



## **Film capacitors – Power Factor Correction**

Capacitor contactors for Power Factor Correction

**Ordering code: B44066S...N230/J230/J110**

Date: February 2008

Version: 6

**Capacitor Switching Contactors for all Power Factor Correction Systems  
B44066S...J230/J110**

**Construction**

- Excellent damping of inrush current
- Improved power quality (e.g. avoidance of voltage sags)
- Recall function of recorded values
- 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



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

B44066S1810 ... S7410J230



B44066S9910J230

**Capacitor Switching Contactors for Detuned Power Factor Correction Systems  
B44066S...N230**

**Construction**

- 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

**Capacitor contactors for Power Factor Correction**

<b>Technical Data</b>								
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 <sup>1</sup>	690 <sup>1</sup>	690 <sup>1</sup>	690 <sup>1</sup>	690 <sup>1</sup>	690 <sup>1</sup>	1000 <sup>1</sup>
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 <sup>2</sup>	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 <sup>2</sup> (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

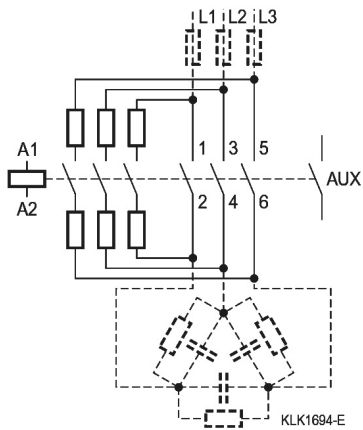
<sup>1</sup> Applies to networks with grounded star point, over voltage category I to IV, pollution severity 3 (industrial standard), V<sub>imp</sub> = 8 kV. Values for other conditions are available on request.

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 <sup>2</sup>	690 <sup>2</sup>	690 <sup>2</sup>	690 <sup>2</sup>	690 <sup>2</sup>	690 <sup>2</sup>	690 <sup>2</sup>
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

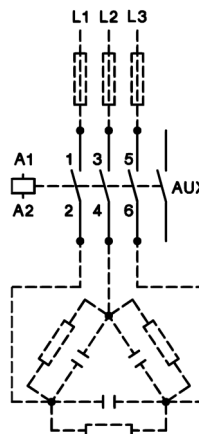
<sup>2</sup> Applies to networks with grounded star point, over voltage category I to IV, pollution severity 3 (industrial standard),  $V_{imp} = 8$  kV. Values for other conditions are available on request.

Capacitor contactors for Power Factor Correction

**Connection diagram for all types B44066S...J...**  
 (with preload resistors). (B44066S1810J230 and  
 B44066S1810J110 with wires on the bottom only,  
 B44066S9910J230 with resistors inside housing).

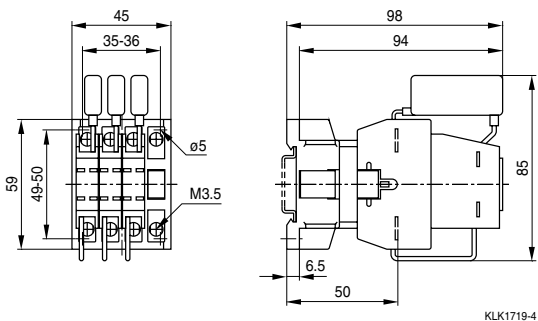


**Connection diagram for all types B44066S...N...**  
 (without preload resistors).

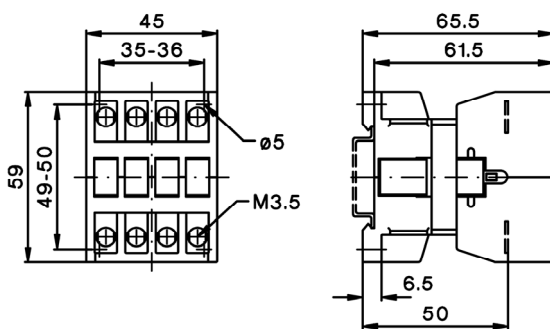


**Dimensional drawings**

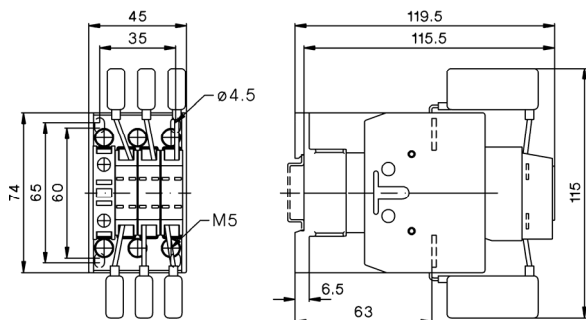
B44066S1810J230, B44066S1810J110



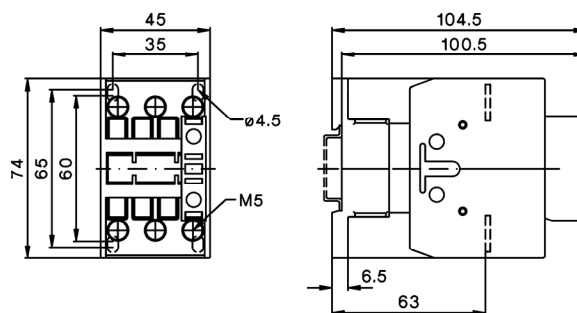
B44066S1810N230



B44066S2410J230, B44066S3210J230  
 B44066S2410J110, B44066S3210J110

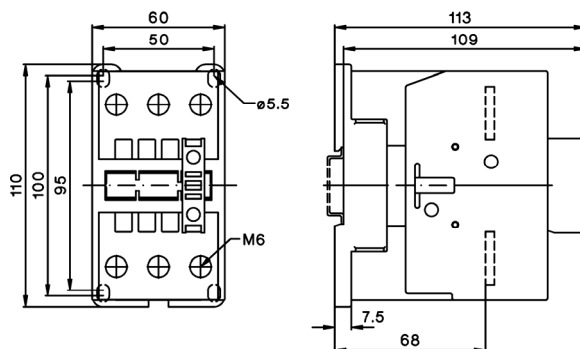
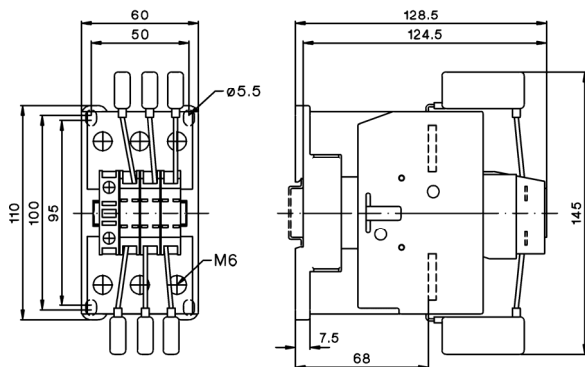


B44066S2410N230, B44066S3210N230



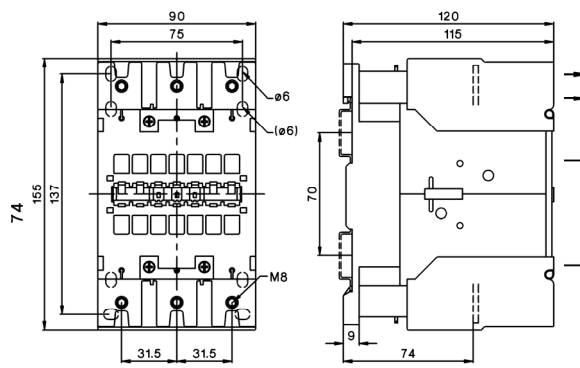
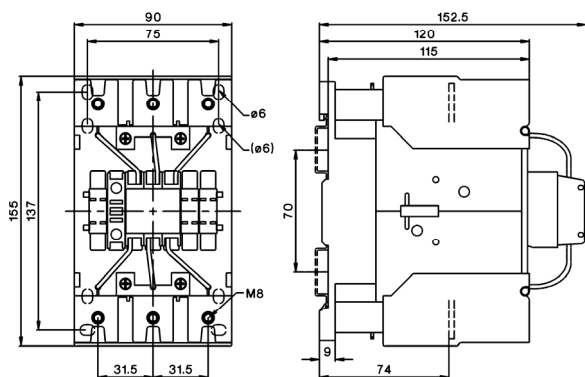
B44066S5010J230,  
B44066S6210J230, B44066S6210J110,  
B44066S7410J230, B44066S7410J110

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**

No inflammable material or material sensitive to heat must be close-by the capacitor switching contactors because temperatures may increase around the resistance spirals.

**Note**

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

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