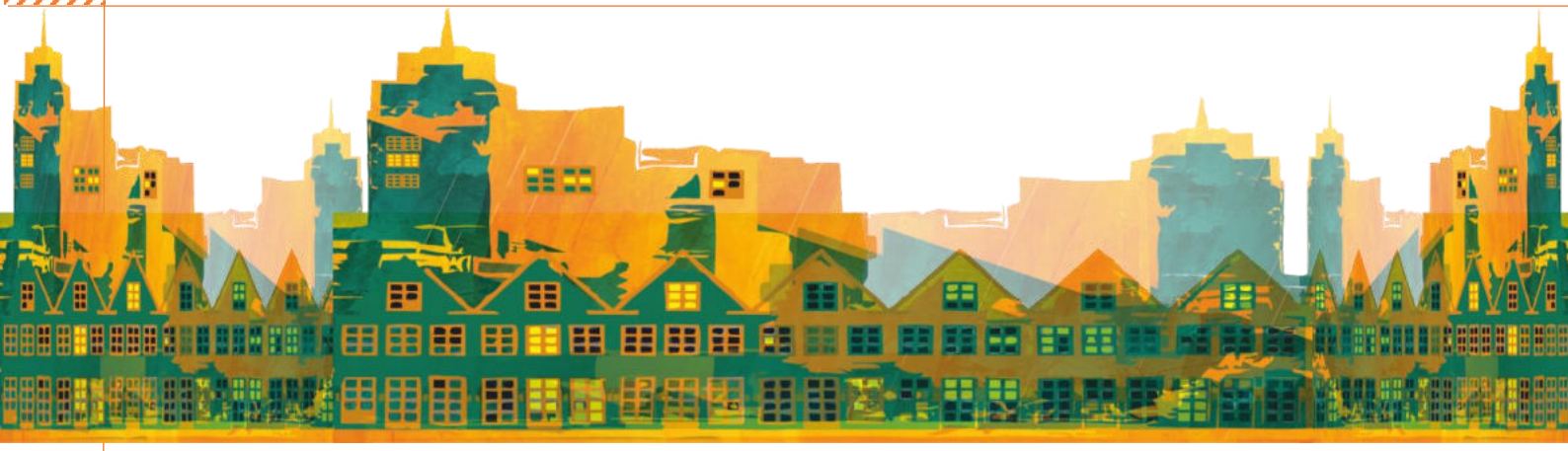
SEP EUROPE



General product catalog

2023

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SEP Europe
General catalog SEP

Dear relation,

SEP Europe products and innovations are well known for the single solutions for distribution boards and based on what the market is requesting. In the last years we have worked hard on the product range to have the full-package solution for distribution boards. This catalogue is the result of these years of work.

This first version of the catalog offers a complete an clear overview of our products. The novelties and innovations are clearly presented. The basic technical data is shown in the page before the listing of available products. We will keep working on the available information, with the aim of making the catalog a more complete reference book for everyday use.

For complete solution there are infinitely many, for the time being we did not placed them in the catalogue. If you are in need of a complete solution please contact one of our partners or us directly.

Always up to date

Within this catalogue you will find all products we have under the brand SEP Europe. Of course we will not stop with this portfolio it will be extended. We will keep you constantly up to date of our innovations through the internet. Naturally, we are also active in that area to develop more services and tools.

You can find us on the next websites www.sep-europe.com or at www.schotmanelektro.nl.

We look forward to continuing the good and constructive cooperation and wish you a successful year.

Yours faithfully,

Jos Buijsrogge

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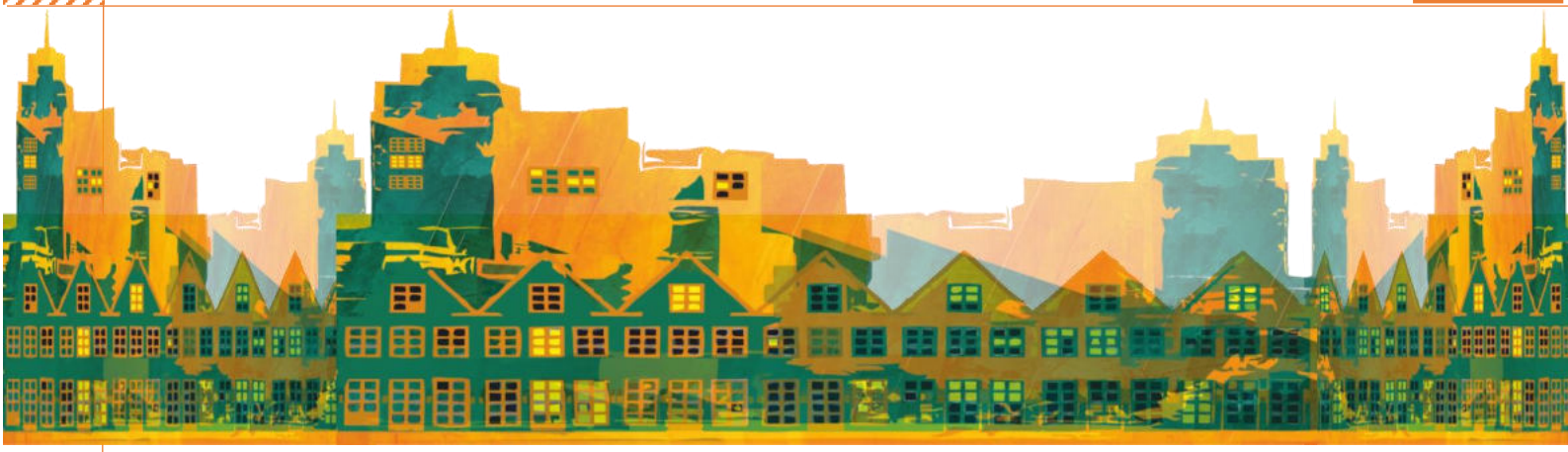


DISTRIBUTION CABINETS

CHB – distribution box

General
The CHB distribution box is specially designed for household purposes. The design is based on the Dutch market with a standard width of 220mm. The boxes can be combined together horizontal and vertically. Every row is protected with a (removable) lid for unintended switching of components.

CE

General parameters

Plastic enclosure
Standard with tube connections
Including attributes (earth bar, connection bar, covers)

Technical parameters

Complies with		EN 61439-1 / -1 / -3
Nominal voltage	Unom	230/400VAC
Nominal current	Inom	63A
Rated insulation voltage	AC	1000V
Installation class		I
Protection degree	IP	30
Material		PC
Flammability class		V2
Glow wire test		850°C
Storage temperature		-25°C + 85°C
Operational temperature		-5°C - 70°C (with daily average <35°C)
Humidity		50…90%
EMC-type		B
Installation environment		Inside installation
Installation type		Surface mounting
Linkable		Horizontal and vertical
Number of modules each row		12
Number of rows		1, 2, 3
Earth bar		Yes
Phase bar		Yes (R S T N PE)
Din-rail type		Frame with 35mm device rail (DIN)
Entries		tube-input / cable
Color of frame		Blue
Color housing		Anthracite
Color of door		Transparent
Pollution degree		2

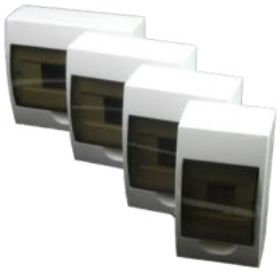
Mechanical parameters

Type	Width	Height	Depth	Weight
CHB12	220mm	205mm	105mm	
CHB24	220mm	330mm	105mm	
CHB36	220mm	410mm	105mm	
CHB12E	220mm	275mm	105mm	
CHB24E	220mm	400mm	105mm	
CHB36E	220mm	480mm	105mm	
CHB-EXT	220mm	70mm	105mm	

CHB – distribution box

	Order code	
Including elevated tube entry		
Number of rows		
1	**2119920012**	CHB12E
2	**2119920024**	CHB24E
3	**2119920036**	CHB36E
Extension cabinets		
Number of rows		
1	**2119910012**	CHB12
2	**2119910024**	CHB24
3	**2119910036**	CHB36
Attributes		
Elevated tube entry	**2119910100**	CHB-EXT
DIN-rail cover strip	**2119910102**	CHB-AFD
Blind entrance plate	**2119910202**	CHB-BPL
Plug connection plate	**2119910201**	CHB-STI
Group statement sticker	**2119910105**	CHB-GVS
Spare parts		
Earth bar	**2119910104**	CHB-AR
Connection bar	**2119910103**	CHB-AFT
Accessories set	**2119910101**	CHB-TBH
Connection plates	**2119910106**	CHB-KK
Transparent lid	**2119910210**	CHB-WD
Closing screw	**2119910215**	CHB-BS

TS/TF – distribution box



General
The TS/TF distribution box is a standard designed distribution box. With top up lids for protecting the din-modular components. The distribution box type TS is for surface mounting purpose and the TF is for flush mounting purpose.

CE

General parameters

Plastic enclosure
Cable lug entry
Wide variety of types

Technical parameters

Complies with		EN 61439-1 / -1 / -3
Nominal voltage	Unom	230/400VAC
Nominal current	Inom	100A
Rated insulation voltage	AC	1000V
Installation class		I
Protection degree	IP	40
Material		PC
Flammability class		V2
Glow wire test		850°C
Storage temperature		-25°C + 85°C
Operational temperature		-5°C - 70°C (with daily average <35°C)
Humidity		50...90%
EMC-type		B
Installation environment		Inside installation
Installation type		TS Surface mounting / TF Flush mounting (27mm)
Earth bar		Yes
Din-rail type		Fixed rail for 35mm device rail (DIN)
Color housing		Clear white
Color of door		Transparent
Pollution degree		2

Mechanical parameters

Sizes (mm)

Surface	Width	Height	Depth	Weight	Flush	Width	Height	Depth	Weight
TS4	112	200	95		TF4	136	222	60/27	
TS6	148	200	95		TF6	170	222	60/27	
TS8	184	200	95		TF8	207	222	60/27	
TS10	222	200	95		TF10	243	222	60/27	
TS12	256	200	95		TF12	279	222	60/27	
TS15	310	200	95		TF15	334	222	60/27	
TS18	365	222	95		TF18	398	251	67/27	
TS24	271	325	97		TF24	300	345	67/27	
TS36	271	462	100		TF36	300	484	67/27	

TS/TF – distribution box

Order code

Distribution box Modules		Surface mounting		Flush-Mounting	
4		**2119300004**	SEP-TS4	**2119310004**	SEP-TF4
6		**2119300006**	SEP-TS6	**2119310006**	SEP-TF6
8		**2119300008**	SEP-TS8	**2119310008**	SEP-TF8
10		**2119300010**	SEP-TS10	**2119310010**	SEP-TF10
12		**2119300012**	SEP-TS12	**2119310012**	SEP-TF12
15		**2119300015**	SEP-TS15	**2119310015**	SEP-TF15
18		**2119300018**	SEP-TS18	**2119310018**	SEP-TF18
24	(2x12 rail)	**2119300024**	SEP-TS24	**2119310024**	SEP-TF24
36	(3x12 rail)	**2119300036**	SEP-TS36	**2119310036**	SEP-TF36

Accesoires		
DIN-rail cover strip 24MU (snow white)	**2119000050**	S48-SW

Earth/Neutral brackets Size		
4	**2119390004**	SEP-TB4
6	**2119390006**	SEP-TB6
8	**2119390008**	SEP-TB8
10	**2119390010**	SEP-TB10
12	**2119390012**	SEP-TB12
15	**2119390015**	SEP-TB15
18	**2119390018**	SEP-TB18
Bracket support	**2119390001**	SEP-TB-CLIP

LS/LF – distribution box

General
The LS/LF distribution box is a standard designed distribution box for general purposes. The box is equipped with din-rails and with a full transparent (smoked) door. The distribution box type LS is for surface mounting purpose and the LF is for flush mounting purpose.

CE

General parameters

Plastic enclosure
Cable lug entry
Wide variety of types

Technical parameters

Complies with		EN 61439-1 / -1 / -3
Nominal voltage	Unom	230/400VAC
Nominal current	Inom	100A
Rated insulation voltage	AC	1000V
Installation class		I
Protection degree	IP	40
Material		PC
Flammability class		V2
Glow wire test		850°C
Storage temperature		-25°C + 85°C
Operational temperature		-5°C - 70°C (with daily average <35°C)
Humidity		50...90%
EMC-type		B
Installation environment		Inside installation
Installation type		TS Surface mounting / TF Flush mounting (27mm)
Earth bar		Yes
Din-rail type		Fixed rail for 35mm device rail (DIN)
Color housing		Clear white
Color of door		Transparent
Pollution degree		2

Mechanical parameters

Sizes (mm)

Surface	Width	Height	Depth	Weight	Flush	Width	Height	Depth	Weight
LS6	185	141	100		LF6	185	141	100/60	
LS8	230	175	100		LF8	230	175	100/60	
LS12	314	209	100		LF12	314	209	100/60	
LS16	233	290	104		LF16	233	290	103/60	
LS24	314	344	104		LF24	314	344	103/60	
LS36	314	440	104		LF36	314	440	103/60	

Distribution box Modules		Order code Surface mounting		Flush-Mounting	
6		**2119200006**	SEP-LS6	**2119210006**	SEP-LF6
8		**2119200008**	SEP-LS8	**2119210008**	SEP-LF8
12		**2119200012**	SEP-LS12	**2119210012**	SEP-LF12
16	(2x8 rail)	**2119200016**	SEP-LS16	**2119210016**	SEP-LF16
24	(2x12 rail)	**2119200024**	SEP-LS24	**2119210024**	SEP-LF24
36	(3x12 rail)	**2119200036**	SEP-LS36	**2119210036**	SEP-LF36
Accesoires					
DIN-rail cover strip 24MU (snow white)		**2119000050**	S48-SW		

S –extension box

General
The S extension distribution box is a small box with an integrated din-rail. Ideal for a small adaption to an electrical installation, due to the limited space required for mounting.

CE

General parameters

Plastic enclosure	
Cable lug entry	

Technical parameters

Complies with		EN 61439-1 / -1 / -3
Nominal voltage	Unom	230/400VAC
Nominal current	Inom	63A
Rated insulation voltage	AC	500V
Installation class		I
Protection degree	IP	20
Material		PC
Flammability class		V2
Glow wire test		850°C
Storage temperature		-25°C + 85°C
Operational temperature		-5°C - 70°C (with daily average <35°C)
Humidity		50...90%
EMC-type		B
Installation environment		Inside installation
Installation type		Surface mounted
Earth bar		No
Din-rail type		Fixed rail for 35mm device rail (DIN)
Color housing		Clear white
Pollution degree		2

Mechanical parameters

Type	Width	Height	Depth	Weight
S1	34mm	130mm	60mm	
S2	52mm	130mm	60mm	
S4	87mm	130mm	60mm	
S5	123mm	130mm	60mm	
S8	160mm	130mm	60mm	

S –extension box

	Order code	
Distribution box		
Modules		
1	2119400001	SEP-S1
2	2119400002	SEP-S2
4	2119400004	SEP-S4
6	2119400006	SEP-S6
8	2119400008	SEP-S8
Accesoires		
DIN-rail cover strip 24MU (snow white)	**2119000050**	S48-SW

ST –extension box

General

The ST extension distribution box is a small box with an integrated din-rail. A part of the modules are covered with a lid to protect for unintended switching of the devices. Ideal for a small adaption to an electrical installation, due to the limited space required for mounting.

CE

General parameters

Plastic enclosure
Cable lug entry
Suited to mount on a flush-fit central box
Quick closing of the lid (no screws)

Technical parameters

Complies with		EN 61439-1/-1/-3 EN 62208
Nominal voltage	Unom	230/400VAC
Nominal current	Inom	40A
Rated insulation voltage	AC	1000V (1500VDC)
Installation class		I
Protection degree	IP	20
Material		PC
Flammability class	UL94	V0
Glow wire test according EN 60695-2-1		960°C
Storage temperature		-25°C + 85°C
Operational temperature		-5°C - 40°C (with daily average <35°C)
Humidity		50...90%
EMC-type		B
Impact resistance		IK05
Installation environment		Inside installation
Installation type		Surface mounted
Number of entries		5x M20
Back entries possible		Yes
Earth bar		No (preparation for earth block type AST)
Din-rail type		Fixed rail for 35mm device rail (DIN)
Modules		3 + 2,5 – 3 + 5
Color housing		Broken white (RAL9010)
Color lid		Transparent blue
Pollution degree		2

Mechanical parameters

Type	Width	Height	Depth	Weight
ST3-V1	123mm	180mm	89mm	
ST3-V2	168,5mm	180mm	89mm	

ST –extension box

	Order code	
Distribution box		
Modules		
3 (behind lid) + 2,5	**2119600031**	ST3-V1
3 (behind lid) + 5	**2119600032**	ST3-V2
Accessories		
DIN-rail cover strip 24MU (RAL9010)	**2119000030**	S48-9010
Earth connection block	**2119600003**	AS16-43
PV cabinet indication sticker	**2119101012**	ST3-PVBS
Warning marker “LET OP kans op restspanning	**2119100030**	CHB-LETOP

PRO MK – distribution cabinets

General
The SEP PRO MK are double isolated surface mounted distribution cabinets. These cabinets are designed for a purpose up to 160Amp and are standard delivered with a modular frame. These distribution boards are normally used in the industrial-, commercial-, utility- buildings and luxury houses.

CE

General parameters

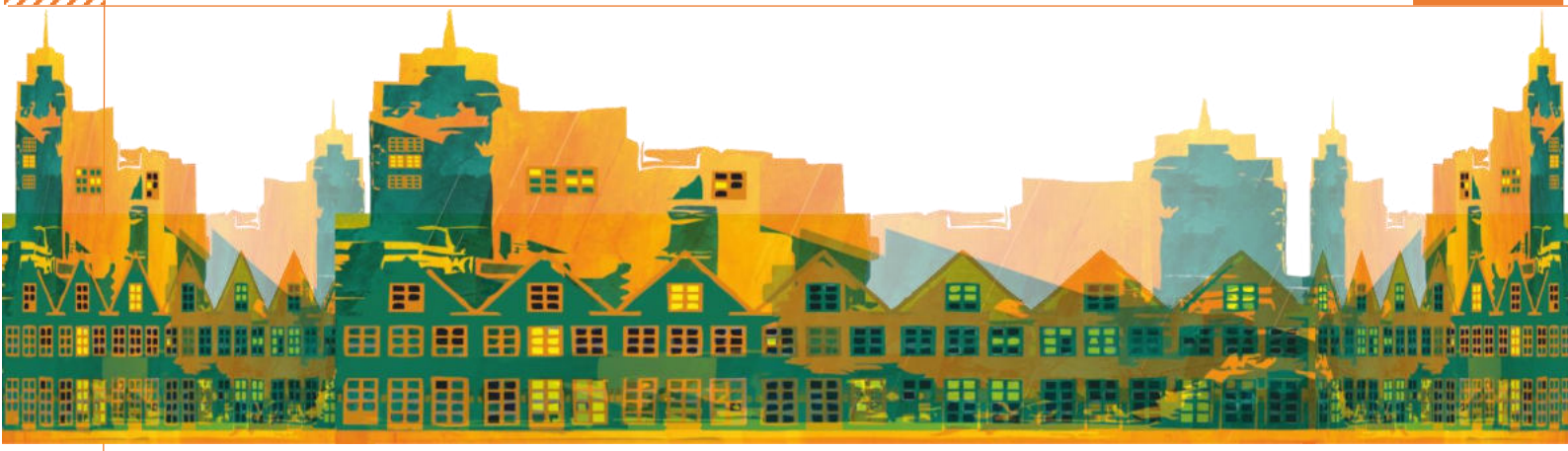
Powder coated steel housing with plastic inside coverage
Double isolated
Full door with lock option

Technical parameters

Complies with		EN/IEC 61439-1 DIN/VDE 0660 part 600
Nominal voltage	Unom	230/440VAC
Nominal current	Inom	160A
Rated insulation voltage	AC	1000V (1500VDC)
Installation class		I
Electrical isolation class		II
Protection degree	IP	43
Material		Powder coated steel
Storage temperature		-25°C + 85°C
Operational temperature		-5°C - 55°C (with daily average <35°C)
Humidity		50…90%
Impact resistance		IK10
Installation environment		Inside installation
Installation type		Surface mounted
Entries		Top and bottom
Earth bar		Yes
Din-rail type		Frame
Rows		3, 4, 5, 6, 7
Columns		1, 2, 3, 4
Modules each row / column		12
Color housing		White (RAL9016)
Pollution degree		2

PRO MK – distribution

	Order code	
Distribution cabinet height 3		
Surface mounted 36 modules (W=300mm, H=500mm, D=160mm)	**3320100013**	MK13N
Surface mounted 72 modules (W=550mm, H=500mm, D=160mm)	**3320100023**	MK23N
Surface mounted 108 modules (W=800mm, H=500mm, D=160mm)	**3320100033**	MK33N
Surface mounted 144 modules (W=1050mm, H=500mm, D=160mm)	**3320100043**	MK43N
Vertical shield height 500mm	**3320190003**	GTWM13
Distribution cabinet height 4		
Surface mounted 48 modules (W=300mm, H=650mm, D=160mm)	**3320100014**	MK14N
Surface mounted 96 modules (W=550mm, H=650mm, D=160mm)	**3320100024**	MK24N
Surface mounted 144 modules (W=800mm, H=650mm, D=160mm)	**3320100034**	MK34N
Surface mounted 192 modules (W=1050mm, H=650mm, D=160mm)	**3320100044**	MK44N
Vertical shield height 650mm	**3320190004**	GTWM14
Distribution cabinet height 5		
Surface mounted 60 modules (W=300mm, H=800mm, D=160mm)	**3320100015**	MK15N
Surface mounted 120 modules (W=550mm, H=800mm, D=160mm)	**3320100025**	MK25N
Surface mounted 180 modules (W=800mm, H=800mm, D=160mm)	**3320100035**	MK35N
Surface mounted 240 modules (W=1050mm, H=800mm, D=160mm)	**3320100045**	MK45N
Vertical shield height 800mm	**3320190005**	GTWM15
Distribution cabinet height 6		
Surface mounted 72 modules (W=300mm, H=950mm, D=160mm)	**3320100016**	MK16N
Surface mounted 144 modules (W=550mm, H=950mm, D=160mm)	**3320100026**	MK26N
Surface mounted 216 modules (W=800mm, H=950mm, D=160mm)	**3320100036**	MK36N
Surface mounted 218 modules (W=1050mm, H=950mm, D=160mm)	**3320100046**	MK46N
Vertical shield height 950mm	**3320190006**	GTWM16
Distribution cabinet height 7		
Surface mounted 84 modules (W=300mm, H=1100mm, D=160mm)	**3320100017**	MK17N
Surface mounted 168 modules (W=550mm, H=1100mm, D=160mm)	**3320100027**	MK27N
Surface mounted 252 modules (W=800mm, H=1100mm, D=160mm)	**3320100037**	MK37N
Surface mounted 336 modules (W=1050mm, H=1100mm, D=160mm)	**3320100047**	MK47N
Vertical shield height 1100mm	**3320190007**	GTWM17
Accessories		
DIN-rail cover strip 24MU	**2119000030**	S48-9010
Earth / Neutral bar	**3320900080**	GPEN27
Document holder	**5320900100**	GA4F
Encoding strip (length 1 meter)	**5320900090**	GCOM1M
Adaptor lock	**3320900120**	GDV103
Euro-lock hinge	**3320900122**	GDV120N
Horizontal shield width 250mm	**3320191001**	GTWM1
Horizontal shield width 500mm	**3320191002**	GTWM2
Horizontal shield width 750mm	**3320191003**	GTWM3
Cable entry box	**3320900060**	GAG12
Cable trunk width 300mm	**3320900010**	GGRK1
Cable trunk width 550mm	**3320900020**	GGRK2
Cable trunk width 800mm	**3320900030**	GGRK3
Cable trunk width 1050mm	**3320900040**	GGRK4



MODULAR DISTRIBUTION COMPONENTS

SL Modular switching and protection ***2.03 – 2.14***

FS Modular switching and protection ***2.17 – 2.38***

MC Modular switching and protection ***2.39 – 2.43***

HS18 – Isolator switch

General

The HS18 isolator switches can be used as a main switch in a wide range of applications. These switches are tested according to the IEC/EN60947-3 standard and fulfill also the requirements for isolation functions.

Utilization category AC-22A ensures possibility of switching mixed resistive and inductive loads with low overloads with cos φ =0.65 (frequent operations due to subcategory A).

General parameters

Isolator switch AC-22A, AC-22B
Suitable for household, utility as well as industrial applications
Connection covers

Electrical parameters

Tested according		IEC/EN 60947-3
Rated operational voltage	Ue	400/415 VAC
Rated frequency		50/60Hz
Poles		2p and 4p
Rated current	In	25A,40A
Utilization category		AC-22A, AC-22B
Rated short-time withstand	Icw	480A / 1s
Rated impulse withstand	Uimp	4 kV
Rated insulation voltage	Ui	415V
Dielectric test voltage		2.5 kV
Mechanical life time		10.000 operation cycles
Electrical life time		4.000 operation cycles
Max. back-up fuse		50A gG
Line voltage connection		Arbitrary above or below

Mechanical parameters

Device width	17,8mm (2p) / 35,6mm (4p)
Device height	83mm
Device depth	77mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable / busbar
Terminals	Cage clamp terminal
Terminal capacity	1-16mm² (solid) 1-10mm² (cord-end)
Fastening torque of terminals	1.2 Nm
Busbar connection	Pin type
Busbar thickness	10mm²
Storage temperature	-25°C + 70°C
Ambient temperature	-5°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0,076 kg (2p) / 0,150 kg (4p)

HS18 – Isolator switch

	Order code	
2p In (A)		
25A	**3102200025**	HS18-225
40A	**3102200040**	HS18-240
4p In (A)		
25A	**3102400025**	HS18-425
40A	**3102400040**	HS18-440
Terminal cover Yellow		
2p	**3102290010**	HS18-C2
4p	**3102490010**	HS18-C4
Marker Yellow		
N (78x)	**2119100004**	CHB-N
L1 (78x)	**2119100001**	CHB-L1
N-L1-L2-L3 (24x)	**2119100015**	CHB-FDPN

General

The RCD18 is the next generation RCCB protection device for our changing life style and high tech development. The RCD18 is unique in his kind due to the small width of 18mm the design is based on similar size as HS18, INS18, RCE1 and RCD36 therefore it is easy to combine them together. A wide range of busbar is also available to connect these items among each other.
The RCD18 comes in different sensitivity's and amperage, so that you can use them in different applications.

General parameters

High breaking capacity up to 10kA
RCCB should be tested regularly with a period of one month, this is the responsibility of the user of an installation given by law

Electrical parameters

Tested according		IEC/EN 61008-1
Rated operational voltage	Ue	240VAC
Minimum working voltage	Umin	>40VAC
Dependent on line voltage		Yes
Rated frequency		50/60Hz
Rated breaking capacity	Inc	10kA
Poles		2p (1p+n)
Rated current	In	25A, 40A
Residual current		10, 30, 100, 300mA
Waveform		A and AC
Time delay		Without time delay
Rated isolation voltage	Ui	500V
Rated impulse withstand voltage	Uimp	4 kV
Rated making and breaking capacity	Im	500A
Residual making and breaking capacity	Idm	500A
Electrical service life		4000 operations
Mechanical service life		4000 operations
Backup fuse for short circuit		Max. 50A gG

Mechanical parameters

Device width	18mm
Device height	89mm
Device depth	72mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable / Pin-type busbar
Terminals	Combined lift + open mouthed
Terminal capacity	1-16mm² (solid) 1-10mm2 (cord-end)
Fastening torque of terminals	1.2 Nm
Busbar connection	Pin type
Busbar thickness	10mm2
Storage temperature	-25°C + 70°C
Reference temperature	30°C
Ambient temperature	-25°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0,115 kg

	Order code	
10mA In (A)		
25A	**3105101025**	RCD18-2501
40A	**3105101040**	RCD18-4001
30mA In (A)		
25A	**3105100025**	RCD18-2503
40A	**3105100040**	RCD18-4003
100mA In (A)		
25A	**3105102025**	RCD18-2510
40A	**3105102040**	RCD18-4010
300mA In (A)		
25A	**3105103025**	RCD18-2530
40A	**3105103040**	RCD18-4030
Auxiliary contact		
1 change over	**3104500001**	RCE1-AUX
Terminal cover Yellow		
2p	**3102290010**	HS18-C2

RCD36 – RCCB - 4p

General

The RCD36 is the next generation RCCB protection device for our changing life style and high tech development. The RCD36 is unique in his kind due to the small width of 36mm the design is based on similar size as HS18, INS18, RCE1 and RCD18 therefore it is easy to combine them together. A wide range of busbar is also available to connect these items among each other.
The RCD36 comes in different sensitivity's and amperage, so that you can use them in different applications

General parameters

High breaking capacity up to 10kA
With handle lock, protective cover and seal function, to protect for error operation
RCCB should be tested regularly with a period of one month, this is the responsibility of the user of an installation given by law

Electrical parameters

Tested according		IEC/EN 61008-1
Rated operational voltage	Ue	400/415VAC
Dependent on line voltage		No
Rated frequency		50/60Hz
Rated breaking capacity	Inc	10kA
Poles		4p (3p+n)
Rated current	In	25A, 40A
Residual current		30, 100, 300mA
Waveform		A and AC
Time delay		Without time delay
Rated isolation voltage	Ui	500V
Rated impulse withstand voltage	Uimp	4 kV
Rated making and breaking capacity	Im	1000A
Residual making and breaking capacity	Idm	1000A
Electrical service life		4000 operations
Mechanical service life		4000 operations
Backup fuse for short circuit		Max. 63A gG

Mechanical parameters

Device width	36mm
Device height	89mm
Device depth	69mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable / Pin-type busbar
Terminals	Combined lift + open mouthed
Terminal capacity	1-16mm² (solid) 1-10mm2 (cord-end)
Fastening torque of terminals	1.2 Nm
Busbar connection	Pin type
Busbar thickness	10mm2
Storage temperature	-25°C + 70°C
Reference temperature	30°C
Ambient temperature	-25°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0,21 kg

	Order code	
30mA		
In (A)		
25A	**3105200025**	RCD36-25030
40A	**3105200040**	RCD36-40030
100mA		
In (A)		
25A	**3105202025**	RCD36-25100
40A	**3105202040**	RCD36-40100
300mA		
In (A)		
25A	**3105203025**	RCD36-25300
40A	**3105203040**	RCD36-40300
Auxiliary contact		
1 change over	**3105300001**	RCD-AUX

INS18 – MCB - 1p+n

General

INS18 miniature circuit breaker are suitable for domestic, utility as well as industrial applications. They can be combined with signal contacts (maximum three). The INS18 design is based on similar size as HS18, RCD18, RCE1 and RCD36 therefore it is easy to combine them together. A wide range of busbar is also available to connect these items among each other.
The INS18 comes in different sensitivity's and amperage, so that you can use them in different applications.

General parameters

High limiting on short circuit current
Suitable for household, utility as well as industrial applications
Accessoires

Electrical parameters

Tested according		IEC/EN 60898
Rated operational voltage	Ue	230 VAC
Maximum working voltage	Umax	254 VAC
Minimum working voltage	Umin	12V AC/DC
Rated frequency		50/60Hz
Rated short-circuit capacity	Icn	6kA
Rated making and breaking capacity	Icn1	6kA
Poles		1p+n and 2p+2n
Protected poles		1
Switching neutral pole		Yes
Rated current	In	1, 2, 3, 4, 6, 8, 10, 13, 16, 20, 25, 32, 40A
Tripping characteristics		B, C
Rated impulse withstand	Uimp	4 kV
Rated insulation voltage	Ui	500V
Transient overvoltage category		3
Selectivity class		3
Energy limiting class		3
Dielectric test voltage		2 kV (1min)
Mechanical life time		10 000 operation cycles
Electrical life time		4 000 operation cycles
Max. back-up fuse		Max. 125A gG
Line voltage connection		Arbitrary above or below

Mechanical parameters

Device width	18mm
Device height	89mm
Device depth	69mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable / Pin-type busbar
Terminals	Combined lift + open mouthed
Terminal capacity	1-16mm² (solid) 1-10mm2 (cord-end)
Fastening torque of terminals	1.2 Nm
Busbar connection	Pin type
Busbar thickness	10mm2
Storage temperature	-25°C + 70°C
Reference temperature	30°C
Ambient temperature	-25°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0,21 kg

Order code

1p+n In(A)	Curve B		Curve C	
1	**3101541001**	INS18-1NB01	**3101551001**	INS18-1NC01
2	**3101541002**	INS18-1NB02	**3101551002**	INS18-1NC02
3	**3101541003**	INS18-1NB03	**3101551003**	INS18-1NC03
4	**3101541004**	INS18-1NB04	**3101551004**	INS18-1NC04
6	**3101541006**	INS18-1NB06	**3101551006**	INS18-1NC06
8	**3101541008**	INS18-1NB08	**3101551008**	INS18-1NC08
10	**3101541010**	INS18-1NB10	**3101551010**	INS18-1NC10
13	**3101541013**	INS18-1NB13	**3101551013**	INS18-1NC13
16	**3101541016**	INS18-1NB16	**3101551016**	INS18-1NC16
20	**3101541020**	INS18-1NB20	**3101551020**	INS18-1NC20
25	**3101541025**	INS18-1NB25	**3101551025**	INS18-1NC25
32	**3101541032**	INS18-1NB32	**3101551032**	INS18-1NC32
40	**3101541040**	INS18-1NB40	**3101551040**	INS18-1NC40
2p+2n In(A)				
16	**3101541116**	INS18-2NB16	**3101551116**	INS18-2NC16
20	**3101541120**	INS18-2NB20	**3101551120**	INS18-2NC20
25	**3101541125**	INS18-2NB25	**3101551125**	INS18-2NC25
Auxiliary contact				
1 change over	**3104500001**	RCE1-AUX		
Terminal cover Yellow				
2p	**3102290010**	HS18-C2		
4p	**3102490010**	HS18-C4		

INS36 – MCB - 3p+n/4p

General

INS18 miniature circuit breaker are suitable for domestic, utility as well as industrial applications. They can be combined with signal contacts (maximum three). The INS18 design is based on similar size as HS18, RCD18, RCE1 and RCD36 therefore it is easy to combine them together. A wide range of busbar is also available to connect these items among each other.
The INS18 comes in different sensitivity's and amperage, so that you can use them in different applications.

General parameters

High limiting on short circuit current
Suitable for household, utility as well as industrial applications
Accessoires

Electrical parameters

Tested according		IEC/EN 60898
Rated operational voltage	Ue	400/415VAC
Minimum working voltage	Umin	12V AC/DC
Rated frequency		50/60Hz
Rated short-circuit capacity	Icn	6kA
Rated making and breaking capacity	Icn1	6kA
Poles		3p+n and 4p
Protected poles		3, 4
Rated current	In	1, 2, 3, 4, 6, 8, 10, 13, 16, 20, 25, 32, 40A
Tripping characteristics		B, C, D
Rated impulse withstand	Uimp	4 kV
Rated insulation voltage	Ui	500V
Transient overvoltage category		3
Selectivity class		3
Energy limiting class		3
Dielectric test voltage		2 kV (1min)
Mechanical life time		10 000 operation cycles
Electrical life time		4 000 operation cycles
Max. back-up fuse		Max. 125A gG
Line voltage connection		Arbitrary above or below

Mechanical parameters

Device width	36mm
Device height	89mm
Device depth	69mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable / Pin-type busbar
Terminals	Combined lift + open mouthed
Terminal capacity	1-16mm² (solid) 1-10mm2 (cord-end)
Fastening torque of terminals	1.2 Nm
Busbar connection	Pin type
Busbar thickness	10mm2
Storage temperature	-25°C + 70°C
Reference temperature	30°C
Ambient temperature	-25°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0,23 kg (3p+n)/ 0,242 kg (4p)

Order code

3p+n In(A)	Curve B		Curve C		Curve D	
1	3101643001	INS36-3NB01	3101653001	INS36-3NC01	3101663001	INS36-3ND01
2	3101643002	INS36-3NB02	3101653002	INS36-3NC02	3101663002	INS36-3ND02
3	3101643003	INS36-3NB03	3101653003	INS36-3NC03	3101663003	INS36-3ND03
4	3101643004	INS36-3NB04	3101653004	INS36-3NC04	3101663004	INS36-3ND04
6	**3101643006**	INS36-3NB06	**3101653006**	INS36-3NC06	**3101663006**	INS36-3ND06
8	3101643008	INS36-3NB08	3101653008	INS36-3NC08	3101663008	INS36-3ND08
10	**3101643010**	INS36-3NB10	**3101653010**	INS36-3NC10	**3101663010**	INS36-3ND10
13	**3101643013**	INS36-3NB13	**3101653013**	INS36-3NC13	**3101663013**	INS36-3ND13
16	**3101643016**	INS36-3NB16	**3101653016**	INS36-3NC16	**3101663016**	INS36-3ND16
20	**3101643020**	INS36-3NB20	**3101653020**	INS36-3NC20	**3101663020**	INS36-3ND20
25	**3101643025**	INS36-3NB25	**3101653025**	INS36-3NC25	**3101663025**	INS36-3ND25
32	**3101643032**	INS36-3NB32	**3101653032**	INS36-3NC32	**3101663032**	INS36-3ND32
40	**3101643040**	INS36-3NB40	**3101653040**	INS36-3NC40	**3101663040**	INS36-3ND40
4p In(A)						
1	3101644001	INS36-4B01	3101654001	INS36-4C01	3101664001	INS36-4D01
2	3101644002	INS36-4B02	3101654002	INS36-4C02	3101664002	INS36-4D02
3	3101644003	INS36-4B03	3101654003	INS36-4C03	3101664003	INS36-4D03
4	3101644004	INS36-4B04	3101654004	INS36-4C04	3101664004	INS36-4D04
6	**3101644006**	INS36-4B06	**3101654006**	INS36-4C06	**3101664006**	INS36-4D06
8	3101644008	INS36-4B08	3101654008	INS36-4C08	3101664008	INS36-4D08
10	**3101644010**	INS36-4B10	**3101654010**	INS36-4C10	**3101664010**	INS36-4D10
13	**3101644013**	INS36-4B13	**3101654013**	INS36-4C13	**3101664013**	INS36-4D13
16	**3101644016**	INS36-4B16	**3101654016**	INS36-4C16	**3101664016**	INS36-4D16
20	**3101644020**	INS36-4B20	**3101654020**	INS36-4C20	**3101664020**	INS36-4D20
25	**3101644025**	INS36-4B25	**3101654025**	INS36-4C25	**3101664025**	INS36-4D25
32	**3101644032**	INS36-4B32	**3101654032**	INS36-4C32	**3101664032**	INS36-4D32
40	**3101644040**	INS36-4B40	**3101654040**	INS36-4C40	**3101664040**	INS36-4D40
Auxiliary contact						
1 change over	**3104500001**	RCE1-AUX				
Terminal cover Yellow						
4p	**3102490010**	HS18-C4				

RCE1 – RCBO - 1p+n

General

The SEP RCE1 RCBO is a protective device against residual current, short-circuit and overload. It is suitable to the AC circuit of 50/60Hz, the rated voltage is 230V, rated current up to 40A. It is mainly used to protect human safety from electrical shock and to prevent fire disaster caused by residual current due to damaged equipment. It also can be used in the infrequent on-and-off switching operation under the normal cases. This RCBO is mainly used in the domestic, utility and industrial applications

General parameters

High limiting on short circuit current	
RCBO should be tested regularly with a period of one month, this is the responsibility of the user of an installation given by law	

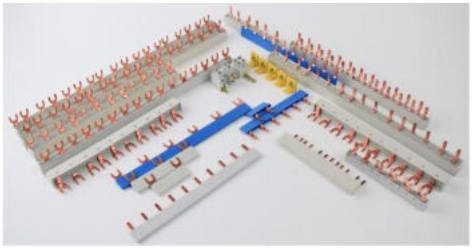
Electrical parameters

Tested according		IEC/EN 61009
Rated operational voltage	Ue	230 VAC
Minimum working voltage	Umin	>40VAC
Depended on line voltage		Yes
Rated frequency		50/60Hz
Rated short-circuit capacity	Icn	6kA
Rated making and breaking capacity	Icn1	6kA
Poles		1p+n and 2p+2n
Protected poles		1
Switching neutral pole		Yes
Rated current	In	6, 10, 16, 20, 25, 32, 40A
Residual current		10mA, 30mA, 100mA, 300mA
Waveform		A type (residual AC and pulsating DC current)
Tripping characteristics		B, C
Energy limiting class		3
Transient overvoltage category		3
Rated isolation voltage	Ui	500V
Rated impulse withstand voltage	Uimp	4 kV
Dielectric test voltage		2 kV
Electrical service life		10 000 operations
Mechanical service life		4 000 operations
Backup fuse for short circuit		Max. 125A gG
Mechanical service life		Arbitrary – above or below

Mechanical parameters

Device width	18mm
Device height	89mm
Device depth	69mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable / Pin-type busbar
Terminals	Combined lift + open mouthed
Terminal capacity	1-16mm² (solid) 1-10mm2 (cord-end)
Fastening torque of terminals	1.2 Nm
Busbar connection	Pin type
Busbar thickness	10mm2
Storage temperature	-25°C + 70°C
Ambient temperature	-5°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0,122 kg

	Order code			
10mA In(A)	**Curve B**		**Curve C**	
6	**3104510106**	RCE1-B06.01	**3104520106**	RCE1-C06.01
10	**3104510110**	RCE1-B10.01	**3104520110**	RCE1-C10.01
13	**3104510116**	RCE1-B16.01	**3104520116**	RCE1-C16.01
16	**3104510120**	RCE1-B20.01	**3104520120**	RCE1-C20.01
20	**3104510125**	RCE1-B25.01	**3104520125**	RCE1-C25.01
25	**3104510132**	RCE1-B32.01	**3104520132**	RCE1-C32.01
32	**3104510140**	RCE1-B40.01	**3104520140**	RCE1-C40.01
40	**3104510106**	RCE1-B06.01	**3104520106**	RCE1-C06.01
30mA In(A)				
6	**3104510006**	RCE1-B06.03	**3104520006**	RCE1-C06.03
10	**3104510010**	RCE1-B10.03	**3104520010**	RCE1-C10.03
13	**3104510016**	RCE1-B16.03	**3104520016**	RCE1-C16.03
16	**3104510020**	RCE1-B20.03	**3104520020**	RCE1-C20.03
20	**3104510025**	RCE1-B25.03	**3104520025**	RCE1-C25.03
25	**3104510032**	RCE1-B32.03	**3104520032**	RCE1-C32.03
32	**3104510040**	RCE1-B40.03	**3104520040**	RCE1-C40.03
40	**3104510006**	RCE1-B06.03	**3104520006**	RCE1-C06.03
100mA In(A)				
6	**3104510206**	RCE1-B06.10	**3104520206**	RCE1-C06.10
10	**3104510210**	RCE1-B10.10	**3104520210**	RCE1-C10.10
13	**3104510216**	RCE1-B16.10	**3104520216**	RCE1-C16.10
16	**3104510220**	RCE1-B20.10	**3104520220**	RCE1-C20.10
20	**3104510225**	RCE1-B25.10	**3104520225**	RCE1-C25.10
25	**3104510232**	RCE1-B32.10	**3104520232**	RCE1-C32.10
32	**3104510240**	RCE1-B40.10	**3104520240**	RCE1-C40.10
40	**3104510206**	RCE1-B06.10	**3104520206**	RCE1-C06.10
300mA In(A)				
6	**3104510306**	RCE1-B06.03	**3104520306**	RCE1-C06.03
10	**3104510310**	RCE1-B10.03	**3104520310**	RCE1-C10.03
13	**3104510316**	RCE1-B16.03	**3104520316**	RCE1-C16.03
16	**3104510320**	RCE1-B20.03	**3104520320**	RCE1-C20.03
20	**3104510325**	RCE1-B25.03	**3104520325**	RCE1-C25.03
25	**3104510332**	RCE1-B32.03	**3104520332**	RCE1-C32.03
32	**3104510340**	RCE1-B40.03	**3104520340**	RCE1-C40.03
40	**3104510306**	RCE1-B06.03	**3104520306**	RCE1-C06.03
2p+2n – 30mA In(A)				
16	**3104511016**	RCE1-2N-B16	**3105421016**	RCE1-2N-C16
20	**3104511020**	RCE1-2N-B20	**3105421020**	RCE1-2N-C20
25	**3104511025**	RCE1-2N-B25	**3105421025**	RCE1-2N-C25
Auxiliary contact				
1 change over	**3104500001**	RCE1-AUX		
Terminal cover Yellow				
2p	**3102290010**	HS18-C2		
4p	**3102490010**	HS18-C4		



General

The SEP insulated busbar system is used to connect modular components. By using the busbars one can establish a good and reliable connection, reduce failures and improve the heat management within the cabinet. In combination with the accessories, the wiring within the cabinet can be reduced considerably, making the whole system look descent an clear.

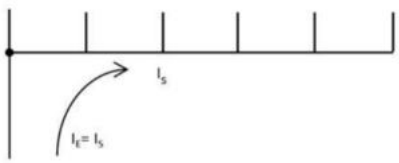
CE

General parameters

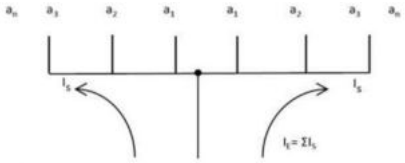
Insulated busbar
No need to cut to length
Wide range of busbar
Wide range of connection accessories

Technical parameters

Complies with	IEC 60439-1|2000-08
According	IEC 664
Busbar material	E-Cu-ETP
Isolation material	Ultramid PA6 glass fiber reinforced
Form test	125°C (after 1,8MPa)
Glow wire test	960°C according IEC60895-2-12
Flammability class	V0
Tracking index	550
Short circuit strength	25kA / 100A gl
Disruptive strength	36kV / mm
Climate stability	IEC 68-2
Operating voltage	500V AC
Surge voltage	4kV
Isolation group	According VDE 0110-T1
Overvoltage category	III
Degree of soiling	2
Halogen free	According DIN EN 50267-2-2
Colors	Related to RAL7035 and RAL5015 (grey/blue)
Type	PIN and FORK
Cross section	10mm²
Max. current one side line-in	63A
Max. current central line-in	100A*



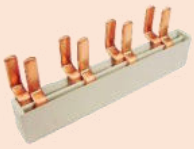
ONE SIDE LINE-IN



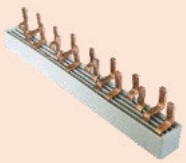
CENTRAL LINE-IN

* The Is is rated on an equal divided demand on both sides of the feeding-main (line-in) of the busbar the sum of the equal divided output current cannot be higher than the busbar current (Is)

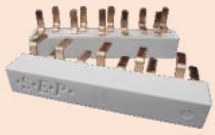
					Order code	
1 Phase Busbar (N) – *offset 4mm*						
number of poles						
2	2x 1p	(2MU)	17,8mm	Blue	**2305101992**	P01002B10
3	3x 1p	(3MU)	17,8mm	Blue	**2305101993**	P01003B10
4	4x 1p	(4MU	17,8mm	Blue	**2305101994**	P01004B10
5	5x 1p	(5MU)	17,8mm	Blue	**2305101995**	P01005B10
6	6x 1p	(6MU)	17,8mm	Blue	**2305101996**	P01006B10
8	8x 1p	(8MU)	17,8mm	Blue	**2305101998**	P01008B10
10	10x 1p	(10MU)	17,8mm	Blue	**2305101990**	P01010B10
12	12x 1p	(12MU)	17,8mm	Blue	**2305101991**	P01012B10



2 Phase Busbar (N-L-N-L-…)						
number of poles						
6	3x 2p	(3MU)	9/18mm		**2305122906**	P02006G20
8	4x 2p	(4MU)	9/18mm		**2305122908**	P02008G20
10	5x 2p	(5MU	9/18mm		**2305122910**	P02010G20
12	6x 2p	(6MU)	9/18mm		**2305122912**	P02012G20
16	8x 2p	(8MU)	9/18mm		**2305122916**	P02016G20
20	10x 2p	(10MU)	9/18mm		**2305122920**	P02020G20
24	12x 2p	(12MU)	9/18mm		**2350122924**	P02024G20



3 Phase + N Busbar (N-L1-N-L2-N-L3-…)						
number of poles						
12	6x 2p	(6MU)	9/18mm		**P04012G20**	P04012G20
18	9x 2p	(9MU)	9/18mm		**P04018G20**	P04018G20
24	12x 2p	(12MU)	9/18mm		**P04024G20**	P04024G20



4 Phase Busbar (N-L1-L2-L3--…)						
number of poles						
8	2x 4p	(4MU)	9/18mm		**2305142808**	P04008G40
12	3x 4p	(6MU)	9/18mm		**2305142812**	P04012G40
16	4x 4p	(8MU)	9/18mm		**2305142816**	P04016G40
20	5x 4p	(10MU)	9/18mm		**2305142820**	P04020G40
24	6x 4p	(12MU)	9/18mm		**2305142824**	P04024G40

Combination busbar (N-L1-L2-L3-N-L1-N-L2-N-L3)						
Number of poles						
10	1x 4p + 3x 2p	(5MU)	9/18mm		**2305195910**	P24010G20

Combination busbar (N-L1-L2-L3-N-L1-N-L2-N-L3-N-L1)						
Number of poles						
12	1x 4p + 4x 2p	(6MU)	9/18mm		**2305195910**	P14012G40

Accessoires busbar						
Busbar cover pin-type 9/18mm					**2115900015**	IK-D
Double connection 2x10mm² terminal high - grey					**2115900040**	DTH
Double connection 2x10mm² terminal low - grey					**2115900041**	DTL
Double connection 2x10mm² terminal high - blue					**2115900540**	DTH-B
Double connection 2x10mm² terminal low - blue					**2115900541**	DTL-B

General

The HS1 isolator switches can be used as a main switch in a wide range of applications. These switches are tested according to the IEC/EN60947-3 standard and fulfill also the requirements for isolation functions.
Utilization category AC-21A/B, AC-22A/B and AC-23/AB ensures that as well resistive with moderate overloads as well as inductive with moderate overloads and highly inductive loads can be switched with this HS1 type. Secondly utilization category DC-22 and DC-23 ensures you can use them in the DC applications as well

General parameters

Isolator switch AC-21 A/B, AC-22 A/B, AC-23 A/B, DC-22 and DC-23	
Suitable for household, utility as well as industrial applications	
Including connection covers	

Electrical parameters

Tested according		IEC/EN 60947-3
Rated operational voltage	Ue	400/415 VAC
Rated frequency		50/60Hz
Poles		1, 2, 3, 4p
Rated current	In	25A, 40A, 63A, 80A, 100A, 125A, 160A
Utilization category		AC-21A/B, AC-22A/B, AC-23A/B, DC-22, DC-23
Rated short-time withstand	Icw	5.5kA / 1s
Rated short-time making capacity	Icm	20kA
Rated impulse withstand	Uimp	8 kV
Rated insulation voltage	Ui	750V
Dielectric test voltage		2.5 kV
Mechanical life time		10.000 operation cycles
Electrical life time		4.000 operation cycles
Max. back-up fuse		160A gG
Line voltage connection		Arbitrary above or below

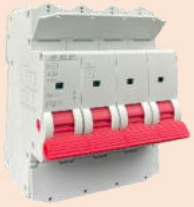
Mechanical parameters

Device width	17,8mm (each pole)
Device height	83mm
Device depth	77mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable / busbar
Terminals	Cage clamp terminal
Terminal capacity	1-50mm² (solid) 1-35mm² (cord-end)
Fastening torque of terminals	3.5 Nm
Busbar connection	Fork / Pin type
Busbar thickness	30mm²
Storage temperature	-25°C + 70°C
Ambient temperature	-5°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0,15 kg (each pole)

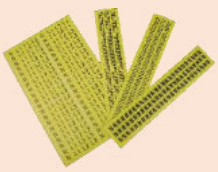
1p In (A)	Order code	
25A	**3110000010**	HS1-1025
40A	**3110000020**	HS1-1040
63A	**3110000030**	HS1-1063
80A	**3110000040**	HS1-1080
100A	**3110000050**	HS1-1100
125A	**3110000060**	HS1-1125
160A	**3110000070**	HS1-1160

2p In (A)		
25A	**3110000080**	HS1-2025
40A	**3110000090**	HS1-2040
63A	**3110000100**	HS1-2063
80A	**3110000110**	HS1-2080
100A	**3110000120**	HS1-2100
125A	**3110000130**	HS1-2125
160A	**3110000140**	HS1-2160

3p In (A)		
25A	**3110000150**	HS1-3025
40A	**3110000160**	HS1-3040
63A	**3110000170**	HS1-3063
80A	**3110000180**	HS1-3080
100A	**3110000190**	HS1-3100
125A	**3110000200**	HS1-3125
160A	**3110000210**	HS1-3160



4p In (A)		
25A	**3110000220**	HS1-4025
40A	**3110000230**	HS1-4040
63A	**3110000240**	HS1-4063
80A	**3110000250**	HS1-4080
100A	**3110000260**	HS1-4100
125A	**3110000270**	HS1-4125
160A	**3110000280**	HS1-4160



Marker Yellow		
N (78x)	**2119100004**	CHB-N
L1 (78x)	**2119100001**	CHB-L1
L2 (78)x	**2119100002**	CHB-L2
L3 (78x)	**2119100003**	CHB-L3
N-L1-L2-L3 (40x)	**2119100010**	CHB-NLP

General
Due to our changing life style and high tech developments there is need for more diversity in the RCCB protection devices. With the RCD1 you can find the right protection for your situation in any time. The design covers the range up to 125A solutions in different categories.

General parameters

High breaking capacity up to 10kA
With handle lock, protective cover and seal function, to protect for error operation
RCCB should be tested regularly with a period of one month, this is the responsibility of the user of an installation given by law

Electrical parameters

Tested according		IEC/EN 61008-1
Rated operational voltage	Ue	240/415VAC
Dependent on line voltage		No
Rated frequency		50/60Hz
Rated breaking capacity	Inc	10kA
Poles		2p (1p+n) / 4p (3p+n)
Rated current	In	16A, 25A, 40A, 63A, 80A, 100A, 125A
Residual current		10, 30, 100, 300, 500mA
Waveform		A (including AC)
Time delay		Without time delay
	[G]	Short term delayed (10ms)
	[S]	Selective type
Rated isolation voltage	Ui	500V
Rated impulse withstand voltage	Uimp	6 kV
Rated making and breaking capacity	Im	3000A
Residual making and breaking capacity	Idm	3000A
Electrical service life		4000 operations
Mechanical service life		20000 operations
Backup fuse for short circuit		Max. 125A gG
Line voltage connection		Arbitrary (above or below)

Mechanical parameters

Device width	36mm (2 pole) / 72mm (4 pole)
Device height	90mm
Device depth	72mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Terminals	Combined lift + open mouthed
Terminal capacity	4-50mm² (solid) 4-35mm2 (cord-end)
Fastening torque of terminals	3.5Nm
Busbar connection	Fork/Pin type
Busbar thickness	10mm2, 16mm2, 30mm2
Storage temperature	-25°C + 70°C
Reference temperature	30°C
Ambient temperature	-25°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0,28 kg (2-pole), 0,44 kg (4-pole)

Type A In (A)	Sensitivity	Order code 2 pole		4 pole	
16A	10mA	**3112000010**	RCD1-2A-01601		
25A	10mA	**3112000030**	RCD1-2A-02501		
40A	10mA	**3112000070**	RCD1-2A-04001		
Type A In (A)	Sensitivity				
16A	30mA	**3112000020**	RCD1-2A-01603		
25A	30mA	**3112000040**	RCD1-2A-02503	**3112000330**	RCD1-4A-02503
40A	30mA	**3112000080**	RCD1-2A-04003	**3112000390**	RCD1-4A-04003
63A	30mA	**3112000130**	RCD1-2A-06303	**3112000460**	RCD1-4A-06303
80A	30mA	**3112000180**	RCD1-2A-08003	**3112000530**	RCD1-4A-08003
100A	30mA	**3112000230**	RCD1-2A-10003	**3112000600**	RCD1-4A-10003
125A	30mA	**3112000280**	RCD1-2A-12503	**3112000670**	RCD1-4A-12503
Type A In (A)	Sensitivity				
25A	100mA	**3112000050**	RCD1-2A-02510	**3112000340**	RCD1-4A-02510
40A	100mA	**3112000090**	RCD1-2A-04010	**3112000400**	RCD1-4A-04010
63A	100mA	**3112000140**	RCD1-2A-06310	**3112000470**	RCD1-4A-06310
80A	100mA	**3112000190**	RCD1-2A-08010	**3112000540**	RCD1-4A-08010
100A	100mA	**3112000240**	RCD1-2A-10010	**3112000610**	RCD1-4A-10010
125A	100mA	**3112000290**	RCD1-2A-12510	**3112000680**	RCD1-4A-12510
Type A In (A)	Sensitivity				
25A	300mA	**3112000060**	RCD1-2A-02530	**3112000350**	RCD1-4A-02530
40A	300mA	**3112000100**	RCD1-2A-04030	**3112000410**	RCD1-4A-04030
63A	300mA	**3112000150**	RCD1-2A-06330	**3112000480**	RCD1-4A-06330
80A	300mA	**3112000200**	RCD1-2A-08030	**3112000550**	RCD1-4A-08030
100A	300mA	**3112000250**	RCD1-2A-10030	**3112000620**	RCD1-4A-10030
125A	300mA	**3112000300**	RCD1-2A-12530	**3112000690**	RCD1-4A-12530
Type A In (A)	Sensitivity				
25A	500mA			**3112000360**	RCD1-4A-02550
40A	500mA			**3112000420**	RCD1-4A-04050
63A	500mA			**3112000490**	RCD1-4A-06350
80A	500mA			**3112000560**	RCD1-4A-08050
100A	500mA			**3112000630**	RCD1-4A-10050
125A	500mA			**3112000700**	RCD1-4A-12550
Auxiliary contact					
1 change over		**3105300001**	RCD-AUX	**3105300001**	RCD-AUX

RCD1 – RCCB type A[G]

Order code

Type A[G] In (A)	Sensitivity	2 pole		4 pole	
16A	10mA	**3112000740**	RCD1-2A-01601G		
25A	10mA	**3112000760**	RCD1-2A-02501G		
40A	10mA	**3112000800**	RCD1-2A-04001G		
Type A[G] In (A)	Sensitivity				
16A	30mA	**3112000750**	RCD1-2A-01603G		
25A	30mA	**3112000770**	RCD1-2A-02503G	**3112000960**	RCD1-4A-02503G
40A	30mA	**3112000810**	RCD1-2A-04003G	**3112001000**	RCD1-4A-04003G
63A	30mA	**3112000840**	RCD1-2A-06303G	**3112001040**	RCD1-4A-06303G
80A	30mA	**3112000870**	RCD1-2A-08003G	**3112001080**	RCD1-4A-08003G
100A	30mA	**3112000900**	RCD1-2A-10003G	**3112001120**	RCD1-4A-10003G
125A	30mA	**3112000930**	RCD1-2A-12503G	**3112001160**	RCD1-4A-12503G
Type A[G] In (A)	Sensitivity				
25A	100mA	**3112000780**	RCD1-2A-02510G	**3112000970**	RCD1-4A-02510G
40A	100mA	**3112000820**	RCD1-2A-04010G	**3112001010**	RCD1-4A-04010G
63A	100mA	**3112000850**	RCD1-2A-06310G	**3112001050**	RCD1-4A-06310G
80A	100mA	**3112000880**	RCD1-2A-08010G	**3112001090**	RCD1-4A-08010G
100A	100mA	**3112000910**	RCD1-2A-10010G	**3112001130**	RCD1-4A-10010G
125A	100mA	**3112000940**	RCD1-2A-12510G	**3112001170**	RCD1-4A-12510G
Type A[G] In (A)	Sensitivity				
25A	300mA	**3112000790**	RCD1-2A-02530G	**3112000980**	RCD1-4A-02530G
40A	300mA	**3112000830**	RCD1-2A-04030G	**3112001020**	RCD1-4A-04030G
63A	300mA	**3112000860**	RCD1-2A-06330G	**3112001060**	RCD1-4A-06330G
80A	300mA	**3112000890**	RCD1-2A-08030G	**3112001100**	RCD1-4A-08030G
100A	300mA	**3112000920**	RCD1-2A-10030G	**3112001140**	RCD1-4A-10030G
125A	300mA	**3112000950**	RCD1-2A-12530G	**3112001180**	RCD1-4A-12530G
Type A[G] In (A)	Sensitivity				
25A	500mA			**3112000990**	RCD1-4A-02550G
40A	500mA			**3112001030**	RCD1-4A-04050G
63A	500mA			**3112001070**	RCD1-4A-06350G
80A	500mA			**3112001110**	RCD1-4A-08050G
100A	500mA			**3112001150**	RCD1-4A-10050G
125A	500mA			**3112001190**	RCD1-4A-12550G
Auxiliary contact					
1 change over		**3105300001**	RCD-AUX	**3105300001**	RCD-AUX

RCD1 – RCCB type A[S]

Order code

Type A[S] In (A)	Sensitivity	2 pole		4 pole	
				3112000370	RCD1-4A-02510S
40A	100mA	**3112000110**	RCD1-2A-04010S	**3112000430**	RCD1-4A-04010S
63A	100mA	**3112000160**	RCD1-2A-06310S	**3112000500**	RCD1-4A-06310S
80A	100mA	**3112000210**	RCD1-2A-08010S	**3112000570**	RCD1-4A-08010S
100A	100mA	**3112000260**	RCD1-2A-10010S	**3112000640**	RCD1-4A-10010S
125A	100mA	**3112000310**	RCD1-2A-12510S	**3112000710**	RCD1-4A-12510S

Type A[S] In (A)	Sensitivity				
				3112000380	RCD1-4A-02530S
40A	300mA	**3112000120**	RCD1-2A-04030S	**3112000440**	RCD1-4A-04030S
63A	300mA	**3112000170**	RCD1-2A-06330S	**3112000510**	RCD1-4A-06330S
80A	300mA	**3112000220**	RCD1-2A-08030S	**3112000580**	RCD1-4A-08030S
100A	300mA	**3112000270**	RCD1-2A-10030S	**3112000650**	RCD1-4A-10030S
125A	300mA	**3112000320**	RCD1-2A-12530S	**3112000720**	RCD1-4A-12530S

Type A[S] In (A)	Sensitivity				
40A	500mA			**3112000450**	RCD1-4A-04050S
63A	500mA			**3112000520**	RCD1-4A-06350S
80A	500mA			**3112000590**	RCD1-4A-08050S
100A	500mA			**3112000660**	RCD1-4A-10050S
125A	500mA			**3112000730**	RCD1-4A-12550S

Auxiliary contact					
1 change over		**3105300001**	RCD-AUX	**3105300001**	RCD-AUX

RCD1 – RCCB type B

General
Due to our changing life style and high tech developments there is need for more diversity in the RCCB protection devices. With the RCD1 you can find the right protection for your situation in any time. The design covers the range up to 125A solutions in different categories.

General parameters

High breaking capacity up to 10kA
With handle lock, protective cover and seal function, to protect for error operation
RCCB should be tested regularly with a period of one month, this is the responsibility of the user of an installation given by law

Electrical parameters

Tested according		IEC/EN 61008-1 + IEC/EN 62423
Rated operational voltage	Ue	240/415VAC
Dependent on line voltage		No
Rated frequency		50/60Hz
Rated breaking capacity	Inc	10kA
Poles		2p (1p+n) / 4p (3p+n)
Rated current	In	25A, 40A, 63A, 80A, 100A, 125A
Residual current		30, 100, 300m, 500mA
Waveform		B (including A and AC)
DC component		≥ 6mA
Time delay		Without time delay
Rated isolation voltage	Ui	500V
Rated impulse withstand voltage	Uimp	6 kV
Rated making and breaking capacity	Im	3000A
Residual making and breaking capacity	Idm	3000A
Electrical service life		4000 operations
Mechanical service life		20000 operations
Backup fuse for short circuit		Max. 125A gG
Line voltage connection		Arbitrary (above or below)

Mechanical parameters

Device width	36mm (2 pole) / 72mm (4 pole)
Device height	90mm
Device depth	72mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Terminals	Combined lift + open mouthed
Terminal capacity	4-50mm² (solid) 4-35mm2 (cord-end)
Fastening torque of terminals	3.5Nm
Busbar connection	Fork/Pin type
Busbar thickness	10mm2, 16mm2, 30mm2
Storage temperature	-25°C + 70°C
Reference temperature	30°C
Ambient temperature	-25°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0,28 kg (2-pole), 0,44 kg (4-pole)

RCD1 – RCCB type B

Type B In (A)	Sensitivity	Order code 2 pole		Order code 4 pole	
25A	30mA	**3112001200**	RCD1-2B-02503	**3112001480**	RCD1-4B-02503
40A	30mA	**3112001230**	RCD1-2B-04003	**3112001540**	RCD1-4B-04003
63A	30mA	**3112001280**	RCD1-2B-06303	**3112001610**	RCD1-4B-06303
80A	30mA	**3112001330**	RCD1-2B-08003	**3112001680**	RCD1-4B-08003
100A	30mA	**3112001380**	RCD1-2B-10003	**3112001750**	RCD1-4B-10003
125A	30mA	**3112001430**	RCD1-2B-12503	**3112001820**	RCD1-4B-12503
Type B In (A)	Sensitivity				
25A	100mA	**3112001210**	RCD1-2B-02510	**3112001490**	RCD1-4B-02510
40A	100mA	**3112001240**	RCD1-2B-04010	**3112001550**	RCD1-4B-04010
63A	100mA	**3112001290**	RCD1-2B-06310	**3112001620**	RCD1-4B-06310
80A	100mA	**3112001340**	RCD1-2B-08010	**3112001690**	RCD1-4B-08010
100A	100mA	**3112001390**	RCD1-2B-10010	**3112001760**	RCD1-4B-10010
125A	100mA	**3112001440**	RCD1-2B-12510	**3112001830**	RCD1-4B-12510
Type B In (A)	Sensitivity				
25A	300mA	**3112001220**	RCD1-2B-02530	**3112001500**	RCD1-4B-02530
40A	300mA	**3112001250**	RCD1-2B-04030	**3112001560**	RCD1-4B-04030
63A	300mA	**3112001300**	RCD1-2B-06330	**3112001630**	RCD1-4B-06330
80A	300mA	**3112001350**	RCD1-2B-08030	**3112001700**	RCD1-4B-08030
100A	300mA	**3112001400**	RCD1-2B-10030	**3112001770**	RCD1-4B-10030
125A	300mA	**3112001450**	RCD1-2B-12530	**3112001840**	RCD1-4B-12530
Type B In (A)	Sensitivity				
25A	500mA			**3112001510**	RCD1-4B-02550
40A	500mA			**3112001570**	RCD1-4B-04050
63A	500mA			**3112001640**	RCD1-4B-06350
80A	500mA			**3112001710**	RCD1-4B-08050
100A	500mA			**3112001780**	RCD1-4B-10050
125A	500mA			**3112001850**	RCD1-4B-12550
Auxiliary contact					
1 change over		**3105300001**	RCD-AUX	**3105300001**	RCD-AUX

General

INS1 miniature circuit breaker are suitable for domestic, utility as well as industrial applications. The rather small size for the 80-125 Ampere's with the high short-circuit value make it a unique product. They can be combined with signal contacts (maximum three). The INS1 comes in different sensitivity's and amperage, so that you can use them in different applications.

General parameters

High breaking capacity up to 10KA for IEC/EN 60898-1 whole range and 15kA for IEC/EN 60947-2
Only 18mm per pole
With terminal cover protection

Electrical parameters

Tested according		IEC/EN 60898-1	IEC/EN 60947-2
Rated operational voltage	Ue	240 / 415 VAC	
Minimum working voltage	Umin	12V AC/DC	
Rated frequency		50/60Hz	
Rated short-circuit capacity	Icn	10kA	15kA
Rated making and breaking capacity	Icn1	10kA	15kA
Poles		1p, 1p+n, 2p, 3p, 3p+n, 4p	
Rated current	In	1, 2, 3, 4, 6, 8, 10, 13, 16, 20, 25, 32, 40, 50, 63A	
Tripping characteristics		B, C, D	4xIn, 8xIn, 12xIn
Category			Cat. A
Rated impulse withstand	Uimp	6kV	
Rated insulation voltage	Ui	500V	
Transient overvoltage category		3	
Selectivity class		3	
Energy limiting class		3	
Dielectric test voltage		4kV (1min)	
Mechanical life time		≥ 10 000	≥ 7 000
Electrical life time		≥ 4 000	≥ 1 500
Max. back-up fuse		Max. 125A gG	
Line voltage connection		Arbitrary above or below	

Mechanical parameters

Device width	17,8mm (each pole)
Device height	90mm
Device depth	69mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable / busbar
Terminals	Cage clamp terminal
Terminal capacity	1-50mm2 (solid wire) 1-35mm2 (stranded wire)
Fastening torque of terminals	2.5Nm
Busbar connection	Fork / Pin type
Busbar thickness	10 / 16 / 30mm2
Storage temperature	-25°C + 70°C
Reference temperature	30°C
Ambient temperature	-25°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	

INS1 – MCB 1p / 2p

Order code

1p In(A)	Curve B		Curve C		Curve D	
1	**3111000010**	INS1-1B01	**3111000190**	INS1-1C01	**3111000370**	INS1-1D01
2	**3111000020**	INS1-1B02	**3111000200**	INS1-1C02	**3111000380**	INS1-1D02
3	**3111000030**	INS1-1B03	**3111000210**	INS1-1C03	**3111000390**	INS1-1D03
4	**3111000040**	INS1-1B04	**3111000220**	INS1-1C04	**3111000400**	INS1-1D04
6	**3111000050**	INS1-1B06	**3111000230**	INS1-1C06	**3111000410**	INS1-1D06
8	**3111000060**	INS1-1B08	**3111000240**	INS1-1C08	**3111000420**	INS1-1D08
10	**3111000070**	INS1-1B10	**3111000250**	INS1-1C10	**3111000430**	INS1-1D10
13	**3111000080**	INS1-1B13	**3111000260**	INS1-1C13	**3111000440**	INS1-1D13
16	**3111000090**	INS1-1B16	**3111000270**	INS1-1C16	**3111000450**	INS1-1D16
20	**3111000100**	INS1-1B20	**3111000280**	INS1-1C20	**3111000460**	INS1-1D20
25	**3111000110**	INS1-1B25	**3111000290**	INS1-1C25	**3111000470**	INS1-1D25
32	**3111000120**	INS1-1B32	**3111000300**	INS1-1C32	**3111000480**	INS1-1D32
40	**3111000130**	INS1-1B40	**3111000310**	INS1-1C40	**3111000490**	INS1-1D40
50	**3111000140**	INS1-1B50	**3111000320**	INS1-1C50	**3111000500**	INS1-1D50
63	**3111000150**	INS1-1B63	**3111000330**	INS1-1C63	**3111000510**	INS1-1D63
2p In(A)						
1	**3111000550**	INS1-2B01	**3111000730**	INS1-2C01	**3111000910**	INS1-2D01
2	**3111000560**	INS1-2B02	**3111000740**	INS1-2C02	**3111000920**	INS1-2D02
3	**3111000570**	INS1-2B03	**3111000750**	INS1-2C03	**3111000930**	INS1-2D03
4	**3111000580**	INS1-2B04	**3111000760**	INS1-2C04	**3111000940**	INS1-2D04
6	**3111000590**	INS1-2B06	**3111000770**	INS1-2C06	**3111000950**	INS1-2D06
8	**3111000600**	INS1-2B08	**3111000780**	INS1-2C08	**3111000960**	INS1-2D08
10	**3111000610**	INS1-2B10	**3111000790**	INS1-2C10	**3111000970**	INS1-2D10
13	**3111000620**	INS1-2B13	**3111000800**	INS1-2C13	**3111000980**	INS1-2D13
16	**3111000630**	INS1-2B16	**3111000810**	INS1-2C16	**3111000990**	INS1-2D16
20	**3111000640**	INS1-2B20	**3111000820**	INS1-2C20	**3111001000**	INS1-2D20
25	**3111000650**	INS1-2B25	**3111000830**	INS1-2C25	**3111001010**	INS1-2D25
32	**3111000660**	INS1-2B32	**3111000840**	INS1-2C32	**3111001020**	INS1-2D32
40	**3111000670**	INS1-2B40	**3111000850**	INS1-2C40	**3111001030**	INS1-2D40
50	**3111000680**	INS1-2B50	**3111000860**	INS1-2C50	**3111001040**	INS1-2D50
63	**3111000690**	INS1-2B63	**3111000870**	INS1-2C63	**3111001050**	INS1-2D63
Auxiliary contact						
1 change over	**3104500001**	RCE1-AUX	**3104500001**	RCE1-AUX	**3104500001**	RCE1-AUX

Order code

3p In(A)	Curve B		Curve C		Curve D	
1	**3111001090**	INS1-3B01	**3111001270**	INS1-3C01	**3111001450**	INS1-3D01
2	**3111001100**	INS1-3B02	**3111001280**	INS1-3C02	**3111001460**	INS1-3D02
3	**3111001110**	INS1-3B03	**3111001290**	INS1-3C03	**3111001470**	INS1-3D03
4	**3111001120**	INS1-3B04	**3111001300**	INS1-3C04	**3111001480**	INS1-3D04
6	**3111001130**	INS1-3B06	**3111001310**	INS1-3C06	**3111001490**	INS1-3D06
8	**3111001140**	INS1-3B08	**3111001320**	INS1-3C08	**3111001500**	INS1-3D08
10	**3111001150**	INS1-3B10	**3111001330**	INS1-3C10	**3111001510**	INS1-3D10
13	**3111001160**	INS1-3B13	**3111001340**	INS1-3C13	**3111001520**	INS1-3D13
16	**3111001170**	INS1-3B16	**3111001350**	INS1-3C16	**3111001530**	INS1-3D16
20	**3111001180**	INS1-3B20	**3111001360**	INS1-3C20	**3111001540**	INS1-3D20
25	**3111001190**	INS1-3B25	**3111001370**	INS1-3C25	**3111001550**	INS1-3D25
32	**3111001200**	INS1-3B32	**3111001380**	INS1-3C32	**3111001560**	INS1-3D32
40	**3111001210**	INS1-3B40	**3111001390**	INS1-3C40	**3111001570**	INS1-3D40
50	**3111001220**	INS1-3B50	**3111001400**	INS1-3C50	**3111001580**	INS1-3D50
63	**3111001230**	INS1-3B63	**3111001410**	INS1-3C63	**3111001590**	INS1-3D63
4p In(A)						
1	**3111001630**	INS1-4B01	**3111001810**	INS1-4C01	**3111001990**	INS1-4D01
2	**3111001640**	INS1-4B02	**3111001820**	INS1-4C02	**3111002000**	INS1-4D02
3	**3111001650**	INS1-4B03	**3111001830**	INS1-4C03	**3111002010**	INS1-4D03
4	**3111001660**	INS1-4B04	**3111001840**	INS1-4C04	**3111002020**	INS1-4D04
6	**3111001670**	INS1-4B06	**3111001850**	INS1-4C06	**3111002030**	INS1-4D06
8	**3111001680**	INS1-4B08	**3111001860**	INS1-4C08	**3111002040**	INS1-4D08
10	**3111001690**	INS1-4B10	**3111001870**	INS1-4C10	**3111002050**	INS1-4D10
13	**3111001700**	INS1-4B13	**3111001880**	INS1-4C13	**3111002060**	INS1-4D13
16	**3111001710**	INS1-4B16	**3111001890**	INS1-4C16	**3111002070**	INS1-4D16
20	**3111001720**	INS1-4B20	**3111001900**	INS1-4C20	**3111002080**	INS1-4D20
25	**3111001730**	INS1-4B25	**3111001910**	INS1-4C25	**3111002090**	INS1-4D25
32	**3111001740**	INS1-4B32	**3111001920**	INS1-4C32	**3111002100**	INS1-4D32
40	**3111001750**	INS1-4B40	**3111001930**	INS1-4C40	**3111002110**	INS1-4D40
50	**3111001760**	INS1-4B50	**3111001940**	INS1-4C50	**3111002120**	INS1-4D50
63	**3111001770**	INS1-4B63	**3111001950**	INS1-4C63	**3111002130**	INS1-4D63
Auxiliary contact						
1 change over	**3104500001**	RCE1-AUX	**3104500001**	RCE1-AUX	**3104500001**	RCE1-AUX

Order code

1p+n In(A)	Curve B		Curve C		Curve D	
1	**3111002170**	INS1-1NB01	**3111002350**	INS1-1NC01	**Article no.**	**Type**
2	**3111002180**	INS1-1NB02	**3111002360**	INS1-1NC02	**3111002530**	INS1-1ND01
3	**3111002190**	INS1-1NB03	**3111002370**	INS1-1NC03	**3111002540**	INS1-1ND02
4	**3111002200**	INS1-1NB04	**3111002380**	INS1-1NC04	**3111002550**	INS1-1ND03
6	**3111002210**	INS1-1NB06	**3111002390**	INS1-1NC06	**3111002560**	INS1-1ND04
8	**3111002220**	INS1-1NB08	**3111002400**	INS1-1NC08	**3111002570**	INS1-1ND06
10	**3111002230**	INS1-1NB10	**3111002410**	INS1-1NC10	**3111002580**	INS1-1ND08
13	**3111002240**	INS1-1NB13	**3111002420**	INS1-1NC13	**3111002590**	INS1-1ND10
16	**3111002250**	INS1-1NB16	**3111002430**	INS1-1NC16	**3111002600**	INS1-1ND13
20	**3111002260**	INS1-1NB20	**3111002440**	INS1-1NC20	**3111002610**	INS1-1ND16
25	**3111002270**	INS1-1NB25	**3111002450**	INS1-1NC25	**3111002620**	INS1-1ND20
32	**3111002280**	INS1-1NB32	**3111002460**	INS1-1NC32	**3111002630**	INS1-1ND25
40	**3111002290**	INS1-1NB40	**3111002470**	INS1-1NC40	**3111002640**	INS1-1ND32
50	**3111002300**	INS1-1NB50	**3111002480**	INS1-1NC50	**3111002650**	INS1-1ND40
63	**3111002310**	INS1-1NB63	**3111002490**	INS1-1NC63	**3111002660**	INS1-1ND50
3p+n In(A)						
1	**3111002710**	INS1-3NB01	**3111002890**	INS1-3NC01	**3111003070**	INS1-3ND01
2	**3111002720**	INS1-3NB02	**3111002900**	INS1-3NC02	**3111003080**	INS1-3ND02
3	**3111002730**	INS1-3NB03	**3111002910**	INS1-3NC03	**3111003090**	INS1-3ND03
4	**3111002740**	INS1-3NB04	**3111002920**	INS1-3NC04	**3111003100**	INS1-3ND04
6	**3111002750**	INS1-3NB06	**3111002930**	INS1-3NC06	**3111003110**	INS1-3ND06
8	**3111002760**	INS1-3NB08	**3111002940**	INS1-3NC08	**3111003120**	INS1-3ND08
10	**3111002770**	INS1-3NB10	**3111002950**	INS1-3NC10	**3111003130**	INS1-3ND10
13	**3111002780**	INS1-3NB13	**3111002960**	INS1-3NC13	**3111003140**	INS1-3ND13
16	**3111002790**	INS1-3NB16	**3111002970**	INS1-3NC16	**3111003150**	INS1-3ND16
20	**3111002800**	INS1-3NB20	**3111002980**	INS1-3NC20	**3111003160**	INS1-3ND20
25	**3111002810**	INS1-3NB25	**3111002990**	INS1-3NC25	**3111003170**	INS1-3ND25
32	**3111002820**	INS1-3NB32	**3111003000**	INS1-3NC32	**3111003180**	INS1-3ND32
40	**3111002830**	INS1-3NB40	**3111003010**	INS1-3NC40	**3111003190**	INS1-3ND40
50	**3111002840**	INS1-3NB50	**3111003020**	INS1-3NC50	**3111003200**	INS1-3ND50
63	**3111002850**	INS1-3NB63	**3111003030**	INS1-3NC63	**3111003210**	INS1-3ND63
Auxiliary contact						
1 change over	**3104500001**	RCE1-AUX	**3104500001**	RCE1-AUX	**3104500001**	RCE1-AUX

General

The SEP RCM RCBO is a protective device against residual current, short-circuit and overload. It is suitable for AC circuits of 50/60Hz, rated voltage of 240/415V and a rated current up to 40A (1p+n up to 63A. It is mainly used to protect human safety from electrical shock and to prevent fire disaster caused by overload or by residual current due to damaged equipment. It also can be used in the infrequent on-and-off switching operation under the normal cases. This RCBO is mainly used in the domestic, utility and industrial application.

General parameters

High limiting on short circuit current	
RCBO should be tested regularly with a period of one month, this is the responsibility of the user of an installation given by law	

Electrical parameters

Tested according		IEC/EN 61009
Rated operational voltage	Ue	230VAC / 400VAC
Depended on line voltage		No
Rated frequency		50/60Hz
Rated short-circuit capacity	Icn	6kA
Rated making and breaking capacity	Icn1	6kA
Poles		2p (1p+n) and 4p (3p+n)
Protected poles		1 or 3
Switching neutral pole		Yes
Rated current	In	6, 10, 16, 20, 25, 32, 40A (50A, 63A)
Residual current		10mA, 30mA, 100mA, 300mA
Waveform		A type (residual AC and pulsating DC current)
Tripping characteristics		B, C
Energy limiting class		3
Transient overvoltage category		3
Rated isolation voltage	Ui	500V
Rated impulse withstand voltage	Uimp	4 kV
Dielectric test voltage		6 kV
Electrical service life		10 000 operations
Mechanical service life		4 000 operations
Backup fuse for short circuit		Max. 125A gG
Mechanical service life		Arbitrary – above or below

Mechanical parameters

Device width	36mm (1p+n), 72mm (3p+n)
Device height	89mm
Device depth	69mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable / Pin-type busbar
Terminals	Combined lift + open mouthed
Terminal capacity	1-35mm² (solid) 1-10mm2 (cord-end)
Fastening torque of terminals	2 Nm
Busbar connection	Fork- or Pin type
Busbar thickness	10/16mm2
Storage temperature	-25°C + 70°C
Ambient temperature	-5°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0, kg

RCM – RCBO - 1p+n | Type A

1p+n | Type A		Order code			
		Curve B		Curve C	
In(A)	Sensitivity				
6	10mA	**3104540106**	RCM2-B06.01	**3104550106**	RCM2-C06.01
10	10mA	**3104540110**	RCM2-B10.01	**3104550110**	RCM2-C10.01
13	10mA	**3104540113**	RCM2-B13.01	**3104550113**	RCM2-C13.01
16	10mA	**3104540116**	RCM2-B16.01	**3104550116**	RCM2-C16.01
20	10mA	**3104540120**	RCM2-B20.01	**3104550120**	RCM2-C20.01
25	10mA	**3104540125**	RCM2-B25.01	**3104550125**	RCM2-C25.01
32	10mA	**3104540132**	RCM2-B32.01	**3104550132**	RCM2-C32.01
40	10mA	**3104540140**	RCM2-B40.01	**3104550140**	RCM2-C40.01
1p+n | Type A					
In(A)	Sensitivity				
6	30mA	**3104540006**	RCM2-B06.03	**3104550006**	RCM2-C06.03
10	30mA	**3104540010**	RCM2-B10.03	**3104550010**	RCM2-C10.03
13	30mA	**3104540013**	RCM2-B13.03	**3104550013**	RCM2-C13.03
16	30mA	**3104540016**	RCM2-B16.03	**3104550016**	RCM2-C16.03
20	30mA	**3104549020**	RCM2-B20.03	**3104550020**	RCM2-C20.03
25	30mA	**3104540025**	RCM2-B25.03	**3104550025**	RCM2-C25.03
32	30mA	**3104540032**	RCM2-B32.03	**3104550032**	RCM2-C32.03
40	30mA	**3104540040**	RCM2-B40.03	**3104550040**	RCM2-C40.03
50	30mA	**3104540050**	RCM2-B50.03	**3104550050**	RCM2-C50.03
63	30mA	**3104540063**	RCM2-B63.03	**3104550063**	RCM2-C63.03
1p+n | Type A					
In(A)	Sensitivity				
6	100mA	**3104540206**	RCM2-B06.10	**3104550206**	RCM2-C06.10
10	100mA	**3104540210**	RCM2-B10.10	**3104550210**	RCM2-C10.10
13	100mA	**3104540213**	RCM2-B13.10	**3104550213**	RCM2-C13.10
16	100mA	**3104540216**	RCM2-B16.10	**3104550216**	RCM2-C16.10
20	100mA	**3104540220**	RCM2-B20.10	**3104550220**	RCM2-C20.10
25	100mA	**3104540225**	RCM2-B25.10	**3104550225**	RCM2-C25.10
32	100mA	**3104540232**	RCM2-B32.10	**3104550232**	RCM2-C32.10
40	100mA	**3104540240**	RCM2-B40.10	**3104550240**	RCM2-C40.10
50	100mA	**3104540250**	RCM2-B50.10	**3104550250**	RCM2-C50.10
63	100mA	**3104540263**	RCM2-B63.10	**3104550263**	RCM2-C63.10
1p+n | Type A					
In(A)	Sensitivity				
6	300mA	**3104540306**	RCM2-B06.30	**3104550306**	RCM2-C06.30
10	300mA	**3104540310**	RCM2-B10.30	**3104550310**	RCM2-C10.30
13	300mA	**3104540313**	RCM2-B13.30	**3104550313**	RCM2-C13.30
16	300mA	**3104540316**	RCM2-B16.30	**3104550316**	RCM2-C16.30
20	300mA	**3104540320**	RCM2-B20.30	**3104550320**	RCM2-C20.30
25	300mA	**3104540325**	RCM2-B25.30	**3104550325**	RCM2-C25.30
32	300mA	**3104540332**	RCM2-B32.30	**3104550332**	RCM2-C32.30
40	300mA	**3104540340**	RCM2-B40.30	**3104550340**	RCM2-C40.30
50	300mA	**3104540350**	RCM2-B50.30	**3104550350**	RCM2-C50.30
63	300mA	**3104540363**	RCM2-B63.30	**3104550363**	RCM2-C63.30

Contacts 1 change over				
Auxiliary	**3104000010**	RCM-AUX	**3104000010**	RCM-AUX
Tripping	**3104000020**	RCM-ALT	**3104000020**	RCM-ALT

Terminal cover				
Yellow	**5102290010**	DH-C2	**5102290010**	DH-C2

RCM – RCBO - 3p+n | Type A

3p+n | Type A		Order code			
		Curve B		Curve C	
In(A)	Sensitivity				
6	30mA	**3104640006**	RCM4-B06.03	**3104650006**	RCM4-C06.03
10	30mA	**3104640010**	RCM4-B10.03	**3104650010**	RCM4-C10.03
16	30mA	**3104640016**	RCM4-B16.03	**3104650016**	RCM4-C16.03
20	30mA	**3104640020**	RCM4-B20.03	**3104650020**	RCM4-C20.03
25	30mA	**3104640025**	RCM4-B25.03	**3104650025**	RCM4-C25.03
32	30mA	**3104640032**	RCM4-B32.03	**3104650032**	RCM4-C32.03
40	30mA	**3104640040**	RCM4-B40.03	**3104650040**	RCM4-C40.03
3p+n | Type A					
In(A)	Sensitivity				
6	100mA	**3104640206**	RCM4-B06.10	**3104650206**	RCM4-C06.10
10	100mA	**3104640210**	RCM4-B10.10	**3104650210**	RCM4-C10.10
16	100mA	**3104640216**	RCM4-B16.10	**3104650216**	RCM4-C16.10
20	100mA	**3104640220**	RCM4-B20.10	**3104650220**	RCM4-C20.10
25	100mA	**3104640225**	RCM4-B25.10	**3104650225**	RCM4-C25.10
32	100mA	**3104640232**	RCM4-B32.10	**3104650232**	RCM4-C32.10
40	100mA	**3104640240**	RCM4-B40.10	**3104650240**	RCM4-C40.10
3p+n | Type A					
In(A)	Sensitivity				
6	300mA	**3104641006**	RCM4-B06.30	**3104651006**	RCM4-C06.30
10	300mA	**3104641010**	RCM4-B10.30	**3104651010**	RCM4-C10.30
16	300mA	**3104641016**	RCM4-B16.30	**3104651016**	RCM4-C16.30
20	300mA	**3104641020**	RCM4-B20.30	**3104651020**	RCM4-C20.30
25	300mA	**3104641025**	RCM4-B25.30	**3104651025**	RCM4-C25.30
32	300mA	**3104641032**	RCM4-B32.30	**3104651032**	RCM4-C32.30
40	300mA	**3104641040**	RCM4-B40.30	**3104651040**	RCM4-C40.30

Contacts 1 change over				
Auxiliary	**3104000010**	RCM-AUX	**3104000010**	RCM-AUX
Tripping	**3104000020**	RCM-ALT	**3104000020**	RCM-ALT

Terminal cover				
Yellow	**5102490010**	DH-C4	**5102290010**	DH-C4

RCM – RCBO type B

General

The SEP RCM RCBO is a protective device against residual current, short-circuit and overload. It is suitable for AC circuits of 50/60Hz, rated voltage of 240/415V and a rated current up to 40A (1p+n up to 63A. It is mainly used to protect human safety from electrical shock and to prevent fire disaster caused by overload or by residual current due to damaged equipment. It also can be used in the infrequent on-and-off switching operation under the normal cases. This RCBO is mainly used in the domestic, utility and industrial application.

General parameters

High limiting on short circuit current	
RCBO should be tested regularly with a period of one month, this is the responsibility of the user of an installation given by law	

Electrical parameters

Tested according		IEC/EN 61009 / IEC/EN62423
Rated operational voltage	Ue	230VAC / 400VAC
Depended on line voltage		No
Rated frequency		50/60Hz
Rated short-circuit capacity	Icn	6kA
Rated making and breaking capacity	Icn1	6kA
Poles		2p (1p+n) and 4p (3p+n)
Protected poles		1 or 3
Switching neutral pole		Yes
Rated current	In	6, 10, 16, 20, 25, 32, 40A
Residual current		30mA, 300mA
Waveform		B type (including A and AC)
Tripping characteristics		B, C
Energy limiting class		3
Transient overvoltage category		3
Rated isolation voltage	Ui	500V
Rated impulse withstand voltage	Uimp	4 kV
Dielectric test voltage		6 kV
Electrical service life		10 000 operations
Mechanical service life		4 000 operations
Backup fuse for short circuit		Max. 125A gG
Mechanical service life		Arbitrary – above or below

Mechanical parameters

Device width	45mm (1p+n), 81mm (3p+n)
Device height	89mm
Device depth	69mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable / Pin-type busbar
Terminals	Combined lift + open mouthed
Terminal capacity	1-35mm² (solid)
Fastening torque of terminals	2 Nm
Busbar connection	Fork- or Pin type
Busbar thickness	10/16mm2
Storage temperature	-25°C + 70°C
Ambient temperature	-5°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0, 222kg / 0,474kg

RCM – RCBO - Type B

1p+n | Type B		Order code			
		Curve B		Curve C	
In(A)	Sensitivity				
6	30mA	**3104690010**	RCMB-2B06.03	**3104690080**	RCMB-2C06.03
10	30mA	**3104690020**	RCMB-2B10.03	**3104690090**	RCMB-2C10.03
16	30mA	**3104690030**	RCMB-2B16.03	**3104690100**	RCMB-2C16.03
20	30mA	**3104690040**	RCMB-2B20.03	**3104690110**	RCMB-2C20.03
25	30mA	**3104690050**	RCMB-2B25.03	**3104690120**	RCMB-2C25.03
32	30mA	**3104690060**	RCMB-2B32.03	**3104690130**	RCMB-2C32.03
40	30mA	**3104690070**	RCMB-2B40.03	**3104690140**	RCMB-2C40.03

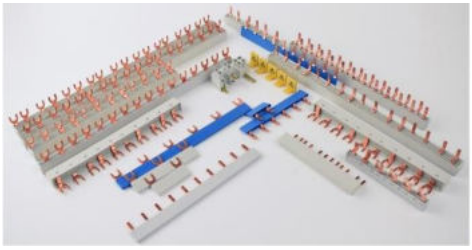
1p+n | Type B					
In(A)	Sensitivity				
6	300mA	**3104690150**	RCMB-2B06.30	**3104690220**	RCMB-2C06.30
10	300mA	**3104690160**	RCMB-2B10.30	**3104690230**	RCMB-2C10.30
16	300mA	**3104690170**	RCMB-2B16.30	**3104690240**	RCMB-2C16.30
20	300mA	**3104690180**	RCMB-2B20.30	**3104690250**	RCMB-2C20.30
25	300mA	**3104690190**	RCMB-2B25.30	**3104690260**	RCMB-2C25.30
32	300mA	**3104690200**	RCMB-2B32.30	**3104690270**	RCMB-2C32.30
40	300mA	**3104690210**	RCMB-2B40.30	**3104690280**	RCMB-2C40.30

3p+n | Type B					
In(A)	Sensitivity				
6	30mA	**3104690510**	RCMB-4B06.03	**3104690580**	RCMB-4C06.03
10	30mA	**3104690520**	RCMB-4B10.03	**3104690590**	RCMB-4C10.03
16	30mA	**3104690530**	RCMB-4B16.03	**3104690600**	RCMB-4C16.03
20	30mA	**3104690540**	RCMB-4B20.03	**3104690610**	RCMB-4C20.03
25	30mA	**3104690550**	RCMB-4B25.03	**3104690620**	RCMB-4C25.03
32	30mA	**3104690560**	RCMB-4B32.03	**3104690630**	RCMB-4C32.03
40	30mA	**3104690570**	RCMB-4B40.03	**3104690640**	RCMB-4C40.03

3p+n | Type B					
In(A)	Sensitivity				
6	300mA	**3104690650**	RCMB-4B06.30	**3104690720**	RCMB-4C06.30
10	300mA	**3104690660**	RCMB-4B10.30	**3104690730**	RCMB-4C10.30
16	300mA	**3104690670**	RCMB-4B16.30	**3104690740**	RCMB-4C16.30
20	300mA	**3104690680**	RCMB-4B20.30	**3104690750**	RCMB-4C20.30
25	300mA	**3104690690**	RCMB-4B25.30	**3104690760**	RCMB-4C25.30
32	300mA	**3104690700**	RCMB-4B32.30	**3104690770**	RCMB-4C32.30
40	300mA	**3104690710**	RCMB-4B40.30	**3104690780**	RCMB-4C40.30

Contacts 1 change over					
Auxiliary		**3104000010**	RCM-AUX	**3104000010**	RCM-AUX
Tripping		**3104000020**	RCM-ALT	**3104000020**	RCM-ALT

Terminal cover					
Yellow	2 pole	**5102290010**	DH-C2	**5102290010**	DH-C2
Yellow	4 pole	**5102490010**	DH-C4	**5102290010**	DH-C4



General

The SEP insulated busbar system is used to connect modular components. By using the busbars one can establish a good and reliable connection, reduce failures and improve the heat management within the cabinet. In combination with the accessories, the wiring within the cabinet can be reduced considerably, making the whole system look descent an clear.

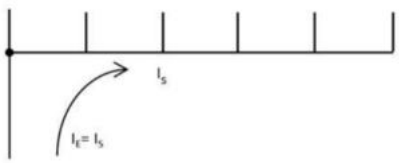
CE

General parameters

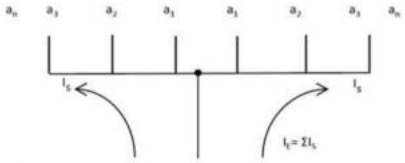
Insulated busbar
No need to cut to length
Wide range of busbar
Wide range of connection accessories

Technical parameters

Complies with	IEC 60439-1|2000-08
According	IEC 664
Busbar material	E-Cu-ETP
Isolation material	Ultramid PA6 glass fiber reinforced
Form test	125°C (after 1,8MPa)
Glow wire test	960°C according IEC60895-2-12
Flammability class	V0
Tracking index	550
Short circuit strength	25kA / 100A gl
Disruptive strength	36kV / mm
Climate stability	IEC 68-2
Operating voltage	500V AC
Surge voltage	4kV
Isolation group	According VDE 0110-T1
Overvoltage category	III
Degree of soiling	2
Halogen free	According DIN EN 50267-2-2
Colors	Related to RAL7035 and RAL5015 (grey/blue)
Type	PIN and FORK
Cross section	10mm²
Max. current one side line-in	63A
Max. current central line-in	100A*

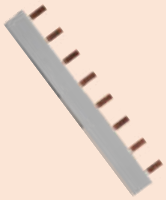


ONE SIDE LINE-IN



CENTRAL LINE-IN

* The Is is rated on an equal divided demand on both sides of the feeding-main (line-in) of the busbar the sum of the equal divided output current cannot be higher than the busbar current (Is)



1 Phase Busbar (L)
number of poles

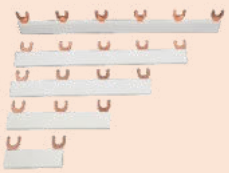
					Order code Fork		Pin	
2	2x 1p	(2MU)	17,8mm	Grey	**2305111002**	F01002G06	**2305101002**	P01002G00
3	3x 1p	(3MU)	17,8mm	Grey	**2305111003**	F01003G06	**2305101003**	P01003G00
4	4x 1p	(4MU	17,8mm	Grey	**2305111004**	F01004G06	**2305101004**	P01004G00
5	5x 1p	(5MU)	17,8mm	Grey	**2305111005**	F01005G06	**2305101005**	P01005G00
6	6x 1p	(6MU)	17,8mm	Grey	**2305111006**	F01006G06	**2305101006**	P01006G00
7	7x 1p	(7MU)	17,8mm	Grey	**2305111007**	F01007G06	**2305101007**	P01007G00
8	8x 1p	(8MU)	17,8mm	Grey	**2305111008**	F01008G06	**2305101008**	P01008G00
9	9x 1p	(9MU)	17,8mm	Grey	**2305111009**	F01009G06	**2305101009**	P01009G00
10	10x 1p	(10MU)	17,8mm	Grey	**2305111010**	F01010G06	**2305101010**	P01010G00
11	11x 1p	(11MU)	17,8mm	Grey	**2305111011**	F01011G06	**2305101011**	P01011G00
12	12x 1p	(12MU)	17,8mm	Grey	**2305111012**	F01012G06	**2305101012**	P01012G00
13	13x 1p	(13MU)	17,8mm	Grey	**2305111013**	F01013G06	**2305101013**	P01013G00

1 Phase Busbar (N)
number of poles

2	2x 1p	(2MU)	17,8mm	Blue	**2305111902**	F01002B06	**2305101902**	P01002B00
3	3x 1p	(3MU)	17,8mm	Blue	**2305111903**	F01003B06	**2305101903**	P01003B00
4	4x 1p	(4MU	17,8mm	Blue	**2305111904**	F01004B06	**2305101904**	P01004B00
5	5x 1p	(5MU)	17,8mm	Blue	**2305111905**	F01005B06	**2305101905**	P01005B00
6	6x 1p	(6MU)	17,8mm	Blue	**2305111906**	F01006B06	**2305101906**	P01006B00
7	7x 1p	(7MU)	17,8mm	Blue	**2305111907**	F01007B06	**2305101907**	P01007B00
8	8x 1p	(8MU)	17,8mm	Blue	**2305111908**	F01008B06	**2305101908**	P01008B00
9	9x 1p	(9MU)	17,8mm	Blue	**2305111909**	F01009B06	**2305101909**	P01009B00
10	10x 1p	(10MU)	17,8mm	Blue	**2305111910**	F01010B06	**2305101910**	P01010B00
11	11x 1p	(11MU)	17,8mm	Blue	**2305111911**	F01011B06	**2305101911**	P01011B00
12	12x 1p	(12MU)	17,8mm	Blue	**2305111912**	F01012B06	**2305101912**	P01012B00
13	13x 1p	(13MU)	17,8mm	Blue	**2305111913**	F01013B06	**2305101913**	P01013B00

1 Phase Busbar (N) – *offset 4mm*
number of poles

2	2x 1p	(2MU)	17,8mm	Blue			**2305101992**	P01002B10
3	3x 1p	(3MU)	17,8mm	Blue			**2305101993**	P01003B10
4	4x 1p	(4MU	17,8mm	Blue			**2305101994**	P01004B10
5	5x 1p	(5MU)	17,8mm	Blue			**2305101995**	P01005B10
6	6x 1p	(6MU)	17,8mm	Blue			**2305101996**	P01006B10
8	8x 1p	(8MU)	17,8mm	Blue			**2305101998**	P01008B10
10	10x 1p	(10MU)	17,8mm	Blue			**2305101990**	P01010B10
12	12x 1p	(12MU)	17,8mm	Blue			**2305101991**	P01012B10

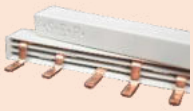


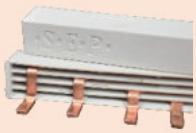
1 Phase Busbar (L) – *pitch 35,6mm*
number of poles

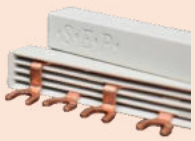
2	2x 1p	(3MU)	35,6mm	Grey	**2305181002**	F01102G06	**2305171002**	P01102G00
3	3x 1p	(5MU)	35,6mm	Grey	**2305181003**	F01103G06	**2305171003**	P01103G00
4	4x 1p	(7MU	35,6mm	Grey	**2305181004**	F01104G06	**2305171004**	P01104G00
5	5x 1p	(9MU)	35,6mm	Grey	**2305181005**	F01105G06	**2305171005**	P01105G00
6	6x 1p	(11MU)	35,6mm	Grey	**2305181006**	F01106G06	**2305171006**	P01106G00

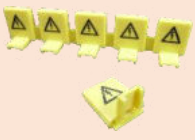
1 Phase Busbar (N) – *pitch 35,6mm*
number of poles

2	2x 1p	(3MU)	35,6mm	Blue	**2305181903**	F01103B06	**2305171902**	P01102B00
3	3x 1p	(5MU)	35,6mm	Blue	**2305181902**	F01102B06	**2305171903**	P01103B00
4	4x 1p	(7MU	35,6mm	Blue	**2305181904**	F01104B06	**2305171904**	P01104B00
5	5x 1p	(9MU)	35,6mm	Blue	**2305181905**	F01105B06	**2305171905**	P01105B00
6	6x 1p	(11MU)	35,6mm	Blue	**2305181906**	F01106B06	**2305171906**	P01106B00

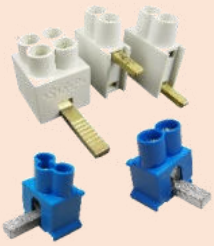








				Order code			
2 Phase Busbar (L-N)				**Fork**		**Pin**	
number of poles							
4	2x 2p	(4MU)	17,8mm	**2305112004**	F02004G06	**2305102004**	P02004G00
6	3x 2p	(6MU	17,8mm	**2305112006**	F02006G06	**2305102006**	P02006G00
8	4x 2p	(8MU)	17,8mm	**2305112008**	F02008G06	**2305102008**	P02008G00
10	5x 2p	(10MU)	17,8mm	**2305112010**	F02010G06	**2305102010**	P02010G00
12	6x 2p	(12MU)	17,8mm	**2305112012**	F02012G06	**2305102012**	P02012G00
14	7x 2p	(14MU)	17,8mm	**2305112014**	F02014G06	**2305102014**	P02014G00
16	8x 2p	(16MU)	17,8mm	**2305112016**	F02016G06	**2305102016**	P02016G00
18	9x 2p	(18MU)	17,8mm	**2305112018**	F02018G06	**2305102018**	P02018G00
3 Phase Busbar (L1-L2-L3)							
number of poles							
6	2x 3p	(6MU)	17,8mm	**2305113006**	F03006G06	**2305103006**	P03006G00
9	3x 3p	(9MU)	17,8mm	**2305113009**	F03009G06	**2305103009**	P03009G00
12	4x 3p	(12MU)	17,8mm	**2305113012**	F03012G06	**2305103012**	P03012G00
15	5x 3p	(15MU)	17,8mm	**2305113015**	F03015G06	**2305103015**	P03015G00
18	6x 3p	(18MU)	17,8mm	**2305113018**	F03018G06	**2305103018**	P03018G00
4 Phase Busbar (N-L1-L2-L3)							
number of poles							
8	2x 4p	(8MU)	17,8mm	**2305114008**	F04008G06	**2305104008**	P04008G00
12	3x 4p	(12MU)	17,8mm	**2305114012**	F04012G06	**2305104012**	P04012G00
16	4x 4p	(16MU)	17,8mm	**2305114016**	F04016G06	**2305104016**	P04016G00
3+N Phase Busbar (N-L1-N-L2-N-L3)							
number of poles							
12	6x 2p	(12MU)	17,8mm	**2305115012**	F04012G56	**2305105012**	P04012G50
18	9x 2p	(18MU)	17,8mm	**2305115018**	F04018G56	**2305105018**	P04018G50
Combination busbar (N-L1-L2-L3-N-L1-N-L2-N-L3)							
number of poles							
10	1x 4p + 3x2p	(10MU)	17,8mm	**2305181903**	F14010G56		
Busbar cover							
Protection cover		5x breakable	Yellow	**2115900010**	IK	**2115900010**	IK



Order code

PIN type connection terminals for busbar

Cross section	Length connection	Connection way	Grey		Blue	
1x25 mm²	15mm	Front	**2115925011**	SPR-G2515	**2115925511**	SPR-B2515
1x25 mm²	27mm	Front	**2115925021**	SPR-G2527	**2115925521**	SPR-B2527
1x25 mm²	15mm	Side	**2115925012**	SPS-G2515	**2115925512**	SPS-B2515
1x25 mm²	27mm	Side	**2115925022**	SPS-G2527	**2115925522**	SPS-B2527
1x50mm²	15mm	Front	**2115950011**	SPR-G5015	**2115950511**	SPR-B5015
1x50 mm²	27mm	Front	**2115950021**	SPR-G5027	**2115950521**	SPR-B5027
1x50 mm²	15mm	Side	**2115950012**	SPS-G5015	**2115950512**	SPS-B5015
1x50 mm²	27mm	Side	**2115950022**	SPS-G5027	**2115950522**	SPS-B5027

FORK type connection terminals for busbar

Cross section	Length connection	Connection way				
1x25 mm²	15mm	Front	**2115925031**	SFR-G2515	**2115925531**	SFR-B2515
1x25 mm²	15mm	Side	**2115925032**	SFS-G2515	**2115925532**	SFS-B2515
1x50mm²	15mm	Front	**2115950031**	SFR-G5015	**2115950531**	SFR-B5015
1x50 mm²	15mm	Side	**2115950032**	SFS-G5015	**2115950532**	SFS-B5015

FEED-IN connection terminal for busbar

Cross section	Connection way					
6-50 mm²		**2115910050**	BFT50			

PIN type connection terminals

Cross section	Connection way				
2x10 mm²	Front/high	**2115900040**	DTH	**2115900540**	DTH-B
2x10 mm²	Front/low	**2115900041**	DTL	**2115900541**	DTL-B
2x16 mm²	Front	**2115900050**	DT	**2115900550**	DT-B
2x25 mm²	Front	**2115900225**	DT2-25	**2115905225**	DT2-25
3x16 mm²	Front	**2115900316**	DT3-16	**2115905316**	DT3-16

HS27 – Switch

General

The HS1 isolator switches can be used as a main switch in a wide range of applications. These switches are tested according to the IEC/EN60947-3 standard and fulfill also the requirements for isolation functions. These switches are available in 2p and 4p versions and are respectively 27mm and 54mm width.
Utilization category AC-21A/B, AC-22A/B and AC-23/AB ensures that as well resistive with moderate overloads as well as inductive with moderate overloads and highly inductive loads can be switched with this HS1 type. Secondly utilization category DC-22 and DC-23 ensures you can use them in the DC applications as well

General parameters

Isolator switch AC-21 A/B, AC-22 A/B, AC-23 A/B, DC-22 and DC-23
Suitable for household, utility as well as industrial applications
Including connection covers

Electrical parameters

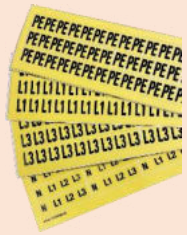
Tested according		IEC/EN 60947-3
Rated operational voltage	Ue	400/415 VAC
Rated frequency		50/60Hz
Poles		2p, 4p
Rated current	In	25A, 40A, 63A, 80A, 100A, 125A
Utilization category		AC-21A/B, AC-22A/B, AC-23A/B
Rated short-time withstand	Icw	1500A / 1s
Rated short-time making capacity	Icm	1500A
Rated impulse withstand	Uimp	6 kV
Rated insulation voltage	Ui	400V
Dielectric test voltage		2.5 kV
Mechanical life time		10.000 operation cycles
Electrical life time		4.000 operation cycles
Max. back-up fuse		125A gG
Line voltage connection		Arbitrary above or below

Mechanical parameters

Device width	27mm (2p) / 54mm (4p)
Device height	83mm
Device depth	77mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable / busbar
Terminals	Cage clamp terminal
Terminal capacity	2,-50mm² (solid) 2,5-35mm² (cord-end)
Fastening torque of terminals	2.5 Nm
Busbar connection	Pin type
Busbar thickness	30mm²
Storage temperature	-25°C + 70°C
Ambient temperature	-5°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0,149 kg (2p) / 0,293 kg (4p)

2p In (A)	Order code	
25A	**3102210025**	HS27-2025
40A	**3102210040**	HS27-2040
63A	**3102210063**	HS27-2063
80A	**3102210080**	HS27-2080
100A	**3102210100**	HS27-2100
125A	**3102210125**	HS27-2125

4p In (A)		
25A	**3102410025**	HS27-4025
40A	**3102410040**	HS27-4040
63A	**3102410063**	HS27-4063
80A	**3102410080**	HS27-4080
100A	**3102410100**	HS27-4100
125A	**3102410125**	HS27-4125



Marker Yellow		
N (78x)	**2119100004**	CHB-N
L1 (78x)	**2119100001**	CHB-L1
L2 (78)x	**2119100002**	CHB-L2
L3 (78x)	**2119100003**	CHB-L3

RCD-B – RCCB type B

General

We already started to know and enjoy the services produced by some electrical installations contain products with incorporate power electronics, such as inverters for PV installations, EV chargers etc. This equipment can produce, in addition to standard 50/60Hz earth leakage currents, smooth DC and high frequency AC residual current which would not be detected by a standard AC or A type RCCB.
The RCD-B can protect against these types of wave forms due to a dual protective system, which means it could be used for the widest variety of applications, it can replace the AC and A type RCCB in all situations..

General parameters

High breaking capacity up to 10kA
With handle lock, protective cover and seal function, to protect for error operation
RCCB should be tested regularly with a period of one month, this is the responsibility of the user of an installation given by law

Electrical parameters

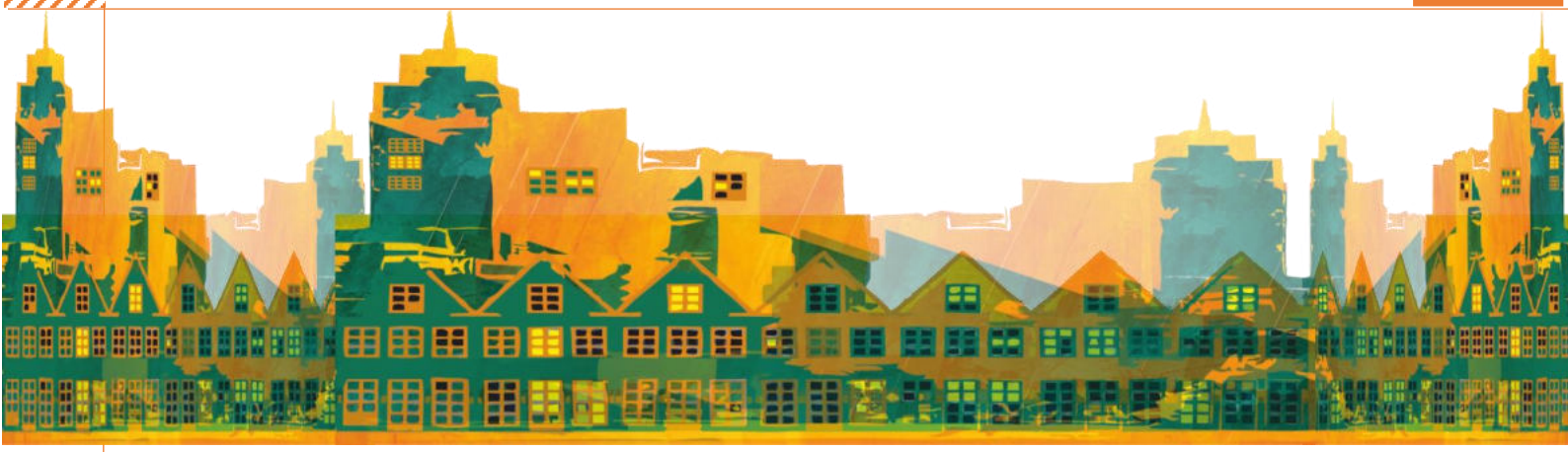
Tested according		IEC/EN 61008-1 + IEC/EN 62423
Rated operational voltage	Ue	240/415VAC
Dependent on line voltage		No
Rated frequency		50/60Hz
Rated breaking capacity	Inc	10kA
Poles		2p (1p+n) / 4p (3p+n)
Rated current	In	25A, 40A, 63A
Residual current		30, 100, 300mA
Waveform		B (including A and AC)
DC component		≥ 6mA
Time delay		Without time delay
Rated isolation voltage	Ui	500V
Rated impulse withstand voltage	Uimp	4 kV
Rated making and breaking capacity	Im	1000A
Residual making and breaking capacity	Idm	1000A
Electrical service life		4000 operations
Mechanical service life		10000 operations
Backup fuse for short circuit		Max. 63A gG
Line voltage connection		Arbitrary (above or below)

Mechanical parameters

Device width	54mm (2 pole) / 72mm (4 pole)
Device height	89mm
Device depth	72mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Terminals	Combined lift + open mouthed
Terminal capacity	4-50mm² (solid) 4-35mm2 (cord-end)
Fastening torque of terminals	3.5Nm
Busbar connection	Pin type
Busbar thickness	10mm2, 16mm2, 30mm2
Storage temperature	-25°C + 70°C
Reference temperature	30°C
Ambient temperature	-25°C + 40°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	2
Weight	0,28 kg (2-pole), 0,44 kg (4-pole)

RCD-B – RCCB type B

Type B In (A)	Sensitivity	Order code 2 pole		 4 pole	
25A	30mA	**3105300025**	RCD-B2025	**3105400025**	RCD-B4025
40A	30mA	**3105300040**	RCD-B2040	**3105400040**	RCD-B4040
63A	30mA	**3105300063**	RCD-B2063	**3105400063**	RCD-B4063
Type B In (A)	Sensitivity				
25A	100mA	**3105302025**	RCD-B2125	**3105402025**	RCD-B4125
40A	100mA	**3105302040**	RCD-B2140	**3105402040**	RCD-B4140
63A	100mA	**3105302063**	RCD-B2163	**3105402063**	RCD-B4163
Type B In (A)	Sensitivity				
25A	300mA	**3105303025**	RCD-B2325	**3105403025**	RCD-B4325
40A	300mA	**3105303040**	RCD-B2340	**3105403040**	RCD-B4340
63A	300mA	**3105303063**	RCD-B2363	**3105403063**	RCD-B4363
Auxiliary contact					
1 change over		**3105300001**	RCD-AUX	**3105300001**	RCD-AUX



MEASURING AND CONTROLING MANAGEMENT

BTR – Beltransformer

General
The SEP BTR is mainly used as a bell transformer and as non-continuous power supply for small components. The device has multiple output voltages 8-12-24VAC so that it can be used for different applications. The BTR has an integrated switch so it can be turned on and off.

CE

General parameters

Suitable for household, utility as well as industrial applications

Electrical parameters		BTR-12	BTR-24
Tested according		IEC 61558-2-6 / IEC 61558-2-8	
Rated input voltage	U1n	230VAC	
Rated frequency		50Hz	
Rated output voltage	U2n	8, 12, 24VAC	
Rated output current	I2n	1.5A / 1A / 0,5A	3A / 2A / 1A
Rated output power	Pn	12VA	24VA
Power loss	Pdis	1,5W	3W
Isolation class		Class II	
Service period		Continuous	
On/off switch		Yes	
Temperature protection		Yes	
Short-circuit protection		Yes	
Ambient operational temperature		0°C + 40°C	
Isolation material		PA	
Flammability class		V0	
Colors		Grey	

Mechanical parameters	BTR-12	BTR-24
Device width	36mm	54mm
Device height	85mm	85mm
Device depth	64mm	64mm
Mounting	Easy fastening onto 35mm device rail (DIN)	
Degree of protection	IP20	
Minimum cross section solid	0.75 mm²	
Maximum cross section solid	6 mm²	
Minimum cross section stranded	0,75 mm²	
Maximum cross section stranded	4 mm²	
Torque	1.2 Nm	
Terminals	Screw	
Storage temperature	-25°C + 70°C	
Humidity	95%	
Pollution degree	3	
Weight	0,356 kg	0,660 kg

BTR - Beltransformer

Beltransformer Pn(VA)		Order code Standard	
12VA		**2114120005**	BTR-12
24VA		**2114120024**	BTR-24
Beltransformer-pack			
12VA	Including connection materials	**2114120005**	BTR-12
24VA	Including connection materials	**2114120024**	BTR-24

General

The SEP CWCD and iWCD type sockets are making service, maintenance and diagnostics of cabinets even easier. The sockets are standard equipped with children protection, these make them also save to use in non-industrial environments. Additional types such as power indicator, lid and voltage display make the range complete. Mounting of the sockets is also very flexible, din-rail, screw or glue them on a mounting plate.

CE

General parameters

Suitable for household, utility as well as industrial applications

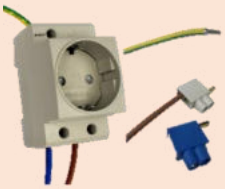
Electrical parameters

Tested according		VDE 0620-1
Rated operational voltage	Un	250VAC
Rated operational current	In	16A
Rated frequency		50/60Hz
Version		Grounded
Ambient operational temperature		-20°C + 60°C
Contact material		CuZn37
Isolation material		PA
Flammability class		V0
Rated impulse withstand	Uimp	5000V
Rated insulation voltage	Ui	500V
Dielectric test voltage freq (1min)		2.8kV
Colors		Grey / Yellow
Children protection		Yes
Status indicator		Available on CWCD-GI, CWCD-GIY, iWCD-#
Protective lid		Available on iWCD-G#
Voltage display		Available on iWCD-GD and CWCD-GDY

Mechanical parameters

Device width	Single	44.5mm
	Double	89.5mm
Device height		75.5mm
Device depth		64mm
Mounting		Easy fastening onto 35mm device rail (DIN)
		Screw / Glue on mounting plate
Degree of protection		IP20
Minimum cross section solid		0.2 mm²
Maximum cross section solid		4 mm²
Minimum cross section stranded		0.2 mm²
Maximum cross section stranded		2.5 mm²
Terminals		Screw
Installation class		III
Storage temperature		-25°C + 70°C
Pollution degree		2
Weight	CWCD	0,10 kg
	CWCD-2	0,17 kg
	iWCD	0,08 kg

Modular sockets



		Order code			
Single socket German		**Grey**		**Yellow**	
Standard		**2114100012**	CWCD-1G	**2114100011**	CWCD-GY
With power indicator		**2114100050**	CWCD-GI	**2114100051**	CWCD-GIY
With lid and power indicator		**2114100030**	iWCD-G	**2114100031**	iWCD-GY
With voltage display, lid and power indicator		**2114100040**	iWCD-GD	**2114100041**	iWCD-GDY
Double socket German					
Standard		**2114100020**	CWCD-2G	**2114100021**	CWCD-2GY
Single French					
Standard		**2114100015**	CWCD-F		
Socket - packs					
Single socket	Including connection materials	**3910900020**	S-WCD+		

LND10 – Emergency light

General
LND-10 is an emergency light that will turn on if the power fails. It can be fitted in household sockets German and French style. If you take it out of the socket you can use it as a torch to light your way around the house. It is also possible to fit it in your distribution board so that you always have a light during service (special combination packs available).

CE

General parameters

Suitable for household, utility as well as industrial applications

Electrical parameters

Tested according	EN60598-1
Type	Emergency socket light / torch
Testing	Manual
Emergency	Decentralized
Switching type	Continuous / emergency
Autonomous	2 hour
On/off switch	Yes
Rated input voltage	230VAC
Rated frequency	50/60Hz
Lamp type	LED
Lamp numbers	1
Lamp power	1W
Lamp voltage	3V-3.4V
Lamp current	20mA
Light effective stream	20lm (IEC 62722-2-1)
Battery	Ni-MH
Battery voltage	3.7V / 90mAh
Battery service time	4.5hr
Battery charging time	6hrs
Service of life	500 cycles (IF NOT DEPLETED)
Ambient operational temperature	0°C + 40°C (daily average < 35°C)
Isolation material	PA66
Flammability class	V0
Colors	Grey / Transparent

Mechanical parameters

Device width	44mm
Device height	45mm
Device depth	34mm (53mm including plug
Mounting	Outlet (German / French)
Degree of protection	IP20
Storage temperature	-25°C + 70°C
Pollution degree	3
Weight	0,056 kg

LND10 – Emergency light

	Order code	
Emergency light	**Standard**	
LND10	**2114120005**	LND-10
Emergency light-pack (including connection materials)		
Single socket with emergency light	**3910900021**	LND-WCD1
Double socket with emergency light	**3910900022**	LND-WCD2

CPTS – Digital weekly time switch

General

The SEP CPTS is an electronic time switch that can be used for everyday tasks like; illumination of private an industrial areas, street and shop-window lightening, regulation of air conditioning, flushing, motors, pumps, plants and machinery as well as to simulate presence etc. The time switch has a daily and weekly program and has automatic time correction (+/- 30sec weekly).

CE

General parameters

Suitable for household, utility as well as industrial applications

Electrical parameters

Tested according		
Nominal voltage	Un	230VAC
Rated frequency		50/60Hz
Voltage range		85 ~ 110%
Display		LCD
Channels		1
Contact		1 Change-over
Contact load capacity	COS φ=1	16A
	COS φ=0.6	10A
Maximum load	P	2000W
Day program		Yes
Week program		Yes
Year program		No
Holiday program		No
Hysteresis		< +2 sec/day (25°C)
Pulse program		18 pulse programs (1s~59m59s)
Cycles program		16 on / off
Astro program		No
Controlled		Quartz
Switching interval		1 min
Time correction		-30 sec ≤ Δt ≤ 30 sec
Battery reserve		3 years (lithium battery)
Power loss	Pdis	≤ 5VA
Ambient operational temperature		-10°C ~ + 50°C
Isolation material		PA
Flammability class		V0

Mechanical parameters

Device width	36mm
Device height	86.5mm
Device depth	65.5mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection	IP20
Installation class	II
Minimum cross section solid	0.2 mm²
Maximum cross section solid	6 mm²
Minimum cross section stranded	0.2 mm²
Maximum cross section stranded	4 mm²
Terminals	Screw
Storage temperature	-20°C + 60°C
Pollution degree	2
Weight	0,15 kg

LND10 – Emergency light

Weekly timer	Order code	
	Standard	
1CO 2000W	**114140010**	CPTS

OVB – Surge protective device

General

The SEP OVB is a surge protective device for common use. The surge protector provides protection against overvoltage. The surge protector diverts the energy of a surge to earth. This way you prevent the too high voltage from reaching the devices and destroying the devices. The cables of an electrical installation are also protected in this way.

CE

General parameters

Suitable for household, utility as well as industrial applications

Electrical parameters

	Class I	Class II	Class III	Class I+II
Tested accordingly	EN/IEC 61643-11			
Nominal voltage	230/400V	230/400V	230V	230/400V
Maximum continuous voltage	280V	280V	280V	280V
U max AC	280V	280V	280V	280V
U max DC	255V	255V	255V	255V
Nominal discharge surge current (8/20 µs)	30kA	20kA	5kA	60kA
Nominal discharge surge current (8/20 µs) [L-N]	30kA	20kA	5kA	60kA
Maximum discharge surge current (8/20 µ)	60kA	40kA	10kA	100kA
Protection level	<1,5kV	<1.2kV	<1kV	<2kV
Response time	<25 ns	<25 ns	<25 ns	
Maximum backup fuse	125A			160A
Temperature range	-25 - + 40°C (daily average <35°C)			
Poles designation	2p / 4p			
Signal contact	Yes			

Mechanical parameters

Device width	2p	36mm|(54mm – Class I+ II / 18mm – Class III
	4p	72mm|108mm – Class I+II
Device height		86.5mm
Device depth		65.5mm
Mounting		Easy fastening onto 35mm device rail (DIN)
Installation class		II
Minimum cross section solid		4 mm²
Maximum cross section solid		50 mm²
Minimum cross section stranded		2,5 mm²
Maximum cross section stranded		35 mm²
Terminals		Screw
Storage temperature		-20°C + 60°C
Protection degree		IP20
Pollution degree		2

Weekly timer Class type		Order code 2p		4p	
1 (I)	(type B)	**2117002001**	SPD-M60-2SC	**2117004001**	SPD-M60-4SC
2 (II)	(type C)	**2117002002**	SPD-M40-2SC	**2117004002**	SPD-M40-4SC
3 (III)	(type D)	**2117002003**	SPD-M10-2SC		
1+2 (I+II)	(type B+C)	**2117002012**	SPD-M100-2SC	**2117004012**	SPD-M100-4SC

SHC-M – Installation contactor

General
The SHC modular contactor is mainly suitable for AC 50/60Hz systems up to 400V and rated current in the circuit up to 63A. It can control low-inductance load of household applications and similar purposes. It can also be used to control the load of household motors, the power should be reduced accordingly

CE

General parameters

Suitable for household, utility as well as industrial applications
Noiseless an hum free
Spacer available when interior temperature of the enclosure is in range of 50°C

Electrical parameters

Tested according		IEC/EN 61095
Rated operational voltage		250VAC (2p) / 400VAC (4p)
Rated frequency	Ue	50/60Hz
Pole designations		2NO, 1NO/1NC, 2NC, 4NO, 3NO/1NC, 4NC, 2NO/2NC
Rated current		25A, 40A, 63A
Utilization category	In	AC-7a / AC-7b
Rated impulse withstand		2,5 kV (4kV for 12/24/48VAC)
Rated insulation voltage	Uimp	500V
Dielectric test voltage	Ui	2.5 kV
Mechanical life time		1.000.000 operation cycles
Electrical life time		100.000 operation cycles
Maximum operation switching a day		100 operation cycles

Mechanical parameters

Device width	M25	18mm – 2p / 36mm – 4p
	M40/M63	36mm – 2p / 54mm – 4p
Device depth		85mm
Device depth		73mm
Mounting		Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)		IP40
Degree of protection (connection terminals)		IP20
Connection possibility		Cable
Terminals		Cage clamp terminal
Terminal capacity of control		1,5 – 2,5mm² / 2x 1,5mm² (rigid)
		1,5 – 2,5mm² / 2x 2,5mm² (flexible or ferrule)
Terminal capacity of power	16-25A	1,5 – 6mm² (rigid) – 1-4mm² (flexible or ferrule)
	40-63A	6 – 25mm² (rigid) – 6-16mm² (flexible or ferrule)
Fastening torque of control (A1 – A2)		0.8 Nm
Fastening torque of power		0.8 Nm (16-25A), 3.5Nm (40-63A)
Storage temperature		-40°C + 70°C
Ambient temperature		-5°C + 60°C (with daily average < 35°C)
Resistance to humidity and heat		Class 2
Installation class		III
Pollution degree		2

SHC-M – Installation contactor

	Order code			
Installation contactor 25A (AC-7a), 9A (AC-7b) Contact designation	**230VAC**		**24VAC**	
2NO	**3103000010**	SHC-M2520	**3103000190**	SHC-M2520a
1NO/1NC	**3103000020**	SHC-M2511	**3103000200**	SHC-M2511a
2NC	**3103000030**	SHC-M2502	**3103000210**	SHC-M2502a
4NO	**3103000040**	SHC-M2540	**3103000220**	SHC-M2540a
4NC	**3103000050**	SHC-M2504	**3103000230**	SHC-M2504a
2NO/2NC	**3103000060**	SHC-M2522	**3103000240**	SHC-M2522a
3NO/1NC	**3103000070**	SHC-M2531	**3103000250**	SHC-M2531a
Installation contactor 40A (AC-7a), 18A (AC-7b) Contact designation				
2NO	**3103000080**	SHC-M4020	**3103000260**	SHC-M4020a
1NO/1NC	**3103000090**	SHC-M4011	**3103000270**	SHC-M4011a
2NC	**3103000100**	SHC-M4002	**3103000280**	SHC-M4002a
4NO	**3103000110**	SHC-M4040	**3103000290**	SHC-M4040a
4NC	**3103000120**	SHC-M4004	**3103000300**	SHC-M4004a
2NO/2NC	**3103000130**	SHC-M4022	**3103000310**	SHC-M4022a
3NO/1NC	**3103000140**	SHC-M4031	**3103000320**	SHC-M4031a
Installation contactor 63A (AC-7a), 25A (AC-7b) Contact designation				
4NO	**3103000150**	SHC-M6340	**3103000330**	SHC-M6340a
4NC	**3103000160**	SHC-M6304	**3103000340**	SHC-M6304a
2NO/2NC	**3103000170**	SHC-M6322	**3103000350**	SHC-M6322a
3NO/1NC	**3103000180**	SHC-M6331	**3103000360**	SHC-M6331a
SHC-M complementary				
1NO/1NC	**3103000001**	SHC-AUC11		
2NO	**3103000002**	SHC-AUC20		
Spacer	**2119000010**	CSP		

SHC-P – Impulse contactor

General

The SHC-P modular contactor is mainly suitable for AC 50/60Hz systems up to 400V and rated current of 16A. They are used mainly in building for switching and controlling lighting, heating, ventilation and pumps. They are part of the complete range of DIN-rail products of SEP and can be integrated easily in dedicated panels.

CE

General parameters

Suitable for household, utility as well as industrial applications
Noiseless an hum free
Spacer available when interior temperature of the enclosure is in range of 50°C

Electrical parameters

Tested according		IEC/EN 60669-2-2
Rated operational voltage	Ue	250VAC
Rated frequency		50/60Hz
Pole designations		2NO, 1NO/1CO, 1CO, 4NO, 3NO/1NC, 2NO/2NC, 2CO
Operation voltage	Un	230VA-110VDC / 48VAC-24VDC / 24VAC-12VDC
Operation threshold		85% of Un
Duration of the control		50ms to 1s (200ms recommended)
Response time		50ms
Rated current	In	16A
Utilization category		AC21 / AC22
Rated impulse withstand	Uimp	6 kV
Rated insulation voltage	Ui	440V
Dielectric test voltage		2.5 kV
Endurance	AC21	200.000 cycles
	AC22	100.000 cycles
Maximum operation switching a day		100 cycles
Maximum number of switching min		5 cycles
Power dissipation (impulse only)		19VA

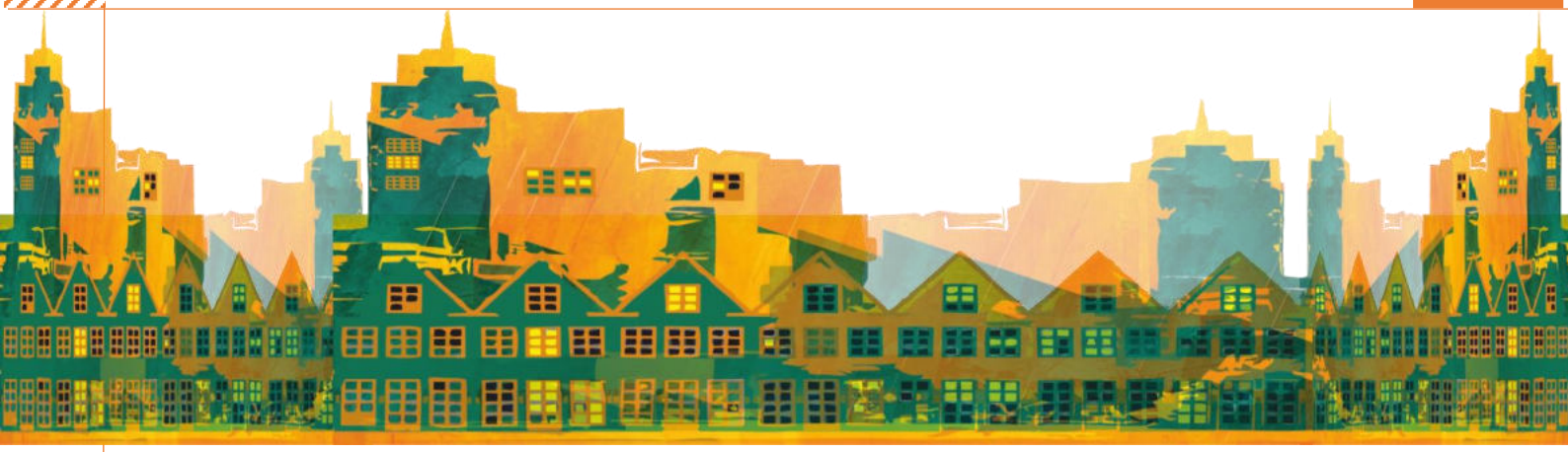
Mechanical parameters

Device width	18mm (2p) / 36mm (4p)
Device height	85mm
Device depth	72mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection (all sides)	IP40
Degree of protection (connection terminals)	IP20
Connection possibility	Cable
Terminals	Cage clamp terminal
Terminal capacity of control	0,5 – 4mm² (rigid)
	1- 4mm² (flexible or ferrule)
Terminal capacity of control	1,5 – 4mm² (rigid)
	1,5 – 4mm² (flexible or ferrule)
Fastening torque of control (A1 – A2)	1 Nm
Fastening torque of power	1 Nm
Storage temperature	-40°C + 70°C
Ambient temperature	-5°C + 60°C (with daily average < 35°C)
Resistance to humidity and heat	Class 2
Installation class	III
Pollution degree	3

SHC-P – Impulse contactor

	Order code	
230VAC / 110VDC Impulse contactor		
Contact designation		
2NO	**3103100010**	SHC-P1620
1NO/1NC	**3103100020**	SHC-P1611
1CO	**3103100030**	SHC-P16C1
4NO	**3103100040**	SHC-P1640
3NO/1NC	**3103100050**	SHC-P1631
2NO/2NC	**3103100060**	SHC-P1622
2CO	**3103100070**	SHC-P16C2
24VAC / 12VDC Impulse contactor		
Contact designation		
2NO	**3103100080**	SHC-P1620a
1NO/1NC	**3103100090**	SHC-P1611a
1CO	**3103100100**	SHC-P16C1a
4NO	**3103100110**	SHC-P1640a
3NO/1NC	**3103100120**	SHC-P1631a
2NO/2NC	**3103100130**	SHC-P1622a
2CO	**3103100140**	SHC-P16C2a
48VAC / 24VDC Impulse contactor		
Contact designation		
2NO	**3103100150**	SHC-P1620b
1NO/1NC	**3103100160**	SHC-P1611b
1CO	**3103100170**	SHC-P16C1b
4NO	**3103100180**	SHC-P1640b
3NO/1NC	**3103100190**	SHC-P1631b
2NO/2NC	**3103100200**	SHC-P1622b
2CO	**3103100210**	SHC-P16C2b

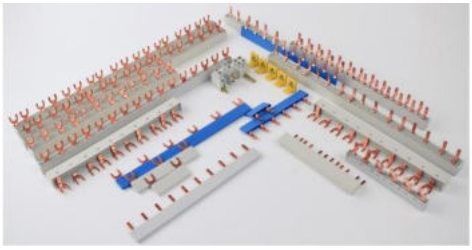
SHC-M complementary		
Spacer	**2119000010**	CSP



BUSBAR SYSTEM

Busbar system *4.03 – 4.37*

Closed busbar system 10mm²



General

The SEP insulated busbar system is used to connect modular components. By using the busbars one can establish a good and reliable connection, reduce failures and improve the heat management within the cabinet. In combination with the accessories, the wiring within the cabinet can be reduced considerably, making the whole system look descent an clear.

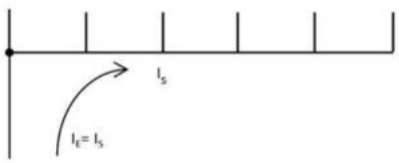
CE

General parameters

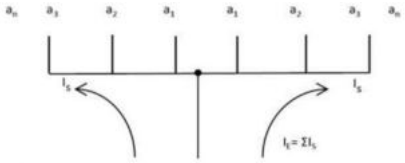
Insulated busbar
No need to cut to length
Wide range of busbar
Wide range of connection accessories

Technical parameters

Complies with	IEC 60439-1|2000-08
According	IEC 664
Busbar material	E-Cu-ETP
Isolation material	Ultramid PA6 glass fiber reinforced
Form test	125°C (after 1,8MPa)
Glow wire test	960°C according IEC60895-2-12
Flammability class	V0
Tracking index	550
Short circuit strength	25kA / 100A gl
Disruptive strength	36kV / mm
Climate stability	IEC 68-2
Operating voltage	500V AC
Surge voltage	4kV
Isolation group	According VDE 0110-T1
Overvoltage category	III
Degree of soiling	2
Halogen free	According DIN EN 50267-2-2
Colors	Related to RAL7035 and RAL5015 (grey/blue)
Type	PIN and FORK
Cross section	10mm²
Max. current one side line-in	63A
Max. current central line-in	100A*



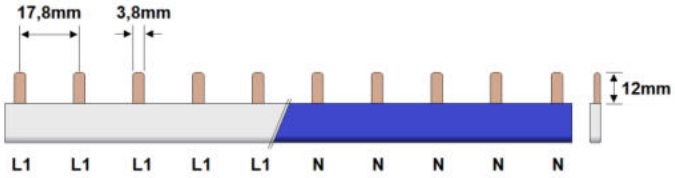
ONE SIDE LINE-IN



CENTRAL LINE-IN

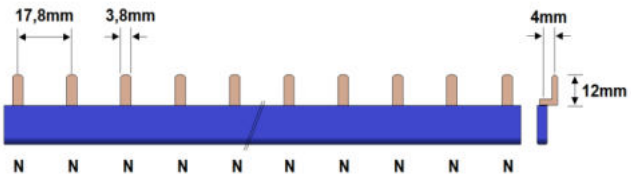
* The Is is rated on an equal divided demand on both sides of the feeding-main (line-in) of the busbar the sum of the equal divided output current cannot be higher than the busbar current (Is)

Closed busbar 10mm² - PIN (17,8mm)



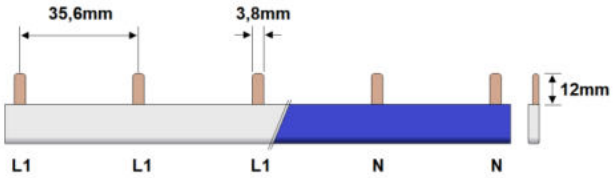
Order code

1 Phase Busbar PIN number of poles		Length	Module width	Grey		Blue	
2	2x 1p	30 mm	(2MU)	**2305101002**	P01002G00	**2305101902**	P01002B00
3	3x 1p	45 mm	(3MU)	**2305101003**	P01003G00	**2305101903**	P01003B00
4	4x 1p	64 mm	(4MU	**2305101004**	P01004G00	**2305101904**	P01004B00
5	5x 1p	79 mm	(5MU)	**2305101005**	P01005G00	**2305101905**	P01005B00
6	6x 1p	103 mm	(6MU)	**2305101006**	P01006G00	**2305101906**	P01006B00
7	7x 1p	121 mm	(7MU)	**2305101007**	P01007G00	**2305101907**	P01007B00
8	8x 1p	139 mm	(8MU)	**2305101008**	P01008G00	**2305101908**	P01008B00
9	9x 1p	156 mm	(9MU)	**2305101009**	P01009G00	**2305101909**	P01009B00
10	10x 1p	172 mm	(10MU)	**2305101010**	P01010G00	**2305101910**	P01010B00
11	11x 1p	189 mm	(11MU)	**2305101011**	P01011G00	**2305101911**	P01011B00
12	12x 1p	206 mm	(12MU)	**2305101012**	P01012G00	**2305101912**	P01012B00
13	13x 1p	224 mm	(13MU)	**2305101013**	P01013G00	**2305101913**	P01013B00



Order code

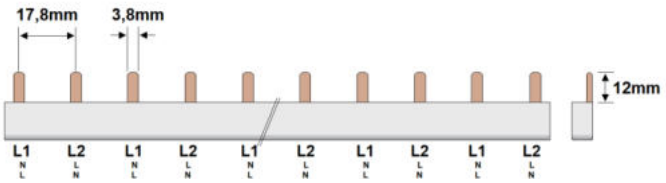
1 Phase Busbar PIN number of poles		Length	Module width	Grey		Blue	
2	2x 1p	30 mm	(2MU)			**2305101992**	P01002B10
3	3x 1p	45 mm	(3MU)			**2305101993**	P01003B10
4	4x 1p	64 mm	(4MU			**2305101994**	P01004B10
5	5x 1p	79 mm	(5MU)			**2305101995**	P01005B10
6	6x 1p	103 mm	(6MU)			**2305101996**	P01006B10
8	8x 1p	139 mm	(8MU)			**2305101998**	P01008B10
10	10x 1p	172 mm	(10MU)			**2305101990**	P01010B10
12	12x 1p	206 mm	(12MU)			**2305101991**	P01012B10



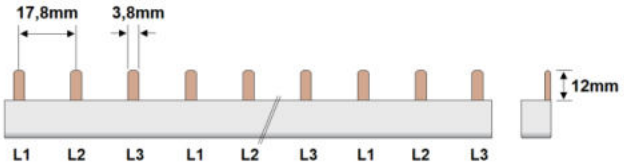
Order code

1 Phase Busbar PIN number of poles		Length	Module width	Grey		Blue	
2	2x 1p	45 mm	(3MU)	**2305171002**	P01102G00	**2305171902**	P01102B00
3	3x 1p	79 mm	(5MU)	**2305171003**	P01103G00	**2305171903**	P01103B00
4	4x 1p	121 mm	(7MU	**2305171004**	P01104G00	**2305171904**	P01104B00
5	5x 1p	156 mm	(9MU)	**2305171005**	P01105G00	**2305171905**	P01105B00
6	6x 1p	189 mm	(11MU)	**2305171006**	P01106G00	**2305171906**	P01106B00

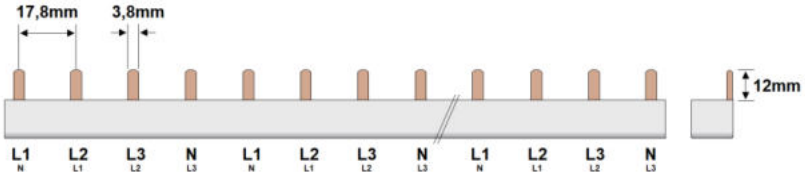
Closed busbar 10mm² - PIN (17,8mm)



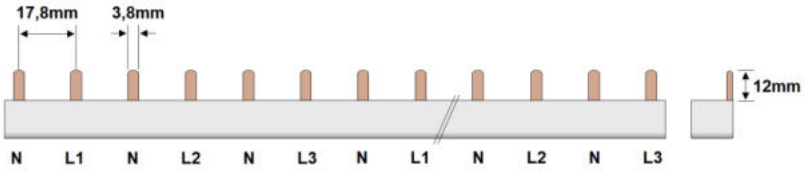
2 Phase Busbar PIN number of poles		Length	Module width	Order code	
4	2x 2p	72 mm	(4MU)	**2305102004**	P02004G00
6	3x 2p	104 mm	(6MU	**2305102006**	P02006G00
8	4x 2p	139 mm	(8MU)	**2305102008**	P02008G00
10	5x 2p	174 mm	(10MU)	**2305102010**	P02010G00
12	6x 2p	210 mm	(12MU)	**2305102012**	P02012G00
14	7x 2p	248 mm	(14MU)	**2305102014**	P02014G00
16	8x 2p	286 mm	(16MU)	**2305102016**	P02016G00
18	9x 2p	324 mm	(18MU)	**2305102018**	P02018G00



3 Phase Busbar PIN number of poles		Length	Module width	Order code	
6	2x 3p	107 mm	(6MU)	**2305103006**	P03006G00
9	3x 3p	160 mm	(9MU)	**2305103009**	P03009G00
12	4x 3p	211 mm	(12MU)	**2305103012**	P03012G00
15	5x 3p	267 mm	(15MU)	**2305103015**	P03015G00
18	6x 3p	317 mm	(18MU)	**2305103018**	P03018G00

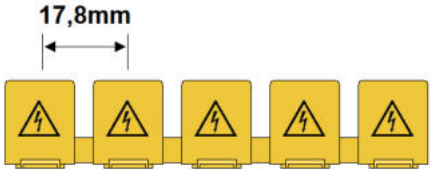


4 Phase Busbar PIN number of poles		Length	Module width	Order code	
8	2x 4p	140 mm	(8MU)	**2305104008**	P04008G00
12	3x 4p	211 mm	(12MU)	**2305104012**	P04012G00
16	4x 4p	284 mm	(16MU)	**2305104016**	P04016G00



3+N Phase Busbar PIN number of poles		Length	Module width	Order code	
12	6x 2p	211 mm	(12MU)	**2305105012**	P04012G50
18	9x 2p	317 mm	(18MU)	**2305105018**	P04018G50

Attributes for closed busbar PIN

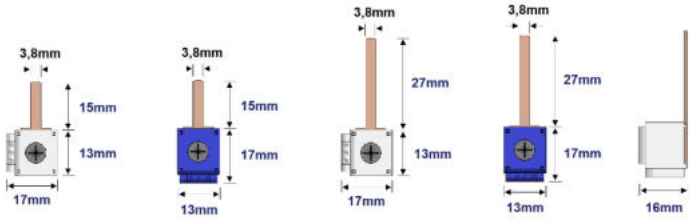


Busbar protection cover breakable

number of poles		Busbar type	Cross section	Order code	
5	5x 1p	PIN and FORK	10-16mm²	**2115900010**	IK

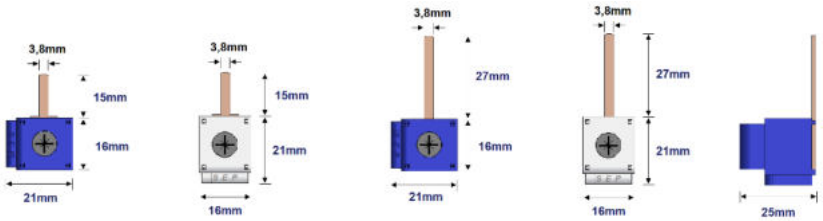
Direct connection terminal for busbar

Conductor diameter (mm²)				Order code	
Solid	Stranded	Busbar type	Cross section		
6-50mm²	6-35mm²	PIN and FORK	10-16mm²	**2115910050**	BFT50



Connection terminals for busbar PIN

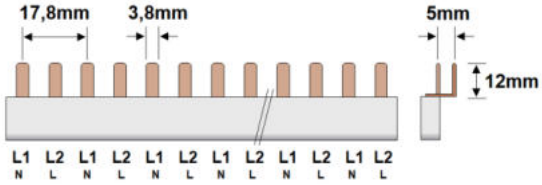
Cross section	Length connection	Connection way	Order code Grey		Order code Blue	
1x25 mm²	15mm	Front	**2115925011**	SPR-G2515	**2115925511**	SPR-B2515
1x25 mm²	27mm	Front	**2115925021**	SPR-G2527	**2115925521**	SPR-B2527
1x25 mm²	15mm	Side	**2115925012**	SPS-G2515	**2115925512**	SPS-B2515
1x25 mm²	27mm	Side	**2115925022**	SPS-G2527	**2115925522**	SPS-B2527



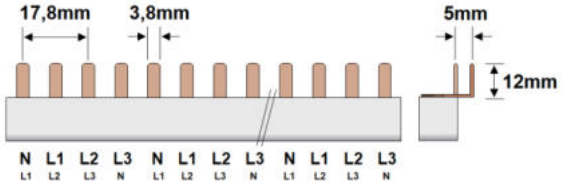
Connection terminals for busbar PIN

Cross section	Length connection	Connection way	Order code Grey		Order code Blue	
1x50mm²	15mm	Front	**2115950011**	SPR-G5015	**2115950511**	SPR-B5015
1x50 mm²	27mm	Front	**2115950021**	SPR-G5027	**2115950521**	SPR-B5027
1x50 mm²	15mm	Side	**2115950012**	SPS-G5015	**2115950512**	SPS-B5015
1x50 mm²	27mm	Side	**2115950022**	SPS-G5027	**2115950522**	SPS-B5027

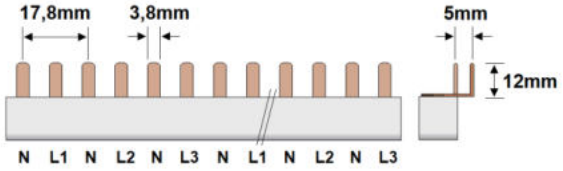
Closed busbar 10mm² - PIN (9/17,8mm)



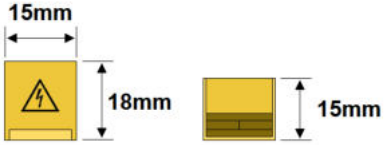
2 Phase Busbar PIN number of poles	Length	Module width	Order code	
6	3x 2p	(3MU)	**2305122906**	P02006G20
8	4x 2p	(4MU)	**2305122908**	P02008G20
10	5x 2p	(5MU	**2305122910**	P02010G20
12	6x 2p	(6MU)	**2305122912**	P02012G20
16	8x 2p	(8MU)	**2305122916**	P02016G20
20	10x 2p	(10MU)	**2305122920**	P02020G20
24	12x 2p	(12MU)	**2350122924**	P02024G20



4 Phase Busbar PIN number of poles	Length	Module width	Order code	
8	2x 4p	(4MU)	**2305142808**	P04008G40
12	3x 4p	(6MU)	**2305142812**	P04012G40
16	4x 4p	(8MU)	**2305142816**	P04016G40
20	5x 4p	(10MU)	**2305142820**	P04020G40
24	6x 4p	(12MU)	**2305142824**	P04024G40

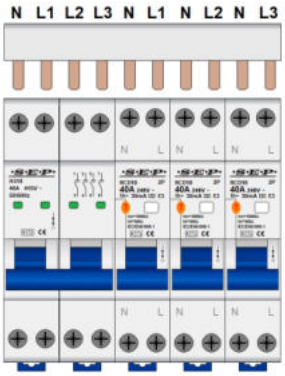


3+N Phase Busbar PIN number of poles	Length	Module width	Order code	
12	6x 2p	(6MU)	**P04012G20**	P04012G20
18	9x 2p	(9MU)	**P04018G20**	P04018G20
24	12x 2p	(12MU)	**P04024G20**	P04024G20

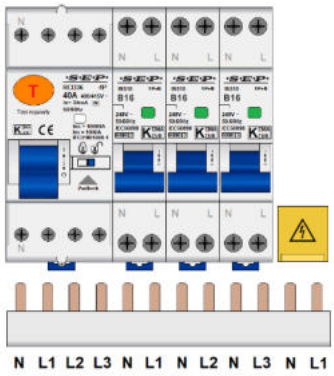


Busbar protection cover PIN number of poles	Busbar type	Cross section	Order code	
2	1x 2p	PIN (2p - 17,8mm)	10-16mm²	**2115900015**	IK-D

Combination busbar 10mm² - PIN (9/17,8mm)

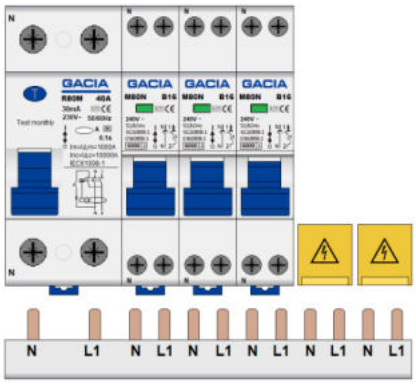


Combination busbar *(N-L1-L2-L3-N-L1-N-L2-N-L3)* **PIN** number of poles		Length	Module	Order code	
10	1x 4p + 3x 2p		(5MU)	**2305195910**	P24010G20

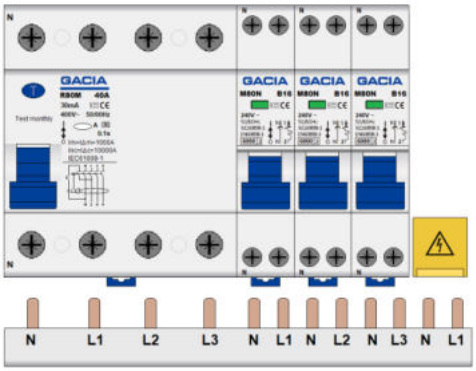


Combination busbar *(N-L1-L2-L3-N-L1-N-L2-N-L3-N-L1)* **PIN** number of poles		Length	Module	Order code	
12	1x 4p + 4x 2p		(6MU)	**2305195910**	P14012G40

Combination busbar 10mm² - PIN (9/17,8mm)

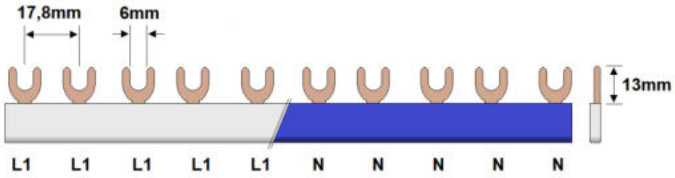


GACIA combination busbar *(N-L1-N-L1…)* PIN				Order code	
number of poles		Length	Module		
6	1x 2p + 2x 2p	72 mm	(4MU)	**2305192006**	P12006G20
8	1x 2p + 3x 2p	88 mm	(5MU)	**2305192008**	P12008G20
10	1x 2p + 4x 2p	103 mm	(6MU)	**2305192010**	P12010G20
12	1x 2p + 5x 2p	122 mm	(7MU)	**2305192012**	P12012G20



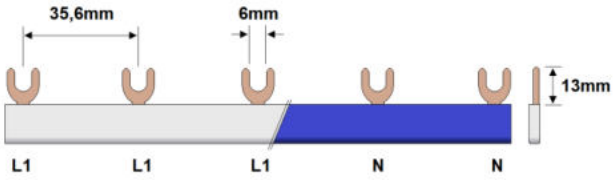
Combination busbar *(N-L1-L2-L3-N-L1-N-L2-N-L3-N-L1)* PIN				Order code	
number of poles		Length	Module		
12	1x 4p + 4x 2p	141 mm	(8MU)	**2305194012**	P14012G20

Closed busbar 10mm² - FORK (17,8mm)



Order code

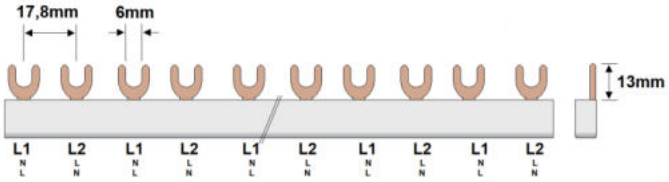
1 Phase Busbar FORK number of poles		Length	Module width	Grey		Blue	
2	2x 1p	30 mm	(2MU)	**2305111002**	F01002G06	**2305111902**	F01002B06
3	3x 1p	45 mm	(3MU)	**2305111003**	F01003G06	**2305111903**	F01003B06
4	4x 1p	64 mm	(4MU	**2305111004**	F01004G06	**2305111904**	F01004B06
5	5x 1p	79 mm	(5MU)	**2305111005**	F01005G06	**2305111905**	F01005B06
6	6x 1p	103 mm	(6MU)	**2305111006**	F01006G06	**2305111906**	F01006B06
7	7x 1p	121 mm	(7MU)	**2305111007**	F01007G06	**2305111907**	F01007B06
8	8x 1p	139 mm	(8MU)	**2305111008**	F01008G06	**2305111908**	F01008B06
9	9x 1p	156 mm	(9MU)	**2305111009**	F01009G06	**2305111909**	F01009B06
10	10x 1p	172 mm	(10MU)	**2305111010**	F01010G06	**2305111910**	F01010B06
11	11x 1p	189 mm	(11MU)	**2305111011**	F01011G06	**2305111911**	F01011B06
12	12x 1p	206 mm	(12MU)	**2305111012**	F01012G06	**2305111912**	F01012B06
13	13x 1p	224 mm	(13MU)	**2305111013**	F01013G06	**2305111913**	F01013B06



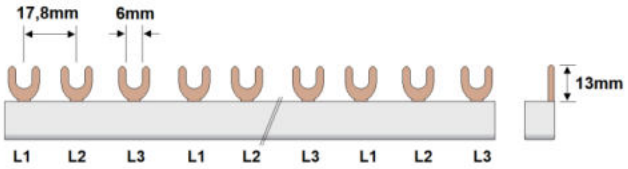
Order code

1 Phase Busbar FORK number of poles		Length	Module width	Grey		Blue	
2	2x 1p	45 mm	(3MU)	**2305181002**	F01102G06	**2305181903**	F01103B06
3	3x 1p	79 mm	(5MU)	**2305181003**	F01103G06	**2305181902**	F01102B06
4	4x 1p	121 mm	(7MU	**2305181004**	F01104G06	**2305181904**	F01104B06
5	5x 1p	156 mm	(9MU)	**2305181005**	F01105G06	**2305181905**	F01105B06
6	6x 1p	189 mm	(11MU)	**2305181006**	F01106G06	**2305181906**	F01106B06

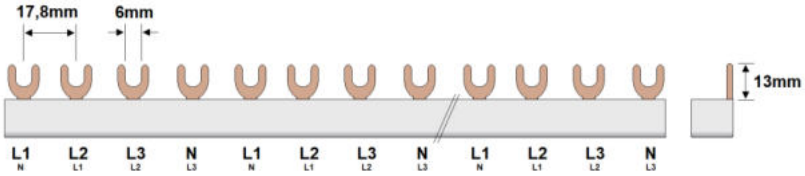
Closed busbar 10mm² - FORK (17,8mm)



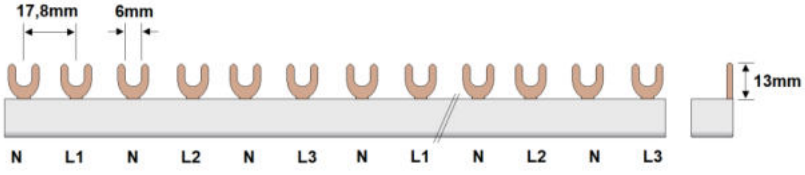
2 Phase Busbar FORK number of poles		Length	Module width	Order code	
4	2x 2p	72 mm	(4MU)	**2305112004**	F02004G06
6	3x 2p	104 mm	(6MU	**2305112006**	F02006G06
8	4x 2p	139 mm	(8MU)	**2305112008**	F02008G06
10	5x 2p	174 mm	(10MU)	**2305112010**	F02010G06
12	6x 2p	210 mm	(12MU)	**2305112012**	F02012G06
14	7x 2p	248 mm	(14MU)	**2305112014**	F02014G06
16	8x 2p	286 mm	(16MU)	**2305112016**	F02016G06
18	9x 2p	324 mm	(18MU)	**2305112018**	F02018G06



3 Phase Busbar FORK number of poles		Length	Module width	Order code	
6	2x 3p	107 mm	(6MU)	**2305113006**	F03006G06
9	3x 3p	160 mm	(9MU)	**2305113009**	F03009G06
12	4x 3p	211 mm	(12MU)	**2305113012**	F03012G06
15	5x 3p	267 mm	(15MU)	**2305113015**	F03015G06
18	6x 3p	317 mm	(18MU)	**2305113018**	F03018G06

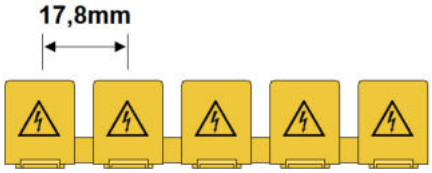


4 Phase Busbar FORK number of poles		Length	Module width	Order code	
8	2x 4p	140 mm	(8MU)	**2305114008**	F04008G06
12	3x 4p	211 mm	(12MU)	**2305114012**	F04012G06
16	4x 4p	284 mm	(16MU)	**2305114016**	F04016G06



3+N Phase Busbar FORK number of poles		Length	Module width	Order code	
12	6x 2p	211 mm	(12MU)	**2305115012**	F04012G56
18	9x 2p	317 mm	(18MU)	**2305115018**	F04018G56

Attributes for closed busbar FORK

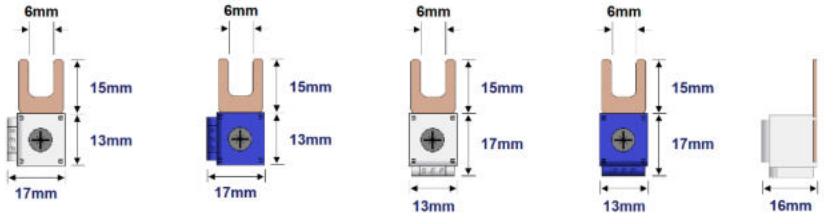


Busbar protection cover breakable

number of poles		Busbar type	Cross section	Order code	
5	5x 1p	PIN and FORK	10-16mm²	**2115900010**	IK

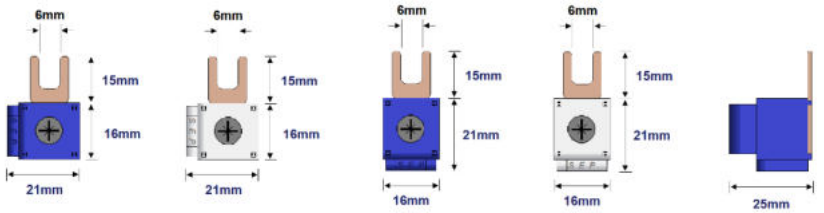
Direct connection terminal for busbar

Conductor diameter (mm²) Solid	Stranded	Busbar type	Cross section	Order code	
6-50mm²	6-35mm²	PIN and FORK	10-16mm²	**2115910050**	BFT50



Connection terminals for busbar FORK

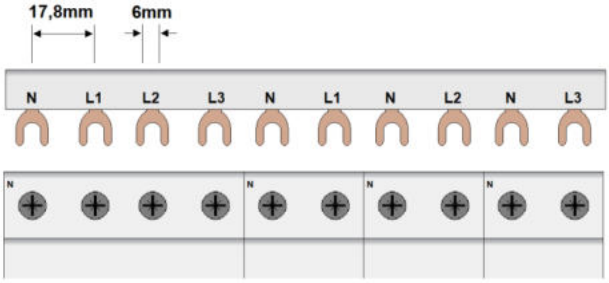
Cross section	Length connection	Connection way	Order code Grey		Order code Blue	
1x25 mm²	15mm	Front	**2115925031**	SFR-G2515	**2115925531**	SFR-B2515
1x25 mm²	15mm	Side	**2115925032**	SFS-G2515	**2115925532**	SFS-B2515



Connection terminals for busbar FORK

Cross section	Length connection	Connection way	Order code Grey		Order code Blue	
1x50mm²	15mm	Front	**2115950031**	SFR-G5015	**2115950531**	SFR-B5015
1x50 mm²	15mm	Side	**2115950032**	SFS-G5015	**2115950532**	SFS-B5015

Combination busbar 10mm² - FORK (17,8mm)



Combination busbar *(N-L1-L2-L3-N-L1-N-L2-N-L3)* **FORK** number of poles		Length	Module	Order code	
10	1x 4p + 3x 2p		(10MU)	**2305195010**	F14010G56

Busbar system 16mm²

General
De SEP insulated busbar system on 1 meter length is used to connect modular components. These 16mm2 busbar can be ordered in length or ordered on the fixed size what saves valuable time. By using the busbars one can establish a good and reliable connection, reduce failures and improve the heat management within the cabinet. In combination with the accessories, the wiring within the cabinet can be reduced considerably, making the whole system look descent an clear.

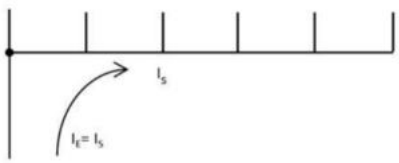
CE

General parameters

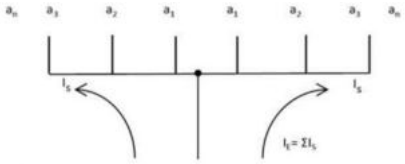
Insulated busbar in combination with endcap
Busbar can cut to size what is needed
Wide range of busbar
Wide range of connection accessories

Technical parameters

Complies with	IEC 61439-1|2000-08
According	IEC 664
Busbar material	E-Cu-ETP
Isolation material	PC
Form test	90°C (after 1,8MPa)
Glow wire test	960°C according IEC60895-2-12
Flammability class	V0
Tracking index	550
Short circuit strength	25kA / 100A gl
Disruptive strength	35kV / mm
Climate stability	IEC 68-2
Operating voltage	500V AC
Surge voltage	4kV
Isolation group	According VDE 0110-T1
Overvoltage category	III
Degree of soiling	2
Halogen free	According DIN EN 50267-2-2
Colors	Related to RAL7035 and RAL5015 (grey/blue)
Type	PIN and FORK
Cross section	16mm²
Max. current one side line-in	80A
Max. current central line-in	125A*



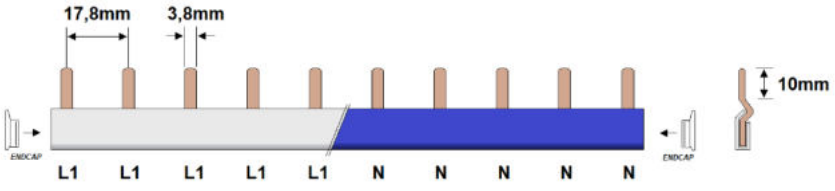
ONE SIDE LINE-IN



CENTRAL LINE-IN

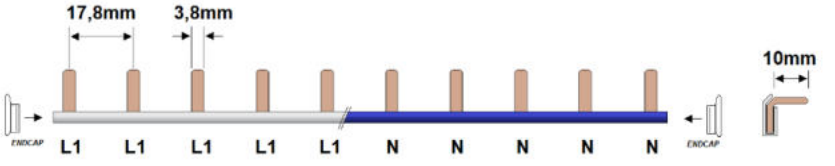
* The Is is rated on an equal divided demand on both sides of the feeding-main (line-in) of the busbar the sum of the equal divided output current cannot be higher than the busbar current (Is)

Busbar 16mm² - PIN (17,8mm)



Order code

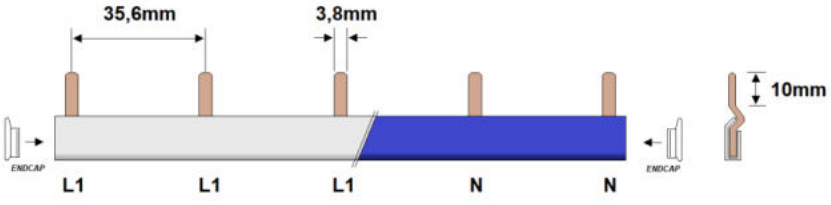
1 Phase Busbar PIN number of poles		Length	Module width	Grey		Blue	
6	6x 1p	107 mm	(6MU)	2306010006	16P01006G00	2306019006	16P01006B00
9	9x 1p	160 mm	(9MU)	2306010009	16P01009G00	2306019009	16P01009B00
12	12x 1p	212 mm	(12MU	2306010012	16P01012G00	2306019012	16P01012B00
15	15x 1p	267 mm	(15MU)	2306010015	16P01015G00	2306019015	16P01015B00
18	18x 1p	320 mm	(18MU)	2306010018	16P01018G00	2306019018	16P01018B00
21	21x 1p	374 mm	(21MU)	2306010021	16P01021G00	2306019021	16P01021B00
24	24x 1p	427 mm	(24MU)	2306010024	16P01024G00	2306019024	16P01024B00
54	54x 1p	1016 mm	(54MU)	**2306160100**	16P001G00	**2306160101**	16P001B00
Busbar endcap				**2306169011**	SVK1EC1	**2306169011**	SVK1EC1



Order code

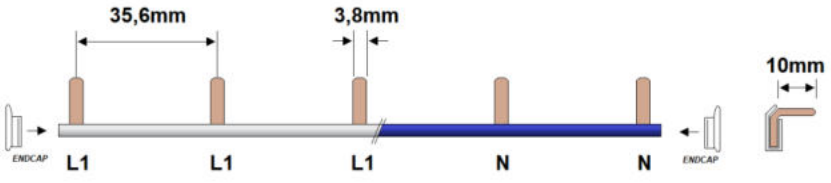
1 Phase Busbar PIN number of poles		Length	Module width	Grey		Blue	
6	6x 1p	107 mm	(6MU)	2306010106	16P01006G90	2306019106	16P01006B90
9	9x 1p	160 mm	(9MU)	2306010109	16P01009G90	2306019109	16P01009B90
12	12x 1p	212 mm	(12MU	2306010112	16P01012G90	2306019112	16P01012B90
15	15x 1p	267 mm	(15MU)	2306010115	16P01015G90	2306019115	16P01015B90
18	18x 1p	320 mm	(18MU)	2306010118	16P01018G90	2306019118	16P01018B90
21	21x 1p	374 mm	(21MU)	2306010121	16P01021G90	2306019121	16P01021B90
24	24x 1p	427 mm	(24MU)	2306010124	16P01024G90	2306019124	16P01024B90
54	54x 1p	1016 mm	(54MU)	**2306160110**	16P001G90	**2306160111**	16P001B90
Busbar endcap				**2306169010**	SVK1EC	**2306169010**	SVK1EC

Busbar 16mm² - PIN (17,8mm)



Order code

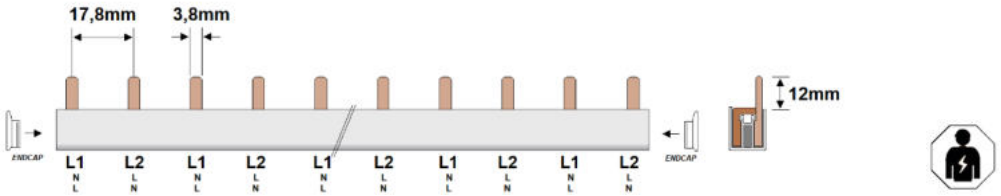
1 Phase Busbar PIN number of poles		Length	Module width	Grey		Blue	
6	2x 1p	212 mm	(12MU)	2306010206	16P01106G00	2306019206	16P01106B00
9	3x 1p	320 mm	(18MU)	2306010209	16P01109G00	2306019209	16P01109B00
12	4x 1p	427 mm	(24MU	2306010212	16P01112G00	2306019212	16P01112B00
27	5x 1p	1016 mm	(54MU)	**2306160120**	16P011G00	**2306160121**	16P011B00
Busbar endcap				**2306169011**	SVK1EC1	**2306169011**	SVK1EC1



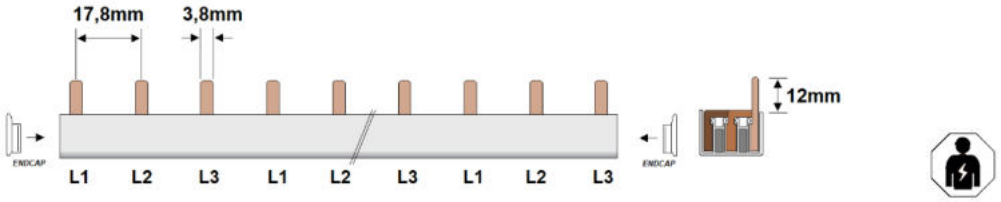
Order code

1 Phase Busbar PIN number of poles		Length	Module width	Grey		Blue	
6	2x 1p	212 mm	(12MU)	2306010306	16P01106G90	2306019306	16P01106B90
9	3x 1p	320 mm	(18MU)	2306010309	16P01109G90	2306019309	16P01109B90
12	4x 1p	427 mm	(24MU	2306010312	16P01112G90	2306019312	16P01112B90
27	5x 1p	1016 mm	(54MU)	**2306160130**	16P011G90	**2306160131**	16P011B90
Busbar endcap				**2306169010**	SVK1EC	**2306169010**	SVK1EC

Busbar 16mm² - PIN (17,8mm)

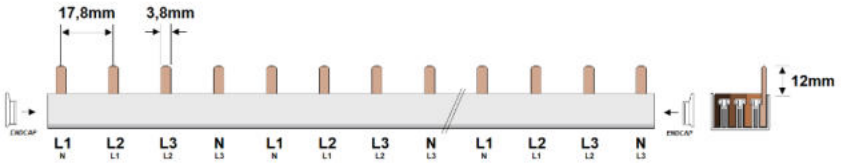


2 Phase Busbar PIN number of poles		Length	Module width	Order code	
6	3x 2p	107 mm	(6MU)	2306120006	16F02006G06
8	4x 2p	142 mm	(8MU	2306120008	16F02008G06
10	5x 2p	178 mm	(10MU)	2306120010	16F02010G06
12	6x 2p	212 mm	(12MU)	2306120012	16F02012G06
14	7x 2p	249 mm	(14MU)	2306120014	16F02014G06
16	8x 2p	285 mm	(16MU)	2306120016	16F02016G06
18	9x 2p	320 mm	(18MU)	2306120018	16F02018G06
20	10x 2p	356 mm	(20MU)	2306120020	16F02020G06
22	11x 2p	392 mm	(22MU)	2306120022	16F02022G06
24	12x 2p	427 mm	(24MU)	2306120024	16F02024G06
54	27x 2p	1016 mm	(54MU)	**2306161200**	16F002G06
Busbar endcap				**2306169020**	SVK2EC

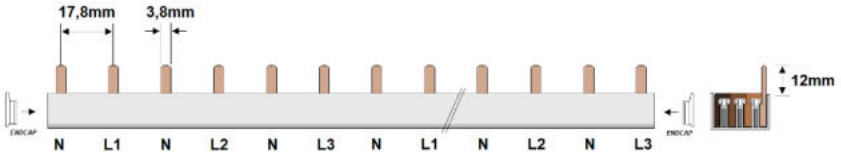


3 Phase Busbar PIN number of poles		Length	Module width	Order code	
6	2x 3p	107 mm	(6MU)	**2306130006**	16F03006G06
9	3x 3p	160 mm	(9MU)	**2306130009**	16F03009G06
12	4x 3p	212 mm	(12MU)	**2306130012**	16F03012G06
15	5x 3p	267 mm	(15MU)	**2306130015**	16F03015G06
18	6x 3p	320 mm	(18MU)	**2306130018**	16F03018G06
21	7x 3p	374 mm	(21MU)	**2306130021**	16F03021G06
24	8x 3p	427 mm	(24MU)	**2306130024**	16F03024G06
54	18x 3p	1016 mm	(54MU)	**2306161300**	16F003G06
Busbar endcap				**2306169030**	SVK3EC

Busbar 16mm² - PIN (17,8mm)

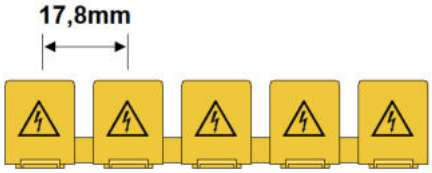


4 Phase Busbar PIN number of poles		Length	Module width	Order code	
8	2x 4p	142 mm	(8MU)	**2306040008**	16P04008G00
12	3x 4p	212 mm	(12MU)	**2306040012**	16P04012G00
16	4x 4p	285 mm	(16MU)	**2306040016**	16P04016G00
20	5x 4p	356 mm	(20MU)	**2306040020**	16P04020G00
24	6x 4p	427 mm	(24MU)	**2306040024**	16P04024G00
56	14x 4p	1016 mm	(56MU)	**2306160400**	16P004G00
Busbar endcap				**2306169040**	SVK4EC



3+N Phase Busbar PIN number of poles		Length	Module width	Order code	
12	6x 2p	212 mm	(12MU)	**2306050012**	16P04012G50
18	9x 2p	320 mm	(18MU)	**2306050018**	16P04018G50
24	12x 2p	427 mm	(24MU)	**2306050024**	16P04024G50
56	28x 2p	1016 mm	(56MU)	**2306160500**	16P004G50
Busbar endcap				**2306169040**	SVK4EC

Attributes for closed busbar PIN

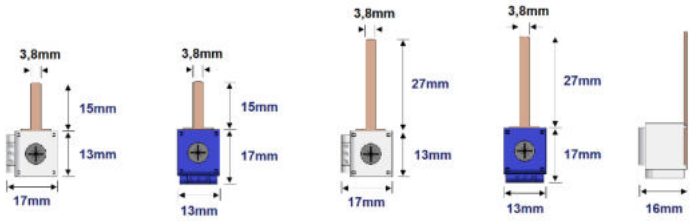


Busbar protection cover breakable

number of poles		Busbar type	Cross section	Order code	
5	5x 1p	PIN and FORK	10-16mm²	**2115900010**	IK

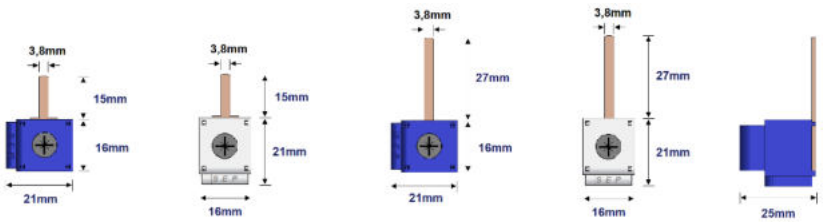
Direct connection terminal for busbar

Conductor diameter (mm²)				Order code	
Solid	Stranded	Busbar type	Cross section		
6-50mm²	6-35mm²	PIN and FORK	10-16mm²	**2115910050**	BFT50



Connection terminals for busbar PIN

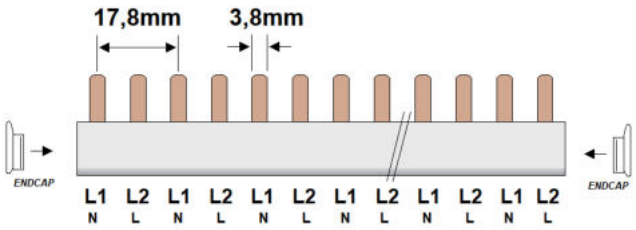
Cross section	Length connection	Connection way	Order code Grey		Order code Blue	
1x25 mm²	15mm	Front	**2115925011**	SPR-G2515	**2115925511**	SPR-B2515
1x25 mm²	27mm	Front	**2115925021**	SPR-G2527	**2115925521**	SPR-B2527
1x25 mm²	15mm	Side	**2115925012**	SPS-G2515	**2115925512**	SPS-B2515
1x25 mm²	27mm	Side	**2115925022**	SPS-G2527	**2115925522**	SPS-B2527



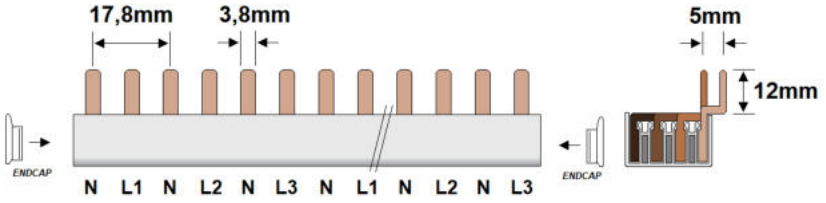
Connection terminals for busbar PIN

Cross section	Length connection	Connection way	Order code Grey		Order code Blue	
1x50mm²	15mm	Front	**2115950011**	SPR-G5015	**2115950511**	SPR-B5015
1x50 mm²	27mm	Front	**2115950021**	SPR-G5027	**2115950521**	SPR-B5027
1x50 mm²	15mm	Side	**2115950012**	SPS-G5015	**2115950512**	SPS-B5015
1x50 mm²	27mm	Side	**2115950022**	SPS-G5027	**2115950522**	SPS-B5027

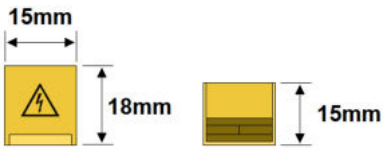
Busbar 16mm² - PIN (9/17,8mm)



2 Phase Busbar PIN number of poles		Length	Module width	Order code	
6	3x 2p	54 mm	(3MU)	2306020906	16P02006G20
8	4x 2p	72 mm	(4MU)	2306020908	16P02008G20
10	5x 2p	90 mm	(5MU	2306020910	16P02010G20
12	6x 2p	108 mm	(6MU)	2306020912	16P02012G20
18	9x 2p	162 mm	(9MU)	2306020918	16P02018G20
24	12x 2p	216 mm	(12MU)	2306020924	16P02024G20
36	18x 2p	324 mm	(18MU)	2306020936	16P02036G20
48	24x 2p	432 mm	(24MU)	2306020948	16P02048G20
108	54x 2p	1016 mm	(54MU)	**2306162200**	16P002G20
Busbar endcap				**2306169020**	SVK2EC

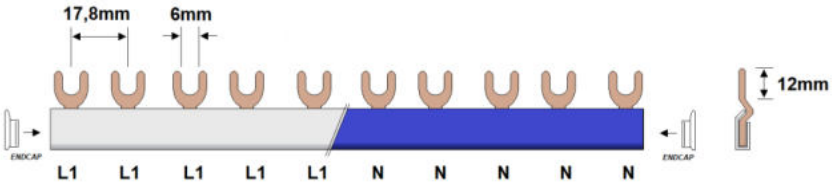


3+N Phase Busbar PIN number of poles		Length	Module width	Order code	
12	6x 2p	108 mm	(6MU)	2306050912	16P04012G20
18	9x 2p	162 mm	(9MU)	2306050918	16P04018G20
24	12x 2p	216 mm	(12MU)	2306050924	16P04024G20
30	15x 2p	270 mm	(15MU	2306050930	16P04030G20
36	18x 2p	324 mm	(18MU)	2306050936	16P04036G20
42	21x 2p	378 mm	(21MU)	2306050942	16P04042G20
48	24x 2p	432 mm	(24MU)	2306050948	16P04048G20
108	54x 2p	1016 mm	(54MU)	**2306162400**	16P004G20
Busbar endcap				**2306169040**	SVK4EC



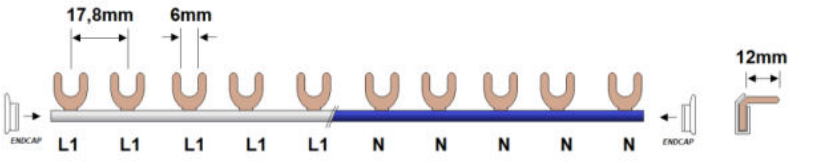
Busbar protection cover PIN number of poles		Busbar type	Cross section	Order code	
2	1x 2p	PIN (2p - 17,8mm)	10-16mm²	**2115900015**	IK-D

Busbar 16mm² - FORK (17,8mm)



Order code

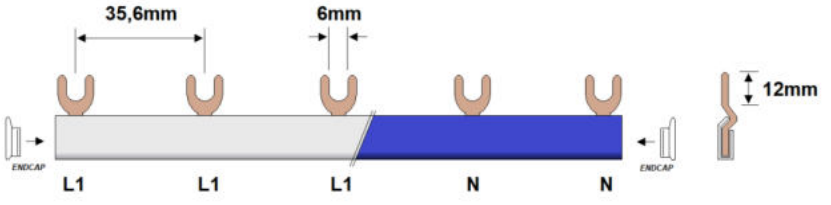
1 Phase Busbar PIN number of poles		Length	Module width	Grey		Blue	
6	6x 1p	107 mm	(6MU)	2306110006	16F01006G06	2306119006	16F01006B06
9	9x 1p	160 mm	(9MU)	2306110009	16F01009G06	2306119009	16F01009B06
12	12x 1p	212 mm	(12MU	2306110012	16F01012G06	2306119012	16F01012B06
15	15x 1p	267 mm	(15MU)	2306110015	16F01015G06	2306119015	16F01015B06
18	18x 1p	320 mm	(18MU)	2306110018	16F01018G06	2306119018	16F01018B06
21	21x 1p	374 mm	(21MU)	2306110021	16F01021G06	2306119021	16F01021B06
24	24x 1p	427 mm	(24MU)	2306110024	16F01024G06	2306119024	16F01024B06
54	54x 1p	1016 mm	(54MU)	**2306161100**	16F001G06	**2306161101**	16F001B06
Busbar endcap				**2306169011**	SVK1EC1	**2306169011**	SVK1EC1



Order code

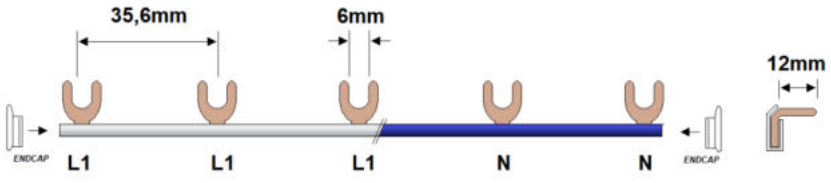
1 Phase Busbar PIN number of poles		Length	Module width	Grey		Blue	
6	6x 1p	107 mm	(6MU)	2306110106	16F01006G96	2306119106	16F01006B96
9	9x 1p	160 mm	(9MU)	2306110109	16F01009G96	2306119109	16F01009B96
12	12x 1p	212 mm	(12MU	2306110112	16F01012G96	2306119112	16F01012B96
15	15x 1p	267 mm	(15MU)	2306110115	16F01015G96	2306119115	16F01015B96
18	18x 1p	320 mm	(18MU)	2306110118	16F01018G96	2306119118	16F01018B96
21	21x 1p	374 mm	(21MU)	2306110121	16F01021G96	2306119121	16F01021B96
24	24x 1p	427 mm	(24MU)	2306110124	16F01024G96	2306119124	16F01024B96
54	54x 1p	1016 mm	(54MU)	**2306161110**	16F001G96	**2306161111**	16F001B96
Busbar endcap				**2306169010**	SVK1EC	**2306169010**	SVK1EC

Busbar 16mm² - FORK (17,8mm)



Order code

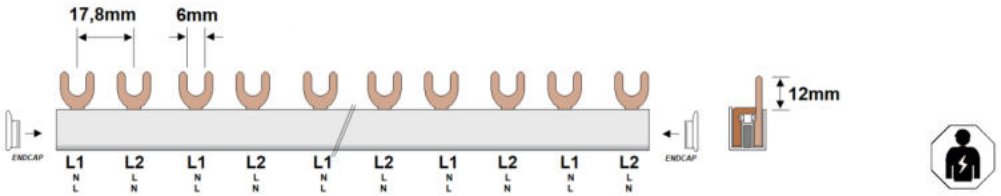
1 Phase Busbar PIN number of poles		Length	Module width	Grey		Blue	
6	2x 1p	212 mm	(12MU)	2306110206	16F01106G06	2306119206	16F01106B06
9	3x 1p	320 mm	(18MU)	2306110209	16F01109G06	2306119209	16F01109B06
12	4x 1p	427 mm	(24MU	2306110212	16F01112G06	2306119212	16F01112B06
27	5x 1p	1016 mm	(54MU)	**2306161120**	16F011G06	**2306161121**	16F011B06
Busbar endcap				**2306169011**	SVK1EC1	**2306169011**	SVK1EC1



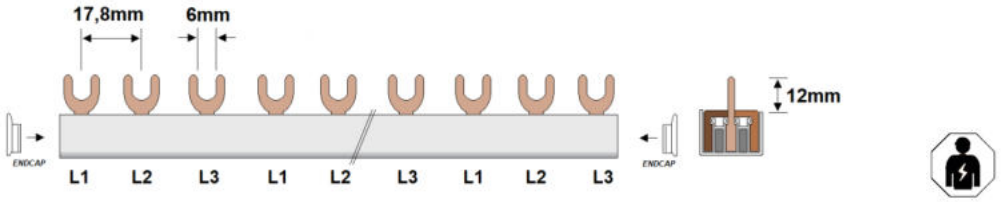
Order code

1 Phase Busbar PIN number of poles		Length	Module width	Grey		Blue	
6	2x 1p	212 mm	(12MU)	2306110306	16F01106G96	2306119306	16F01106B96
9	3x 1p	320 mm	(18MU)	2306110309	16F01109G96	2306119309	16F01109B96
12	4x 1p	427 mm	(24MU	2306110312	16F01112G96	2306119312	16F01112B96
27	5x 1p	1016 mm	(54MU)	**2306161130**	16F011G96	**2306161131**	16F011B96
Busbar endcap				**2306169010**	SVK1EC	**2306169010**	SVK1EC

Busbar 16mm² - FORK (17,8mm)

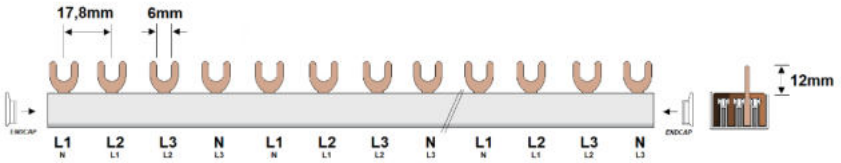


2 Phase Busbar PIN number of poles		Length	Module width	Order code	
6	3x 2p	107 mm	(6MU)	2306020006	16P02006G00
8	4x 2p	142 mm	(8MU	2306020008	16P02008G00
10	5x 2p	178 mm	(10MU)	2306020010	16P02010G00
12	6x 2p	212 mm	(12MU)	2306020012	16P02012G00
14	7x 2p	249 mm	(14MU)	2306020014	16P02014G00
16	8x 2p	285 mm	(16MU)	2306020016	16P02016G00
18	9x 2p	320 mm	(18MU)	2306020018	16P02018G00
20	10x 2p	356 mm	(20MU)	2306020020	16P02020G00
22	11x 2p	392 mm	(22MU)	2306020022	16P02022G00
24	12x 2p	427 mm	(24MU)	2306020024	16P02024G00
54	27x 2p	1016 mm	(54MU)	**2306160200**	16P002G00
Busbar endcap				**2306169020**	SVK2EC

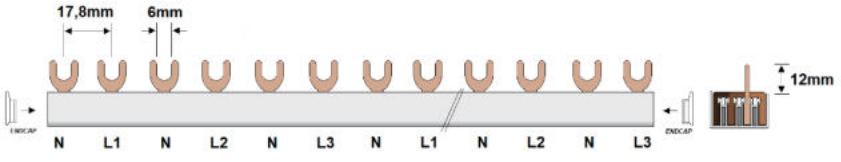


3 Phase Busbar PIN number of poles		Length	Module width	Order code	
6	2x 3p	107 mm	(6MU)	**2306030006**	16P03006G00
9	3x 3p	160 mm	(9MU)	**2306030009**	16P03009G00
12	4x 3p	212 mm	(12MU)	**2306030012**	16P03012G00
15	5x 3p	267 mm	(15MU)	**2306030015**	16P03015G00
18	6x 3p	320 mm	(18MU)	**2306030018**	16P03018G00
21	7x 3p	374 mm	(21MU)	**2306030021**	16P03021G00
24	8x 3p	427 mm	(24MU)	**2306030024**	16P03024G00
54	18x 3p	1016 mm	(54MU)	**2306160300**	16P003G00
Busbar endcap				**2306169030**	SVK3EC

Busbar 16mm² - FORK (17,8mm)

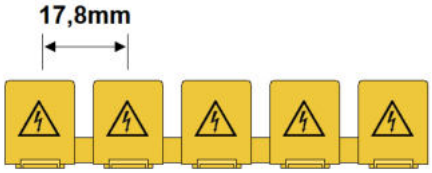


4 Phase Busbar PIN number of poles		Length	Module width	Order code	
8	2x 4p	142 mm	(8MU)	**2306040008**	16P04008G00
12	3x 4p	212 mm	(12MU)	**2306040012**	16P04012G00
16	4x 4p	285 mm	(16MU)	**2306040016**	16P04016G00
20	5x 4p	356 mm	(20MU)	**2306040020**	16P04020G00
24	6x 4p	427 mm	(24MU)	**2306040024**	16P04024G00
56	14x 4p	1016 mm	(56MU)	**2306160400**	16P004G00
Busbar endcap				**2306169040**	SVK4EC



3+N Phase Busbar PIN number of poles		Length	Module width	Order code	
12	6x 2p	212 mm	(12MU)	**2306050012**	16P04012G50
18	9x 2p	320 mm	(18MU)	**2306050018**	16P04018G50
24	12x 2p	427 mm	(24MU)	**2306050024**	16P04024G50
56	28x 2p	1016 mm	(56MU)	**2306160500**	16P004G50
Busbar endcap				**2306169040**	SVK4EC

Attributes for closed busbar FORK

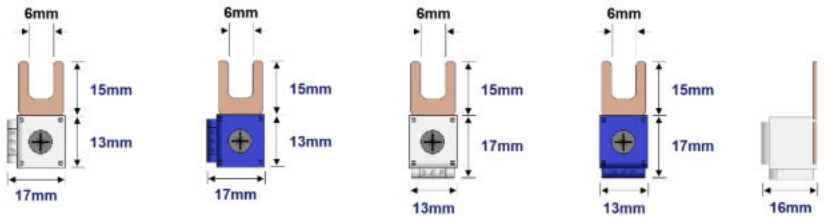


Busbar protection cover breakable

number of poles		Busbar type	Cross section	Order code	
5	5x 1p	PIN and FORK	10-16mm²	**2115900010**	IK

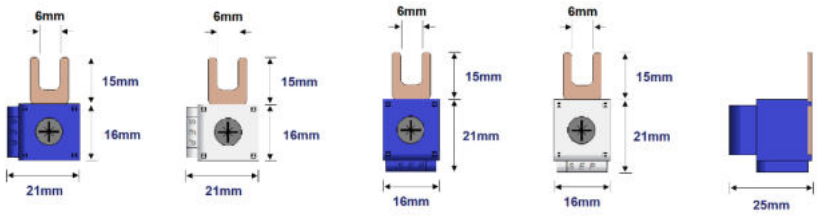
Direct connection terminal for busbar

Conductor diameter (mm²) Solid	Stranded	Busbar type	Cross section	Order code	
6-50mm²	6-35mm²	PIN and FORK	10-16mm²	**2115910050**	BFT50



Connection terminals for busbar FORK

Cross section	Length connection	Connection way	Order code Grey		Blue	
1x25 mm²	15mm	Front	**2115925031**	SFR-G2515	**2115925531**	SFR-B2515
1x25 mm²	15mm	Side	**2115925032**	SFS-G2515	**2115925532**	SFS-B2515



Connection terminals for busbar FORK

Cross section	Length connection	Connection way	Order code Grey		Blue	
1x50mm²	15mm	Front	**2115950031**	SFR-G5015	**2115950531**	SFR-B5015
1x50 mm²	15mm	Side	**2115950032**	SFS-G5015	**2115950532**	SFS-B5015

Busbar system 30mm² - FORK

General

De SEP Fork type busbar 30mm² is a heavy duty busbar. This busbar is specially designed as a feeding busbar for components with high currents. The busbar is plated so that no corrosion can occur during storage and usage. By using the busbars one can establish a good and reliable connection, reduce failures and improve the heat management within the cabinet .

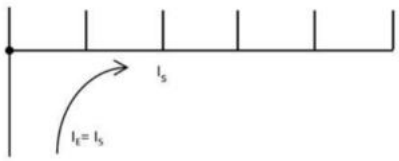
CE

General parameters

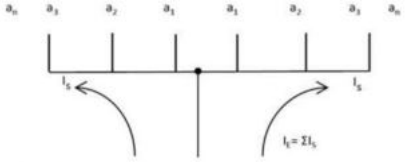
Insulated busbar in combination with endcap
Busbar can cut to size what is needed

Technical parameters

Complies with	IEC 61439-1|2000-08
According	IEC 664
Busbar material	Tin plated E-Cu-ETP
Isolation material	PC
Form test	125°C (after 1,8MPa)
Glow wire test	960°C according IEC60895-2-12
Flammability class	V0
Tracking index	550
Short circuit strength	25kA / 100A gl
Disruptive strength	36kV / mm
Climate stability	IEC 68-2
Operating voltage	500V AC
Surge voltage	4kV
Isolation group	According VDE 0110-T1
Overvoltage category	III
Degree of soiling	2
Colors	Related to RAL7035 (grey)
Type	FORK
Cross section	30mm²
Max. current one side line-in	125A
Max. current central line-in	210A*



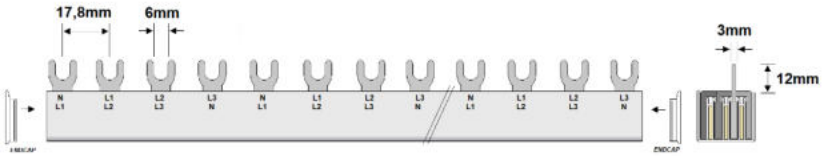
ONE SIDE LINE-IN



CENTRAL LINE-IN

* The Is is rated on an equal divided demand on both sides of the feeding-main (line-in) of the busbar the sum of the equal divided output current cannot be higher than the busbar current (Is)

Busbar system 30mm² - FORK



4 Phase Busbar PIN number of poles	Length	Module width	Order code	
8	2x 4p	8	**2306300408**	30F04008G06
12	3x 4p	12	**2306300412**	30F04012G06
16	4x 4p	16	**2306300416**	30F04016G06
56	14x 4p	56	**2306301400**	30F04056G06
Busbar end-cover			**2306309040**	SVK-30E4

Connection terminal – DTH / DTL

General
SEP connection terminals can be connected directly to modular components. The connection terminals are available in both gray and blue, which makes it possible to work plain and clearly. The DTH and DTL version is a 1 pole connection terminal with 2 connections. The connection is suitable up to 10mm². The pin position is available both high and low.

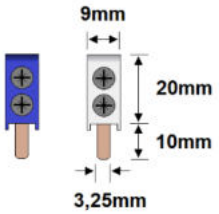
CE

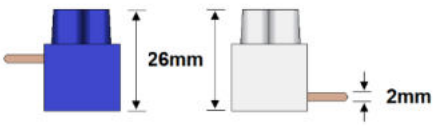
General parameters

Double connection up to 10mm²
Suitable as branch or feed-in terminal
Direct connection on Isolator Switch / MCB / RCCB / RCBO

Technical parameters

According	IEC61439
Material base	CU
Isolation material	PC
Nominal voltage	500V
Nominal current	63A
Poles	1
Number of connections (each pole)	2
Type	PIN
Clamp section	10mm²
Connection type	Screw each connection
Connection solid wire	0,5 – 10mm²
Connection stranded wire	0,5 – 6mm²
Tightening torque	1,2 Nm
Pin dimensions	2 - 3,25 - 9,8mm
Width	9mm
Flammability class	V0
Colors	Related to RAL7035 and RAL5015 (grey/blue)





Order code

PIN location		Grey		Blue	
High	Frontal	**2115900040**	DTH	**2115900540**	DTH-B
Low	Frontal	**2115900041**	DTL	**2115900541**	DTL-B

Connection terminal - DT

General
SEP connection terminals can be connected directly to modular components. . The connection terminals are available in both gray and blue, which makes it possible to work plain and clearly. The DT version is a 1-pole connection terminal with 2 connections. The connection is suitable up to 16mm² and is fixed with 4 screws (2 per connection) to ensure a proper connection..

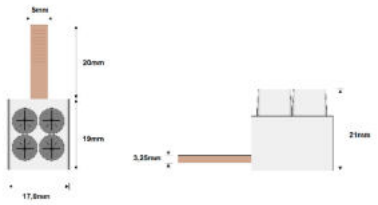
CE

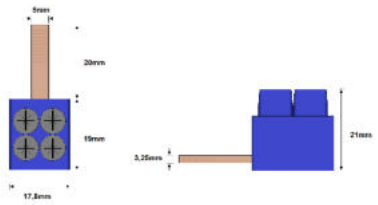
General parameters

Double connection up to 16mm²
Suitable as branch or feed-in terminal
Direct connection on Isolator Switch / MCB / RCCB / RCBO

Technical parameters

According	IEC61439
Material base	CU
Isolation material	PC
Nominal voltage	500V
Nominal current	80A
Poles	1
Number of connections (each pole)	2
Type	PIN
Clamp section	16mm²
Connection type	2x Screw each connection
Connection solid wire	1,5 – 16mm²
Connection stranded wire	1,5 – 10mm²
Tightening torque	1,2 Nm
Pin dimensions	5 - 3,25 - 20mm
Width	17,8mm
Flammability class	V0
Colors	Related to RAL7035 and RAL5015 (grey/blue)





Order code

PIN location	Grey	Blue
Frontal	**2115900050** DT	**2115900550** DT-B

Connection terminal – DT2

General
SEP connection terminals can be connected directly to modular components. The connection terminals are available in both gray and blue, which makes it possible to work plain and clearly. The DT2-25 version is a 1-pole connection terminal with 2 connections suitable for up to 25mm². The design allows the connection terminals to be mutually coupled so that they can be mounted as 1 unit in the modular component.

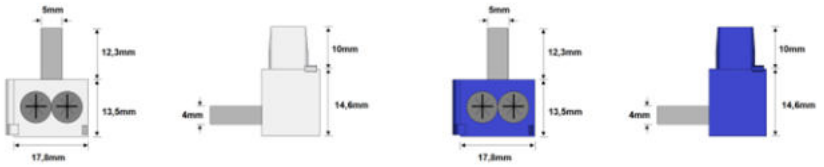
CE

General parameters

Double connection up to 25mm²
Suitable as branch or feed-in terminal
Direct connection on Isolator Switch / MCB / RCCB / RCBO
Terminals can be connected together

Technical parameters

According	IEC61439
Material base	TIN plated E-CU
Isolation material	PC/ABS
Nominal voltage	690V
Nominal current	100A
Poles	1
Number of connections (each pole)	2
Type	PIN
Clamp section	25mm²
Connection type	Screw each connection
Connection solid wire	1,5 – 25mm²
Connection stranded wire	1,5 – 16mm²
Tightening torque	2 Nm
Pin dimensions	5 - 4 – 12,3mm
Width	17,8mm
Halogen free	Yes
Flammability class	V0
Colors	Related to RAL7035 and RAL5015 (grey/blue)
Connection between terminals	Snap-on



Order code

PIN location	Grey	Blue
Frontal	**2115900225** DT2-25	**2115905225** DT2-25B

Connection terminal – DT3

General
SEP connection terminals can be connected directly to modular components. The connection terminals are available in both gray and blue, which makes it possible to work plain and clearly. The DT3-16 version is a 1-pole connection terminal with 2 connections suitable for up to 16mm². The design allows the connection terminals to be mutually coupled so that they can be mounted as 1 unit in the modular component.

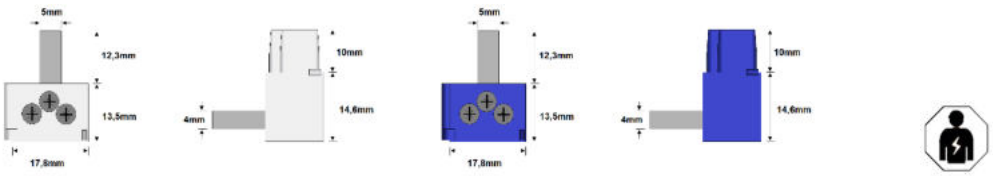
CE

General parameters

Triple connection up to 16mm²
Suitable as branch or feed-in terminal
Direct connection on Isolator Switch / MCB / RCCB / RCBO
Terminals can be connected together

Technical parameters

According	IEC61439
Material base	CU
Isolation material	PC
Nominal voltage	690V
Nominal current	63A
Poles	1
Number of connections (each pole)	3
Type	PIN
Clamp section	16mm²
Connection type	2x Screw each connection
Connection solid wire	1,5 – 16mm²
Connection stranded wire	1,5 – 10mm²
Tightening torque	1,2 Nm
Pin dimensions	5 - 4 – 12,3mm
Width	17,8mm
Flammability class	V0
Colors	Related to RAL7035 and RAL5015 (grey/blue)
Connection between terminals	Snap-on



Order code

PIN location	Grey		Blue	
Frontal	**2115900316**	DT3-16	**2115905316**	DT3-16B

Connection terminal – SPR / SPS

General

SEP connection terminals can be connected directly to modular components or in combination with the busbar. The connection terminals are available in both gray and blue, which makes it possible to work plain and clearly. The SPR-S is a 1-pole connection terminal with a connection that is suitable up to 25mm² or 50mm². SPR is the standard version and the SPS is a side-entry version.

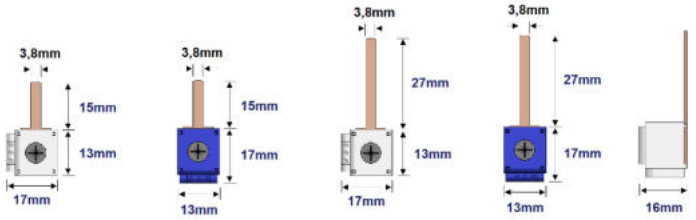
CE

General parameters

Suitable as branch or feed-in terminal in combination with busbar
Direct connection on Isolator Switch / MCB / RCCB / RCBO

Technical parameters

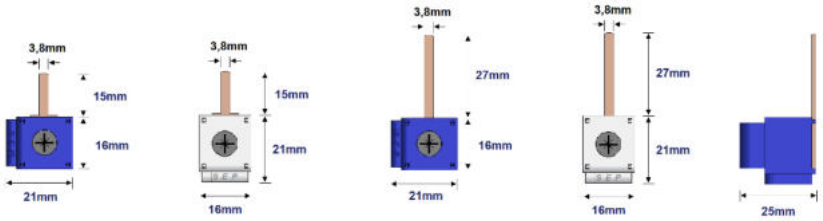
		25mm²	50mm²
According		IEC61439	
Material base		E-CU	
Isolation material		PC	
Nominal voltage		500V AC	
Nominal current		63A	100A
Poles		1	
Number of connections (each pole)		1	
Type		PIN	
Connection way		Frontal or side	
Clamp section		25mm²	50mm²
Connection type		Screw each connection	
Connection solid wire		1,5 – 25mm²	4 - 50mm²
Connection stranded wire		1,5 – 16mm²	4 – 35mm²
Tightening torque		2 Nm	2,5Nm
Pin dimensions	Short	3,8 – 1,8 – 15mm	
	Long	3,8 – 1,8 – 27mm	
Flammability class		V0	
Colors		Related to RAL7035 and RAL5015 (grey/blue)	



Connection terminals for busbar PIN

Order code

Cross section	Length connection	Connection way	Grey		Blue	
1x25 mm²	15mm	Front	**2115925011**	SPR-G2515	**2115925511**	SPR-B2515
1x25 mm²	27mm	Front	**2115925021**	SPR-G2527	**2115925521**	SPR-B2527
1x25 mm²	15mm	Side	**2115925012**	SPS-G2515	**2115925512**	SPS-B2515
1x25 mm²	27mm	Side	**2115925022**	SPS-G2527	**2115925522**	SPS-B2527



Connection terminals for busbar PIN

Order code

Cross section	Length connection	Connection way	Grey		Blue	
1x50mm²	15mm	Front	**2115950011**	SPR-G5015	**2115950511**	SPR-B5015
1x50 mm²	27mm	Front	**2115950021**	SPR-G5027	**2115950521**	SPR-B5027
1x50 mm²	15mm	Side	**2115950012**	SPS-G5015	**2115950512**	SPS-B5015
1x50 mm²	27mm	Side	**2115950022**	SPS-G5027	**2115950522**	SPS-B5027

Connection terminal – SFR / SFS

General

SEP connection terminals can be connected directly to modular components or in combination with the busbar. The connection terminals are available in both gray and blue, which makes it possible to work plain and clearly. The SFR-S is a 1-pole connection terminal with a connection that is suitable up to 25mm² or 50mm². SFR is the standard version and the SFS is a side-entry version.

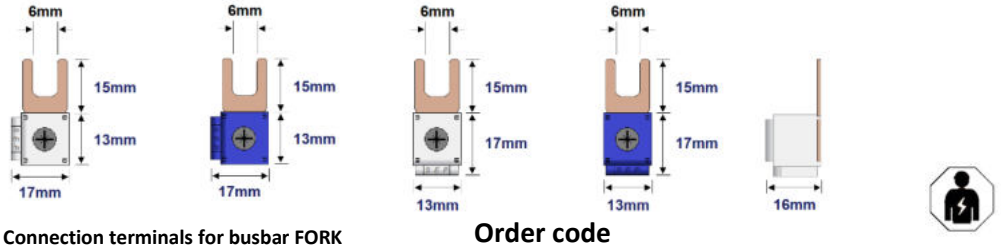
CE

General parameters

Suitable as branch or feed-in terminal in combination with busbar
Direct connection on Isolator Switch / MCB / RCCB / RCBO

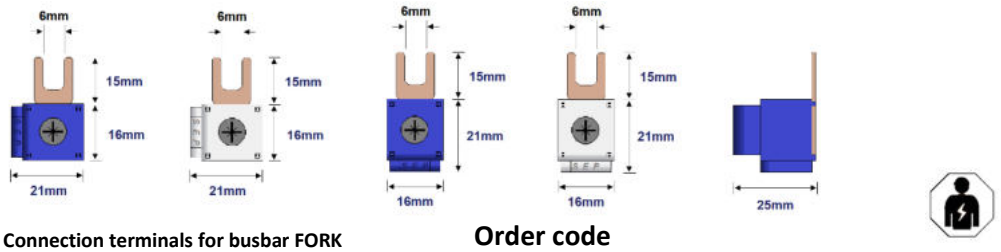
Technical parameters

	25mm²	50mm²
According	IEC61439	
Material base	E-CU	
Isolation material	PC	
Nominal voltage	500V AC	
Nominal current	63A	100A
Poles	1	
Number of connections (each pole)	1	
Type	FORK	
Connection way	Frontal or side	
Clamp section	25mm²	50mm²
Connection type	Screw each connection	
Connection solid wire	1,5 – 25mm²	4 - 50mm²
Connection stranded wire	1,5 – 16mm²	4 – 35mm²
Tightening torque	2 Nm	2,5Nm
Fork dimensions	M6 (1,8 – 15mm)	
Flammability class	V0	
Colors	Related to RAL7035 and RAL5015 (grey/blue)	



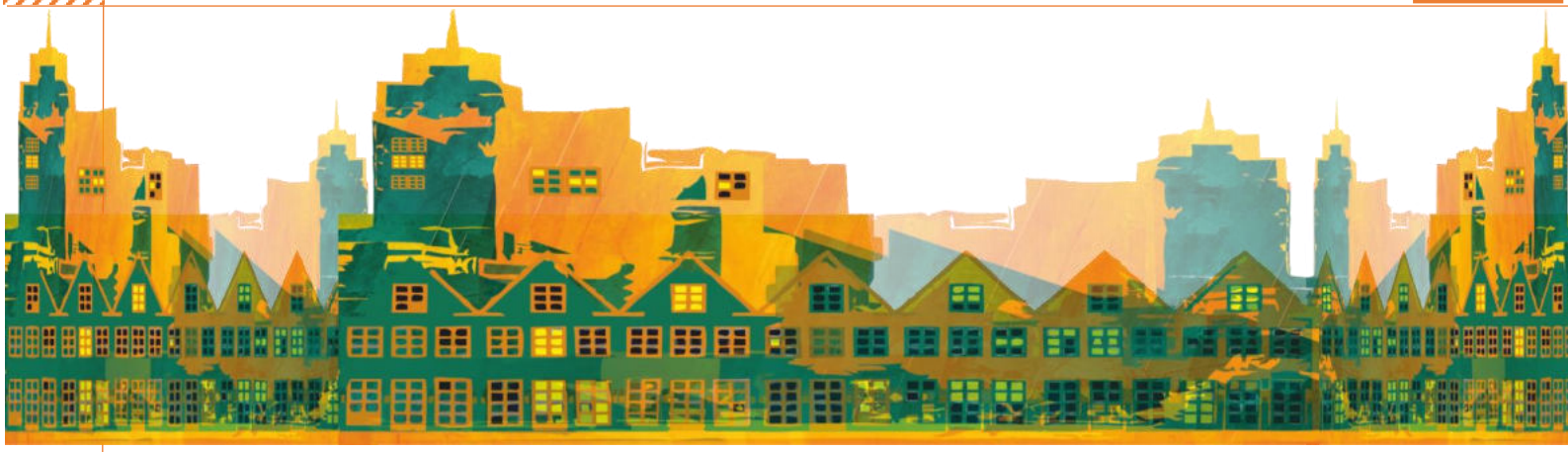
Connection terminals for busbar FORK

Cross section	Length connection	Connection way	Order code Grey		Order code Blue	
1x25 mm²	15mm	Front	**2115925031**	SFR-G2515	**2115925531**	SFR-B2515
1x25 mm²	15mm	Side	**2115925032**	SFS-G2515	**2115925532**	SFS-B2515



Connection terminals for busbar FORK

Cross section	Length connection	Connection way	Order code Grey		Order code Blue	
1x50mm²	15mm	Front	**2115950031**	SFR-G5015	**2115950531**	SFR-B5015
1x50 mm²	15mm	Side	**2115950032**	SFS-G5015	**2115950532**	SFS-B5015



Connection materials

AKN– Universal AL/CU terminal

General

The SEP AKN universal terminal block has been specially designed to provide the most versatile solution possible. For example, the terminals are standard equipped with connection covers, screw covers, label options and they can be linked together. The AKN terminal blocks are suitable for 1000VAC and 1500VDC voltages and are suitable for copper as aluminum connections.

CE

General parameters

Compact size
Quick and easy mounting on DIN-rail
Accessoires

Electrical parameters

Tested according	CU	EN 60947-7-1
	AL	EN 61238-1
Nominal voltage	Un	1000VAC / 1500VDC
Nominal current	CU	160A
	AL	145A
Isolation voltage	Ui	1000V
Material housing		Polyamide
Flammability class	UL-94	V0
Metal body		Tin-coated aluminum
Screw material		Nickel plated steel
Screws heads		Hexagonal 5mm
Cross section area	CU	2,5 mm² – 50 mm²
	AL	6 mm² – 50 mm²
Terminal class		T1
Connector class		A
Tightening torque		4Nm (2.5 mm² – 4 mm²)
		12Nm (6 mm² – 50 mm²)
Maximum operating temperature		80°C
Accessories		Markers

Mechanical parameters

Device width	17.5mm (21mm)
Device height	63.6mm
Device depth	43.5mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Storage temperature	-20°C + 60°C
Protection degree	IP20
Pollution degree	3
Weight	0,40 kg

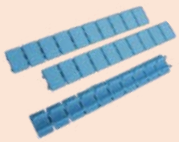
* The use of ferrules is recommended for installation with flexible conductors (Class 5, according to IEC228) with the mentioned cross-sections (single conductor installation).

AKN– Universal AL/CU terminal

1p - Universal AL/CU terminal Color	Order code	
Grey	**2110205011**	AKN-50-11
Blue / grey	**2110205012**	AKN-50-12
Yellow / green	**2110205013**	AKN-50-13
Red / grey	**2110205014**	AKN-50-14
Black / grey	**2110205015**	AKN-50-15

Marking strip for terminal (cover) Alphabetical		
Indication marker strip “L”	**2110109200**	CK-L
Indication marker strip “L1”	**2110109201**	CK-L1
Indication marker strip “L2”	**2110109202**	CK-L2
Indication marker strip “L3”	**2110109203**	CK-L3
Indication marker strip “N”	**2110109204**	CK-N
Indication marker strip “PE”	**2110109205**	CK-PE
Indication marker strip “PEN”	**2110109206**	CK-PEN
Indication marker strip “R”	**2110109210**	CK-R
Indication marker strip “S”	**2110109211**	CK-S
Indication marker strip “T”	**2110109212**	CK-T
Indication marker strip “U”	**2110109213**	CK-U
Indication marker strip “V”	**2110109214**	CK-V

Marking strip for terminal (cover) Number		
Indication marker strip “1”	**2110109101**	CK-N1
Indication marker strip “2”	**2110109102**	CK-N2
Indication marker strip “3”	**2110109103**	CK-N3
Indication marker strip “4”	**2110109104**	CK-N4
Indication marker strip “5”	**2110109105**	CK-N5
Indication marker strip “6”	**2110109106**	CK-N6
Indication marker strip “7”	**2110109107**	CK-N7
Indication marker strip “8”	**2110109108**	CK-N8
Indication marker strip “9”	**2110109109**	CK-N9
Indication marker strip “10”	**2110109110**	CK-N10



Marking strip for terminal (cover) Colors		
Indication marker strip WHITE	**2110109430**	CK-Blanc
Indication marker strip BLUE	**2110109410**	CK-BL
Indication marker strip RED	**2110109420**	CK-RD

Marking strip for terminal (cover) Symbols		
Indication marker strip EARTH	**2110109305**	CK-EARTH
Indication marker strip CIRCLED EARTH	**2110109306**	CK-CEARTH
Indication marker strip PLUS	**2110109300**	CK-PLUS
Indication marker strip MIN	**2110109204**	CK-MIN

CK – Universal AL/CU terminal

General

The SEP CK universal terminals can be used in a wide variety of applications. The wide range of cross section connection inside the terminals makes them very easy to use. The tin coated aluminum and the plastic separation makes sure that if AL and CU conductors are being applied at the same terminal that there will be no corrosion between the different materials. The compact size and fully isolated housing makes that they can be applied next to each other without use of any partition plates, or just as a separate terminal somewhere in the installation.

CE

General parameters

Compact size
Quick and easy mounting on DIN-rail
Accessoires

Electrical parameters

Tested according	CU	EN 60947-7-1
	AL	EN 61238-1
Nominal voltage	Un	600V
Nominal current	CU	85 – 425A
	AL	76 – 380A
Isolation voltage	Ui	800V
Material housing		Polyamide
Flammability class	UL-94	V0
Metal body		Tin-coated aluminum
Screw material		Tin-coated steel
Screws heads		Hexagonal
Cross section area	CU	1,5 mm² – 240 mm²
	AL	2,5 mm² – 240 mm²
Terminal class		T1

Mechanical parameters

Type	Nominal current CU	Nominal current AL	Hexagon screw	Conductor size*	Tightening torque
CK60	85A	76A	4 mm	1,5 mm² 2,5 – 6 mm² 10 – 16 mm²	1,5 Nm 3,5 Nm 7 Nm
CK1-35	135A	120A	4 mm	2,5 - 16 mm² 25 - 35 mm²	3 Nm 6 Nm
CK61, CK66, CK71, CK1-50	160A	145A	5 mm	2,5 – 4 mm² 6 - 50 mm²	4 Nm 12 Nm
CK62, CK67, CK72	245A	220A	5 mm	16 – 95 mm²	20 Nm
CK63, CK68, CK73	320A	290A	8 mm	35 – 95 mm² 120 – 150 mm²	20 Nm 30 Nm
CK64, CK69, CK74	425A	380A	8 mm	35 – 70 mm² 95 - 240 mm²	12 Nm 45 Nm

* The use of ferrules is recommended for installation with flexible conductors (Class 5, according to IEC228) with the mentioned cross-sections (single conductor installation).

CK – Universal AL/CU terminal

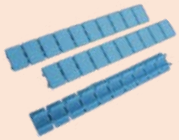
Order code

1.5mm2 – 16mm2 Color	1p (2 connections)		2p (4 connections)		3p (6 connections)	
Grey	**2110100600**	CK60				
Blue / grey	**2110100602**	CK60.2				
Yellow / green	**2110100603**	CK60.3				
2.5mm2 – 35mm2 Color						
Grey	**2110110350**	CK1-35	**2110120350**	CK2-35		
Blue / grey	**2110110352**	CK1-35.2	**2110120352**	CK2-35.2		
Yellow / green	**2110110353**	CK1-35.3	**2110120353**	CK2-35.3		
2.5mm2 – 50mm2 Color						
Grey	**2110100610**	CK61	**2110100660**	CK66	**2110100710**	CK71
Blue / grey	**2110100612**	CK61.2	**2110100662**	CK66.2	**2110100712**	CK71.2
Yellow / green	**2110100613**	CK61.3	**2110100663**	CK66.3	**2110100713**	CK71.3
16mm2 – 95mm2 Color						
Grey	**2110100620**	CK62	**2110100670**	CK67	**2110100720**	CK72
Blue / grey	**2110100622**	CK62.2	**2110100672**	CK67.2	**2110100722**	CK72.2
Yellow / green	**2110100623**	CK62.3	**2110100673**	CK67.3	**2110100723**	CK72.3
35mm2 – 150mm2 Color						
Grey	**2110100630**	CK63	**2110100680**	CK68	**2110100730**	CK73
Blue / grey	**2110100632**	CK63.2	**2110100682**	CK68.2	**2110100732**	CK73.2
Yellow / green	**2110100633**	CK63.3	**2110100683**	CK68.3	**2110100733**	CK73.3
35mm2 – 150mm2 Color						
Grey	**2110100640**	CK64	**2110100690**	CK69	**2110100740**	CK74
Blue / grey	**2110100642**	CK64.2	**2110100692**	CK69.2	**2110100742**	CK74.2
Yellow / green	**2110100643**	CK64.3	**2110100693**	CK69.3	**2110100743**	CK74.3

Phase distribution block CU conductor size		
2.5mm2 – 50mm2	**2110100614**	CK61.4

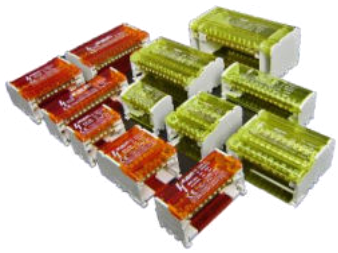
Distribution block CU conductor size		
2.5mm2 – 35mm2	**2110110357**	CK1-35.7
2.5mm2 – 50mm2	**2110110507**	CK1-50.7

CK – Universal AL/CU terminal



	Order code	
Terminal cover		
CK60 #		-
CK61#, CK66#, CK71#	**2110109030**	CK-50-C
CK62#, CK67#, CK72#	**2110109040**	CK-95-C
CK63#, CK68#, CK73#	**2110109050**	CK-150-C
CK64#, CK69#, CK74#	**2110109060**	CK-240-C
Marking strip for terminal (cover) Alphabetical		
Indication marker strip “L”	**2110109200**	CK-L
Indication marker strip “L1”	**2110109201**	CK-L1
Indication marker strip “L2”	**2110109202**	CK-L2
Indication marker strip “L3”	**2110109203**	CK-L3
Indication marker strip “N”	**2110109204**	CK-N
Indication marker strip “PE”	**2110109205**	CK-PE
Indication marker strip “PEN”	**2110109206**	CK-PEN
Indication marker strip “R”	**2110109210**	CK-R
Indication marker strip “S”	**2110109211**	CK-S
Indication marker strip “T”	**2110109212**	CK-T
Indication marker strip “U”	**2110109213**	CK-U
Indication marker strip “V”	**2110109214**	CK-V
Marking strip for terminal (cover) Number		
Indication marker strip “1”	**2110109101**	CK-N1
Indication marker strip “2”	**2110109102**	CK-N2
Indication marker strip “3”	**2110109103**	CK-N3
Indication marker strip “4”	**2110109104**	CK-N4
Indication marker strip “5”	**2110109105**	CK-N5
Indication marker strip “6”	**2110109106**	CK-N6
Indication marker strip “7”	**2110109107**	CK-N7
Indication marker strip “8”	**2110109108**	CK-N8
Indication marker strip “9”	**2110109109**	CK-N9
Indication marker strip “10”	**2110109110**	CK-N10
Marking strip for terminal (cover) Colors		
Indication marker strip WHITE	**2110109430**	CK-Blanc
Indication marker strip BLUE	**2110109410**	CK-BL
Indication marker strip RED	**2110109420**	CK-RD
Marking strip for terminal (cover) Symbols		
Indication marker strip EARTH	**2110109305**	CK-EARTH
Indication marker strip CIRCLED EARTH	**2110109306**	CK-CEARTH
Indication marker strip PLUS	**2110109300**	CK-PLUS
Indication marker strip MIN	**2110109204**	CK-MIN

Connection wiring box



General
The SEP BVT/CVT connection wiring boxes are mainly used to establish the distribution of circuits inside a distribution- control panel. Due to the transparent cover you can visual inspect the connections. The wire connections are carefully selected and are so placed that the highest possible filling rate can be achieved for 85% of the panel.

CE

General parameters

Connection box suitable for distribution circuits
Visual checking possible due to transparent cover
Insulating screen between each row
High filling rage

Electrical parameters

Complies with		IEC 60497-7-1601
Nominal voltage	Un	230/400VAC
Rated frequency		50/60Hz
Rated current	Ie	100A, 125A, 160A
Short time withstand	Icw	4.5kA, 6kA
Rated isolation voltage	Ui	500V
Rated impulse withstand current	Ipk	20kA
Operating temperature		-25°C + 85°C
Contact material		Brass
Isolation material		Thermoplastic
Flammability class		V0
Colors		Red / Yellow

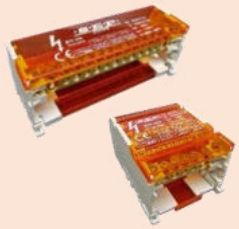
Mechanical parameters

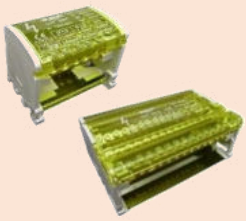
Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection	IP20
Installation class	II
Terminals	Screw
Storage temperature	-25°C + 85°C
Pollution degree	2

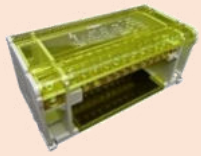
Mechanical parameters

Type	Width	Height	Depth	Weight
BVT-207	64mm	50mm	50mm	0,11kg
BVT-211	100mm	50mm	50mm	0,16kg
BVT-215	130mm	50mm	50mm	0,21kg
BVT-407	64mm	90mm	50mm	0,21kg
BVT-411	100mm	90mm	50mm	0,31kg
BVT-415	130mm	90mm	50mm	0,40kg
CVT-207	65mm	45.5mm	51mm	0,11kg
CVT-215	132mm	45.5mm	51mm	0,21kg
CVT-407	65mm	89.5mm	51mm	0,21kg
CVT-411	100mm	89.5mm	51mm	0,31kg
CVT-415	132mm	89.5mm	51mm	0,40kg
CVT-1411	167mm	90.5mm	70mm	0,74kg

Connection wiring box

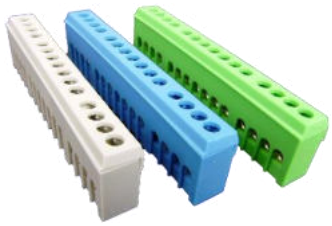






	Order code			
100A / 6kA number of connections	**2 Conductive row**		**4 Conductive row**	
7	**2112110207**	BVT-207	**2112110407**	BVT-407
11	**2112110211**	BVT-211	**2112110411**	BVT-411
15	**2112110215**	BVT-215	**2112110415**	BVT-415
125A / 4,5kA Number of connections				
7	**2112120207**	CVT-207	**2112120407**	CVT-407
11	**2112120215**	CVT-215	**2112120411**	CVT-411
15			**2112120415**	CVT-415
160A / 6kA Number of connections				
11			**2112121411**	CVT1411

LTB Terminal block bar



General
The SEP LTB termina block bar is mainly used to establish the connection from several wires to one line inside a distribution-control panel. Quick installation is achieved by clicking it on a 35mm device rail. Three available colors are available to maintain oversight of the wiring inside the panel.

CE

General parameters

Connection box suitable for distribution circuits	
Fully isolated	

Electrical parameters

Complies with		IEC 60497-7-1601
Nominal voltage	Un	250/450VAC
Rated frequency		50/60Hz
Rated current	Ie	63A
Rated isolation voltage	Ui	500V
Operating temperature		-25°C + 85°C
Contact material		Brass
Isolation material		Polyamide 66
Flammability class		V2
Colors		Grey / blue / green

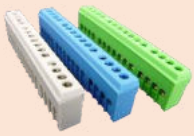
Mechanical parameters

Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection	IP20
Installation class	II
Terminals	Screw
Poles	7, 12, 15
Cross section	6 x 9 mm²
Cross section solid wire	2,5 mm² - 16 mm²
Cross section stranded wire	2,5 mm² - 10 mm²
Storage temperature	-25°C + 100°C
Pollution degree	3

Dimensions

Type	Width	Height	Depth	Weight
7 connections	35mm	53mm	26,3mm	
12 connections	35mm	88mm	26,3mm	
15 connections	35mm	108mm	26,3mm	

LTB Terminal block bar



Order code

Type number of connections	Grey		Blue		Green	
7	**2111000070**	LTB-G07	**2111000072**	LTB-BL07	**2111000073**	LTB-GR07
12	**2111000120**	LTB-G12	**2111000122**	LTB-BL12	**2111000123**	LTB-GR12
15	**2111000150**	LTB-G15	**2111000152**	LTB-BL15	**2111000153**	LTB-GR15

CPDB - Powerdistribution block

General
The SEP CPDB power distribution blocks are an economical solution and easy solution to make multiple connections through out an electrical board from a single source. There are several models available to meet your needs. The CPDB is easily mounted on a standard DIN35mm rail or directly on a mounting plate to the wall of the enclosure.

CE

General parameters

Slingle pole suitable for distribution circuits
Wire funneling till the screw connection
Finger safe connections
High filling rate

Electrical parameters

Complies with		IEC 60497-7-1
Nominal voltage	Un	690VAC
Rated frequency		50/60Hz
Rated current	Ie	125A, 150A, 160A, 192A, 250A, 400A
Short time withstand	Icw	4.5kA, 10kA, 11.8kA, 15kA, 24.5kA
Short-Circuit Current Rating		100kA
Operating temperature		-55°C + 110°C
Contact material		Brass
Isolation material		Polyamide
Flammability class		V0

Mechanical parameters

Mounting	Easy fastening onto 35mm device rail (DIN)
Degree of protection	IP20
Installation class	II
Terminals	Screw
Storage temperature	-55°C + 110°C
Pollution degree	2

Mechanical parameters

Type	Width	Height	Depth	Weight
CPDB160	35mm	72mm	50mm	
CPDB250	45mm	78mm	50mm	
CPDB400	45mm	78mm	50mm	
CPDB125/4	16mm	81mm	50mm	
CPDB125/9	16mm	81mm	50mm	
CPDB150/4	24mm	81mm	50mm	
CPDB150/6	24mm	81mm	50mm	
CPDB192/6	32mm	81mm	50mm	
CPDB192/8	32mm	81mm	50mm	
CPDB192/12	32mm	81mm	50mm	
CPDB192/82	32mm	81mm	50mm	

CPDB - Powerdistribution

CPDB – DIN-rail distribution block

Inom	*Icu*	*Connections*	*Rigid*	*Stranded*	**Order code**	
160A	11,8kA	7	1x 10-70mm² 6x 2,5-16mm²	1x 10-70mm² 6x 1,5-16mm²	2112100160	CPDB160
250A	24,5kA	12	1x 35-120mm² 4x 2,5-10mm² 5x 2,5-16mm² 2x 6-25mm²	1x 35-95mm² 4x 1,5-10mm² 5x 1,5-16mm² 2x 2,5-25mm²	**2112100250**	CPDB250
400A	24,5kA	12	1x 35-185mm² 4x 2,5-10mm² 5x 2,5-16mm² 2x 6-25mm²	1x 35-150mm² 4x 1,5-10mm² 5x 1,5-16mm² 2x 2,5-25mm²	**2112100400**	CPDB400

CPDB – DIN-rail / mounting plate distribution block

Inom	*Icu*	*Connections*	*Rigid*	*Stranded*		
125A	4,5kA	5	1x 10-35mm² 4x 2,5-10mm²	1x 10-35mm² 4x 1,5-6mm²	**2112101254**	CPDB125/4
125A	4,5kA	10	1x 10-35mm² 9x 1-4mm²	1x 10-35mm² 9x 0,5-1mm²	**2112101259**	CPDB125/9
150A	10kA	5	1x 16-50mm² 4x 4-16mm²	1x 16-50mm² 4x 1,5-6mm²	**2112101504**	CPDB150/4
150A	10kA	7	1x 16-50mm² 6x 2,5-110mm²	1x 16-50mm² 6x 1,5-6mm²	**2112101506**	CPDB150/6
192A	15kA	7	1x 25-70mm² 6x 4-16mm²	1x 25-70mm² 6x 1,5-6mm²	**2112101926**	CPDB192/6
192A	15kA	9	1x 25-70mm² 8x 2,5-10mm²	1x 25-70mm² 8x 1,5-6mm²	**2112101928**	CPDB192/8
192A	15kA	13	1x 25-70mm² 12x 1,5-6mm²	1x 25-70mm² 12x 1-2,5mm²	**2112101922**	CPDB192/12
192A	15kA	10	2x 25-70mm² 8x 2,5-10mm²	2x 25-70mm² 8x 1,5-6mm²	**2112101929**	CPDB192/82

CPDB color label

Color	Size	Using		
Yellow	L1	CPDB125	**2112109901**	CPDB-L1-Y
Green	L1	CPDB125	**2112109902**	CPDB-L1-G
Red	L1	CPDB125	**2112109903**	CPDB-L1-R
Blue	L1	CPDB125	**2112109904**	CPDB-L1-B
Yellow/Green	L1	CPDB125	**2112109905**	CPDB-L1-YG
Yellow	L2	CPDB150 / CPDB192	**2112109911**	CPDB-L2-Y
Green	L2	CPDB150 / CPDB192	**2112109912**	CPDB-L2-G
Red	L2	CPDB150 / CPDB192	**2112109913**	CPDB-L2-R
Blue	L2	CPDB150 / CPDB192	**2112109914**	CPDB-L2-B
Yellow/Green	L2	CPDB150 / CPDB192	**2112109915**	CPDB-L2-YG

MDB-16 – Connective distributionblock

General
The SEP MDB-16 power distribution block can be used as direct mounting solution on a MCCB or an main-switch. The MDB-16 is mainly used to establish the distribution of circuits inside a distribution- control panel. Each pole can be wired individually or combined as a full block. The high filling rate and wire size possibility of each pole makes it a time saving product..

CE

General parameters

Direct mounting on MCCB or Switch possible
Stand-alone possibility with additional covers
High current block up to 320A

Technical parameters

Tested according		IEC-60947-7-1
Poles		1
Connections		12 x 16mm² (each pole)
Rated voltage	Ue	690V AC
Rated current	Ie	320A at 40°C
Rated short current	Icw	8,5kA (1 sec)
Peek current	Ipk	30kA
Impulse withstand	Uimp	8kV
Operation temperature		-25°C + 55°C
Connection cover		Yes
Isolation material		Thermoplastic
Flammability class		V0

Mechanical parameters

Width	145 mm
Height	85 mm
Depth	120 mm
Mounting	Easy fastening onto 35mm device rail (DIN)
Direct mounting	Feed in terminal 120mm²
Degree of protection	IPxx
Minimum cross section solid	4 mm²
Maximum cross section solid	16 mm²
Minimum cross section stranded	4 mm²
Maximum cross section stranded	16 mm²
Torque	4 Nm
Terminals	Screw
Storage temperature	-25°C + 70°C
Overvoltage category	III
Pollution degree	3
Weight	0,946 kg

MDB-16 – Connective distributionblock

Description	Order code	
Connective distribution block	**2112200160**	MDB-16

Description		
Connection covers	**2112200010**	MDB-C

General
The variety of connection wires makes installation of products fast and easy. The high temperature resistance of the isolation material of 105°C and the fully enclosed cord-end makes the product a solid solution for you installation.

CE

General parameters

Single conductors
High temperature rise for isolation
Wide range of standard wire sizes

Technical parameters

Complies with		NEN-EN-IEC 61439 / H07V2-K
Nominal voltage	Un	450/750V
Material		CU
Conductor class		Class 5 (flexibile)
Number of conductors		1
Isolation material		Polyvinylchloride (PVC)
Type terminal		Non-insulated cord-end (fully enclosed)
Maximum temperature of the isolation after mounting without vibration		+5°C + 105°C
Fire retardant		According IEC/EN 60332-1-2
Halogen free		No
Diameter		2,5mm², 4mm², 6mm², 10mm², 16mm²
Length		Standard sizes
Isolation color		Blue / Brown / Black / Grey / Green-yellow

Connection wires

	Order code				
Blue length mm	**2,5mm²**	**4mm²**	**6mm²**	**10mm²**	**16mm²**
90	**2560030901**	**2560040901**	**2560060901**	**2560100901**	
125	**2560031251**	**2560041251**	**2560061251**	**2560101251**	
185	**2560031851**	**2560041851**	**2560061851**	**2560101851**	
250	**2560032501**	**2560042501**	**2560062501**	**2560102501**	
265	**2560032651**	**2560042651**	**2560062651**	**2560102651**	
350	**2560033501**	**2560043501**	**2560063501**	**2560103501**	**2560163501**
500	**2560035001**	**2560045001**	**2560065001**	**2560105001**	**2560165001**
675	**2560036751**		**2560066751**	**2560106751**	**2560166751**
800	**2560038001**		**2560068001**	**2560108001**	**2560168001**
900	**2560039001**		**2560069001**	**2560109001**	**2560169001**
Brown					
90	**2560030902**	**2560040902**	**2560060902**	**2560100902**	
125	**2560031252**	**2560041252**	**2560061252**	**2560101252**	
185	**2560031852**	**2560041852**	**2560061852**	**2560101852**	
250	**2560032502**	**2560042502**	**2560062502**	**2560102502**	
265	**2560032652**	**2560042652**	**2560062652**	**2560102652**	
350	**2560033502**	**2560043502**	**2560063502**	**2560103502**	**2560163502**
500	**2560035002**	**2560045002**	**2560065002**	**2560105002**	**2560165002**
675	**2560036752**		**2560066752**	**2560106752**	**2560166752**
800	**2560038002**		**2560068002**	**2560108002**	**2560168002**
900	**2560039002**		**2560069002**	**2560109002**	**2560169002**
Black					
90	**2560030900**	**2560040900**	**2560060900**	**2560100900**	
125	**2560031250**	**2560041250**	**2560061250**	**2560101250**	
185	**2560031850**	**2560041850**	**2560061850**	**2560101850**	
250	**2560032500**	**2560042500**	**2560062500**	**2560102500**	
265	**2560032650**	**2560042650**	**2560062650**	**2560102650**	
350	**2560033500**	**2560043500**	**2560063500**	**2560103500**	**2560163500**
500	**2560035000**	**2560045000**	**2560065000**	**2560105000**	**2560165000**
675	**2560036750**		**2560066750**	**2560106750**	**2560166750**
800	**2560038000**		**2560068000**	**2560108000**	**2560168000**
900	**2560039000**		**2560069000**	**2560109000**	**2560169000**
Grey					
90	**2560030904**	**2560040904**	**2560060904**	**2560100904**	
125	**2560031254**	**2560041254**	**2560061254**	**2560101254**	
185	**2560031854**	**2560041854**	**2560061854**	**2560101854**	
250	**2560032504**	**2560042504**	**2560062504**	**2560102504**	
265	**2560032654**	**2560042654**	**2560062654**	**2560102654**	
350	**2560033504**	**2560043504**	**2560063504**	**2560103504**	**2560163504**
500	**2560035004**	**2560045004**	**2560065004**	**2560105004**	**2560165004**
675	**2560036754**		**2560066754**	**2560106754**	**2560166754**
800	**2560038004**		**2560068004**	**2560108004**	**2560168004**
900	**2560039004**		**2560069004**	**2560109004**	**2560169004**
Green/Yellow					
90	**2560030903**	**2560040903**	**2560060903**	**2560100903**	
125	**2560031253**	**2560041253**	**2560061253**	**2560101253**	
185	**2560031853**	**2560041853**	**2560061853**	**2560101853**	
250	**2560032503**	**2560042503**	**2560062503**	**2560102503**	
265	**2560032653**	**2560042653**	**2560062653**	**2560102653**	
350	**2560033503**	**2560043503**	**2560063503**	**2560103503**	**2560163503**
500	**2560035003**	**2560045003**	**2560065003**	**2560105003**	**2560165003**
675	**2560036753**		**2560066753**	**2560106753**	**2560166753**
800	**2560038003**		**2560068003**	**2560108003**	**2560168003**
900	**2560039003**		**2560069003**	**2560109003**	**2560169003**

KAM – Wiring bridge

General
The wiring bridges is being used to connect different rows of MCB's and RCCB's within a distribution board. These bridges are designed for 3 phase and 3 phase with neutral (left or right side) systems. Using a wiring bridge between the rows makes the distribution board more clear and is time efficient.

CE

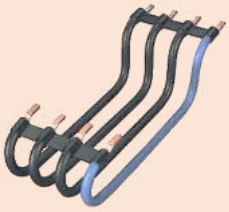
General parameters

Multifunctional bridge
Distribution board row distance 125mm and 150mm
MCB/RCCB row connecting

Technical parameters

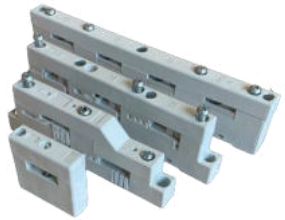
Complies with		NEN-EN-IEC 61439 / H07V2-K
Nominal voltage	Un	450/750V
Nominal current	In	63A
Material		CU
Number of poles		3 or 4 (3+n)
Isolation material		Polyvinylchloride (PVC)
Diameter		10mm²
Bridge distance		125mm or 150mm
Type terminal		Non-insulated PIN
Maximum temperature of the isolation after mounting without vibration		+5°C + 90°C
Surge voltage		4kV
Fire retardant		According IEC/EN 60332-1-2
Halogen free		No

LBS - Busbar holder



Wire bridge Number of poles		Order code 125mm		150mm	
3		**2570031250**	KAM-3125	**2116010001**	KAM-3150
4	Neutral left side	**2570041250**	KAM-4L125	**2570041500**	KAM-4L150
4	Neutral right side	**2570041251**	KAM-4R125	**2570041501**	KAM-4R150

LBS - Busbar holder



General
SEP LBS bus-bar holder has been developed to hold a wide range copper busbar sizes. The system is widely used in low-voltage electricity supply as distribution rail for industrial and building applications.

CE

General parameters

Glass fiber-reinforced thermoplastic polyester
High working temperature of 140°C
Flammability class V0

Technical parameters

Complies with		VDE 0660 / IEC 439
Max. nominal voltage	Un	1000VAC
Max. nominal current	In	800A
Rated frequency		50/60Hz
Number of poles		1, 2, 3 and 4
Centre distance of poles		60mm
Material		Glass fiber-reinforced thermoplastic polyester
Flammability class	UL94	V0
Short-circuit		Distance between holders according IEC 439

Mechanical parameters

		1p	2, 3, 4p
Busbar size		30x10mm	20x5mm – 20x10mm
			25x5mm – 25x10mm
			30x5mm – 30x10mm
Tightening torque	Mounting screw	5-8Nm	3-5Nm
	Cover screw	1-3Nm	1-3Nm

Dimensions

Type	Width	Height	Depth	Weight
1p	18mm	60mm	56mm	
2p	20mm	168mm	56mm	
3p	20mm	218.5mm	56mm	
4p	20mm	267mm	56mm	

LBS - Busbar holder

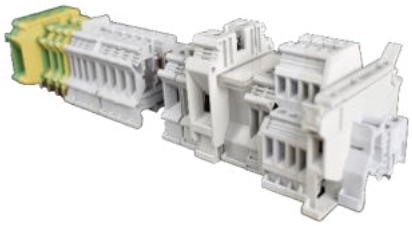
Type Number of poles		Order code	
1	(2pcs)	**2116010001**	LBS-1
2	(2pcs)	**2116010002**	LBS-2
3	(2pcs)	**2116010003**	LBS-3
4	(2pcs)	**2116010004**	LBS-4

Rail clamp – 5mm busbar

Diameter	Inom (A)	Torque	Width	Order code	
1,5 – 16 mm²	98A	3Nm		**2116000160**	KK16-5
2,5 – 35 mm²	158A	8Nm		**2116000350**	KK35-5
16 – 70 mm²	245A	16Nm		**2116000700**	KK70-5
16 – 120 mm²	344A	24Nm		**2116001200**	KK120-5
35 – 185 mm²	448A	24Nm		**2116001850**	KK185-5

Rail clamp – 10mm busbar

Diameter	Inom (A)	Torque	Width	Order code	
1,5 – 16 mm²	98A	3Nm		**2116000161**	KK16-10
2,5 – 35 mm²	158A	8Nm		**2116000351**	KK35-10
16 – 70 mm²	245A	16Nm		**2116000701**	KK70-10
16 – 120 mm²	344A	24Nm		**2116001201**	KK120-10
35 – 185 mm²	448A	24Nm		**2116001851**	KK185-10



General
SEP XTB1 series terminals are equipped with a universal type of mounting feet and can be installed on different types of rails. The enclosed terminal screw hole guarantees ideal operation of the screwdriver. Accessories are available like bridges, markers and end-stopper to prevent moving of the terminals on the rails.

CE

General parameters

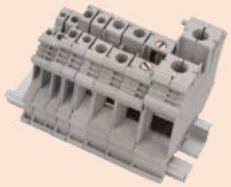
Installation terminal blocks with particularly low design for use in distribution boxes
High working temperature of 105°C
Flammability class V0

Technical parameters

Tested according		IEC 60947-7-1
Rated voltage	Ue	800V (except XTB1-1.5 – 660V)
Number of rows		1
Number of connections each row		2
Connection type		Screw
		U type, G type and 35mm rail
Overvoltage category		III
Operational temperature		-5°C … 70°C
Operational temperature (max. short time)		-60°C … 105°C
Material		PA
Flammability class	UL94	V0
Color		Grey
Storage temperature		-25°C … 60°C
Humidity		30% … 70%
Installation class		III
Pollution degree		3

Mechanical parameters	Cross sectional	Screw type	Torque
XTB1-1.5N	1,5mm²	M2.5	0.22-0.25 Nm
XTB1-2.5N, XTB1-K3, XTB1-5-HESI, XTB1-SLG2.5	2,5mm²	M3	0.5-0.7 Nm
XTB1-3N, XTB1-5N, XTB1-K5, XTB1-SLG5	4mm²	M3	0.5-0.7 Nm
XTB1-5-TWIN	4mm	M3	0.6-0.8 Nm
XTB1-6N, XTB1-SLG6	6mm²	M3	1.5-1.8 Nm
XTB1-10N, XTB1-SLG10	10mm²	M3	1.5-1.8 Nm
XTB1-16N, XTB1-SLG16	16mm²	M4	1.5-1.8 Nm
XTB1-35N, XTB1-SLG35	35mm²	M4	3.2-3.7 Nm

XTB1 - terminals



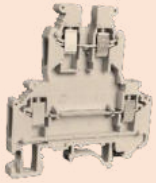
Connection terminal

Conductor diameter (mm²) Solid	Stranded	Inom (A)	Dimensions (mm) H	W	D	Size	Order code	
0.14…1.5	0.14…1	17.5	42.5	4.2	40.5	4	**2011000150**	XTB1-1.5N
1…4	1…2.5	32	42.5	6.2	42	6	**2011000250**	XTB1-2.5N
0.2…6	0.2…4	32	42.5	5.2	47	5	**2011000300**	XTB1-3N
0.25…6	0.25…4	41	42.5	6.2	47	6	**2011000500**	XTB1-5N
0.5…10	0.5…6	57	42.5	8.2	47	8	**2011000600**	XTB1-6N
0.5…16	1.5…10	76	42.5	10.2	47	10	**2011001000**	XTB1-10N
2.5…25	4…16	101	42.5	12.5	54	10	**2011001600**	XTB1-16N
0.75..50	0.75…35	125	50.5	152	61	10	**2011003500**	XTB1-35N

** Terminal markers should be chosen according to the indicated size*

Twin terminal

Conductor diameter (mm²) Solid	Stranded	Inom (A)	Dimensions (mm) H	W	D	Size	Order code	
0.2…4	0.2…4	32	50.5	6.2	47	6	**2013000500**	XTB1-5-TWIN



Double layer terminal

Conductor diameter (mm²) Solid	Stranded	Inom (A)	Dimensions (mm) H	W	D	Size	Order code	
0.2…4	0.2…2.5	25	56.5	5.2	1	5	**2012000300**	XTB1-K3
1.5…4	1.5…4	32	56.5	6.2	61	6	**2012000500**	XTB1-K5

Fuse terminal

Conductor diameter (mm²) Solid	Stranded	Inom (A)	Dimensions (mm) H	W	D	Size	Order code	
0.2…4	0.2…2.5	6.3	72.5	8.2	56	6	**2014000500**	XTB1-5-HESI

Other terminals

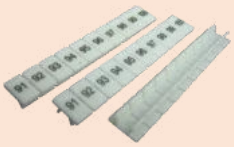
Description	Dimensions (mm) H	W	D	Order code	
End stopper	43	9	36	**2019000010**	XTB1-E/UK
Marker plate	43	9.5	5.5	**2019000020**	XTB1-UBE/D

Accessoires

Terminal type	Order code End-cover 	Group separator 	Central type connector 	Central type separator 
XTB1-1.5N	**2011100150**	**2011200010**	**2019301004**	**2011400010**
XTB1-2.5N	**2011100250**	**2011200010**	**2019301006**	**2011400010**
XTB1-3N	**2011100410**	**2011200010**	**2019301005**	**2011400010**
XTB1-5N	**2011100410**	**2011200010**	**2019301006**	**2011400010**
XTB1-6N	**2011100410**	**2011200010**	**2019301008**	**2011400010**
XTB1-10N	**2011100410**	**2011200010**	**2019301010**	**2011400010**
XTB1-16N			**2019301012**	**2011400010**
XTB1-K3	**2012100350**	**2012200010**	**2019301006**	**2012400010**
XTB1-K5	**2012100350**	**2012200010**	**2019301006**	**2012400010**
XTB1-5-TWIN	**2013100500**		**2019301006**	**2011400010**

Earth-terminal Conductor diameter (mm²) Solid	Stranded	Dimensions (mm) H	W	D	Size	Order code	
1... 4	1...2.5	42.5	6.2	47	6	**2015000250**	XTB1-SLG2.5
0.2... 6	0.2...4	42.5	5.2	47	5	**2015000500**	XTB1-SLG5
0.25...6	0.25...6	42.5	8.2	47	8	**2015000600**	XTB1-SLG6
0.5...16	0.5...10	42.5	10.2	47	10	**2015001000**	XTB1-SLG10
2.5...25	4...16	42.5	12.2	54	10	**2015001600**	XTB1-SLG16
0.75...50	0.75...35	50.5	15.2	62	10	**2015003500**	XTB1-SLG35

Marking strip for terminal Alphabetical	Order code Size 5	Size 6	Size 8	Size 10
Indication marker strip “L1”	**2019805001**	**2019806001**	**2019808001**	**2019810001**
Indication marker strip “L2”	**2019805002**	**2019806002**	**2019808002**	**2019810002**
Indication marker strip “L3”	**2019805003**	**2019806003**	**2019808003**	**2019810003**
Indication marker strip “N”	**2019805004**	**2019806004**	**2019808004**	**2019810004**
Indication marker strip “PE”	**2019805005**	**2019806005**	**2019808005**	**2019810005**
Indication marker strip “PEN”		**2110109206**		
Indication marker strip “R”		**2110109210**		
Indication marker strip “S”		**2110109211**		
Indication marker strip “T”		**2110109212**		
Indication marker strip “U”		**2110109213**		
Indication marker strip “V”		**2110109214**		
Indication marker strip “L”		**2110109200**		



Marker strip for terminal Numbers				
Indication marker “1..10”	**2019805010**	**2019806010**	**2019808010**	**2019810010**
Indication marker “11..20”	**2019805020**	**2019806020**	**2019808020**	**2019810020**
Indication marker “21..30”	**2019805030**	**2019806030**	**2019808030**	**2019810030**
Indication marker “31.40”	**2019805040**	**2019806040**	**2019808040**	**2019810040**
Indication marker “41.50”	**2019805050**	**2019806050**	**2019808050**	**2019810050**
Indication marker “51.60”	**2019805060**	**2019806060**	**2019808060**	**2019810060**
Indication marker “61.70”	**2019805070**	**2019806070**	**2019808070**	**2019810070**
Indication marker “71.80”	**2019805080**	**2019806080**	**2019808080**	**2019810080**
Indication marker “81.90”	**2019805090**	**2019806090**	**2019808090**	**2019810090**
Indication marker “91.100”	**2019805100**	**2019806100**	**2019808100**	**2019810100**

Marking strip for terminal Colors				
Indication marker strip WHITE	**2019805000**	**2019806000**	**2019808000**	**2019810000**
Indication marker strip BLUE	**2019805007**	**2019806007**	**2019808007**	**2019810007**
Indication marker strip RED	**2019805006**	**2019806006**	**2019808006**	**2019810006**

Marking strip for terminal Symbols				
Indication marker strip EARTH		**2110109305**		
Indication marker strip CIRCLED EARTH		**2110109306**		
Indication marker strip PLUS		**2110109300**		
Indication marker strip MIN		**2110109204**		

IH(T)- Wire end sleeves (ferrules)

General
SEP ferrules are used for situations where the cable comes to an end, for example in an electrical installation or a crown strip. If the loose wires of a stripped cable are not bundled with and protected by a ferrule, there is a chance that the copper wires will be damaged. The SEP ferrules are coming in a variety of sizes.

CE

General parameters

With and without protective sleeve
Wide variety of sizes

Technical parameters

Complies with	DIN 46228
Material	E-Cu / Polypropylene
Surface	Tin-plated
Minimum thickness of tin coating	3 µm
Maximum temperature	105°C

IH(T)- Wire end sleeves (ferrules)

Single - Wire and sleeve (ferrule)

Cross section	Color	Length	Total length	Pack	Order code	
0,14 mm²	Grey	6 mm	10 mm	500 pcs	**2540100014**	IH-0.14
0,25 mm2	Yellow	6 mm	10 mm	500 pcs	**2540100025**	IH-0.25
0,34 mm2	Turquoise	6 mm	10 mm	500 pcs	**2540100034**	IH-0.34
0,5 mm2	White	8 mm	14 mm	500 pcs	**2540100050**	IH-0.5
0,75 mm2	Grey	8 mm	14 mm	500 pcs	**2540100075**	IH-0.75
1 mm2	Red	8 mm	14 mm	500 pcs	**2540100100**	IH-1
1,5 mm2	Black	8 mm	14 mm	500 pcs	**2540100150**	IH-1.5
2,5 mm2	Blue	8 mm	15 mm	100 pcs	**2540100250**	IH-2.5
4 mm2	Grey	10 mm	17 mm	100 pcs	**2540100400**	IH-4
6 mm2	Yellow	12 mm	20 mm	100 pcs	**2540100600**	IH-6
10 mm2	Red	12 mm	21 mm	100 pcs	**2540101000**	IH-10
16 mm2	Blue	12 mm	23 mm	100 pcs	**2540101600**	IH-16
25 mm2	Yellow	16 mm	29 mm	50 pcs	**2540102500**	IH-25
35 mm2	Red	16 mm	30 mm	50 pcs	**2540103500**	IH-35
50 mm2	Blue	20 mm	36 mm	50 pcs	**2540105000**	IH-50
70 mm2	Yellow	20 mm	37 mm	25 pcs	**2540107000**	IH-70
95 mm2	Red	25 mm	44 mm	25 pcs	**2540109500**	IH-95
120 mm2	Blue	27 mm	48 mm	25 pcs	**2540112000**	IH-120
150 mm2	Yellow	32 mm	58 mm	25 pcs	**2540115000**	IH-150

Twin - Wire and sleeve (ferrule)

Cross section	Color	Length	Total length	Pack		
0,5 mm2	White	8 mm	15 mm	500 pcs	**2540200050**	IHT-0.5
0,75 mm2	Grey	8 mm	15 mm	500 pcs	**2540200075**	IHT-0.75
1 mm2	Red	8 mm	15 mm	500 pcs	**2540200100**	IHT-1
1,5 mm2	Black	8 mm	16 mm	500 pcs	**2540200150**	IHT-1.5
2,5 mm2	Blue	10 mm	18.5 mm	250 pcs	**2540200250**	IHT-2.5
4 mm2	Grey	12 mm	23 mm	100 pcs	**2540200400**	IHT-4
6 mm2	Yellow	14 mm	25 mm	100 pcs	**2540200600**	IHT-6
10 mm2	Red	14 mm	26 mm	100 pcs	**2540201000**	IHT-10
16 mm2	Blue	16 mm	31 mm	50 pcs	**2540201600**	IHT-16

Uninsulated - Wire ferrule

Cross section	Length	Total length	Pack		
2,5 mm2	10 mm	10 mm	1000 pcs	**2540002510**	OH-2.5
6 mm2	10 mm	10 mm	1000 pcs	**2540006010**	OH-6
10 mm2	12 mm	12 mm	500 pcs	**2540010012**	OH-10
16 mm2	12 mm	12 mm	250 pcs	**2540016012**	OH-16
25 mm2	15 mm	15 mm	100 pcs	**2540025015**	OH-25
35 mm2	18 mm	18 mm	100 pcs	**2540035018**	OH-35
70 mm2	25 mm	25 mm	100 pcs	**2540070025**	OH-70
95 mm2	25 mm	25 mm	100 pcs	**2540095025**	OH-95

General
The SEP cable lugs, butt connectors and pin connectors are ideal for control and distribution cabinets construction. The lugs are suitable for multistranded round and sector shaped copper conductors. The surface protection is tin plated against corrosion. During the production process the products are tempered for increased strength and durability.

CE

General parameters

Tempering of the cable lugs during the production process provides easy and more practical usage
Cable lugs are reheated at 700 degrees so that they do not break after the crimping process.

Technical parameters

Complies with	DIN 46228
Material	Copper (EN 13600)
Surface	Tin-plated
Conductor material	CU (copper)
Conductor type	Class 2 (DIN EN 60228)
Vibration tested	1B (DIN EN 61373)
Inspection hole	No

CLUG – cable lugs, pin and butt connectors

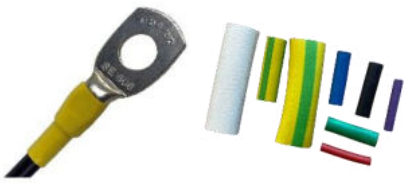
	Order code					
6mm² bolt Ø	**180° (horizontal)**		**45°**		**90°**	
M6	**2400000606**	SE0000606				
M8	**2400000608**	SE0000608				
10mm²						
M5	**2400001005**	SE0001005	**2400101005**	SE4501005	**2400201005**	SE9001005
M6	**2400001006**	SE0001006	**2400101006**	SE4501006	**2400201006**	SE9001006
M8	**2400001008**	SE0001008	**2400101008**	SE4501008	**2400201008**	SE9001008
M10	**2400001010**	SE0001010				
16mm²						
M5	**2400001605**	SE0001605				
M6	**2400001606**	SE0001606	**2400101606**	SE4501606	**2400201606**	SE9001606
M8	**2400001608**	SE0001608	**2400101608**	SE4501608	**2400201608**	SE9001608
M10	**2400001610**	SE0001610	**2400101610**	SE4501610	**2400201610**	SE9001610
M12	**2400001612**	SE0001612				
25mm²						
M5	**2400002505**	SE0002505				
M6	**2400002506**	SE0002506	**2400102506**	SE4502506	**2400202506**	SE9002506
M8	**2400002508**	SE0002508	**2400102508**	SE4502508	**2400202508**	SE9002508
M10	**2400002510**	SE0002510	**2400102510**	SE4502510	**2400202510**	SE9002510
M12	**2400002512**	SE0002512				
35mm²						
M6	**2400003506**	SE0003506	**2400103506**	SE4503506	**2400203506**	SE9003506
M8	**2400003508**	SE0003508	**2400103508**	SE4503508	**2400203508**	SE9003508
M10	**2400003510**	SE0003510	**2400103510**	SE4503510	**2400203510**	SE9003510
M12	**2400003512**	SE0003512				
50mm²						
M6	**2400005006**	SE0005006	**2400105006**	SE4505006	**2400205006**	SE9005006
M8	**2400005008**	SE0005008	**2400105008**	SE4505008	**2400205008**	SE9005008
M10	**2400005010**	SE0005010	**2400105010**	SE4505010	**2400205010**	SE9005010
M12	**2400005012**	SE0005012	**2400105012**	SE4505012	**2400205012**	SE9005012
M14	**2400005014**	SE0005014				
70mm²						
M6	**2400007006**	SE0007006				
M8	**2400007008**	SE0007008	**2400107008**	SE4507008	**2400207008**	SE9007008
M10	**2400007010**	SE0007010	**2400107010**	SE4507010	**2400207010**	SE9007010
M12	**2400007012**	SE0007012	**2400107012**	SE4507012	**2400207012**	SE9007012
M14	**2400007014**	SE0007014				
M16	**2400007016**	SE0007016				
95mm²						
M8	**2400009508**	SE0009508	**2400109508**	SE4509508	**2400209508**	SE9009508
M10	**2400009510**	SE0009510	**2400109510**	SE4509510	**2400209510**	SE9009510
M12	**2400009512**	SE0009512	**2400109512**	SE4509512	**2400209512**	SE9009512
M14	**2400009514**	SE0009514				
M16	**2400009516**	SE0009516				

120mm² bolt Ø	Order code Straight		45°	90°
M8	**2400012008**	SE0012008		
M10	**2400012010**	SE0012010		
M12	**2400012012**	SE0012012		
M14	**2400012014**	SE0012014		
M16	**2400012016**	SE0012016		
150mm²				
M8	**2400015008**	SE0015008		
M10	**2400015010**	SE0015010		
M12	**2400015012**	SE0015012		
M14	**2400015014**	SE0015014		
M16	**2400015016**	SE0015016		
185mm²				
M10	**2400018510**	SE0018510		
M12	**2400018512**	SE0018512		
M14	**2400018514**	SE0018514		
M16	**2400018516**	SE0018516		
240mm²				
M10	**2400024010**	SE0024010		
M12	**2400024012**	SE0024012		
M14	**2400024014**	SE0024014		
M16	**2400024016**	SE0024016		
M20	**2400024020**	SE0024020		

PIN type Cross-Section	pin length	Order code	
10mm²	12mm	**2400501012**	SES001012
16mm²	13mm	**2400501613**	SES001613
25mm²	15mm	**2400502515**	SES002515
35mm²	20mm	**2400503520**	SES003520
50mm²	20mm	**2400505020**	SES005020
70mm²	25mm	**2400507025**	SES007025
95mm²	25mm	**2400509525**	SES009525

Butconnector Cross-Section	length	Order code	
10mm²	30,5mm	2400601000	SEB010030
16mm²	35mm	2400601600	SEB016035
25mm²	40mm	2400602500	SEB025040
35mm²	45mm	2400603500	SEB035045
50mm²	50mm	2400605000	SEB050050
70mm²	55mm	2400607000	SEB070055
95mm²	60mm	2400609500	SEB095060
120mm²	54mm	2400601000	SEB120065

TA – stretch tulle



General
The SEP TA conductor tulle are made of neoprene and can be stretched up to 5x the diameter. General purpose of these items is to give a color marking of the conductor. This stretch tulle is being placed on both ends of the conductor connection with cable lug.

CE

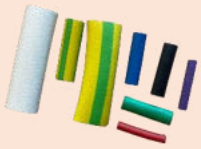
General parameters

Tempering of the cable lugs during the production process provides easy and more practical usage
Cable lugs are reheated at 700 degrees so that they do not break after the crimping process.

Technical parameters

Material		Polychloroprene rubber (neoprene)
Shore A hardness		40 ±5
Tear resistance		>6,5 MPa
Max. elongation before break		>500 %
Tensile strength		>10 kN/m
Dielectric constant		>13 kV/mm
Cross resistance		$4x10^9$ Ω.cm
Fire resistance	UL94	V0
Operating temperature continuous		30 tot +90°C
Operating temperature temporarily peak		110°C

TA – stretch tulle



Color	Order code A1 Ø 1,75…3.5mm	A2 Ø 3…6mm	A3 Ø 5…9mm	A4 Ø 7,5…12mm	A5 Ø 10…15mm	A8 Ø 12…20mm
Black	**2490000100**	**2490000200**	**2490000300**	**2490000400**	**2490000500**	**2490000800**
Blue	**2490000101**	**2490000201**	**2490000301**	**2490000401**	**2490000501**	**2490000801**
Brown	**2490000102**	**2490000202**	**2490000302**			
Yellow/green	**2490000103**	**2490000203**	**2490000303**	**2490000403**	**2490000503**	**2490000803**
Grey	**2490000104**	**2490000204**	**2490000304**			
Red	**2490000105**	**2490000205**	**2490000305**			
Orange	**2490000106**	**2490000206**	**2490000306**			
Yellow	**2490000107**	**2490000207**	**2490000307**			
White	**2490000108**	**2490000208**	**2490000308**			
Green	**2490000109**	**2490000209**	**2490000309**			
Purple	**2490000110**	**2490000210**	**2490000310**			

size	*length of pin*	Order code	
A1-A3	3x 30mm	**6900000202**	TKY2
A2-A5	3x 40mm	**6900000203**	TKY3
A5-A10	3x 56mm	**6900000204**	TKY4

General

A (cable) gland is a facility for feeding cables through a wall. A cable gland ensures that cables do not rub against the wall and suffer damage. It ensures perfect sealing of your cabinet so that it is protected against external influences, such as moisture, dust or in some cases radiation. In addition, a cable gland can provide strain relief when your cables are dynamically loaded.

CE

General parameters

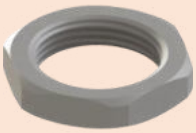
IP68 with O-ring (5 bar)
Wide variety of sizes
PG and Metric sizes
Antivibration protection

Technical parameters

Complies with	PG	DIN 40430
	M	EN 60423
Material Cap nut		Polyamide PA6 – V2
Material Gland body		Polyamide PA6 – V2
Material Sealing ring		TPV
Protection class	IP	IP68
Operational temperature		-20°C … 100°C
Operational temperature (max. short time)		-30°C … 150°C
Color		RAL7035

Cable gland – Metric thread

AG Thread	Tightening range	Height	Thread height	Wrench size	Order code	
M 12	3-6,5 mm	24 mm	8 mm	15 mm	**2530110010**	7NCG-M12
M 16	4-8 mm	28 mm	8 mm	19 mm	**2530110011**	7NCG-M16
M 16	5-10 mm	29 mm	10 mm	22 mm	**2530110012**	7NCG-M16L
M 20	6-12 mm	29 mm	10 mm	24 mm	**2530110013**	7NCG-M20
M 20	10-14 mm	29 mm	10 mm	27 mm	**2530110014**	7NCG-M20L
M 25	13-18 mm	38 mm	10 mm	33 mm	**2530110015**	7NCG-M25
M 32	18-25 mm	41 mm	10 mm	42 mm	**2530110016**	7NCG-M32
M 40	22-32 mm	51 mm	10 mm	53 mm	**2530110017**	7NCG-M40
M 50	30-38 mm	53 mm	18 mm	60 mm	**2530110018**	7NCG-M50
M 63	34-44 mm	55 mm	18 mm	70 mm	**2530110019**	7NCG-M63



Lock Nut – Metric thread

AG Thread	Height	Wrench size		
M 12 x 1.5	5 mm	18 mm	**2530120010**	7NCGN-M12
M 16 x 1.5	5 mm	22 mm	**2530120011**	7NCGN-M16
M 20 x 1.5	6 mm	26 mm	**2530120012**	7NCGN-M20
M 25 x 1.5	6 mm	32 mm	**2530120013**	7NCGN-M25
M 32 x 1.5	7 mm	41 mm	**2530120014**	7NCGN-M32
M 40 x 1.5	7 mm	50 mm	**2530120015**	7NCGN-M40
M 50 x 1.5	8 mm	60 mm	**2530120016**	7NCGN-M50
M 63 x 1,5	8 mm	75 mm	**2530120017**	7NCGN-M63

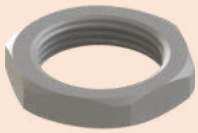
Blind stop – Metric thread

AG Thread	Height	Thread height	Diameter		
M 12 x 1.5	8,5 mm	6 mm	15 mm	**2530130010**	7NCGB-M12
M 16 x 1.5	10 mm	7 mm	20 mm	**2530130011**	7NCGB-M16
M 20 x 1.5	10 mm	7 mm	24 mm	**2530130012**	7NCGB-M20
M 25 x 1.5	14 mm	10 mm	30 mm	**2530130013**	7NCGB-M25
M 32 x 1.5	14 mm	10 mm	37 mm	**2530130014**	7NCGB-M32
M 40 x 1.5	15 mm	10 mm	46 mm	**2530130015**	7NCGB-M40

7NCG – Cable glands

Cable gland – PG thread

AG Thread	Tightening range	Height	Thread height	Wrench size	Order code	
PG 7	3-6.5	24	8	15	**2530210010**	7NCG-PG7
PG 9	4-8	28	8	19	**2530210011**	7NCG-PG9
PG 11	5-10	29	8	22	**2530210012**	7NCG-PG11
PG 13,5	6-12	29	9	24	**2530210013**	7NCG-PG13.5
PG 16	10-14	33	9	27	**2530210014**	7NCG-PG16
PG 21	13-18	38	11	33	**2530210015**	7NCG-PG21
PG 29	18-25	41	11	42	**2530210016**	7NCG-PG29
PG 36	22-32	51	13	53	**2530210017**	7NCG-PG36
PG 42	30-38	53	13	60	**2530210018**	7NCG-PG42
PG 48	34-44	55	14	65	**2530210019**	7NCG-PG48



Lock Nut – PG thread

AG Thread	Height	Wrench size	Order code	
PG 7	5	19	**2530220010**	7NCGN-PG7
PG 9	5	19	**2530220011**	7NCGN-PG9
PG 11	5	24	**2530220012**	7NCGN-PG11
PG 13,5	6	27	**2530220013**	7NCGN-PG13.5
PG 16	6	30	**2530220014**	7NCGN-PG16
PG 21	7	36	**2530220015**	7NCGN-PG21
PG 29	7	46	**2530220016**	7NCGN-PG29
PG 36	8	60	**2530220017**	7NCGN-PG36
PG 42	8	65	**2530220018**	7NCGN-PG42
PG 48	8	70	**2530220019**	7NCGN-PG48

Blind stop – PG thread

AG Thread	Height	Thread height	Diameter	Order code	
PG 7	8	6	15	**2530230010**	7NCGB-PG7
PG 9	8.2	6	19	**2530230011**	7NCGB-PG9
PG 11	8.5	6	22	**2530230012**	7NCGB-PG11
PG 13,5	8.5	6	25	**2530230013**	7NCGB-PG13.5
PG 16	8.5	6	27	**2530230014**	7NCGB-PG16
PG 21	12	8	33	**2530230015**	7NCGB-PG21
PG 29	11.3	8	44	**2530230016**	7NCGB-PG29
PG 36	14.3	10	55	**2530230017**	7NCGB-PG36

CHB-S – Vinyl identification sticker

General
Identification markers within a control or distribution cabinet are used to clarify and the use or connection purpose. With the vinyl sticker you can make better clarification of connection on the din-modular component or connection bar. It lowers the risk of wrong wiring and it is useful to warn operating of service personal.

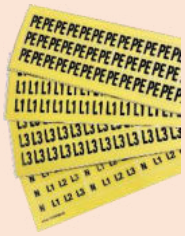
CE

General parameters

Especially suitable for use on 'difficult' surfaces, such as PE and PP

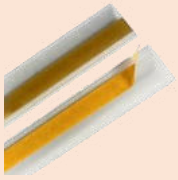
Technical parameters

Material	Polyvinyl chloride plastic
Resitance	Water-resistance
Durability	8 years
Thickness of sticker	4.33 mil
Laminated	no
Color base	Yellow
Color printing	Black
Service temperature	-40°C... 60°C (121°C short term)
Minimum application temperature	10°C



Vinyl sticker Identification	Qty	Width	Height	Order code	
L1	78x	9mm	12mm	**2119100001**	CHB-L1
L2	78x	9mm	12mm	**2119100002**	CHB-L2
L3	78x	9mm	12mm	**2119100003**	CHB-L3
N	78x	9mm	12mm	**2119100004**	CHB-N
PE	78x	9mm	12mm	**2119100005**	CHB-PE
PEN	78x	9mm	12mm	**2119100006**	CHB-PEN
N L1 L2 L3	40x	68mm	12mm	**2119100010**	CHB-NLP
N L1 L2 L3	24x	35mm	10mm	**2119100015**	CHB-FDPN
'let op kans op restspanning'	100x	35mm	10mm	**2119100030**	CHB-LETOP

Symbol Identification	Qty	Width	Height		
Electrical warning	24x	50mm	55mm	**2119100020**	CHB-ES



Attributes Self adhesive					
Encoder strip		1000mm	20mm	**5320900090**	GCOM1M
Document holder A4				**5320900100**	GA4F

General Terms and Conditions of Sale of:

SCHOTMAN ELEKTRO B.V. (Registered with the Chamber of Commerce under number: 01108453), established in Assen

Chapter 1: Definitions

1.1
The words below, placed in parenthesis, have the meaning following these terms:

"Customer" every (legal) person to whom Schotman makes an offer and/or with whom Schotman enters into an agreement (a purchase agreement, an agreement for professional services or any other agreement); in these Terms and Conditions the Customer is always designated in the masculine;*

"Article" an article of these Terms and Conditions;

"Appendices" designs, calculations, drawings, sketches, images, descriptions, manuals, construction and production data, as well as any other document provided by Schotman under the Agreement, or a quotation provided to the Customer because of the Delivery of the Goods or at the time of sending of either the quotation or the Agreement;

"Intellectual Rights" all intellectual and industrial property rights, including but not limited to copyrights, patent rights, model rights, trade name rights and neighboring rights, whether or not these are registered or can be registered;

"Agreement" the agreement made between the Customer and Schotman with regard to the delivery of Goods by Schotman to the Customer;

"Force Majeure" any external circumstances outside Schotman's will that, either permanently or temporarily, hinder or limit the performance of the Agreement, in any case including but not limited to (the direct and indirect consequences of): terrorist attacks, (civil) war, armed conflict, pandemic, internal disturbances, extreme weather phenomena, riot, national, regional or other general strikes, trade embargoes, import or export restrictions, delay at borders, accidents, serious disruptions in Schotman's company or that of its suppliers, and finally, insolvency of any of Schotman's subcontractors;

"Party" Schotman or the Customer;

"Parties" Schotman and the Customer;

"Personal data" data relating to identified or identifiable individuals included in databases, applications, reports, documents and/or any other information in printed or electronic form;

"Schotman" Schotman Elektro B.V. (Registered with the Chamber of Commerce under number: 01108453), with its registered office and principal place of business in (9403 VJ) Assen at Weverstraat 4;

in these Terms and Conditions, Schotman will always be designated in the feminine;*

** Note: In this English version of these Terms and Conditions, both the Customer and Schotman are designated by the personal pronoun 'it'.*

"Terms and Conditions" these General Terms and Conditions of Sale;

"Confidential Information" all information (whether exchanged in written, oral, electronic or any other form, and whether exchanged directly or indirectly) of a confidential nature, such as - and hence not limited to - the financial agreements between Schotman and the Customer;

"Goods" any good Schotman delivers or has delivered to the Customer.

1.2
In the context of these Terms and Conditions, "Goods" shall also mean any services provided by Schotman, such as - if applicable to the relationship with the Customer - maintenance, advice and inspection. These Terms and Conditions shall also apply, if possible - to any of Schotman's services that appear from the Agreement. In such case, e.g., "Goods delivered" must be read as "services provided".

Chapter 2: Scope

2.1
All offers made by Schotman, all Agreements entered into with it and the performance thereof will solely be governed by these Terms and Conditions.

2.2
Schotman shall not accept any reference by the Customer to their own purchase conditions or any other conditions. Therefore, the Customer's purchase conditions or other conditions shall never apply.

2.3
In addition to the provisions of Article 2.1, these Terms and Conditions furthermore apply to the contractual relationship between Schotman and the Customer if the Customer has accepted the applicability thereof in earlier agreements with Schotman.

Therefore, by entering into the Agreement with Schotman the Customer accepts the applicability of these Terms and Conditions to all future transactions with Schotman.

2.4
If the Agreement is changed or supplemented, these Terms and Conditions also apply to those changes and/or supplements to the Agreement.

Chapter 3: Establishment of the Agreement

3.1
All offers made remain valid for a period to be indicated by Schotman, except in case of an evident mistake, in which case no Agreement can be made following the acceptance of such an offer.

3.2
If no term is stated, the offers made by Schotman will be non-binding and therefore can be revoked by it at any time.

3.3
All data in the price lists and brochures provided by Schotman are as accurate as possible. However, these shall only bind Schotman if expressly confirmed by Schotman in writing.

3.4
Any price indication, sending of price lists, brochures and/or (other) documentation shall not oblige Schotman to the delivery of Goods. Schotman reserves the right to refuse any orders without stating reasons at any time.

3.5
An Agreement is only made with a purchase order for Goods placed by the Customer if Schotman has accepted such purchase order(s) in writing.

3.6
No Agreement is made if the Customer makes any reservations or changes with respect to the provisions made by Schotman with the acceptance of a quotation or an order confirmation. Schotman can never be deemed to have agreed with the reservations or changes made by the Customer.

3.7
The last Agreement, including the documents mentioned in this Agreement and attached to it, constitutes the entire Agreement between the Parties with regard to the Goods the Agreement relates to, and substitutes any earlier written or oral agreement with regard to those Goods.

3.8
A supplement or change to the Agreement (including these Terms and Conditions) is only valid if made in writing and duly signed by the Parties. Such a supplement or change only relates to the delivery of the Goods for which this is expressly agreed and hence, not to any other delivery.

Chapter 4: Data, drawings, models and manuals

4.1
If Goods are produced by Schotman on the basis of models provided by the Customer, or design data, design drawings or other specifications required by the Customer, the Customer will be responsible for the correctness of these models, data and drawings. Only in case of evident incorrectness that is readily visible, Schotman has a notification obligation. Schotman therefore has no obligation to verify whether the indications given by the Customer are correct for a proper operation or application of the Goods.

4.2
All brochures, catalogues, drawings, descriptions, specifications and advertising issued by Schotman were exclusively produced to give an impression of the Goods they describe. These documents do not form part of the Agreement. Moreover, Schotman

may change the specifications, design or material of the Goods, e.g., which are necessary to meet applicable safety standards or the quality level required by Schotman.

4.3
No manufacturing and detailed drawings will be provided by Schotman, unless otherwise agreed in writing.

4.4
The Customer undertakes for itself, its employees and contracted third parties - insofar as applicable - to always consult and comply with the assembly instructions and technical (operating) instructions of the Goods.

Chapter 5: Delivery time

5.1
If no express delivery date is agreed in writing, the delivery time takes effect on the latter of the following:
a) the date of establishment of the Agreement;

b) the date of receipt of all advance payments to be made by the Customer to Schotman under the Agreement;

c) the date of receipt of the information required by Schotman for the performance of the Agreement.

5.2
The delivery time is always based on the facts and circumstances at the moment the Agreement is entered into, including - therefore not solely - the expected time of delivery of the goods and parts ordered by Schotman for the performance of the Agreement. If - without any negligence on the part of Schotman - a delay occurs with Schotman's suppliers, the delivery time as agreed between Schotman and the Customer will be extended accordingly.

5.3
The delivery time will furthermore be extended by the duration of the delay occurred on the part of Schotman by the fact that the Customer does not meet any obligation under the Agreement or any cooperation required by it with regard to the performance of the Agreement.

5.4
If it is agreed that Schotman takes care of the transport, any delay on the part of the carrier/courier can never be held against Schotman. The delivery time, if applicable, will then be extended by the time of such delay.

5.5
If, subject to the provisions of the previous Articles, the delivery time would nevertheless be exceeded, the Customer has the right to set a reasonable period in writing within which Schotman must ensure the delivery. If after this period Schotman defaults, the Customer has the right to terminate the non-executed part of the Agreement through a written statement. This right of termination can therefore not be relied upon with regard to partial deliveries that have already taken place.

5.6
In the event the agreed date of delivery is exceeded, this will not give the Customer any right not to comply with any remaining obligation under the Agreement or to claim any supplementary or alternative compensation from Schotman.

5.7
Schotman is entitled to deliver the Goods in parts (partial deliveries), which it can invoice separately. The Customer will then have the obligation to pay in accordance with the instalments under the Agreement (including these Terms and Conditions).

Chapter 6: Retention of title

6.1
Schotman will remain the owner of all Goods (yet to be) delivered by it, as long as the Customer has not paid any claim in respect of the consideration under the Agreement or any other agreement with Schotman.

6.2
The Customer has the obligation to carefully and, as much as possible, identifiable and recognisable as the property of Schotman keep the relevant Goods and on its first request, allow Schotman access to verify this.

6.3
If the Customer does not meet its obligations towards Schotman, or if Schotman, to its discretion, has a well-founded fear that any obligation towards it will not be met, it has the right to collect the Goods it delivered, also after disassembly if necessary, without any prior notice of default. The Customer must cooperate with it and now for then gives Schotman its permission to enter its business premises such that Schotman has the opportunity to collect the Goods it delivered.

6.4
The Customer shall compensate Schotman for the costs in connection with invoking the retention of title, as well as any lower yield, within 5 working days after Schotman has informed the Customer in writing of the amount thus to be fixed.

Chapter 7: Delivery and transfer of risk

7.1
The Goods will be for the risk (for circumstances such as theft, damage and loss) of the Customer from the time of the delivery, even if the retention of title still applies.

7.2
The Customer has the obligation to immediately purchase the Goods at the moment they are ready for collection, dispatch or transport.

7.3
The delivery will be made from Schotman's business space in Assen, unless otherwise agreed in writing. Transportation costs will be borne by the Customer, who must ensure transportation, unless agreed otherwise in writing. Loading will also be for the account and risk of the Customer.
The delivery will then be considered to take place at the moment the Customer has been informed in writing that the Goods are ready and available to it, or, in the absence of such a notice, at the moment the Goods are handed over to either the Customer or its assistant (carrier).

7.4
If it has been agreed in writing that the delivery is to take place at a different location than from Schotman's business space, Schotman will ensure the transportation or dispatching. In that case, the transportation of goods purchased by the Customer from Schotman will be free of freight charge, as the transportation costs are included in the purchase price of the Goods.

In that case, the delivery will take place by transfer of possession at the location mentioned in the Agreement.
The transportation, dispatching and packaging used for transportation of the Goods the Customer has purchased from Schotman – if Schotman takes care of this - will be done to the best of its knowledge and ability, without Schotman having any liability for it.

7.5
The Customer shall act in such a way and furthermore provide all information and documents required for transportation, dispatch and – if applicable – importation to have the delivery take place as quickly and efficiently as possible. Any additional costs due to not meeting this obligation will be borne by the Customer.

7.6
If the Goods are not purchased by the Customer within the agreed time of delivery, the Goods will be stored by Schotman for the account and risk of the Customer. Schotman shall therefore be entitled to charge the Customer for these additional costs.

Chapter 8: Control, inspection, testing and claims

8.1
The Customer has the obligation to inspect the Goods delivered or the packaging for numbers and visible defects immediately upon delivery. The Customer shall state (or have stated) any damage (including the packaging) of the Goods or shortage in the number of Goods delivered on the delivery note, invoice and/or carrier documents, and furthermore inform Schotman thereof in writing within 5 working days after the delivery.

8.2
The Customer shall furthermore be held to inspect and test the Goods delivered by Schotman under the given circumstances as soon as possible. Any non-conformity that is then established must be reported to Schotman in writing immediately and in any case within 5 working days after their discovery. If the Customer does not make use of a possibility for inspection or testing in a timely manner, the delivery of Goods will be deemed to be approved.

8.3
For claims with respect to hidden defects a period of three months after the delivery of the Goods applies. After this period no claim can be made for any hidden defect.

Timely claims with regard to hidden defects must be made with Schotman within 5 working days after their discovery.

8.4
If the Customer makes a claim in a timely manner under Article 8.1 or Article 8.2 or 8.3, it shall do this while accurately stating the nature and grounds of the complaints and, if possible, send pictures. On Schotman's first request, the Customer shall give it the opportunity to verify the Customer's statements.

8.5
In the event of breach of the Customer's obligations under Article 8.1 and/or Article 8.2 and/or Article 8.3 and/or Article 8.4, every claim against Schotman on the relevant grounds shall lapse.

8.6
The Customer does not have the right to refuse the Goods because of minor defects.

8.7
The Customer shall allow Schotman to meet any shortcoming appearing from the inspection and/or testing, before the delivery of goods and/or the execution of work can be considered rejected.

8.8
The tints, nuances and/or aesthetic aspect of the Goods will never be a reason to refuse the delivery, or be considered as a non-conformity.

8.9
Claims will only be handled by Schotman if the Customer has met all of its obligations towards Schotman.

Chapter 9: Warranty

9.1
Schotman warrants to the Customer that the Goods are free from any design, material and manufacturing faults with normal use for a maximum period of 12 (twelve) months from the invoice date of those Goods. After this period the warranty lapses and Schotman can never be held liable with respect to any non-conformity or other shortcoming.

9.2
The warranty mentioned in the previous Article does not apply to Goods or parts thereof, which:

a) were repaired or adapted by the Customer or third parties without Schotman's permission, such that this - to Schotman's sole discretion - impacted the sustainability of the Goods;

b) are the result of adaptations, accidents, incorrect use, misuse or neglect, or were subjected to abnormal wear and tear;

c) are installed, used or maintained in a way that is in violation of Schotman's or the manufacturer's instructions, or in which Schotman's or the manufacturer's instructions for assembly, use and maintenance were not followed;

d) were physically or electrically stressed in an abnormal or unusual way, exposed to abnormal or unusual environmental factors, misused or treated or operated in a negligent way;

e) the Customer has not met the provisions of Article 8.

There will also be no warranty for:

f) materials, goods, methods and constructions that were customized following express instructions from the Customer;

g) materials and goods that were incorporated in the Goods by or on behalf of the Customer.

h) Goods and/or the replacement of parts of Goods subject to normal wear and tear.

For all these cases there will be no warranty and Schotman can never be held liable on any grounds whatsoever.

9.3
The warranty under Article 9.1 does also not apply if the Customer does not meet - or not in a timely manner - any of its obligations under the Agreement entered into with Schotman, or under any associated agreement.

9.4
If a legally valid appeal is made on Article 9.1, Schotman will repair all relevant defects in the Goods that are the result of an improper design or material that significantly affects the relevant Goods.

Schotman always has the right not to repair any defected Goods but to replace these by the same or similar Goods that do not show any defect and meet the specifications of its Agreement entered into with the Customer. If Schotman replaces (parts of) Goods to meet its warranty obligations, the replacement Goods will again become or (because of the retention of title) remain its full property.

The Customer shall allow Schotman to carry out the provisions under this Article upon Schotman's first request.

Schotman will obviously not charge any costs for the replacement or repair of the Goods if the warranty provision of Article 9.1 applies.

9.5
In derogation from Article 9.4, Schotman has the right to transfer to the Customer the warranty obligations towards Schotman with regard to Goods or parts of Goods it purchases from third parties. Schotman will be discharged towards the Customer with regard to any non-conformity once it transfers its claim against such third party to the Customer under a deed of transfer, with which the Customer shall agree.

9.6
In addition to the warranty under Article 9.1, Schotman will issue no other warranties with respect to the Goods and - subject to gross negligence or intention of Schotman's management - it can never be held liable on any grounds with regard to the Goods it delivered.

9.7
Schotman does not guarantee that its software will be compatible with all hardware or software products supplied by third parties, that the functioning of the software will be uninterrupted or free of any error, or that all software defects will be corrected.

9.8
Moreover, any legal claim on the basis of this Article on non-conformity must be filed with the competent court within one year after the timely claim, on pain of lapse of rights.

9.9
The burden of proof for having met the conditions as referred to in Article 9.1 and not having met the exceptions as referred to in Article 9.2 will be with the Customer.

9:10
The alleged non-compliance by Schotman of its warranty obligations does not release the Customer from the obligations resulting for it under any agreement entered into with Schotman.

Chapter 10: Liability

10.1
Apart from gross negligence or intention of Schotman's management, Schotman will never be liable for any indirect damage, including but not limited to any damage not directly resulting from a damaging event, as well as any special damage of whatever nature, including, *inter alia*, loss of profit, loss of income, interruption in the operation, replacement costs, rise of costs and/or loss of anticipated saving, overhead costs, business damage, and/or loss of electrical connection, damage from usage and/or capital costs;

10.2
Schotman will also never be liable for:

1. damage resulting from work done by the Customer or by third parties in its order;

2. deterioration or loss of any software, firmware, information or loss of memory of the Customer or its customers, incorporated, stored or integrated in equipment returned to Schotman for repair, whether or not these repairs are covered by the warranty;

3. any discharge in the atmosphere, high voltages, chemical impact and loss and damage during throughput.

10.3
The total liability of Schotman for direct damage, except for gross negligence or intention of Schotman's management, in addition to the provisions of the Terms and Conditions will in any case be limited to the maximum amount of the invoice value of the delivered Goods the liability relates to.

10.4
Any condition meant to limit, exclude or establish liability that can be invoked against to Schotman in connection with the goods delivered by suppliers or subcontractors, can also be invoked by Schotman against its Customer.

10.5
Schotman's employees or assistants engaged by Schotman for the performance of the Agreement can claim all defenses from the Customer that can be derived from the Agreement as if it was a party with the Agreement.

10.6
The Customer will indemnify Schotman, its employees and its assistants engaged for the performance of the Agreement against any claim from third parties in connection with Schotman's performance of the Agreement.

10.7
If and insofar Schotman is considered a manufacturer under Book 6 Section 185 et seq. of the Dutch Civil Code, any liability that is not covered by Book 6 Section 185 et seq. of the Dutch Civil Code is excluded.

10.8
In derogation from the provisions of these Terms and Conditions, Schotman will be liable, if and insofar there is a claim for compensation of the relevant damage under the (business) liability insurance taken out by Schotman. This clause does not oblige Schotman to take out and maintain such an insurance, or to take out an insurance with such policy conditions that there could have been coverage.

Chapter 11: Total order amount

11.1
The prices of the Goods are as stated by Schotman in the accepted quotation or order confirmation, and in the absence thereof the prices included for the Goods in the price list published by Schotman, and in the absence thereof the current prices for the relevant Goods at the time of delivery with Schotman.

11.2
Schotman's prices always are:
* given in Euros;
* exclusive of turnover tax or other applicable tax to be paid by the Customer in addition to the payment due for the Goods, unless stated otherwise.

11.3
If any packaging is used this is not included in the price and can be charged to the Customer if Schotman wishes to do so. As soon as the packaging is received back carriage paid and in undamaged condition within two months after delivery, the packaging costs will be credited and Schotman will transfer the amount received for it to the Customer.

11.4
If, to the opinion of Schotman, price determining factors, such as prices of raw materials and/or necessary materials, freight costs, energy costs, insurance premiums, wages, social charges, taxes, import duties, excises, exchange rates are substantially changed two months after the creation of the Agreement, Schotman will have the right to increase the price(s) agreed accordingly. This also applies if, in Customer's point of view, these increases could have been foreseen at the time the agreement was entered into

11.5
Schotman will inform the Customer in writing or by e-mail of the price increase on the basis of the previous Article, and the Customer will then have the right to terminate the agreement entered into with Schotman during a period of 5 working days after this written notice from Schotman.

Chapter 12: Payment and invoicing

12.1
All payments must be made without any deduction, suspension or settlement, in Euros by deposit or transfer in Schotman's bank account. If no payment term is given by Schotman, the payment must have been received in Schotman's bank account within 30 days after the invoice date. The value date stated on Schotman's bank statements is decisive and therefore regarded as the date of payment.

12.2
If the Customer does not pay any amount owed by it in a timely manner, it will automatically be in default without any prior notice of default.

12.3
If the Customer is in default with any payment, any other claim Schotman may have (if not payable yet) will also immediately be payable by the Customer and with regard to such claim, the default will automatically come into effect without any prior notice of default.

12.4
If the Customer is declared bankrupt, has applied for (provisional) suspension of payments, enters into liquidation, is terminated or has died, or if its assets and claims are attached before or after judgment, all claims Schotman holds against the Customer always are immediately payable without a prior notice of default being required, with interest and costs owed by the Customer.

12.5
From the day on which the Customer is in default it will automatically and without prior notice of default owe to Schotman a default interest equal to the statutory commercial interest under Book 6 Section 119a of the Dutch Civil Code.

12.6
Schotman will at any time have the right, before proceeding to or continuing the delivery or start or continue the performance of an agreement, to demand from the Customer adequate surety for the fulfilment of its payment obligations - such to Schotman's sole discretion - if Schotman believes there is reason to demand surety because of circumstances such as the Customer's solvency or liquidity position, even if there is no connection between these circumstances and the performance of the Agreement.

12.7.
If the Customer is unable or refuses to provide the surety required under the previous Article, this will authorize Schotman to terminate the Agreement or suspend its obligations, irrespective of its right of compensation of the costs incurred, loss of profit and any (to be) suffered by it.

12.8
Every payment of the Customer will first be used to pay any interest and costs owed by it and then be deducted from the oldest outstanding receivable.

12.9
As soon as a claim that is due is not paid, Schotman has the right to take collection measures and to engage third parties for this. All resulting judicial and extrajudicial costs will fully be borne by the Customer.

The extrajudicial costs that are then payable by the Customer are fixed at the amount of fifteen per cent (15%) of the entire outstanding amount payable, with a minimum of EUR 300.

Chapter 13 Suspension and termination of the Agreement

13.1
From the moment any amount owed to Schotman - on whatever grounds - has become payable and has not yet been paid, Schotman shall have the right, without prejudice to its right of compensation and interest, to declare the Agreement terminated in whole or in part by registered letter, without a prior notice of default or judicial intervention being required, and without Schotman being held to any compensation or guarantee and without prejudice to its further rights.

13.2
The retention of title will always be maintained in case of termination of the Agreement, such that Schotman has the right to repossess or have repossessed the relevant Goods in accordance with the provisions of Chapter 6 (Retention of title) of these Terms and Conditions.

13.3
In the event of termination under Article 13.1, the Customer will in any case owe to Schotman: the price agreed for all Goods less the instalments already paid and costs saved by Schotman because of the termination. The Customer shall furthermore owe compensation, including the losses Schotman suffers because of the termination. The Customer shall pay the amount thus determined within 5 working days after Schotman informed the Customer thereof.

13.4
If the provisions of Article 13.1 apply, Schotman also has the authority - to its discretion - before proceeding to termination and without a prior notice of default or judicial intervention being required, to suspend the performance of the Agreement or other agreements it has entered into with the Customer for a maximum of 6 months, such without Schotman being held to any compensation or guarantee, and without prejudice to its further rights. During the period of the suspension Schotman will be authorized and by the end of it will be held to either choose for the performance or termination of the suspended agreement(s) in whole or in part.

13.5
In the event of suspension under Article 13.4, the agreed price will immediately be payable, less the instalments already paid and costs saved by Schotman because of the suspension. Schotman will furthermore be authorized to have the raw materials, materials, parts and other goods reserved, processed and manufactured by it for the performance of the Agreement stored for the account and risk of the Customer.

13.6
The Customer will only and no earlier have the right to end and/or terminate the Agreement if the failure on the part of Schotman has irrevocably been determined in court.

Chapter 14 Force Majeure

14.1
If Schotman cannot perform in a timely manner because of Force Majeure, the instalments agreed with it will be extended by the delay period resulting from the situation of Force Majeure. This also applies if the Customer and Schotman have agreed express instalments in the Agreement.

14.2
If the situation of Force Majeure leads to a delay longer than three full calendar months, each of the parties can terminate the Agreement through a registered letter without any further liability or obligation to pay compensation.

14.3
If the Agreement that is terminated under the previous Article was in part executed by Schotman, the agreed price shall be paid by the Customer to Schotman in proportion to the executed part of the agreement within the period that would have applied if the agreement would have been executed in full.

Chapter 15 Intellectual Rights

15.1
The Intellectual Rights relating to the Goods will never be transferred and will remain the full property of Schotman or the third party beneficiaries. This also applies to parts of the Goods and the programs the Goods are equipped with.

15.2
The provisions of the previous Article also apply to quotations made by Schotman, as well as their Appendices.

15.3
The Customer will not perform any act, and not allow third parties to perform any act, which could prejudice the Intellectual Rights or the associated goodwill. Therefore, the Customer shall not (in whole or in part) adapt, remove, conceal or process the Goods, or apply other brands on the Goods.

15.4
All promotional and sales documentation Schotman provided to the Customer will remain the property of Schotman, and the Customer shall not allow anyone else to use these.

15.5
The Customer is obliged to immediately notify Schotman in writing of any breach of the Intellectual Rights the Customer has established. If the Customer should objectively have established a breach but states that it did not, the Customer will, however, be considered to have violated the obligation under this Article.

15.6
If a third party alleges that the Goods delivered by Schotman constitute a violation of the Intellectual Rights of this third party, the Customer is held to immediately inform Schotman thereof in writing, such that Schotman can discuss the matter with this third party and defend itself.

Chapter 16 Confidentiality and data protection

16.1
The Parties are held to keep confidential any Confidential Information and shall not disclose such information to third parties without the other Party's consent. This does not apply to a transfer to group companies, provided that these are also held to this Article.

16.2
If a Party gets access to Personal Data it shall comply with the relevant statutory obligations.

17. General provisions

17.1
The Customer will in connection with the Goods (to be) delivered, strictly and fully comply with national or international regulations and import, export and usage restrictions. The Customer will hold Schotman harmless with respect to any damage that may occur for Schotman because of violation of the provision as referred to in the previous sentence.

17.2
Two or more Customers who jointly entered into an agreement with Schotman will be jointly and severally liable to Schotman for the performance of the Agreement.

17.3
The Customer is held to provide its employees and the users of the Goods with all product notices, warnings, instructions, recommendations and similar information provided by Schotman.

17.4
The Buyer shall indemnify and hold harmless Schotman for any damage claim or other damaging effects of any nature or type, resulting from a breach of an obligation by the Customer under the Agreement, including these Terms and Conditions.
17.5

The Buyer cannot, without the prior written permission of an authorized representative from Schotman, assign, license or outsource (a part of) of its rights or obligations under the Agreement to any third party.

17.6
If any provision in this Agreement, including these Terms and Conditions, would turn out to be invalid, the remaining provisions will remain in effect in full. In that case, the Parties will replace the invalid provision by a valid provision in accordance with the aim and purport of this Agreement including these Terms and Conditions such that the new provision differs as little as possible from the invalid provision.

17.7
These Terms and Conditions are drafted in Dutch and English. If case of a dispute or difference of opinion about the content of these different versions, the Dutch text shall prevail and be binding on the Parties.

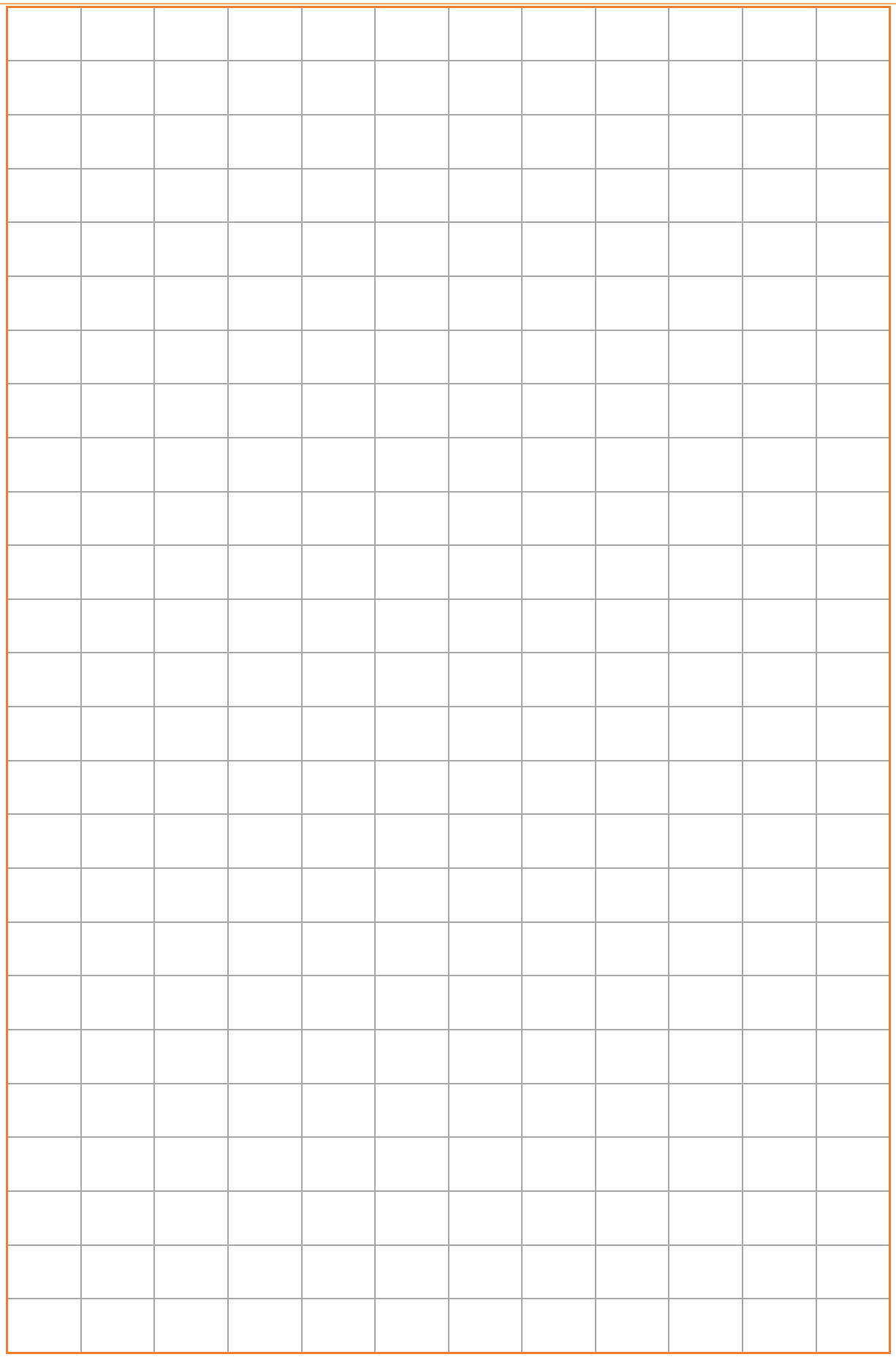
17.8
These Terms and Conditions have been filed with the Chamber of Commerce of Groningen under number 0010-6619.

17.9
In the event of any conflict between these Terms and Conditions and the provisions of the Agreement, the provisions of the Agreement will prevail.

18. Applicable law and competent court

18.1
The Agreement is governed exclusively by the law of the Netherlands.

18.2
Any dispute that may arise in connection with this Agreement or following from any agreement resulting therefrom will initially be settled by the competent court in Assen.



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SEP EUROPE

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