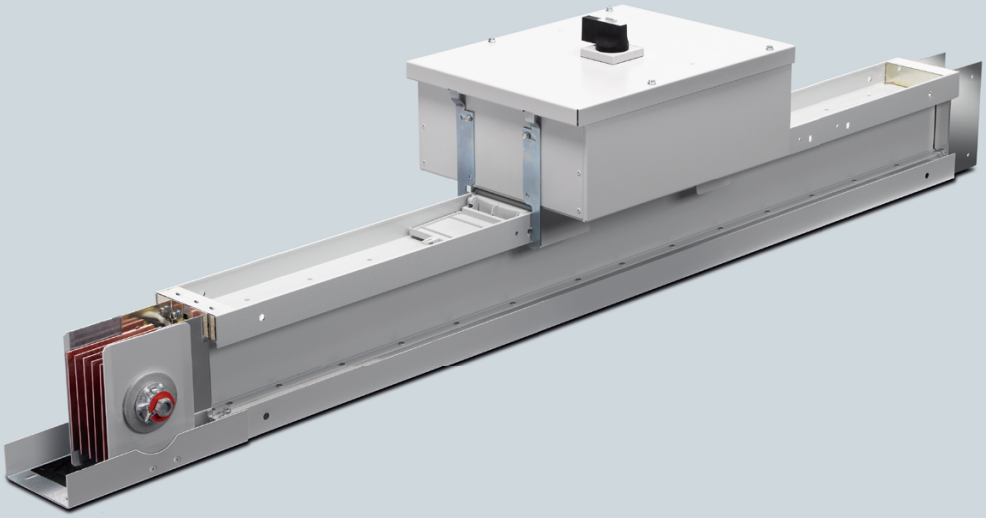
Busbar trunking system

SIVACON 8PS - Configuring with LX system

Configuration Manual · 10/2011



Low-Voltage Power Distribution and Electrical Installation Technology

Answers for infrastructure.

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Low-voltage power distribution and electrical installation technology

Busbar trunking system SIVACON 8PS - Configuring with LX system

Configuration Manual

10/2011

A5E02194899-02

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠DANGER
indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠WARNING
indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠CAUTION
with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.

CAUTION
without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.

NOTICE
indicates that an unintended result or situation can occur if the relevant information is not taken into account.

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The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

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Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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℗ 11/2011

Table of contents

About this documentation

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1.1 Essential contents of the documentation

What information will you find in this documentation?

This documentation contains all essential information you need to configure SIVACON 8PS LXA/LXC. In this documentation you will find overview depictions and detailed and reference information. The individual chapters of this documentation offer you detailed information about:

- Safety specifications
- Design and tasks of SIVACON 8PS
- Design and tasks of the LXA/LXC system
- Elements of the LXA/LXC system
- Configuration phases of the LXA/LXC system
- Technical data and dimensions of the LXA/LXC system
- Configuring aids
- Configuration examples

1.2 Structure of the documentation

What is the structure of this documentation?

The following table briefly summarizes the structure and contents of the documentation:

Structure		Contents
Contents		
Chapter 1	About this documentation	Information on how to use this documentation.
Chapter 2	Standards, certifications and approvals	Valid standards, certifications and approvals for busbar trunking systems and their use.
Chapter 3	Product description	• Overview of SIVACON 8PS busbar trunking systems • Application areas for high-current systems • Detailed technical information on the design of LXA/LXC
Chapter 4	Product selection	• Type code • Type selection pages
Chapter 5	Installation and mounting	Information on installing and mounting complete busbar layouts on-site
Chapter 6	Configuration	• Definition for determining the type for type selection • Definitions for feeder units for customer connections • Reference dimensions for configuring • Space requirements of the relevant busbar types • Positioning of the fire barrier on trunking units • Expansion compensation and fixed point • Configuring example with busbar run layout and parts list • Definitions for tap-off units • Special cases
Chapter 7	Technical data	Complete technical data
Chapter 8	Dimension drawings	Dimensions of the trunking units
Chapter 9	Circuit diagrams	Circuit diagrams of the tap-off units with circuit breaker
Appendix		Additional supporting information
Glossary		Definitions of terms requiring explanation.
Index		Search aid

1.3 Target group of this documentation

Target group of this documentation

This documentation is for internal use only. It will assist the following persons when configuring an LXA/LXC system:

- Planner support persons
- Project planning engineers

1.4 Supplementary documentation

Supplementary information material

Further information material can be consulted in addition to this documentation. You can obtain the specified documents free of charge through your contact at the Siemens AG branch office.

Catalogues

Catalogue LV 70 - SIVACON 8PS busbar trunking systems CD, BD01, BD2 (up to 1250 A)

Brochure

For safe power flows. Busbar trunking system SIVACON 8PS
(order number: E10003-E38-1B-D0030-7600)

Manuals

Planning with SIVACON 8PS. Busbar trunking systems up to 6300 A
(order number: A5E01541101)

Installation with LX system (order number: A5E01120816)

Standards, certifications and approvals

2

2.1 Standards

Standards

The standards listed below are applicable to the Siemens SIVACON 8PS busbar trunking system:

Standards	Standard reference
IEC / EN 60439-1 and 2	Busbar trunking systems in general
DIN VDE 0100-600	Determining loop impedance
DIN VDE 0100-710	Maintaining functions in medical locations Guide values for line-frequency magnetic fields in medical locations
DIN VDE 0100-720	Requirements for the degree of protection of electrical equipment in fire-hazard operating facilities
DIN VDE 0108	Maintaining functions of constructions for gatherings of persons
DIN EN 50274 / VDE 0106-100	Protection against accidental contact
DIN EN 60664-1 / VDE 0110-1	Rated insulation voltage
IEC 364	Determination of protective measures after selection of electrical equipment according to the network configuration
IEC 60068-2-30	Resistance to extreme climates, damp heat (cyclic)
IEC 60068-2-78	Resistance to extreme climates, damp heat (constant)
IEC / EN 60529	Degrees of protection of electrical equipment
IEC 60364-3 / DIN VDE 0100-300	Trunking systems (network configurations)
EN 60947	Overvoltage category/degree of fouling

2.2 Certifications

Document	Contents	Country (institute or organisation)
General building authority certification	Partitioning in accordance with fire resistance class S120 in accordance with DIN 4102-9	Germany (Deutsches Institut für Bautechnik (German Institute for Building Technology); Berlin)
General building authority inspection certificate	Protection for functional endurance classes compliant with DIN 4102-12	Germany (Materialprüfanstalt für Bauwesen (Material Inspection Office for the Building Industry; Brunswick)

2.3 Approvals

National approvals for LX busbar trunking systems

Country	Code	Approval
Canada	CSA	-
USA	UL	-
Romania	ICECON	-
Russia, GUS	GOST-R	✓
Turkey	TSE	-
Ukraine	Ukrain-GOST	✓
China	CCC	-
South Africa	SABS	-

Approvals from marine classification society

Country	Name of society	Code	Approval
Germany	Germanischer Lloyd	GL	-
France	Bureau Veritas	BV	-
Great Britain	Lloyds Register of Shipping	LRS	-
Italy	Registro Italiano Navale	RINA	-
Norway	Det Norske Veritas	DNV	-
Poland	Polski Rejestre Statków	PRS	-
Russia, GUS	Russian Maritime Register of Shipping	RMRS	-
USA	American Bureau of Shipping	ABS	-

Further information

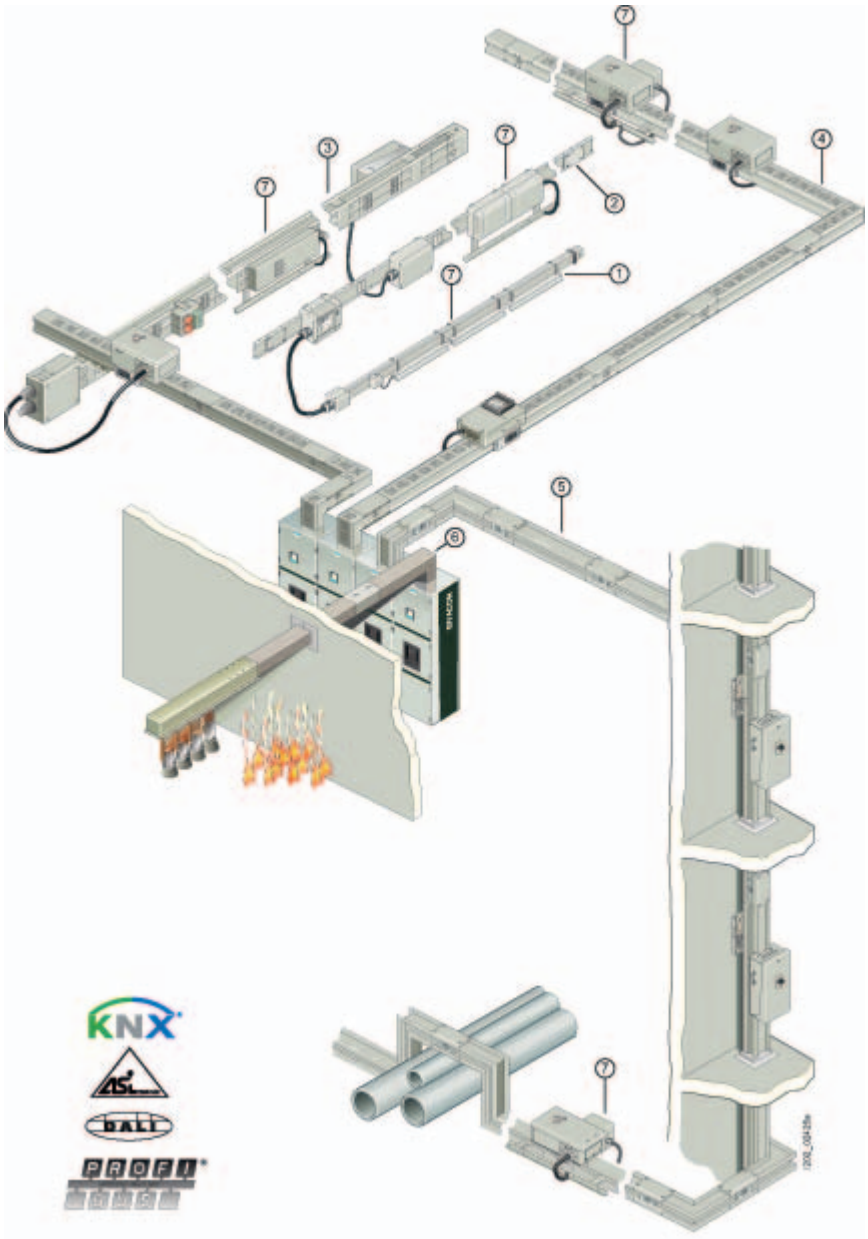
You can find more information about standards and approvals in the appendix of the current Catalogue LV 1.

You can find an overview of the certification available for low-voltage energy distribution products updated daily on the Internet at the low-voltage power distribution address (http://www.siemens.com/lowvoltage/support).

Product description

3

3.1 Overview of Siemens busbar trunking systems



①	CD-K system	⑤	LX system
②	BD01 system	⑥	LR system
③	BD2 system	⑦	Communication-enabled busbar trunking systems
④	LD system		

Figure 3-1 Overview of busbar trunking systems

Siemens supplies the following busbar trunking systems:

Up to 40 A

CD-K system

- Lower planning costs thanks to simple configuration
- Time-saving installation thanks to plug-in quick connector
- Optimum utilisation of the busbar line by fitting tap-off points on two sides
- Uniform current load of the CD-K system conductors by distributing the downstream tap-off plugs between the individual phases
- IP54 protection as standard (IP55 with additional equipment) ensures versatility of use
- Tap-off plugs make for speed and flexibility when changing load locations

For further information: see also Catalogue LV 70

Up to 160 A

BD01 system

- Flexible power supply
- Variable junction units
- Quick and easy to plan
- Time-saving installation
- Reliable mechanical and electrical connection technology
- High stability and low weight
- Positive opening and closing of the tap-off point
- Versatile tap-off units
- Small number of basic modules
- Storage-friendly system
- High degree of protection (IP54) for side-mounted and downwards tap-off points under extreme ambient conditions, IP55 with additional equipment.

For further information: see also Catalogue LV 70

Networked busbar trunking systems

- Networked functional expansions for combination with established tap-off units
- Applications:
  - Wide-area lighting control
  - Remote control and signalling in industrial environments
  - Consumption data acquisition for central power tap-offs
- MODBUS, AS-i, PROFIBUS and PROFINET bus systems
- Quick and easy to plan
- Flexibility in terms of expansion and changes
- Modular system
- Can be retrofitted to existing installations
- Simple contacting of the bus line using insulation displacement method
- Can be used with BD01, BD2, LD, LX systems

For further information: see also Catalogue LV 70

Up to 1250 A

BD2 system

- Quick and easy to plan
- Time-saving and efficient installation
- Reliable and safe operation
- Flexible modular system with simple solutions for every application
- Power distribution system can be planned at an early stage without an exact knowledge of load locations
- Early readiness for operation thanks to quick and easy installation
- High degree of protection IP54 or IP55 for use in harsh industrial environments
- Innovative design: Omission of compensation elements to compensate for expansion

For further information: see also Catalogue LV 70

Up to 5000 A

LD system

The busbar trunking system for optimum power distribution in industry:

- Reliable and safe operation
- Quick and easy installation
- Space-saving compact design up to 5000 A in one enclosure
- Tap-off points for loads up to 1250 A
- IP34 degree of protection with air cooling (IP54 with sealed enclosure)
- Type-tested connection to distribution boards and transformers

For further information: See also the planning manual Planning with SIVACON 8PS. Busbar trunking systems up to 6300 A (order number: A5E01541101)

Up to 6300 A

LX system

The busbar trunking system for power transmission and distribution in buildings

- Reliable and safe operation
- Quick and easy installation
- Sandwich design up to 5000 A (6300 A on request)
- Tap-off points for loads up to 1250 A
- High degree of protection IP54 or IP55 for use in harsh industrial environments
- Type-tested connection to distribution boards and transformers

LR system

The busbar trunking system for power transmission under extreme ambient conditions (IP68)

- Reliable and safe operation
- Quick and easy installation
- Cast resin system up to 6150 A
- Type-tested connection to distribution boards and transformers
- High degree of protection IP68 for outdoor applications

For further information: See also the planning manual Planning with SIVACON 8PS. Busbar trunking systems up to 6300 A (order number: A5E01541101)

SIMARIS design dimensioning software

SIMARIS design makes dimensioning electrical power distribution systems easy, fast and safe.

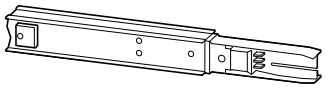
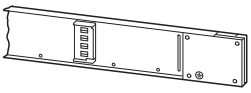
To download a free demo version of SIMARIS design and to find out more, please visit: SIMARIS design (http://www.siemens.com/simarisdesign)

3.2 Performance capability of the individual SIVACON 8PS systems

Performance overview for the CD-K, BD01 and BD2 systems

The following tables present an overview of the performance capabilities of the individual SIVACON 8PS systems:

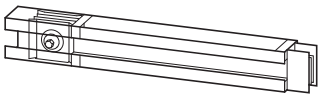
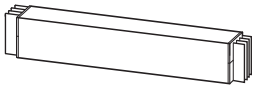
Table 3- 1 Performance data

Parameter	CD-K	BD01	BD2A	BD2C
				
Rated current I e [A]	30 40 2 x 25 2 x 40	40 63 100 125 160	160 ... 400 500 ... 1000	160 ... 400 500 ... 1250
Rated operational voltage [V AC]	400	400	690	
Frequency [Hz]	50 ... 60	50 ... 60	50 ... 60	
No. of active conductors	2, 3, 4, 2 x 4 (PE = enclosure)	4 (PE = enclosure)	5	
Degree of protection	Up to IP55	Up to IP55	Up to IP55	
Max. ambient temperature [°C]	+40	+40	+40	
Max. ambient temperature [°C]	-5	-5	-5	
Mounting position	Edgewise	Edgewise, flat (tap-off points pointing down)	Edgewise, flat and vertical	
Length [m]	2 3	2 3	0.5 ... 3.25	
Tap-off points on one side	Every 0.5 m or 1.0 m	Every 0.5 m or 1.0 m	—	
Tap-off points on two sides	Every 0.5 m or 1.0 m	—	Every 0.25 m or 0.5 m offset to each other	
Tap-off units	Up to 16 A	Up to 63 A	Up to 530 A	
Conductor material	Insulated CU conductor	Insulated CU or AL conductor	AL or CU rails	
Enclosure	Sheet steel enclosure, painted	Sheet steel enclosure, painted	Sheet steel enclosure, painted	
Fire load [kWh / m]	0.1 ... 0.48	0.76	0.6 ... 0.67 (without tap-off points)	
Special features/communication capability	—	Lighting control	Lighting control Remote switching and signalling Consumption recording	

Performance overview for the LD, LX, LR systems

The following tables present an overview of the performance capabilities of the individual SIVACON 8PS systems:

Table 3- 2 Performance data

Parameter	LDA1 ... LDA8	LDC1 ... LDC8	LXA01 ... LXA10	LXC01 ... LXC09	LRA01 ... LRA29	LRC01 ... LRC29
						
Rated current I e [A]	1100 ... 4000	2000 ... 5000	800 ... 4500	1000 ... 6300	400 ... 4600	630 ... 6150
Rated operational voltage [V AC]	1000		690		1000	
Frequency [Hz]	50 ... 60		50 ... 60		50 ... 60	
No. of active conductors	4, 5		3, 4, 5, 6 (PE = enclosure)		4, 5	
Degree of protection	Up to IP54		Up to IP55		IP68	
Max. ambient temperature [°C]	+40		+40		+40	
Max. ambient temperature [°C]	-5		-5		-5	
Mounting position	Horizontal, edgewise and vertical		Horizontal, edgewise and vertical		Horizontal, edgewise and vertical	
Length [m]	0.5 ... 3.2		0.35 ... 3		0.5 ... 3	
Tap-off points on one side	Every 1 m		Every 0.5 m		Selectable	
Tap-off points on two sides	Every 1 m		Every 0.5 m		—	
Tap-off units	Up to 1250 A		Up to 1250 A		Up to 630 A	
Conductor material	Insulated AL or CU rails		Insulated AL or CU rails		AL or CU rails	
Enclosure	Sheet steel enclosure, painted		Aluminium enclosure, painted		Epoxy resin, cast	
Fire load [kWh / m]	4.16 ... 8.83 (without tap-off points)		1.83 ... 16.52 (without tap-off points)		13.01 ... 77.30	
Special features/communication capability	Remote switching and signalling Consumption recording		Remote switching and signalling Consumption recording		—	

3.3 Application areas of the individual SIVACON 8PS systems

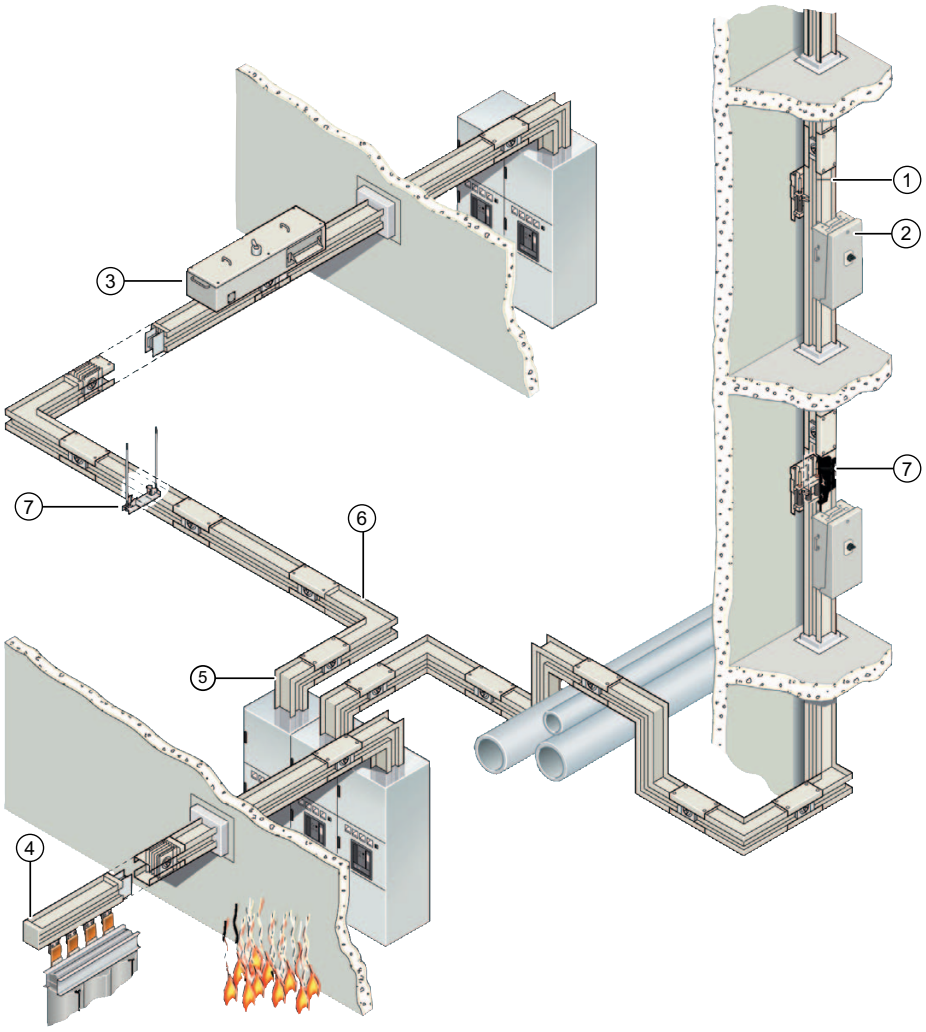
Application areas of the individual SIVACON 8PS systems

The individual systems of SIVACON 8PS are designed for the building and industry application areas. They enable flexible power distribution in building construction and a safe power supply to electronic loads.

The following table contains information on the application areas:

Location of Use	Application areas		System		
			LX	LD	LR
Public buildings	• Banks • Insurance companies	For power distribution in multi-storey buildings with a mainly vertical busbar run layout.	X	-	-
	• Internet providers • Computer centres • Broadcasting stations	To avoid neutral conductor overloading due to electronic loads subject to harmonics	X	-	-
		To prevent interference potentials in the rail enclosure from negatively influencing operability of loads	X	-	-
		If there is a high density of load tap-off points in the smallest of spaces	X	-	-
		If structural conditions permit only a vertical busbar run layout for power distribution	X	-	-
	• Shopping centres • Furniture stores • Trade fairs • Airports • Hospitals • Clinics • Office buildings	To protect loads against negative influences of magnetic field emissions	-	X	-
		For power distribution with a mainly horizontal busbar run layout and IP34 degree of protection	-	X	-
Industrial buildings	• Industrial buildings • Production environments	When plug-in tap-off points for loads up to 1250 A are required	-	X	-
		When load tap-off points have to have a high short-circuit resistance, e.g. I_{CC} = 100 kA / I_{cf} = 120 kA	-	X	-
		When plug-in tap-off points for loads up to 630 A are sufficient	X	-	-
		When the IP34 degree of protection is sufficient.	-	X	-
		When the IP54 degree of protection is sufficient	X	-	-
		When the degree of protection IP6x is required.	-	-	X
	• Industrial production with extreme conditions	For power conveyance under extreme production conditions	-	-	X
		For power conveyance outside closed buildings	-	-	X
		When a horizontal busbar run layout and the IP68 degree of protection are required	-	-	X

3.4 System description



① Straight trunking units (with or without tap-off points)
② Tap-off units, can be connected whilst live
③ Tap-off units, permanently installed
④ Feeder units
⑤ Connection to Siemens power distribution boards
⑥ Junction units
⑦ Additional equipment for wall/ceiling mounting

Figure 3-2 Overview of LXA/LXC busbar trunking systems

The LX busbar trunking system is used for both power transmission and distribution. The system is characterised by high flexibility as it is not tied to a specific position and is particularly suitable for power distribution in multi-storey buildings. The high degree of protection IP54 (IP55 on request) and tap-off units up to 1250 A also ensure reliable power supply in industrial applications with high power requirements.

3.5 System sizes and structure

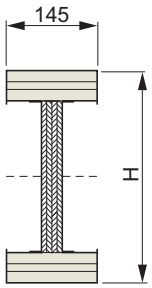
Sizes

Sizes are dependent upon rated current and conductor material. In total, there are six sizes. Four sizes are set up as single systems and two as double systems.

Single systems comprise one enclosure with between 3 and 6 aluminium or copper bars. Double systems have between 6 and 12 bars in two enclosures.

The precise number of bars is determined by the required conductor configuration.

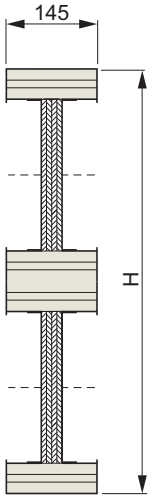
Sizes (H x W[1]), single system



Height H [mm]	System
137	LXA(C)01, LXA(C)02
162	LXC03, LXA(C)04
207	LXA(C)05
287	LXA(C)06, LXA(C)07

[1] Width is always 145 mm

Sizes (H x W[1]), double system

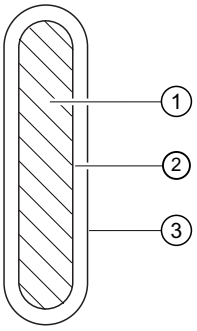


Height H [mm]	System
439	LXA(C)08
599	LXA(C)09, LXA10

[1] Width is always 145 mm

Structure of the busbars

The bars in the LX busbar system are usually tinned and enclosed in a sleeve made of highly resistant insulating material. The LXA system features aluminium conductors and the LXC system copper conductors. In addition to tinning, aluminium bars are also coated with a layer of nickel.



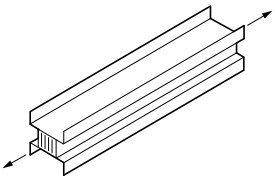
① Aluminium bar (LXA), copper bar (LXC)

② Layer of nickel, layer of tin (LXA), layer of tin (LXC)

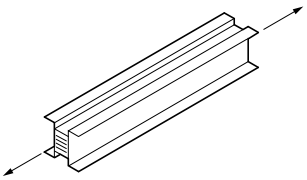
③ Insulating material sleeve with high heat resistance

Mounting positions and rated current

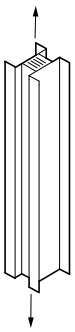
The sandwich design means that the current carrying capacity of the LX busbar system is not affected by the mounting position. This guarantees high flexibility for positioning the busbar runs. Current derating is not normally required for busbars in edgewise and flat positions on horizontal busbar runs or on rising main busbars (vertical busbar runs). Deviations for the horizontal flat mounting position are listed in the technical data of the relevant system sizes.



Horizontal busbar run, edgewise busbars



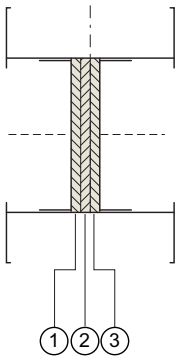
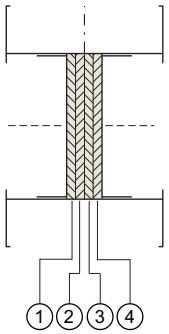
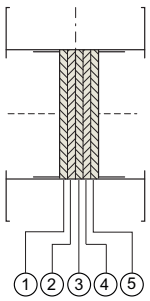
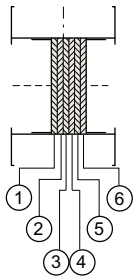
Horizontal busbar run, flat busbars



Vertical busbar run

3.6 Conductor configuration

The LX busbar system is available with eight different conductor configurations dependent upon system type, the size of the N and PE cross sections as well as whether or not an additional insulated PE conductor (clean earth) has been included.

	System	Conductor configurations						Enclosure
		①	②	③	④	⑤	⑥	
	LX...30	L1	L2	L3	-	-	-	is the PE conductor
	LX...41	L1	L2	L3	PEN	-	-	Electrical connection between enclosure and PEN
	LX...51	L1	L2	L3	N	-	-	is the PE conductor
	LX...52	L1	L2	L3	N	N	-	is the PE conductor
	LX...53	L1	L2	L3	N	PE	-	Electrical connection between enclosure and PE
	LX...61	L1	L2	L3	N	Clean earth	-	is the PE conductor
	LX...54	L1	L2	L3	N	N	PE	Electrical connection between enclosure and PE
	LX...62	L1	L2	L3	N	N	Clean earth	is the PE conductor

3.7 Cross-sections

Important properties of the N and PE conductor cross-sections/clean earth

Neutral conductor cross-section

The growth in the number of new electronic and noise-sensitive loads, especially in the area of energy supply in buildings, presents new challenges to busbar trunking systems. Disturbance variables such as electromagnetic fields and system harmonics influence the functional capability of computers, servers and other electronic devices. The large number of these AC loads within a network places a high load on the neutral conductor through harmonics. Double neutral conductor cross-sections (200%) reduce the plant's susceptibility to interference in networks subject to harmonics.

PE conductor cross-section

A high cross-section of the PE conductor also offers safety for the energy supply. It guarantees early shutdown of small short-circuit currents thanks to low loop impedances. This reduces the risk of potential downtimes resulting from fast shutdown of the upstream protective elements.

Clean earth

Isolated PE conductors are fully galvanically isolated from the trunking enclosure. In this way, the conductors make a crucial contribution to the reliability and safety of the energy supply for electronic loads in buildings. In the case of a short-circuit between phase and load enclosure, this PE conductor (clean earth) remains unaffected by this fault. This means it is non-isolated in the event of a short-circuit to frame Even the fault currents in the enclosure generated by magnetic fields do not affect the clean earth. This means the clean earth is optimally suited to PE connection of sensitive electronic loads.

Cross-sections for PEN, N, and PE conductors compared to the cable cross-section

The following tables contain a comparison of the cable cross-sections L1, L2, L3, PEN, N, PE and clean earth of the different conductor configurations. Corresponding specifications in mm² see Technical data (Page 125)

System	Cross-sections				
	L1, L2, L3	PEN	N	PE	Clean earth
LX..30	100 %	-	-	Enclosure	-
LX..41	100 %	100% + enclosure	-	-	-
LX..51	100 %	-	100 %	Enclosure	-
LX..52	100 %	-	200 %	Enclosure	-
LXC.53 [1)]	100 %	-	100 %	100% + enclosure	-
LXC.54 [1)]	100 %	-	200 %	100 % + enclosure	-
LX..61	100 %	-	100 %	Enclosure	100 %
LX..62	100 %	-	200 %	Enclosure	100 %

1) These conductor configurations each contain an additional busbar as PE conductor. The PE conductor is galvanically connected with the enclosure.

Enclosure cross-section compared to conductor cross-section (Cu equivalent)

System	Enclosure cross-section LXA	Enclosure cross-section LXC
LXA(C)01..	522 %	324 %
LXA(C)02..	395 %	245 %
LXC03..	-	230 %
LX(C)A04..	280 %	173 %
LXA(C)05..	193 %	119 %
LXA(C)06..	182 %	113 %
LXA(C)07..	137 %	84 %
LXA(C)08..	193 %	119 %
LXA(C)09..	182 %	113 %
LXA10..	137 %	-

Calculation example

How high are the cross-sections of the systems for:

1. LXA0461
   L1, L2, L3, N, clean earth: 100 %
   PE (enclosure): 280 % in Cu equivalent
2. LXC0554
   L1, L2, L3: 100 %
   N: 200 %
   PE (enclosure + busbar): 219 % in Cu equivalent

Product selection

4

4.1 Instructions on product selection

Please observe the following when selecting and ordering:

Metal supplements

In calculating the price, metal supplements are added to the list prices depending on current official prices and the relevant metal factor.

Dimensions

Lengths in the selection lists are specified in meters (m). Optional dimensions can be selected in increments of 0.01 m.

Type

All types marked with * must be completed with the relevant dimensions. If necessary, add the type suffix.

Type suffix

Always specify the type suffix for flange plate, phase sequence, etc., together with the type.

Type code

You will find the LXA/LXC type code under Basic type code (Page 28). These type codes must be transferred to the selection lists when selecting the type. For some components, the type code is found on the selection list itself: for example, in the case of tap-off units, incoming cable connection units, and accessories.

Legend

Dimension	Meaning
AD	Distance between tap-off point centre and joint block centre
D	Length of expansion compensation unit [m]
L	Standard length
W	Optional length
X	Length X dimension
Y	Length Y dimension
Z	Length Z dimension

4.2 Basic type code

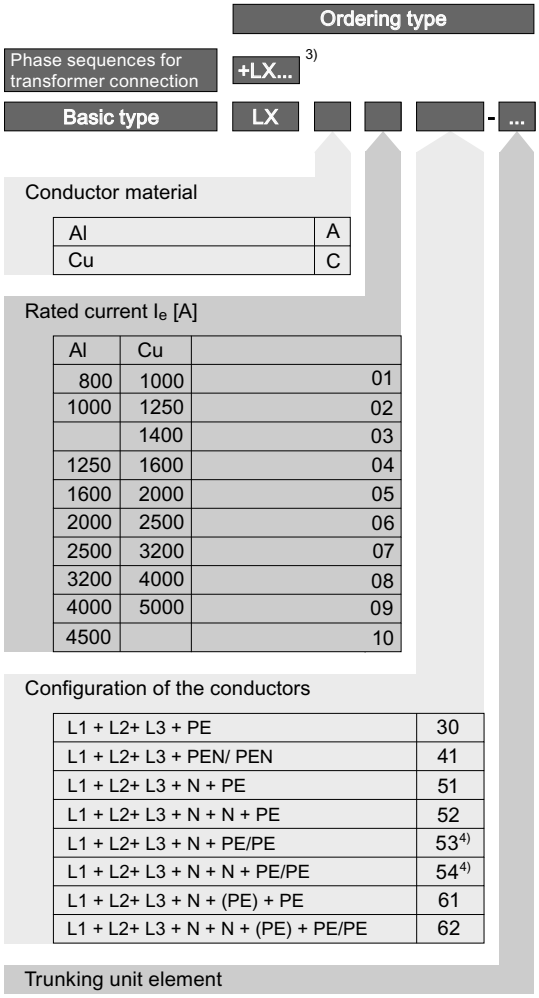
The basic components of the LX system are determined using a type code. The type is specified and selected on the basis of rated current, conductor material and system type or conductor configuration.

The resulting type codes enable the required system to be precisely defined. Please refer to the selection tables for the type codes you must use for each system.

Type code 1

Type code 1 applies for the following trunking unit elements:

- Straight trunking units
- Junction units
- Non-Siemens distribution board connections
- Incoming cable connection units[1)]
- Spring brackets for vertical installation
- Transformer connections[2)]



1) Available only for single systems of sizes LX.01 to LX.07.

2) For conductor configurations LX…54, 61 and 62, the fire barrier in accordance with type suffix +LX.....-S120 and mounted on the trunking unit in the factory is available on request. Others only on request

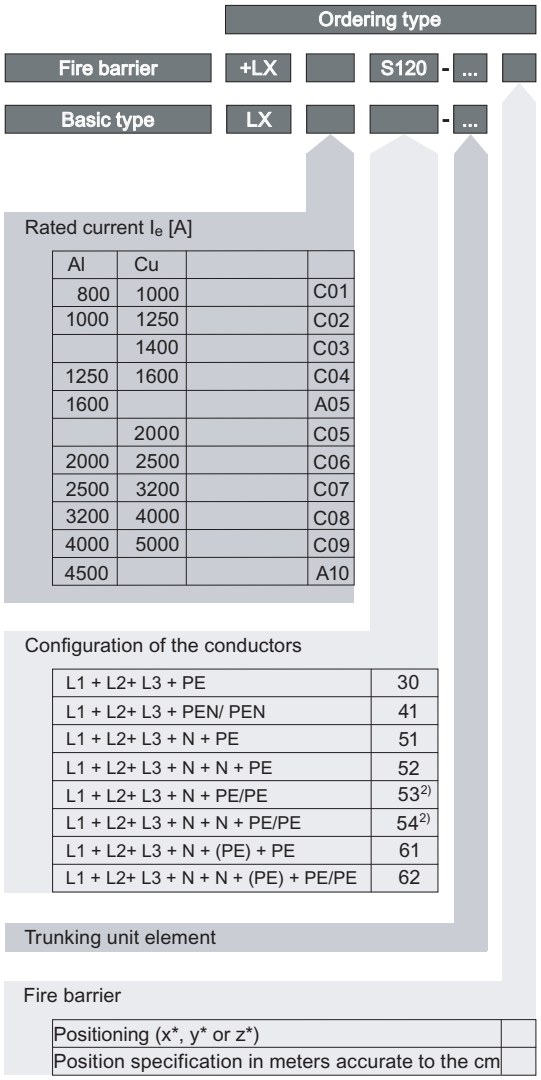
3) You can find details in the type code under Universal busbar connection units (Page 46) .

4) Only available as a copper system (LXC).

Type code 2

Type code 2 applies for the following trunking unit elements:

- Expansion compensation
- Joint block
- End cap
- Bushing protector
- "MOS" fire barrier for installation at the assembly site[1)]
- Fire barrier as type suffix [3)]



1) Available only for single systems of sizes LX.01 to LX.07.

2) Only available as a copper system (LXC).

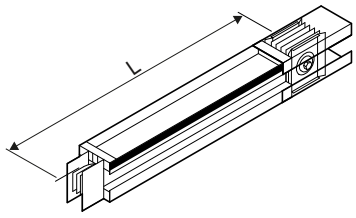
3) For conductor configurations 54, 61 and 62, the fire barrier in accordance with type suffix +LX . . . . . -S120 and mounted on the trunking unit in the factory is available on request.

4.3 Selection tables

4.3.1 Straight trunking units

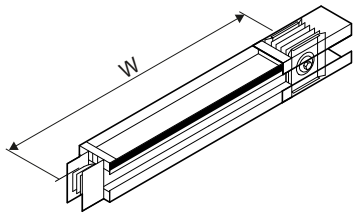
4.3.1.1 Straight trunking units without tap-off points

Standard lengths

	Length L [m]	Type[1)]	Type suffix fire barrier[2)]
	3.0	LX.....-3	+LX.....-S120-X*
	2.0	LX.....-2	+LX.....-S120-X*
	1.0	LX.....-1	

1) See type code 1
2) See type code 2
* Complete type with relevant dimensions (e.g. LX....-1W0.76)

Optional lengths

	Length W [m]	Type[1)]	Type suffix fire barrier[2)]
	0.35...0.99	LX.....-1W*	
	1.01...1.99	LX.....-2W*	+LX.....-S120-X* 3)
	2.01...2.99	LX.....-3W*	+LX.....-S120-X*

1) See type code 1
2) See type code 2
3) Fire barrier possible from optional length W = 1.04 m
* Complete type with relevant dimensions (e.g. LX....-1W0.76)

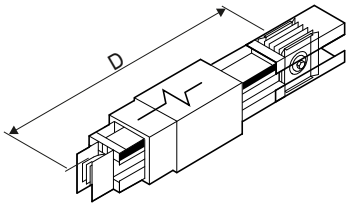
Phase change unit

	Length L/W/D [m]	Type[1)]
On request	1.25	LX.....-P

1) See type code 2

Expansion compensation

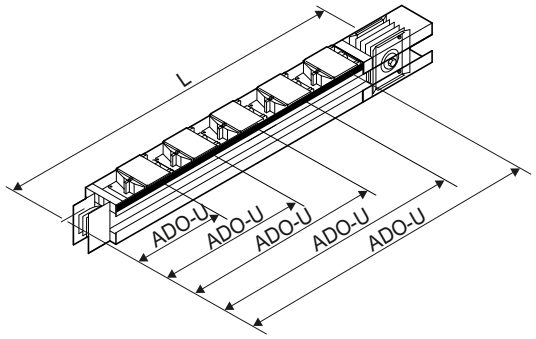
All types in copper version

	Length D [m]	Type[1)]
	1.0	LX.....-D

1) See type code 2

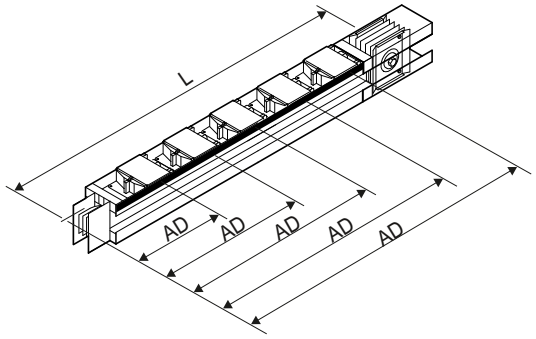
4.3.1.2 Straight trunking units with tap-off points

Standard length with up to 5 tap-off points top and bottom selectable

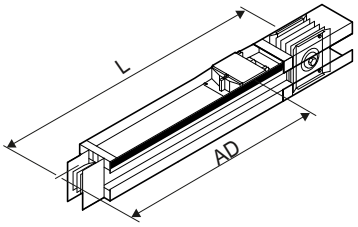
	Length L [m]	Position of the tap-off point ADO-U [m]	Type[1)]	Type suffix tap-off point
	3.0	0.67	LX.....-3-ADO-U	+LX-A
		1.17		+LX-B
		1.67		+LX-C
		2.17		+LX-D
		2.67		+LX-E

1) See type code 1

Standard length with up to 5 tap-off points selectable, on one side

	Length L [m]	Position of the tap-off point ADO-U [m]	Type[1)]	Type suffix tap-off point
	3.0	0.67	LX.....-3-AD	+LX-F
		1.17		+LX-G
		1.67		+LX-H
		2.17		+LX-I
		2.67		+LX-K

Standard length with 1 tap-off point, on one side

	Length L [m]	Position of the tap-off point ADO-U [m]	Type[1)]
	2.0	1.17	LX.....-2-1AD

1) See type code 1

Example type

Examples of trunking units with 3 tap-off points top and bottom:
LXA0141-3-ADO-U+LX-A+LX-C+LX-E

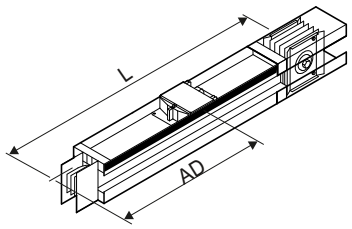
Note

Dimensions of the tap-off units

When configuring the tap-off points, please note the dimensions of the tap-off units, see Configuration (Page 79).

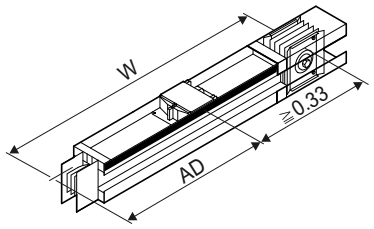
4.3.1.3 Straight trunking units with tap-off points and configurable fire barrier

Standard length with 1 tap-off point

	Length L [m]	Position of the tap-off point AD [m]	Type[1)]	Type suffix fire barrier[2)]
	3.0	2.17	LX.....-3-1AD	+LX.....-S120-X*

1) See type code 1
2) See type code 2

Optional length with 1 tap-off point selectable

	Length W [m]	Position of the tap-off point AD [m]	Type[1)]	Type suffix fire barrier[2)]
	1.5…2.0	0.67…1.67	LX.....-1W*-1AD*	+LX.....-S120-X*
	2.01…2.5	0.67…217	LX.....-2W*-1AD*	+LX.....-S120-X*
	2.51…3.0	0.67…2.67	LX.....-3W*-1AD*	+LX.....-S120-X*

1) See type code 1
2) See type code 2
* Complete type with relevant dimensions (e.g. LX....-1W1.70-1AD0.8)

Example types

LXA0141-3-1AD

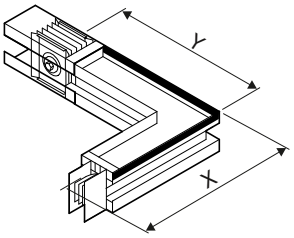
LXA0141-3W2.80-1AD1.3

Note

Positioning of the fire barrier, see Configuration (Page 79)

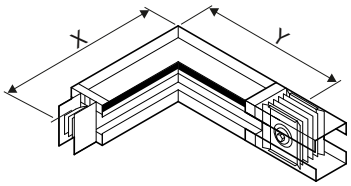
4.3.2 Junction units

Elbow left

	System	Length X [m]	Length Y [m]	Type[1]	Type suffix fire barrier[2]
	LX.01 to LX.10	0.35	0.35	LX…..-LL	
	LX.01 to LX.10	0.35	0.71…1.2[4]	LX…..-LL-YB*	+LX…..-S120-X*
	LX.01 to LX.10	0.71…1.2[3]	0.35	LX…..-LL-XB*	+LX…..-S120-X*
	LX.01 to LX.10	0.35	0.36[5]…0.7	LX…..-LL-Y*	
	LX.01 to LX.10	0.36[5]…0.7	0.35	LX…..-LL-X*	

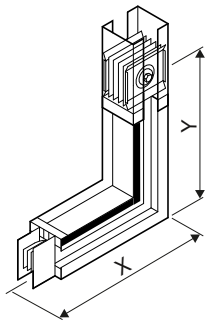
1) See type code 1
2) See type code 2
3) Fire barrier possible on X dimension
4) Fire barrier possible on Y dimension
5) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LL-YB0.80)

Elbow right

	System	Length X [m]	Length Y [m]	Type[1]	Type suffix fire barrier[2]
	LX.01 to LX.10	0.35	0.35	LX…..-LR	
	LX.01 to LX.10	0.35	0.71…1.2[4]	LX…..-LR-YB*	+LX…..-S120-X*
	LX.01 to LX.10	0.71…1.2[3]	0.35	LX…..-LR-XB*	+LX…..-S120-X*
	LX.01 to LX.10	0.35	0.36[5]…0.7	LX…..-LR-Y*	
	LX.01 to LX.10	0.36[5]…0.7	0.35	LX…..-LR-X*	

1) See type code 1
2) See type code 2
3) Fire barrier possible on X dimension
4) Fire barrier possible on Y dimension
5) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LR-YB0.80)

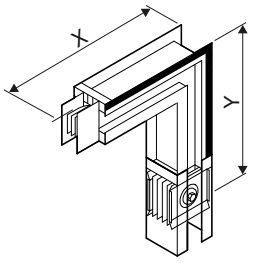
Knee front



System	Length X [m]	Length Y [m]	Type[1)]	Type suffix fire barrier[2)]
LX.01 to LX.04	0.35	0.35	LX… ..-LV	
LX.05 to LX.07	0.5	0.5		
LX.08 to LX.10	0.8	0.8		
LX.01 to LX.04	0.35	0.71…1.2[4)]	LX…..-LV-YB*	+LX…..-S120-X*
LX.05 to LX.07	0.5	0.86-1.3[4)]		
LX.08 to LX.10	0.8	1.16-1.6[4)]		
LX.01 to LX.04	0.35	0.36[5)]-0.7	LX…..-LV-Y*	
LX.05 to LX.07	0.5	0.51[5)]-0.85		
LX.08 to LX.10	0.8	0.81[5)]-1.15		
LX.01 to LX.04	0.71…1.2[3)]	0.35	LX…..-LV-XB*	+LX…..-S120-X*
LX.05 to LX.07	0.86…1.3[3)]	0.5		
LX.08 to LX.10	1.16…1.6[3)]	0.8		
LX.01 to LX.04	0.36[5)]...0.7	0.35	LX…..-LV-X*	
LX.05 to LX.07	0.51[5)]…0.85	0.5		
LX.08 to LX.10	0.81[5)]…1.15	0.8		

1) See type code 1
2) See type code 2
3) Fire barrier possible on X dimension
4) Fire barrier possible on Y dimension
5) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LV-YB0.80)

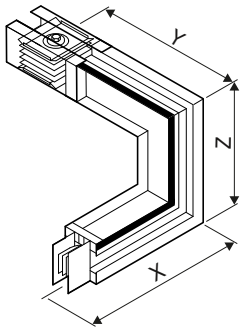
Knee rear



System	Length X [m]	Length Y [m]	Type[1)]	Type suffix fire barrier[2)]
LX.01 to LX.04	0.35	0.35	LX… ..-LH	
LX.05 to LX.07	0.5	0.5		
LX.08 to LX.10	0.8	0.8		
LX.01 to LX.04	0.35	0.71…1.2[4)]	LX…..-LH-YB*	+LX…..-S120-X*
LX.05 to LX.07	0.5	0.86-1.3[4)]		
LX.08 to LX.10	0.8	1.16-1.6[4)]		
LX.01 to LX.04	0.35	0.36[5)]-0.7	LX…..-LH-Y*	
LX.05 to LX.07	0.5	0.51[5)]-0.85		
LX.08 to LX.10	0.8	0.81[5)]-1.15		
LX.01 to LX.04	0.71…1.2[3)]	0.35	LX…..-LH-XB*	+LX…..-S120-X*
LX.05 to LX.07	0.86…1.3[3)]	0.5		
LX.08 to LX.10	1.16…1.6[3)]	0.8		
LX.01 to LX.04	0.36[5)]...0.7	0.35	LX…..-LH-X*	
LX.05 to LX.07	0.51[5)]…0.85	0.5		
LX.08 to LX.10	0.81[5)]…1.15	0.8		

1) See type code 1
2) See type code 2
3) Fire barrier possible on X dimension
4) Fire barrier possible on Y dimension
5) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LH-YB0.80)

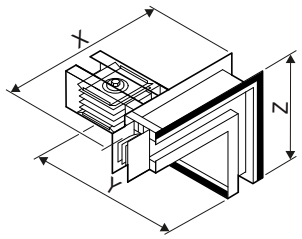
Elbow offset, left front



System	Length X [m]	Length Y [m]	Length Z [m]	Type[1]
LX.01 to LX.04	0.35	0.35	0.40	LX… ..-LLV
LX.05 to LX.07	0.50	0.35	0.52	
LX.08 to LX.10	0.80	0.35	0.84	
LX.01 to LX.04	0.35[2]…0.70	0.35[2] …0.70	0.40[2] …0.70	LX…..-LLV-X*/Y*/Z*
LX.05 to LX.07	0.50[2] …0.85	0.35[2] …0.70	0.52[2] …0.85	
LX.08 to LX.10	0.80[2] …1.15	0.35[2] …0.70	0.84[2] …1.15	

1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LLV-X0.40/Y0.56/Z0.60)

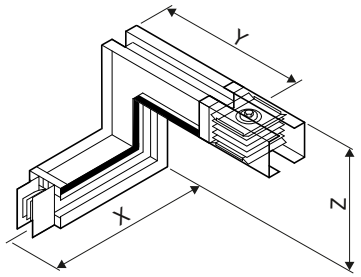
Elbow offset, left rear



System	Length X [m]	Length Y [m]	Length Z [m]	Type[1]
LX.01 to LX.04	0.35	0.35	0.40	LX… ..-LLH
LX.05 to LX.07	0.50	0.35	0.52	
LX.08 to LX.10	0.80	0.35	0.84	
LX.01 to LX.04	0.35[2]…0.70	0.35[2]…0.70	0.40[2]…0.70	LX…..-LLH-X*/Y*/Z*
LX.05 to LX.07	0.50[2]…0.85	0.35[2]…0.70	0.52[2]…0.85	
LX.08 to LX.10	0.80[2]…1.15	0.35[2]…0.70	0.84[2]…1.15	

1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LLH-X0.40/Y0.56/Z0.60)

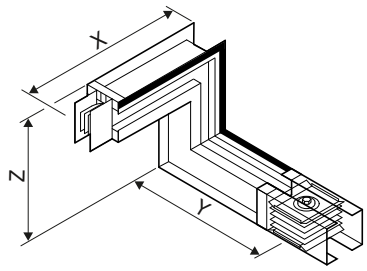
Elbow offset, right front



System	Length X [m]	Length Y [m]	Length Z [m]	Type[1)]
LX.01 to LX.04	0.35	0.35	0.40	LX… ..-LRV
LX.05 to LX.07	0.50	0.35	0.52	
LX.08 to LX.10	0.80	0.35	0.84	
LX.01 to LX.04	0.35[2)]…0.70	0.35[2)]…0.70	0.40[2)]…0.70	LX…..-LRV-X*/Y*/Z*
LX.05 to LX.07	0.50[2)]…0.85	0.35[2)]…0.70	0.52[2)]…0.85	
LX.08 to LX.10	0.80[2)]…1.15	0.35[2)]…0.70	0.84[2)]…1.15	

1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LRV-X0.40/Y0.56/Z0.60)

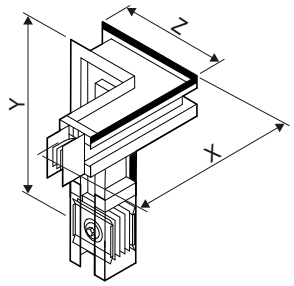
Elbow offset, right rear



System	Length X [m]	Length Y [m]	Length Z [m]	Type[1)]
LX.01 to LX.04	0.35	0.35	0.40	LX… ..-LRH
LX.05 to LX.07	0.50	0.35	0.52	
LX.08 to LX.10	0.80	0.35	0.84	
LX.01 to LX.04	0.35[2)]…0.70	0.35[2)]…0.70	0.40[2)]…0.70	LX…..-LRH-X*/Y*/Z*
LX.05 to LX.07	0.50[2)]…0.85	0.35[2)]…0.70	0.52[2)]…0.85	
LX.08 to LX.10	0.80[2)]…1.15	0.35[2)]…0.70	0.84[2)]…1.15	

1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LRH-X0.40/Y0.56/Z0.60)

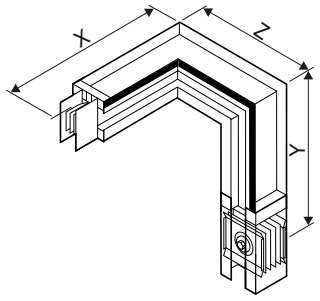
Knee offset, rear left



System	Length X [m]	Length Y [m]	Length Z [m]	Type[1]
LX.01 to LX.04	0.35	0.35	0.40	LX… ..-LHL
LX.05 to LX.07	0.35	0.50	0.52	
LX.08 to LX.10	0.35	0.80	0.84	
LX.01 to LX.04	0.35[2]…0.70	0.35[2]…0.70	0.40[2]…0.70	LX…..-LHL-X*/Y*/Z*
LX.05 to LX.07	0.35[2]…0.70	0.50[2]…0.85	0.52[2]…0.85	
LX.08 to LX.10	0.35[2]…0.70	0.80[2]…1.15	0.84[2]…1.15	

1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LHL-X0.40/Y0.56/Z0.60)

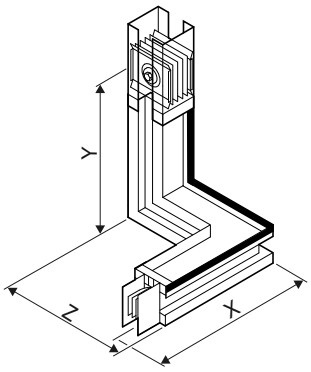
Knee offset, rear right



System	Length X [m]	Length Y [m]	Length Z [m]	Type[1]
LX.01 to LX.04	0.35	0.35	0.40	LX… ..-LHR
LX.05 to LX.07	0.35	0.50	0.52	
LX.08 to LX.10	0.35	0.80	0.84	
LX.01 to LX.04	0.35[2]…0.70	0.35[2]…0.70	0.40[2]…0.70	LX…..-LHR-X*/Y*/Z*
LX.05 to LX.07	0.35[2]…0.70	0.50[2]…0.85	0.52[2]…0.85	
LX.08 to LX.10	0.35[2]…0.70	0.80[2]…1.15	0.84[2]…1.15	

1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LHR-X0.40/Y0.56/Z0.60)

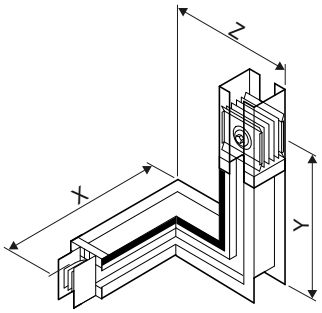
Knee offset, front left



System	Length X [m]	Length Y [m]	Length Z [m]	Type[1)]
LX.01 to LX.04	0.35	0.35	0.40	LX… ..-LVL
LX.05 to LX.07	0.35	0.50	0.52	
LX.08 to LX.10	0.35	0.80	0.84	
LX.01 to LX.04	0.35[2)]…0.70	0.35[2)]…0.70	0.40[2)]…0.70	LX…..-LVL-X*/Y*/Z*
LX.05 to LX.07	0.35[2)]…0.70	0.50[2)]…0.85	0.52[2)]…0.85	
LX.08 to LX.10	0.35[2)]…0.70	0.80[2)]…1.15	0.84[2)]…1.15	

1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LVL-X0.40/Y0.56/Z0.60)

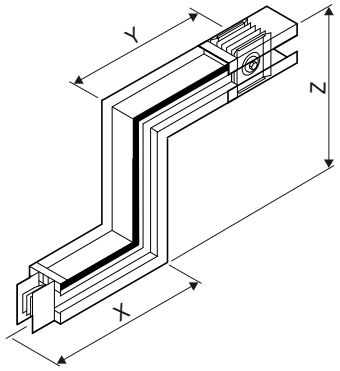
Knee offset, front right



System	Length X [m]	Length Y [m]	Length Z [m]	Type[1)]
LX.01 to LX.04	0.35	0.35	0.40	LX… ..-LVR
LX.05 to LX.07	0.35	0.50	0.52	
LX.08 to LX.10	0.35	0.80	0.84	
LX.01 to LX.04	0.35[2)]…0.70	0.35[2)] …0.70	0.40[2)] …0.70	LX…..-LVR-X*/Y*/Z*
LX.05 to LX.07	0.35[2)] …0.70	0.50[2)] …0.85	0.52[2)] …0.85	
LX.08 to LX.10	0.35[2)] …0.70	0.80[2)] …1.15	0.84[2)] …1.15	

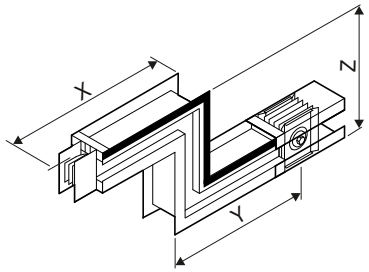
1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-LVR-X0.40/Y0.56/Z0.60)

Z units edgewise front

	System	Length X [m]	Length Y [m]	Length Z [m]	Type[1]
	LX.01 to LX.04	0.35	0.35	0.40[2]…0.70	LX…..-ZV-Z*
	LX.05 to LX.07	0.50	0.50	0.70[2]…1.00	
	LX.08 to LX.10	0.80	0.80	1.33[2]…1.60	
	LX.01 to LX.04	0.35[2]…0.70	0.35[2]…0.70	0.40[2]…0.70	LX…..-ZV-X*/Y*/Z*
	LX.05 to LX.07	0.50[2]…0.85	0.50[2]…0.85	0.70[2]…1.00	
	LX.08 to LX.10	0.80[2]…1.15	0.80[2]…1.15	1.33[2]…1.60	

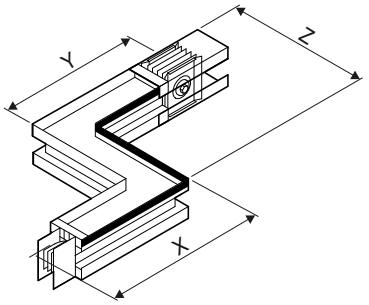
1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-ZV-X0.40/Y0.56/Z0.60)

Z units edgewise rear

	System	Length X [m]	Length Y [m]	Length Z [m]	Type[1]
	LX.01 to LX.04	0.35	0.35	0.40[2]…0.70	LX…..-ZH-Z*
	LX.05 to LX.07	0.50	0.50	0.70[2]…1.00	
	LX.08 to LX.10	0.80	0.80	1.33[2]…1.60	
	LX.01 to LX.04	0.35[2]…0.70	0.35[2]…0.70	0.40[2]…0.70	LX…..-ZH-X*/Y*/Z*
	LX.05 to LX.07	0.50[2]…0.85	0.50[2]…0.85	0.70[2]…1.00	
	LX.08 to LX.10	0.80[2]…1.15	0.80[2]…1.15	1.33[2]…1.60	

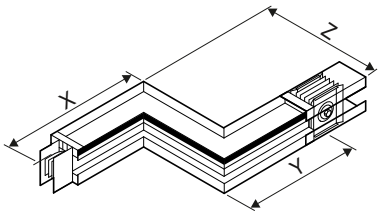
1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-ZH-X0.40/Y0.56/Z0.60)

Z units flat left

	System	Length X [m]	Length Y [m]	Length Z [m]	Type[1)]
	LX.01 to LX.10	0.35	0.35	0.40[2)]…0.70	LX.....-ZL-Z*
	LX.01 to LX.10	0.35[2)]…0.70	0.35[2)]…0.70	0.40[2)]…0.70	LX.....-ZL-X*/Y*/Z*

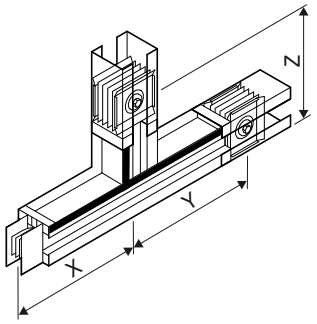
1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-ZL-X0.40/Y0.56/Z0.60)

Z units flat right

	System	Length X [m]	Length Y [m]	Length Z [m]	Type[1)]
	LX.01 to LX.10	0.35	0.35	0.40[2)]…0.70	LX.....-ZR-Z*
	LX.01 to LX.10	0.35[2)]…0.70	0.35[2)]…0.70	0.40[2)]…0.70	LX.....-ZR-X*/Y*/Z*

1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-ZR-X0.40/Y0.56/Z0.60)

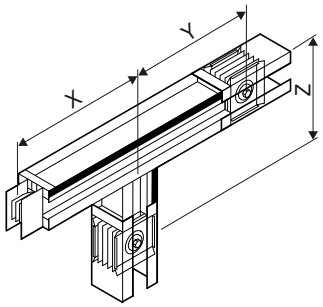
T units edgewise, T tap-off unit top



System	Length X [m]	Length Y [m]	Length Z [m]	Type[1]
LX.01 to LX.04	0.35	0.35	0.35	LX…..-TV-Z*
LX.05 to LX.07	0.50	0.50	0.50	
LX.08 to LX.10	0.80	0.80	0.80	
LX.01 to LX.04	0.35[2]…0.70	0.35[2]…0.70	0.35[2]…0.70	LX…..-TV-X*/Y*/Z*
LX.05 to LX.07	0.50[2]…0.85	0.50[2]…0.85	0.50[2]…0.85	
LX.08 to LX.10	0.80[2]…1.15	0.80[2]…1.15	0.80[2]…1.15	

1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-TV-X0.40/Y0.56/Z0.60)

T units edgewise, T tap-off unit bottom



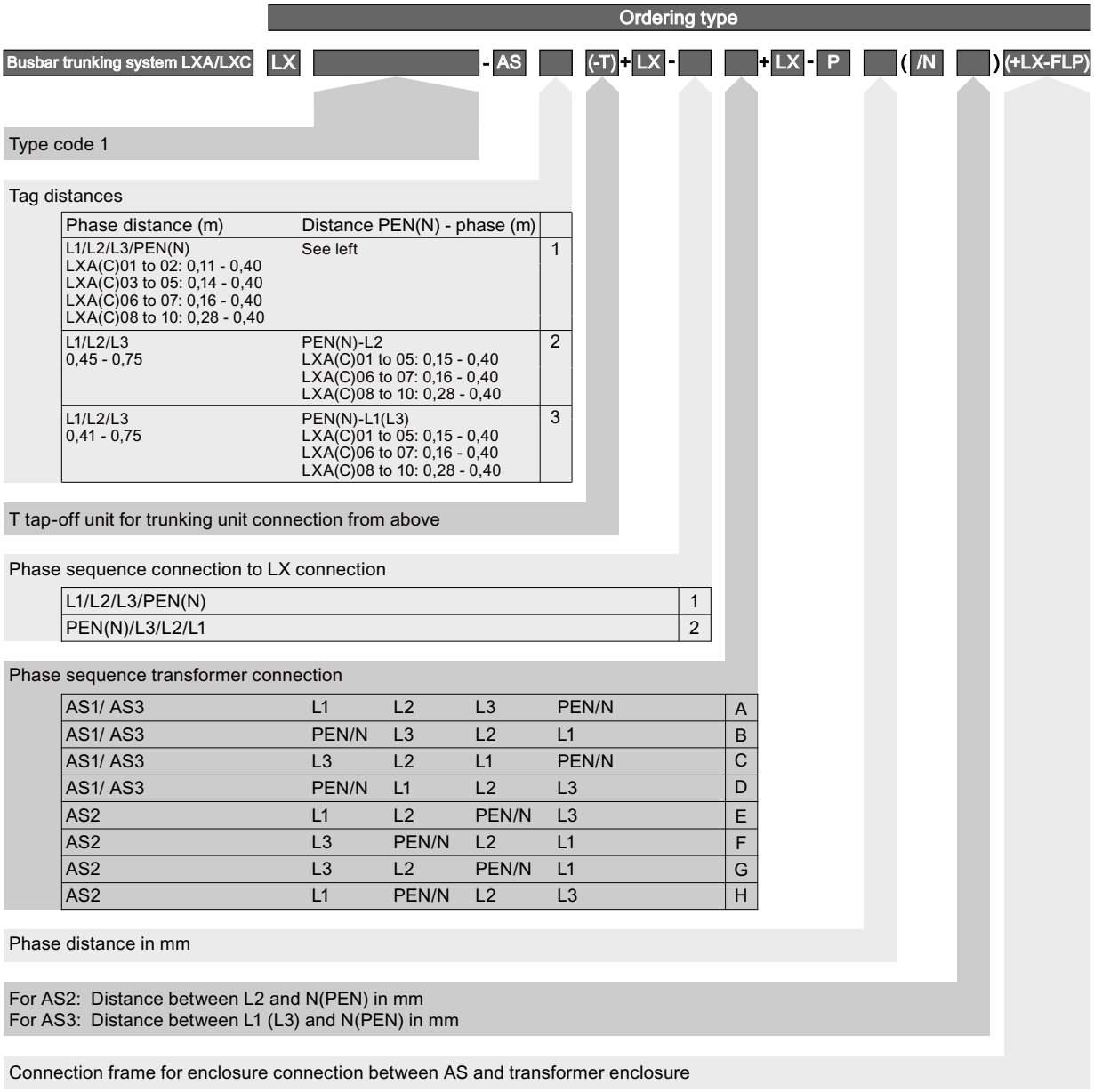
System	Length X [m]	Length Y [m]	Length Z [m]	Type[1]
LX.01 to LX.04	0.35	0.35	0.35	LX…..-TH-Z*
LX.05 to LX.07	0.50	0.50	0.50	
LX.08 to LX.10	0.80	0.80	0.80	
LX.01 to LX.04	0.35[2]…0.70	0.35[2]…0.70	0.35[2]…0.70	LX…..-TH-X*/Y*/Z*
LX.05 to LX.07	0.50[2]…0.85	0.50[2]…0.85	0.50[2]…0.85	
LX.08 to LX.10	0.80[2]…1.15	0.80[2]…1.15	0.80[2]…1.15	

1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-TH-X0.40/Y0.56/Z0.60)

4.3.3 Feeder units

4.3.3.1 Universal busbar connection units

Type code 3 for universal connection units



Phase distance (m)	Distance PEN(N) - phase (m)	
L1/L2/L3/PEN(N) LXA(C)01 to 02: 0,11 - 0,40 LXA(C)03 to 05: 0,14 - 0,40 LXA(C)06 to 07: 0,16 - 0,40 LXA(C)08 to 10: 0,28 - 0,40	See left	1
L1/L2/L3 0,45 - 0,75	PEN(N)-L2 LXA(C)01 to 05: 0,15 - 0,40 LXA(C)06 to 07: 0,16 - 0,40 LXA(C)08 to 10: 0,28 - 0,40	2
L1/L2/L3 0,41 - 0,75	PEN(N)-L1(L3) LXA(C)01 to 05: 0,15 - 0,40 LXA(C)06 to 07: 0,16 - 0,40 LXA(C)08 to 10: 0,28 - 0,40	3

L1/L2/L3/PEN(N)	1
PEN(N)/L3/L2/L1	2

AS1/ AS3	L1	L2	L3	PEN/N	A
AS1/ AS3	PEN/N	L3	L2	L1	B
AS1/ AS3	L3	L2	L1	PEN/N	C
AS1/ AS3	PEN/N	L1	L2	L3	D
AS2	L1	L2	PEN/N	L3	E
AS2	L3	PEN/N	L2	L1	F
AS2	L3	L2	PEN/N	L1	G
AS2	L1	PEN/N	L2	L3	H

Universal busbar connection units

Connection units AS1 and AS3

Note

Ordering

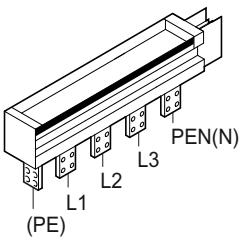
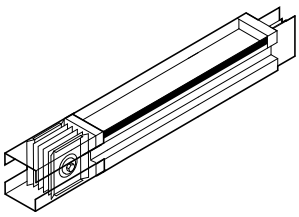
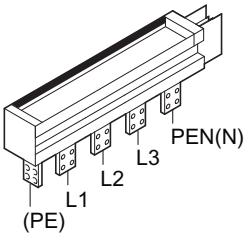
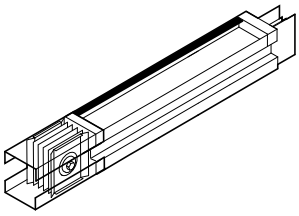
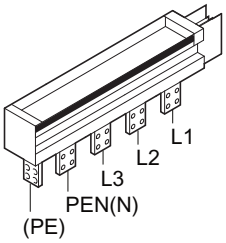
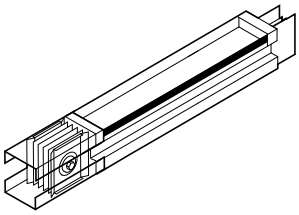
When ordering the connection units, always specify the type suffixes for phase sequence and phase distance.

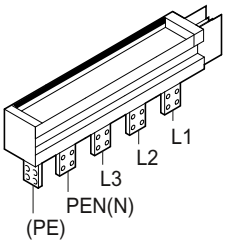
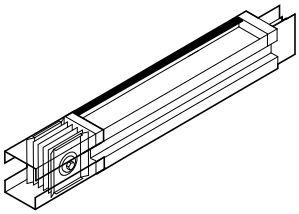
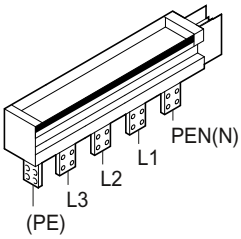
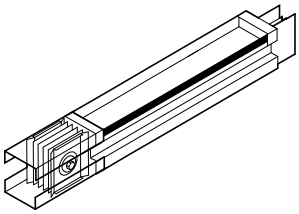
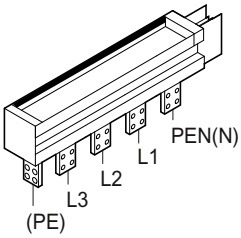
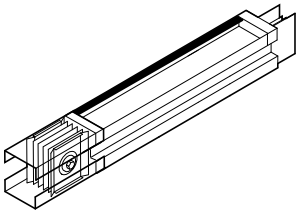
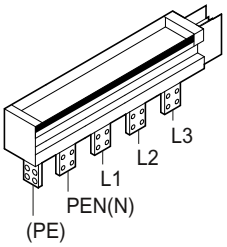
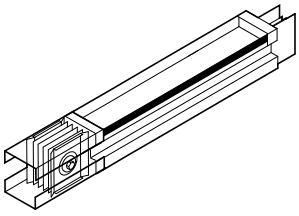
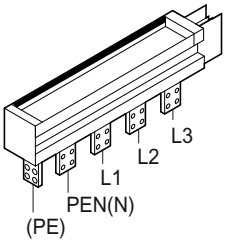
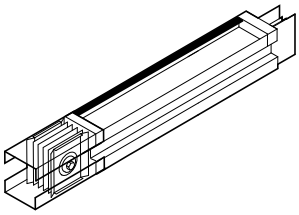
Note

Flange plate

Equipped with an aluminium flange plate (type suffix +LX-FLP), the connection unit can be flanged to a distribution board/transformer enclosure.

Values in brackets and dotted lines apply to the 5-core system.

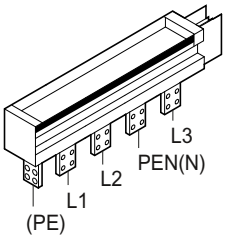
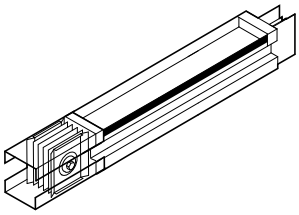
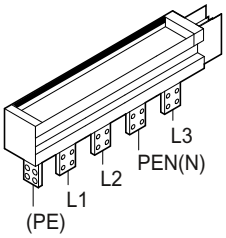
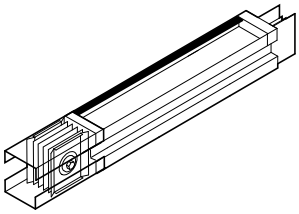
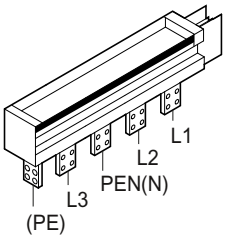
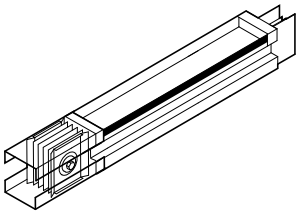
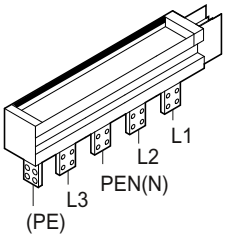
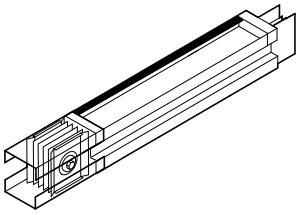
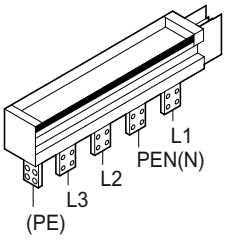
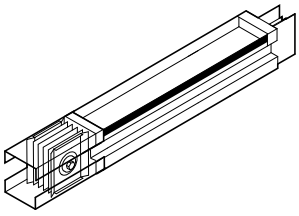
Phase sequence transformer and LX connection	Installation position of trunking units	Type[1)]	Type suffix Phase sequence/ LX connection	Type suffix Phase distance
		LX.....-AS.	+LX-1A	+LX-P*(/N*)
		LX.....-AS.	+LX-2A	+LX-P*(/N*)
		LX.....-AS.	+LX-1B	+LX-P*(/N*)

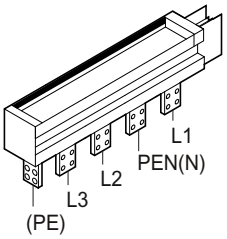
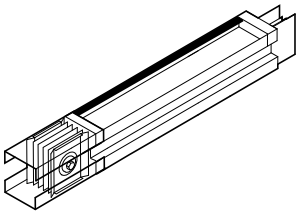
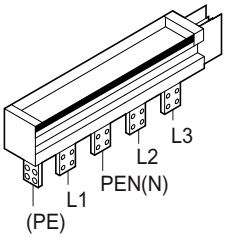
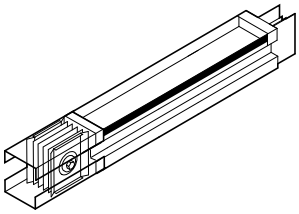
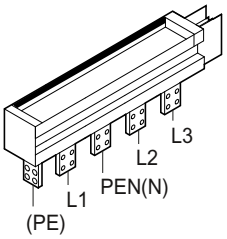
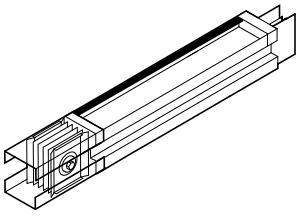
Phase sequence transformer and LX connection	Installation position of trunking units	Type[1)]	Type suffix Phase sequence/ LX connection	Type suffix Phase distance
		LX.....-AS.	+LX-2B	+LX-P*(/N*)
		LX.....-AS.	+LX-1C	+LX-P*(/N*)
		LX.....-AS.	+LX-2C	+LX-P*(/N*)
		LX.....-AS.	+LX-1D	+LX-P*(/N*)
		LX.....-AS.	+LX-2D	+LX-P*(/N*)

1) See type code 3

* Complete type with relevant dimensions (e.g. +LX-P0.20)

Connection units AS2

Phase sequence transformer and LX connection	Installation position of trunking units	Type[1)]	Type suffix Phase sequence/ LX connection	Type suffix Phase distance
		LX.....-AS2	+LX-1E	+LX-P*(/N*)
		LX.....-AS2	+LX-2E	+LX-P*(/N*)
		LX.....-AS2	+LX-1F	+LX-P*(/N*)
		LX.....-AS2	+LX-2F	+LX-P*(/N*)
		LX.....-AS2	+LX-1G	+LX-P*(/N*)

Phase sequence transformer and LX connection	Installation position of trunking units	Type[1)]	Type suffix Phase sequence/ LX connection	Type suffix Phase distance
		LX.....-AS2	+LX-2G	+LX-P*(/N*)
		LX.....-AS2	+LX-1H	+LX-P*(/N*)
		LX.....-AS2	+LX-2H	+LX-P*(/N*)

1) See type code 3

* Complete type with relevant dimensions (e.g. +LX-P0.20)

Universal busbar connection units with T tap-off unit

Connection units AS1 and AS3 with T tap-off unit

Note

Ordering

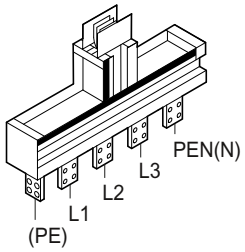
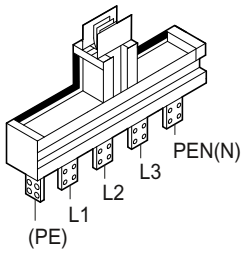
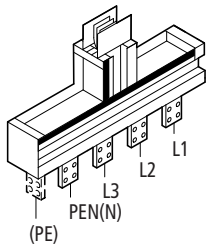
When ordering the connection units, always specify the type suffixes for phase sequence and phase distance.

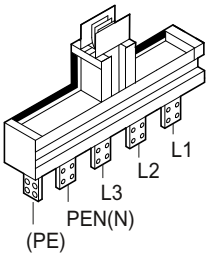
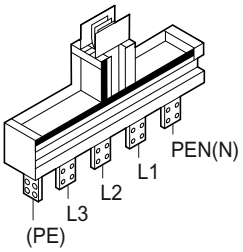
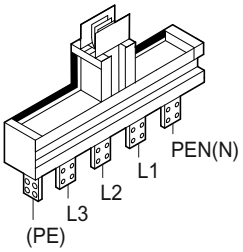
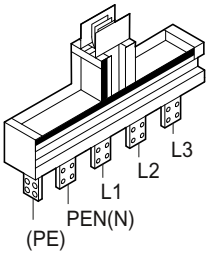
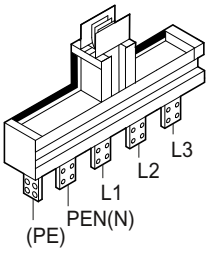
Note

Flange plate

Equipped with an aluminium flange plate (type suffix +LX-FLP), the connection unit can be flanged to a distribution board/transformer enclosure.

Values in brackets and dotted lines apply to the 5-core system.

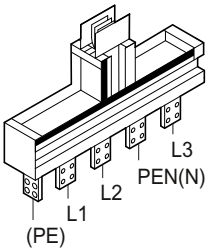
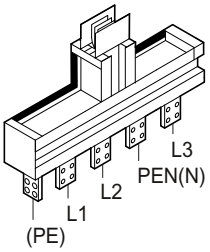
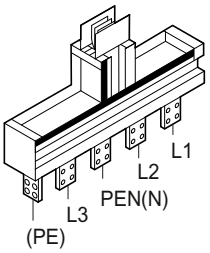
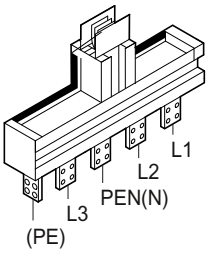
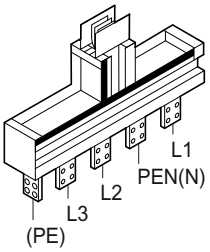
Phase sequence transformer and LX connection	Type[1)]	Type suffix Phase sequence/ LX connection	Type suffix Phase distance
	LX.....-AS.-T	+LX-1A	+LX-P*(/N*)
	LX.....-AS.-T	+LX-2A	+LX-P*(/N*)
	LX.....-AS.-T	+LX-1B	+LX-P*(/N*)

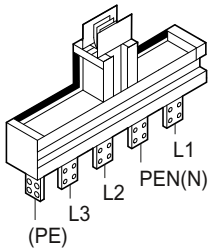
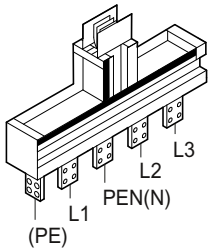
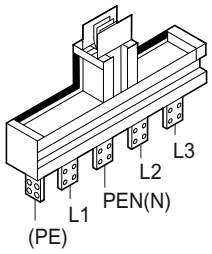
Phase sequence transformer and LX connection	Type[1)]	Type suffix Phase sequence/ LX connection	Type suffix Phase distance
	LX.....-AS.-T	+LX-2B	+LX-P*(/N*)
	LX.....-AS.-T	+LX-1C	+LX-P*(/N*)
	LX.....-AS.-T	+LX-2C	+LX-P*(/N*)
	LX.....-AS.-T	+LX-1D	+LX-P*(/N*)
	LX.....-AS.-T	+LX-2D	+LX-P*(/N*)

1) See type code 3

* Complete type with relevant dimensions (e.g. +LX-P0.20)

Connection units AS2 with T tap-off unit

Phase sequence transformer and LX connection	Type[1)]	Type suffix Phase sequence/ LX connection	Type suffix Phase distance
	LX.....-AS2-T	+LX-1E	+LX-P*(/N*)
	LX.....-AS2-T	+LX-2E	+LX-P*(/N*)
	LX.....-AS2-T	+LX-1F	+LX-P*(/N*)
	LX.....-AS2-T	+LX-2F	+LX-P*(/N*)
	LX.....-AS2-T	+LX-1G	+LX-P*(/N*)

Phase sequence transformer and LX connection	Type[1)]	Type suffix Phase sequence/ LX connection	Type suffix Phase distance
	LX.....-AS2-T	+LX-2G	+LX-P*(/N*)
	LX.....-AS2-T	+LX-1H	+LX-P*(/N*)
	LX.....-AS2-T	+LX-2H	+LX-P*(/N*)

1) See type code 3

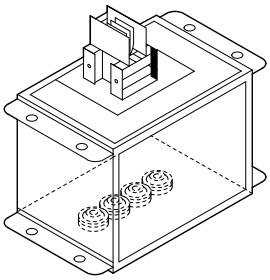
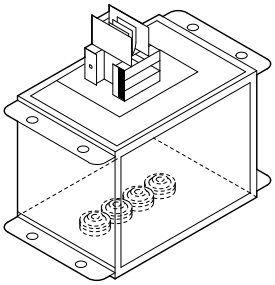
* Complete type with relevant dimensions (e.g. +LX-P0.20)

4.3.3.2 Incoming cable connection units

Cable entry options

System	Max. mm²
LX.01 to LX.02	4 x 300
LX.03 to LX.05	6 x 300
LX.06 to LX.07	8 x 300

Cable feeder units

Phase sequence of the busbar package for LX connection	Type[1)]	Type suffix Base plate Aluminium
	LX.....-KE1	+LX-BPAL
	LX.....-KE2	+LX-BPAL

1) See type code 1

Note

Single-core cable entries

In the case of single-core cable entries, always specify the type suffix "Base plate aluminium" LX-BPAL.

Note

Incoming cable connection units on request

Incoming cable connection units are only available on request for the following systems:

- Double systems LX.08.. to LX.10..
- Systems with conductor configurations of the key digits 30, 52, 53, 54, 61 and 62.

4.3.3.3 Non-Siemens distribution board connection units

Note

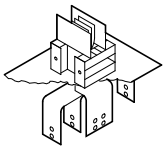
Use in distribution systems

When using busbar connection units for non-Siemens distribution boards, you must ensure that the permissible limit temperature of 135 °C for the busbars is not exceeded at an ambient temperature of 35 °C averaged over 24 hours.

The rated currents specified in the table apply for the limit temperature of 135 °C.

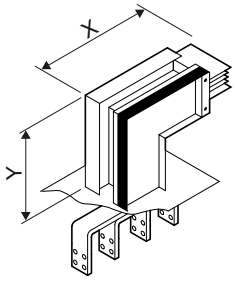
The short-circuit resistance of the busbar connection units for non-Siemens distribution boards depends on the copper-plating of the remaining distribution system.

Straight busbar connection units for non-Siemens distribution boards

	Type[1)]
	LX.....-FA

1) See type code 1

Non-Siemens distribution board connection units, connection elbow left

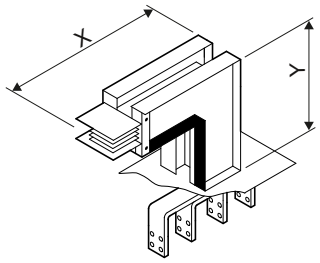
	System	Length X [m]	Length Y [m]	Type[1)]
	LX.01 to LX.10	0.35[2)]...0.70	0.22...0.55	LX.....-FLL-X*/Y*

1) See type code 1

2) Shorter lengths on request

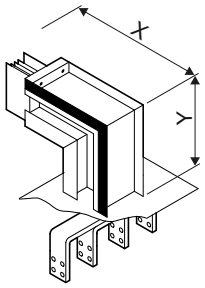
* Complete type with relevant dimensions (e.g. LX....-FLL-X0.70/Y0.53)

Non-Siemens distribution board connection units, connection elbow right

	System	Length X [m]	Length Y [m]	Type[1)]
	LX.01 to LX.10	0.35[2)]...0.70	0.22...0.55	LX.....-FLR-X*/Y*

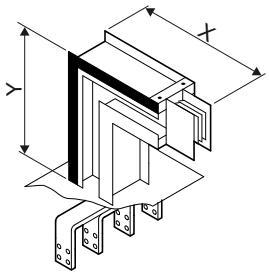
1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-FLR-X0.70/Y0.53)

Non-Siemens distribution board connection units, connection knee rear

	System	Length X [m]	Length Y [m]	Type[1)]
	LX.01 to LX.04	0.35[2)]...0.70	0.35[2)]...0.70	LX.....-FLH-X*/Y*
	LX.05 to LX.07	0.50[2)]...0.85	0.50[2)]...0.85	
	LX.08 to LX.10	0.80[2)]...1.15	0.80[2)]...1.15	

1) See type code 1
2) Shorter lengths on request
* Complete type with relevant dimensions (e.g. LX....-FLH-X0.70/Y0.53)

Non-Siemens distribution board connection units, connection knee front

	System	Length X [m]	Length Y [m]	Type[1)]
	LX.01 to LX.04	0.35[2)]...0.70	0.35[2)]...0.70	LX.....-FLV-X*/Y*
	LX.05 to LX.07	0.50[2)]...0.85	0.50[2)]...0.85	
	LX.08 to LX.10	0.80[2)]...1.15	0.80[2)]...1.15	

1) See type code 1

2) Shorter lengths on request

* Complete type with relevant dimensions (e.g. LX....-FLV-X0.70/Y0.53)

4.3.4 Tap-off units

4.3.4.1 Tap-off units with circuit breaker

Tap-off units with circuit breaker 3VL to 630 A

Equipment features

- Circuit breakers (3-pole and 4-pole version) in H design
- Can be installed and uninstalled under load[1)]
- Degree of protection IP54 as standard, increased to IP55 with installation kit
- Tap-off units LX-AK5/LS-...
  - Can only be installed on systems LX...3., LX...4. and LX...5.
- Tap-off units LX-AK6/LS-...
  - Connection device for insulated PE conductor
  - Can only be installed on systems LX...6.
- Cable connection for multi-core or single-core cable[2) 3)]
  - for the systems LX...52, LX...54 and LX...62 maximum connection cross-section to 100% neutral conductor
- Cable entry
  - Front: Tap-off units up to 250 A
  - Side and front: Tap-off units from 315 A to 630 A
- With handle
- 4-pole circuit breakers (EC release) are equipped with 100% release (≤ 100 A) and 60% release (> 100 A) in the neutral conductor.
- With adjustable electronic overload releases and permanently set short-circuit releases in the AE version[4)] (3-pole)
- With adjustable thermal overload releases and adjustable short-circuit releases in the EC version[4)] (4-pole)
- With adjustable thermal overload releases and adjustable short-circuit releases in the DC version[4)] (3-pole). Auxiliary switches, current transformers and terminals additionally installed at the factory on request
- Pre-defined installation position for three current transformers and up to 20 control current terminals 2.5 mm^2. Auxiliary switches, current transformers and terminals additionally installed at the factory on request

1) Please observe national regulations. Connection under load may not be permissible.

2) Aluminium plate undrilled, cable glands provided by the customer, see Technical data (Page 125)

3) Single-core cable connection possible only for tap-off units from 315 A. For tap-off units up to 250 A on request.

4) Identifier for the overload release in the type of the tap-off unit can differ from the installed circuit breaker due to new MLFBs for designating the overload release

Type codes and selection

Ordering type								
Circuit breaker with manual operating mechanism	LX-AK		/	LSH	-		-	HS

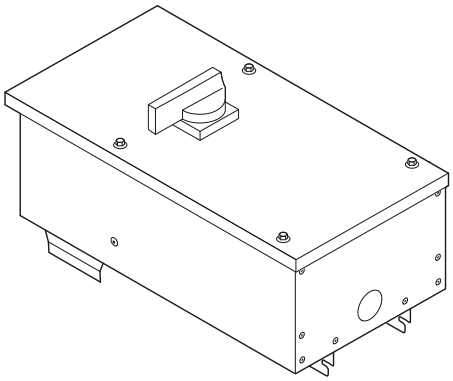
Conductor configuration LX system

LX... 30(41)(51)(52)(53)(54)	5
LX... 61(62)	6

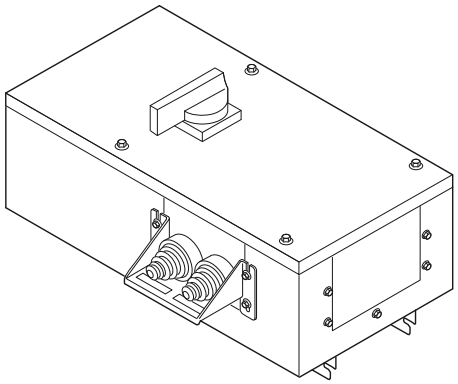
Circuit breaker
Release for plant and cable protection as

Electronic release, selective, 3-pole	AE
Thermomagnetic release, 4-pole (≤ 100 A)	EM
Thermomagnetic release, 4-pole (> 100 A)	EC
Thermomagnetic release, 3-pole	DC

rated current I_e [A] at U_e = 400 V AC	Breaker	Auxiliary switch	
50 (not for AE design)	3VL 2705	0 AD 1	50
63	3VL 2706	0 AD 1	63
80 (not for AE design)	3VL 2708	0 AD 1	80
100	3VL 2710	0 AD 1	100
125 (not for AE design)	3VL 2712	0 AD 1	125
160	3VL 2716	0 AD 1	160
200	3VL 3720	0 AD 1	200
250	3VL 3725	0 AD 1	250
315	3VL 4731	0 AD 1	315
400	3VL 4740	0 AD 1	400
up to 630	3VL 5763	0 AE 1	630



Up to 250 A with manual operating mechanism



315 to 630 A with manual operating mechanism

Note

Degree of protection IP55

You must order additional IP55 seals to use tap-off units with IP55 requirements (see Additional equipment (Page 65))

Tap-off units with circuit breaker 3VL 800 A to 1250 A

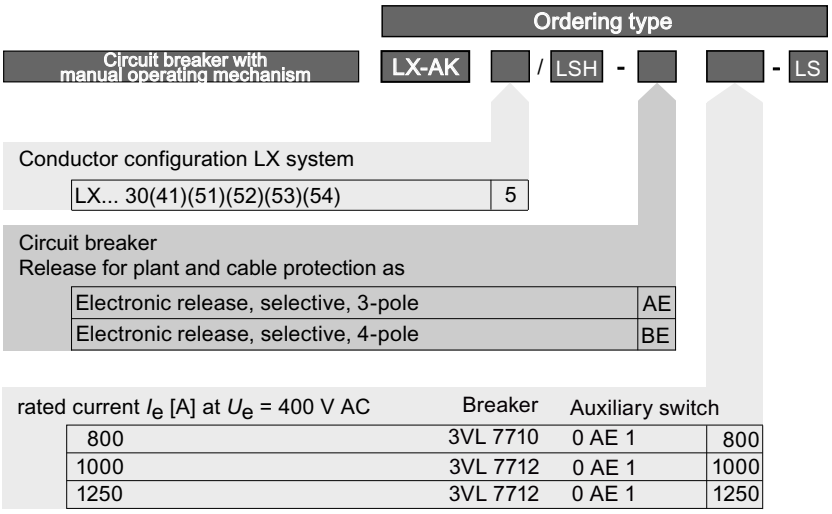
Equipment features

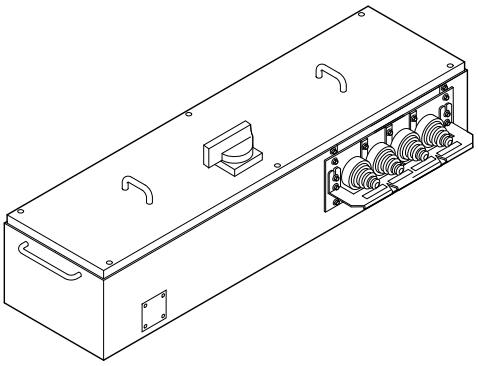
- Circuit breakers (3-pole and 4-pole version) in L design (100 kA)
- Permanently installed, cannot be connected under load
- Tap-off via joint block
- Degree of protection IP54 as standard, increased to IP55 with installation kit
- Tap-off units can only be installed on systems LXA05 ... to LXA10 ... and LXC05 to LXC09
- Tap-off units LX-AK5/LS-...
  - Can only be installed on systems LX ... 3., LX ... 4. and LX ... 5.
- Tap-off units LX-AK6/LS-...
  - Only on request
- Cable connection for multi-core or single-core cable[1)]
  - Side
  - For the systems LX...52 and LX...54, maximum connection cross-section to 100% neutral conductor
- With black handle for manual operating mechanism
- With two auxiliary switches (1 NO contact + 1 NC contact) and one alarm switch (1 NO contact)
- Control connections wired to terminal
- 4-pole circuit breakers have no overload release and short-circuit release in the neutral conductor.
- With adjustable overload releases and permanently set short-circuit releases in the AE version[2)] (3-pole)
- With adjustable overload releases and permanently set short-circuit releases in the BE version[2)] (4-pole)

1) Aluminium plate undrilled, cable glands provided by the customer, see Technical data (Page 125)

2) Identifier for the overload release in the type of the tap-off unit can differ from the installed circuit breaker due to new MLFBs for designating the overload release

Type codes and selection



	Type	Type suffix for joint block	Type suffix for tap-off units with motorized operating mechanism		
	LX-AK./ LSH-.....-LS	LX.....-KB-AK			
			Undervoltage releases	220 V to 250 V AC	+2H
			Shunt releases	208 V to 277 V AC	+8T

Note

Degree of protection IP55

You must order additional IP55 seals to use tap-off units with IP55 requirements (see Additional equipment (Page 65))

4.3.4.2 Tap-off units with fuse switch disconnector up to 630 A

Equipment features

- Can be connected under load[1)]
- Tap-off via tap-off point
- Degree of protection IP54, increased to IP55 with installation kit
- Tap-off units LX-AK5/FSH...
  - Can only be connected on systems LX...3., LX...4. and LX...5.
- Tap-off units LX-AK6/FSH...
  - Connection device for insulated PE conductor
  - Can only be connected on systems LX...6.
- Cable connection
  - Single conductor cable connection[2)] only for tap-off units from 400 A[3)]
  - Multi-core cable connection for the systems LX...52, LX...54 and LX...62 maximum connection cross-section only to 100% neutral conductor
- Cable entry
  - Front: Tap-off units up to 250 A
  - Side and front: Tap-off units from 315 A to 630 A

1) Please observe national regulations. Connection under load may not be permissible.

2) Aluminium plate undrilled, cable glands provided by the customer, see Technical data (Page 125)

3) For 125 A to 250 A on request

Type codes and selection

Ordering type

Fuse switch disconnector with manual operation | **LX-AK** [ ] / FSH - [ ] - [ ] **S**

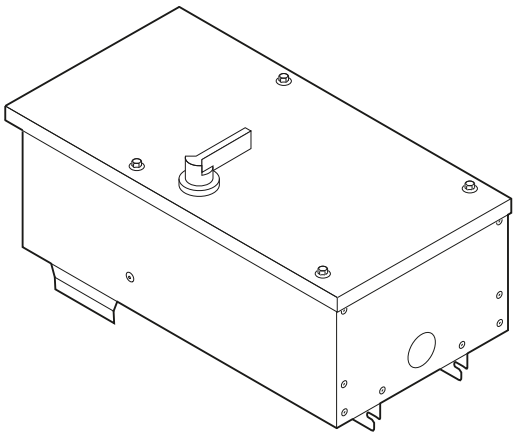
Conductor configuration LX system

LX... 30(41)(51)(52)(53)(54)	5
LX... 61(62)	6

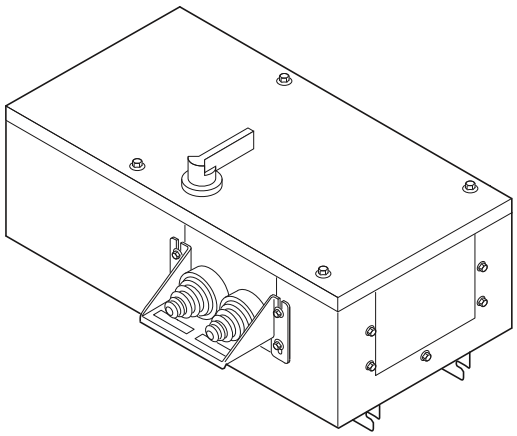
Standard	Rated current I_e [A] at U_e = 400V and IP54	Fuse links	
IEC	125	NH00	125 IEC
IEC	250	NH1	250 IEC
IEC	400	NH2	400 IEC
IEC	630	NH3	630 IEC
BS	125	BS88	125 BS
BS	250	BS88	250 BS
BS	400	BS88	400 BS
BS	630	BS88	630 BS

Breaker type

3-pole breaker	3
4-pole breaker	4



Tap-off unit with fuse switch disconnector up to 250 A



Tap-off unit with fuse switch disconnector 315 to 630 A

Note

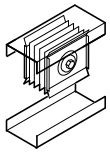
Degree of protection IP55

You must order additional IP55 seals to use tap-off units with IP55 requirements (see Additional equipment (Page 65))

4.3.5 Additional equipment

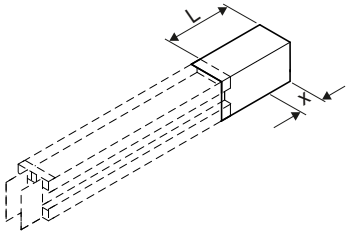
Joint block for trunking units

With flange plates, copper conductors

	For system	Type[1)]
	All	LX....-KB

1) See type code 2

End cap

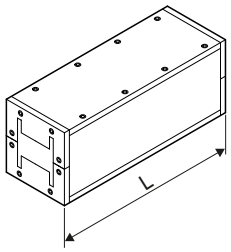
	Length [mm]	Type[1)]
 x = Centre of joint block	L = 140 x = 25	LX....-EF

1) See type code 2

Fire barrier

For installation by the customer, with fire-barrier plates, mineral wool, Mylar foil and fixing screws.

Only available for the single systems LX.01... to LX.07....

	Length [mm]	For system	Type[1)]
	L = 700	LX.01... to LX.07...	LX....-S120-MOS
Fire barrier approval kit for fire resistance class S120 (only required for Germany)			LX-S120-ZUL-D

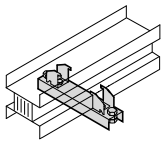
1) See type code 2

Tap-off units (additional seals for tap-off unit cover)

Up to 250 A	LX-AK1-IP55
315 A to 630 A	LX-AK2-IP55
800 A to 1250 A	LX-AK3-IP55

Fixing brackets for horizontal installation

Edgewise busbars

	Design	Type
	Flexible	LX-BH
	with fixed point	LX-BHF

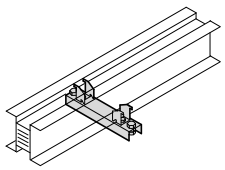
Flat busbars

Type code

Busbar trunking system - flexible	LX	☐	-	BF
Busbar trunking system - with fixed point	LX	☐	-	BFF

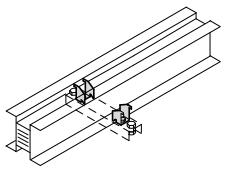
Ordering type

System Al	Cu	
LXA 01	LXC 01	
LXA 02	LXC 02	02
	LXC 03	
LXA 04	LXC 04	04
LXA 05	LXC 05	05
LXA 06	LXC 06	
LXA 07	LXC 07	07
LXA 08	LXC 08	08
LXA 09	LXC 09	
LXA 10	LXC 10	10

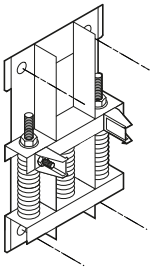
	Design	Type[1)]
	Flexible	LX..-BF
	with fixed point	LX..-BFF

1) See type code above

Fixing hook

	Design	Type
	for flexible support	LX-K
	for fixed-point support	LX-KF

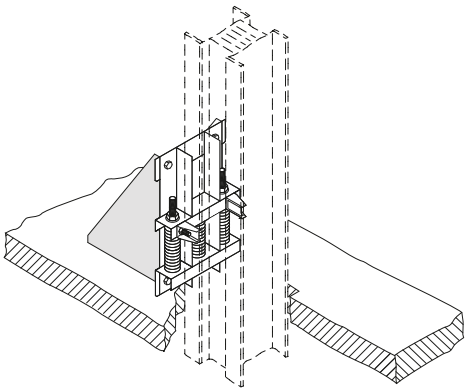
Fixing brackets for vertical installation on walls

	Can be used for	Type[1)]
	Power transmission	LX....-BV1
	Power distribution	LX....-BV1-AK

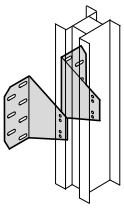
1) See type code 2

Ceiling fixing for spring brackets

Vertical installation on ceilings/floors (only in combination with fixing bracket for vertical installation)

	Type
	+LX-BVD

Fixing brackets with fixed point for vertical installation

	Can be used for	Type
	LX.01 to LX.07	LX-BV1FP1
	LX.08 to LX.10	LX-BV1FP2

Installation and mounting

5

5.1 Connection method

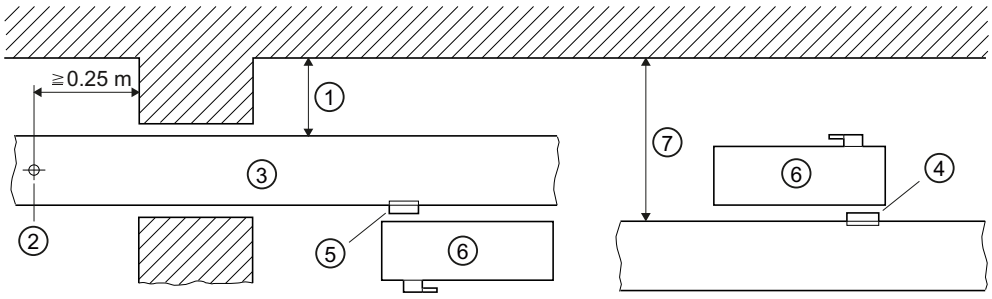
The connection is made using one or two joint blocks. One or more fixing screws are tightened with a conventional spanner or ring spanner. A secure joint is thus achieved in a short time.

In individual steps: The first screw-head shears off when the defined torque is reached. The second screw-head underneath releases the joint connection. When the trunking unit (joint block) is used again, the second head must be tightened with a torque wrench to a defined torque of 120+10 Nm.

The joint block is fixed to the trunking unit. It does not compensate for the length expansion of the trunking unit. Expansion compensation must therefore be configured in accordance with the applicable configuring rules, see "Configuring expansion compensation and fixed point".

5.2 Installing horizontal busbar runs

Distances from structures

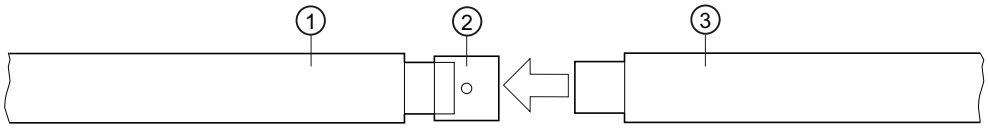


① The minimum dimension 0.10 m applies for all degrees of protection. When configuring expansion compensation and fire barriers, the distance to the ceiling at these points is correspondingly less, see Chapter "LXA/LXC busbar trunking systems" – Dimension drawings.
② Connection point with minimum dimension to wall opening or other structural parts
③ LX run
④ Tap-off unit at top
⑤ Tap-off unit at bottom (by rotating the trunking unit)
⑥ Tap-off unit
⑦ Minimum dimension dependent on the dimensions of the tap-off unit used.

Figure 5-1 Installation of horizontal runs

Standard installation

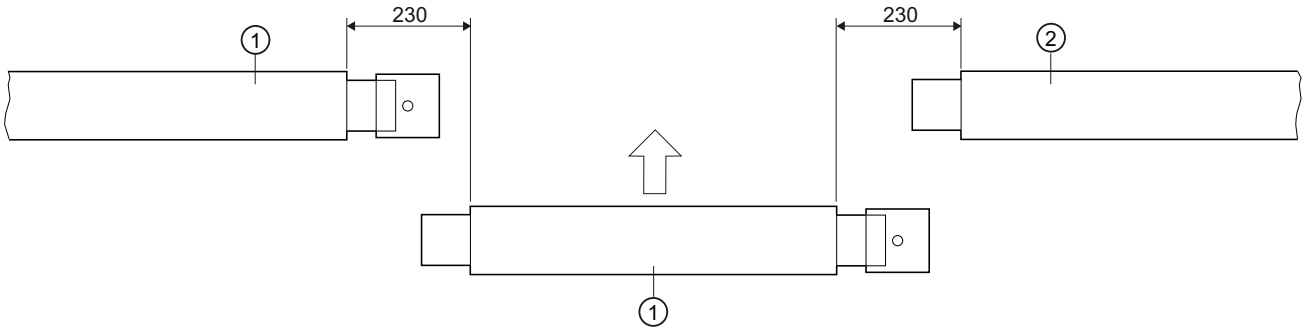
Trunking units are combined by joining the fronts (standard installation).



① Trunking unit with joint block
② Joint block
③ Trunking unit without joint block

Figure 5-2 Joining the trunking units

When inserting custom lengths, the second trunking unit with joint block is inserted from below.



① Trunking unit with joint block
② Trunking unit without joint block

Figure 5-3 Insertion of the second trunking unit

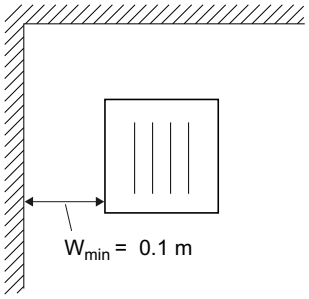
Note

Fixing bracket

Only the horizontal fixing brackets represented in the selection and ordering data must be used for fixing the trunking units. This enables safe room for maneouver of the busbar run during operation. The fixing brackets can be attached to the customer's fixing material.

5.3 Distances from structures

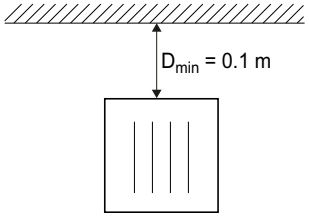
Minimum wall distance of horizontal runs



The minimum wall distance W_{min} depends on:

- The position of the screw for tightening the joint block. The minimum space requirement is 0.10 m.
- The dimensions of the selected tap-off unit in power distribution.

Minimum ceiling distance



The minimum ceiling distance D_{min} depends on:

- The dimensions of the selected tap-off unit in power distribution. It must still be possible to open the cover of the tap-off unit. It must still be possible to install/uninstall the tap-off units.
- Ventilation of the system. The minimum distance for guaranteeing sufficient heat dissipation is 0.10 m.

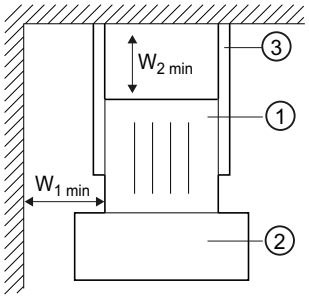
You can find recommendations for distance dimensions in the planning manual "Planning with SIVACON 8PS". Busbar trunking systems up to 6300 A (order number: A5E01541101)

Note

Shorter distance in special cases

If a fire barrier or expansion compensation is used, the wall/ceiling distance is lower at this point since the system is overlapped by the fire barrier, for example.

Minimum ceiling distance of vertical runs



① Vertical LX busbar run
② Tap-off unit
③ Vertical fixing brackets

The minimum lateral wall distance W_{1min} depends on:

- The dimensions of the selected tap-off unit in power distribution.
- The space requirements for installing/uninstalling the trunking units and the vertical fixing brackets.

Note

The fixing screws for the vertical fixing bracket must be sufficiently accessible.

The minimum wall distance W_{2min} depends on the fixing material required by the customer to compensate for uneven or sloping walls. The choice of fixing material depends on the load in each case. The fixing brackets can be secured directly on the wall if the wall is completely smooth and vertical.

You can find recommendations for distance dimensions in the planning manual "Planning with SIVACON 8PS". Busbar trunking systems up to 6300 A (order number: A5E01541101)

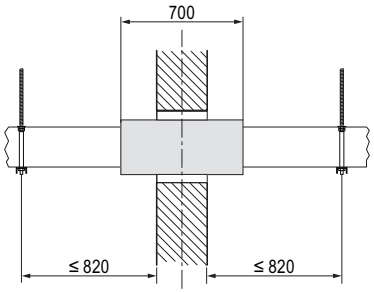
5.4 Fire barrier

Positioning and installing the fire barrier

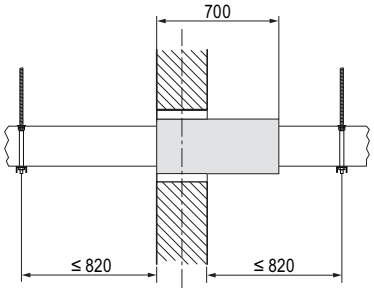
The fire barrier must be positioned in such a way that it is always in or in front of the fire wall/fire ceiling. The maximum fixing distances must be observed here (see Case 1 to 5).

Centre of the fire barrier = centre of fire wall/centre of fire ceiling is not absolutely necessary. Flush finishing with the fire wall/fire ceiling is permissible (see Case 2), or the fire barrier can also be positioned on the fire wall/fire ceiling (see Case 3). Undefined mounting positions are not permitted (Case 6).

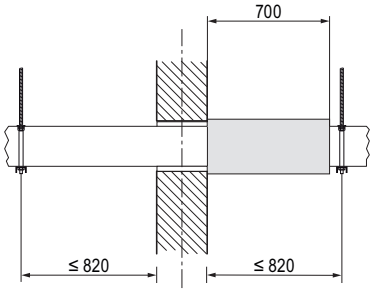
Case 1: Fire barrier in the centre of the fire wall/fire ceiling



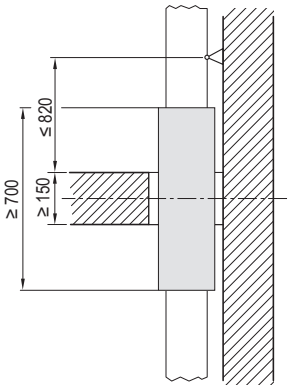
Case 2: Fire barrier finishes flush with the fire wall/fire ceiling



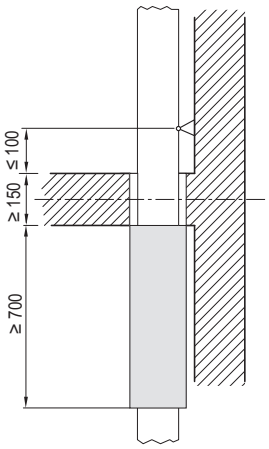
Case 3: Fire barrier in front of the fire wall/fire ceiling



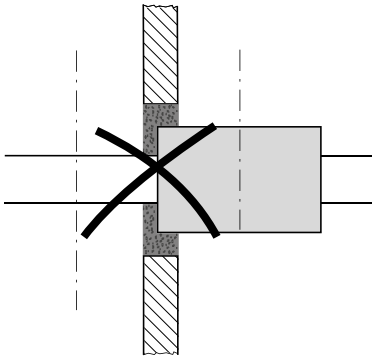
Case 4: Fire barrier in the centre of the fire ceiling



Case 5: Fire barrier in front of the fire ceiling



Case 6: Not permissible! Fire barrier not fully in the fire wall/fire ceiling



Application area

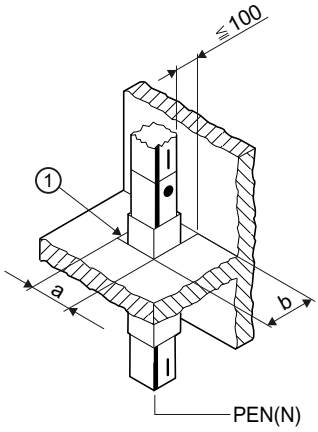
The walls/ceilings into which the busbar element may be installed with fire barrier block must have the following properties:

- Thickness: At least 15 cm
- Material: Masonry or concrete (steel-reinforced or aerated concrete) of at least fire resistance class F120 (fire-resistant), designation (short identification) F120-AB, in accordance with DIN 4102-2. Divergent fire resistance classes, such as an opening through an F90 fire wall, are not covered by the German approval and must be requested at an early stage in Product Support.

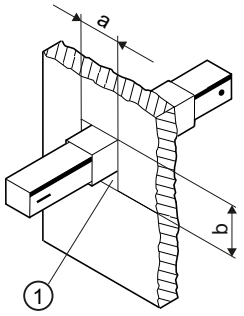
Please note the following when installing the trunking units with fire barrier:

- Correct positioning
- The opening between the busbar trunking element and the component must be filled with mineral mortar or ZZ fire barrier sealant TS 90.
- The gaps between Promatect-H(L) plates and the busbar trunking element as well as the structural part must be closed with ZZ fire barrier sealant TS 90 (included in scope of supply).
- The following applies for use in the German market: Observe the specifications of the "General Building Authority Approval" (included in scope of supply). Also available on request in Product Support as a PDF.

Positioning



Positioning in the fire ceiling



Positioning in the fire wall

① Intermediate space

After installation of the busbar run in the fire ceiling, the intermediate space must be filled with mortar or concrete. The mortar or concrete must comply with the applicable regulations to maintain the fire resistance class of the wall or ceiling, e.g. DIN 1045 and DIN 1053 Part 1 and EN 206-1 and EN 998-2.

Recommended dimensions of the ceiling or wall opening

Position of the fire barrier	In the wall (ceiling)		In front of the wall (ceiling)	
	a mm	b mm	a mm	b mm
LX.1	350	340	250	240
LX.2	350	340	250	240
LX.3	350	370	250	270
LX.4	350	370	250	270
LX.5	350	410	250	310
LX.6	350	490	250	390
LX.7	350	490	250	390
LX.8	350	640	250	540
LX.9	350	800	250	700
LX.10	350	800	250	700

5.5 Fixing a horizontal busbar run

Mounting

The busbar run is secured with special fixing brackets (LX-BH, LX..-BF or LX-K) that enable the busbar run to "slide" when it expands during operation.
You can find the fixing distance in Chapter "LXA/LXC busbar trunking systems" – Technical data. It is necessary here for each trunking unit to be supported at least once with a fixing bracket.

Fixing distances

- Max. distance between two fixing points on the trunking unit
- Minimum distance between fixing point and centre of joint block.

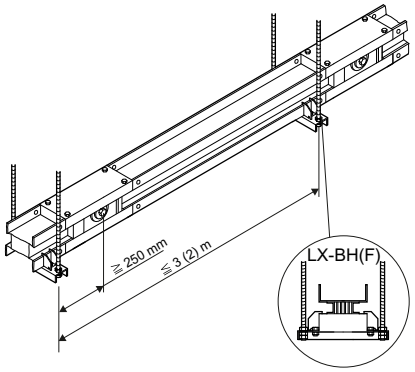


Figure 5-4 Busbar run horizontal edgewise

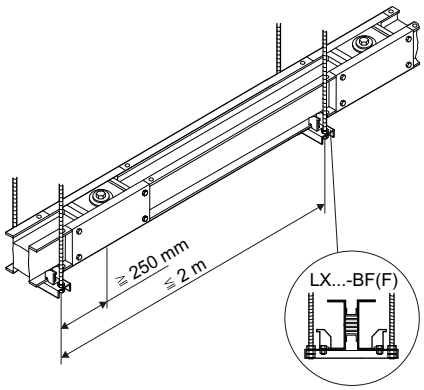


Figure 5-5 Busbar run horizontal flat

The following applies for the horizontal flat installation position:

System size	Max. fixing distance [m]
LX.01 to LX.04	2
LX.05 to LX.10	3

Solution suggestions

You can find practice-oriented solution suggestions for implementing fixed points with supplied accessories in the installation manual "Installation with LX System" (order number: A5E01120816).

5.6 Fixing a vertical busbar run

Fixing bracket and fixed point

The fixing bracket for vertical installation is dimensioned for carrying the weight of the busbar run for a storey height of h = 3.40 m to 3.90 m. For this reason, the complete type code and the use of tap-off units must be considered when determining the type.

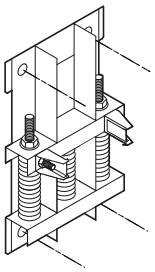
The following applies for the fixing bracket at a storey height of h = 3.40 m to h = 3.90 m:

	Size	Unit quantity	Type
Power transmission	LX.01 to LX.07 (single systems)	1	LX.....-BV1
	LX.08 to LX.10 (double systems)	2	LX.....-BV1
Power distribution [1)]	LX.01 to LX.07 (single systems)	1	LX.....-BV1-AK
	LX.08 to LX.10 (double systems)	2	LX.....-BV1-AK

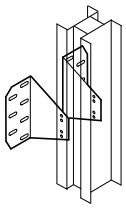
[1)]At least one tap-off unit per floor

Determination of the type of the fixed point is oriented around attachment to single systems or double systems:

Size	Type
LX.01 to LX.07 (single systems)	LX-BV1FP1
LX.08 to LX.10 (double systems)	LX-BV1FP2



Fixing brackets for vertical installation



Fixing brackets with fixed point for vertical installation

Configuration

6

6.1 Basic knowledge for configuring

A configuring type consists of the system size LX..... - and a trunking unit type. The system size is defined by the LX type code. The trunking unit type depends on the busbar run or the tap-off points.

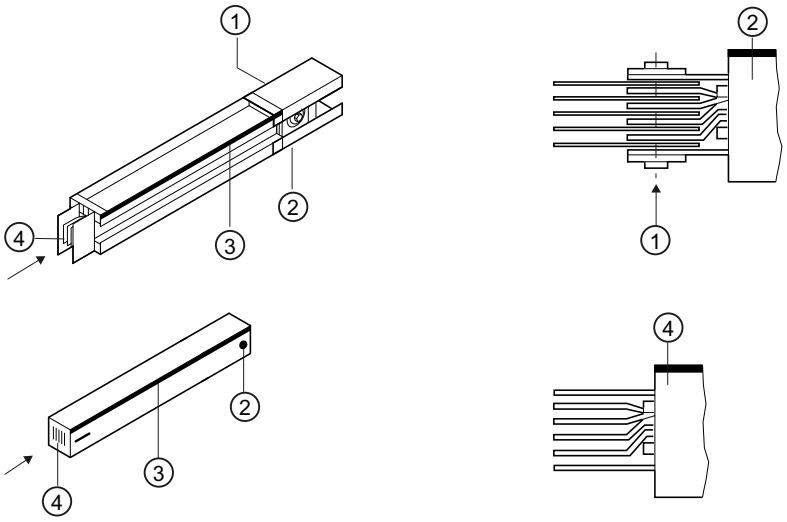
To simplify the configuring, the trunking unit representation is reduced to the essential features using symbols.

6.1.1 Straight trunking units

Type determination

The following features are crucial to determining the type:

- Installation position of the busbars in the unit
- Phase sequence
- Position of the L3, PEN, N or PE conductor
- Position of the joint block
- Further busbar run layout
- Actuation side of the joint block



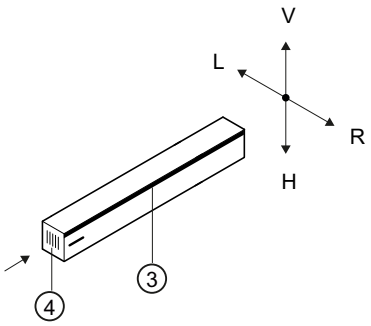
① Fastening nut for joint block Always on the L1 side

② Designate the end of the busbar with joint block with •.

③ The position of the L3, PEN, N or PE conductor is indicated on the unit with a bold full line. If you look at the end without joint block, it is always on the right.

④ Indicate the open busbar end (without joint block) with a short line and position the busbar edgewise. The view is always of the end of the trunking unit without joint block.

Basic junction units



V Change of direction to front
H Change of direction to rear
R Change of direction to right
L Change of direction to left

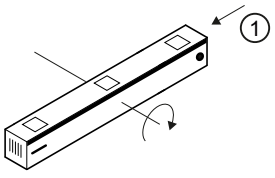
Tap-off points

The type is determined by specifying the trunking unit length (standard or optional length). In the case of standard lengths, the position of the tap-off points is fixed. With optional lengths, the tap-off point can be positioned within defined limits (see Chapter "LXA/LXC busbar trunking units" – Selection and ordering data).

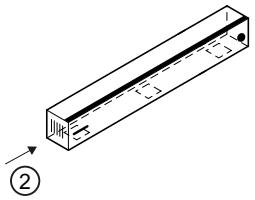
The position of the tap-off points on top can be modified by rotating the trunking unit around the axis represented (see Chapter "LXA/LXC busbar trunking systems" – Selection and ordering data).

The following must be taken into account for the method of viewing:

- Edgewise busbars
- View of the end of the trunking unit without joint block
- Position of the bold full line on the right
- Busbar runs away from viewer.



Tap-off points at top



Tap-off points at bottom

① Joint block
② Joint block can be modified

Examples

Description	Type designation
Straight trunking unit, 3 m length with 5 tap-off points at top and bottom	LXA(C)....-3-ADO-U +LX-A+LX-B+LX-C+LX-D+LX-E
Straight trunking unit, 3 m length with 2 tap-off points at top	LXA(C)....-3-AD +LX-B+LX-D
Straight trunking unit, 2 m length with 1 tap-off point at top	LXA(C)....-2-1AD
Straight trunking unit, 2.8 m length with 1 optional tap-off point at top as well as fire barrier	LXA(C)....-3W2.80-1AD1.0 +LX..-S120-X0.60

Note

Tap-off point

Installation of the tap-off units is not possible in the area of the joint connection (flange cover). The usefulness of the tap-off point therefore depends on the position of the tap-off point and on the dimensions of the selected tap-off unit. All selectable dimensions specified in m.

The changed position of the tap-off points must be noted when rotating.

6.1.2 Junction units

Type determination

To determine the types of the junction units, the perspective is as follows:

- Edgewise busbars
- View of the end of the busbar without joint block
- PEN(N) position on right
- Busbar runs away from viewer
- Four basic junction units

Basic junction units

V	Change of direction to front (top)
H	Change of direction to rear (bottom)
R	Change of direction to right
L	Change of direction to left

Limb designations

The limbs of the junction unit have fixed designations:

X dimension	Limb without mounted junction block
Y dimension	Limb with mounted junction block
Z dimension	Intermediate limb (if available)

Examples

Single junction units

In the case of single junction units, the direction of the Y dimension determines the type.

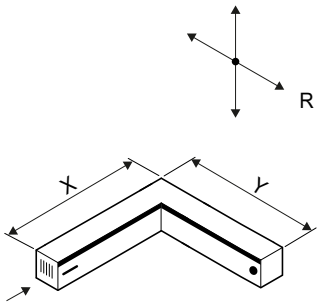
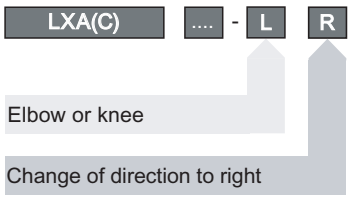


Figure 6-1 Elbow right



Offset junction units

In the case of offset junction units, the following properties determine the type:

- The direction of the Y dimension and
- The point of offset.

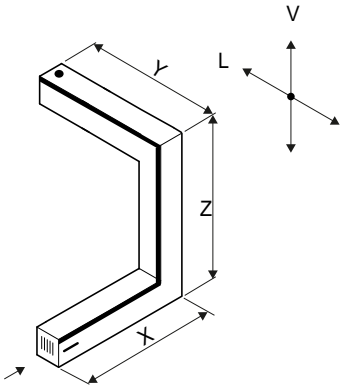
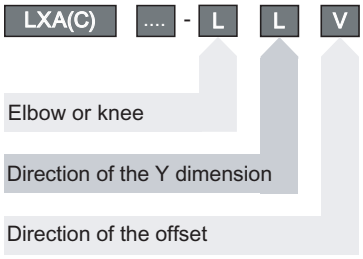


Figure 6-2 Offset junction unit



Z units

In the case of Z units, the direction of the Z dimension determines the type.

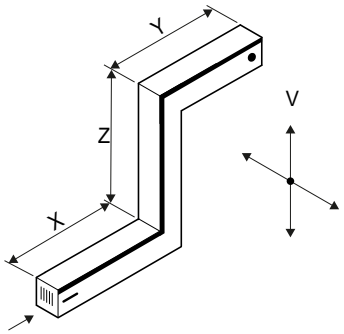
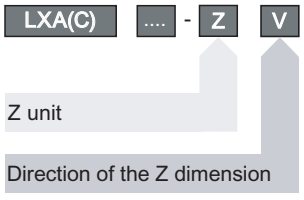


Figure 6-3 Z unit (front)



T units

In the case of T units, the direction of the add-on unit (T tap-off unit) determines the type.

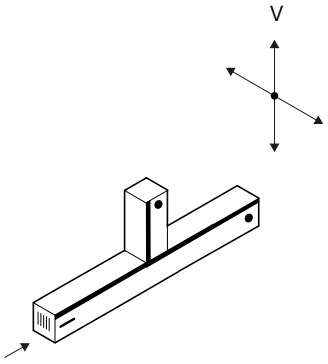
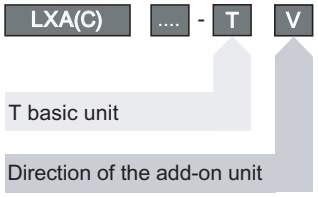


Figure 6-4 T unit (add-on unit top)



6.1.3 Feeder units

6.1.3.1 Universal busbar connection units

Application area

LX universal connection units are used as the infeed units for transformer and distribution board connection (with type suffix +LX-FLP). Connection to the LX system can be carried out via a trunking unit or a junction unit.

No standard types are available for the systems LX...30, LX...52, LX...53, LX...54, LX...61, LX...62. Please contact Product Support if required.

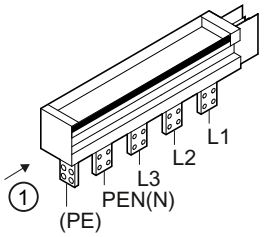
Design

The universal connection unit is delivered with the following components:

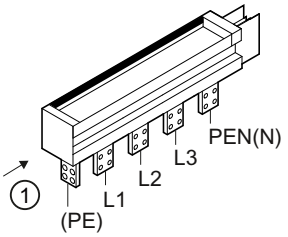
- With connection tags fixed according to customer requirements
- With one connection for each trunking unit and each junction unit (without joint block) listed in the catalogue.

The relevant perspective is decisive for configuring the phase sequence and tag distances:

- Edgewise installation position of the busbars in the unit
- Define the phase sequence of the remaining busbar run layout, that is, position the PEN or N conductor on the right or left side depending on the conductor configuration (see bold marking).



+LX-1.



+LX-2.

① Direction of view

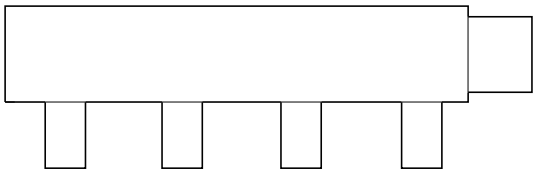
Phase sequence and phase distances

Three different types are available for configuring (distances specified in mm):

Type 1: LX...-AS1

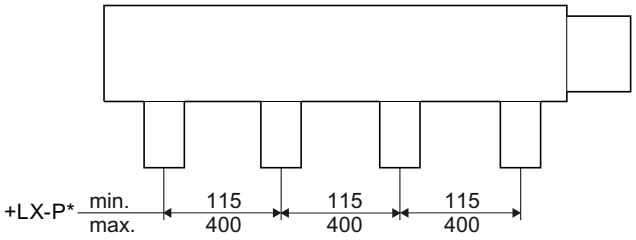
- All tag distances (L1, L2, L3, PEN(N)) are identical: min. 115 mm, max. 400 mm
- The PEN(N) phase is always on the outside

Phase sequence



+LX-.A	L1	L2	L3	PEN(N)
+LX-.B	PEN(N)	L3	L2	L1
+LX-.C	L3	L2	L1	PEN(N)
+LX-.D	PEN(N)	L1	L2	L3

Tag distance (in mm)



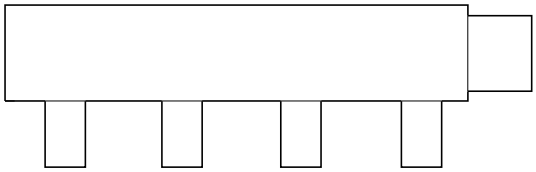
Example for complete order type with tag distance 350 mm:

LXA0541-AS1+LX-1C+LX-P350

Type 2: LX...-AS2

- All tag distances between the external conductors are identical
- Distance dimension of PEN(N) variable
- The PEN(N) tag is arranged between the phases

Phase sequence



+LX-.E	L1	L2	PEN(N)	L3
+LX-.F	L3	PEN(N)	L2	L1
+LX-.G	L3	L2	PEN(N)	L1
+LX-.H	L1	PEN(N)	L2	L3

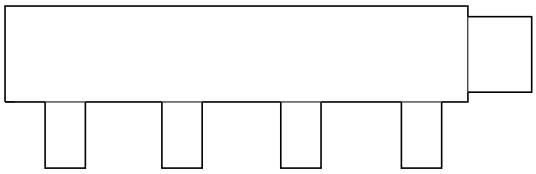
Tag distance +LX-P*/N*

- For P* (external conductor - external conductor) 450 to 750 mm
- For N* (external conductor L2 - PEN(N)) 150 to 405 mm

Type 3: LX...-AS3

- All tag distances of the external conductors are identical
- Distance dimension of PEN(N) variable
- PEN(N) tag external

Phase sequence



+LX-.A	L1	L2	L3	PEN(N)
+LX-.B	PEN(N)	L3	L2	L1
+LX-.C	L3	L2	L1	PEN(N)
+LX-.D	PEN(N)	L1	L2	L3

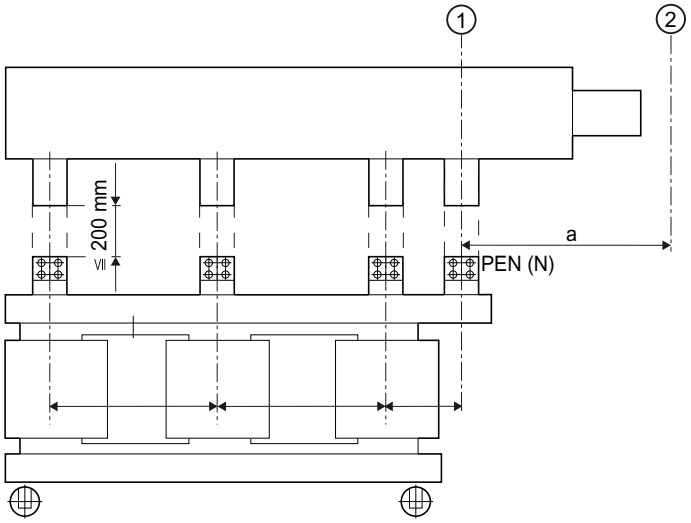
Tag distance +LX-P*/N*

- For P* (external conductor - external conductor) 450 to 750 mm
- For N* (external conductor PEN(N)) 150 to 400 mm

Positioning via transformers

The connection tags must always be positioned in the centre by means of the associated connection tags of the transformer.

Configuring dimension a is decisive for configuring the remaining run. You can find type-related dimension specifications for a under Dimension drawings (Page 159) .



① Centre of 1st connection tag

② Centre of joint block

The transformer connection tags and the LX connection units are linked using flexible bands. The bands must be provided by the customer.

6.1.3.2 Universal busbar connection units with T tap-off unit

Application area

LX universal connection units with T tap-off unit are used as infeed units when direct tap-off upwards is necessary due to lack of space. Connection to the LX system can be carried out via any trunking unit listed in the catalogue and any junction unit.

Design

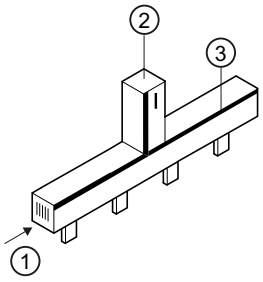
The universal connection unit (AS) with T tap-off unit is delivered with the following components:

- With connection tags fixed according to customer requirements
- With a connection positioned in the centre of the connection unit for every trunking unit and every junction unit (without joint block).

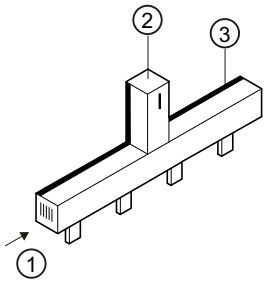
Phase sequence and tag distances

The relevant perspective is decisive for configuring the phase sequence and tag distances:

- Edgewise installation position of the busbars in the unit
- Direction of view of the end of the connection unit busbar with PEN(N) on right and T tap-off plug upwards.
- In addition, the same assignments apply for phase sequence and tag distances as for the connection unit without T tap-off unit.



+LX-1.

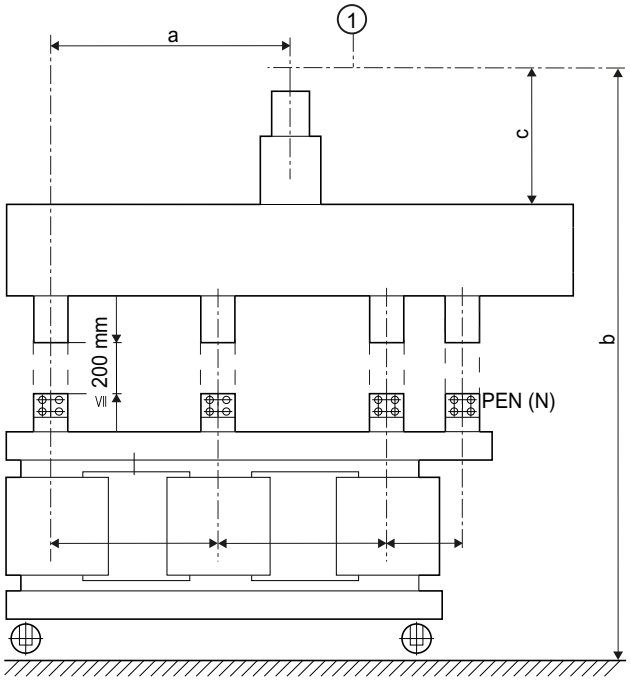


+LX-2.

① Direction of view
② T tap-off plug
③ PEN(N) position

Positioning via transformers

The connection tags must always be positioned in the centre by means of the associated connection tags of the transformer. The configuring dimensions a, b and c are decisive for configuring the remaining run. You can find type-related dimension specifications for a under Dimension drawings (Page 159) .



① Centre of joint block

6.1.3.3 Cable feeder units

Application area

Supplying LX busbar trunking systems when only cable connection is possible.

Design

- Rated currents from 800 A to 3200 A
- Choice of desired incoming cable connection unit in accordance with selection lists
- Incoming cable connection unit as delivered without joint block
- Connection of the cable direct to the connecting bars of the incoming cable connection unit (bolt connection) for connecting 4 to 8 multi-core or single-core cables.

Number of cables	Type of cable connection
4 multi-core or single-core cables (to 300 mm^2)	LX.01...-KE. to LX.02...-KE.
6 multi-core or single-core cables (to 300 mm^2)	LX.03...-KE. to LX.05...-KE.
8 multi-core or single-core cables (to 300 mm^2)	LX.06...-KE. to LX.07...-KE.

- 3 system-independent enclosure sizes

Enclosure size	Type of cable connection
Enclosure size 1	LX.01...-KE. to LX.02...-KE.
Enclosure size 2	LX.03...-KE. to LX.05...-KE.
Enclosure size 3	LX.06...-KE. to LX.07...-KE.

- Standard version with sheet-steel flange plate and cable sleeves
- With single-core cables, it is necessary to order an undrilled aluminium plate +LX-BPAL
- Connection options via all the trunking units and junction units listed in the catalogue.

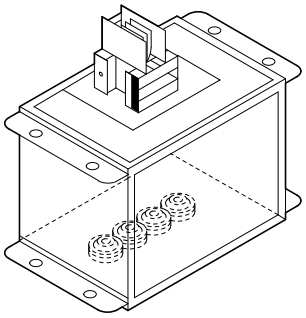


Figure 6-5 Cable feeder units

Note

Scope of delivery

M12 bolts for cable connection are included in the scope of supply.

Cable clamps for supporting the cable to be inserted by the customer.

No standard types are available for the following systems:

- LX...30
- LX...52
- LX...53
- LX...54
- LX...61
- LX...62

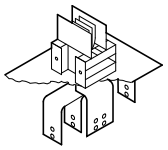
Please contact Product Support if required.

6.1.3.4 Connection to non-Siemens distribution boards

Versions

The connection units for non-Siemens distribution boards are available in aluminium or copper depending on the version. They are delivered without a joint block.

For type selection: See selection and ordering data (Page 56).



Connection options

Since the area of application refers to customized solutions, it is necessary to coordinate early with the distribution board vendor.

The distribution board vendor is usually responsible for copper-plating the non-Siemens busbar connection units with the distribution board busbars.

Rated currents

You can find the rated currents in the relevant Basic type code (Page 28). This information applies in accordance with IEC/EN 60439-1 and -2 for an ambient temperature of 35 °C averaged over 24 hours. The limit temperature of the copper busbars provided with a heat-resistant insulation foil is 135 °C.

When using busbar connection units for non-Siemens distribution boards, you must ensure that the limit temperature is not exceeded.

Connection cross-sections for copper-plating Dimension drawings (Page 159).

Short-circuit rating

The short-circuit rating of the busbar connection units for non-Siemens distribution boards depends on the copper-plating in the distribution system. The short-circuit rating of the busbar trunking systems can only be verified by the distribution board vendor. The busbar connection unit for non-Siemens distribution boards is type-tested as delivered.

With regard to its strength, the copper-plating must be dimensioned to the required short-circuit level.

6.1.3.5 Connection to Siemens power distribution systems

Versions

The electrical connection to the SIVACON system is carried out using special busbar connection units. Enclosure connection is via the associated distribution board flanges. The distribution board flanges are included in the scope of supply of the busbar connection units and are secured in the standard cutout in the ceiling or base plate in the SIVACON. This ensures the suitable insertion opening in each case for the assigned busbar system.

Connection options

LX connection to the switchboard is possible from above and from below. The connection system of the SIVACON 8PV, 8PT, S4 and S8 is located fully in the switchboard.

The connection is made using standard trunking units, straight lengths, junction units, or T units. The joint block of the trunking unit is connected direct to the connection unit in the switchboard.

Rated currents

Consider when planning that the rated currents of the distribution boards do not have to be identical to those of the selected busbar trunking system.

Installation dimensions and phase sequence

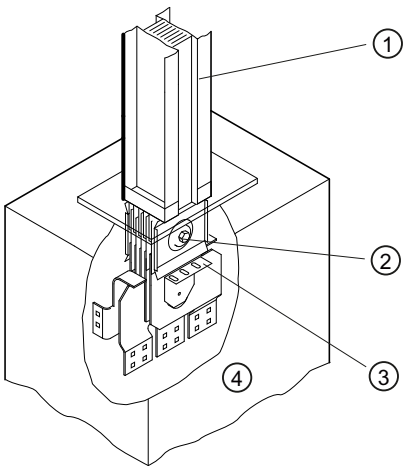
The centre point of the busbar system over the power distribution board is determined precisely using the dimensions b and d. The busbar run can be configured using this dimension as the starting point.

You can find the dimensions b and d in the manuals for SIVACON 8PV, 8PT, S4 and S8 or on request in Product Support for switchboards.

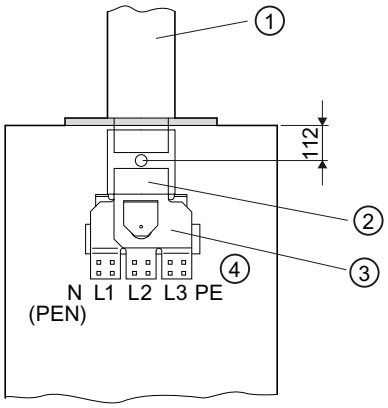
The insertion depths (configuring dimension for run length) is 112 mm when connecting from top or bottom.

When connecting from above, phase L1 is to the front (corresponding to the actuation side of the joint block). When connecting from below, phase L1 is at the rear.

Exception: When connecting to SIVACON S4 from below, phase L1 is at the front.



① LX...
② LX...-KB
③ LX.....-FA3(4)A (example)
④ Front view



① LX... (L1 position at rear when connecting S4/S8 from above)
② LX...-KB
③ LX.....-FA3(4)A (example)
④ Front view

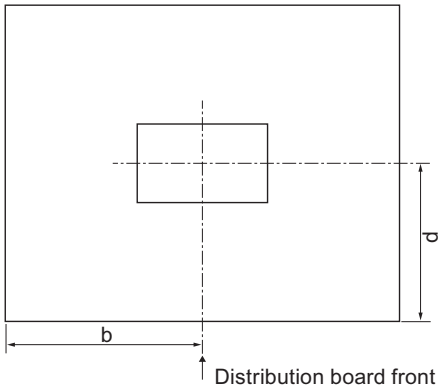


Figure 6-6 SIVACON distribution board view from above (dimensions b and d see table)

Type (code) of the connection systems for SIVACON 8PV and 8PT

Size[1)] Busbar system	Connection system[2)] …….-FA3(4)A(B)
LXA01 41(51) LXC01 41(51)	LXC03 41(51)
LXAC02 41(51) LXC02 41(51)	LXA05 41(51) LXC04 41(51)
LXA03 41(51) LXC03 41(51)	LXC03 41(51)
LXA04 41(51) LXC04 41(51)	LXA05 41(51) LXC04 41(51)
LXA05 41(51)	LXA05 41(51)
LXC05 41(51)	LXC06 41(51)
LXA06 41(51) LXC06 41(51)	LXC06 41(51)
LXA07 41(51) LXC07 41(51)	LXC07 41(51)
LXA08 41(51) LXC08 41(51)	LXA08 41(51) LXC08 41(51)
LXA09 41(51) LXC09 41(51)	LXC09 41(51)
LXA10 41(51)	LXA10 41(51)

① Connection systems for LX systems with conductor configurations with the key digits 30, 52, 53, 54, 61 and 62 are only available on request

② Dimensions of the connection systems are only available on request

Type (code) of the connection systems for SIVACON S4 and S8

Size[1)] Busbar system	Connection system[2)] …….-FA8PQ
Aluminium version	
LXA01 41(51)	LXC03 41(51)
LXA02 41(51)	LXA05 41(51)
LXA04 41(51)	LXA05 41(51)
LXA05 41(51)	LXA05 41(51)
LXA06 41(51)	LXA06 41(51)
LXA07 41(51)	LXA07 41(51)
LXA08 41(51)	LXA08 41(51)
LXA09 41(51)	LXA09 41(51)
LXA10 41(51)	LXA10 41(51)
Copper version	
LXC01 41(51)	LXC03 41(51)
LXC02 41(51)	LXC07 41(51)
LXC03 41(51)	LXC03 41(51)
LXC04 41(51)	LXC07 41(51)
LXC05 41(51)	LXC06 41(51)
LXC06 41(51)	LXC06 41(51)
LXC07 41(51)	LXC07 41(51)
LXC08 41(51)	LXC08 41(51)
LXC09 41(51)	LXC09 41(51)

① Connection systems for LX systems with conductor configurations with the key digits 30, 52, 53, 54, 61 and 62 are only available on request.

② Dimensions of the connection systems are only available on request.

6.1.4 Tap-off units

Overview

- Sheet steel enclosure, painted
- Five sizes
- Degree of protection IP54, increased to IP55 with installation kit
- To 630 A, can be connected under load
- From 800 A, cannot be connected under load
- When used in TN-C systems, a PEN jumper must always be allowed for in the tap-off unit up to 630 A (PEN jumper included in scope of delivery).

Sizes and cable entry sides

Size	Tap-off unit with circuit breaker	Tap-off unit with fuse switch disconnector
1	≤ 250 A	≤ 250 A
2	315...630 A	400 A
3	—	630 A
4	800...1250 A	—

Power tap-off, mounting and safety features

Tap-off units of sizes 1 to 3 (to 630 A):

- Tap-off is carried out by means of silver-plated Lyra contacts of the current tap-off system at the tap-off unit.
- Can be connected under load[1)], that is, the LX system does not have to be switched off-load to install or remove the tap-off units.
- Installing the tap-off units by opening the tap-off unit, fixing on the LX system, connecting the cable and closing the tap-off unit
- Leading PE or PEN conductor contact
- Anti-rotation feature prevents incorrect mounting
- Touch protection IP20 during the installation procedure at the tap-off point as well as for all load-carrying parts in the tap-off unit
- Freedom from load thanks to a mandatory sequence of operations when installing and uninstalling
- Cable insertion safety thanks to partitioning of the current tap-off space from the cable space.

1) Please observe national regulations.

Tap-off units of size 4 (to 1250 A):

- Tap-off is carried out using a tap-off joint block in the busbar run, that is, before installing the tap-off unit, the joint block on the trunking unit must be replaced with a tap-off joint block.
- Tap-off units can only be used for the systems LXA05.. to LXA10.. and LXC05.. to LXC09..
- Cannot be connected under load, that is, the LX system must be switched off-load before installing or removing the tap-off units.
- Installing or removing the tap-off units by opening the tap-off unit, fixing on the LX system, connecting the cable and closing the tap-off unit
- Anti-rotation feature prevents incorrect mounting

Rated currents, sizes and switching capacity

Fitting the tap-off units with 3VL circuit breakers

- High/extremely high switching capacity (H 70 kA, L 100 kA according to selection table) for all sizes
- Circuit breakers with 3 or 4-pole designs
- Circuit breaker with manual operating mechanism

I_e[1)] [A]	Size	Overload release [A]	I_c at U_e = 400 V [kA]	Circuit breaker type
50	1	40...50	65	3VL2705
63	1	26...63	65	3VL2708
80	1	63...80	65	3VL2708
100	1	80...100	65	3VL2710
125	1	100...125	65	3VL2712
160	1	125...160	65	3VL2716
200	1	160...200	65	3VL3720
250	1	200...250	65	3VL3725
315	2	200…315	65	3VL4731
400	2	200...400	65	3VL4740
630	2	300...630	65	3VL5763
800	4	400...800	85	3VL7710
1000	4	500...1250	85	3VL7712
1250	4	500...1250	85	3VL7712

1) Reduced current value specifications caused by built-in units and mounting position are described in the technical data.

Fitting the tap-off units with fuse switch disconnectors

- Manually operated fuse switch disconnector
- in 3 or 4-pole designs
- With built-in fuse holder in accordance with IEC or BS standard.
- Rated operating voltage U_e = 400 V

Rated currents, sizes and fuse standards

I_e [1] [A]	Size	Fuse switch disconnector with fuse holder in accordance with	Fuses	I_{cf} [kA]
125	1	IEC	NH00	100
125	1	BS	BS88	80
250	2	IEC	NH1	100
250	2	BS	BS88	80
400	3	IEC	NH2	100
400	3	BS	BS88	80
630	4	IEC	NH3	100
630	4	BS88	BS88	80

IEC International Electrotechnical Commission
BS British Standard

1) Reduced current value specifications caused by built-in units and mounting position are described in the technical data.

6.2 Configuring the busbar run layout

6.2.1 Configuring horizontal busbar runs

6.2.1.1 Reference dimensions for configuring

Design of straight trunking units, standard lengths

The reference dimension for configuring is from joint block centre to joint block centre.

Dimensioning of the tap-off point): Starting from the end of the trunking unit without joint block (designated by –)

Example: Standard length with tap-off points

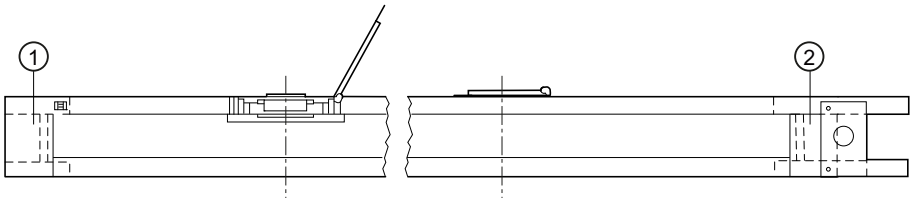
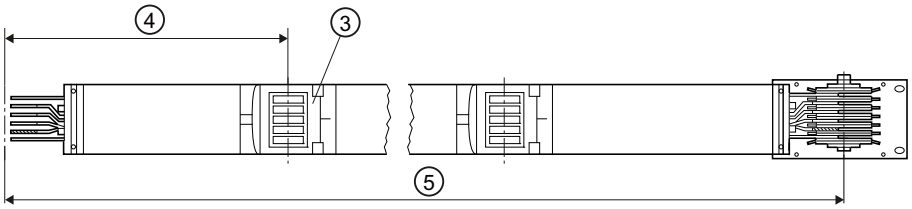


Figure 6-7 Side view



① End of trunking unit without joint block
② End of trunking unit with joint block
③ Tap-off point
④ Configuring dimension centre of tap-off point
⑤ Configuring dimension, length of the straight trunking unit

Figure 6-8 Plan view

Design of straight trunking units, optional lengths

Measuring and calculating optional lengths on the assembly site

The reference dimension for configuring is from joint block centre to joint block centre.

Example: Custom length

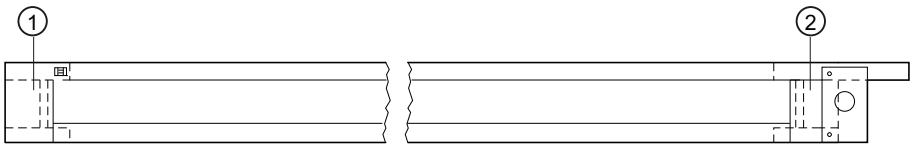


Figure 6-9 Side view

Measuring of custom lengths

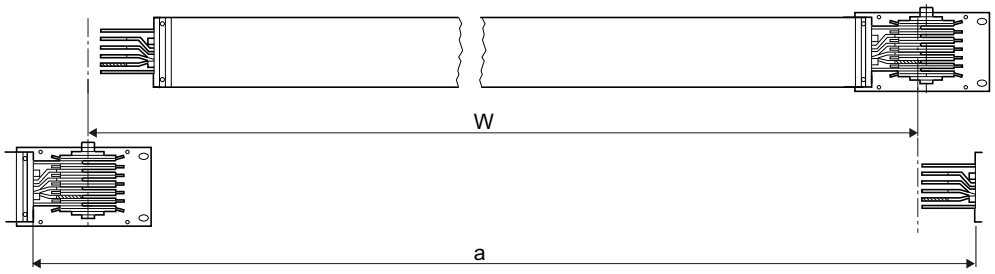


Figure 6-10 Plan view

①	End of trunking unit without joint block
②	End of trunking unit with joint block

Dimension a is measured between the metal edges at the assembly site. The configuring dimension W of the trunking unit is calculated as follows:

W [m] = a [m] – 0.23 [m]

6.2.1.2 Load tap-offs for straight trunking units

Design

To implement load tap-offs, there must be a corresponding tap-off from the busbar trunking system.

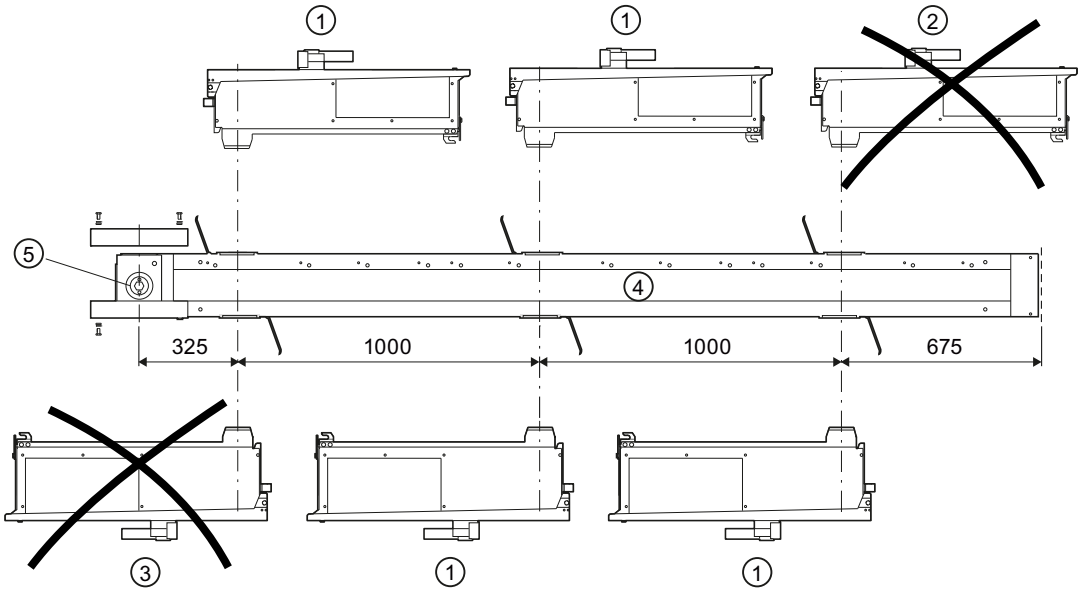
The following applies for the LX system:

Load tap-off	Tap-off via	Trunking unit
up to 630 A	Tap-off point	Straight lengths with tap-off points
800 A to 1250 A	Joint block	Straight lengths without tap-off points

In general, tap-off units cannot be positioned at junctions above the joint block. Accordingly, observe the correct dimensioning of the straight lengths depending on the size of the tap-off units.

If connection via junctions is required for the specific project, you must request this in Product Support.

Load tap-off point up to 630 A

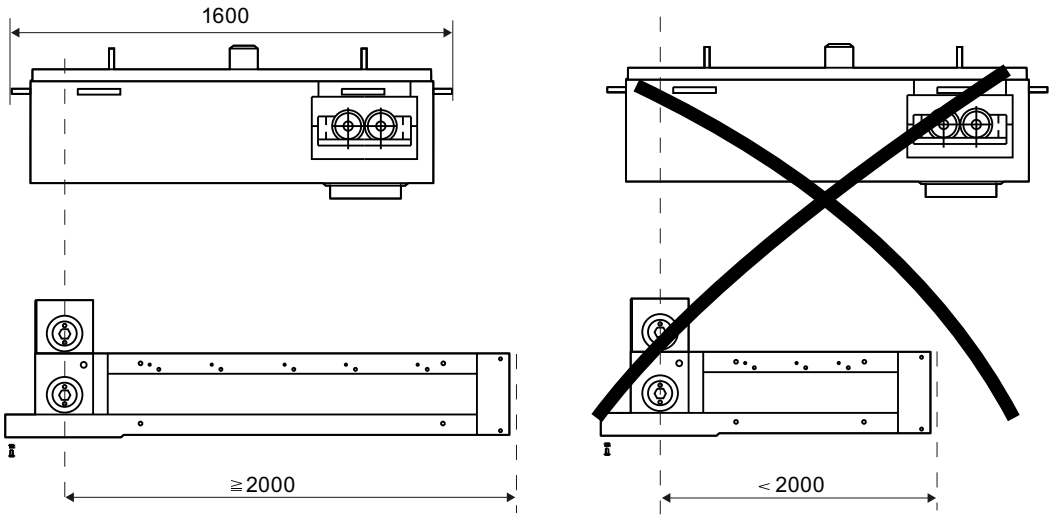


① Sizes 1 to 3 can be connected.
② Only tap-off units of size 1 can be connected. The remaining sizes cannot be connected.
③ Tap-off units of size 1 can be connected. Sizes 2 and 3 only on request.
④ Straight length with 3 tap-off points: LX....-3ADO-U+LX-A+LX-C+LX-E
⑤ Fixing side for joint block at front.

Load tap-off point from 800 A to 1,250 A

Load tap-off points from 800 A to 1,250 A can only be implemented for the system sizes LXA(C)05..to LXA(C)10...

Size	Tap-off unit with circuit breaker	Tap-off unit with fuse switch disconnector
1	≤ 250 A	≤ 250 A
2	315 ... 630 A	400 A
3	—	630 A
4	800 ... 1250 A	—



① Size 4 (800 A to 1250 A)

② Straight length without tap-off points
Minimum length W_{min} = 2000 mm

③ Tap-off joint block is used instead of the joint block on the trunking unit.

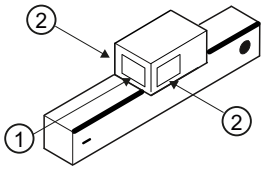
④ Fixing for joint block at front.

6.2.1.3 Configuring tap-off units

Relationship between phase sequence and cable entry of the tap-off unit

Horizontal installation

With view of the end of the trunking unit without mounted joint block and PEN (L1, N or PE) on right. The cable entry is made on the front without mounted joint block, or from the side.



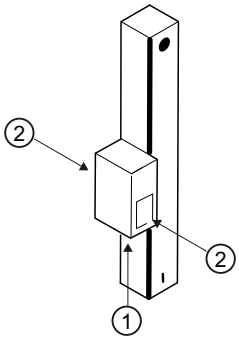
① Cable entry on front
② Cable entry from the side

Vertical installation

With vertical installation of the trunking unit, the PEN (L3, N or PE) must always be on the right.

The end of the trunking unit without mounted joint block is underneath.

Cable entry is always from below or from the side.



① Cable entry on front
② Cable entry from the side

6.2.1.4 Fire barrier

Overview

If the busbar trunking system is routed through a fire wall or ceiling, it must have a fire barrier. Depending on requirements, the fire barrier can be fully mounted on the trunking unit at the factory, or it can be supplied separately as a stand-alone type for mounting by the customer. The following configuring guidelines apply for both forms of delivery:

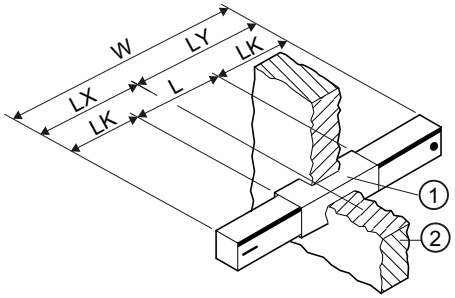
	Fire barrier mounted at the factory[2)]	Fire barrier that can be mounted by the customer[1)2)]
Engineering	Observe minimum dimensions and guidelines. Define the positioning of the fire barrier in the fire wall and specify the configuring dimension (X*) in the type suffix.	Observe minimum dimensions and guidelines. The fire barrier is not positioned in the fire wall until installation. The dimension X* does not apply in the type designation.
Ordering type	Type suffix + LX ..-S120-X(Y*), approval kit LX-S120-ZUL-D (only required for Germany)	Stand-alone type LX ..-S120-MOS, approval kit LX-S120-ZUL-D (only required for Germany)
Installation	Mounting on the trunking unit takes place in the factory. On site it is only necessary to install the trunking unit with fire barrier in the fire wall/fire ceiling. Installation tasks and creation of the declaration of agreement in accordance with the approval kit (usually only required within Germany)	Installing the barrier in the trunking unit on site: • Sealing of the profile contours with mineral wool • Installing the inner fire barrier collar (four Promat plates) • Installing the outer fire barrier collar (four Promat plates) • Installing the four front Promat plates • The promat plates are fixed with the help of screws. • Sealing of the outside joints using fire barrier sealant in accordance with the scope of delivery. • Drafting of declaration of agreement for installed fire barrier by the engineer installing the fire barrier. Component parts of the scope of supply: • 12 Promat plates • Mineral wool • Fixing screws • Sealant. After installation of the fire barrier on the trunking unit, the whole is installed in the fire wall/fire ceiling). Installation tasks and drafting of the declaration of agreement in accordance with the approval kit (usually only required within Germany)

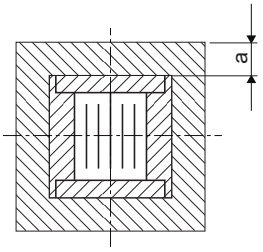
1) Fire barrier for customer installation can only be mounted on the single systems LX.01... to LX.07....

2) When using the LX fire barrier within Germany, the approval kit LX-S120-ZUL-D (BVP.: 611370) must also be ordered and supplied along with the fire barrier.

The fire barrier meets the requirements of IEC/EN 60439-2 and fire resistance class S120 in accordance with DIN 4102 Part 9, ISO 834.

Dimensions of straight trunking units





① Fire barrier

② Fire wall thickness to max. 0.7 m
With thicker walls: Fire barrier on request

a Thickness of fire barrier plates = 50 mm.

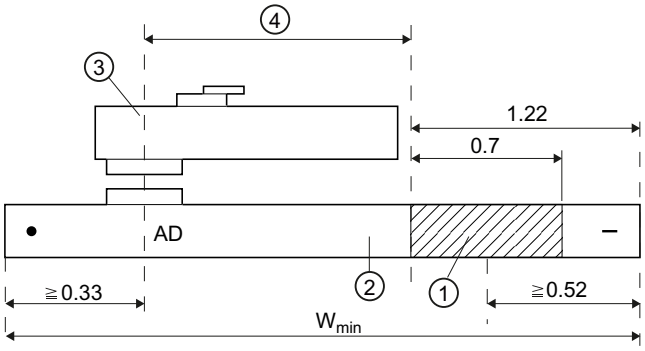
Name	Description	Length [1] [m]
W	Minimum selection length	1.04
LX	Minimum distances from centre of joint block to centre of fire barrier at the end of the trunking unit without joint block	0.52
LY	Minimum distances from centre of joint block to centre of fire barrier at the end of the trunking unit with joint block	0.52
LK	Minimum distances from centre of joint block to outer edge of fire barrier at both ends of the trunking units	0.17
	Minimum distances from outer edge of fire barrier to front edge of flange cover of the joint block	0.01
L	Fire barrier length on the trunking unit	0.7

[1] Ceiling fire barrier for the systems LXC08 and LXC09 on request

Dimensions of straight trunking units with tap-off point and fire barrier

When planning trunking units with tap-off units and fire barrier, the following minimum dimensions must be taken into account:

- Minimum distance between centre of tap-off point and centre of joint block
- Minimum distance between centre of fire barrier and centre of joint block
- Minimum distance between centre of tap-off point and centre of fire barrier, depending on the size of the tap-off unit (3 sizes)



① Fire barrier
② Trunking unit
③ Tap-off unit
④ Space requirements for the tap-off unit (note size!)

	Size of tap-off unit		
	1	2	3 and 4
Space requirements for the tap-off unit	0.47	0.87	0.87

Note

The tap-off units cannot be mounted over the fire barrier and the connection flange.

6.2.2 Planning expansion compensation and fixed point

6.2.2.1 Basic knowledge of expansion compensation and fixed point

Overview

The busbar assembly and the enclosure expand due to heat dissipation under load.

Length expansion of the busbar assembly depends on:

- The conductor material of the busbar system
- The run layout of the busbar system (horizontal or vertical)
- Power transmission or distribution.

There are three configuration cases:

- Configuring horizontal busbar layouts
- Configuring height changes within horizontal layouts
- Configuring vertical busbar layouts

Expansion compensation

Expansion compensation is implemented by using a special trunking unit with integrated expansion strips. This element absorbs expansion of the busbar run up to the specified maximum busbar run length and must be positioned in conformity with the configuration rules for a horizontal or vertical run layout.

Within a defined length, expansion compensation can compensate for both tension and compression forces.

Fixed point

Fixed points are special fixing brackets that permanently fix the trunking unit to the fixing material available on site. They therefore ensure expansion compensation in a defined direction.

A distinction is made between fixed points for horizontal and vertical installation (see selection and ordering data).

Attachment of a fixed point is necessary on the following busbar components:

- Universal connection units (AS and AS-T)
- Cable feeder units (KE)
- Busbar connection units for non-Siemens distribution boards (FA).
- Straight busbar elements and junction units depending on the length and course of the busbar run.

You can find details on implementing fixed points for horizontal busbar runs using external fixing accessories from suppliers in the installation manual "Installation with LX System" (order number: A5E01120816).

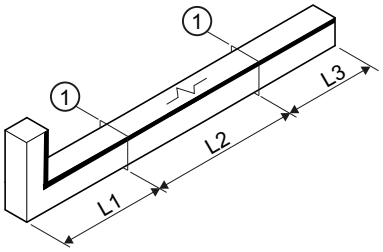
6.2.2.2 Planning horizontal busbar runs

General procedure

The following applies when considering the layout of the busbar run:

- Acquisition of the busbar elements of the run: Feeder units, junction units and end cap
- Calculation of the run lengths between the trunking elements
- Providinig feeder units with fixed points
- Dividing large run lengths into sub-lengths using fixed points.
- Placing expansion compensation in the centre between two fixed points.

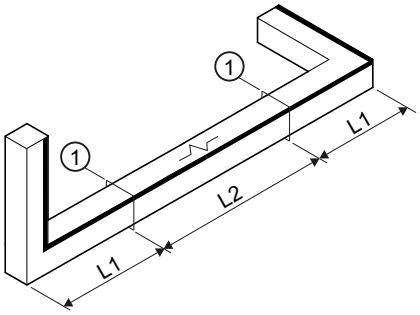
Configuration between junction unit and end cap



① Fixed point
L1 = max. 15 m
L2 = max. 30 m
L3 = max. 40 m

Run length L [m]	Number of fixed points	Number of expansion compensation units
≤ 40	0	0
≤ 55	1	0
≤ 85	2	1

Configuration between 2 junction units



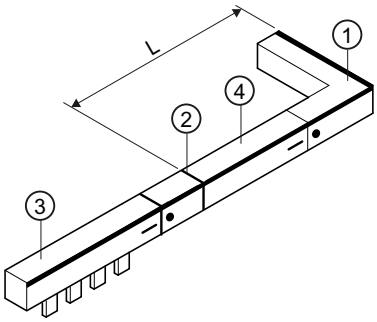
① Fixed point

Run length L [m]	Number of fixed points	Number of expansion compensation units
≤ 30	0	0
≤ 60	2	1
≤ 90	3	2

Note

A maximum permissible run length of 30 m applies for horizontal run layouts with expansion compensation between two fixed points.

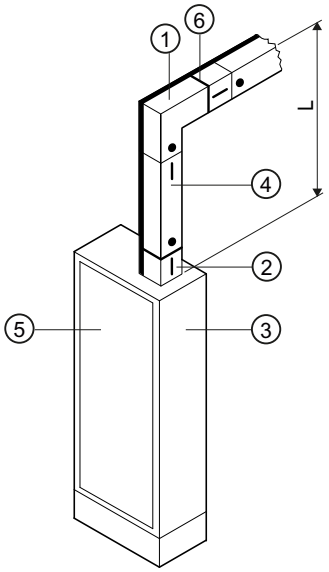
Configuration between junction unit and universal busbar connection unit



① Junction unit
② Fixed point (here: LX-BHF)
③ Universal busbar connection unit (AS)
④ Last trunking unit before the universal busbar connection unit

L ≤ 15 m

Feeder unit of non-Siemens distribution boards via non-Siemens distribution board connection units (FA)



① Junction unit
② Busbar connection units for non-Siemens distribution boards (FA)
③ Non-Siemens distribution boards
④ Last trunking unit before the non-Siemens distribution board connection unit
⑤ Front view of non-Siemens distribution board
⑥ Fixed point (here: LX-BHF).

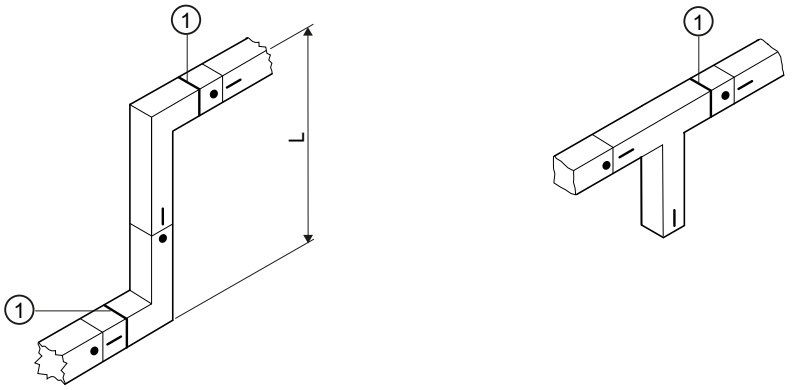
A fixed point must be attached in the immediate vicinity of each of the feeder units (② and ⑥).

Height changes and T units

All changes ≤ 6 m are regarded as changes in height. With larger changes in height, the guidelines for vertical planning must be taken into account.

Additional fixed points must be configured before or after changes in height and directly at T units.

L ≤ 6 m



① Fixed point

With a maximum height difference of 6 m, expansion compensation is not necessary.

6.2.2.3 Planning in the case of vertical busbar runs

General procedure

The following applies when considering the layout of the busbar run:

- Recording of the determining busbar elements of the run: Feeder units, junction units and end cap
- Calculation of the run lengths between feeder units, junction units and end cap
- Providinig feeder units with fixed points
- Dividing run lengths into sub-lengths using fixed points.
- Configuring expansion compensation
- Configuring fixing bracket per storey.

Maximum permissible sub-lengths L1

After recording the infeeds, junction units and end cap within a run, the following run layouts can result:

- Busbar run layout between two junction units (Case 1)
- Busbar run layout between junction unit and end cap (Case 2)
- Busbar run layout between infeed and junction unit (Case 3)
- Busbar run layout between infeed and end cap (Case 4).

Subdivision into the maximum permissible number of sub-lengths L1 then takes place.

Sub-length L1 depends on the conductor material of the busbar trunking system as well as the purpose of use (power transmission or distribution):

Conductor material	Power transmission	Power distribution[1)]
Cu (LXC....)	L1 ≤ 40 m	L1 ≤ 60 m
Al (LXA....)	L1 ≤ 25 m	L1 ≤ 50 m

1) At least one tap-off unit per storey

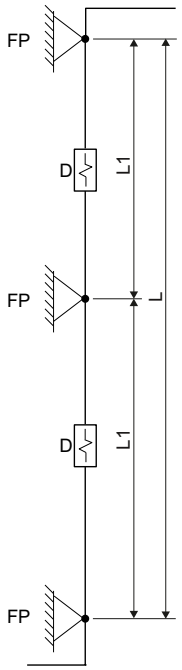
These sub-lengths are

- between two fixed points with expansion compensation
- between fixed point and end cap without expansion compensation.

For sub-lengths between infeed and fixed point with expansion compensation, sub-length L1 is halved.

Vertical busbar run layout between two junction units, Case 1

- Always position the expansion compensation units in the centre between the fixed points.



L1 Max. permissible sub-length
L Total run length
D Expansion compensation
FP Fixed point (type: LX-BVFP..)
EF End cap

Examples of power transmission with LXA...., (LXC....)

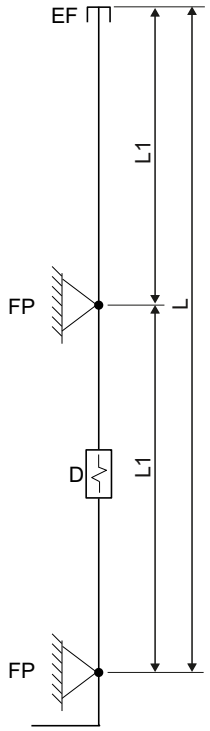
Run length L [m]	Number of fixed points (FP)	Number of expansion compensation units (D)
≤ 6 (≤ 6)	2	0
≤ 25 (≤ 40)	2	1
≤ 50 (≤ 80)	3	2
≤ 75 (≤ 120)	4	3

Examples of power distribution with LXA...., (LXC....)

Run length L [m]	Number of fixed points (FP)	Number of expansion compensation units (D)
≤ 6 (≤ 6)	2	0
≤ 50 (≤ 60)	2	1
≤ 100 (≤ 120)	3	2
≤ 150 (≤ 180)	4	4

Vertical busbar run layout between junction unit and end cap, Case 2

- Expansion compensation unit is not required in the topmost sub-run to the end cap.
- Position further expansion compensation units in the centre between the fixed points.



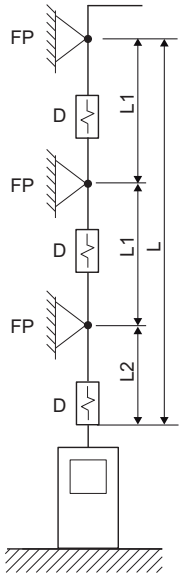
L1 Max. permissible sub-length
L Total run length
D Expansion compensation
FP Fixed point (type: LX-BVFP..)
EF End cap

Examples of power distribution with LXA...., (LXC....)

Run length L [m]	Number of fixed points (FP)	Number of expansion compensation units (D)
≤ 50 (≤ 60)	1	0
≤ 100 (≤ 120)	2	1
≤ 150 (≤ 180)	3	2
≤ 200 (≤ 240)	4	3

Vertical busbar run layout between infeed and junction unit, Case 3

- Position the first expansion compensation unit immediately after the infeed.
- Position further expansion compensation units in the centre between the fixed points.



L1 Max. permissible sub-length
L2 Halved max. permissible sub-length
L Total run length
D Expansion compensation
FP Fixed point (type: LX-BVFP..)
EF End cap

Examples of power transmission with LXA...., (LXC....)

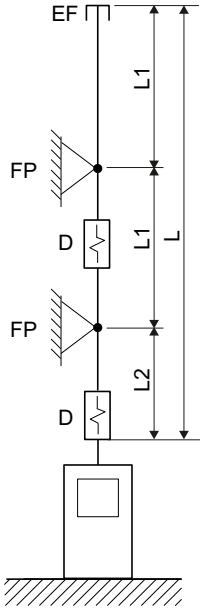
Run length L [m]	Number of fixed points (FP)	Number of expansion compensation units (D)
≤ 6 (≤ 6)	1	0
≤ 12,5 (≤ 20)	1	1
≤ 37,5 (≤ 60)	2	2
≤ 62,5 (≤ 100)	3	3

Examples of power distribution with LXA...., (LXC....)

Run length L [m]	Number of fixed points (FP)	Number of expansion compensation units (D)
≤ 6 (≤ 6)	1	0
≤ 25 (≤ 30)	1	1
≤ 75 (≤ 90)	2	2
≤ 125 (≤ 150)	3	3

Vertical busbar run layout between infeed and end cap, Case 4

- Expansion compensation unit is not required in the topmost sub-run to the end cap.
- Position further expansion compensation units in the centre between the fixed points.



L1 Max. permissible sub-length
L2 Halved max. permissible sub-length
L Total run length
D Expansion compensation
FP Fixed point (type: LX-BVFP..)
EF End cap

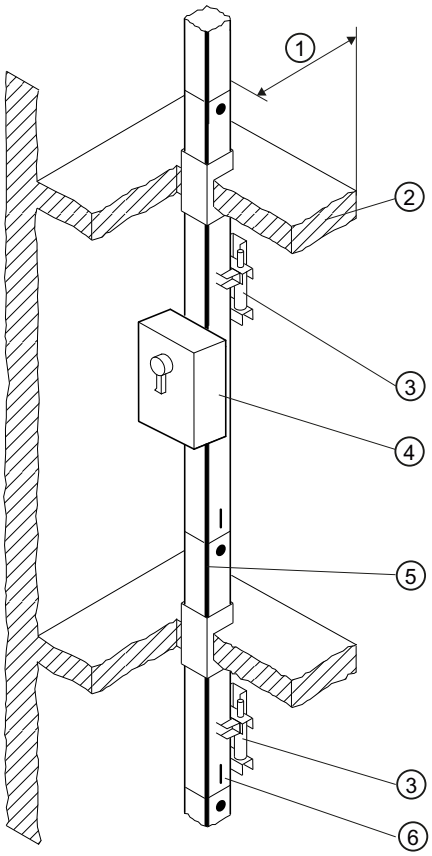
Examples of power distribution with LXA...., (LXC....)

Run length L [m]	Number of fixed points (FP)	Number of expansion compensation units (D)
≤ 6 (≤ 6)	0	0
≤ 25 (≤ 30)	0	1
≤ 75 (≤ 90)	1	1
≤ 125 (≤ 150)	2	2

6.2.3 Configuring vertical busbar runs

Mounting position

The vertical installation position of the busbar runs is fixed due to the limited permissible installation position of the overload and short-circuit protection elements in the tap-off unit, and the ease of installation of the trunking units.



① Compensate for uneven walls using material on site. The minimum distance dictated by the vertical fixing bracket is 6 cm.

② Here: Centre of fire barrier = centre of fire barrier ceiling (tolerance range for positioning, see fire barrier Fire barrier (Page 73))

③ 1 or 2 vertical fixing brackets per storey (storey height 3.40 m to 3.90 m).
Please note: Min./max. load

④ Tap-off unit (positioning of the tap-off point for fire barrier, see Fire barrier (Page 106))

⑤ PEN (L3, N or PE)[1] always on the right

⑥ The end of trunking unit without joint block always points downwards. Tightening of the joint block always on the side with phase L1.

1) Depending on the conductor configuration, the PEN, L3, N or PE conductor is always on the right.

6.2.4 Configuring example

This configuring example refers to the planning example from the SIVACON 8PS Planning Manual, Chap. 7. Please refer to this planning manual for details of the planning procedure.

System selection

The system size LXA0551 results from the planning example in the planning manual.

After selection of the correct system, the following documents must be prepared for ordering:

- Installation plan busbar plan
- Parts list busbar plan
- Binding order

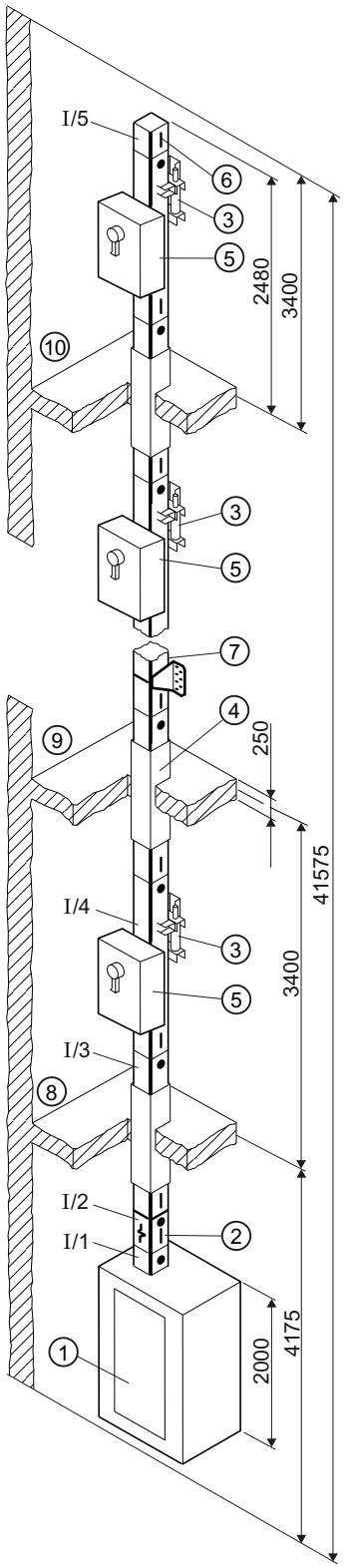
Explanations

The rated current is the same for the mounting positions horizontal, edgewise and vertical. The standard degree of protection is IP54. The storey height is 3.40 m.

Since this is a single system, one fixing bracket per storey must be mounted for vertical installation.

At the start of the run, you must configure an expansion compensation mechanism to be fixed at the lower end. (For more information see Configuring vertical busbar runs (Page 119))

In practice, the configured run layout frequently differs to the originally planned run layout.



① Non-Siemens distribution board ground floor
② Expansion compensation
③ Vertical fixing bracket for power distribution
④ Fire barrier (positioning see hotspot text; here: fire barrier in the centre of the fire ceiling)
⑤ Tap-off unit
⑥ End cap
⑦ Fixed point
⑧ 1. floor
⑨ 2. floor
⑩ 11. floor

Parts list for configuring example

Item no.	Type	Max. rated current [A]	Designation	Number
1	LXA0551-FA	1600	Connection unit for non-Siemens distribution boards	1
2	LXA0551-D	1600	Expansion compensation unit	1
3	LXA0551-2W1.40 + LXA0551-S120-X0.95	1600	Straight trunking unit (optional length 1.4 m) with fire barrier	11
4	LXA0551-1W2.0-1AD1.40	1600	Straight trunking unit with 1 tap-off point (optional length 2 m with optional tap-off point at 1.4 m)	11
5	LXA0551-EF	—	End cap	1
6	LX-BHF	—	Fixed point (edgewise busbars)	1
7	LXA07-BV1-AK	—	Vertical fixing bracket for power distribution	11
8	LX-AK5/FSH250-IEC-3S	200	Tap-off unit with fuse switch disconnector, IEC 3-pole	15

See also

Planning expansion compensation and fixed point (Page 109)

Fire barrier (Page 106)

6.2.5 Special cases

6.2.5.1 Functional endurance

Please refer to the SIVACON 8PS Planning Manual for details of standards, application areas and planning.

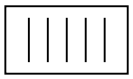
Overview of implementing the functional endurance channel and reduction factors

System	Functional endurance class	Density d [mm]/PROMATECT plate type	Outside dimensions [1] of the Promat channel (W [mm] x H [mm])	Reduction factor [2] according to functional endurance class and mounting position		
				Horizontal		Vertical
				Edgewise [3]	Flat	
LX.01, LX.02	E60	30 / LS	250 x 250	0.7	0.7	0.7
	E120	50 / LS	290 x 290	0.6	0.6	0.6
LXC03, LX.04	E60	30 / LS	250 x 280	0.7	0.7	0.7
	E120	50 / LS	290 x 320	0.6	0.6	0.6
LX.05	E60	30 / LS	250 x 320	0.7	0.7	0.7
	E120	50 / LS	290 x 360	0.6	0.6	0.6
LX.06, LX.07	E60	30 / LS	250 x 400	0.7	0.7	0.7
	E120	50 / LS	290 x 440	0.6	0.6	0.6
LX.08	E90	30 / LS	250 x 550	0.7	0.7	0.7
	E120	50 / LS	270 x 570	0.65	0.65	0.65
LX.09, LX.10	E90	30 / LS	250 x 710	0.7	0.7	0.7
	E120	50 / LS	270 x 730	0.65	0.65	0.65

1) Outside dimensions are valid for versions with 4 barriers. Dimensions for versions with 3 and 2 barriers are available on request.

2) The reduction factors are based on the rated current I_e and an ambient temperature of 35°C (24-hour average). In the event of temperature deviations, reduction factors should be adjusted accordingly.

3) Mounting position horizontal edgewise:



LXA/LXC (trunking conductor)

Use of LXC at 6300 A

For requirements with rated currents of 6300 A, it is necessary to use two single systems LXC07 (I_e = 3200 A) in parallel. In the installation manual "Installation with LX System" (order number: A5E01120816) you will find solution suggestions on how to use external copper material to implement an electrical connection for parallel switching on the infeeds such as non-Siemens distribution boards or transformer connections.

Please contact the relevant product manager for more detailed information about dimensioning and current carrying capacity.

6.2.5.2 Phase change units

Overview

When transmittinging power over long distances with LXA(C) busbar trunking units, a voltage drop of varying level occurs. The voltage drop is influenced by the arrangement of the busbars.

The impedance values (see Technical data (Page 125)) and the resulting voltage drop are calculated as mean values during type testing.

The use of three phase change units has the effect that the level of the voltage drop corresponds to this mean value in all three phases. For this, a phase change unit must be positioned after a third of the total length of the busbar run in each case.

Phase change units are available on request.

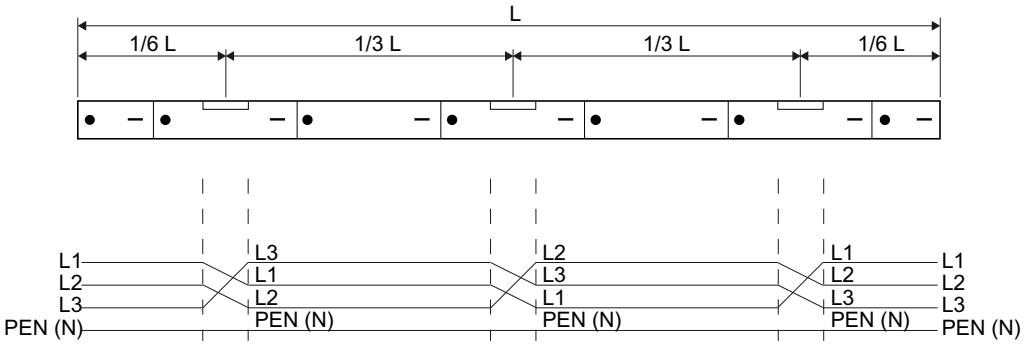


Figure 6-11 L = total length

Application area

Phase change units are used in the following cases:

- When the symmetric voltage drop during power transmission has to be kept low
- In the case of power transmission with high capacity over long distances.

Technical data

7

7.1 LX general data

Standards and regulations		IEC 60439-1 and -2, DIN EN 60439-1 and -2
Resistance to extreme climates		Damp heat, constant, acc. to IEC 60068-2-78 Damp heat, cyclic, acc. to IEC 60068-2-30
Ambient temperature	°C	–5/+40/+35 (min./max./24-hour average)
Degree of protection		IP54, IP55 on request
Torque for joint block (re-use)	Nm	120 ± 10
Busbar surface treatment		Insulated along the entire length Aluminium nickel-coated and tinned current transitions Copper tinned at the current transitions Current transitions at the tap-off points silver-coated
Trunking unit material		Painted aluminium casing
Colour of trunking units		RAL 7035 (light grey)
Dimensions		See Chapter Dimension drawings (Page 159)
Rated insulation voltage U_i trunking units acc. to DIN EN 60439-1 for power transmission for power distribution	 V AC V AC	 1000 690
Overvoltage category/ pollution degree		III/3 acc. to EN 60947
Rated operating voltage U_e for power transmission for power distribution	 V AC V AC	 690 400
Rated frequency	Hz	50

Adaptation of the rated current depending on the ambient temperature

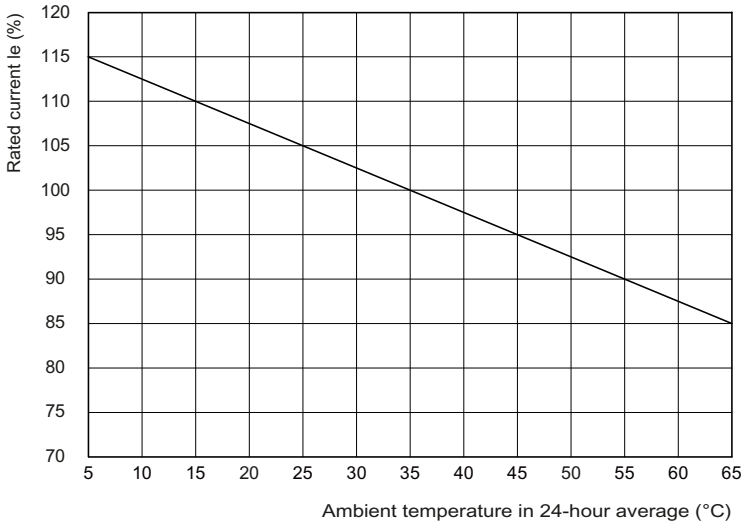


Figure 7-1 Rated current and ambient temperature

7.2 Trunking units LXA..30 (aluminium)

System-specific data			LXA	0130	0230	0430	0530	0630
Rated current		I_e	A	0800	1000	1250	1600	2000
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.117	0.084	0.056	0.036	0.027
	Reactance	X_{20}	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_{20}	mΩ/m	0.120	0.090	0.061	0.040	0.035
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.146	0.106	0.07	0.043	0.034
	Reactance	X_1	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_1	mΩ/m	0.149	0.110	0.074	0.046	0.029
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.223	0.214	0.180	0.116	0.110
	Reactance	X_F	mΩ/m	0.140	0.139	0.114	0.095	0.071
	Impedance	Z_F	mΩ/m	0.263	0.255	0.213	0.150	0.131
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.434	0.473	0.428	0.275	0.277
		X_0	mΩ/m	0.363	0.354	0.293	0.250	0.195
		Z_0	mΩ/m	0.566	0.591	0.519	0.372	0.338
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	25	35	50	60	75
Rated peak withstand current	Peak value	I_{pk}	kA	53	70	110	132	158
Conductor material				Aluminium				
No. of busbars				3	3	3	3	3
Conductor cross section	L1, L2, L3	A	mm^2	292	386	586	946	1192
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1135	1348
Weights			kg/m	9.6	10.6	13.3	17.8	21.8

System-specific data			LXA	0730	0830	0930	1030
Rated current		I_e	A	2500 [1]	3200	4000 [2]	4500 [3]
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.023	0.018	0.014	0.011
	Reactance	X_{20}	mΩ/m	0.011	0.009	0.005	0.012
	Impedance	Z_{20}	mΩ/m	0.025	0.020	0.015	0.016
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.025	0.022	0.017	0.014
	Reactance	X_1	mΩ/m	0.011	0.008	0.005	0.006
	Impedance	Z_1	mΩ/m	0.028	0.024	0.018	0.015
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.108	0.086	0.062	0.065
	Reactance	X_F	mΩ/m	0.077	0.071	0.045	0.044
	Impedance	Z_F	mΩ/m	0.133	0.112	0.077	0.078
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.278	0.223	0.158	0.172
		X_0	mΩ/m	0.209	0.195	0.125	0.108
		Z_0	mΩ/m	0.348	0.296	0.202	0.203
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	140	150
Rated peak withstand current	Peak value	I_{pk}	kA	194	220	225	255
Conductor material				Aluminium			
No. of busbars				3	6	6	6
Conductor cross section	L1, L2, L3	A	mm^2	1586	1892	2384	3172
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	2270	2694	2696
Weights			kg/m	26.3	35.5	43.4	52.1

[1] Reduction in rated current to 2400 A with horizontal flat mounting position

[2] Reduction in rated current to 3800 A with horizontal flat mounting position

[3] Reduction in rated current to 4300 A with horizontal flat mounting position

7.3 Trunking units LXA..41 (aluminium)

System-specific data			**LXA**	**0141**	**0241**	**0441**	**0541**	**0641**
Rated current		I_e	A	800	1000	1250	1600	2000
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.117	0.084	0.056	0.036	0.027
	Reactance	X_{20}	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_{20}	mΩ/m	0.120	0.090	0.061	0.040	0.029
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.146	0.106	0.070	0.043	0.034
	Reactance	X_1	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_1	mΩ/m	0.149	0.110	0.074	0.046	0.035
for 4-pole systems under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.172	0.135	0.095	0.061	0.047
	Reactance	X_F	mΩ/m	0.074	0.083	0.064	0.050	0.032
	Impedance	Z_F	mΩ/m	0.188	0.158	0.114	0.079	0.057
Zero impedance								
for 4-pole systems acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.283	0.237	0.172	0.110	0.088
		X_0	mΩ/m	0.132	0.133	0.101	0.080	0.047
		Z_0	mΩ/m	0.313	0.272	0.199	0.136	0.100
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	25	35	50	60	75
Rated peak withstand current	Peak value	I_{pk}	kA	53	70	110	132	158
Conductor material				Aluminium				
No. of busbars				4	4	4	4	4
Conductor cross section	L1, L2, L3	A	mm^2	292	386	586	946	1192
Equivalent copper cross section	PEN	A	mm^2	1109	1161	1341	1657	2006
Weights			kg/m	10.6	12.0	15.2	20.8	25.6

System-specific data			LXA	0741	0841	0941	1041
Rated current		I_e	A	2500 [1]	3200	4000 [2]	4500 [3]
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.023	0.018	0.014	0.011
	Reactance	X_{20}	mΩ/m	0.011	0.008	0.005	0.012
	Impedance	Z_{20}	mΩ/m	0.026	0.020	0.015	0.016
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.025	0.022	0.017	0.014
	Reactance	X_1	mΩ/m	0.011	0.008	0.005	0.006
	Impedance	Z_1	mΩ/m	0.028	0.024	0.018	0.015
for 4-pole systems under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.041	0.032	0.025	0.020
	Reactance	X_F	mΩ/m	0.035	0.032	0.018	0.018
	Impedance	Z_F	mΩ/m	0.054	0.045	0.031	0.027
Zero impedance							
for 4-pole systems acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.077	0.061	0.047	0.038
		X_0	mΩ/m	0.057	0.050	0.026	0.026
		Z_0	mΩ/m	0.096	0.079	0.053	0.046
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	140	150
Rated peak withstand current	Peak value	I_{pk}	kA	194	220	255	255
Conductor material				Aluminium			
No. of busbars				4	8	8	8
Conductor cross section	L1, L2, L3	A	mm^2	1586	1892	2384	3172
Equivalent copper cross section	PEN	A	mm^2	2223	3314	4011	4446
Weights			kg/m	31.3	42.0	51.3	63

[1] Reduction in rated current to 2400 A with horizontal flat mounting position

[2] Reduction in rated current to 3800 A with horizontal flat mounting position

[3] Reduction in rated current to 4300 A with horizontal flat mounting position

7.4 Trunking units LXA..51 (aluminium)

System-specific data			LXA	0151	0251	0451	0551	0651
Rated current		I_e	A	800	1000	1250	1600	2000
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.117	0.084	0.056	0.036	0.027
	Reactance	X_{20}	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_{20}	mΩ/m	0.120	0.090	0.061	0.040	0.029
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.146	0.106	0.070	0.043	0.034
	Reactance	X_1	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_1	mΩ/m	0.149	0.110	0.074	0.046	0.035
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.223	0.214	0.180	0.116	0.110
	Reactance	X_F	mΩ/m	0.140	0.139	0.114	0.095	0.071
	Impedance	Z_F	mΩ/m	0.263	0.253	0.213	0.150	0.031
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.249	0.192	0.133	0.086	0.064
	Reactance	X_F	mΩ/m	0.113	0.122	0.095	0.072	0.046
	Impedance	Z_F	mΩ/m	0.273	0.227	0.163	0.112	0.079
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.434	0.473	0.428	0.275	0.277
		X_0	mΩ/m	0.363	0.354	0.293	0.250	0.195
		Z_0	mΩ/m	0.566	0.591	0.519	0.372	0.338
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.484	0.377	0.260	0.167	0.128
		X_0	mΩ/m	0.175	0.177	0.134	0.095	0.061
		Z_0	mΩ/m	0.515	0.417	0.293	0.192	0.142
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	25	35	50	60	75
Rated impulse withstand current	Peak value	I_{pk}	kA	53	70	110	132	158
Conductor material				Aluminium				
No. of busbars				4	4	4	4	4
Conductor cross section	L1, L2, L3	A	mm^2	292	386	586	946	1192
	N	A	mm^2	292	386	586	946	1192
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1135	1348
Weights			kg/m	10.6	12.0	15.2	20.8	25.6

System-specific data			LXA	0751	0851	0951	1051
Rated current		I_e	A	2500 [1]	3200	4000 [2]	4500 [3]
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.023	0.018	0.014	0.011
	Reactance	X_{20}	mΩ/m	0.011	0.009	0.005	0.012
	Impedance	Z_{20}	mΩ/m	0.025	0.020	0.015	0.016
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.025	0.022	0.017	0.014
	Reactance	X_1	mΩ/m	0.011	0.008	0.005	0.006
	Impedance	Z_1	mΩ/m	0.028	0.024	0.018	0.015
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.108	0.086	0.062	0.065
	Reactance	X_F	mΩ/m	0.077	0.071	0.045	0.044
	Impedance	Z_F	mΩ/m	0.133	0.112	0.077	0.078
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.055	0.047	0.032	0.028
	Reactance	X_F	mΩ/m	0.047	0.043	0.023	0.023
	Impedance	Z_F	mΩ/m	0.072	0.064	0.039	0.036
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.278	0.223	0.158	0.172
		X_0	mΩ/m	0.209	0.195	0.125	0.108
		Z_0	mΩ/m	0.348	0.296	0.202	0.203
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.106	0.095	0.062	0.052
		X_0	mΩ/m	0.065	0.060	0.030	0.030
		Z_0	mΩ/m	0.125	0.112	0.069	0.060
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	140	150
Rated peak withstand current	Peak value	I_{pk}	kA	194	220	255	255
Conductor material				Aluminium			
No. of busbars				4	8	8	8
Conductor cross section	L1, L2, L3	A	mm^2	1586	1892	2384	3172
	N	A	mm^2	1586	1892	2384	3172
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	2270	2694	2696
Weights			kg/m	31.3	42.0	51.3	63

[1] Reduction in rated current to 2400 A with horizontal flat mounting position

[2] Reduction in rated current to 3800 A with horizontal flat mounting position

[3] Reduction in rated current to 4300 A with horizontal flat mounting position

7.5 Trunking units LXA..52 (aluminium)

System-specific data			LXA	0152	0252	0452	0552	0652
Rated current		I_e	A	800	1000	1250	1600	2000
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.117	0.084	0.056	0.036	0.027
	Reactance	X_{20}	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_{20}	mΩ/m	0.120	0.090	0.061	0.040	0.029
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.146	0.106	0.070	0.043	0.034
	Reactance	X_1	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_1	mΩ/m	0.149	0.110	0.074	0.046	0.035
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.223	0.214	0.180	0.116	0.110
	Reactance	X_F	mΩ/m	0.140	0.139	0.114	0.095	0.071
	Impedance	Z_F	mΩ/m	0.263	0.255	0.213	0.150	0.131
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.187	0.166	0.146	0.125	0.104
	Reactance	X_F	mΩ/m	0.133	0.122	0.110	0.099	0.088
	Impedance	Z_F	mΩ/m	0.229	0.206	0.182	0.159	0.136
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.434	0.473	0.428	0.275	0.277
		X_0	mΩ/m	0.363	0.354	0.293	0.250	0.195
		Z_0	mΩ/m	0.566	0.591	0.519	0.372	0.338
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.100	0.092	0.083	0.074	0.066
		X_0	mΩ/m	0.195	0.177	0.159	0.141	0.123
		Z_0	mΩ/m	0.219	0.199	0.179	0.159	0.139
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	25	35	50	60	75
Rated impulse withstand current	Peak value	I_{pk}	kA	53	70	110	132	158
Conductor material				Aluminium				
No. of busbars				5	5	5	5	5
Conductor cross section	L1, L2, L3	A	mm^2	292	386	586	946	1192
	N	A	mm^2	584	772	1172	1892	2384
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1135	1348
Weights			kg/m	11.6	13.3	17.0	23.8	29.3

System-specific data			LXA	0752	0852	0952	1052
Rated current		I_e	A	2500 [1]	3200	4000 [2]	4500 [3]
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.023	0.018	0.014	0.011
	Reactance	X_{20}	mΩ/m	0.011	0.009	0.005	0.012
	Impedance	Z_{20}	mΩ/m	0.025	0.020	0.015	0.016
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.025	0.022	0.017	0.014
	Reactance	X_1	mΩ/m	0.011	0.008	0.005	0.006
	Impedance	Z_1	mΩ/m	0.028	0.024	0.018	0.015
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.108	0.086	0.062	0.065
	Reactance	X_F	mΩ/m	0.077	0.071	0.045	0.044
	Impedance	Z_F	mΩ/m	0.133	0.112	0.077	0.078
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.083	0.062	0.042	0.021
	Reactance	X_F	mΩ/m	0.077	0.065	0.054	0.043
	Impedance	Z_F	mΩ/m	0.113	0.089	0.068	0.047
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.278	0.223	0.158	0.172
		X_0	mΩ/m	0.209	0.195	0.125	0.108
		Z_0	mΩ/m	0.348	0.296	0.202	0.203
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.058	0.049	0.041	0.032
		X_0	mΩ/m	0.105	0.087	0.068	0.050
		Z_0	mΩ/m	0.119	0.099	0.079	0.059
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	140	150
Rated impulse withstand current	Peak value	I_{pk}	kA	194	220	255	255
Conductor material				Aluminium			
No. of busbars				5	10	10	10
Conductor cross section	L1, L2, L3	A	mm^2	1586	1892	2384	3172
	N	A	mm^2	3172	3784	4768	6344
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	2270	2694	2696
Weights			kg/m	36.3	48.5	59.2	73.2

[1] Reduction in rated current to 2400 A with horizontal flat mounting position

[2] Reduction in rated current to 3800 A with horizontal flat mounting position

[3] Reduction in rated current to 4300 A with horizontal flat mounting position

7.6 Trunking units LXA..61 (aluminium)

System-specific data			LXA	0161	0261	0461	0561	0661
Rated current		I_e	A	800	1000	1250	1600	2000
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.117	0.084	0.056	0.036	0.027
	Reactance	X_{20}	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_{20}	mΩ/m	0.120	0.090	0.061	0.040	0.029
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.146	0.106	0.070	0.043	0.034
	Reactance	X_1	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_1	mΩ/m	0.149	0.110	0.074	0.046	0.035
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.223	0.214	0.180	0.116	0.110
	Reactance	X_F	mΩ/m	0.140	0.139	0.114	0.095	0.071
	Impedance	Z_F	mΩ/m	0.263	0.255	0.213	0.150	0.131
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.249	0.192	0.194	0.166	0.138
	Reactance	X_F	mΩ/m	0.133	0.122	0.110	0.099	0.088
	Impedance	Z_F	mΩ/m	0.282	0.227	0.223	0.193	0.163
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.434	0.473	0.428	0.275	0.277
		X_0	mΩ/m	0.363	0.354	0.293	0.250	0.195
		Z_0	mΩ/m	0.566	0.591	0.519	0.372	0.338
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.484	0.377	0.376	0.322	0.268
		X_0	mΩ/m	0.175	0.177	0.159	0.141	0.123
		Z_0	mΩ/m	0.515	0.417	0.408	0.351	0.294
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	25	35	50	60	75
Rated impulse withstand current	Peak value	I_{pk}	kA	53	70	110	132	158
Conductor material				Aluminium				
No. of busbars				5	5	5	5	5
Conductor cross section	L1, L2, L3, (PE) [1]	A	mm^2	292	386	586	946	1192
	N	A	mm^2	292	386	586	946	1192
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1135	1348
Weights			kg/m	11.6	13.3	17.0	23.8	29.3

[1] Insulated PE conductor

System-specific data			LXA	0761	0861	0961	1061
Rated current		I_e	A	2500 [1]	3200	4000 [2]	4500 [3]
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.023	0.018	0.014	0.011
	Reactance	X_{20}	mΩ/m	0.011	0.009	0.005	0.012
	Impedance	Z_{20}	mΩ/m	0.025	0.020	0.015	0.016
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.025	0.022	0.017	0.014
	Reactance	X_1	mΩ/m	0.011	0.008	0.005	0.006
	Impedance	Z_1	mΩ/m	0.028	0.024	0.018	0.012
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.108	0.086	0.062	0.065
	Reactance	X_F	mΩ/m	0.077	0.071	0.045	0.044
	Impedance	Z_F	mΩ/m	0.133	0.112	0.077	0.078
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.111	0.083	0.056	0.028
	Reactance	X_F	mΩ/m	0.077	0.065	0.054	0.023
	Impedance	Z_F	mΩ/m	0.135	0.105	0.077	0.036
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.181	0.158	0.135	0.111
		X_0	mΩ/m	0.136	0.119	0.103	0.088
		Z_0	mΩ/m	0.226	0.197	0.169	0.141
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.214	0.160	0.106	0.052
		X_0	mΩ/m	0.105	0.087	0.068	0.050
		Z_0	mΩ/m	0.238	0.182	0.125	0.072
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	140	150
Rated impulse withstand current	Peak value	I_{pk}	kA	194	220	255	255
Conductor material				Aluminium			
No. of busbars				5	10	10	10
Conductor cross section	L1, L2, L3, (PE) [4]	A	mm^2	1586	1892	2384	3172
	N	A	mm^2	1586	1892	2384	3172
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	2270	2694	2696
Weights			kg/m	36.3	48.5	59.2	73.2

[1] Reduction in rated current to 2400 A with horizontal flat mounting position

[2] Reduction in rated current to 3800 A with horizontal flat mounting position

[3] Reduction in rated current to 4300 A with horizontal flat mounting position

[4] Insulated PE conductor

7.7 Trunking units LXA..62 (aluminium)

System-specific data			LXA	0162	0262	0462	0562	0662
Rated current		I_e	A	800	1000	1250	1600	2000
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.117	0.084	0.056	0.036	0.027
	Reactance	X_{20}	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_{20}	mΩ/m	0.120	0.090	0.061	0.040	0.029
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.146	0.106	0.070	0.043	0.034
	Reactance	X_1	mΩ/m	0.028	0.031	0.024	0.017	0.009
	Impedance	Z_1	mΩ/m	0.149	0.110	0.074	0.046	0.035
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.223	0.214	0.180	0.116	0.110
	Reactance	X_F	mΩ/m	0.140	0.139	0.114	0.095	0.071
	Impedance	Z_F	mΩ/m	0.263	0.255	0.213	0.150	0.131
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.187	0.166	0.146	0.125	0.104
	Reactance	X_F	mΩ/m	0.133	0.122	0.110	0.099	0.088
	Impedance	Z_F	mΩ/m	0.229	0.206	0.182	0.159	0.136
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.434	0.473	0.428	0.275	0.277
		X_0	mΩ/m	0.363	0.354	0.293	0.250	0.195
		Z_0	mΩ/m	0.566	0.591	0.519	0.372	0.338
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.100	0.092	0.083	0.074	0.066
		X_0	mΩ/m	0.195	0.177	0.159	0.141	0.123
		Z_0	mΩ/m	0.219	0.199	0.179	0.159	0.139
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	25	35	50	60	75
Rated peak withstand current	Peak value	I_{pk}	kA	53	70	110	132	158
Conductor material				Aluminium				
No. of busbars				6	6	6	6	6
Conductor cross section	L1, L2, L3, (PE) [1]	A	mm^2	292	386	586	946	1192
	N	A	mm^2	584	772	1172	1892	2384
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1135	1348
Weights			kg/m	12.6	14.7	18.9	26.8	33.1

[1] Insulated PE conductor

System-specific data			LXA	0762	0862	0962	1062
Rated current		I_e	A	2500 [1]	3200	4000 [2]	4500 [3]
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.023	0.018	0.014	0.011
	Reactance	X_{20}	mΩ/m	0.011	0.009	0.005	0.012
	Impedance	Z_{20}	mΩ/m	0.025	0.020	0.015	0.016
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.025	0.022	0.017	0.014
	Reactance	X_1	mΩ/m	0.011	0.008	0.005	0.006
	Impedance	Z_1	mΩ/m	0.028	0.024	0.018	0.015
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.108	0.086	0.062	0.065
	Reactance	X_F	mΩ/m	0.077	0.071	0.045	0.044
	Impedance	Z_F	mΩ/m	0.133	0.112	0.077	0.078
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.083	0.062	0.042	0.021
	Reactance	X_F	mΩ/m	0.077	0.065	0.054	0.043
	Impedance	Z_F	mΩ/m	0.113	0.089	0.068	0.047
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.278	0.223	0.158	0.172
		X_0	mΩ/m	0.209	0.195	0.125	0.108
		Z_0	mΩ/m	0.348	0.296	0.202	0.203
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.058	0.049	0.041	0.032
		X_0	mΩ/m	0.105	0.087	0.068	0.050
		Z_0	mΩ/m	0.119	0.099	0.079	0.059
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	140	150
Rated peak withstand current	Peak value	I_{pk}	kA	194	220	255	255
Conductor material				Aluminium			
No. of busbars				6	12	12	12
Conductor cross section	L1, L2, L3, (PE) [4]	A	mm^2	1586	1892	2384	3172
	N	A	mm^2	3172	3784	4768	6344
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	2270	2694	2696
Weights			kg/m	41.3	55.0	67.2	83.7

[1] Reduction in rated current to 2400 A with horizontal flat mounting position

[2] Reduction in rated current to 3800 A with horizontal flat mounting position

[3] Reduction in rated current to 4300 A with horizontal flat mounting position

[4] Insulated PE conductor

7.8 Trunking units LXC..30 (copper)

System-specific data			LXC	0130	0230	0330	0430	0530
Rated current		I_e	A	1000 [1]	1250	1400 [2]	1600 [3]	2000 [4]
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.065	0.051	0.044	0.037	0.027
	Reactance	X_{20}	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_{20}	mΩ/m	0.071	0.059	0.048	0.045	0.030
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.083	0.065	0.055	0.045	0.035
	Reactance	X_1	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_1	mΩ/m	0.087	0.072	0.059	0.051	0.037
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.198	0.188	0.172	0.155	0.142
	Reactance	X_F	mΩ/m	0.157	0.139	0.136	0.114	0.113
	Impedance	Z_F	mΩ/m	0.253	0.234	0.219	0.193	0.181
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.465	0.462	0.427	0.392	0.371
		X_0	mΩ/m	0.416	0.354	0.367	0.289	0.312
		Z_0	mΩ/m	0.616	0.582	0.563	0.488	0.485
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	38	50	57	60	75
Rated impulse withstand current	Peak value	I_{pk}	kA	80	110	125	132	165
Conductor material				Copper				
No. of busbars				3	3	3	3	3
Conductor cross section	L1, L2, L3	A	mm^2	292	386	442	586	712
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1018	1135
Weights			kg/m	9.6	17.8	19.9	24.2	28.6

System-specific data			LXC	0630	0730	0830	0930
Rated current		I_e	A	2500	3200 [5]	4000	5000
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.017	0.013	0.011	0.009
	Reactance	X_{20}	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_{20}	mΩ/m	0.019	0.017	0.014	0.010
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.021	0.016	0.014	0.011
	Reactance	X_1	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_1	mΩ/m	0.022	0.019	0.016	0.012
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.128	0.109	0.076	0.059
	Reactance	X_F	mΩ/m	0.103	0.087	0.058	0.047
	Impedance	Z_F	mΩ/m	0.164	0.140	0.095	0.075
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.350	0.302	0.205	0.159
		X_0	mΩ/m	0.290	0.239	0.158	0.131
		Z_0	mΩ/m	0.455	0.385	0.259	0.140
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	150	150
Rated impulse withstand current	Peak value	I_{pk}	kA	189	220	255	255
Conductor material				Copper			
No. of busbars				3	3	6	6
Conductor cross section	L1, L2, L3	A	mm^2	1192	1586	1892	2384
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	1348	2270	2696
Weights			kg/m	44.0	55.8	70.7	87.8

[1] Reduction in rated current to 800 A with horizontal flat mounting position

[2] Reduction in rated current to 1380 A with horizontal flat mounting position

[3] Reduction in rated current to 1570 A with horizontal flat mounting position

[4] Reduction in rated current to 1900 A with horizontal flat mounting position

[5] Reduction in rated current to 3100 A with horizontal flat mounting position

7.9 Trunking units LXC..41 (copper)

System-specific data			LXC	0141	0241	0341	0441	0541
Rated current		I_e	A	1000 [1]	1250	1400 [2]	1600 [3]	2000 [4]
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.065	0.051	0.044	0.037	0.027
	Reactance	X_{20}	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_{20}	mΩ/m	0.071	0.059	0.048	0.045	0.030
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.083	0.065	0.055	0.045	0.035
	Reactance	X_1	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_1	mΩ/m	0.087	0.072	0.059	0.051	0.037
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.109	0.088	0.077	0.065	0.049
	Reactance	X_F	mΩ/m	0.079	0.081	0.081	0.065	0.047
	Impedance	Z_F	mΩ/m	0.134	0.120	0.121	0.092	0.068
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.196	0.162	0.142	0.122	0.093
		X_0	mΩ/m	0.121	0.127	0.121	0.095	0.067
		Z_0	mΩ/m	0.230	0.206	0.187	0.154	0.114
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	38	50	57	60	75
Rated impulse withstand current	Peak value	I_{pk}	kA	80	110	125	132	165
Conductor material				Copper				
No. of busbars				4	4	4	4	4
Conductor cross section	L1, L2, L3	A	mm^2	292	386	442	586	712
Equivalent copper cross section	PEN	A	mm^2	1240	1334	1460	1604	1847
Weights			kg/m	17.9	21.6	24.1	29.7	35.3

System-specific data			LXC	0641	0741	0841	0941
Rated current		I_e	A	2500	3200 [5]	4000	5000
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.017	0.013	0.011	0.009
	Reactance	X_{20}	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_{20}	mΩ/m	0.019	0.017	0.014	0.010
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.021	0.016	0.014	0.011
	Reactance	X_1	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_1	mΩ/m	0.022	0.020	0.016	0.012
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.032	0.024	0.021	0.018
	Reactance	X_F	mΩ/m	0.033	0.037	0.029	0.018
	Impedance	Z_F	mΩ/m	0.046	0.044	0.036	0.025
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.061	0.047	0.041	0.035
		X_0	mΩ/m	0.046	0.049	0.043	0.026
		Z_0	mΩ/m	0.077	0.068	0.059	0.044
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	150	150
Rated impulse withstand current	Peak value	I_{pk}	kA	189	220	255	255
Conductor material				Copper			
No. of busbars				4	4	8	8
Conductor cross section	L1, L2, L3	A	mm^2	1192	1586	1892	2384
Equivalent copper cross section	PEN	A	mm^2	2540	2934	4162	5080
Weights			kg/m	55.2	70.6	88.9	110.5

[1] Reduction in rated current to 800 A with horizontal flat mounting position

[2] Reduction in rated current to 1380 A with horizontal flat mounting position

[3] Reduction in rated current to 1570 A with horizontal flat mounting position

[4] Reduction in rated current to 1900 A with horizontal flat mounting position

[5] Reduction in rated current to 3100 A with horizontal flat mounting position

7.10 Trunking units LXC..51 (copper)

System-specific data			LXC	0151	0251	0351	0451	0551
Rated current		I_e	A	1000 [1]	1250	1400 [2]	1600 [3]	2000 [4]
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.065	0.051	0.044	0.037	0.027
	Reactance	X_{20}	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_{20}	mΩ/m	0.071	0.059	0.048	0.045	0.030
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.083	0.065	0.055	0.045	0.035
	Reactance	X_1	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_1	mΩ/m	0.087	0.072	0.059	0.051	0.037
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.198	0.188	0.172	0.155	0.142
	Reactance	X_F	mΩ/m	0.157	0.139	0.136	0.114	0.113
	Impedance	Z_F	mΩ/m	0.253	0.234	0.219	0.193	0.181
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.149	0.127	0.104	0.090	0.065
	Reactance	X_F	mΩ/m	0.109	0.118	0.084	0.091	0.062
	Impedance	Z_F	mΩ/m	0.184	0.174	0.134	0.128	0.090
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.465	0.462	0.427	0.392	0.371
		X_0	mΩ/m	0.416	0.354	0.367	0.289	0.312
		Z_0	mΩ/m	0.624	0.582	0.563	0.488	0.485
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.293	0.244	0.204	0.173	0.129
		X_0	mΩ/m	0.153	0.161	0.112	0.119	0.080
		Z_0	mΩ/m	0.330	0.292	0.233	0.210	0.152
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	38	50	57	60	75
Rated impulse withstand current	Peak value	I_{pk}	kA	80	110	125	132	165
Conductor material				Copper				
No. of busbars				4	4	4	4	4
Conductor cross section	L1, L2, L3	A	mm^2	292	386	442	586	712
	N	A	mm^2	292	386	442	586	712
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1018	1135
Weights			kg/m	17.9	21.6	24.1	29.7	35.3

System-specific data			LXC	0651	0751	0851	0951
Rated current		I_e	A	2500	3200 [5]	4000	5000
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.017	0.013	0.011	0.009
	Reactance	X_{20}	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_{20}	mΩ/m	0.019	0.017	0.014	0.010
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.021	0.016	0.014	0.011
	Reactance	X_1	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_1	mΩ/m	0.022	0.019	0.016	0.012
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.128	0.109	0.076	0.059
	Reactance	X_F	mΩ/m	0.103	0.087	0.058	0.047
	Impedance	Z_F	mΩ/m	0.164	0.140	0.095	0.075
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.042	0.039	0.030	0.021
	Reactance	X_F	mΩ/m	0.041	0.050	0.036	0.022
	Impedance	Z_F	mΩ/m	0.058	0.064	0.047	0.030
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.350	0.302	0.205	0.159
		X_0	mΩ/m	0.290	0.239	0.158	0.131
		Z_0	mΩ/m	0.455	0.385	0.259	0.206
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.082	0.074	0.061	0.043
		X_0	mΩ/m	0.053	0.062	0.049	0.030
		Z_0	mΩ/m	0.098	0.096	0.078	0.053
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	150	150
Rated impulse withstand current	Peak value	I_{pk}	kA	189	220	255	255
Conductor material				Copper			
No. of busbars				4	4	8	8
Conductor cross section	L1, L2, L3	A	mm^2	1192	1586	1892	2384
	N	A	mm^2	1192	1586	1892	2384
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	1348	2270	2696
Weights			kg/m	55.2	70.6	88.9	110.5

[1] Reduction in rated current to 800 A with horizontal flat mounting position

[2] Reduction in rated current to 1380 A with horizontal flat mounting position

[3] Reduction in rated current to 1570 A with horizontal flat mounting position

[4] Reduction in rated current to 1900 A with horizontal flat mounting position

[5] Reduction in rated current to 3100 A with horizontal flat mounting position

7.11 Trunking units LXC..52 (copper)

System-specific data			LXC	0152	0252	0352	0452	0552
Rated current		I_e	A	1000 [1]	1250	1400 [2]	1600 [3]	2000 [4]
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.065	0.051	0.044	0.037	0.027
	Reactance	X_{20}	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_{20}	mΩ/m	0.071	0.059	0.048	0.045	0.030
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.083	0.065	0.055	0.045	0.035
	Reactance	X_1	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_1	mΩ/m	0.087	0.072	0.059	0.051	0.037
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.198	0.188	0.172	0.155	0.142
	Reactance	X_F	mΩ/m	0.157	0.139	0.136	0.114	0.113
	Impedance	Z_F	mΩ/m	0.253	0.234	0.219	0.193	0.181
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.112	0.100	0.088	0.076	0.064
	Reactance	X_F	mΩ/m	0.129	0.118	0.107	0.096	0.085
	Impedance	Z_F	mΩ/m	0.170	0.154	0.138	0.122	0.106
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.465	0.462	0.427	0.392	0.371
		X_0	mΩ/m	0.416	0.354	0.367	0.289	0.312
		Z_0	mΩ/m	0.624	0.582	0.563	0.488	0.485
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.220	0.197	0.173	0.149	0.126
		X_0	mΩ/m	0.177	0.162	0.146	0.131	0.115
		Z_0	mΩ/m	0.282	0.255	0.226	0.198	0.170
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	38	50	57	60	75
Rated impulse withstand current	Peak value	I_{pk}	kA	80	110	125	132	165
Conductor material				Copper				
No. of busbars				5	5	5	5	5
Conductor cross section	L1, L2, L3	A	mm^2	292	386	442	586	712
	N	A	mm^2	584	772	884	1172	1424
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1018	1135
Weights			kg/m	20.7	25.3	28.2	35.2	41.9

System-specific data			LXC	0652	0752	0852	0952
Rated current		I_e	A	2500	3200 [5]	4000	5000
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.017	0.013	0.011	0.009
	Reactance	X_{20}	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_{20}	mΩ/m	0.019	0.017	0.014	0.010
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.021	0.016	0.014	0.011
	Reactance	X_1	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_1	mΩ/m	0.022	0.019	0.016	0.012
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.128	0.109	0.076	0.059
	Reactance	X_F	mΩ/m	0.103	0.087	0.058	0.047
	Impedance	Z_F	mΩ/m	0.164	0.140	0.095	0.075
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.052	0.040	0.028	0.016
	Reactance	X_F	mΩ/m	0.074	0.063	0.052	0.042
	Impedance	Z_F	mΩ/m	0.090	0.074	0.059	0.044
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.350	0.302	0.205	0.159
		X_0	mΩ/m	0.290	0.239	0.158	0.131
		Z_0	mΩ/m	0.455	0.385	0.259	0.206
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.103	0.079	0.056	0.032
		X_0	mΩ/m	0.100	0.084	0.069	0.053
		Z_0	mΩ/m	0.143	0.115	0.088	0.061
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	150	150
Rated impulse withstand current	Peak value	I_{pk}	kA	189	220	255	255
Conductor material				Copper			
No. of busbars				5	5	10	10
Conductor cross section	L1, L2, L3	A	mm^2	1192	1586	1892	2384
	N	A	mm^2	2384	3172	3784	4768
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	1348	2270	2696
Weights			kg/m	66.3	85.5	107.2	133.2

[1] Reduction in rated current to 800 A with horizontal flat mounting position

[2] Reduction in rated current to 1380 A with horizontal flat mounting position

[3] Reduction in rated current to 1570 A with horizontal flat mounting position

[4] Reduction in rated current to 1900 A with horizontal flat mounting position

[5] Reduction in rated current to 3100 A with horizontal flat mounting position

7.12 Trunking units LXC..53 (copper)

System-specific data			LXC	0153	0253	0353	0453	0553
Rated current		I_e	A	1000 [1]	1250	1400 [2]	1600 [3]	2000 [4]
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.065	0.051	0.044	0.037	0.027
	Reactance	X_{20}	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_{20}	mΩ/m	0.071	0.059	0.048	0.045	0.030
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.083	0.065	0.055	0.045	0.035
	Reactance	X_1	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_1	mΩ/m	0.087	0.072	0.059	0.051	0.037
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.159	0.149	0.131	0.115	0.101
	Reactance	X_F	mΩ/m	0.149	0.131	0.126	0.106	0.103
	Impedance	Z_F	mΩ/m	0.218	0.198	0.182	0.156	0.144
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.149	0.133	0.117	0.101	0.085
	Reactance	X_F	mΩ/m	0.129	0.118	0.107	0.096	0.085
	Impedance	Z_F	mΩ/m	0.197	0.177	0.158	0.139	0.120
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.348	0.345	0.305	0.270	0.249
		X_0	mΩ/m	0.392	0.330	0.337	0.265	0.282
		Z_0	mΩ/m	0.524	0.478	0.455	0.379	0.377
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.293	0.262	0.230	0.199	0.168
		X_0	mΩ/m	0.177	0.162	0.146	0.131	0.115
		Z_0	mΩ/m	0.342	0.308	0.272	0.238	0.203
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	38	50	57	60	75
Rated impulse withstand current	Peak value	I_{pk}	kA	80	110	125	132	165
Conductor material				Copper				
No. of busbars				5	5	5	5	5
Conductor cross section	L1, L2, L3	A	mm^2	292	386	442	586	712
	N	A	mm^2	292	386	442	586	712
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1018	1135
	+ busbar	A	mm^2	292	386	442	586	712
Weights			kg/m	20.7	25.3	28.2	35.2	41.9

System-specific data			LXC	0653	0753	0853	0953
Rated current		I_e	A	2500	3200 [5]	4000	5000
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.017	0.013	0.011	0.009
	Reactance	X_{20}	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_{20}	mΩ/m	0.019	0.017	0.014	0.010
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.021	0.016	0.014	0.011
	Reactance	X_1	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_1	mΩ/m	0.022	0.019	0.016	0.012
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.087	0.069	0.048	0.029
	Reactance	X_F	mΩ/m	0.091	0.075	0.062	0.049
	Impedance	Z_F	mΩ/m	0.126	0.101	0.078	0.057
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.069	0.053	0.037	0.021
	Reactance	X_F	mΩ/m	0.074	0.063	0.052	0.042
	Impedance	Z_F	mΩ/m	0.101	0.082	0.063	0.046
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.228	0.180	0.122	0.070
		X_0	mΩ/m	0.254	0.203	0.170	0.137
		Z_0	mΩ/m	0.342	0.271	0.209	0.154
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.137	0.105	0.074	0.043
		X_0	mΩ/m	0.100	0.084	0.069	0.053
		Z_0	mΩ/m	0.169	0.134	0.101	0.068
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	150	150
Rated impulse withstand current	Peak value	I_{pk}	kA	189	220	255	255
Conductor material				Copper			
No. of busbars				5	5	10	10
Conductor cross section	L1, L2, L3	A	mm^2	1192	1586	1892	2384
	N	A	mm^2	1192	1586	1892	2384
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	1348	2270	2696
	+ busbar	A	mm^2	1192	1586	1892	2384
Weights			kg/m	66.3	85.5	107.2	133.2

[1] Reduction in rated current to 800 A with horizontal flat mounting position

[2] Reduction in rated current to 1380 A with horizontal flat mounting position

[3] Reduction in rated current to 1570 A with horizontal flat mounting position

[4] Reduction in rated current to 1900 A with horizontal flat mounting position

[5] Reduction in rated current to 3100 A with horizontal flat mounting position

7.13 Trunking units LXC..54 (copper)

System-specific data			LXC	0154	0254	0354	0454	0554
Rated current		I_e	A	1000 [1]	1250	1400 [2]	1600 [3]	2000 [4]
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.065	0.051	0.044	0.037	0.027
	Reactance	X_{20}	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_{20}	mΩ/m	0.071	0.059	0.048	0.045	0.030
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.083	0.065	0.055	0.045	0.035
	Reactance	X_1	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_1	mΩ/m	0.087	0.072	0.059	0.051	0.037
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.159	0.149	0.131	0.115	0.101
	Reactance	X_F	mΩ/m	0.149	0.131	0.126	0.106	0.103
	Impedance	Z_F	mΩ/m	0.218	0.198	0.182	0.156	0.144
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.112	0.100	0.088	0.076	0.064
	Reactance	X_F	mΩ/m	0.129	0.118	0.107	0.096	0.085
	Impedance	Z_F	mΩ/m	0.170	0.154	0.138	0.122	0.106
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.348	0.345	0.305	0.270	0.249
		X_0	mΩ/m	0.392	0.330	0.337	0.265	0.282
		Z_0	mΩ/m	0.524	0.478	0.455	0.379	0.377
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.220	0.197	0.173	0.149	0.126
		X_0	mΩ/m	0.177	0.162	0.146	0.131	0.115
		Z_0	mΩ/m	0.282	0.255	0.226	0.198	0.170
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	38	50	57	60	75
Rated impulse withstand current	Peak value	I_{pk}	kA	80	110	125	132	165
Conductor material				Copper				
No. of busbars				6	6	6	6	6
Conductor cross section	L1, L2, L3	A	mm^2	292	386	442	586	712
	N	A	mm^2	584	772	884	1172	1424
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1018	1135
	+ busbar	A	mm^2	292	386	442	586	712
Weights			kg/m	23.5	29	32.4	40.8	48.6

System-specific data			LXC	0654	0754	0854	0954
Rated current		I_e	A	2500	3200 [5]	4000	5000
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.017	0.013	0.011	0.009
	Reactance	X_{20}	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_{20}	mΩ/m	0.019	0.017	0.014	0.010
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.021	0.016	0.014	0.011
	Reactance	X_1	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_1	mΩ/m	0.022	0.019	0.016	0.012
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.087	0.069	0.048	0.029
	Reactance	X_F	mΩ/m	0.091	0.075	0.062	0.049
	Impedance	Z_F	mΩ/m	0.126	0.101	0.078	0.057
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.052	0.040	0.028	0.016
	Reactance	X_F	mΩ/m	0.074	0.063	0.052	0.042
	Impedance	Z_F	mΩ/m	0.090	0.074	0.059	0.044
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.228	0.180	0.122	0.070
		X_0	mΩ/m	0.254	0.203	0.170	0.137
		Z_0	mΩ/m	0.342	0.271	0.209	0.154
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.103	0.079	0.056	0.032
		X_0	mΩ/m	0.100	0.084	0.069	0.053
		Z_0	mΩ/m	0.143	0.115	0.088	0.061
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	150	150
Rated impulse withstand current	Peak value	I_{pk}	kA	189	220	255	255
Conductor material				Copper			
No. of busbars				6	6	12	12
Conductor cross section	L1, L2, L3	A	mm^2	1192	1586	1892	2384
	N	A	mm^2	2384	3172	3784	4768
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	1348	2270	2696
	+ busbar	A	mm^2	1192	1586	1872	2384
Weights			kg/m	77.5	100.4	125.4	155.9

[1] Reduction in rated current to 800 A with horizontal flat mounting position

[2] Reduction in rated current to 1380 A with horizontal flat mounting position

[3] Reduction in rated current to 1570 A with horizontal flat mounting position

[4] Reduction in rated current to 1900 A with horizontal flat mounting position

[5] Reduction in rated current to 3100 A with horizontal flat mounting position

7.14 Trunking units LXC..61 (copper)

System-specific data			LXC	0161	0261	0361	0461	0561
Rated current		I_e	A	1000 [1]	1250	1400 [2]	1600 [3]	2000 [4]
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.065	0.051	0.044	0.037	0.027
	Reactance	X_{20}	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_{20}	mΩ/m	0.071	0.059	0.048	0.045	0.030
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.083	0.065	0.055	0.045	0.035
	Reactance	X_1	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_1	mΩ/m	0.087	0.072	0.059	0.051	0.037
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.198	0.188	0.172	0.155	0.142
	Reactance	X_F	mΩ/m	0.157	0.139	0.136	0.114	0.113
	Impedance	Z_F	mΩ/m	0.253	0.234	0.219	0.193	0.181
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.149	0.127	0.117	0.101	0.085
	Reactance	X_F	mΩ/m	0.129	0.118	0.107	0.096	0.085
	Impedance	Z_F	mΩ/m	0.197	0.174	0.158	0.139	0.120
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.465	0.462	0.427	0.392	0.371
		X_0	mΩ/m	0.416	0.354	0.367	0.289	0.312
		Z_0	mΩ/m	0.624	0.582	0.563	0.488	0.485
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.293	0.262	0.230	0.199	0.168
		X_0	mΩ/m	0.177	0.162	0.146	0.131	0.115
		Z_0	mΩ/m	0.342	0.308	0.272	0.238	0.203
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	38	50	57	60	75
Rated impulse withstand current	Peak value	I_{pk}	kA	80	110	125	132	165
Conductor material				Copper				
No. of busbars				5	5	5	5	5
Conductor cross section	L1, L2, L3, (PE) [6]	A	mm^2	292	386	442	586	712
	N	A	mm^2	292	386	442	586	712
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1018	1135
Weights			kg/m	20.7	25.3	28.2	35.2	41.9

System-specific data			LXC	0661	0761	0861	0961
Rated current		I_e	A	2500	3200 [5]	4000	5000
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.017	0.013	0.011	0.009
	Reactance	X_{20}	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_{20}	mΩ/m	0.019	0.017	0.014	0.010
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.021	0.016	0.014	0.011
	Reactance	X_1	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_1	mΩ/m	0.022	0.019	0.016	0.012
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.128	0.109	0.076	0.059
	Reactance	X_F	mΩ/m	0.103	0.087	0.058	0.047
	Impedance	Z_F	mΩ/m	0.164	0.140	0.095	0.075
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.069	0.053	0.037	0.021
	Reactance	X_F	mΩ/m	0.074	0.063	0.052	0.042
	Impedance	Z_F	mΩ/m	0.101	0.082	0.063	0.046
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.350	0.302	0.205	0.159
		X_0	mΩ/m	0.290	0.239	0.158	0.131
		Z_0	mΩ/m	0.455	0.385	0.259	0.206
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.137	0.105	0.074	0.043
		X_0	mΩ/m	0.100	0.084	0.069	0.053
		Z_0	mΩ/m	0.169	0.134	0.101	0.068
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	150	150
Rated impulse withstand current	Peak value	I_{pk}	kA	189	220	255	255
Conductor material				Copper			
No. of busbars				5	5	10	10
Conductor cross section	L1, L2, L3, (PE) [6]	A	mm^2	1192	1586	1892	2384
	N	A	mm^2	1192	1586	1892	2384
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	1348	2270	2696
Weights			kg/m	66.3	85.5	107.2	133.2

[1] Reduction in rated current to 800 A with horizontal flat mounting position

[2] Reduction in rated current to 1380 A with horizontal flat mounting position

[3] Reduction in rated current to 1570 A with horizontal flat mounting position

[4] Reduction in rated current to 1900 A with horizontal flat mounting position

[5] Reduction in rated current to 3100 A with horizontal flat mounting position

[6] Insulated PE conductor

7.15 Trunking units LXC..62 (copper)

System-specific data			LXC	0162	0262	0362	0462	0562
Rated current		I_e	A	1000 [1]	1250	1400 [2]	1600 [3]	2000 [4]
Conductor impedance								
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.065	0.051	0.044	0.037	0.027
	Reactance	X_{20}	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_{20}	mΩ/m	0.071	0.059	0.048	0.045	0.030
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.083	0.065	0.055	0.045	0.035
	Reactance	X_1	mΩ/m	0.027	0.031	0.020	0.026	0.013
	Impedance	Z_1	mΩ/m	0.087	0.072	0.059	0.051	0.037
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.198	0.188	0.172	0.155	0.142
	Reactance	X_F	mΩ/m	0.157	0.139	0.136	0.114	0.113
	Impedance	Z_F	mΩ/m	0.253	0.234	0.219	0.193	0.181
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.112	0.100	0.088	0.076	0.064
	Reactance	X_F	mΩ/m	0.129	0.118	0.107	0.096	0.085
	Impedance	Z_F	mΩ/m	0.170	0.154	0.138	0.122	0.106
Zero impedance								
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.465	0.462	0.427	0.392	0.371
		X_0	mΩ/m	0.416	0.354	0.367	0.289	0.312
		Z_0	mΩ/m	0.624	0.582	0.563	0.488	0.485
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.220	0.197	0.173	0.149	0.126
		X_0	mΩ/m	0.177	0.162	0.146	0.131	0.115
		Z_0	mΩ/m	0.282	0.255	0.226	0.198	0.170
Short-circuit rating								
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	38	50	57	60	75
Rated impulse withstand current	Peak value	I_{pk}	kA	80	110	125	132	165
Conductor material				Copper				
No. of busbars				6	6	6	6	6
Conductor cross section	L1, L2, L3, (PE) [6]	A	mm^2	292	386	442	586	712
	N	A	mm^2	584	772	884	1172	1424
Equivalent copper cross section	PE = enclosure	A	mm^2	948	948	1018	1018	1135
Weights			kg/m	23.5	29	32.4	40.8	48.6

System-specific data			LXC	0662	0762	0862	0962
Rated current		I_e	A	2500	3200 [5]	4000	5000
Conductor impedance							
At 50 Hz and + 20 °C busbar temperature	Resistance	R_{20}	mΩ/m	0.017	0.013	0.011	0.009
	Reactance	X_{20}	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_{20}	mΩ/m	0.019	0.017	0.014	0.010
At 50 Hz and final heating of busbars	Resistance	R_1	mΩ/m	0.021	0.016	0.014	0.011
	Reactance	X_1	mΩ/m	0.009	0.011	0.008	0.005
	Impedance	Z_1	mΩ/m	0.022	0.019	0.016	0.012
for 5-pole systems (PE) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.128	0.109	0.076	0.059
	Reactance	X_F	mΩ/m	0.103	0.087	0.058	0.047
	Impedance	Z_F	mΩ/m	0.164	0.140	0.095	0.075
for 5-pole systems (N) under fault conditions acc. to EN 60439-2	Resistance	R_F	mΩ/m	0.052	0.040	0.028	0.016
	Reactance	X_F	mΩ/m	0.074	0.063	0.052	0.042
	Impedance	Z_F	mΩ/m	0.090	0.074	0.059	0.044
Zero impedance							
for 5-pole systems (PE) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.350	0.302	0.205	0.159
		X_0	mΩ/m	0.290	0.239	0.158	0.131
		Z_0	mΩ/m	0.455	0.385	0.259	0.206
for 5-pole systems (N) acc. to DIN EN 60909-0 / VDE 0102		R_0	mΩ/m	0.103	0.079	0.056	0.032
		X_0	mΩ/m	0.100	0.084	0.069	0.053
		Z_0	mΩ/m	0.143	0.115	0.088	0.061
Short-circuit rating							
Rated short-time withstand current	rms value t = 1 s	I_{cw}	kA	86	100	150	150
Rated impulse withstand current	Peak value	I_{pk}	kA	189	220	255	255
Conductor material				Copper			
No. of busbars				6	6	12	12
Conductor cross section	L1, L2, L3, (PE) [6]	A	mm^2	1192	1586	1892	2384
	N	A	mm^2	2384	3172	3784	4768
Equivalent copper cross section	PE = enclosure	A	mm^2	1348	1348	2270	2696
Weights			kg/m	77.5	100.4	125.4	155.9

[1] Reduction in rated current to 800 A with horizontal flat mounting position

[2] Reduction in rated current to 1380 A with horizontal flat mounting position

[3] Reduction in rated current to 1570 A with horizontal flat mounting position

[4] Reduction in rated current to 1900 A with horizontal flat mounting position

[5] Reduction in rated current to 3100 A with horizontal flat mounting position

[6] Insulated PE conductor

7.16 Fire load for trunking units without tap-off points

System	Fire load [kWh/m]
LXA(C)0141 LXA(C)0151	1.95
LXA(C)0241 LXA(C)0251	2.04
LXC0341 LXC0351	2.42
LXA(C)0441 LXA(C)0451	2.53
LXA0541 LXA0551	3.54
LXC0541 LXC0551	3.48
LXA(C)0641 LXA(C)0651	5.33
LXA(C)0741 LXA(C)0751	5.42
LXA(C)0841 LXA(C)0851	7.28
LXA(C)0941 LXA(C)0951	10.88
LXA1041 LXA1051	11.07

For trunking units with tap-off points, regardless of system size, a fire load of 2.9 kWh must be taken into account for each tap-off point.

Fire load values for LX...30, LX...52, LX...53, LX...54, LX...61, LX...62 are only available on request.

7.17 Fixing distances

Fixing distances [m] for conventional mechanical load with horizontal installation

System	Edgewise busbars	Flat busbars
LXA(C)01..	2	2
LXA(C)02..	2	2
LXC03..	2	2
LXA(C)04..	2	2
LXA(C)05..	3	2
LXA(C)06..	3	2
LXA(C)07..	3	2
LXA(C)08..	3	2
LXA(C)09..	3	2
LXA10..	3	2

7.18 Connection units for non-Siemens distribution boards

The required conductor cross sections for bare copper bars for connection to connection units for non-Siemens distribution boards.

System	I_e [A]	Number ... Cu bar width x thickness				Compatible LXA/LXC system
		1	2	3	4	
LXC(A)01..	1000 (800) [1]	60 x 10	30 x 10	20 x 10	-	LXA01.. and LXC01..
LXC(A)02..	1250 (1000) [1]	80 x 10	40 x 10	30 x 10	-	LXA02.. and LXC02..
LXC03..	1400	100 x 10	50 x 10	30 x 10	-	LXC03..
LXC(A)04..	1600 (1250) [1]	100 x 10	60 x 10	30 x 10	-	LXA04.. and LXC04..
LXA05..	1600	100 x 10	60 x 10	30 x 10	-	LXA05..
LXC05..	2000	160 x 10	80 x 10	50 x 10	-	LXC05..
LXC(A)06..	2500 (2000) [1]	200 x 10	100 x 10	60 x 10	50 x 10	LXC06.. and LXA06..
LXC(A)07..	3200 (2500) [1]	-	160 x 10	100 x 10	80 x 10	LXC07.. and LXA07..
LXC(A)08..	4000 (3200) [1]	-	200 x 10	120 x 10	100 x 10 [2]	LXC08.. and LXA08..
LXC(A)09..	5000 (4000) [1]	-	-	200 x 10	160 x 10	LXC09.. and LXA09..
LXA10..	4500	-	-	160 x 10	120 x 10	LXA10..

[1] Connection to LXA systems

[2] In accordance with DIN 43671, Table 1, the maximum continuous current for this copper cross section is 3980 A.

7.19 Tap-off units

Standards and regulations		DIN EN 60439-1/VDE 0660-500 DIN EN 60439-2/VDE 0660-502
Resistance to extreme climates		Damp heat, constant, acc. to IEC 60068-2-78 Damp heat, cyclic, acc. to IEC 60068-2-30
Ambient temperature	°C	–5/+40/+35 (min./max./24-hour average)
Degree of protection		IP54, IP55 on request
Trunking unit material		Sheet steel, painted
Colour of tap-off units		RAL 7035 (light grey)
Dimensions		See also Chapter Auto-Hotspot
Rated insulation voltage U_i	V AC	690
Overvoltage category/ pollution degree		III/3 acc. to DIN EN 60947-1/VDE 0660-100
Rated operating voltage U_e	V AC	400
Rated frequency	Hz	50

		Size 1	Size 2			Size 3	Size 4
Tap-off units with circuit breaker							
Rated current I_e	A	50; 63; 80; 100; 125; 160; 200; 250	315	400	630	—	800 [2]; 1000 [2]; 1250
Max. permissible operating current $I_{r\,max}$ [1]	A	in accordance with I_e	315	380	520		in accordance with I_e
Conditional short-circuit rating I_{cc}	kA	65	65			—	100
Connectable cross sections (CU)							
L1, L2, L3	mm^2	1 x 50...150 2 x 25...70	1 x 70...240 2 x 70...120			—	1 x 70...240 4 x 70...240
N, PE, ISO-PE	mm^2	1 x 50...150 2 x 25...70	1 x 70...240 2 x 70...120			—	1 x 70...240 4 x 70...240
Bolted connection		M8	315 A: M8 400 A: M10 630 A: M12			—	M12

		Size 1		Size 2	Size 3	Size 4
Cable entry						
front face		Yes		Yes	—	No
side		No		Yes	—	Yes
Multi-core cable [4]						
Cable grommets		M63		2 x KT4	—	4 x KT4
Cable diameter (mm)		18 ... 47 (for 50 A ... 200 A) 14 ... 68 (for 250 A)		14...68	—	14...68
Single-core cable [3], aluminium plate, undrilled		12 x M40 (for 160 A, 200 A, 250 A only)		12 x M40	—	12 x M40
Weights	kg	9.5 (to 125 A) 19 (to 250 A)		37.2 (to 400 A) 44 (to 630 A)	—	155 (3-pole circuit breaker) 163 (4-pole circuit breaker)
Tap-off units with fuse switch disconnector						
Rated current I_e	A	125	250	400	630	—
Max. rated current I_{max} of the fuse	A	125	250	400	630	—
Max. permissible operating current $I_{r\ max}$		100	200	320	500	—
Rated short-circuit current with fuse protection	kA	100 (80) [3]		100 (80) [3]	—	—
Connectable cross sections (CU)						
L1, L2, L3	mm^2	1 x 50...150 2 x 50...120		1 x 95...240 2 x 95...120	1 x 95...240 2 x 95...120	—
N, PE, ISO-PE	mm^2	1 x 50...150 2 x 50...120		1 x 95...240 2 x 95...120	1 x 95...240 2 x 95...120	—
Bolted connection		M8		M10	M12	—
Cable entry						
front face		Yes		Yes	Yes	—
side		No		Yes	Yes	—
Multi-core cable						
Cable grommets		M63		2 x KT4	2 x KT4	—
Cable diameter (mm)		28...48		16...68	14...68	—
Single-core cable [4], aluminium plate, undrilled		12 x M40		12 x M40	12 x M40	—
Weights	kg	9,6 (to 125 A) 20.5 (to 250 A)		32.9	50	—

1 For "suspended, below" installation of the tap-off units, a reduction by 10% is necessary (reduction factor 0.9).

2) For "suspended, below" installation of the tap-off units, no reduction is necessary

3) Values in brackets apply when using fuses in accordance with BS standard

4) Cable glands with strain relief are required (not included in the scope of delivery).

Dimension drawings

8

8.1 Straight trunking units

8.1.1 Straight trunking units with tap-off points

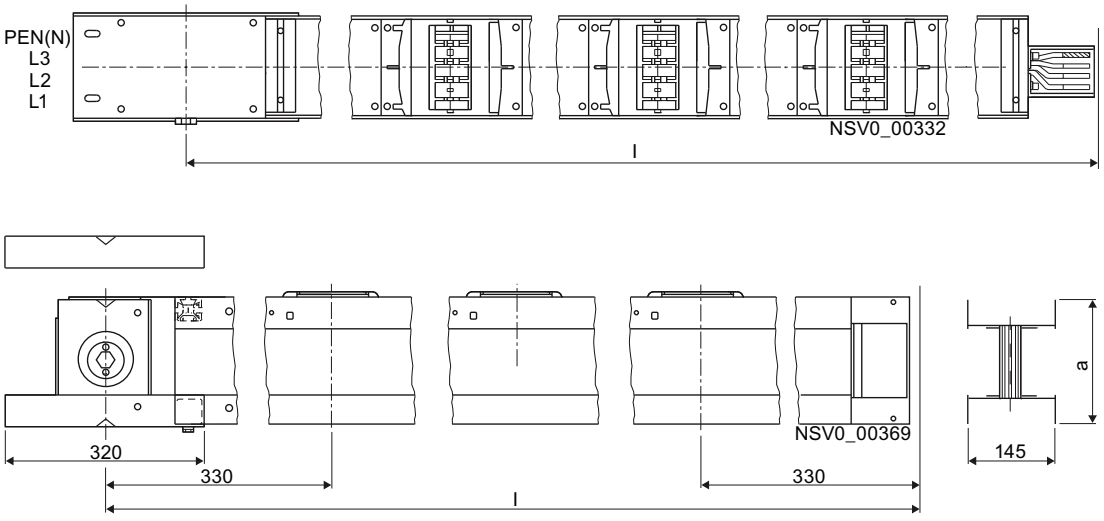


Figure 8-1 LXA(C)01 to 07

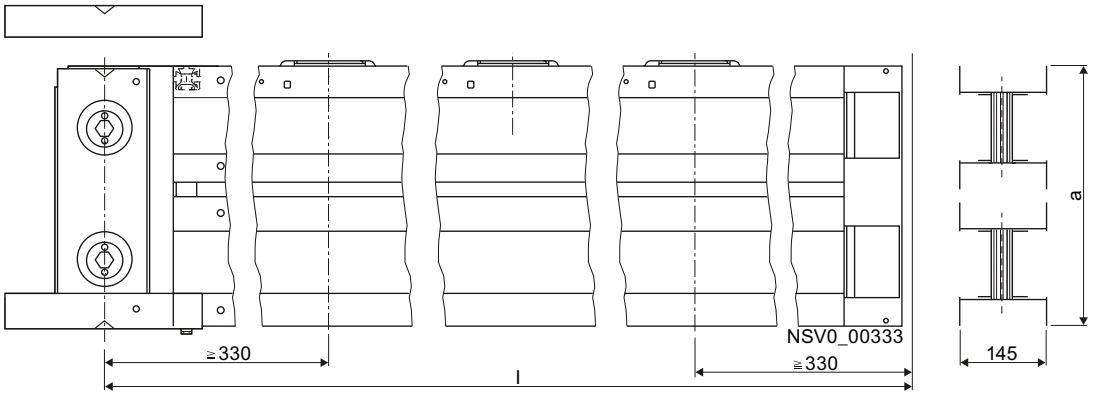


Figure 8-2 LXA(C)08 to 10

System	l	a
LXA(C)01, LXA(C)02	350...3000	137
LXC03, LXA(C)04		162
LXA(C)05		207
LXA(C)06, LXA(C)07		287
LXA(C)08		439
LXA(C)09, LXA10		599

8.1.2 Straight trunking units without tap-off points

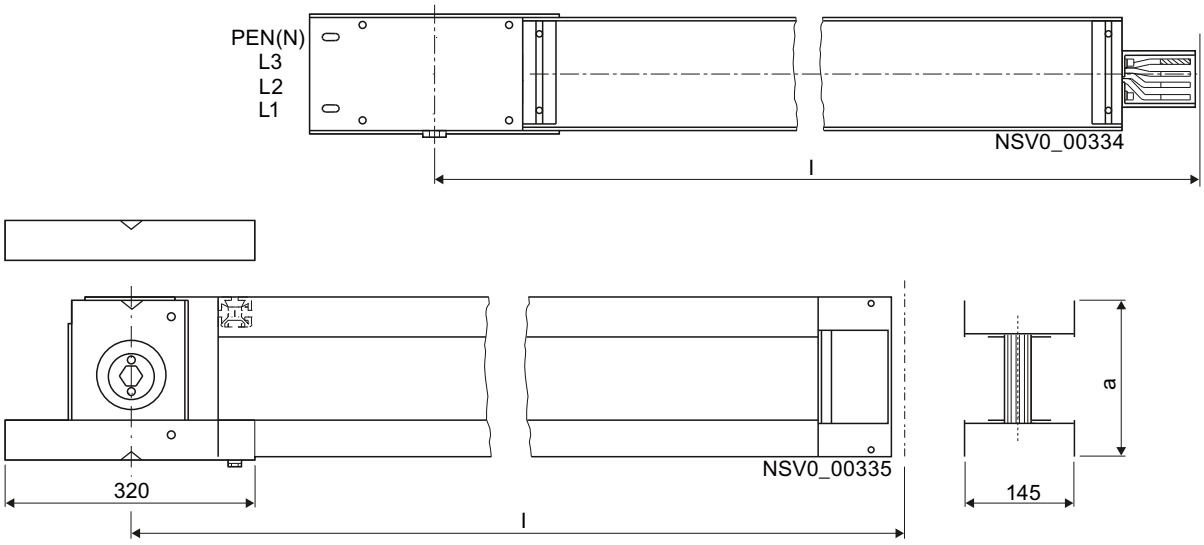


Figure 8-3 LXA(C)01 to 07

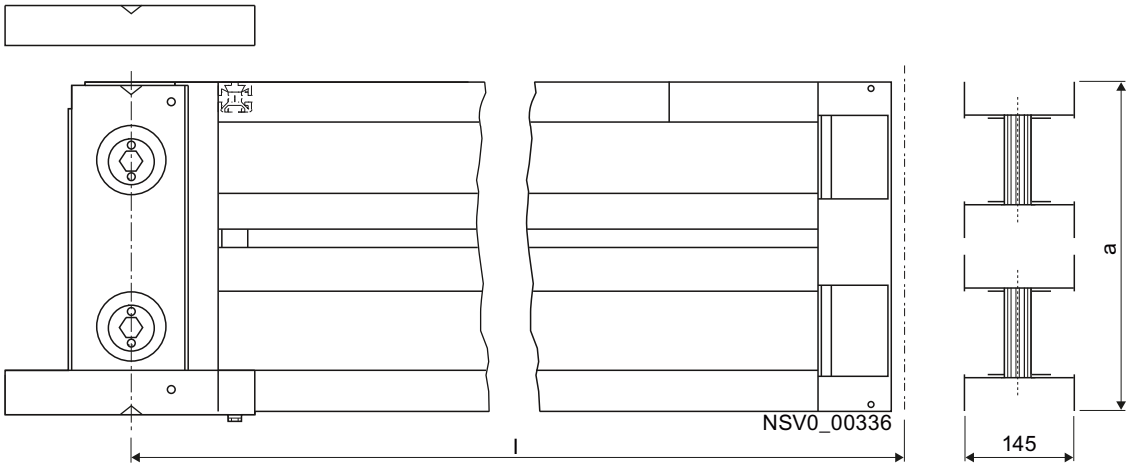


Figure 8-4 LXA(C)08 to 10

System	l	a
LXA(C)01, LXA(C)02	350...3000	137
LXC03, LXA(C)04		162
LXA(C)05		207
LXA(C)06, LXA(C)07		287
LXA(C)08		439
LXA(C)09, LXA10		599

8.1.3 Straight trunking units with expansion compensation

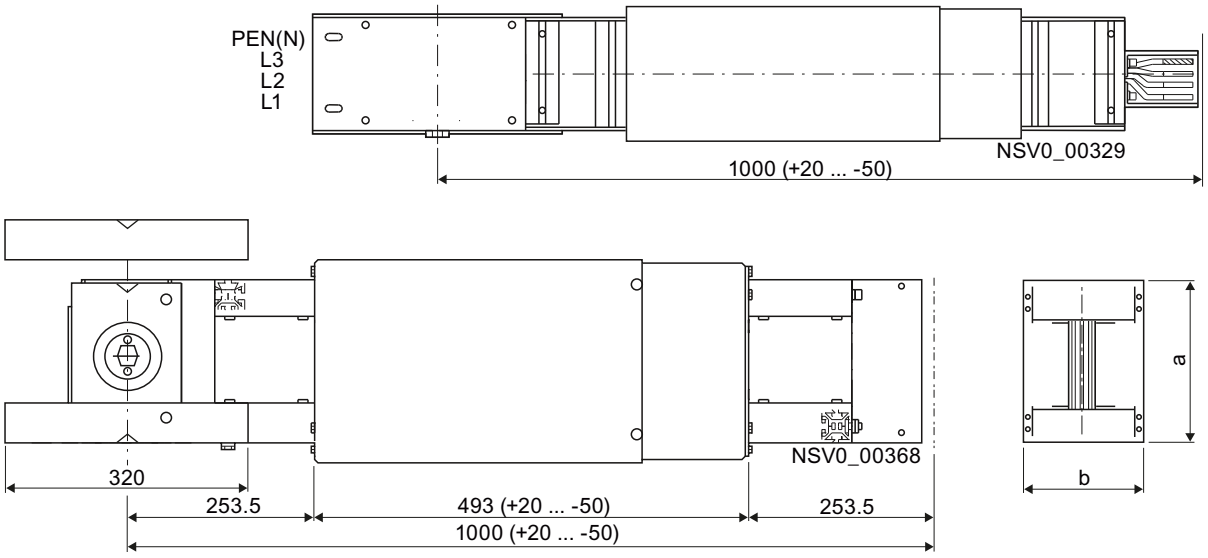


Figure 8-5 Straight trunking units with expansion compensation LXA(C)01 to 07

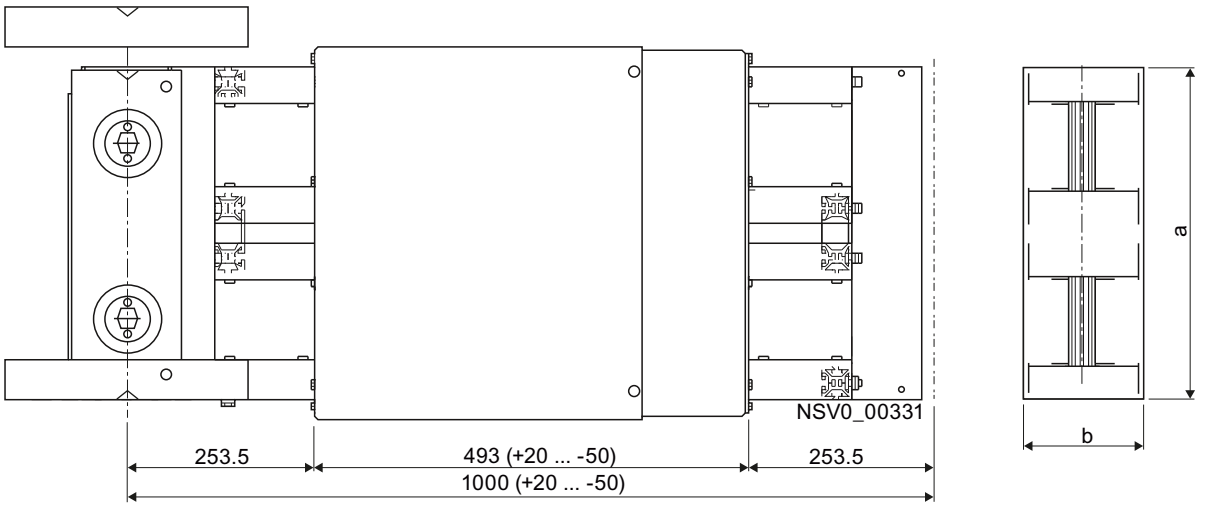


Figure 8-6 Straight trunking units with expansion compensation LXA(C)08 to 10

System	a	b
LXA(C)01, LXA(C)02	190	205
LXC03, LXA(C)04	215	205
LXA(C)05	260	205
LXA(C)06, LXA(C)07	340	205
LXA(C)08	492	205
LXA(C)09, LXA10	652	205

8.2 Junction units

Elbow (here LX...-LR)

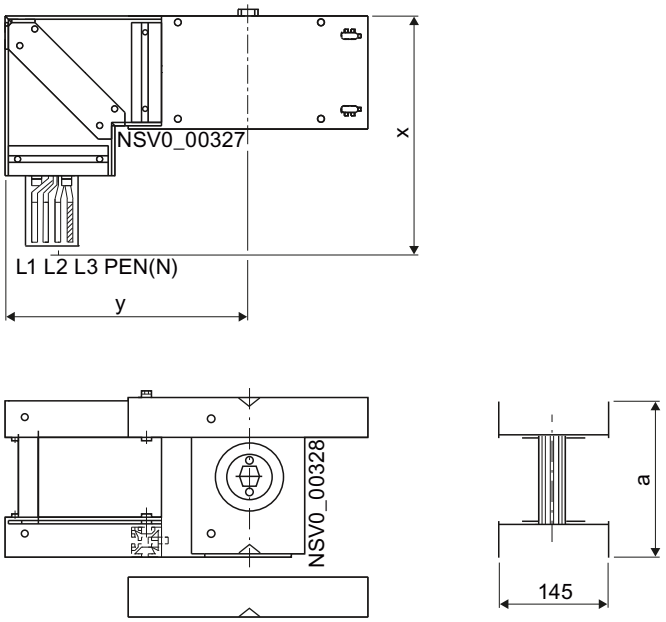


Figure 8-7 LXA(C)01 to 07

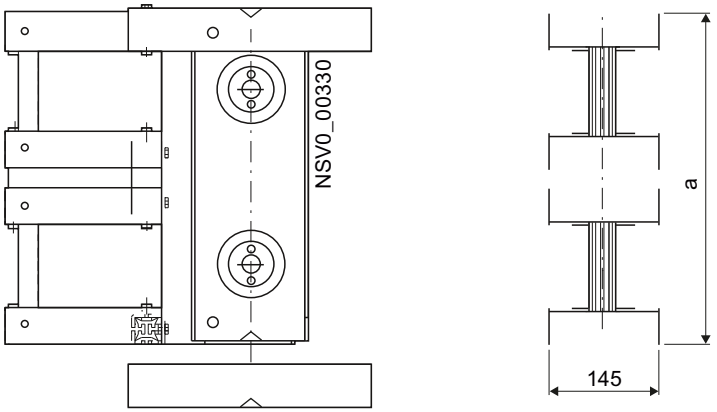


Figure 8-8 LXA(C)08 to 10

System	x	y	a
LXA(C)01, LXA(C)02	350...700 (1100)	350...700 (1100)	137
LXC03, LXA(C)04			162
LXA(C)05			207
LXA(C)06, LXA(C)07			287
LXA(C)08			439
LXA(C)09, LXA10			599

Knee (here: LX... - LH)

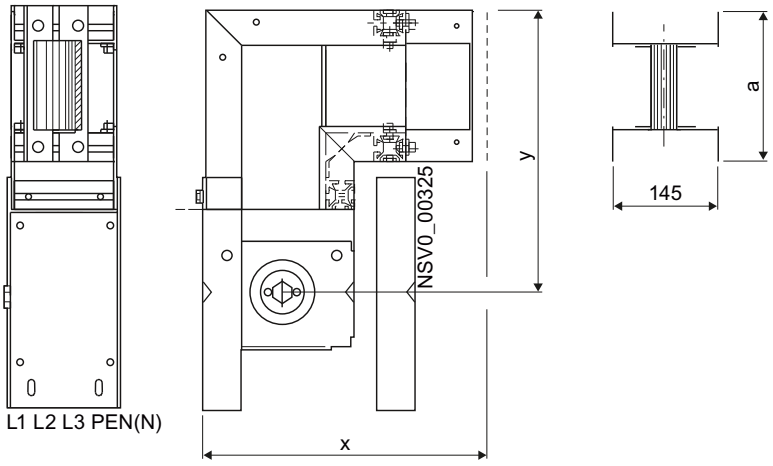


Figure 8-9 LXA(C)01 to 07

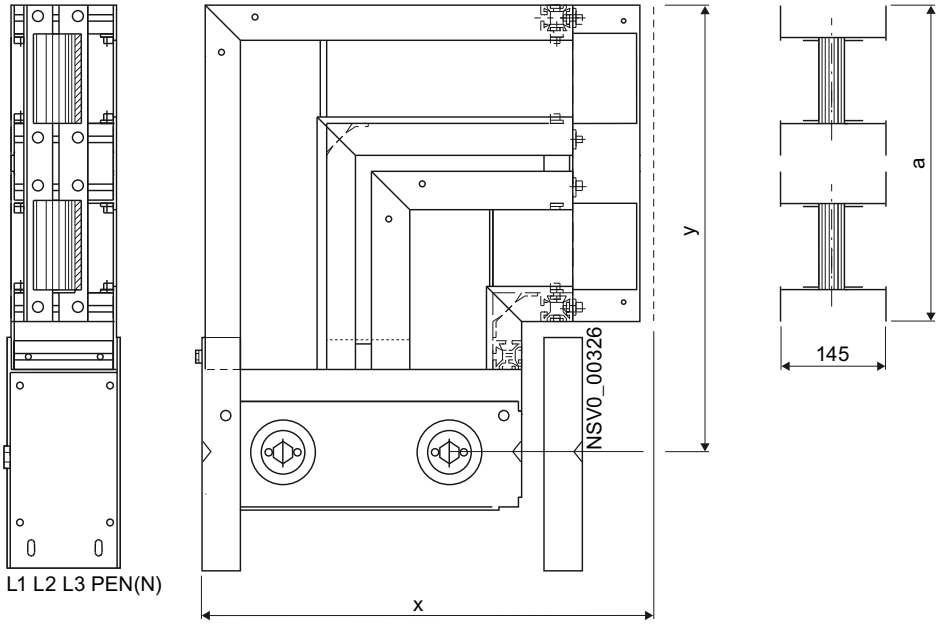


Figure 8-10 LXA(C)08 to 10

System	x	y	a
LXA(C)01, LXA(C)02	350...700 (1100)	350...700 (1100)	137
LXC03, LXA(C)04			162
LXA(C)05	500...850 (1200)	500...850 (1200)	207
LXA(C)06, LXA(C)07			287
LXA(C)08	800...1150 (1500)	800...1150 (1500)	439
LXA(C)09, LXA10			599

8.3 Feeder units

8.3.1 Universal busbar connection units

8.3.1.1 Universal busbar connection unit AS1

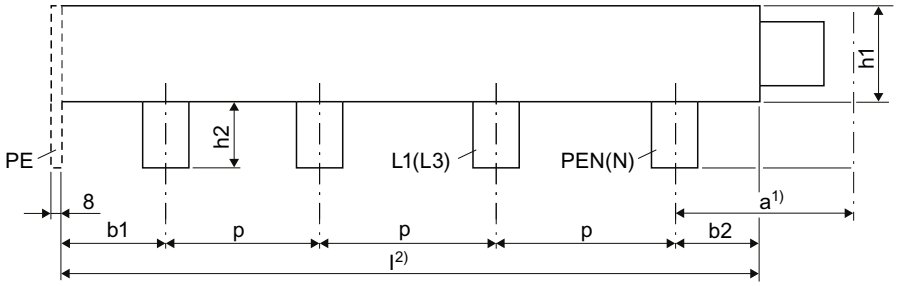
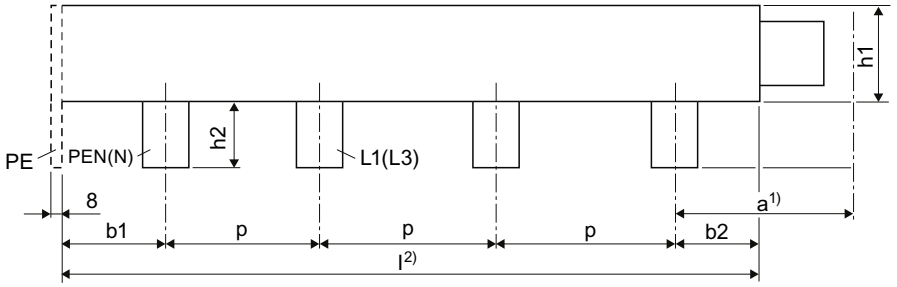


Figure 8-11 LX .....- AS1(+LX-.A)/(+LX -.C)



1) Reference dimension for configuring = centre of joint block to centre of 1st connection tag. More detailed information: See Chapter Feeder units (Page 85).

2) Total length l of the connection unit is the sum of the configured connection tag distances.

Figure 8-12 LX .....- AS1(+LX -.B)/(+LX-.D)

System	a	b1	b2	h1	h2	p min.	p max.
LXA(C)01	255	140	140	137	96.5	115	400
LXA(C)02	255	140	140	137	96.5	115	400
LXA(C)03	255	140	140	162	96.5	135	400
LXA(C)04	255	140	140	162	96.5	135	400
LXA(C)05	255	140	140	207	96.5	135	400
LXA(C)06	255	140	140	287	96.5	155	400
LXA(C)07	255	140	140	287	96.5	155	400
LXA(C)08	315	200	200	439	96.5	275	400
LXA(C)09	315	200	200	599	96.5	275	400
LXA(C)10	315	200	200	599	96.5	275	400

8.3.1.2 Universal busbar connection unit AS3

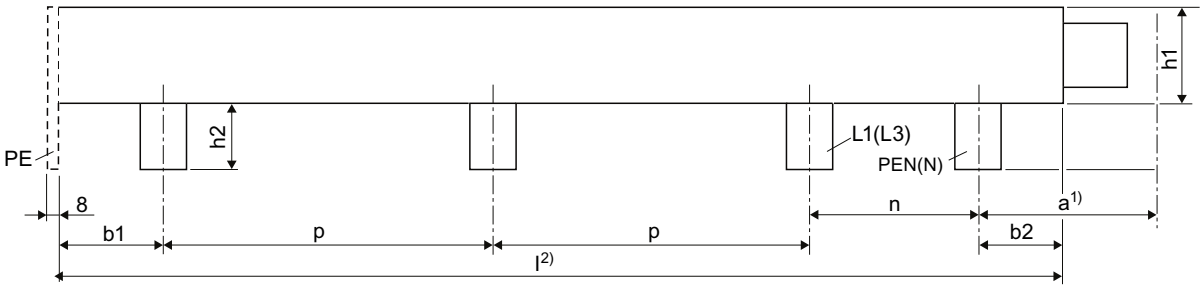
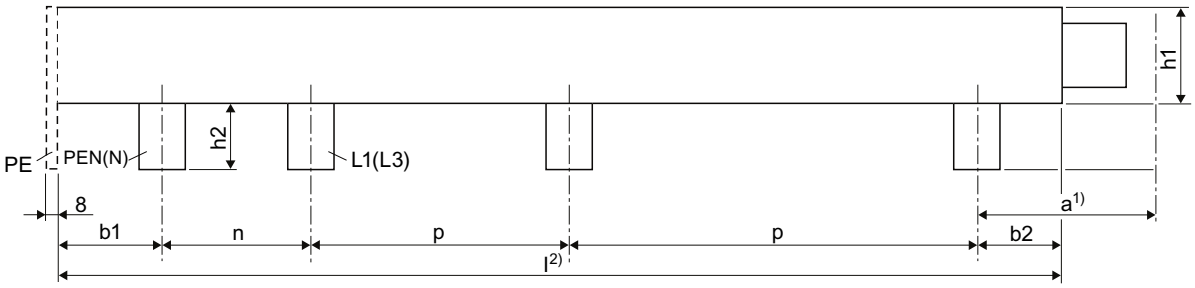


Figure 8-13 LX .....-AS3(+LX-.A)/(+LX-.C)



1) Reference dimension for configuring = centre of joint block to centre of 1st connection tag.
More detailed information: See Chapter Feeder units (Page 164).

2) Total length l of the connection unit is the sum of the configured connection tag distances.

Figure 8-14 LX .....-AS3(+LX-.B)/(+LX-.D)

System	a	b1	b2	h1	h2	p min.	p max.	n min.	n max.
LXA(C)01	255	140	140	137	96.5	405	750	150	400
LXA(C)02	255	140	140	137	96.5	405	750	150	400
LXA(C)03	255	140	140	162	96.5	405	750	150	400
LXA(C)04	255	140	140	162	96.5	405	750	150	400
LXA(C)05	255	140	140	207	96.5	405	750	150	400
LXA(C)06	255	140	140	287	96.5	405	750	155	400
LXA(C)07	255	140	140	287	96.5	405	750	155	400
LXA(C)08	315	200	200	439	96.5	405	750	275	400
LXA(C)09	315	200	200	599	96.5	405	750	275	400
LXA(C)10	315	200	200	599	96.5	405	750	275	400

8.3.1.3 Universal busbar connection unit AS2

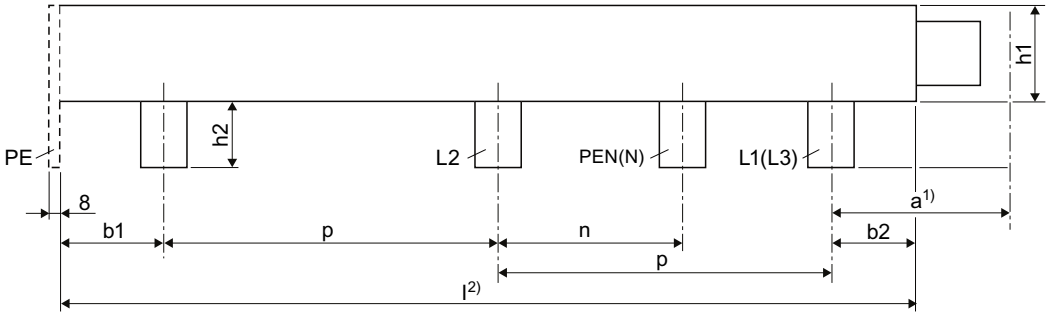
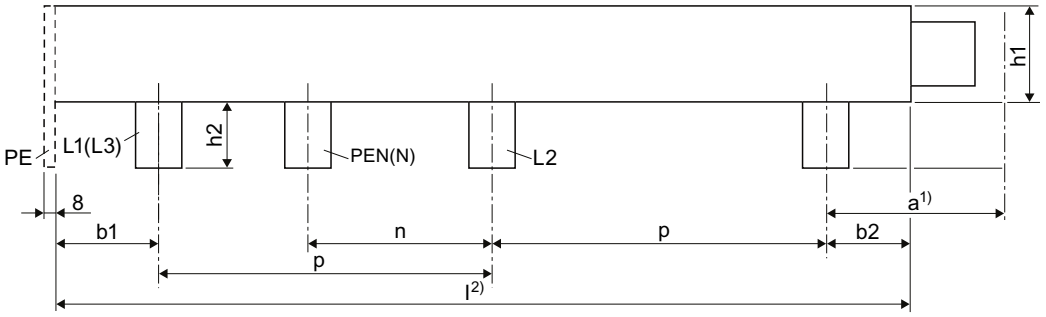


Figure 8-15 LX.....-AS2(+LX-.E)/(+LX-.G)



1) Reference dimension for configuring = centre of joint block to centre of 1st connection tag. More detailed information: See Chapter Feeder units (Page 85).

2) Total length l of the connection unit is the sum of the configured connection tag distances.

Figure 8-16 LX.....-AS2(+LX-.F)/(+LX-.H)

System	a	b1	b2	h1	h2	p min.	p max.	n min.	n max.
LXA(C)01	255	140	140	137	96.5	450	750	150	400
LXA(C)02	255	140	140	137	96.5	450	750	150	400
LXA(C)03	255	140	140	162	96.5	450	750	150	400
LXA(C)04	255	140	140	162	96.5	450	750	150	400
LXA(C)05	255	140	140	207	96.5	450	750	150	400
LXA(C)06	255	140	140	287	96.5	450	750	155	400
LXA(C)07	255	140	140	287	96.5	450	750	155	400
LXA(C)08	315	200	200	439	96.5	550	750	275	400
LXA(C)09	315	200	200	599	96.5	550	750	275	400
LXA(C)10	315	200	200	599	96.5	550	750	275	400

8.3.1.4 Universal busbar connection unit AS1 with T tap-off unit

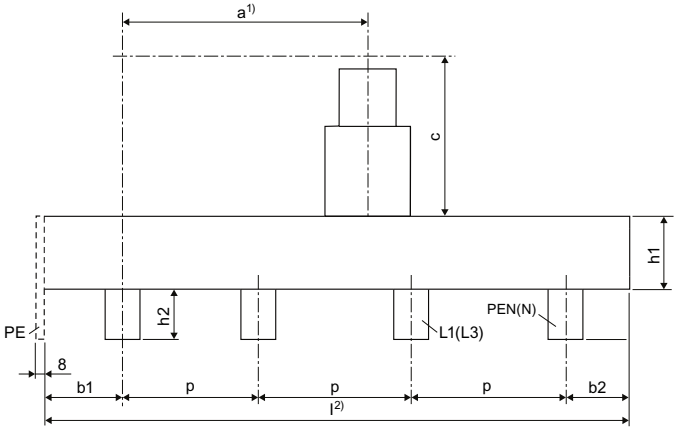
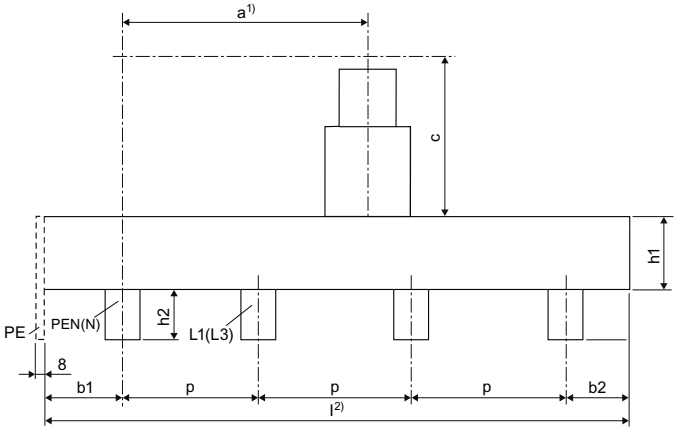


Figure 8-17 LX.....-AS1-T(+LX-.A)/(+LX-.C)



1) Reference dimension for configuring = centre of joint block to centre of 1st connection tag ((PEN(N) at front).
More detailed information: See Chapter Feeder units (Page 164).

2) Total length l of the connection unit is the sum of the configured connection tag distances.

Figure 8-18 LX.....-AS1-T(+LX-.B)/(+LX-.D)

System	a	b1	b2	c	h1	h2	p min.	p max.
LXA(C)01	1.5 x p	143	143	213	137	96.5	115	400
LXA(C)02		143	143	213	137	96.5	115	400
LXA(C)03		143	143	188	162	96.5	135	400
LXA(C)04		143	143	188	162	96.5	135	400
LXA(C)05		143	143	293	207	96.5	135	400
LXA(C)06		143	143	213	287	96.5	155	400
LXA(C)07		143	143	213	287	96.5	155	400
LXA(C)08		203	203	361	439	96.5	275	400
LXA(C)09		203	203	201	599	96.5	275	400
LXA(C)10		203	203	201	599	96.5	275	400

8.3.1.5 Universal busbar connection unit AS3 with T tap-off unit

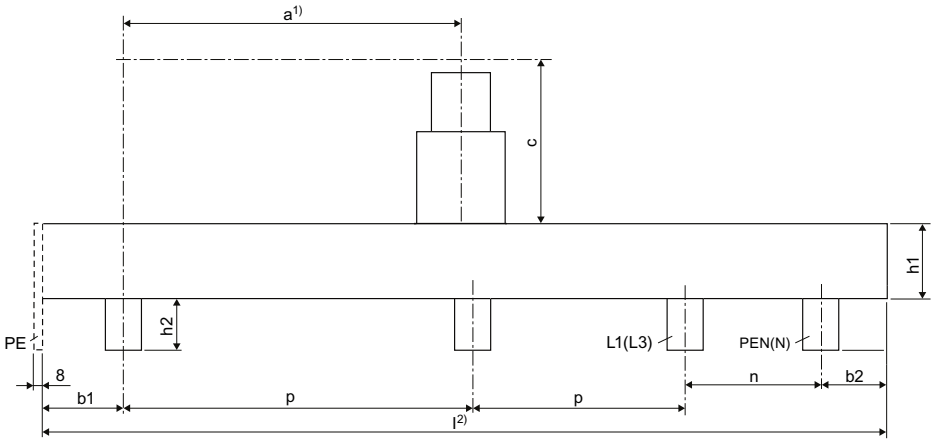
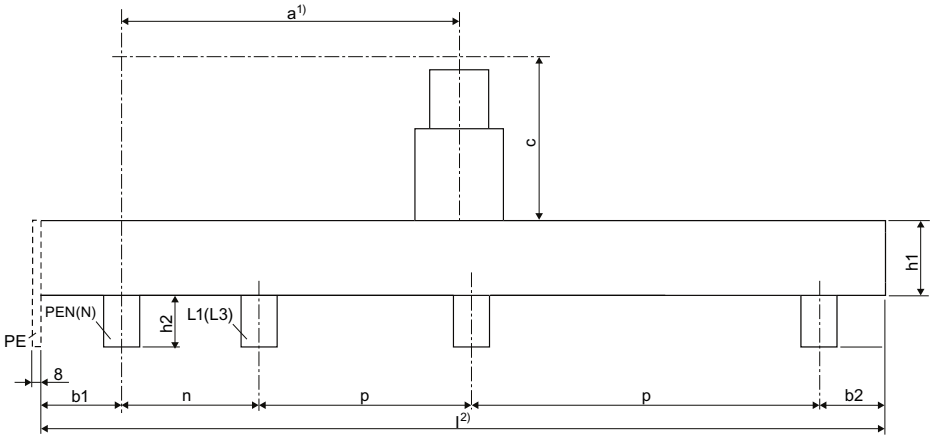


Figure 8-19 LX.....-AS3-T(+LX-.A)/(+LX-.C)



1) Reference dimension for configuring = centre of joint block to centre of 1st connection tag (PEN(N) at front).
More detailed information: See Chapter Feeder units (Page 85).

2) Total length l of the connection unit is the sum of the configured connection tag distances.

Figure 8-20 LX.....-AS3-T(+LX-.B)/(+LX-.D)

System	a	b1	b2	c	h1	h2	p min.	p max.	n min.	n max.
LXA(C)01	(2p + n)/2	143	143	213	137	96.5	405	750	150	400
LXA(C)02		143	143	213	137	96.5	405	750	150	400
LXA(C)03		143	143	188	162	96.5	405	750	150	400
LXA(C)04		143	143	188	162	96.5	405	750	150	400
LXA(C)05		143	143	293	207	96.5	405	750	150	400
LXA(C)06		143	143	213	287	96.5	405	750	155	400
LXA(C)07		143	143	213	287	96.5	405	750	155	400
LXA(C)08		203	203	361	439	96.5	405	750	275	400
LXA(C)09		203	203	201	599	96.5	405	750	275	400
LXA(C)10		203	203	201	599	96.5	405	750	275	400

8.3.1.6 Universal busbar connection unit AS2 with T tap-off unit

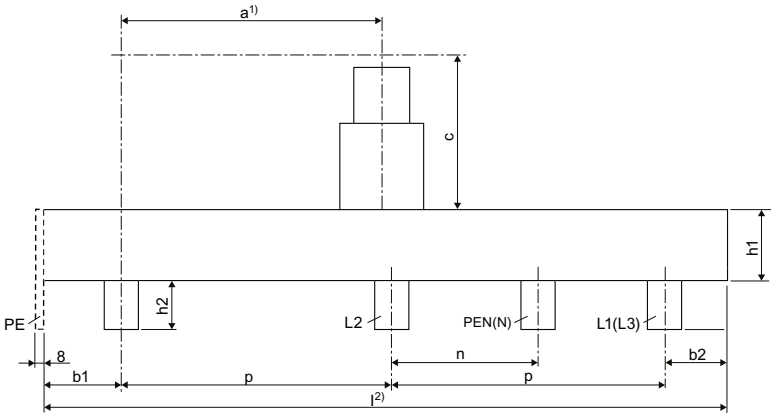
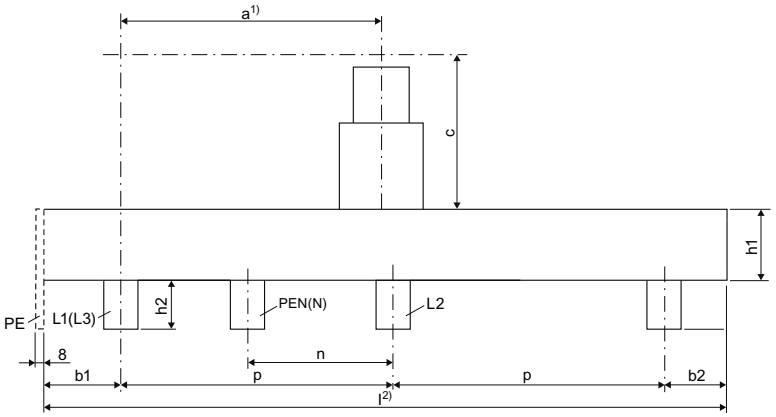


Figure 8-21 LX.....-AS2-T(+LX-.E)/(+LX-.G)



1) Reference dimension for configuring = centre of joint block to centre of 1st connection tag (PEN(N) at front).
More detailed information: See Chapter Feeder units (Page 85).

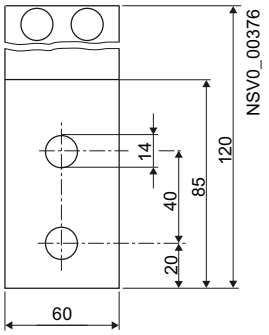
2) Total length l of the connection unit is the sum of the configured connection tag distances.

Figure 8-22 LX.....-AS2-T(+LX-.F)/(+LX-.H)

System	a = p min.	a = p max.	b1	b2	c	h1	h2	n min.	n max.
LXA(C)01	450	750	143	143	213	137	96.5	150	400
LXA(C)02	450	750	143	143	213	137	96.5	150	400
LXA(C)03	450	750	143	143	188	162	96.5	150	400
LXA(C)04	450	750	143	143	188	162	96.5	150	400
LXA(C)05	450	750	143	143	293	207	96.5	150	400
LXA(C)06	450	750	143	143	213	287	96.5	155	400
LXA(C)07	450	750	143	143	213	287	96.5	155	400
LXA(C)08	450	750	203	203	361	439	96.5	275	400
LXA(C)09	450	750	203	203	201	599	96.5	275	400
LXA(C)10	450	750	203	203	201	599	96.5	275	400

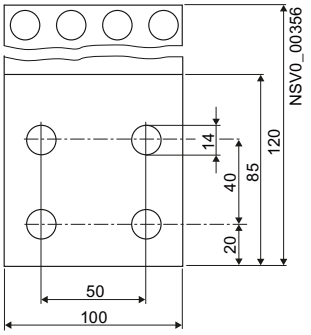
8.3.1.7 Connection tags

Connection tags L1, L2, L3, PEN, N



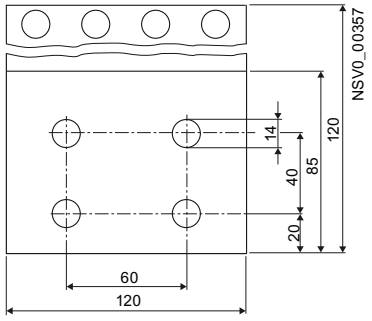
Material thickness 10 mm

LXA01..
LXC01..
LXA02..
LXC02..
LXA04..



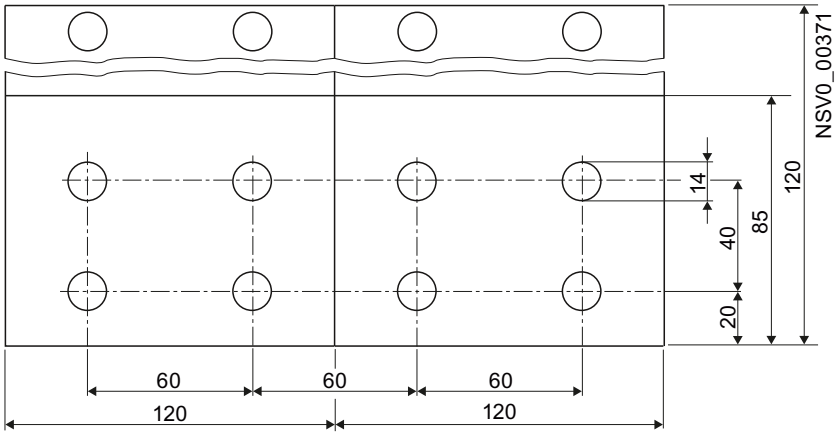
Material thickness 15 mm

LXC03..
LXC04..
LXA05..
LXC05..
LXA06..



Material thickness 15 mm

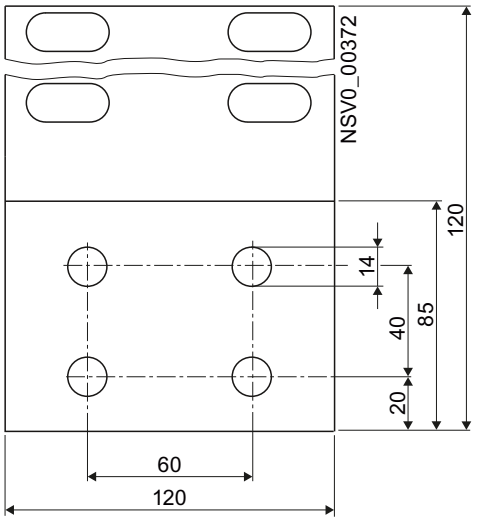
LXC06..
LXA07..
LXC07..



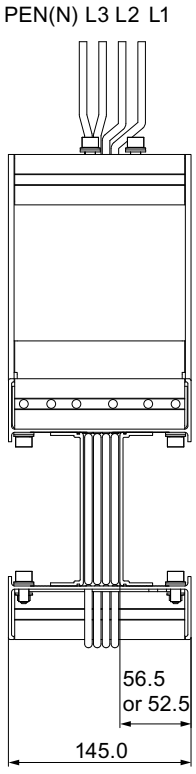
Material thickness 15 mm

LXA08..
LXC08..
LXA09..
LXC09..
LXA10..

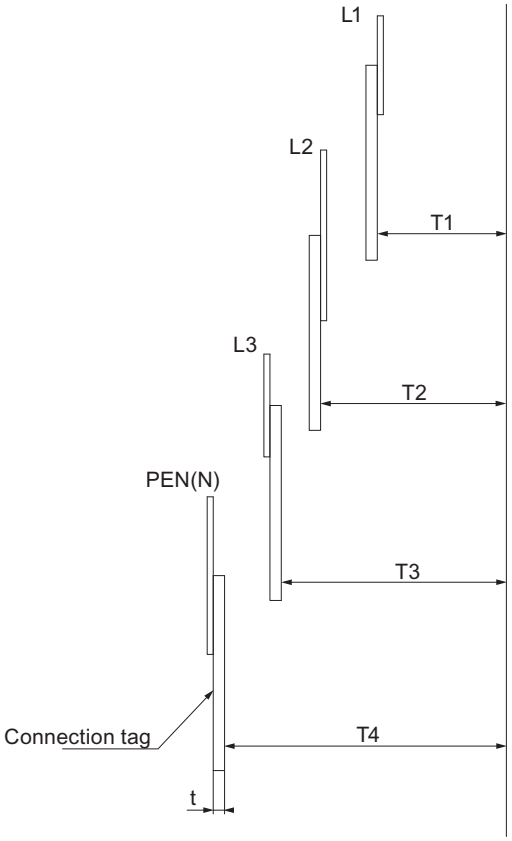
Connection tags PE



LXA(C)01.. to 10, material thickness 15 mm



Front view LX....-AS(-T)



View[1)] from below LX.....-AS(-T)+LX-1(2)A(B)

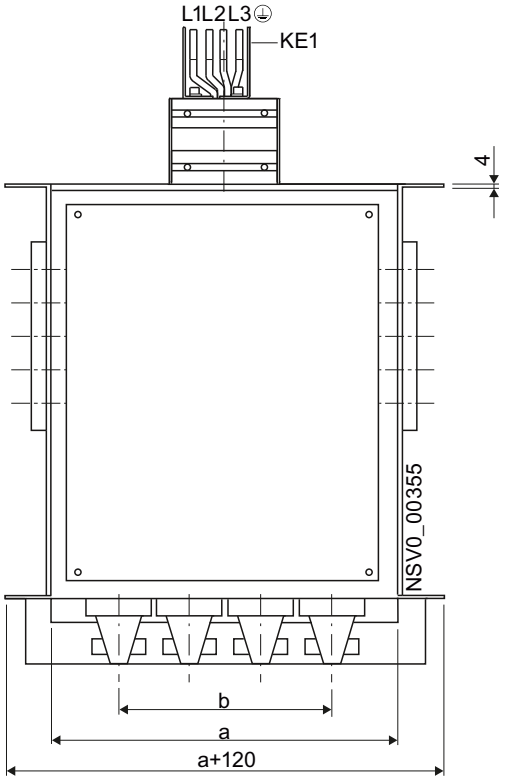
1) Graphical representation is not to scale. PE connection see page …

System	t [mm] Connection tag thickness	T4[1)][mm] For PEN (N)	T3[1)][mm] For L3	T2[1)][mm] For L2	T1[1)][mm] For L1
LXA(C)01..	10	68.5	61.5	70.5	63.5
LXA(C)02..	10	70.5	61.5	70.5	61.5
LXC03..	16	62.5	55.5	70.5	63.5
LXC04..	16	64.5	55.5	70.5	61.5
LXA04..	10	70.5	55.5	70.5	61.5
LXC05..	16	62.5	55.5	70.5	63.5
LXA05..	16	64.5	55.5	70.5	61.5
LXA(C)06..	16	62.5	55.5	70.5	63.5
LXA(C)07..	16	64.5	55.5	70.5	61.5
LXA(C)08..	16	64.5	55.5	70.5	61.5
LXA(C)09..	16	62.5	55.5	70.5	63.5
LXA10..	16	64.5	55.5	70.5	61.5

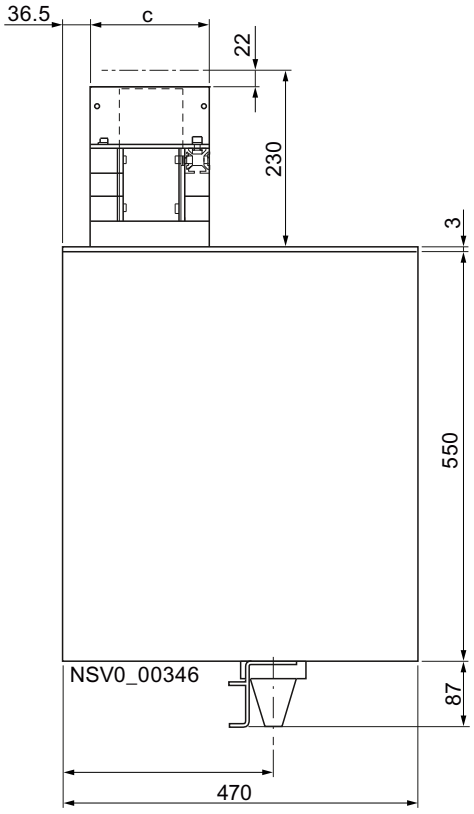
1) Dimensioning between front edge of connection tag and outer edge of enclosure on the L1 side (L1=phase L1). The dimensions apply for all phase sequences, that is, also for the types +LX-.D, +LX-.E, LX-.F, +LX-.G and LX-.H

8.3.2 Incoming cable connection units

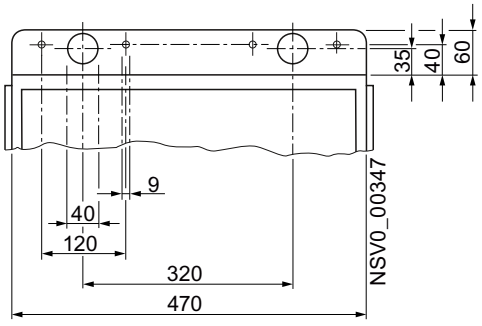
Incoming cable connection units KE1(2)



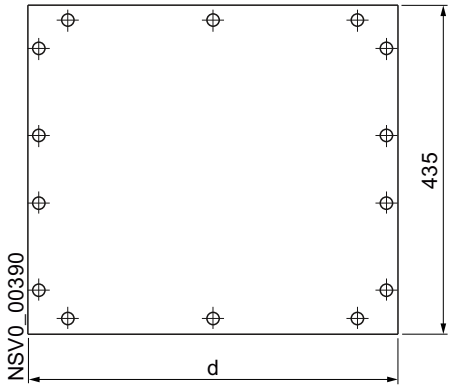
Front view



Side view



View Z

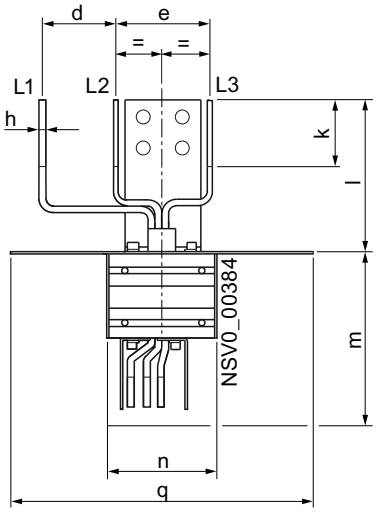


Cable entry plate BPAL for single-core cable (+LX)

	Enclosure size	Cable entries (see dimension b)	a	b	c	d
LXA(C)01.. - KE.	1	4	450	3 x 90	137	420
LXA(C)02.. - KE.	1	4	450	3 x 90	137	420
LXC03.. - KE.	2	6	650	5 x 90	162	620
LXA(C)04.. - KE.	2	6	650	5 x 90	162	620
LXA05.. - KE.	2	6	650	5 x 90	207	620
LXC05.. - KE.	2	6	650	5 x 90	207	620
LXA(C)06.. - KE.	3	8	800	7 x 90	287	770
LXA(C)07.. - KE.	3	8	800	7 x 90	287	770

8.3.3 Non-Siemens distribution board connection units

LX.0130 to LX.1030



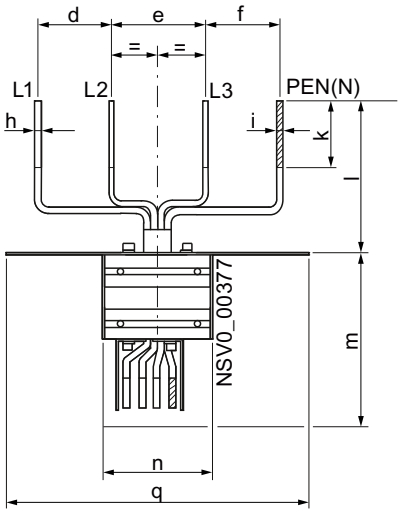
FA, FL.

Type	d	e	h[1)]	k[2)]	l	m	n	q
LXA(C)0130-FA(FL.)	100	120	6	85	200	230	145	400
LXA(C)0230-FA(FL.)	100	120	8	85	200	230	145	400
LXA(C)0330-FA(FL.)	100	120	6	85	200	230	145	400
LXA(C)0430-FA(FL.)	100	120	8	85	200	230	145	400
LXC0530-FA(FL.)	100	120	6	85	200	230	145	400
LXA0530-FA(FL.)	100	120	8	85	200	230	145	400
LXA(C)0630-FA(FL.)	100	120	6	85	200	230	145	400
LXA(C)0730-FA(FL.)	100	120	8	85	200	230	145	400
LXA(C)0830-FA(FL.)	100	120	8	85	200	230	145	400
LXA(C)0930-FA(FL.)	100	120	6	85	200	230	145	400
LXA1030-FA(FL.)	100	120	8	85	200	230	145	400
LXC1030-FA(FL.)[3)]	-	-	-	-	-	-	-	-

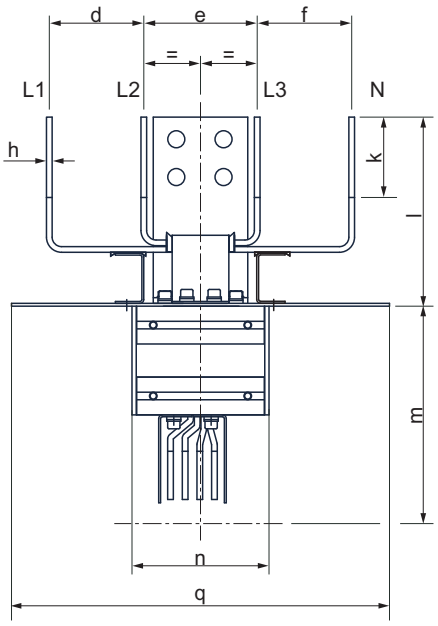
Dimensioning of the connections for copper-plating see Distribution board connection units (Page 182)

1) The PE connection (broken line in the figure) has a thickness of 6 mm
2) Termination surface, not isolated
3) On request

LX.0141 to LX.1041, LX.0151 to LX.1051



LX.0141 to LX.1041



LX.0151 to LX.1051

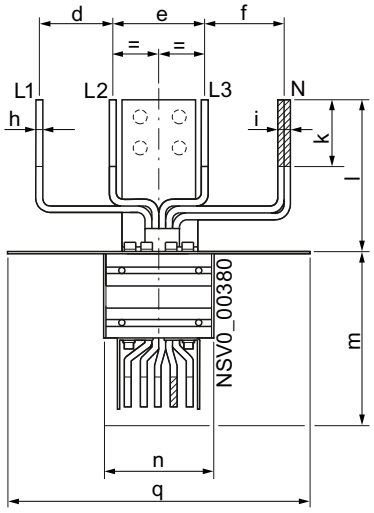
FA, FL.

Type	d	e	f	h[1)]	i[1)]	k[2)]	l	m	n	q
LXA(C)0141(51)-FA(FL.)	100	120	100	6	6	85	200	230	145	400
LXA(C)0241(51)-FA(FL.)	100	120	100	8	8	85	200	230	145	400
LXC0341(51)-FA(FL.)	100	120	100	6	6	85	200	230	145	400
LXA(C)0441(51)-FA(FL.)	100	120	100	8	8	85	200	230	145	400
LXC0541(51)-FA(FL.)	100	120	100	6	6	85	200	230	145	400
LXA0541(51)-FA(FL.)	100	120	100	8	8	85	200	230	145	400
LXA(C)0641(51)-FA(FL.)	100	120	100	6	6	85	200	230	145	400
LXA(C)0741(51)-FA(FL.)	100	120	100	8	8	85	200	230	145	400
LXA(C)0841(51)-FA(FL.)	100	120	100	8	8	85	200	230	145	400
LXA(C)0941(51)-FA(FL.)	100	120	100	6	6	85	200	230	145	400
LXA1041(51)-FA(FL.)	100	120	100	8	8	85	200	230	145	400
LXC1041(51)-FA(FL.)[3)]	-	-	-	-	-	-	-	-	-	-

Dimensioning of the connections for copper-plating see Distribution board connection units (Page 182)

1) The PE connection (broken line in the figure) has a thickness of 6 mm
2) Termination surface, not isolated
3) On request

LX.0152 to LX.1052



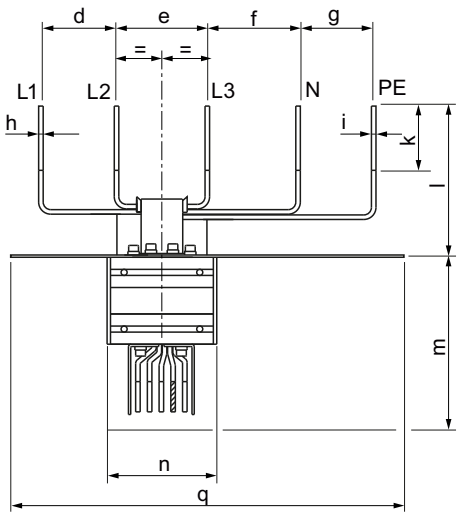
FA, FL.

Type	d	e	f	h[1)]	i[1)]	k[2)]	l	m	n	q
LXA(C)0152-FA(FL.)	100	120	103.5	6	12	85	200	230	145	400
LXA(C)0252-FA(FL.)	100	120	104.5	8	16	85	200	230	145	400
LXA(C)0352-FA(FL.)	100	120	103.5	6	12	85	200	230	145	400
LXA(C)0452-FA(FL.)	100	120	104.5	8	16	85	200	230	145	400
LXC0552-FA(FL.)	100	120	103.5	6	12	85	200	230	145	400
LXA0552-FA(FL.)	100	120	104.5	8	16	85	200	230	145	400
LXA(C)0652-FA(FL.)	100	120	103.5	6	12	85	200	230	145	400
LXA(C)0752-FA(FL.)	100	120	104.5	8	16	85	200	230	145	400
LXA(C)0852-FA(FL.)	100	120	104.5	8	16	85	200	230	145	400
LXA(C)0952-FA(FL.)	100	120	103.5	6	12	85	200	230	145	400
LXA1052-FA(FL.)	100	120	104.5	8	16	85	200	230	145	400
LXC1052-FA(FL.)[3)]	-	-	-	-	-	-	-	-	-	-

Dimensioning of the connections for copper-plating see Distribution board connection units (Page 182)

1) The PE connection (broken line in the figure) has a cross-section of 6 mm
2) Termination surface, not isolated
3) On request

LXC.0153 to LXC.1053



FA, FL.

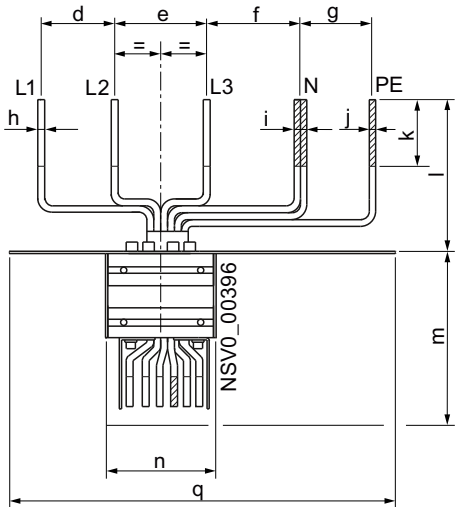
Type	d	e	f	g	h	i	j	k[1)]	l	m	n	q
LXC0153-FA(FL.)	100	120	120	100	6	6	6	85	200	230	145	520
LXC0253-FA(FL.)	100	120	120	100	8	8	8	85	200	230	145	520
LXC0353-FA(FL.)	100	120	120	100	6	6	6	85	200	230	145	520
LXC0453-FA(FL.)	100	120	120	100	8	8	8	85	200	230	145	520
LXC0553-FA(FL.)	100	120	120	100	6	6	6	85	200	230	145	520
LXC0653-FA(FL.)	100	120	120	100	6	6	6	85	200	230	145	520
LXC0753-FA(FL.)	100	120	120	100	8	8	8	85	200	230	145	520
LXC0853-FA(FL.)	100	120	120	100	8	8	8	85	200	230	145	520
LXC0953-FA(FL.)	100	120	120	100	6	6	6	85	200	230	145	520
LXC1053-FA(FL.)[2)]	-	-	-	-	-	-	-	-	-	-	-	-

Dimensioning of the connections for copper-plating see Distribution board connection units (Page 182)

1) Termination surface, not isolated

2) On request

LXC.0154 to LXC.1054



FA, FL.

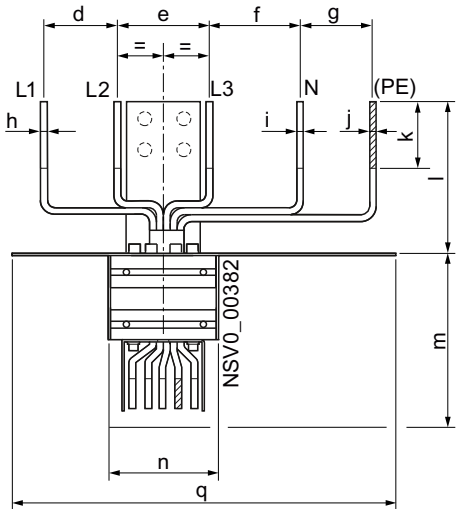
Type	d	e	f	g	h	i	j	k[1)]	l	m	n	q
LXC0154-FA(FL.)	100	120	123.5	96.5	6	12	6	85	200	230	145	520
LXC0254-FA(FL.)	100	120	124.5	95.5	8	16	8	85	200	230	145	520
LXC0354-FA(FL.)	100	120	123.5	96.5	6	12	6	85	200	230	145	520
LXC0454-FA(FL.)	100	120	124.5	95.5	8	16	8	85	200	230	145	520
LXC0554-FA(FL.)	100	120	123.5	96.5	6	12	6	85	200	230	145	520
LXC0654-FA(FL.)	100	120	123.5	96.5	6	12	6	85	200	230	145	520
LXC0754-FA(FL.)	100	120	124.5	95.5	8	16	8	85	200	230	145	520
LXC0854-FA(FL.)	100	120	124.5	95.5	8	16	8	85	200	230	145	520
LXC0954-FA(FL.)	100	120	123.5	96.5	6	12	6	85	200	230	145	520
LXC1054-FA(FL.)[2)]	-	-	-	-	-	-	-	-	-	-	-	-

Dimensioning of the connections for copper-plating see Distribution board connection units (Page 182)

1) Termination surface, not isolated

2) On request

LX.0161 to LX.1061



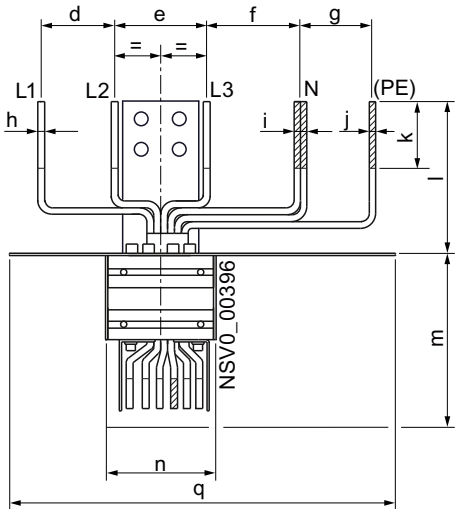
FA, FL.

Type	d	e	f	g	h[1)]	i[1)]	j[2)]	k[3)]	l	m	n	q
LXA(C)0161-FA(FL.)	100	120	120	100	6	6	6	85	200	230	145	520
LXA(C)0261-FA(FL.)	100	120	120	100	8	8	8	85	200	230	145	520
LXA(C)0361-FA(FL.)	100	120	120	100	6	6	6	85	200	230	145	520
LXA(C)0461-FA(FL.)	100	120	120	100	8	8	8	85	200	230	145	520
LXC0561-FA(FL.)	100	120	120	100	6	6	6	85	200	230	145	520
LXA0561-FA(FL.)	100	120	120	100	8	8	8	85	200	230	145	520
LXA(C)0661-FA(FL.)	100	120	120	100	6	6	6	85	200	230	145	520
LXA(C)0761-FA(FL.)	100	120	120	100	8	8	8	85	200	230	145	520
LXA(C)0861-FA(FL.)	100	120	120	100	8	8	8	85	200	230	145	520
LXA(C)0961-FA(FL.)	100	120	120	100	6	6	6	85	200	230	145	520
LXA1061-FA(FL.)	100	120	120	100	8	8	8	85	200	230	145	520
LXC1061-FA(FL.)[4)]	-	-	-	-	-	-	-	-	-	-	-	-

Dimensioning of the connections for copper-plating see Distribution board connection units (Page 182)

1) The PE connection for the enclosure (broken line in the figure) has a cross-section of 6 mm
2) PE connection for the PE busbar isolated from the enclosure (clean earth; (PE))
3) Termination surface, not isolated
4) On request

LX.0162 to LX.1062



FA, FL.

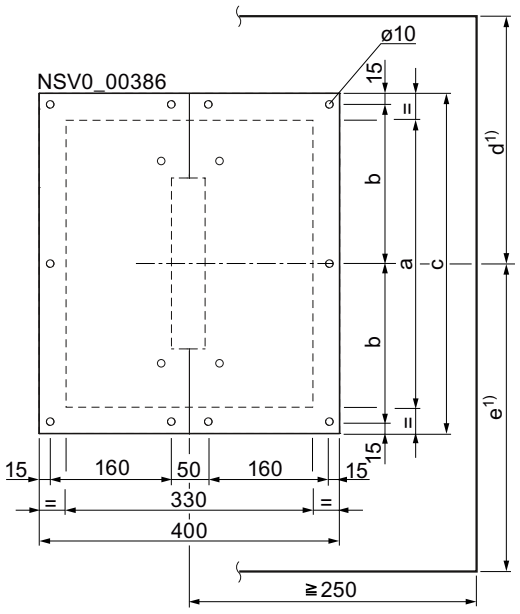
Type	d	e	f	g	h[1)]	i[1)]	j[2)]	k[3)]	l	m	n	q
LXA(C)0161-FA(FL.)	100	120	123.5	96.5	6	12	6	85	200	230	145	520
LXA(C)0261-FA(FL.)	100	120	124.5	95.5	8	16	8	85	200	230	145	520
LXA(C)0361-FA(FL.)	100	120	123.5	96.5	6	12	6	85	200	230	145	520
LXA(C)0461-FA(FL.)	100	120	124.5	95.5	8	16	8	85	200	230	145	520
LXC0561-FA(FL.)	100	120	123.5	96.5	6	12	6	85	200	230	145	520
LXA0561-FA(FL.)	100	120	124.5	95.5	8	16	8	85	200	230	145	520
LXA(C)0661-FA(FL.)	100	120	123.5	96.5	6	12	6	85	200	230	145	520
LXA(C)0761-FA(FL.)	100	120	124.5	95.5	8	16	8	85	200	230	145	520
LXA(C)0861-FA(FL.)	100	120	124.5	95.5	8	16	8	85	200	230	145	520
LXA(C)0961-FA(FL.)	100	120	123.5	96.5	6	12	6	85	200	230	145	520
LXA1061-FA(FL.)	100	120	124.5	95.5	8	16	8	85	200	230	145	520
LXC1061-FA(FL.)[4)]	-	-	-	-	-	-	-	-	-	-	-	-

Dimensioning of the connections for copper-plating see Distribution board connection units (Page 182)

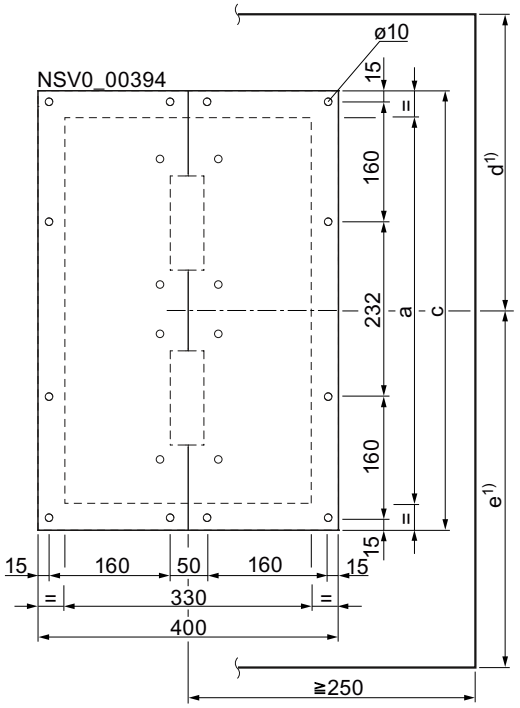
1) The PE connection for the enclosure (broken line in the figure) has a cross-section of 6 mm
2) PE connection for the PE busbar isolated from the enclosure (clean earth; (PE))
3) Termination surface, not isolated
4) On request

8.3.4 Distribution board connection units

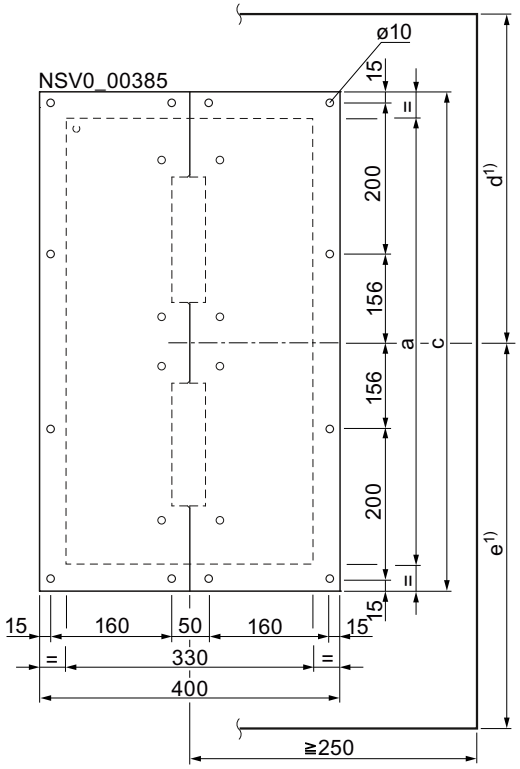
Preparing the device for making the cutout for LX…30, LX…41, LX…51, LX…52



LX.01 to 07..-FA



LX.08..-FA



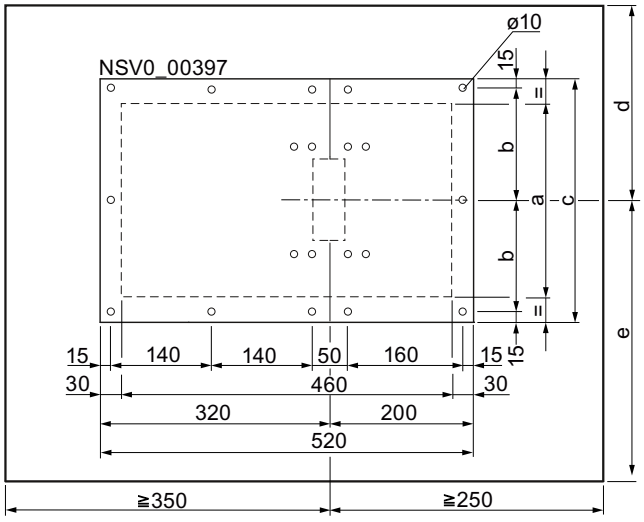
LX.09(10)..-FA

Type[1)]	a	b	c	d	e
LXC01..-FA	210	125	280	145	200
LXC02..-FA	210	125	280	145	200
LXC03..-FA	235	137.5	305	155	215
LXC04..-FA	235	137.5	305	155	215
LXA05..-FA	280	160	350	180	235
LXC05..-FA	280	160	350	180	235
LXC06..-FA	360	200	430	220	275
LXC07..-FA	360	200	430	220	275
LXC08..-FA	512	-	582	295	350
LXC09..-FA	672	-	742	375	430
LXA10..-FA	672	-	742	375	430

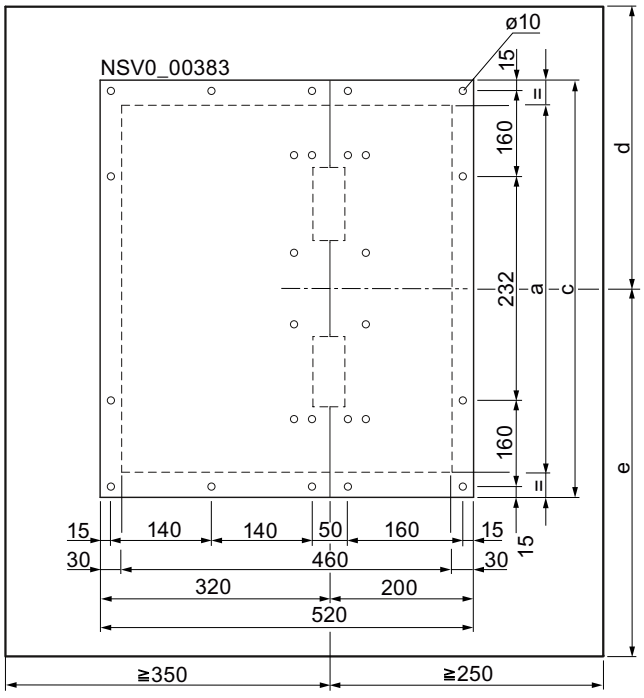
Cutout in the ceiling/floor plate of the distribution board = a x 330

1) Dimension d on the side without PE tag, dimension e with PE tag

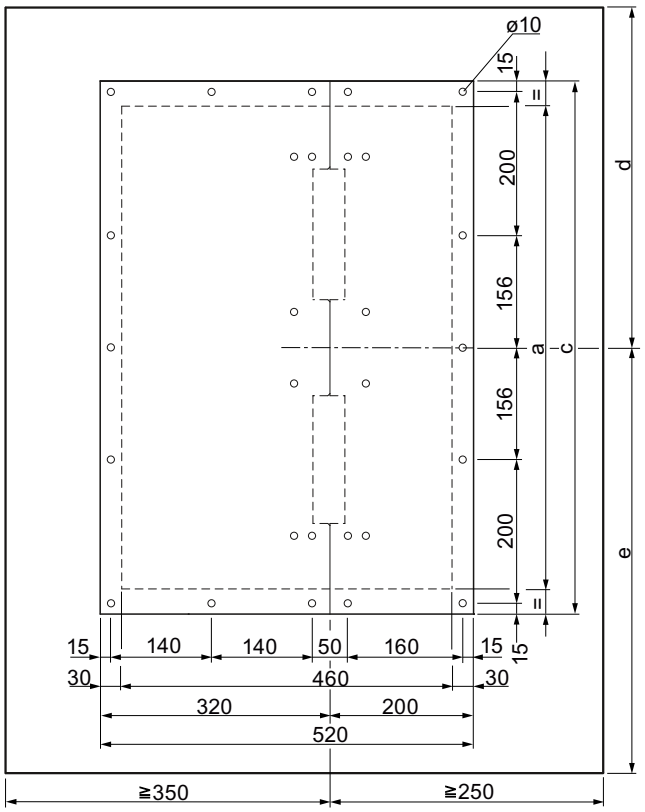
Preparing the device for making the cutout for LX…53, LX…54, LX…61, LX…62



LX.01..-FA to LX.07..-FA



LX.08..-FA



LX.09(10)..-FA

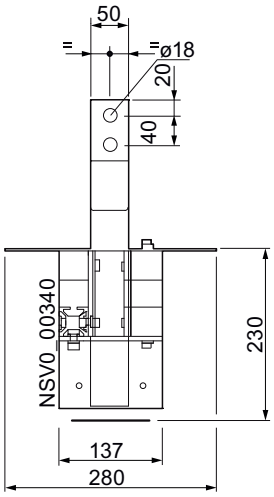
Type[1)]	a	b	c	d	e
LXC01..-FA	210	125	280	145	200
LXC02..-FA	210	125	280	145	200
LXC03..-FA	235	137.5	305	155	215
LXC04..-FA	235	137.5	305	155	215
LXA05..-FA	280	160	350	180	235
LXC05..-FA	280	160	350	180	235
LXC06..-FA	360	200	430	220	275
LXC07..-FA	360	200	430	220	275
LXC08..-FA	512	-	582	295	350
LXC09..-FA	672	-	742	375	430
LXA10..-FA	672	-	742	375	430

Cutout in the ceiling/floor plate of the distribution board = a x 460

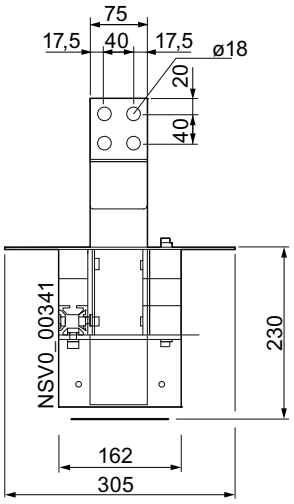
1) Dimension d on the side without PE tag, dimension e with PE tag

Connections for copper-plating

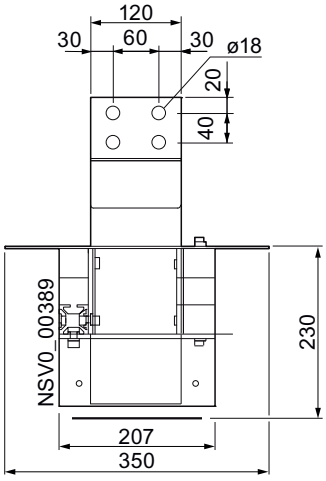
Side view



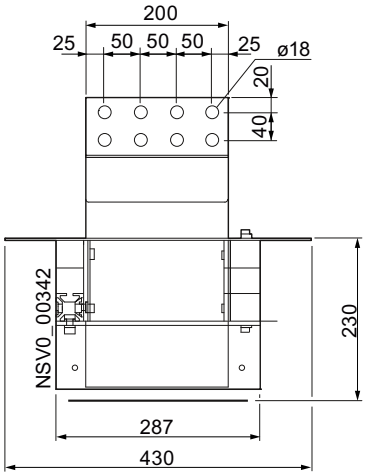
LXC01..-FA
LXC02..-FA



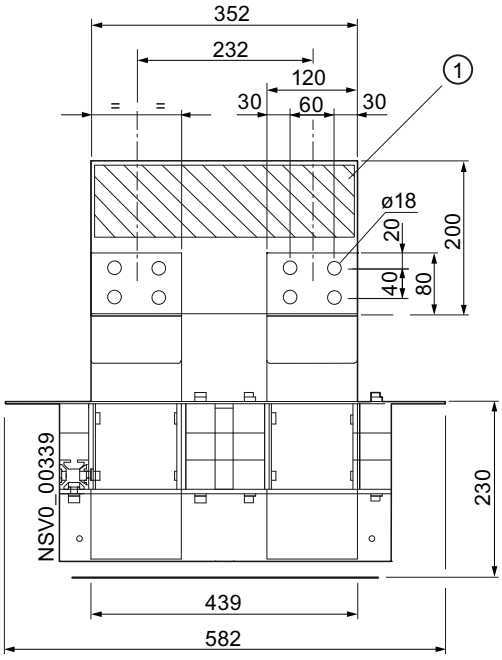
LXC03..-FA
LXC04..-FA



LXA05..-FA
LXC05..-FA

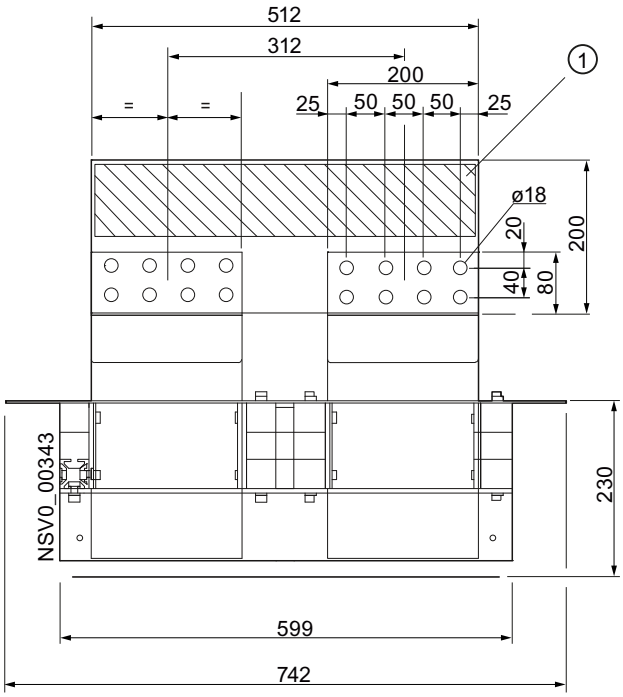


LXC06..-FA
LXC07..-FA



LXC08..-FA

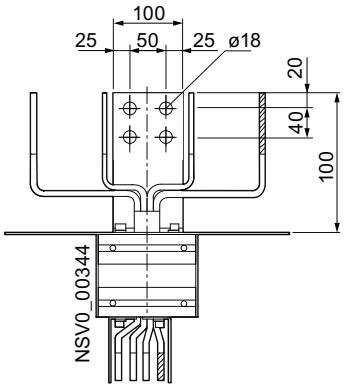
① Terminal plate on the customer side



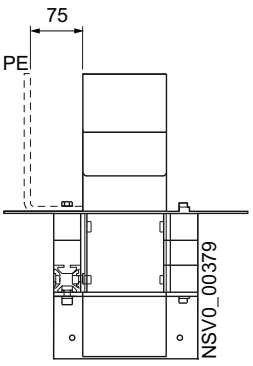
LXC09..-FA
LXA10..-FA

① Terminal plate on the customer side

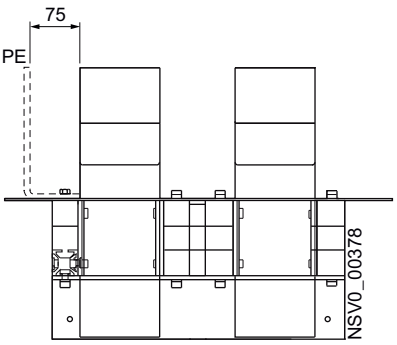
PE connection for LX.....30 (51, 52, 53, 54, 61, 62)



Drill holes of the PE tag for 5-conductor version



LX.01 to LX.07



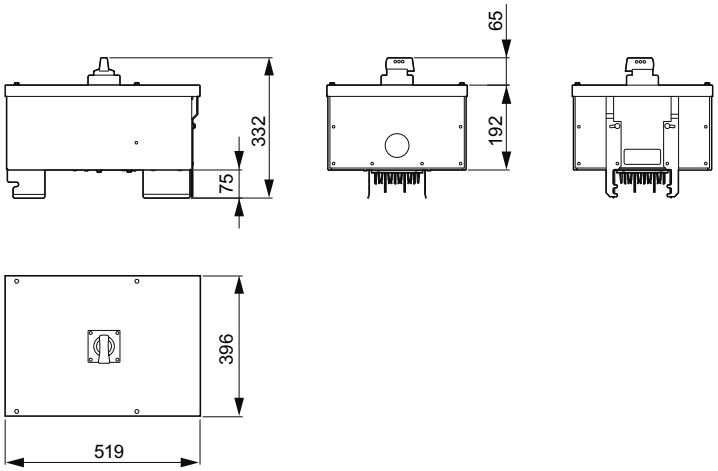
LX.08 to LX.10

8.4 Tap-off units

8.4.1 Tap-off units with circuit breaker 3VL

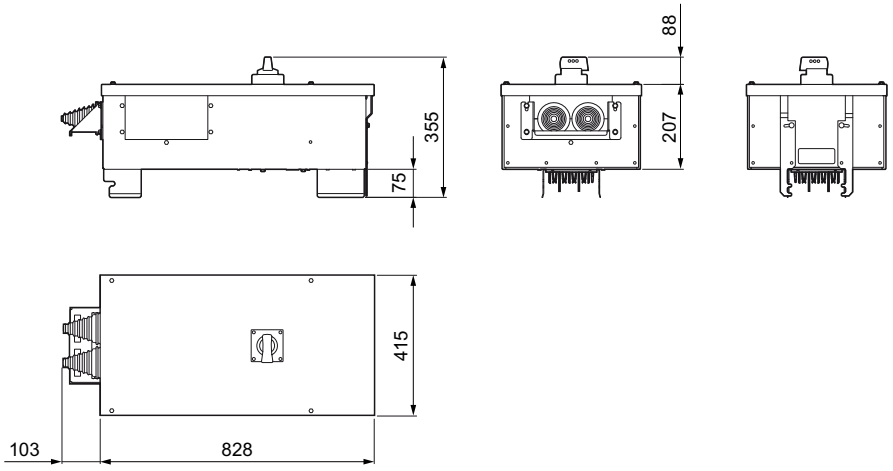
8.4.1.1 Size 1 (50 A to 250 A)

With circuit breaker 3VL

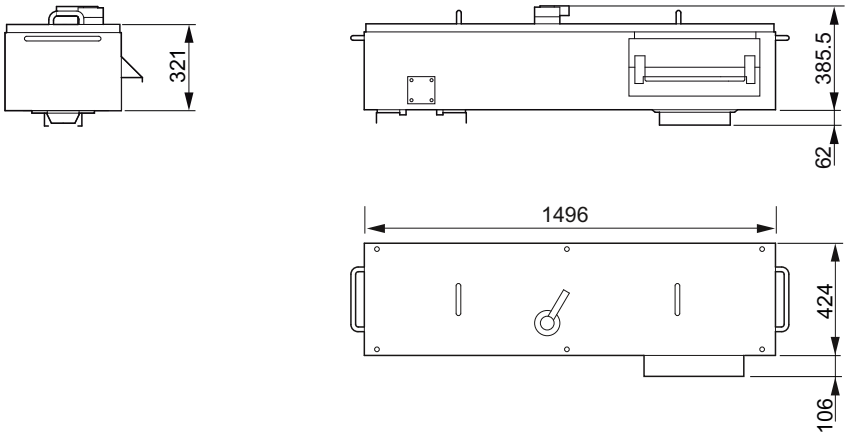


8.4.1.2 Size 2 (315 A to 630 A)

With circuit breaker 3VL

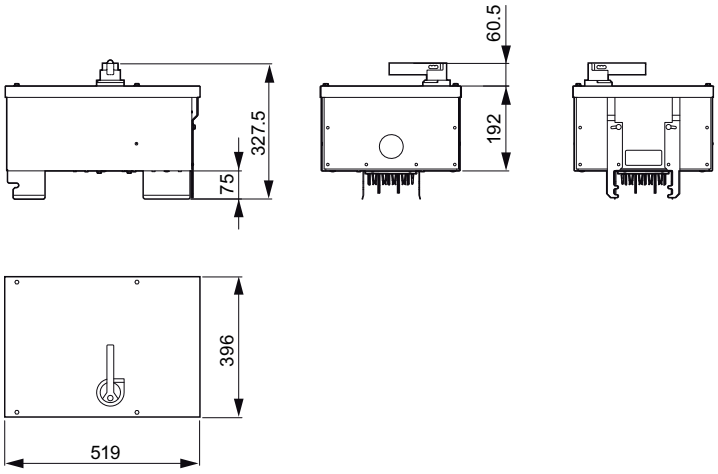


8.4.1.3 Size 4 (800 A to 1250 A)

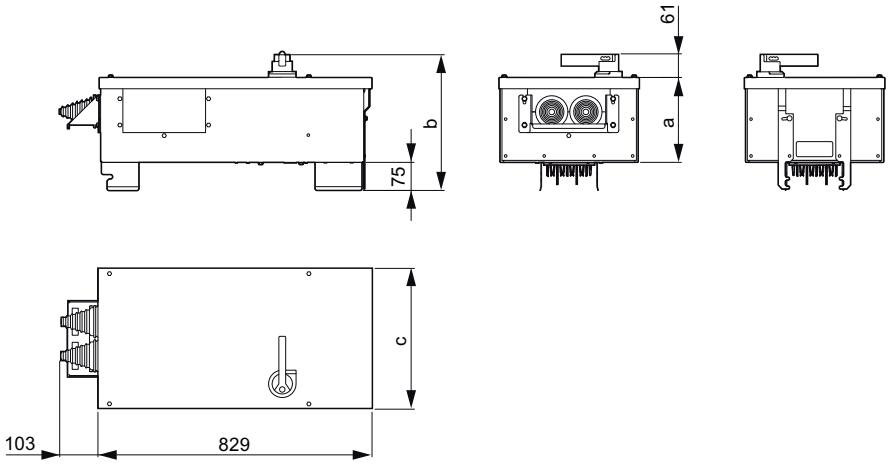


8.4.2 Tap-off units with fuse switch disconnector

8.4.2.1 Size 1 (125 A and 250 A)



8.4.2.2 Size 2 or 3 (400 A and 630 A)



Type	a	b	c
LX-AK5(6)/FSH-400IEC(BS)-3(4)S	192	328	415
LX-AK5(6)FSH-630IEC(BS)-3(4)S	282	418	590

8.5 Additional equipment

Joint block

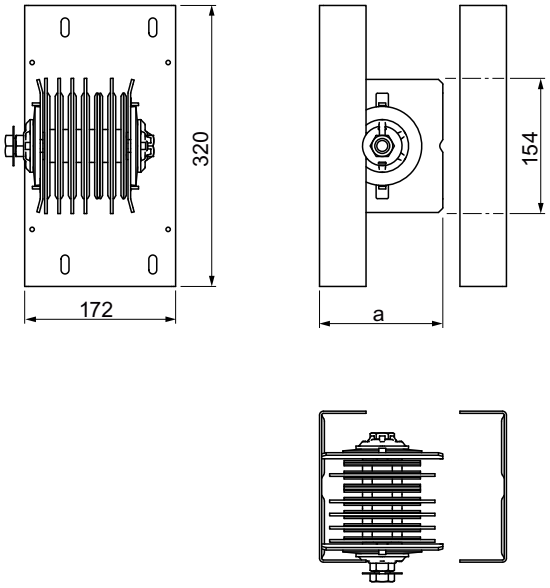


Figure 8-23 LX.01 to LX.05

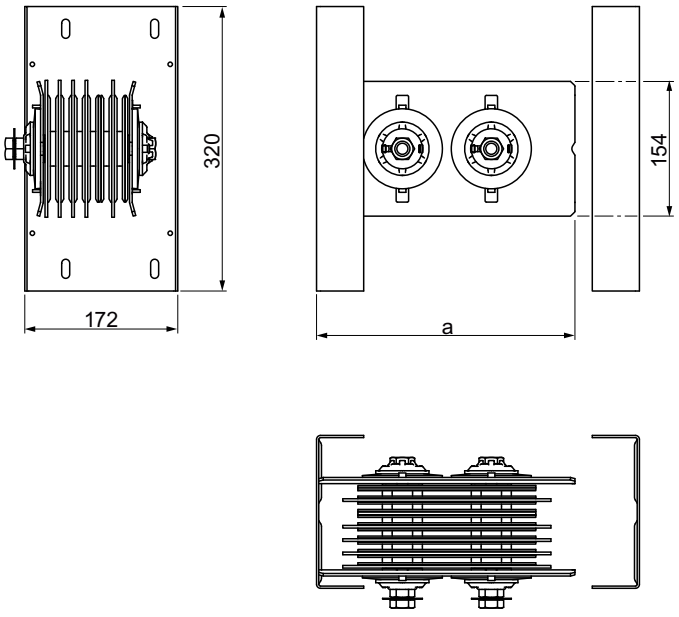


Figure 8-24 LX.06 to LX.07

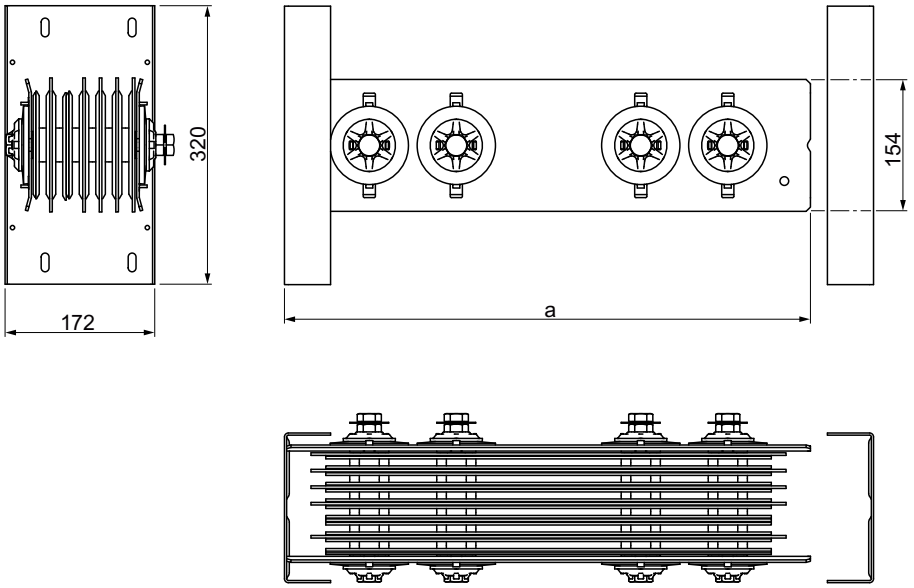


Figure 8-25 LX.08 to LX.10

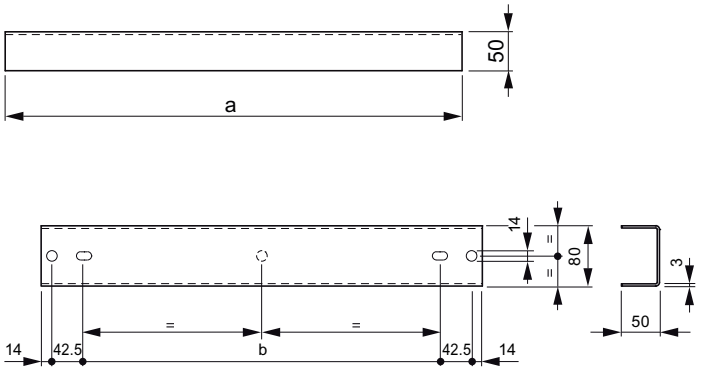
Type	a
LX.01..-KB	137
LX.02..-KB	137
LX.03..-KB	162
LX.04..-KB	162
LX.05..-KB	207
LX.06..-KB	287
LX.07..-KB	287
LX.08..-KB	139
LX.09..-KB	599
LX.10..-KB	599

Note

You can obtain the dimensions of the joint blocks for tap-off units (800 to 1250 A) on request.

Fixing bracket

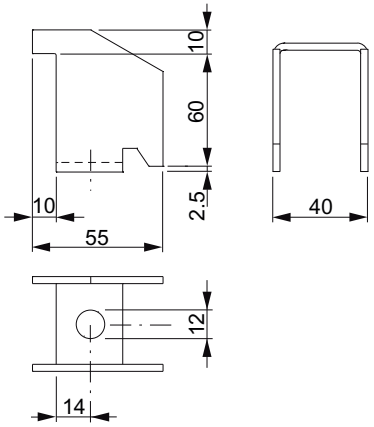
The LX-K fixing hooks are included in the scope of supply of the fixing brackets.



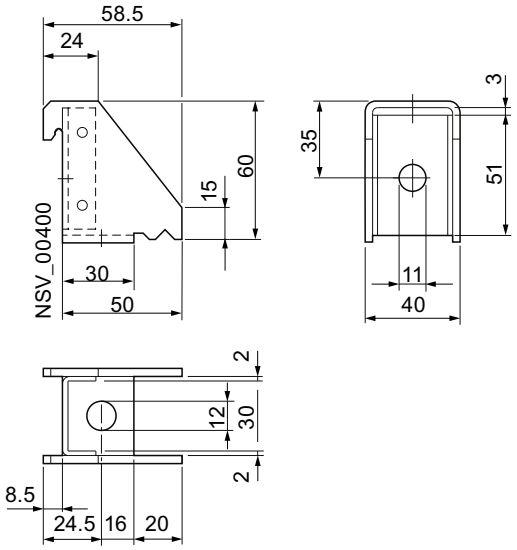
LX-BH(F)
LX..-BF(F)

Type	a	b
LX-BH(F)	285	172
LX01..-BH(F)	285	172
LX02..-BH(F)	285	172
LX03..-BH(F)	307	194
LX04..-BH(F)	307	194
LX05..-BH(F)	362	239
LX06..-BH(F)	432	319
LX07..-BH(F)	432	319
LX08..-BH(F)	584	471
LX09..-BH(F)	744	631
LX10..-BH(F)	744	631

Fixing hook

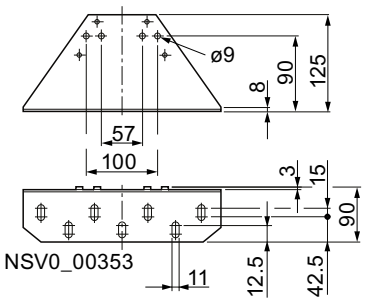


LX-K



LX-KF

Fixed point for vertical installation



LX-BV1FP1(2)

Fixing bracket

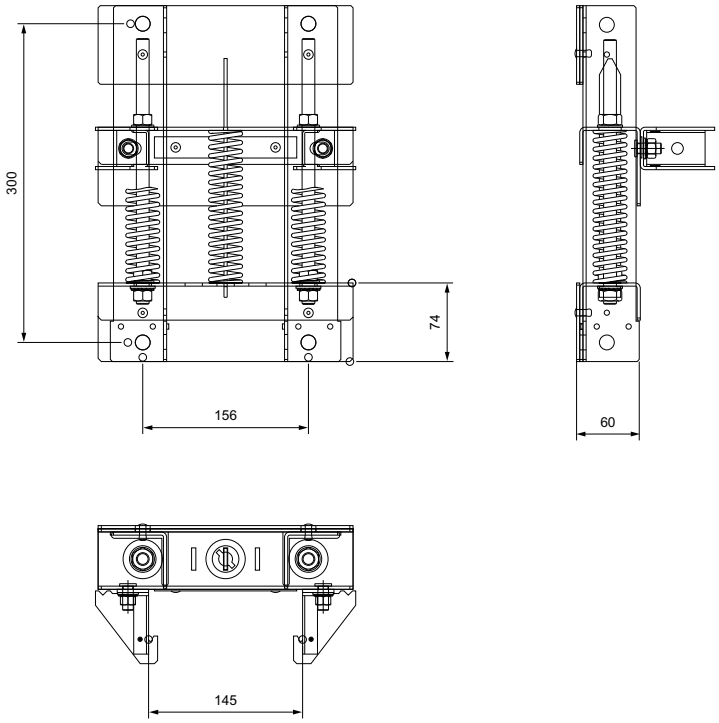


Figure 8-26 LX...-BV1(AK)/+LX-BVD

End cap

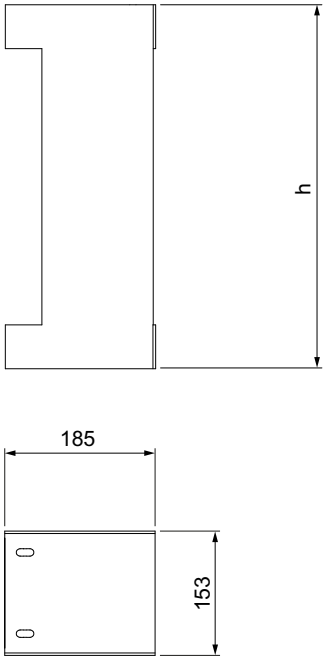


Figure 8-27 LX.....-EF

Circuit diagrams

9

9.1 Tap-off unit with circuit breaker, 3-pole

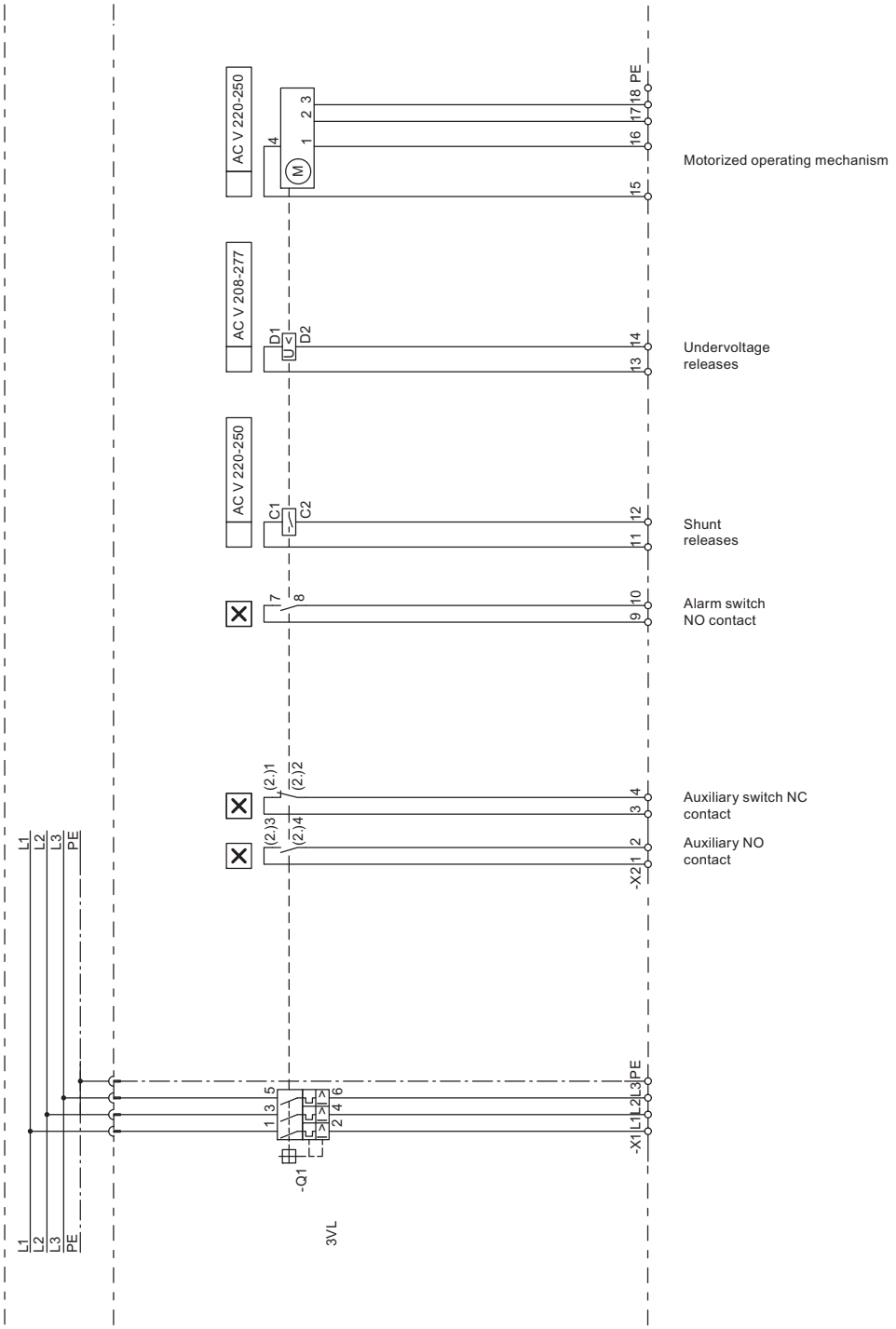


Figure 9-1 LX...30

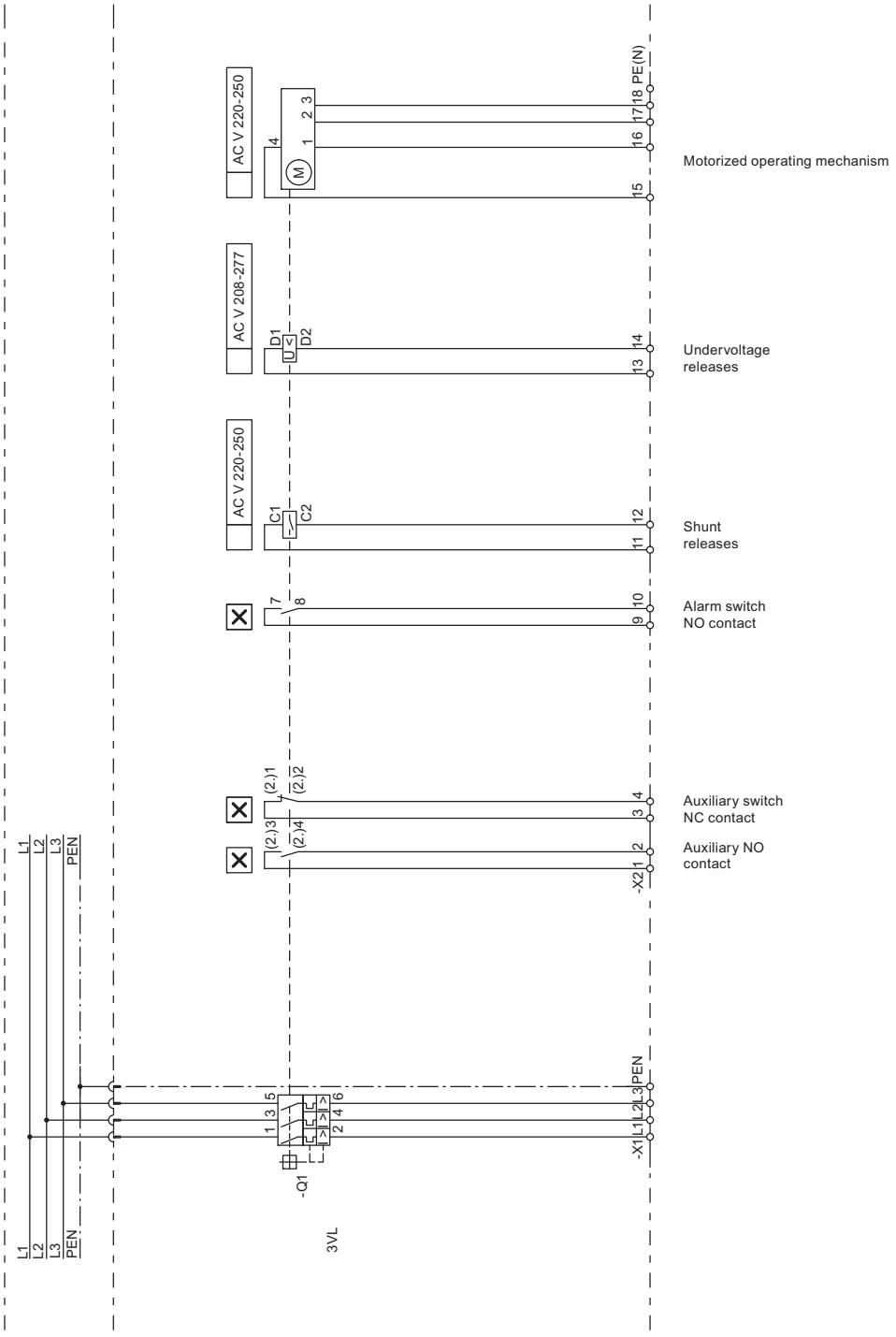


Figure 9-2 LX.....41

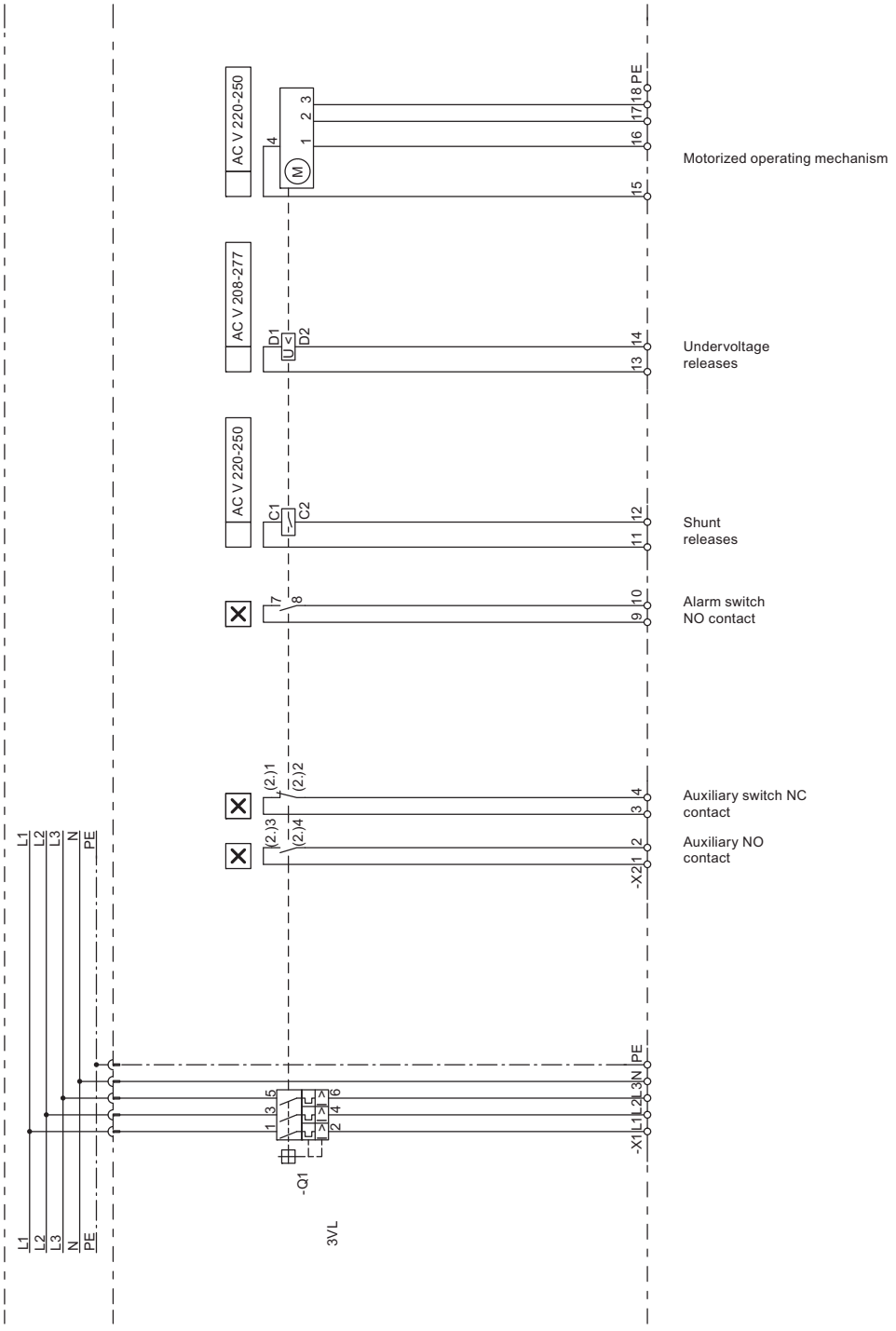


Figure 9-3 LX...5.

9.2 Tap-off unit with circuit breaker, 4-pole

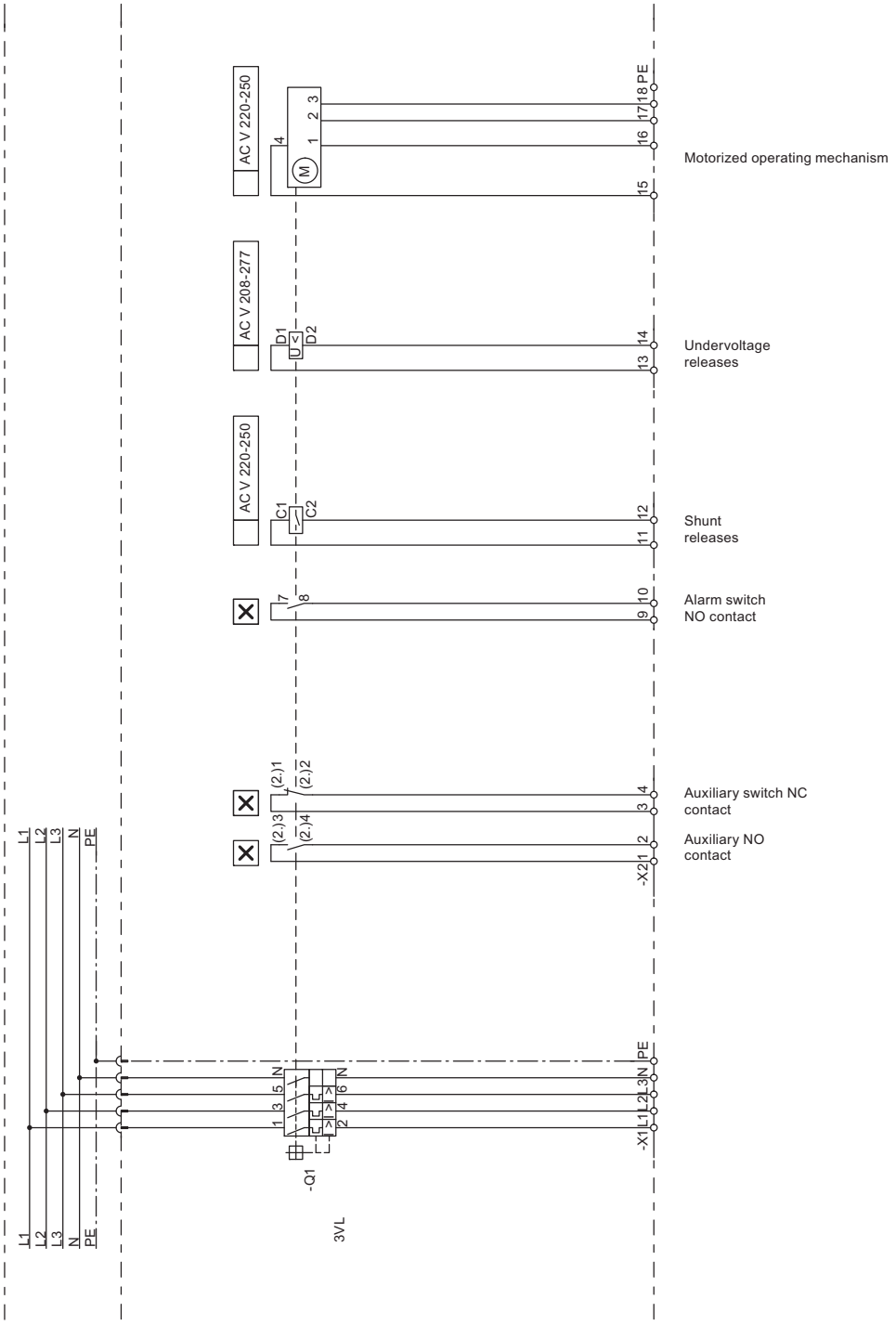


Figure 9-4 LX...5.

Glossary

A

The manufacturers of low-voltage switchgear and controlgear assemblies specify rated values in compliance with DIN EN 60439-1. These rated values apply to specified operating conditions and characterise the suitability of a switchgear assembly. The rated values must always be referred to when combining equipment or configuring switchgear and controlgear assemblies.

Rated short-time withstand current (I_{cw}) DIN EN 60439-1; 4.3

As the rms value of the short-circuit current, the rated short-time withstand current characterises the thermal strength of a switchgear and controlgear assembly circuit under a transient load. The rated short-time withstand current is normally determined for a duration of 1 s; deviating time values must be specified. The rated short-time withstand current is specified for the trunking and/or main busbars of a switchgear and controlgear assembly.

Rated peak withstand current (I_{pk}) DIN EN 60439-1; 4.4

As the peak value of the impulse current, the rated peak withstand current characterises the dynamic strength of a circuit in a switchgear and controlgear assembly. The rated peak withstand current is specified for the trunking and/or main busbars of a switchgear and controlgear assembly.

Rated conditional short-circuit current (I_{cc}) DIN EN 60439-1; 4.5

The conditional rated short-circuit current corresponds to the uninfluenced short-circuit current that a circuit in a switchgear and controlgear assembly, protected by a short-circuit protective device, can carry without damage (for a certain time). The conditional rated short-circuit current is therefore specified for tap-off units and/or infeeds with circuit-breakers, for example.

Rated impulse withstand voltage (U_{imp}) DIN EN 60947-1; 4.3.1.3

This is a measure of the strength of the air paths in the interior of the switchgear in relation to transient overvoltages. Suitable switchgear can be used to ensure that deactivated parts of a system cannot transmit overvoltages from the line on which they are used.

Rated current (I_n) (of a circuit-breaker) DIN EN 60947-2; 4.3.2.3

The current that is identical, for the circuit-breaker, to the rated continuous current and the conventional thermal current.
➜ Rated uninterrupted current

Rated control voltage (U_c) DIN EN 60947-1; 4.5.1

This is the voltage that is applied to the normally-open actuation contact in a control circuit. It may deviate from the rated control supply voltage due to transformers or resistors in the switching circuit.

Rated conditional service short-circuit breaking capacity (I_{cs}) DIN EN 60947-2; 4.3.5.2.2

The short-circuit current dependent on the rated operating voltage that a circuit-breaker is capable of repeatedly breaking (test O - CO - CO, previously P - 2). After short-circuit breaking, the circuit-breaker is able to continue carrying the rated current with increased intrinsic heating and can trip under an overload.
➜ Rated uninterrupted current; Rated operating voltage

Rated operating power DIN EN 60947-1; 4.3.2.3

The power that a switching device can switch at the assigned rated operating voltage in compliance with the utilisation category, e.g. circuit-breaker utilisation category AC 3: 37 kW at 400 V.

Rated operating voltage (U_e) DIN EN 60947-1; 4.3.1.1

Voltage to which the characteristic values of a switching device apply. The highest rated operating voltage must never be higher than the rated insulation voltage.
➜ Rated insulation voltage

Rated operating current (I_e) DIN EN 60947-1; 4.3.2.3

The current that a switching device can carry, taking into account the rated operating voltage, the operating duration, the utilisation category and the ambient temperature.
➜ Rated operating voltage

Rated uninterrupted current (I_u) DIN EN 60947-1; 4.3.2.4

The current that a switching device can carry during continuous operation (for weeks, months or years).

Rated making capacity DIN EN 60947-1; 4.3.5.2

The current that a switching device can make in compliance with the utilisation category at the respective rated operating voltage.
➜ Rated operating voltage

Rated frequency DIN EN 60947-1; 4.3.3

The frequency for which a switching device is designed and on which the other characteristic data is based.
➜ Rated operating voltage; Rated uninterrupted current

Rated ultimate short-circuit breaking capacity (I_{cu}) DIN EN 60947-2; 4.3.5.2.1

The maximum short-circuit current that a circuit-breaker is capable of breaking (test O - CO, previously P - 1). After short-circuit breaking, the circuit-breaker is capable of tripping under an overload, with increased tolerances.

Rated insulation voltage (U_i) DIN EN 60947-1; 4.3.1.2

Voltage to which insulation tests and creepage paths apply. The highest rated operating voltage must never be higher than the rated insulation voltage.
➜ Rated operating voltage

Rated short-circuit breaking capacity (I_{cn}) DIN EN 60947-1; 4.3.6.3

The highest current that a switching device can break at rated operating voltage and frequency without damage. It is specified as an rms value.
➜ Rated operating voltage

Rated short-circuit making capacity (I_{cm}) DIN EN 60947-1; 4.3.6.2

The highest current that a switching device can make at a specific rated operating voltage and frequency without damage. Contrary to the other characteristic data, it is specified as a peak value.
➜ Rated operating voltage

Conditional short-circuit current, rated DIN EN 60947-1; 2.5.29

➜ Rated conditional short-circuit current (I_q)

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