



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 μ 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 Ω	
$R_{is} \cdot C$	30000 s	
* $\tan \delta$ (50 Hz)	≤ 0.3 W / kvar	

* Without discharge resistor

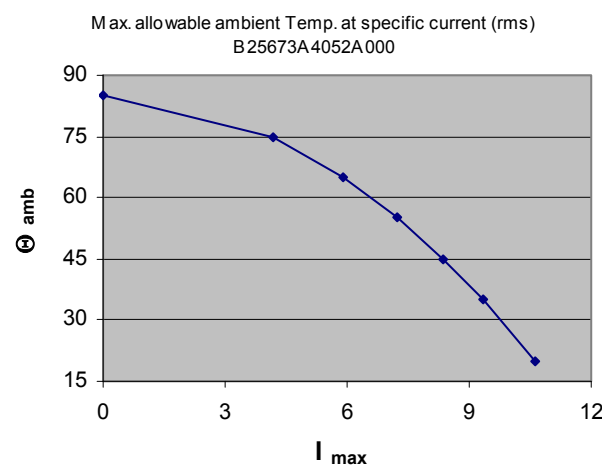
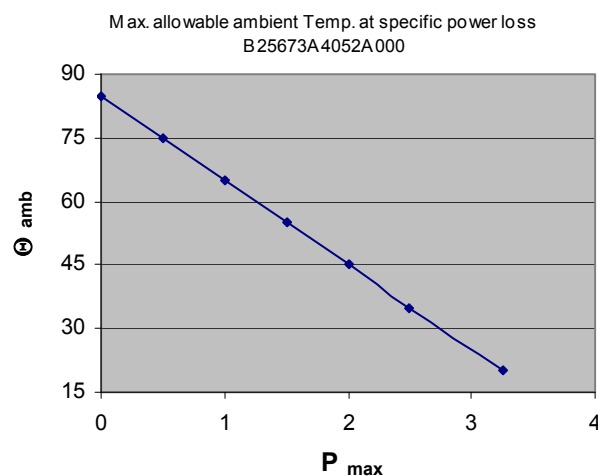
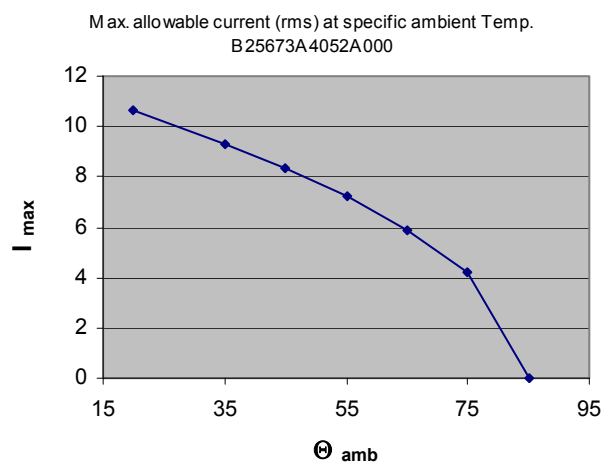
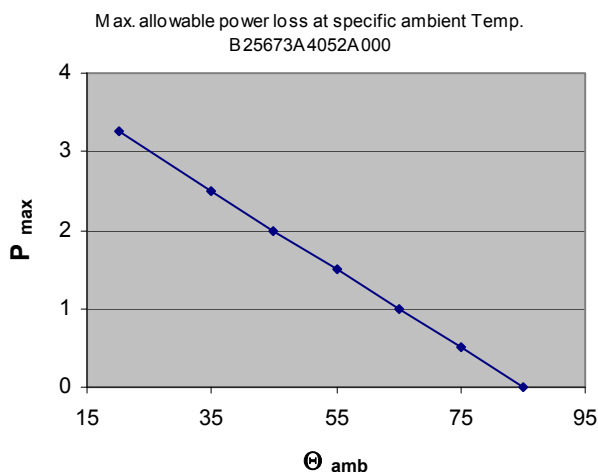
Maximum ratings	
V_{max} (up to 8 h daily)	440 V AC rms / 622 V peak
V_{max} (up to 1 min)	520 V AC rms / 735 V peak
I_{max}	Up to 2.2 • I_R (A) including combined effects of harmonics, overvoltages and capacitance tolerance*
I_S	400 • I_R (A)
$V_{TC imp}$	8000 Vpk (Standard 1.2/50 μ s impulse)

*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	
Θ hotspot Max.	85 °C	
Maximum power loss at Θ_{ambient}	P max	at Θ_{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	



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 $-40/60$) ; $\Theta_{HS} \leq 70^{\circ}C$
Max. 10000 switchings per year	

Terminals

Protection degree	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm ²
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	≤ 60 s to 75 V or less

Reference standards

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

Label design

**PhaseCap[®]
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

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

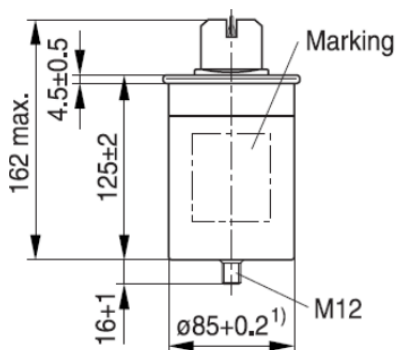
Overpressure disconnecter Non PCB

IEC 60831(96)

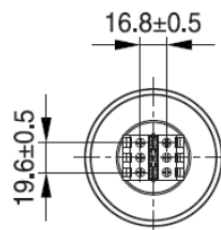


Made by EPCOS

09.11

DISCHARGE CAPACITOR BEFORE HANDLING

 Toothed locked washer
DIN 6797-J13

Hexagon nut DIN 439-BM12!


¹⁾ Seaming adds 4 mm in diameter

KLK1105-W

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