

LV Power Factor Correction Capacitors

Cylindrical Aluminium Housing



Three phase



Model	CPKNK3053	CPKNK4053	
Standards	IEC/EN 60831-1/2		
Connection	Delta (Three-phase)		
Rated Reactive Power (Q_n)	Up to 40kVAr		
Rated Voltage (U_n)	220~800V		
Rated Frequency (F_n)	50 or 60Hz		
Capacitance Tolerance	-5/10% (others on request)		
Dielectric Losses	$\leq 0.2W/kVAr$		
Total Losses	$\leq 0.45W/kVAr$		
Temperature Category	-40/D		
Maximum Humidity	95%		
Cooling	Forced ventilation or natural air cooled		
Maximum Overvoltage	1.1 x U_n (8 h/day)		
	1.15 x U_n (30 min/day)		
	1.2 x U_n (5 min - 200 times per lifetime)		
	1.3 x U_n (1 min - 200 times per lifetime)		
Maximum Overcurrent	1.5 x I_n (Normal duty) or 2 x I_n (Heavy duty)		
	(including combined effects of overvoltages, harmonics and capacitance tolerance)		
Inrush Current	200 x I_n		
Expected Lifetime	>120000 h (Normal duty)		
	>150000 h (Heavy duty)		
Discharge Resistor	To 75V \leq 3 min		
Altitude	Up to 2000 m		
Insulation Level	4/-		
Routine Tests	Terminal to Terminal	2.15 x U_n , 2 s	
	Terminal to Case	4000V, 10 s	
	Sealing Test	N/A 75°C, 6 h	
Mechanical Parameters	Terminal per Phase / Terminal Height / Max. Torque / Max. Current	2 x 25 mm ² / 35 mm / 3 Nm / 60 A for D \geq 90mm	
	Mounting and Grounding / Max. Torque	2 x 16 mm ² / 30 mm / 2 Nm / 35 A for D = 75mm	
	Mounting Position	Threaded M12 bolt / 10 Nm	
	Protection	Vertical with terminal pointing upwards or horizontal	Vertical with terminal pointing upwards
	Clearance Distance	IP20	
	Creepage Distance	> 16 mm	
	Safety Device	> 16 mm	
Material Parameters	Dielectric	Overpressure disconnector (all phases)	
	Filling	Self healing metallised polypropylene film	Dry (filled with non PCB polyurethane resin) Non PCB biodegradable vegetable oil
	Case	Aluminium	

SPECIFICATIONS:

f_n = 50Hz - Normal duty											
C_n (μF)	Q_n (kVar) I_n (A)		Q_n (kVar) I_n (A)		Q_n (kVar) I_n (A)		D (mm)	H (mm)	CPKNK3053 CPKNK4053		Packing unit (pcs)
	U_n = 400V		U_n = 380V		U_n = 380V				Weight (kg)		
3 x 33.2	5	7.2	4.5	6.8			75	165	0.9	0.8	16
3 x 49.7	7.5	10.8	6.7	10.2			75	210	1.1	1.0	16
3 x 66.3	10	14.4	9	13.7			75	210	1.1	1.0	16
3 x 82.9	12.5	18	11.3	17.2			75	245	1.4	1.2	16
3 x 99.5	15	21.7	13.5	20.5			90	210	1.5	1.3	16
3 x 132.5	20	28.9	18	27.3			90	245	1.8	1.5	16
3 x 165.8	25	36.1	22.5	34.2			90	285	2.1	1.8	16
3 x 198.9	30	43.1	27	41			116	245	3.0	2.6	9
3 x 265.3	40	57.7	36.1	54.8			116	285	3.6	3.2	9
U_n = 440V U_n = 400V U_n = 380V											
3 x 27.4	5	6.6	4.1	5.9	3.7	5.6	75	165	0.9	0.8	16
3 x 41.1	7.5	9.8	6.2	8.9	5.6	8.5	75	210	1.1	1.0	16
3 x 54.8	10	13.1	8.3	12	7.4	11.2	75	245	1.4	1.2	16
3 x 68.5	12.5	16.4	10.4	15	9.3	14.1	90	210	1.5	1.3	16
3 x 82.2	15	19.7	12.4	17.9	11.2	17	90	245	1.8	1.5	16
3 x 109.6	20	26.2	16.6	24	15	22.8	90	285	2.1	1.8	16
3 x 137	25	32.8	20.7	29.9	18.6	28.3	116	210	2.5	2.2	9
3 x 164.4	30	39.4	24.8	35.8	22.4	34	116	245	3.0	2.6	9
3 x 219.2	40	52.5	33.1	47.6	29.8	45.3	116	285	3.6	3.2	9
U_n = 480V U_n = 440V U_n = 400V											
3 x 23	5	6	4.2	5.5	3.5	5.1	75	165	0.9	0.8	16
3 x 34.5	7.5	9	6.3	8.3	5.2	7.5	75	210	1.1	1.0	16
3 x 46.1	10	12	8.4	11	7	10.1	75	210	1.1	1.0	16
3 x 57.6	12.5	15	10.5	13.8	8.6	12.4	75	245	1.4	1.2	16
3 x 69.1	15	18	12.7	16.7	10.5	15.2	90	210	1.5	1.3	16
3 x 92.1	20	24.1	16.9	22.2	13.9	20.1	90	245	1.8	1.5	16
3 x 115.1	25	30.1	21	27.6	17.4	25.1	90	285	2.1	1.8	16
3 x 138.2	30	36.1	25.2	33.1	20.8	30	116	210	2.5	2.2	9
3 x 184.2	40	48.1	33.5	44	27.7	40.1	116	285	3.6	3.2	9
U_n = 525V U_n = 480V U_n = 440V											
3 x 19.3	5	5.5	4.4	5.1	3.5	4.6	75	165	0.9	0.8	16
3 x 28.9	7.5	8.2	6.2	7.5	5.3	7	75	210	1.1	1.0	16
3 x 38.5	10	11	8.4	10	7	9.2	75	245	1.4	1.2	16
3 x 48.1	12.5	13.7	10.5	12.6	8.8	11.5	75	245	1.4	1.2	16
3 x 57.7	15	16.5	12.5	15	10.5	13.8	90	210	1.5	1.3	16
3 x 77	20	22	16.7	20.1	14	18.4	90	285	2.1	1.8	16
3 x 96.2	25	27.5	20.9	25.1	17.6	23.1	116	210	2.5	2.2	9
3 x 115.5	30	33	25	30.1	21.1	27.7	116	245	3.0	2.6	9
3 x 154	40	44	33.4	40.2	28.1	36.9	116	285	3.6	3.2	9
U_n = 690V											
3 x 11.1	5	4.2					75	165	0.9	0.8	16
3 x 16.7	7.5	6.3					75	210	1.1	1.0	16
3 x 22.3	10	8.4					75	210	1.1	1.0	16
3 x 27.9	12.5	10.5					75	245	1.4	1.2	16
3 x 33.4	15	12.6					90	210	1.5	1.3	16
3 x 44.6	20	16.7					90	245	1.8	1.5	16
3 x 55.7	25	20.9					116	210	2.5	2.2	16
3 x 66.9	30	25.1					116	245	3.0	2.6	9
3 x 89.1	40	33.5					116	285	3.6	3.2	9
U_n = 800V											
3 x 8.3	5	3.6					75	165	0.9	0.8	16
3 x 12.4	7.5	5.4					75	210	1.1	1.0	16
3 x 16.6	10	7.2					75	245	1.4	1.2	16
3 x 20.7	12.5	9					75	245	1.4	1.2	16
3 x 24.9	15	10.8					90	210	1.5	1.3	16
3 x 33.2	20	14.4					90	285	2.1	1.8	16
3 x 41.5	25	18					116	210	2.5	2.2	9
3 x 49.7	30	21.7					116	245	3.0	2.6	9
3 x 66.3	40	28.9					116	285	3.6	3.2	9

SPECIFICATIONS:

$f_n = 50\text{Hz} - \text{Heavy duty}$											
C_n (μF)	Q_n (kVar)	I_n (A)	Q_n (kVar)	I_n (A)	Q_n (kVar)	I_n (A)	D (mm)	H (mm)	CPKNK3053	CPKNK4053	Packing unit (pcs)
	$U_n = 400\text{V}$		$U_n = 380\text{V}$						Weight (kg)		
3 x 33.2	5	7.2	4.5	6.8			75	165	0.9	0.8	16
3 x 49.7	7.5	10.8	6.7	10.2			75	210	1.1	1.0	16
3 x 66.3	10	14.4	9	13.7			90	210	1.5	1.3	16
3 x 82.9	12.5	18	11.3	17.2			90	245	1.8	1.5	16
3 x 99.5	15	21.7	13.5	20.5			90	245	1.8	1.5	16
3 x 132.5	20	28.9	18	27.3			116	210	2.5	2.2	9
3 x 165.8	25	36.1	22.5	34.2			116	245	3.0	2.6	9
3 x 198.9	30	43.1	27	41			116	285	3.6	3.2	9
3 x 265.3	40	57.7	36.1	54.8			136	285	4.6	4.1	1
	$U_n = 440\text{V}$		$U_n = 400\text{V}$		$U_n = 380\text{V}$						
3 x 27.4	5	6.6	4.1	5.9	3.7	5.6	75	210	1.1	1.0	16
3 x 41.1	7.5	9.8	6.2	8.9	5.6	8.5	75	245	1.4	1.2	16
3 x 54.8	10	13.1	8.3	12	7.4	11.2	90	210	1.5	1.3	16
3 x 68.5	12.5	16.4	10.4	15	9.3	14.1	90	245	1.8	1.5	16
3 x 82.2	15	19.7	12.4	17.9	11.2	17	90	285	2.1	1.8	16
3 x 109.6	20	26.2	16.6	24	15	22.8	116	245	3.0	2.6	9
3 x 137	25	32.8	20.7	29.9	18.6	28.3	116	245	3.0	2.6	9
3 x 164.4	30	39.4	24.8	35.8	22.4	34	116	285	3.6	3.2	9
3 x 219.2	40	52.5	33.1	47.6	29.8	45.3	136	285	4.6	4.1	1
	$U_n = 480\text{V}$		$U_n = 440\text{V}$		$U_n = 400\text{V}$						
3 x 23	5	6	4.2	5.5	3.5	5.1	75	165	0.9	0.8	16
3 x 34.5	7.5	9	6.3	8.3	5.2	7.5	75	210	1.1	1.0	16
3 x 46.1	10	12	8.4	11	7	10.1	75	245	1.4	1.2	16
3 x 57.6	12.5	15	10.5	13.8	8.6	12.4	90	210	1.5	1.3	16
3 x 69.1	15	18	12.7	16.7	10.5	15.2	90	245	1.8	1.5	16
3 x 92.1	20	24.1	16.9	22.2	13.9	20.1	90	285	2.1	1.8	16
3 x 115.1	25	30.1	21	27.6	17.4	25.1	116	245	3.0	2.6	9
3 x 138.2	30	36.1	25.2	33.1	20.8	30	116	285	3.6	3.2	9
3 x 184.2	40	48.1	33.5	44	27.7	40.1	136	245	4.0	3.6	1
	$U_n = 525\text{V}$		$U_n = 480\text{V}$		$U_n = 440\text{V}$						
3 x 19.3	5	5.5	4.4	5.1	3.5	4.6	75	165	0.9	0.8	16
3 x 28.9	7.5	8.2	6.2	7.5	5.3	7	75	165	1.2	1.1	16
3 x 38.5	10	11	8.4	10	7	9.2	75	210	1.5	1.3	16
3 x 48.1	12.5	13.7	10.5	12.6	8.8	11.5	90	245	1.8	1.5	16
3 x 57.7	15	16.5	12.5	15	10.5	13.8	90	285	2.1	1.8	16
3 x 77	20	22	16.7	20.1	14	18.4	116	210	2.5	2.2	9
3 x 96.2	25	27.5	20.9	25.1	17.6	23.1	116	245	3.0	2.6	9
3 x 115.5	30	33	25	30.1	21.1	27.7	116	285	3.6	3.2	9
3 x 154	40	44	33.4	40.2	28.1	36.9	136	285	4.6	4.1	1

220-800V, 5-40kVAr Diagram:

