



## Film Capacitors - Power Factor Correction

### PhaseCap Compact Capacitors

**Series/Type:** MKK400-D-5-02  
**Ordering code:** B25673A4052A000  
**Date:** 2014-09-8  
**Version:** 3

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### Construction

- Dielectric: Polypropylene film
- Non-PCB, semi-dry biodegradable resin
- Concentric winding
- Wave cut
- Extruded round aluminium can with stud
- Provided with ceramic discharge module
- Overpressure disconnecter.

### Features

- Three-phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

### Typical applications

- For Power Factor Correction

### Terminals

- Optimized capacitor safety terminals

### Mounting

- Threaded stud at bottom of can  
(max. torque for M12 = 10 Nm)



**Technical data and specifications**

Characteristics	MKK400-D-5-02	
Rated capacitance $C_N$	3 • 33.2 $\mu$ F	
Tolerance	-5 / +10%	
Connection	D (Delta)	
Rated voltage $V_N$	400 V AC	
Rated frequency $f_N$	50 Hz	60 Hz
Output	5.0 kvar	6.0 kvar
Rated current $I_R$	7 A	9 A
$\tan \delta_0$ (dielectric)	~0.2 W / kvar	
$W_N$	16 Ws	
$R_S$	3.19 m $\Omega$	
$R_{is} \cdot C$	30000 s	
* $\tan \delta$ (50 Hz)	$\leq 0.3$ W / kvar	

\* Without discharge resistor

Maximum ratings	
$V_{max}$ (up to 8 h daily)	440 V AC rms / 622 V peak
$V_{max}$ (up to 1 min)	520 V AC rms / 735 V peak
$I_{max}$	Up to 2.2 • $I_R$ (A) including combined effects of harmonics, overvoltages and capacitance tolerance*
$I_S$	400 • $I_R$ (A)
$V_{TC imp}$	8000 Vpk (Standard 1.2/50 $\mu$ s impulse)

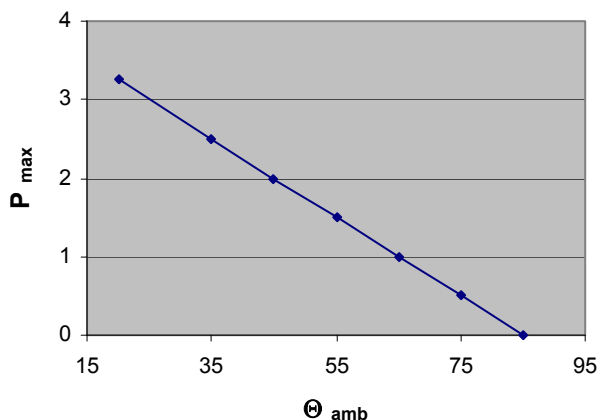
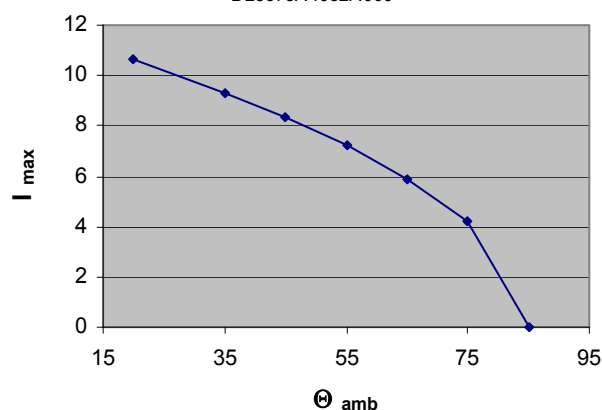
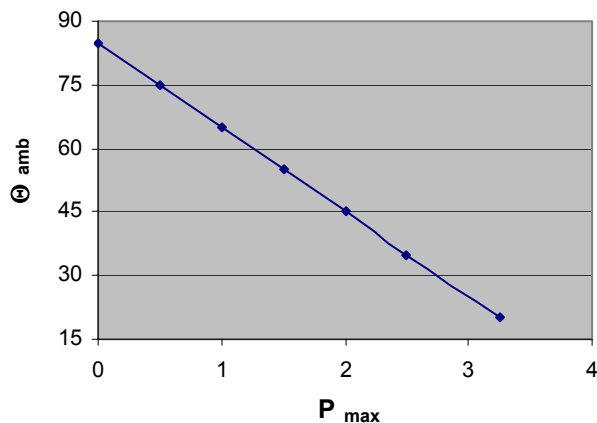
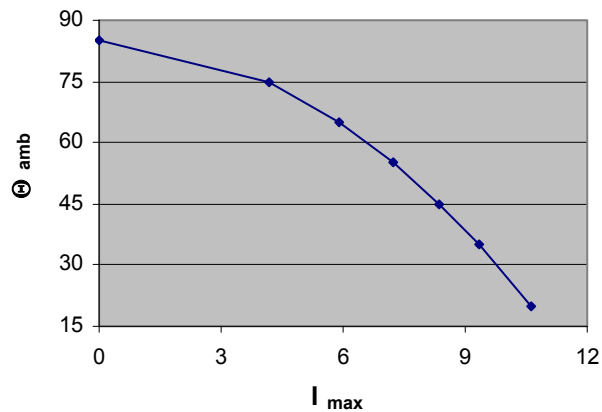
\*Care must be taken to ensure that the maximum permissible voltages and operating temperatures are not exceeded

Test data	
$V_{TT}$	900 V AC / 50 Hz for 10 s
$V_{TC}$	3000 V AC / 50 Hz for 10 s

Design data	
Dimensions (d x h)	85 x 125 mm
Weight approx	0.7 kg
Impregnation	Non PCB, semi-dry biodegradable resin
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See "Maintenance and Installation Manual" for further details.

**Climatic category -40/60**

$\ominus$ min	-40 °C	
$\ominus$ max	60 °C	
Storage temperature	-40 °C....+85 °C	
$\Theta$ hotspot Max.	85 °C	
Maximum power loss at $\Theta$ ambient	P max	at $\Theta$ ambient
	1.5 W	55 °C
	1.0 W	65 °C
	0.5 W	75 °C
	0 W	85 °C
Humidity	av. rel. < 95%	
Degree of protection	IP 20	
Maximum altitude	4,000 m	

 Max. allowable power loss at specific ambient Temp.  
 B25673A4052A000

 Max. allowable current (rms) at specific ambient Temp.  
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 Max. allowable ambient Temp. at specific power loss  
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 Max. allowable ambient Temp. at specific current (rms)  
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**Mean life expectancy**

$t_{LD}$	Up to 200 000 hours (temperature class $-40/C$ ) ; $\Theta_{HS} \leq 70^{\circ}C$ Up to 150 000 hours (temperature class $-40/60$ ) ; $\Theta_{HS} \leq 70^{\circ}C$
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Max. 10000 switchings per year

**Terminals**

Protection degree	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm <sup>2</sup>
Maximum terminal current	50 A
Creepage distance (min)	12.7 mm
Clearance (min)	9.6 mm

**Safety**

Mechanical safety	Overpressure disconnecter
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	$\leq 60$ s to 75 V or less

**Reference standards**

IEC 60831-1/2, UL 810-5th edition

**Label design**

**PhaseCap<sup>®</sup>  
Compact**
**MKK400-D-5-02  
B25673A4052A000**
 $C_N = 3 \times 33.2 \mu\text{F} \pm 10/-5\% \Delta \text{ SH}$ 

$U_N$	$Q_N/50\text{Hz}$	$Q_N/60\text{Hz}$
400V	5.0 kvar	6.0 kvar
380V	4.5 kvar	5.4 kvar
240V	1.8 kvar	2.2 kvar

 $U_i = 3/-kV \quad -40/60$ 

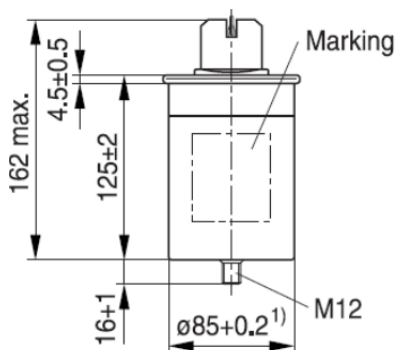
Overpressure disconnecter      Non PCB

IEC 60831(96)

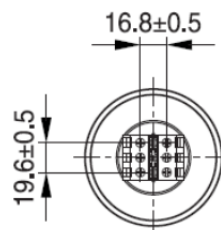


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DISCHARGE CAPACITOR BEFORE HANDLING


 Toothed locked washer  
DIN 6797-J13

Hexagon nut DIN 439-BM12!


<sup>1)</sup> Seaming adds 4 mm in diameter

KLK1105-W

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