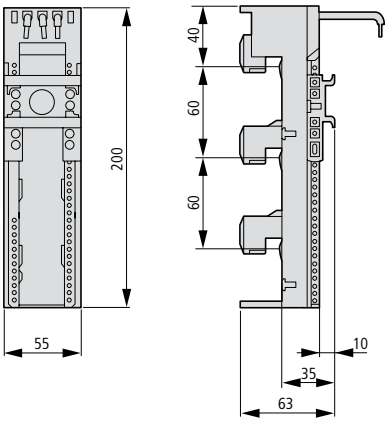
### BBA2-80/2TS-S



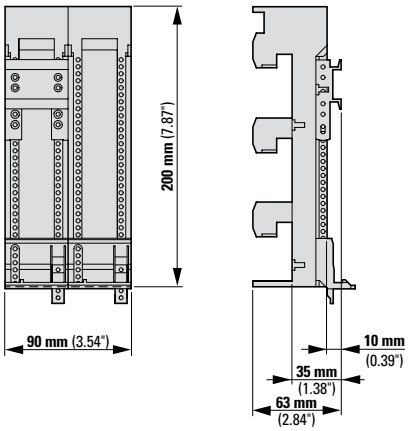

### BBA2L-63



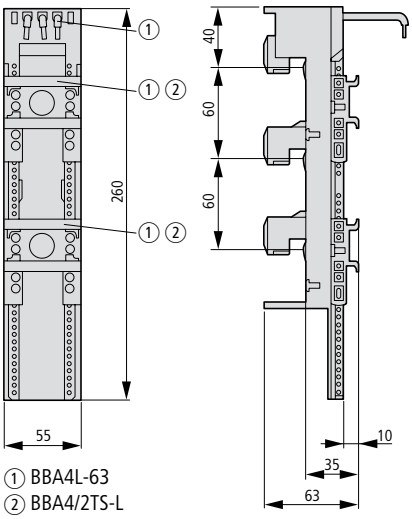

### BBA4-63




### BBA0R-25

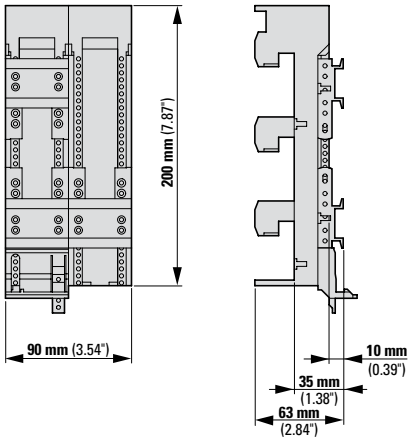



### BBA4/2TS-L

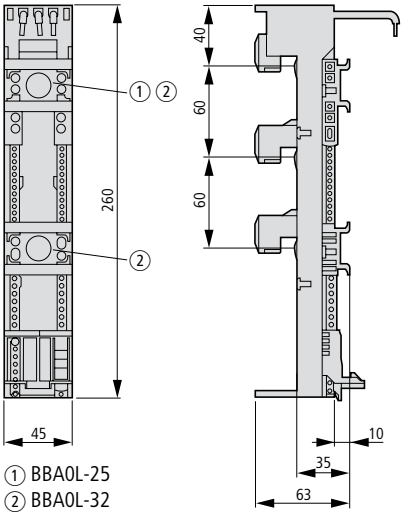



① BBA4L-63
② BBA4/2TS-L

## BBA0R-32

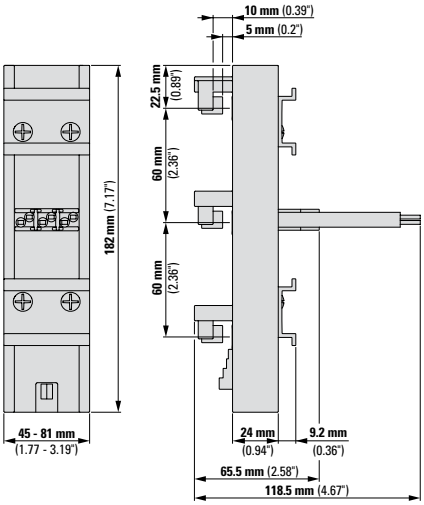



## BBA0L-...

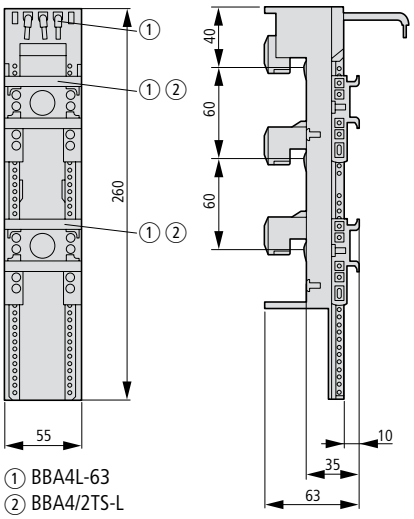



① BBA0L-25
② BBA0L-32

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

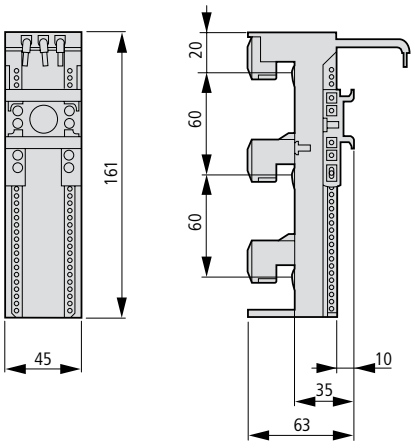



## BBA4L-63




① BBA4L-63
② BBA4/2TS-L

## BBA0K-32



## Technical Data D-Type Slide Fuse-Base

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



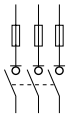
| | | D02-SO/63/3-R-27<br>Z-D02/R/3... | DII-SO/25/3-R(-PS) | DIII-SO/63/3-R(-PS) |
|---|---|---|---|---|
| **Electrical** | | | | |
| Number of poles | | 3 | 3 | 3 |
| Rated operational voltage | $U_e$ | 400 V AC | 500 V AC | 690 V AC |
| Rated frequency | | 40-60 Hz | 40-60 Hz | 40-60 Hz |
| Rated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

## Technical Data Fuse switch disconnector, 3-pole, 63 A, D02-LTS/63/3-S60

- Design as per IEC/EN 60947-1, IEC/EN60947-3
- Vertical and horizontal mounting possible
- Delivered empty, without fuses
- Operation by lay persons permissible as per IEC/EN 61439-3
- Fuse plug without screw cap
- The flash function indicates the blowing of fuse link
- Sealable and lockable

| | | **D02-LTS/63/3-S60** |
|---|---|---|
| **Electrical** | | |
| 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 |
| Control mode | | uninterrupted operation |
| Rated conditional short-circuit current | | 50 $kA_{r.m.s}$ |
| Utilization category | | AC-22B |
| Overvoltage category | | IV |
| Rated impulse withstand voltage | $U_{imp}$ | I kV |
| Power loss per current path | | 1.5 W with $I_e$ |
| Power loss per current path with fuse-link | | 7 W with $I_e$ |
| Max. permissible power loss of fuse-links | | 5.5 W |
| **Mechanical** | | |
| Device height | | 209 mm |
| Width | | 27 mm |
| Weight | | 0.28 kg |
| Mounting onto busbars, without drilling or screwing | | 12 x 5/10; 15 x 5/10; 20 x 5/10<br>25 x 5/10; 30 x 5/10; 60 mm busbar system |
| Degree of protection while operating | | IP20 integrated with inserted fuses |
| Terminals | | box terminals |
| Terminal capacity | | 1.5-25 $mm^2$ Cu solid |
| Tightening torque of terminal screws | | max. 3 Nm |
| Electrical thread type | | E18 |
| Ambient temperature range | | -25 to +40 °C |
| Pollution degree | | 3 |
| Climatic resistance: moist heat | | constant according to IEC 60068-2-78, cyclical according to IEC 60068-2-30 |

## Connection diagram



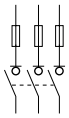
## Technical Data Busbar-Slide Switch Disconnector with Fuses D02-LTS/63/3-R(-HK)

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

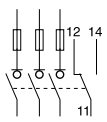
| | | **D02-LTS/63/3-R(-HK)** |
|---|---|---|
| **Electrical** | | |
| Number of poles | | 3 |
| Rated operational voltage | $U_e$ | 400 V AC |
| Rated frequency | | 40-60 Hz |
| Rated operational current | $I_e$ | 63 A |
| Conventional thermal current with fuse-links | $I_{th}$ | 63 A |
| Rated duty | | uninterrupted duty |
| Rated conditional short-circuit current | | 50 $kA_{r.m.s}$ |
| 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 |
| **Mechanical** | | |
| Device height | | 226 mm |
| Width | | 27 mm |
| Weight | | 340 g |
| Mounting onto busbars, without drilling or screwing | | 12x5/10 mm<br>15x5/10 mm<br>20x5/10 mm<br>25x5/10 mm<br>30x5/10 mm |
| Degree of protection while operating | | IP20 |
| Degree of protection built-in | | IP40 |
| Terminals | | lift terminals |
| Terminal capacity | | 1.5-35 $mm^2$ 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 |
| **Auxiliary switch electrical** | | |
| 1 CO | | 5 A / 250 V AC |
| Max. thermal back-up fuse | | 2 A gL<br>PLSM-B4/..-HS / CLS6-B4/...-HS |
| **Connection** | | |
| Femal push-on connector | | 2.8 x 0.5 mm |

## Connection diagram

D02-LTS/63/3-R

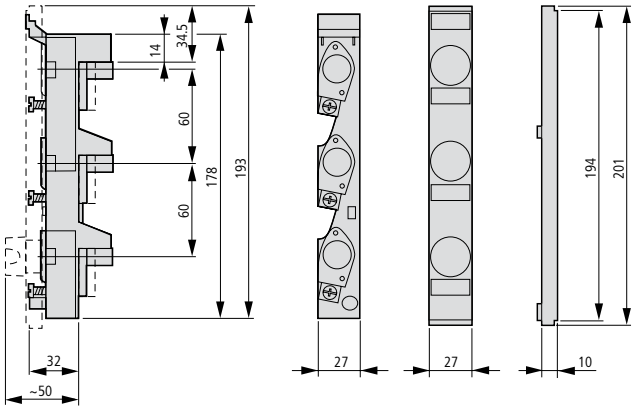


D02-LTS/63/3-R-HK

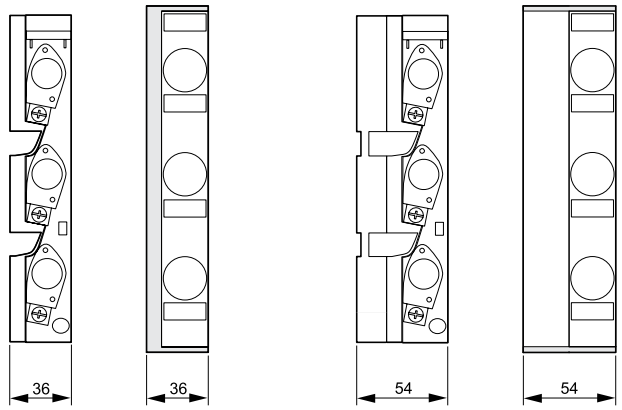


## Dimensions

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

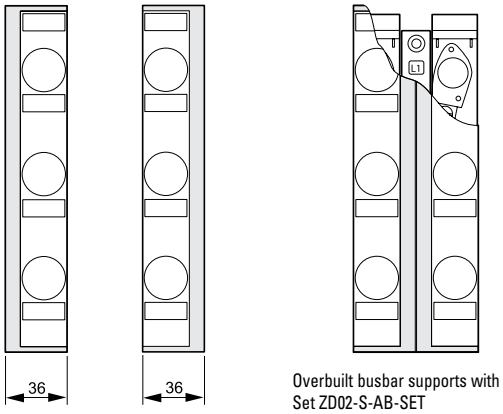



### Z-D02/R/3-36, Z-D02/R/3-54




Front plate support

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

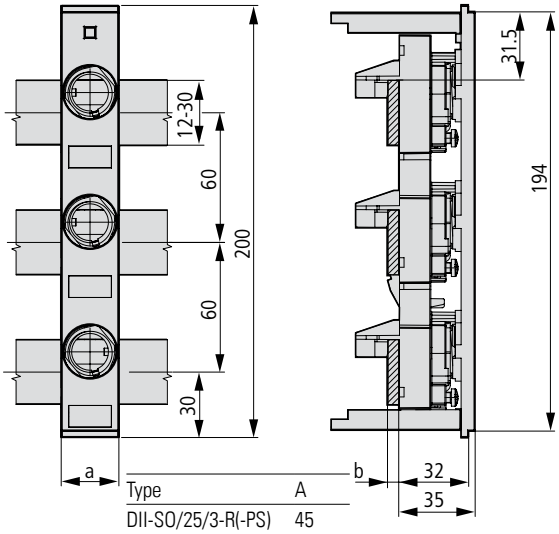



Front plate support



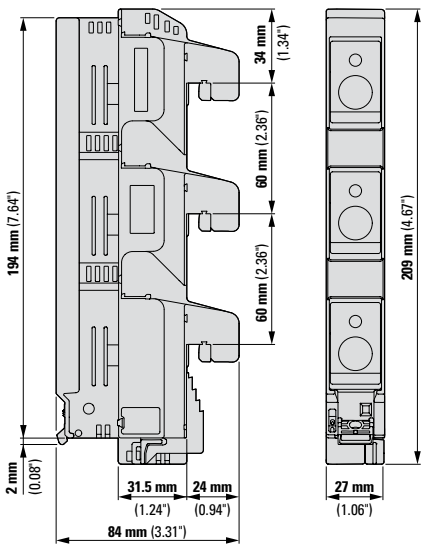
Overbuilt busbar supports with Set ZD02-S-AB-SET

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

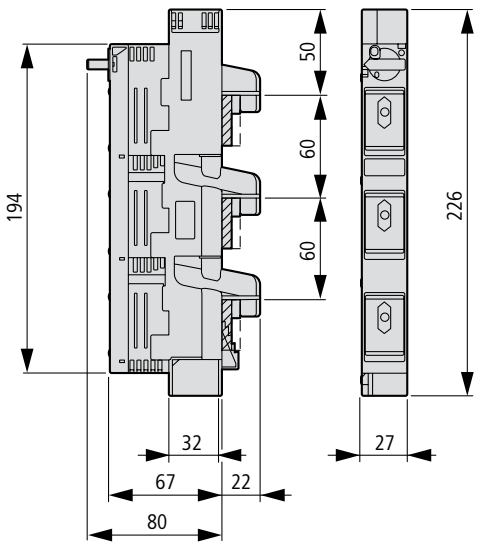



| Type | A |
|---|---|
| DII-SO/25/3-R(-PS) | 45 |
| DIII-SO/63/3-R(-PS) | 54 |

### D02-LTS/63/3-S60




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



vt61615

vt64215

vt64015

vt61715

## 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

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**

vt61915

| Size | $I_e$ (A) | Type of connection | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|
| 00 | 160 | Flat connection M8 max. 95 mm² | XNH00-S160 | 183033 | 1 |
| | | Box terminal 1.5 - 95 mm² | XNH00-S160-BT1 | 183034 | 1 |
| | | | XNH00-S160-BT2 | 183035 | 1 |
| 1 | 250 | Flat connection M10 max. 150 mm² | XNH1-S250 | 183051 | 1 |
| | | Box terminal 35 - 150 mm² | XNH1-S250-BT | 183052 | 1 |
| 2 | 400 | Flat connection M10 max. 240 mm² | XNH2-S400 | 183065 | 1 |
| | | Box terminal 95 - 300 mm² | XNH2-S400-BT | 183066 | 1 |
| 3 | 630 | Flat connection M10 max. 300 mm² | XNH3-S630 | 183077 | 1 |
| | | Box terminal 95 - 300 mm² | XNH3-S630-BT | 183078 | 1 |

## Fuse Control Light

**3-pole for SASY 60i**

wa_vt14215

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

## Fuse Control FCE

**3-pole for SASY 60i**

vt03016

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

**1-pole for SASY 60i**

vt01917

| Size | $I_e$ (A) | Type of connection | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|
| 00 | 160 | Flat connection M8 max. 95 mm² | XNH00-1-S160 | 183042 | 1 |

## SmartWire-DT®, Module Kit

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


vt00417

| Description | Suitable for size | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| SWD module with 2 digital inputs for switch position indication and trip signal. Complete set for direct mounting at the switchgear. | 00 with FCE | XNH00-SWD-KIT | 183083 | 1 |
| | 1 with FCE | XNH1-SWD-KIT | 183084 | 1 |
| | 2 with FCE | XNH2-SWD-KIT | 183085 | 1 |
| | 3 with FCE | XNH3-SWD-KIT | 183086 | 1 |
| SWD module with 2 digital inputs for switch position indication and trip signal and 3 analog inputs for current measurement. For fixing on the mounting plate. | 00 with FCE | XNH00-SWD-KIT-EXT | 183087 | 1 |
| | 1/2/3 with FCE | XNH123-SWD-KIT-EXT | 183088 | 1 |

## Cover for connection area, 3-pole


vt09816

| Description | Suitable for size | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| 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

| Description | Suitable for size | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| 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

| Description | Suitable for size | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| 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

| Description | Suitable for size | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| For manipulation-protected blocking of the inspection window | 00, 1, 2, 3 | XNH-XSECUR | 183113 | 1 Set |

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

## Locking device


vt11016

| Description | Suitable for size | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| For locking with a padlock when using a closed XNH disconnector | 00, 1, 2, 3 | XNH-XLOCK | 182993 | 1 |

Note: Padlock with a shackle diameter of 6 mm max.

| | Description | Suitable for size | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|
| | **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.<br>Not for use in combination with box terminal or double-prism terminals. | | | | |
| | **Conncection 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 |

## Connection technology

### Clamp-type terminal

vt68215

| Description | Suitable for size | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| 1.5 - 50 mm², Cu | 00 | XNH00-XCT | 183002 | 3 |
| 25 - 150 mm², Cu | 1 | XNH1-XCT | 183003 | 3 |
| 25 - 240 mm², Cu | 2 | XNH2-XCT | 183004 | 3 |
| CU-BAND-11x21x1 | 3 | XNH3-XCT | 183005 | 3 |

### Prism terminal

vt67515

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

### Double-prism terminal

vt67315

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

### Box terminal

vt68615

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

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.

| | | **XNH00…-S160…** | **XNH1…-S250…** |
|---|---|---|---|
| Standard | | IEC/EN 60947-3 | IEC/EN 60947-3 |
| NH fuses[1] according to DIN VDE 0636-2 | | 000 / 00 | 1 |
| Rated 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-23B (400 V / 250 A) |
| | | AC-22B (500 V / 160 A) | AC-22B (500 V / 250 A) |
| | | AC-21B (690 V / 160 A) | AC-21B (690 V / 250 A) |
| | | DC-22B (250 V / 160 A) | DC-22B (250 V / 250 A) |
| | | DC-21B (440 V / 160 A) | DC-21B (440 V / 250 A) |
| Rated conditional short-circuit current | | 120 kA (500 V) | 120 kA (500 V) |
| | | 100 kA (690 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 | operating status IP20 |
| | | contact protection IP2XC | contact protection IP2XC |
| | | handle cover open IP10 | 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 $mm^2$ Cu | 35 - 150 $mm^2$ Cu/Al |
| Cu-Band | | 9x9x0.8 mm | 10x16x0.8 mm |
| Clamp-type terminal | | | |
| multi-wire | | 1.5 - 50 $mm^2$ Cu | 25 - 150 $mm^2$ Cu |
| Cu-Band | | 6x9x0.8 mm | 6x16x0.8 mm |
| Prism terminal | | | |
| multi-wire | | 10 - 70 $mm^2$ Cu/Al | 10 - 150 $mm^2$ Cu/Al |
| Double-prism terminal | | | |
| multi-wire | | – | 2x (70 - 95) $mm^2$ 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…).
[1] Type-tested with NH fuse links of characteristic gG. Safety control FCE and FCL only in combination with NH fuses equipped with live handle straps.

## Technical Data

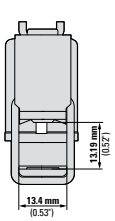
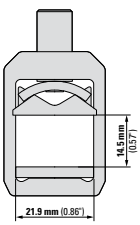
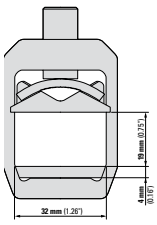
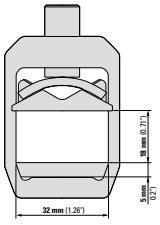
Replacing NH fuses or any other activities (such as installation, operation etc. …) on NH fuse switch disconnectors may be carried out by electro-technically qualified and specialized staff only. Power-related data provided by the manufacturer, e.g. max. rated make and break capacities, must be taken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

| | | **XNH2…-S400…** | **XNH3…-S630…** |
|---|---|---|---|
| Standard | | IEC/EN 60947-3 | IEC/EN 60947-3 |
| NH fuses[1] 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)<br>AC-22B (500 V / 400 A)<br>AC-21B (690 V / 400 A)<br>DC-22B (440 V / 400 A) | AC-23B (400 V / 630 A)<br>AC-22B (500 V / 630 A)<br>AC-21B (690 V / 630 A)<br>DC-21B (250 V / 630 A)<br>DC-22B (440 V / 630 A) |
| Rated conditional short-circuit current | | 120 kA (500 V)<br>100 kA (690 V) | 120 kA (500 V)<br>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<br>contact protection IP2XC<br>handle cover open IP10 | operating status IP20<br>contact protection IP2XC<br>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 $mm^2$ Cu | 95 - 300 $mm^2$ Cu |
| Cu-Band | | 6x16x0.8 to 10x32x1 mm | 6x16x0.8 to 10x32x1 mm |
| Clamp-type terminal | | | |
| multi-wire | | 25 - 240 $mm^2$ Cu | on request |
| Cu-Band | | 10x16x0.8 mm | 11x21x1 mm |
| Prism terminal | | | |
| multi-wire | | 120 - 240 $mm^2$ Cu/Al | 120 - 300 $mm^2$ Cu/Al |
| Double-prism terminal | | | |
| multi-wire | | 2x (120 - 150) $mm^2$ Cu/Al | 2x (120 - 240) $mm^2$ Cu/Al |

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

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

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

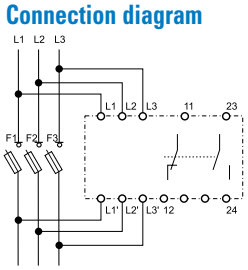
| Number of layers | x | Width | x | Thickness of layers | = | Cross-section ($mm^2$) | Hight copper band (mm) | max. Rated operational current (A) |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | **XNH00...-BT** | **XNH1...-BT** | **XNH2...-BT** | **XNH3...-BT** |
| 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

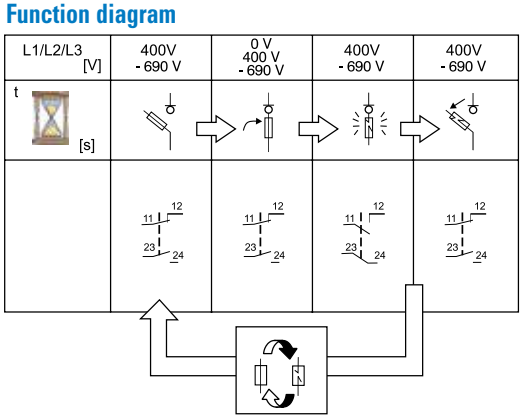
| | **XNH...FCE...** |
|---|---|
| Power supply | self-supplied |
| Power consumption | 1.5 VA |
| Overvoltage category | |
| 230/400 V | III |
| 500 V | II |
| Frequency range | 50 - 60 Hz |
| Input resistance | >1 kOhm/V |
| Voltage inputs | 400 - 500 V AC (+/-10%) |
| Temperature range | -5 to +55 °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 |
| **Outputs** | |
| 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

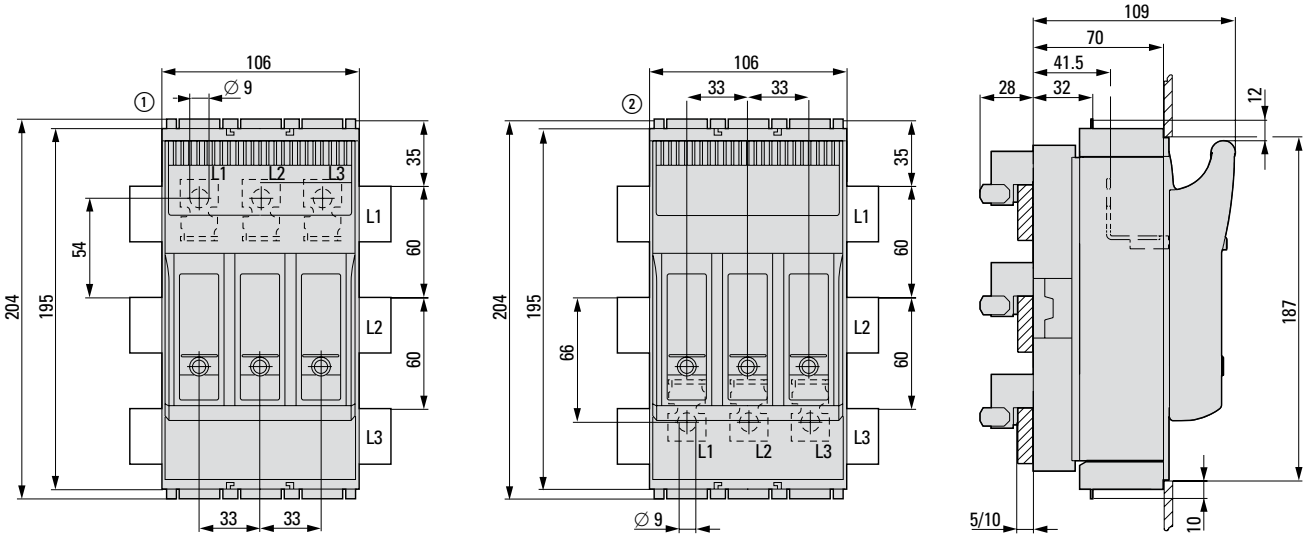



## Function diagram

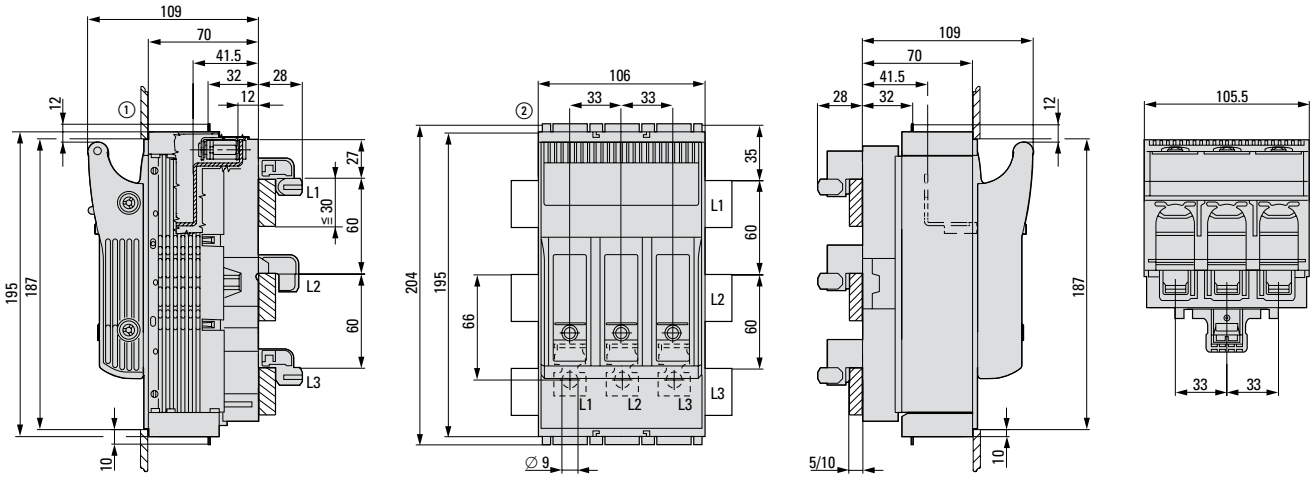


## Dimensions

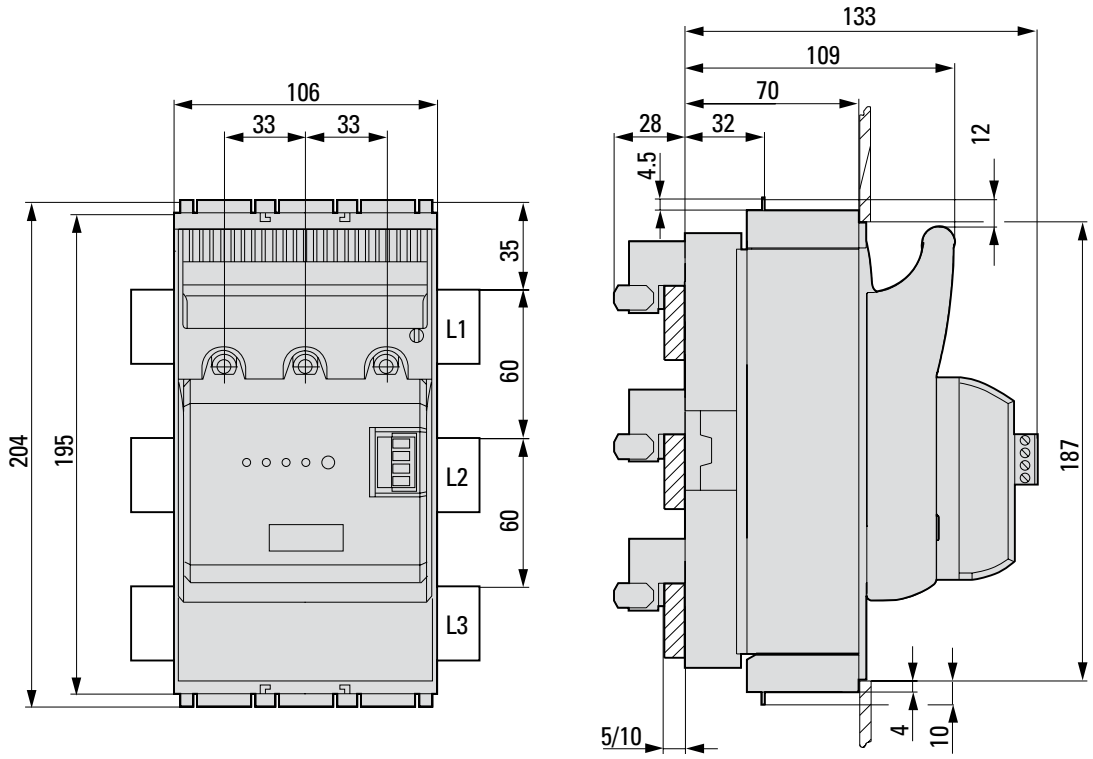
### XNH00-S160..., XNH00-FCL-S160, XNH00-FCL-S160-BT1



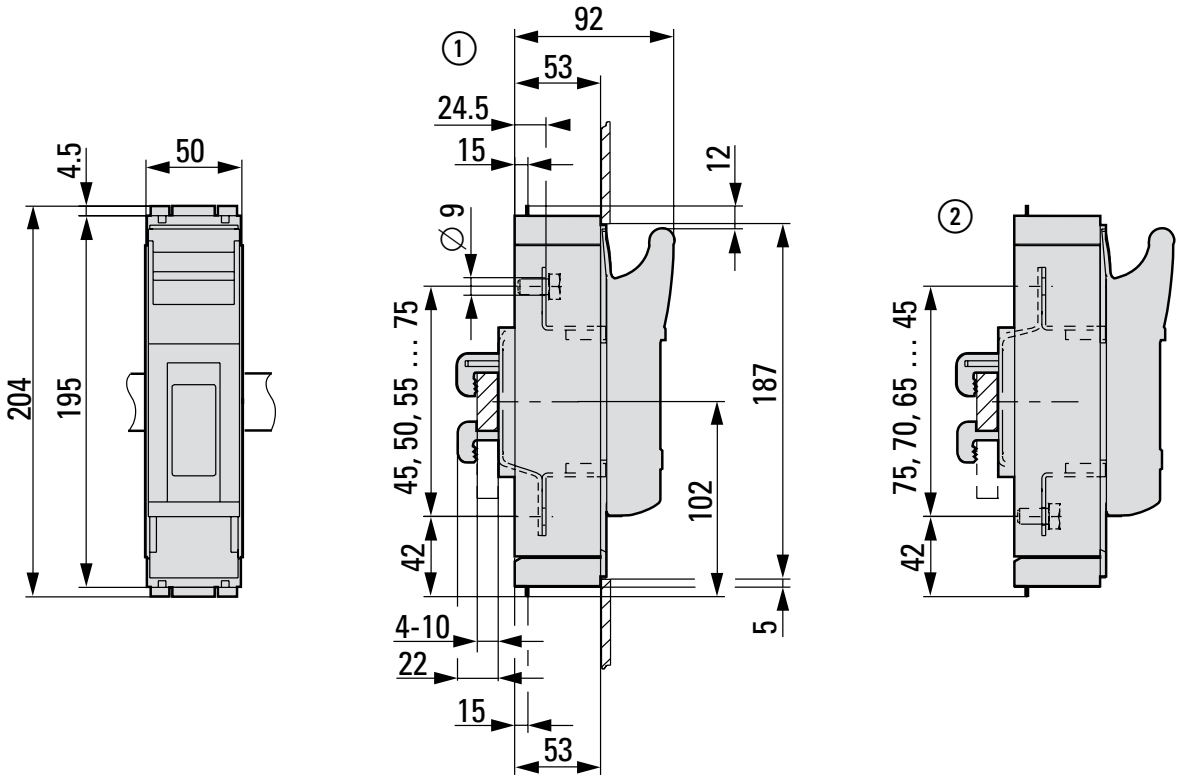

### XNH00-FCL-S160-BT2



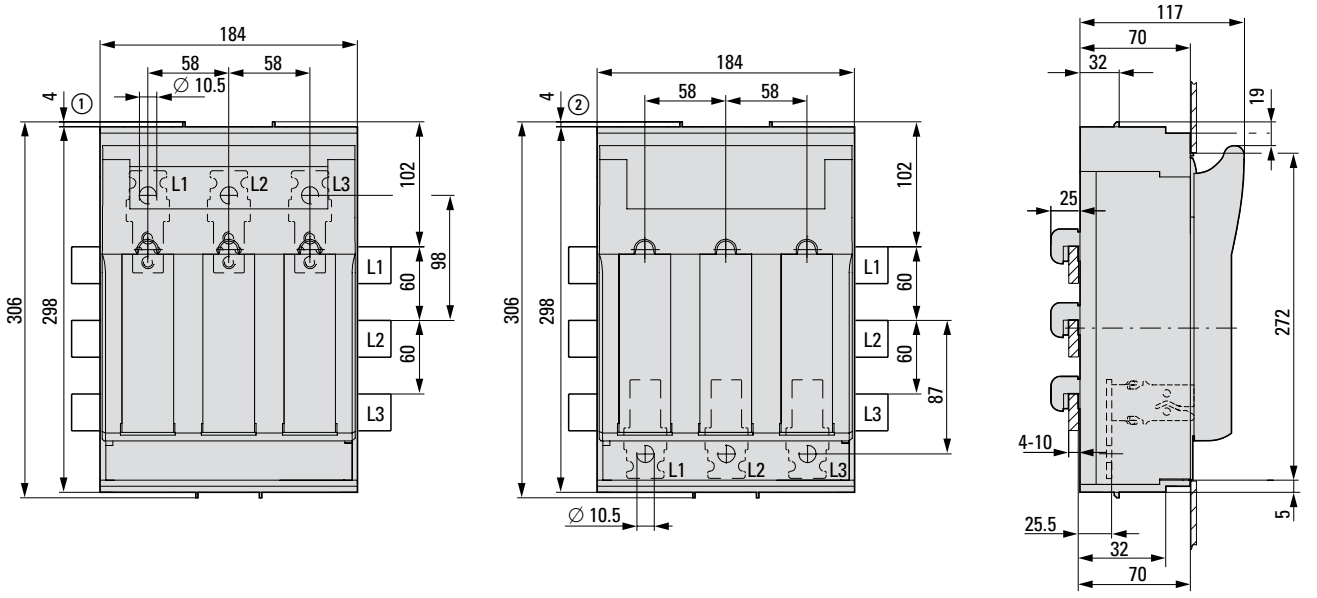
**XNH00-FCE-S160...**



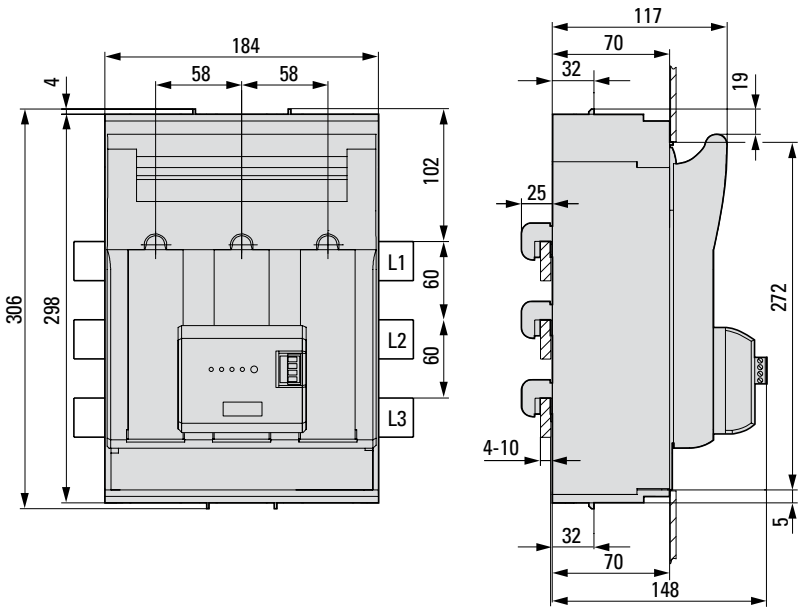

**XNH00-1-S160**



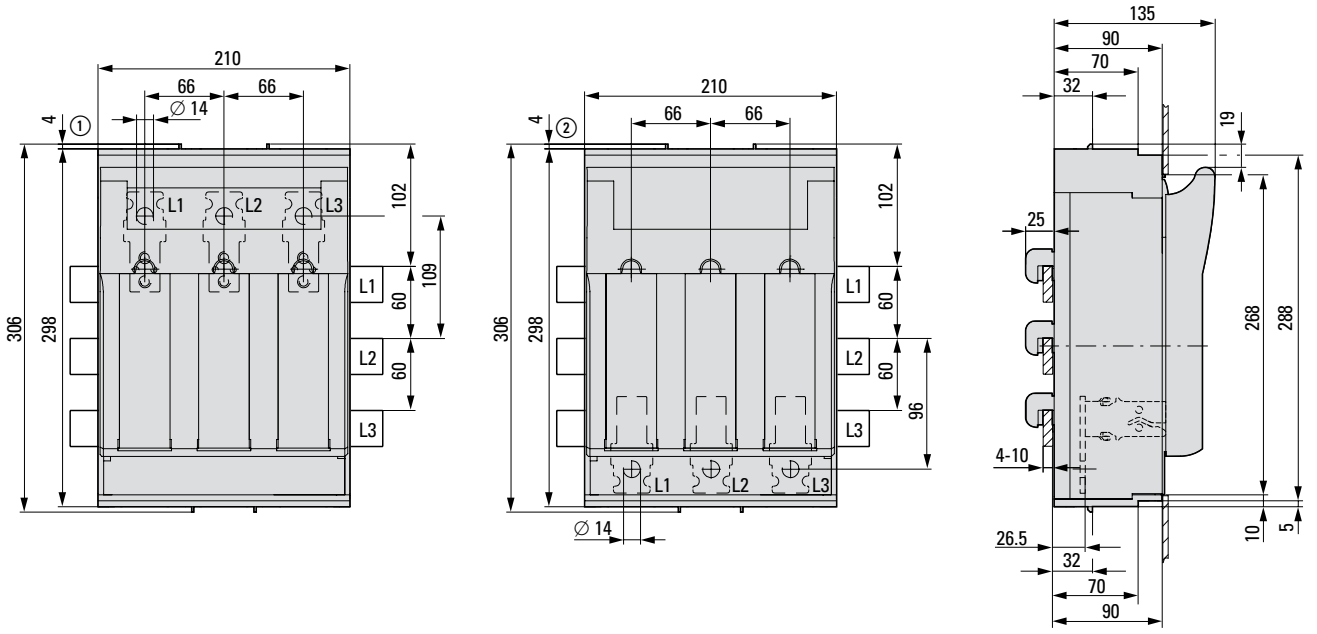
**XNH1-S250..., XNH1-FCL-S250...**



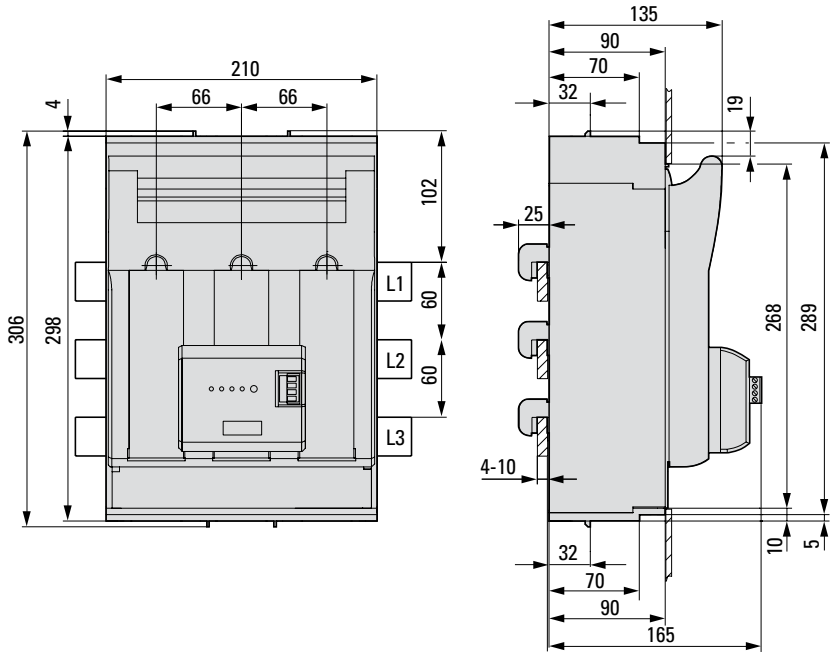

**XNH1-FCE-S250...**



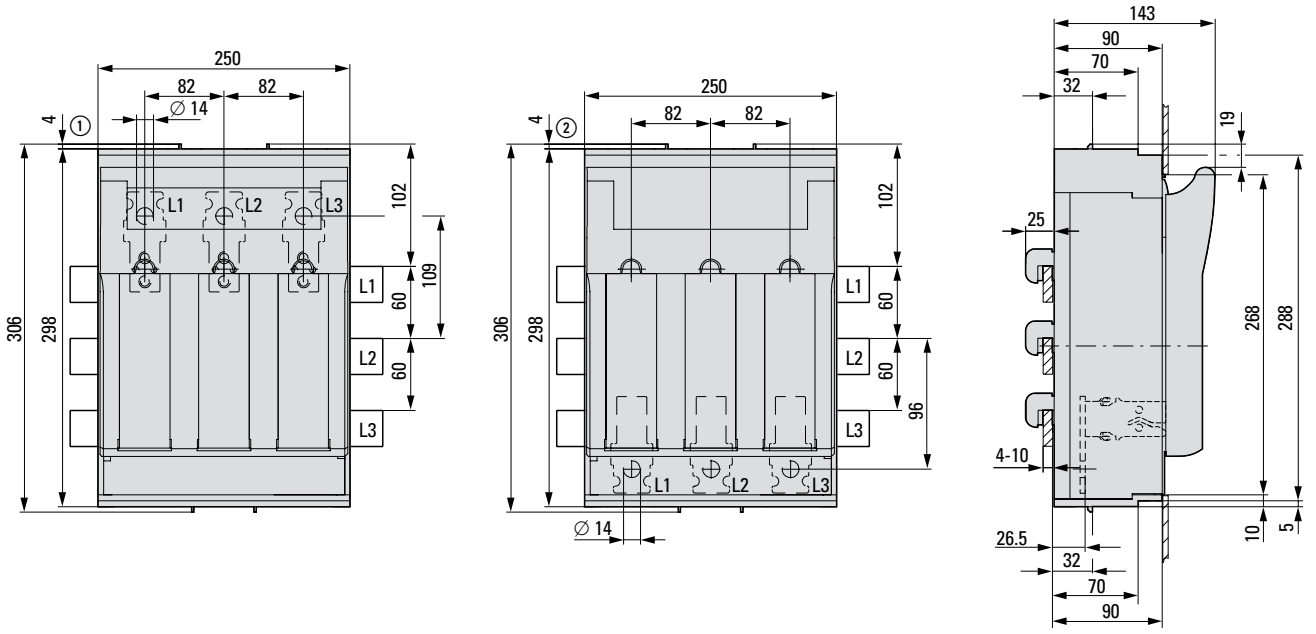
**XNH2-S400..., XNH2-FCL-S400...**



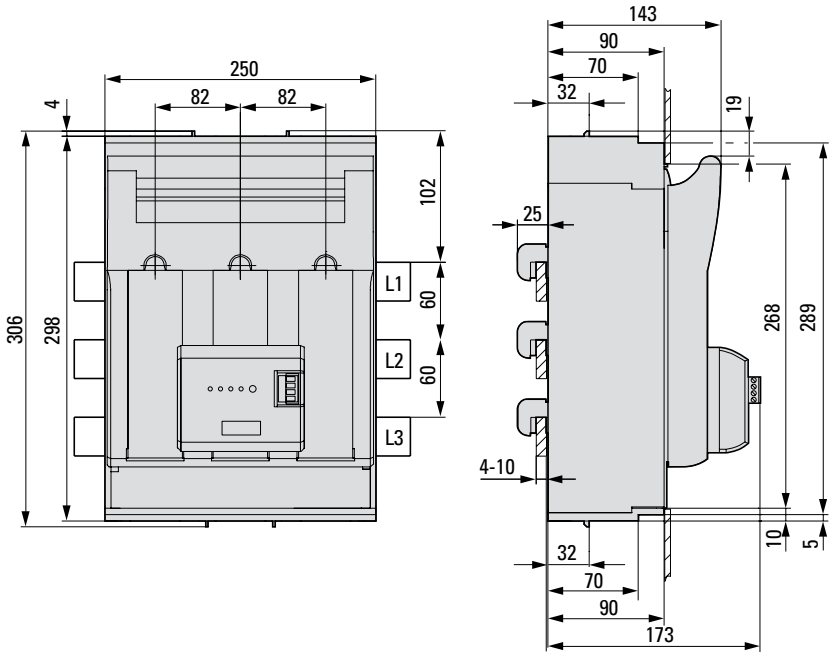

**XNH2-FCE-S400...**



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




**XNH3-FCE-S630...**



SG45812

SG46912

## Description

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

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

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

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

## NH-Fuse-Switch-DisconnectorLTS-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

| Size | $I_e$ (A) | Type of connection | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|
| 000 | 125 | Connection at the bottom<br>Lift terminal 1.5 - 50 mm² | LTS-100/C00/3-R | 284690 | 1 |

| Size | $I_e$ (A) | Type of connection | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|

## NH-Vertical Fuse-Switch-Disconnector 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 |

### With fuse monitoring

| | | | | | |
|---|---|---|---|---|---|
| 00 | 160 | Connection top or bottom | NH-SLS-00/160-60-SI | 106216 | 1/112 |

| Suitable with | Type Designation | Article No. | Units per package |
|---|---|---|---|

## Teminal Cover/Size Compensation for GST...

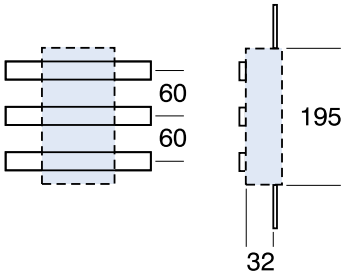
- For NH-fuse-links Z-NH/00... and solid-links Z-NH-00/TR see chapter Accessories Fuse Devices

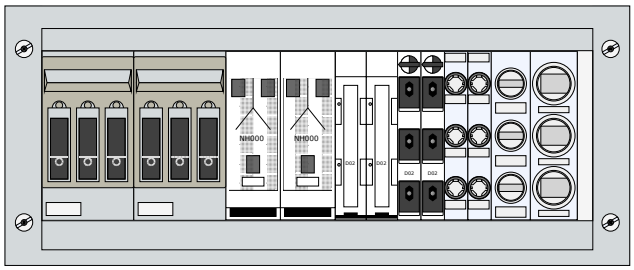
wa_sg01712

| | | | |
|---|---|---|---|
| for NH-SLS-00/160-60 | Z-NH-SLS-KA | 106223 | 2 |

## Coordination Table

- Combinations possible without bending the copper busbar

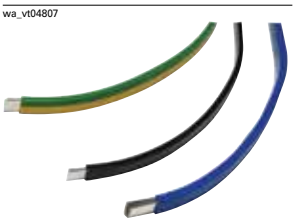


| | Device | XNH00-S160-BT2 | LTS-100/C00/3-R | D02-S/63/3-RS | D02-LTS/63/3-R(-HK) | D02-SO/63/3-R-27 Z-D02/R/3-.. | DII-SO/25/3-R(-PS) | DIII-SO/63/3-R(-PS) | AM195 |
|---|---|---|---|---|---|---|---|---|---|
| | Accessory | XNH00-KSS-32 | | | | | SBS-RS60 | SBS-RS60 | |
| Cu | 12x5/10 | X | | | X | X | X | X | X |
| | 20x5/10 | X | X | X | X | X | X | X | X |
| | 25x5/10 | X | | | X | X | X | X | X |
| | 30x5/10 | X | X | X | X | X | X | X | X |
| | Double-T | X | X | X | X | X | X | X | – |

## Multi-layer Copper Band, insulated

- E-Cu conductor, 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

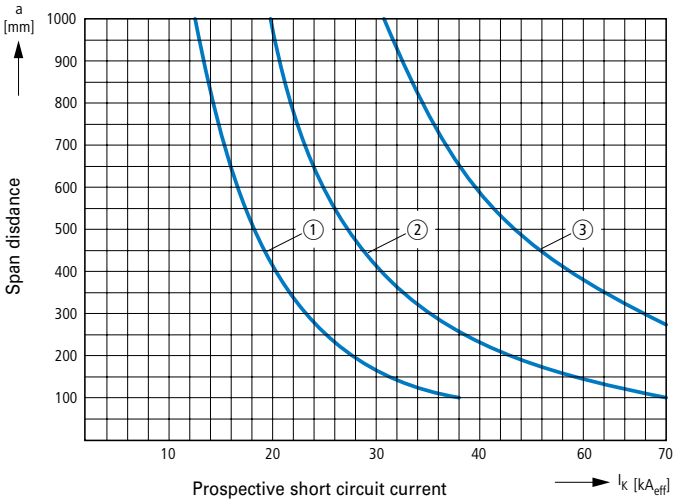



| Rated current range[1] A | Dimensions (number of layers x width x thickness for a single layer) mm | Cross-section[2] mm² | Utilisation | Type Designation | Article No. | Units per package |
|---|---|---|---|---|---|---|
| 100 | 3 x 9 x 0.8 | 21.6 | black | CU-BAND3X9X0.8-BK | 081167 | 20 |
| | 3 x 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 [1] Continuous currents according to DIN 43671
[2] Cross-sectional area: Wiring instructions for devices (e.g., minimum terminal capacity of ... mm²) must be given priority

| | Used for | Type Designation | Article No. | Units per package |
|---|---|---|---|---|
| | **Line Supports** | | | |
| wa_vt22613  | **Profile ledge** | | | |
| | Clamp clips | BZ248 | 076516 | 10 |
| wa_vt34013  | **Clamp clips** | | | |
| | 3 x 9 x 0.8<br>6 x 9 x 0.8 | BZ249 | 078889 | 10 |
| | 4 x 16 x 0.8<br>6 x 16 x 0.8<br>10 x 16 x 0.8 | BZ251 | 081262 | 10 |
| | 11 x 21 x 1 | BZ252 | 083635 | 10 |

## Short-circuit strength diagrams




① BZ249
② BZ251
③ BZ252

## Technical Data

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.

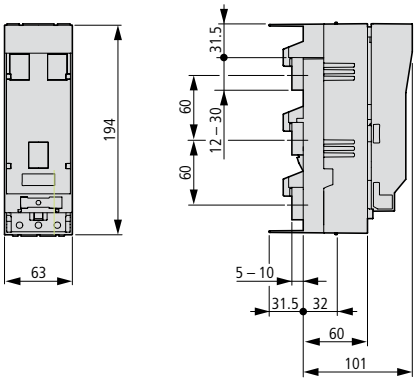
| | | **LTS-100/000/3-R** | **NH-SLS-00/160-60** |
|---|---|---|---|
| Standard | | IEC/EN 60947-3 | IEC/EN 60947-3 |
| NH fuses[1] according to DIN VDE 0636-2 | | 000 | 00 |
| Rated operational voltage | $U_e$ | 500 V AC | 690 V AC |
| Rated operational current | $I_e$ | 125 A | 160 A |
| Rated frequency | f | 40 - 60 Hz | 40 - 60 Hz |
| Rated insulation voltage | $U_i$ | 500 V AC | 800 V AC |
| Total power loss at $I_{th}$ (without fuses) | $P_v$ | 18 W | 27 W |
| Power loss at 80% (without fuses) | $P_v$ | 14 | 17,3 W |
| Rated impulse withstand voltage | $U_{imp}$ | 8 kV | 8 kV |
| Utilization category | | AC-22B (500 V / 125 A) | AC-23B (400 V / 160 A) |
| | | – | AC-23B (500 V / 125 A) |
| | | – | AC-22B (690 V / 160 A) |
| | | DC-22B (220 V / 100 A) | – |
| | | – | – |
| Rated conditional short-circuit current | | 50 kA (500 V) | 50 kA (690 V) |
| Rated short-time withstand current | $I_{cw}$ | – | – |
| Max. permitted power loss per fuse link | $P_{NH}$ | 12 W | 12 W |
| Degree of protection - front (XNH installed) | | operating status IP20 | operating status IP20 |
| | | handle cover open IP10 | 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 | vertical |
| Altitude | | max. 2000 m | max. 2000 m |
| Pollution degree | | 3 | 3 |
| Overvoltage category | | III | III |
| Colour | | grey/black | grey |
| RoHs | | yes | yes |
| Energy feeder direction | | bottom | any (FLEX System) |
| Lockable | | – | – |
| Sealable | | yes, standard | – |
| Material | | Polyamide | Polyamide |
| Reaction to fire | | self-extinguishing according to UL94 | self-extinguishing according to UL94 |
| Halogen-free | | yes | yes |
| Voltage test | | – | – |
| Electrical service life | | 200 operating cycles | 200 operating cycles |
| Mechanical service life | | 1400 operating cycles | 1400 operating cycles |
| Track resistance | | CTI 400 | CTI 200 |
| Temperature resistance | | 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 $mm^2$ Cu | – |
| Cu-Band | | 6x9x0.8 mm | – |

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

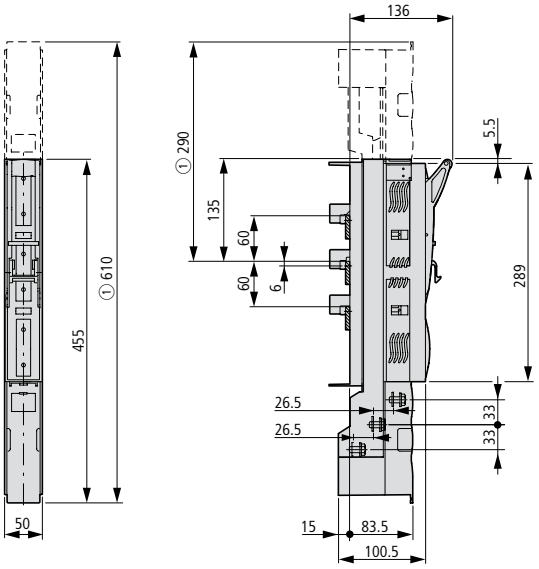
[1] Type-tested with NH fuse links of characteristic gG.

## Dimensions

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



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




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

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

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

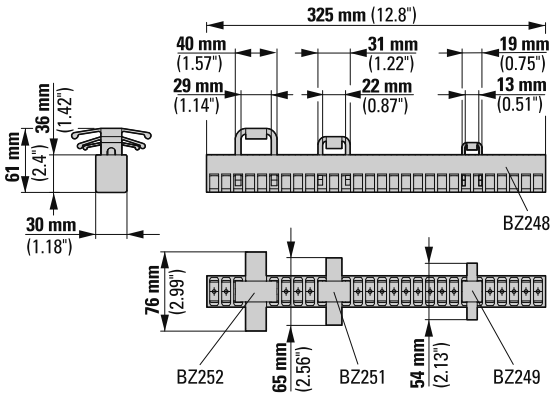
Continuous currents according to DIN 43671 for current rails from E-Cu in indoor facilities at 35 °C air temperature around the conductor and max. X °C busbar temperature.

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

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

## Dimensions

### Line Supports BZ



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