


Power Capacitors

	Low Voltage Power Factor Correction Capacitors	High Voltage Power Capacitors	Induction Heating Capacitors	HV Capacitors for Network Tone Control	Capacitors for Protection of HV Power Switches
Type	KNK	KLK	KLS	KLT	KID
					
Dielectric	polypropylene film	all-film	all-film	all-film	mixed
Electrodes	metallized	metal foil	metal foil	metal foil	metal foil
Rated AC voltage	220 — 550 V	1 — 13,86 kV	500 — 3000 V	1 — 35/√3 kV	up to 750 kV
Rated power	1 — 100 kvar	50 — 600 kvar	up to 4000 kvar		
Rated frequency	50 — 60 Hz	50 — 60 Hz	50 — 10000 Hz	50 Hz (up to 1050 working)	50 Hz
Capacitance range					up to 20000 pF
Capacitance tolerance	-5 %, +10 %	-5 %, +10 %	-5 %, +10 %	-5 %, +5 %	-5 %, +10 %
Climatic category	-25 — +55 °C	-25/C (other categories on request)	-25 /+45 °C (air cooled capacitors) +1 / +45 °C (water cooled capacitors)	-40 — +50 °C	-40 — +70 °C
Disipation factor (20 °C, 50 Hz)	$\leq 5 \times 10^{-4}$	$\leq 1,5 \times 10^{-4}$	$\leq 2 \times 10^{-4}$ (50 Hz)	$\leq 1,5 \times 10^{-4}$ (50 Hz)	$\leq 10 \times 10^{-4}$

Capacitors Selection Guide

W11



Low Voltage Power Correction Equipment

	Fixed PFC Banks	Automatic PFC Banks	Automatic PFC Banks with Harmonics Filters	Dynamic PFC	High Voltage PFC
					
Rated power	10 kvar — 100 kvar	17,5 kvar — 720 kvar	125 kvar — 720 kvar	50 kvar — 600 kvar	0,3 Mvar — 100 Mvar
Rated voltage	400 V, 50 Hz three-phase, other voltages on request	400 V, 50 Hz three-phase	400 V, 50 Hz	400 V, 690 V, others on request	1 kV...123 kV
Allowed overloading	1,0 × U _n permanent 1,1 × U _n 8 hours per day 1,3 × I _n permanent	1,0 × U _n permanent 1,1 × U _n 8 hours per day 1,3 × I _n permanent	1,0 × U _n permanent 1,1 × U _n 8 hours per day 1,3 × I _n permanent	1,0 × U _n permanent 1,1 × U _n 8 hours per day 1,3 × I _n permanent	1,0 × U _n permanent 1,1 × U _n 12 hours per day 1,3 × I _n permanent
Temperature range	- 25 — + 50 °C	- 10 — + 40 °C	- 10 — + 40 °C	- 10 — + 40 °C	- 25 — + 50 °C
Dielectric losses	$\leq 0,2$ W/kvar	$\leq 0,2$ W/kvar	$\leq 0,2$ W/kvar	$\leq 0,2$ W/kvar	$\leq 0,2$ W/kvar
Total losses	< 1,5 W/kvar	< 1,5 W/kvar	≤ 8 W/kvar	≤ 5 W/kvar	-

Iskra MIS, d. d.
Ljubljanska c. 24a
SI-4000 Kranj, Slovenia
Phone: +386 4 23 72 112
Fax: +386 4 23 72 129
E-mail: info@iskra-mis.si
www.iskra-mis.si



Concept, design & production: Poanta, d.o.o.
info@poanta.si

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Components for Radiointerference Suppression

Classes	X1					X2					Classes	X2	Y1	Y2	X2Y2 two-pole	X1 RC filter	Classes	X1Y2 two-pole	X1Y2 four-pole		X1Y2 LCR filters		
Type	KPB23..	KNB154.	KNB155.	KNB156.	KNB153.	Type	KNR153 RC-units	KNB253.	KNB252.	KNB753.	KPR23..	Type	KPB73.. KPB70..	KPB83..	KPB7325	KPL30..	KPL35..	Type	KPB73.. KPB70..	KPB83..	KPB7325	KPL30..	KPL35..
Rated AC voltage	275 V	440 V	310 V	275 V, 300 V	275 V, 300 V	Rated AC voltage	275 V	440 V	250 V, 300 V	275 V	275 V	Rated AC voltage	275 V	275 V	275 V	275 V	250 V, 275 V	Rated AC voltage	275 V	275 V	275 V	275 V	250 V, 275 V
Capacitance range	0,01 — 0,47 µF	0,0022 — 0,68 µF	0,01 — 2,2 µF	0,01 — 6,8 µF	0,01 — 10 µF	Capacitance range	0,01 — 0,47 µF R=2,2 — 470 Ω	470 — 22000 pF	1000 — 150000 pF	0,1 — 0,25 µF X2 2x 1000 — 2x 4700 pF Y2	0,01 — 0,1 µF R=50 — 100 Ω	Capacitance range	0,022 — 0,47 µF X1 2x 2500 — 2x 27000 pF Y2	0,022 — 0,27 µF X1 2x 2500 — 2x 27000 pF Y2	0,1 — 0,27 µF X1 2x 2500 — 2x 27000 pF Y2	0,15 — 1 µF X1 2x 2200 — 2x 27000 pF Y2	0,25 — 1 µF X1 2x 2200 — 2x 27000 pF Y2	Capacitance range	± 20 %	± 20 %	± 20 %	± 20 %	± 20 %
Capacitance tolerance	± 20 %	± 10 %, ± 20 %	± 10 %, ± 20 %	± 10 %, ± 20 %	± 10 %, ± 20 %	Capacitance tolerance	± 10 %, ± 20 %	± 10 %, ± 20 %	± 10 %, ± 20 %	± 20 %	± 20 %	Capacitance tolerance	± 20 %	± 20 %	± 20 %	± 20 %	± 20 %	Capacitance tolerance	± 20 %	± 20 %	± 20 %	± 20 %	± 20 %
Inductance						Inductance						Inductance				0,3 — 10 mH	0,3 — 1,8 mH	Inductance					
Rated: current, temperature						Rated: current, temperature					θ ₅₀ °C	Rated: current, temperature		6A θ ₅₀ °C	16 A	3 — 16 A	10 — 16 A	Rated: current, temperature					
Climatic category	25/100/21	40/100/56	40/110/56	40/110/56 40/125/56	40/100/56	Climatic category	40/085/56	40/100/56	40/100/56	40/100/56	25/085/21	Climatic category	25/100/21	25/085/21	25/100/21/B	40/100/56	25/100/21/B	Climatic category	25/100/21	25/085/21	25/100/21/B	40/100/56	25/100/21/B
Approvals						Approvals						Approvals						Approvals					

Capacitors for Use in Electronics

Type	Polyester Capacitors			Polypropylene Capacitors		
	KFU1910 *KFU1910TR	KEU1910 *KEU1910TR	KEU1012 *KEU1012TR	KLI1910 *KLI1910TR	KNI1910 *KNI1910TR	KNU1910 *KNU1910TR
Dielectric	polyester film	polyester film	polyester film	polypropylene film	polypropylene film	polypropylene film
Electrodes	metal foil	metallized	metallized	metal foil and metallized	double metallized and metallized	metallized
Capacitance range	1000 pF — 1 µF	1000 pF — 22 µF	1000 pF — 10 µF	1000 pF — 0,22 µF	680 pF — 2,2 µF	1000 pF — 6,8 µF
Rated DC voltage	100 — 1000 V	63 — 1000 V	63 — 1000 V	100 — 2000 V	250 — 2000 V	250 — 1600 V
Capacitance tolerance	± 10, ± 20 %	± 10, ± 20 %	± 10, ± 20 %	± 5, ± 10, ± 20 %	± 5, ± 10, ± 20 %	± 5, ± 10, ± 20 %
Pulse loading	1000 V/µs	2,5 — 90 V/µs	2,5 — 90 V/µs	2200 — 20500 V/µs	300 — 7000 V/µs	45 — 450 V/µs
Climatic category	55/100/56	55/100/56	55/100/56	55/100/56	55/100/56	55/100/56
Pitch	10 — 27,5 mm	10 — 27,5 mm	axial	7,5 — 27,5 mm	7,5 — 27,5 mm	10 — 27,5 mm
Taping	*taped - reel	*taped - reel	*taped - reel	*taped - reel	*taped - reel	*taped - reel

Capacitors for Power Electronics

Type	Capacitors for DC Application	Capacitors for AC application
	KNI	KNI
Dielectric	polypropylene film	polypropylene film
Electrodes	metallized	metallized
Rated voltage	600 — 1500 V	250 — 650 V
Working frequency		1000 Hz
Capacity range	0,22 — 300 µF	0,22 — 30 µF
Capacitance tolerance	± 10 %	± 10 %
Pulse loading	max. 100 V/µs	max. 50 V/µs
Climatic category	25/085/21	25/085/21
Dissipation factor (20 °C, 50 Hz)	≤ 10x10 ⁻⁴	≤ 10x10 ⁻⁴
Application	Filtering, Pulse, Supporting	General purpose, Damping, Coupling

Motor Run & Lamp Capacitors

Type	Motor Run Capacitors			Lamp Capacitors	
	KNM70.. KNM80.., KNM90..	KNM31..	KNM12.. KNM22.., KNM32..	KNF50..	KNF61..
Dielectric	polypropylene film	polypropylene film	polypropylene film	polypropylene film	polypropylene film
Electrodes	metallized	metallized	metallized	metallized	metallized
Rated AC voltage	240 — 470 V	250 — 450 V	275 — 460 V	250 — 450 V	250 V
Rated frequency	50 — 60 Hz	50 — 60 Hz	50 — 60 Hz	40 — 60 Hz	40 — 60 Hz
Capacitance range	1 — 70 µF	1 — 100 µF	0,33 — 10 µF	2 — 30 µF	2 — 22 µF
Capacitance tolerance	±5, ±10 %	±5, ±10 %	±5, ±10 %	±4, ±5, ±10%	±10 %
Climatic category	25/085/21	25/085/21	25/085/21 40/085/56	25/085/21 40/100/21	40/085/21
Approvals					