

# SWITCHING DEVICES – CAPACITOR CONTACTORS

“Specially Designed for Damping of Inrush Current in LV PFC (Low-voltage Power Factor Correction) Systems”

## APPLICATIONS

- Damping of inrush current in low-voltage PFC (Power Factor Correction) systems
- For PFC systems with and without reactors

## FEATURES

- Excellent damping of inrush current
- Improved power quality (e.g. avoidance of voltage sags)
- Longer useful service life of main contacts of the capacitor contactor
- Soft switching of capacitor and thus longer useful service life
- Enhanced mean life expectancy of the PFC system
- Reduced ohmic losses
- Leading contacts with wiper function
- Tamper-proof and protected resistors
- Easy access for cable connection
- Voltage range: 400...690 V
- Output range: 12.5 ... 100 kvar
- Series J230 for PFC systems without reactors

## APPROVALS / CERTIFICATION

- cUL file 224924

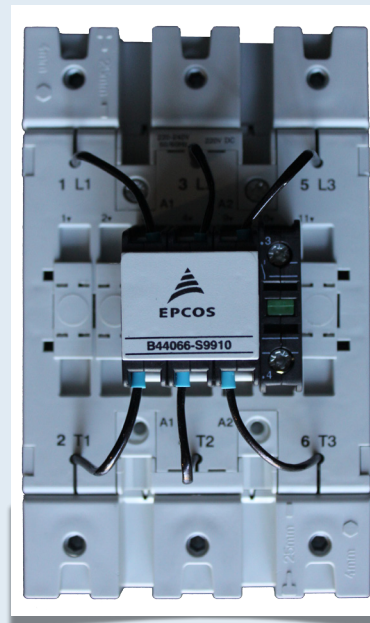
## GENERAL

When a capacitor is switched to an AC voltage, the result is a resonant circuit damped to a greater or lesser degree. The switching of capacitors can cause high inrush currents, particularly when they are switched in parallel to others already activated in the power line, and if high short-circuit powers are present on the line.

Capacitor contactors with damping

resistors make use of pre-switching auxiliary contacts. They close before the main contacts and pre-load the capacitor thus avoiding current peak values.

This positively influences the life expectancy of the capacitor significantly in addition to the positive impact on the power quality (avoiding transients and voltage sags that otherwise may be caused by switching in capacitors).



### Item

12.5 kvar – 230 V coil  
 25 kvar – 230 V Coil  
 50 kvar – 230 V Coil  
 75 kvar – 230 V Coil  
 100 kvar – 230 V Coil  
 12.5 kvar – 400 V coil  
 25 kvar – 400 V Coil  
 50 kvar – 230 V Coil  
 75 kvar – 230 V Coil  
 100 kvar – 230 V Coil

### Ordering Code

B44066S1810J230  
 B44066S3210J230  
 B44066S6210J230  
 B44066S7410J230  
 B44066S9910J230  
 B44066S1810J400  
 B44066S3210J400  
 B44066S6210J400  
 B44066S7410J400  
 B44066S9910J400

# Switching Devices - Capacitor Contactors

## Main technical parameters – 230 / 400 V coil

Capacitor power at ambient temperature, voltage 50 / 60 Hz						Rated Current		Weight
380 – 400 V		415 – 440 V		660 – 690 V		+50°C	+60°C	kg
+50°C	+60°C	+50°C	+60°C	+50°C	+60°C			
kvar	kvar	kvar	kvar	kvar	kvar	A	A	
<b>230 / 400 v coil</b>								
10-25	10-25	10.5-27	10.5-27	17-41	17-41	36	36	0.60
20-50	20-50	23-53	23-53	36-82	36-82	72	72	1.10
20-75	20-60	23-75	23-64	36-120	36-100	108	87	1.10
33-100	33-90	36-103	36-93	57-148	57-148	144	130	2.30

## Technical Data

Type	B44066****J230/J400					
Main contacts			S3210	S6210	S7410	S9910
Rated insulation voltage $V_i$	$V_{is}$	[V AC]	690 <sup>1)</sup>	690 <sup>1)</sup>	690 <sup>1)</sup>	1,000 <sup>1)</sup>
Admissible frequency of operation		1/h	120	120	80	80
Contact life		Million operations	0.15	0.15	0.12	0.12
<b>Cable cross section</b>						
Solid or standard		[mm <sup>2</sup> ]	2.5-25	4-50	4-50	0.5-95/10-120
Flexible		[mm <sup>2</sup> ]	2.5-16	10-35	10-35	0.5-70/10-95
Flexible with multicore cable end		[mm <sup>2</sup> ]	2.5-16	6-35	6-35	0.5-70/10-95
Cables per clamp			1	1	1	2
<b>Operating range of magnet coils</b>						
In multiples of control voltage	$V_s$		0.85-1.1	0.85-1.1	0.85-1.1	0.85-1.1
<b>Auxiliary contacts<sup>1)</sup></b>						
Rated insulation voltage $V_i$	$V_{is}$	[V AC]	690 <sup>1)</sup>	690 <sup>1)</sup>	690 <sup>1)</sup>	690 <sup>1)</sup>
<b>Rated current <math>I_{th}</math></b>						
At ambient temperature						
Max. 40°C		$I_{coth}$ [A]	10	10	10	10
Max. 60°C		$I_{coth}$ [A]	6	6	6	6
<b>Utilization category AC15</b>						
220 to 240 V		$I_{coth}$ [A]	3	3	3	3
380 to 440 V		$I_{coth}$ [A]	2	2	2	2
<b>Short circuit protection</b>						
Highest fuse rating		$I_{coth}$ [A]	20	20	20	20
slow, gL (gG)						
Auxiliary contacts		NO/ NC	1 / 0	1 / 0	1 / 0	1 / 0
EC 947-4-1, IEC 947-5-1, EN 60947-5-1, VDE 0660.						

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