



Film capacitors – Power Factor Correction

Key components – Capacitor contactors

Series/Type: B44066S
Ordering code: B44066S....J230/J110/N230
Date: May 2009
Version: 7

Series B44066S....J230/J110
for conventional PFC-systems without reactors

Characteristics

- Excellent damping of inrush current
- Improved power quality (e.g. avoidance of voltage sags)
- Longer useful life of main contacts of capacitor contactor
- Soft switching of capacitor and thus longer useful life
- Enhanced mean life expectancy
- Reduced ohmic losses
- Easy access for cable connection



B44066S....J230/J110

Features	
Resistors	Tamper-proof and protected
Leading contacts	With wiper function
Pre-contacts	Snap function
Aux-contacts	For all types
Usage	In applications with or without reactors



B44066S9910J230

Series B44066S....N230
for detuned PFC-systems with reactors

Characteristics

- Cost efficient
- Optimized for capacitor switching
- Long useful life of main contacts of capacitor contactor
- Easy access for cable connection

Features	
Aux-contacts	For all types
Usage	In applications with reactors only



B44066S....N230/N110

Technical Data

To IEC 947-4-1, IEC 947-5-1, EN 60947-4-1, EN 60947-5-1, VDE 0660

Type/ Main contacts		...1810...	...2410...	...3210...	...5010...	...6210...	...7410...	...9910...
Capacitor power at 50 °C								
■ 380 ... 400 V	kvar	0 ... 12.5	10 ... 20	10 ... 25	20 ... 33.3	20 ... 50	20 ... 75	33 ... 100
■ 415 ... 440 V		0 ... 13	10.5 ... 22	10.5 ... 27	23 ... 36	23 ... 53	23 ... 75	36 ... 103
■ 660 ... 690 V		0 ... 20	17 ... 33	17 ... 41	36 ... 55	36 ... 82	36 ... 120	57 ... 170
Capacitor power at 60 °C								
■ 380 - 400 V	kvar	0 ... 12.5	10 ... 20	10 ... 25	20 ... 33.3	20 ... 50	20 ... 60	33 ... 90
■ 415 - 440 V		0 ... 13	10.5 ... 22	10.5 ... 27	23 ... 36	23 ... 53	23 ... 64	36 ... 93
■ 660 - 690 V		0 ... 20	17 ... 33	17 ... 41	36 ... 55	36 ... 82	36 ... 100	57 ... 148
Coil voltage at 50 Hz:								
■ Type ...J230	V AC	230 ±10	230 ±10	230 ±10	230 ±10	230 ±10	230 ±10	230 ±10
■ Type ...J110		110 -10	110 -10	110 -10	not avail.	110 -10	110 -10	not avail.
■ Type ...N230		230 ±10	230 ±10	230 ±10	230 ±10	230 ±10	230 ±10	230 ±10
Coil voltage at 60 Hz:								
■ Type ...J230	V AC	252 ±12	252 ±12	252 ±12	252 ±12	252 ±12	252 ±12	230 ±10
■ Type ...J110		110 +12	110 +12	110 +12	not avail.	110 +12	110 +12	not avail.
■ Type ...N230		252 ±12	252 ±12	252 ±12	252 ±12	252 ±12	252 ±12	230 ±10
Max. current at 50/60 Hz								
■ 50 °C	A	18	28	36	48	72	108	144
■ 60 °C		18	28	36	48	72	87	130
Power loss contactor at max. rated capacitor current	W	4.1	5.7	7.5	12.6	21	38.7	36
Rated insulation voltage	V AC	690 ¹	690 ¹	690 ¹	690 ¹	690 ¹	690 ¹	1000 ¹
Max. frequency of operations:	1/h	120	120	120	120	120	80	80
Contact life:	Million operations	0.25	0.15	0.15	0.15	0.15	0.12	0.075
Cable cross section								
■ Solid or stranded	mm ²	1.5 ... 6	2.5 ... 25	2.5 ... 25	4 ... 50	4 ... 50	4 ... 50	0.5 ... 95 / 10 ... 120
■ Flexible		1.5 ... 4	2.5 ... 16	2.5 ... 16	10 ... 35	10 ... 35	10 ... 35	0.5 ... 70 / 10 ... 95
■ Flexible with cable end sleeve		1.5 ... 4	2.5 ... 16	2.5 ... 16	10 ... 35	10 ... 35	10 ... 35	0.5 ... 70 / 10 ... 95
Cables / clamp		2	1	1	1	1	1	2
2 cables per clamp for cable cross section:								
■ Solid or stranded	mm ² (max.)	6/6	10/10	10/10	16/16	16/16	16/16	95/120
■ Flexible		4/4	10/10	10/10	25/25	25/25	25/25	70/95

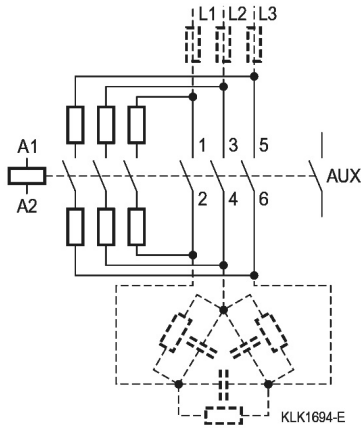
¹ Applies to networks with grounded star point, over voltage category I to IV, pollution severity 3 (industrial standard),
V_{imp} = 6 kV. Values for other conditions are available on request.

Type/ Auxiliary contacts		...1810...	...2410...	...3210...	...5010...	...6210...	...7410...	...9910...
Operating range of magnet coils in multiples of control voltage		0.85 ... 1.1	0.85 ... 1.1	0.85 ... 1.1	0.85 ... 1.1	0.85 ... 1.1	0.85 ... 1.1	0.85 ... 1.1
Weight:								
■ Type ...N...	kg	0.23	0.50	0.50	0.9	0.9	0.9	2.3
■ Type ...J...		0.34	0.64	0.64	1.1	1.1	1.1	2.4
Normal Open (NO)		1	1	1	1	1	1	1
Rated insulation voltage	V AC	690 ²	690 ²	690 ²	690 ²	690 ²	690 ²	690 ²
Rated operational current, utilization category AC15:								
■ 220 ... 240 V	A	12	3	3	3	3	3	3
■ 380 ... 440 V	A	4	2	2	2	2	2	2
Thermal rated current at ambient temperature:								
■ 40 °C	A	16	10	10	10	10	10	10
■ 60 °C	A	12	6	6	6	6	6	6
Short circuit protection: Max. fuse size, slow, gL (gG)	A	25	20	20	20	20	20	20

² Applies to networks with grounded star point, over voltage category I to IV, pollution severity 3 (industrial standard), $V_{imp} = 6$ kV. Values for other conditions are available on request.

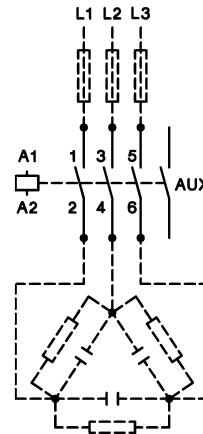
Connection diagram for all types B44066S....J...

(with preload resistors). (B44066S1810J230 and B44066S1810J110 with wires on the bottom only, B44066S9910J230 with resistors inside housing).



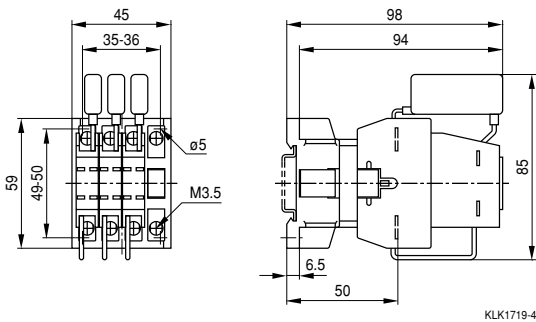
Connection diagram for all types B44066S...N...

(without preload resistors).

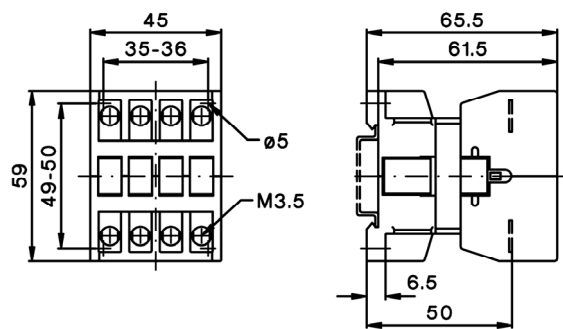


Dimensional drawings

B44066S1810J230, B44066S1810J110

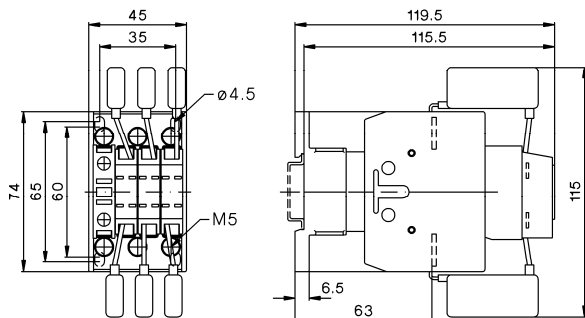


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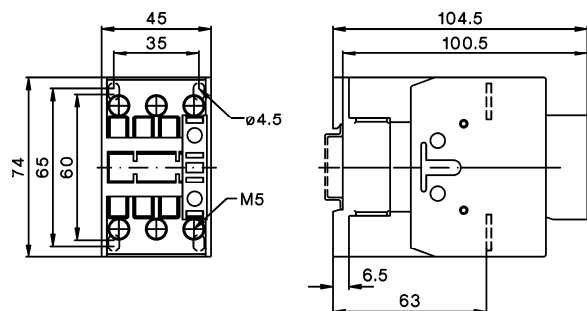


B44066S2410J230, B44066S3210J230

B44066S2410J110, B44066S3210J110



B44066S2410N230, B44066S3210N230

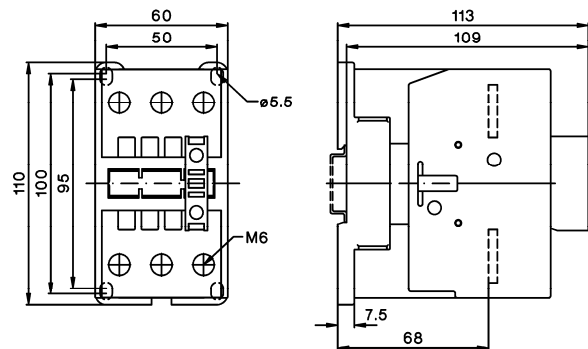
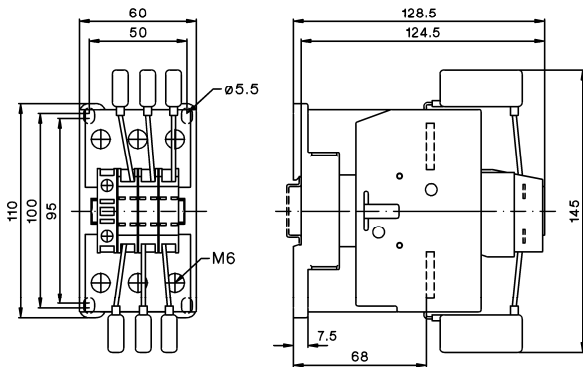


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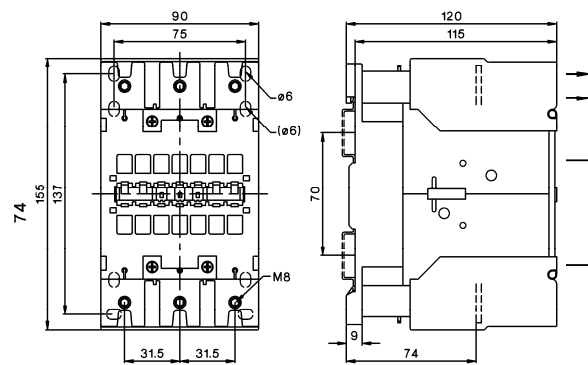
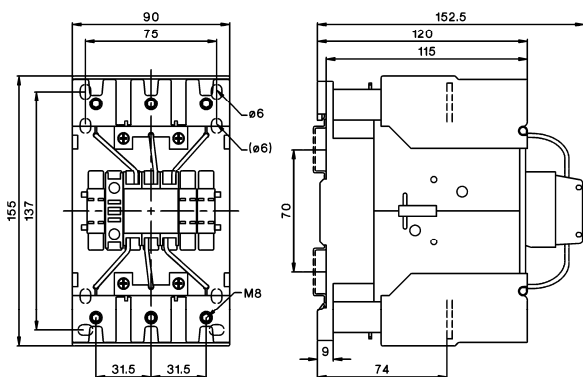
B44066S5010J230,
B44066S6210J230, B44066S6210J110,
B44066S7410J230, B44066S7410J110

B44066S5010N230, B44066S6210N230
B44066S7410N230



B44066S9910J230

B44066S9910N230



Cautions and warnings

In case auxiliary contacts are used for switching of discharge resistors (not in accordance with IEC 60831 standard), make sure that the current of the discharge resistors is not higher than the rated current of the auxiliary contacts.

Mounting instructions

In the area of capacitor switching contactors, difficultly inflammable and self-extinguishing materials may be used only, because abnormal temperatures within the area of the resistance spirals cannot be excluded.

Note

For detailed information about PFC capacitors and cautions, refer to the latest version of the EPCOS PFC Product Profile.

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