



Type-tested flexible copper busbars

Cu-flex busbars ensure a prompt and professional execution of electrical connections. The busbars are supplied ready for use! This means that you do not have to spend time on shortening, stripping the wires, making holes, or complicated bends.

Cu-flex is made of copper wires that are woven to a flexible busbar. By the use of a patented technique, the ends of the busbar

is forged to a solid unit, thus obtaining a contact surface that makes it possible to make maintenance-free connections.

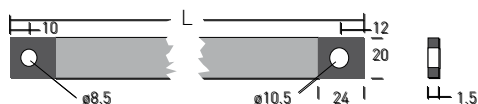
Cu-flex has been type-tested according to IEC, UL and DNV (Det Norske Veritas).

In addition Cu-flex is UL recognized in category "Component - Panelboard and Switchboard Accessories".

CUBIC

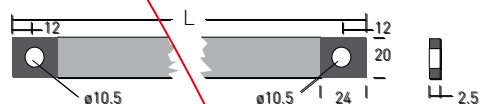
Cu-flex assortment

One FB25



Length mm	Power loss 2) Air temp. around the Cu-flex 40°C W	Cu-flex		Spacer	
		Pcs	Type No.	Pcs	Type No.
160 ³⁾	4.0	1	FB25160		
224 ³⁾	5.5	1	FB25224		
288 ³⁾	7.0	1	FB25288		
352 ³⁾	8.5	1	FB25352	1	FS2550
416 ³⁾	10.0	1	FB25416	1	FS2550
480 ³⁾	11.5	1	FB25480	1	FS2550
544	13.0	1	FB25544	1	FS2550
608	14.5	1	FB25608	1	FS2550
672	16.0	1	FB25672	2	FS2550
736	17.5	1	FB25736	2	FS2550
800	19.0	1	FB25800	2	FS2550
864	20.5	1	FB25864	2	FS2550
928	22.0	1	FB25928	3	FS2550
1120	27.0	1	FB251120	3	FS2550

One FB50



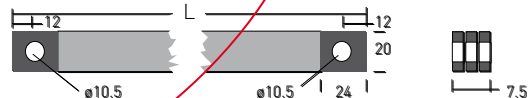
Length mm	Power loss 2) Air temp. around the Cu-flex 40°C W	Cu-flex		Spacer	
		Pcs	Type No.	Pcs	Type No.
160 ³⁾	5.0	1	FB50160		
224 ³⁾	7.5	1	FB50224		
288 ³⁾	9.0	1	FB50288		
352 ³⁾	11.0	1	FB50352	1	FS50XX ¹⁾
416 ³⁾	13.0	1	FB50416	1	FS50XX ¹⁾
480 ³⁾	15.0	1	FB50480	1	FS50XX ¹⁾
544	17.0	1	FB50544	1	FS50XX ¹⁾
608	19.0	1	FB50608	1	FS50XX ¹⁾
672	21.0	1	FB50672	2	FS50XX ¹⁾
736	23.0	1	FB50736	2	FS50XX ¹⁾
800	25.0	1	FB50800	2	FS50XX ¹⁾
864	27.5	1	FB50864	2	FS50XX ¹⁾
928	30.0	1	FB50928	3	FS50XX ¹⁾
1120	35.0	1	FB501120	3	FS50XX ¹⁾

Two FB50



Length mm	Power loss 2) Air temp. around the Cu-flex 40°C W	Cu-flex		Spacer	
		Pcs	Type No.	Pcs	Type No.
160 ³⁾	7.5	2	FB50160		
224 ³⁾	10.5	2	FB50224		
288 ³⁾	13.5	2	FB50288		
352 ³⁾	16.5	2	FB50352	1	FS50XX ¹⁾
416 ³⁾	19.0	2	FB50416	1	FS50XX ¹⁾
480 ³⁾	22.0	2	FB50480	1	FS50XX ¹⁾
544	25.0	2	FB50544	1	FS50XX ¹⁾
608	28.0	2	FB50608	1	FS50XX ¹⁾
672	31.0	2	FB50672	2	FS50XX ¹⁾
736	34.0	2	FB50736	2	FS50XX ¹⁾
800	37.0	2	FB50800	2	FS50XX ¹⁾
864	40.0	2	FB50864	2	FS50XX ¹⁾
928	43.0	2	FB50928	3	FS50XX ¹⁾
1120	51.5	2	FB501120	3	FS50XX ¹⁾

Three FB50



Length mm	Power loss 2) Air temp. around the Cu-flex 40°C W	Cu-flex		Spacer	
		Pcs	Type No.	Pcs	Type No.
160 ³⁾	6.5	3	FB50160		
224 ³⁾	9.0	3	FB50224		
288 ³⁾	11.5	3	FB50288		
352 ³⁾	14.0	3	FB50352	1	FS50XX ¹⁾
416 ³⁾	17.0	3	FB50416	1	FS50XX ¹⁾
480 ³⁾	19.5	3	FB50480	1	FS50XX ¹⁾
544	22.0	3	FB50544	1	FS50XX ¹⁾
608	24.5	3	FB50608	1	FS50XX ¹⁾
672	27.0	3	FB50672	2	FS50XX ¹⁾
736	30.0	3	FB50736	2	FS50XX ¹⁾
800	32.5	3	FB50800	2	FS50XX ¹⁾
864	35.0	3	FB50864	2	FS50XX ¹⁾
928	37.5	3	FB50928	3	FS50XX ¹⁾
1120	45.0	3	FB501120	3	FS50XX ¹⁾

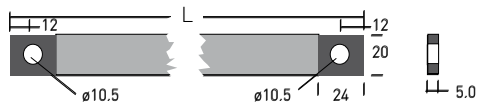
¹⁾ At a distance of 50 mm between the busbars, FS5050 is to be used. At a distance of 64 mm between the busbars, FS5064 is to be used. Both types have room for two Cu-flex per pole.

²⁾ Power loss at rated current, busbar to electrical component. By use of two or more Cu-flex, the total power loss is stated.

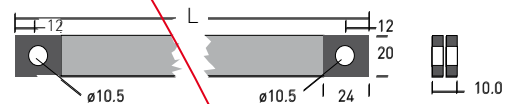
³⁾ Also available with green/yellow isolation
Type No.: PE-FB25XXX
PE-FB50XXX

Cu-flex assortment

One FB100

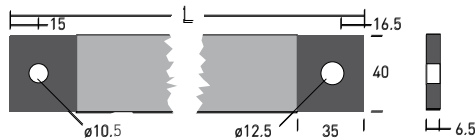


Two FB100

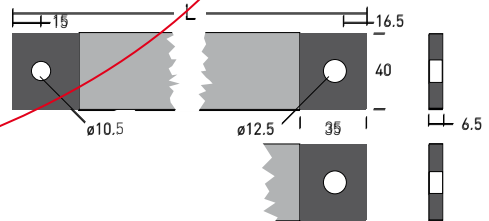


Length mm	Power loss 2) Air temp. around the Cu-flex 40°C W	Cu-flex		Spacer		Length mm	Power loss 2) Air temp. around the Cu-flex 40°C W	Cu-flex		Spacer	
		Pcs	Type No.	Pcs	Type No.			Pcs	Type No.	Pcs	Type No.
160	6.0	1	FB100160			160	7.5	2	FB100160		
224	8.0	1	FB100224			224	10.5	2	FB100224		
288	10.5	1	FB100288			288	13.5	2	FB100288		
352	13.0	1	FB100352	1	FS10056	352	16.5	2	FB100352	2	FS10056
416	15.0	1	FB100416	1	FS10056	416	19.5	2	FB100416	2	FS10056
480	17.0	1	FB100480	1	FS10056	480	22.5	2	FB100480	2	FS10056
544	19.5	1	FB100544	1	FS10056	544	25.5	2	FB100544	2	FS10056
608	21.5	1	FB100608	1	FS10056	608	28.5	2	FB100608	2	FS10056
672	24.0	1	FB100672	2	FS10056	672	32.0	2	FB100672	4	FS10056
736	26.0	1	FB100736	2	FS10056	736	35.0	2	FB100736	4	FS10056
800	28.5	1	FB100800	2	FS10056	800	38.0	2	FB100800	4	FS10056
864	31.0	1	FB100864	2	FS10056	864	41.0	2	FB100864	4	FS10056
928	33.0	1	FB100928	3	FS10056	928	44.0	2	FB100928	6	FS10056
1120	40.0	1	FB1001120	3	FS10056	1120	53.0	2	FB1001120	6	FS10056

One FB240



Two FB240



Length mm	Power loss 2) Air temp. around the Cu-flex 40°C W	Cu-flex		Spacer		Length mm	Power loss 2) Air temp. around the Cu-flex 40°C W	Cu-flex		Spacer	
		Pcs	Type No.	Pcs	Type No.			Pcs	Type No.	Pcs	Type No.
288	13.0	1	FB240288	1	FS24064	288	15.5	2	FB240288	2	FS24064
352	16.0	1	FB240352	1	FS24064	352	18.5	2	FB240352	2	FS24064
416	18.5	1	FB240416	1	FS24064	416	22.0	2	FB240416	2	FS24064
480	21.5	1	FB240480	1	FS24064	480	25.5	2	FB240480	2	FS24064
544	24.5	1	FB240544	1	FS24064	544	29.0	2	FB240544	2	FS24064
608	27.0	1	FB240608	1	FS24064	608	32.5	2	FB240608	2	FS24064
672	30.0	1	FB240672	2	FS24064	672	36.0	2	FB240672	4	FS24064
736	33.0	1	FB240736	2	FS24064	736	39.0	2	FB240736	4	FS24064
1120	50.0	1	FB2401120	3	FS24064	1120	60.0	2	FB2401120	6	FS24064

2) Power loss at rated current, busbar to electrical component. By use of two or more Cu-flex, the total power loss is stated.

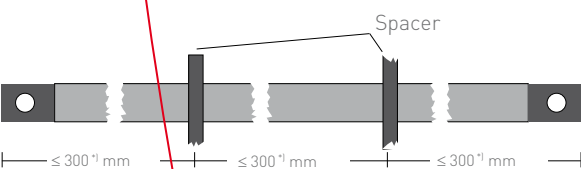
Cu-flex characteristics

Cu-flex specification								
Type No.	FB25	FB50	FB50	FB50	FB100	FB100	FB240	FB240
No. of busbars	1	1	2	3	1	2	1	2
Rated operational voltage, U _e (IEC)	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
Rated voltage (UL)	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V
Rated frequency	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz
Short-circuit withstand strength:								
Cut off current ^{1) 2)} / limited peak ^{1) 2)} , (IEC)	24 kA	64 kA	64 kA	64 kA	64 kA	64 kA	64 kA	105 kA
Cut off current ^{1) 2)} / limited peak ^{1) 2)} , (UL)	24 kA	64 kA	64 kA	64 kA	64 kA	64 kA	64 kA	64 kA
Joule integrale, I ² t [A ² s] (IEC)	2.1x10 ⁷	6.0x10 ⁷	2.4x10 ⁸	5.4x10 ⁸	2.4x10 ⁸	9.6x10 ⁸	1.3x10 ⁹	5.5x10 ⁹
Joule integrale, I ² t [A ² s] (UL)	8.3x10 ⁶	3.3x10 ⁷	1.3x10 ⁸	3.0x10 ⁸	1.3x10 ⁸	5.3x10 ⁸	7.6x10 ⁸	3.0x10 ⁹
¹⁾ Due to the dynamic short-circuit influences, support must be fitted as stated.					²⁾ At a prospective short-circuit current, the short-circuit protection devices must limit the peak to 24, 64, 65 or 105 kA.			

Insulation, characteristics			
Rated voltage (IEC)	1000 V	Operating temperature	Max. 105°C
Rated voltage (UL)	600 V	Flammability	UL 94 V0 (flame retardant)
Test voltage (IEC)	3500 V	Colour	Black/dark grey or green/yellow
Test voltage (UL)	2200 V	Dioxine	None
		Insulation class	Reinforced insulation for busbar to electrical component and between electrical components

Mounting principles

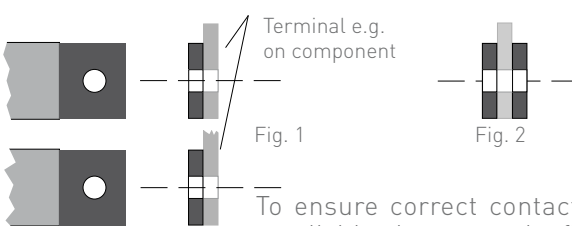
Spacer



Due to the dynamic short-circuit influences, spacers must be fitted as stated. The distance between the spacers is max. 300 *) mm.

^{*)}When Cu-flex is used according to UL standards, connection busbar to busbar, the distance is reduced to 200 mm.

Busbar connections at I → 630 A



Terminal e.g. on component

Fig. 1

Fig. 2

To ensure correct contact pressure, parallel busbars must be fitted, either by means of one bolt per busbar, fig. 1, or one on each side of the connecting terminal, fig. 2.

Cu-flex characteristics

Cu-flex specification

Type No.	FB25	FB50	FB50	FB50	FB100	FB100	FB240	FB240
No. of busbars	1	1	2	3	1	2	1	2

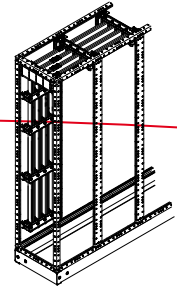
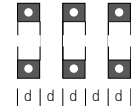
Rated current



ΔT_{busbar}

Maximum permissible conductor temperature, 105 °C

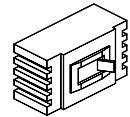
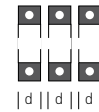
Connection:
Busbar to busbar



65K	215 A	325 A	550 A	630 A	495 A	800 A	835 A	1285 A
60K	205 A	310 A	530 A	600 A	475 A	770 A	800 A	1235 A
45K	175 A	270 A	460 A	525 A	410 A	665 A	695 A	1070 A
30K	145 A	220 A	375 A	430 A	335 A	545 A	565 A	870 A



Connection:
Busbar to electrical component,
Air temp. around Cu-flex

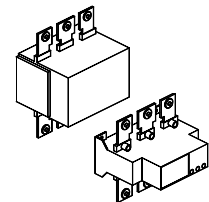
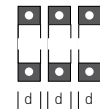


55 °C	140 A	220 A	375 A	435 A	340 A	550 A	570 A	880 A
50 °C	150 A	235 A	395 A	455 A	360 A	580 A	600 A	925 A
45 °C	155 A	245 A	420 A	480 A	380 A	610 A	635 A	975 A
40 °C	165 A	260 A	445 A	510 A	400 A	650 A	670 A	1035 A

The mounting instructions and data informed by the manufacturers of circuit breakers and switches must always be observed. To observe the maximum temperature on the connection terminals, the above values are in force. The rated current of the components is normally stated for 40 °C



Connection:
Between electrical components.
Air temp. around Cu-flex



55 °C	120 A	185 A	315 A	365 A	285 A	465 A	480 A	740 A
50 °C	125 A	195 A	335 A	380 A	300 A	485 A	500 A	775 A
45 °C	130 A	205 A	350 A	400 A	320 A	515 A	530 A	815 A
40 °C	140 A	220 A	370 A	425 A	335 A	545 A	560 A	865 A

The mounting instructions and data informed by the manufacturers of contactors, thermal overload relays etc. must always be observed. To observe the maximum temperature on the connection terminals, the above values are in force.

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