

### Construction

- Dielectric: Polypropylene film
- Non PCB, biodegradable soft resin
- Extruded round aluminum can with stud
- Provided with discharge resistors

### Features

- Single phase
- Naturally air cooled or forced air cooling
- Indoor mounting

### Typical applications

PFC and detuned systems

### Terminals

Fast-on terminals

### Mounting parts

Threaded stud at bottom of can

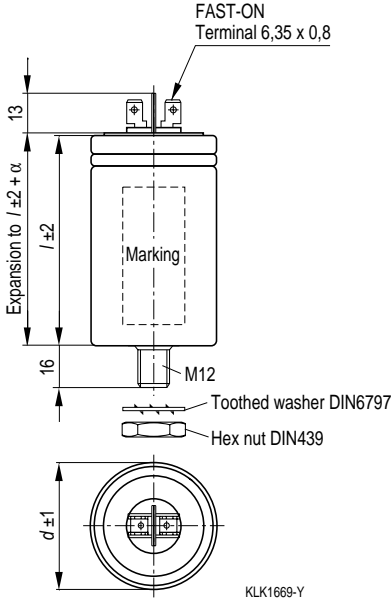
Max. torque = 10 Nm for M12 (Ø 63.5 mm)



**Technical data and specifications**

Standard	IEC 831-1+2, IS: 13340/41 UL 810 5 <sup>th</sup> edition, cUL file E106388
Rated capacitance $C_N$ & $Q_R$	According to dimensions table
Tolerance (%)	-5 / +10
Rated voltage $U_R$	According to dimensions table
Rated frequency $f_R$	50/60 Hz
Mean life expectancy	Up to 100 000 operating hours
<b>Maximum ratings</b>	
Maximum permissible overvoltage $U_{max}$	$U_R + 10\%$ (up to 8 h daily) $U_R + 15\%$ (up to 30 min daily), $U_R + 20\%$ (up to 5 min daily) $U_R + 30\%$ (up to 1 min daily)
Maximum permissible overcurrent $I_{max}$	$1.5 \times I_R$ ( $I_R$ : rated current), including combined effects of harmonics, overvoltages and capacitance
Number of switching operations	Max. 5 000 switchings per year according IEC 831
Transient inrush current (max) $I_S$	Up to $200 \times I_R$
Losses:	
Dielectric	< 0.2 W/kvar
Total	< 0.45 W/kvar
Test voltage, terminal/terminal $U_{TT}$	$2.15 \times U_R$ , 10 s
Test voltage, terminal/case $U_{TC}$	3 000 $V_{AC}$ , 10 s
Temperature class	-25/D Max. temp. 55 °C Max. mean 24 h = 45 °C Max. mean 1 year = 35 °C
Safety	Self-healing technology, overpressure disconnecter, maximum allowed fault current 10 000 A in accordance with UL 810-standard
Case/shape	Aluminum/cylindrical
Enclosure	IP00, IP20, optionally IP54
Permissible maximum humidity	95%
Maximum permissible altitude	4 000 m above sea level
Mounting position	Upright
Mounting and grounding	Threaded M12 (10 Nm / Ø 63.5mm)

**Dimensional drawing**



Creepage distance	10.0 mm
Clearance	16.5 mm
Diameter (∅)	63.5 mm
Expansion α	max. 12 mm

**Mounting**

	M12
Torque	T=10 Nm
Toothed washer	J12.5 DIN 6797
Hex nut	BM12 DIN 439

**Power Factor Correction**
**Rated voltage: 230 VAC, 50 / 60 Hz**

Type	50 Hz		60 Hz		C <sub>N</sub> μF	d x h mm	Weight kg	Ordering code
	Output kvar	I <sub>R</sub> A	Output kvar	I <sub>R</sub> A				
MKP230-I-0.8	0.8	3.6	1.0	4.3	50	63.5 x 105	0.30	B32340C2002A830
MKP230-I-1.7	1.7	7.2	2.0	8.7	100	63.5 x 142	0.40	B32340C2012A730
MKP230-I-2.5	2.5	10.9	3.0	13.1	150	63.5 x 142	0.50	B32340C2022A530

**Rated voltage: 400 VAC, 50 / 60 Hz**

Type	50 Hz		60 Hz		C <sub>N</sub> μF	d x h mm	Weight kg	Ordering code
	Output kvar	I <sub>R</sub> A	Output kvar	I <sub>R</sub> A				
MKP400-I-0.8	0.8	2.0	1.0	2.3	15	63.5 x 68	0.30	B32340C4001A880
MKP400-I-1.7	1.7	4.2	2.0	5.0	33	63.5 x 68	0.30	B32340C4012A700
MKP400-I-2.5	2.5	6.3	3.0	7.5	50	63.5 x 105	0.40	B32340C4022A500
MKP400-I-3.3	3.3	8.4	4.0	10.0	66	63.5 x 105	0.40	B32340C4032A300
MKP400-I-4.2	4.2	10.4	5.0	12.5	83	63.5 x 142	0.40	B32340C4051A000
MKP400-I-5.0	5.0	12.4	6.0	15.0	99	63.5 x 142	0.50	B32340C4052A000

**Rated voltage: 415 VAC, 50 / 60 Hz**

Type	50 Hz		60 Hz		C <sub>N</sub> μF	d x h mm	Weight kg	Ordering code
	Output kvar	I <sub>R</sub> A	Output kvar	I <sub>R</sub> A				
MKP415-I-0.8	0.8	2.0	1.0	2.4	15	63.5 x 68	0.35	B32340C4002A810
MKP415-I-1.7	1.7	4.0	2.0	4.8	31	63.5 x 105	0.45	B32340C4012A710
MKP415-I-2.5	2.5	6.0	3.0	7.2	46	63.5 x 142	0.50	B32340C4022A510
MKP415-I-3.3	3.3	8.0	4.0	9.7	62	63.5 x 142	0.50	B32340C4032A310
MKP415-I-5.0	5.0	12.0	6.0	14.4	91	63.5 x 142	0.60	B32340C4052A010

**Rated voltage: 440 VAC, 50 / 60 Hz**

Type	50 Hz		60 Hz		C <sub>N</sub> μF	d x h mm	Weight kg	Ordering code
	Output kvar	I <sub>R</sub> A	Output kvar	I <sub>R</sub> A				
MKP440-I-0.7	0.7	1.6	0.8	1.9	11	63.5 x 68	0.30	B32340C4001A840
MKP440-I-1.4	1.4	3.2	1.7	3.8	23	63.5 x 68	0.30	B32340C4011A740
MKP440-I-2.1	2.1	4.7	2.5	5.7	34	63.5 x 105	0.40	B32340C4021A540
MKP440-I-2.8	2.8	6.4	3.3	7.6	46	63.5 x 105	0.40	B32340C4031A340
MKP440-I-3.3	3.3	7.6	4.0	9.1	55	63.5 x 142	0.50	B32340C4032A340
MKP440-I-4.2	4.2	9.5	5.0	11.4	68	63.5 x 142	0.50	B32340C4051A040
MKP440-I-5.0	5.0	11.4	6.0	13.6	82	63.5 x 142	0.60	B32340C4052A040

**Rated voltage: 480 VAC, 50 / 60 Hz**

Type	50 Hz		60 Hz		C <sub>N</sub> μF	d x h mm	Weight kg	Ordering code
	Output kvar	I <sub>R</sub> A	Output kvar	I <sub>R</sub> A				
MKP480-I-0.7	0.7	1.5	0.8	1.7	10	63.5 x 105	0.30	B32340C4001A880
MKP480-I-1.4	1.4	2.9	1.7	3.5	19	63.5 x 105	0.30	B32340C4011A780
MKP480-I-2.1	2.1	4.3	2.5	5.2	29	63.5 x 105	0.50	B32340C4021A580
MKP480-I-2.8	2.8	5.8	3.3	6.9	38	63.5 x 142	0.50	B32340C4031A380

**Rated voltage: 525 VAC, 50 / 60 Hz**

Type	50 Hz		60 Hz		C <sub>N</sub> μF	d x h mm	Weight kg	Ordering code
	Output kvar	I <sub>R</sub> A	Output kvar	I <sub>R</sub> A				
MKP525-I-1.4	1.4	2.6	1.7	3.1	15	63.5 x 105	0.30	B32340C5011A720
MKP525-I-2.8	2.8	5.2	3.3	6.2	31	63.5 x 142	0.50	B32340C5031A320
MKP525-I-3.3	3.3	6.3	4.0	7.6	38	63.5 x 142	0.60	B32340C5032A320
MKP525-I-4.2	4.2	8.0	5.0	9.5	48	63.5 x 142	0.70	B32340C5051A020

## Cautions

Discharge and short circuit capacitor before handling!

### *Mechanical damage*

In case of dents of more than 0.5 mm or any other mechanical damage, capacitors must not be used at all.

### *Vibration resistance*

The resistance to vibration of capacitors corresponds to IEC 68, part 2–6. Max. test conditions:

Test duration 2 h corresponding to max. 0.7 g

Frequency range 10 ... 55 Hz corresponding to max. 0.7 g

Displacement amplitude 0.75 mm corresponding to max. 0.7 g

These figures apply to the capacitor alone. Because the fixing and the terminals may influence the vibration properties, it is necessary to check stability when a capacitor is built in and exposed to vibration.

Irrespective of this, you are advised not to locate capacitors where vibration amplitude reaches the maximum in strongly vibrating equipment.

### *Connection*

Make sure connection cables are of flexible type or flexible copper bands are used. This is mandatory to allow the overpressure disconnecter work and avoid mechanical stress on the terminals and feed throughs. The connection cables to the capacitor should be designed for a current of at least 1.5 times the rated current so that no heat is conducted into the capacitor. If reactors are used in an application, the distance between reactor and capacitor must be great enough so that no heat of the reactors, which are operating at a much higher temperature level, is conducted via connection cable to the capacitors.

Avoid bending cable lugs, cables or other mechanical force on the terminals. Otherwise leakages may set the safety device out of operation. Ensure firm fixing of terminals, fixing torque to be applied as per individual specification. Maximum specified terminal current (please refer to technical data of specific series) must not be exceeded at any case.

### *Grounding*

The threaded bottom stud of the capacitor has to be used for grounding. In case grounding is done via metal chassis that the capacitor is mounted to, the layer of varnish beneath the washer and nut should be removed.

### *Storage and operating conditions*

Do not use or store capacitors in corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are present. In dusty environments regular maintenance and cleaning especially of the terminals is required to avoid conductive path between phases and/or phases and ground.

**⚠ Please read information about PFC capacitors and cautions as well as installation and maintenance instructions (Power Factor Correction Product Profile, actual version) to ensure optimum performance and prevent products from failing, and in worst case, bursting and fire, etc.**

**Information given in the PFC-product profile and values given in the data sheet reflect typical specifications. You are kindly requested to approve our product specifications or request our approval for your specification before ordering.**

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