

Contactors

CAPACITOR DUTY CONTACTORS

KC12, KC16, KC20, KC25, KC 33, KC 40, KC 60



When switched on, a capacitor can function as a short-circuit element. The capacitor inrush or charging current magnitude depends on AC voltage at turn-on and on the impedance of connection cables and a power supply transformer.

In case of individual capacitor load, charging current peaks that are 30-time greater than rated capacitor current can occur. In case of a multi-stage capacitor the inrush current can exceed 180-time rated capacitor current.

Such a strong current can flow through a contactor from the beginning when inrush current occurs from power supply network and the capacitor is already connected. Such inrush current is undesirable since main contacts of standard duty contactors are likely to weld.

A new capacitor duty contactor is designed to meet the requirements of capacitor duty applications. Contactors are fitted with a block of three auxiliary contacts connected in series with six quick discharge damping resistors, two per each phase. Peak current is limited to the value within the contactor making capacity.

Three-pole contactors from 12,5 kVAr to 60 kVAr are available in seven ratings complying with the IEC 60947-4-1 for AC-6b utilization category. They have the UL certificate.

Advantages

- Conforms to utilization category AC-6b
- Saves costs of expensive replacement
- Long electrical life
- Reduces watt losses during "ON" condition, saves energy
- High safety
- No risk of dangerous voltage
- Switching of capacitor bank in parallel without de-rating
- Less maintenance and downtime
- Standard control voltages: 24 V 50/60 Hz, 220 V 50/60 Hz, 230 V 50/60 Hz, 415 V 50/60 Hz

TECHNICAL DATA

Product Code	Rating at 50 / 60 Hz kVAr	Current carrying capacity						Power dissipation per pole	Mechanical Life (million)		Electrical Life	
		220 - 240 V		400 - 440 V		kVAr/Current rating as per UL			50 or 60 Hz	50 / 60 Hz		
		kVAr	Current at 230V (A)	kVAr	Current at 400V (A)	240 V	480 V		600 V	W		(Operations)
KC12	12.5	6.7	17.58	12.5	18.04	6 kVAr/15 A	12.5 kVAr/15 A	15 kVAr/15 A	0.36	17	15	200.000
KC16	16.7	8.5	22.3	16.7	24.1	8 kVAr/20 A	16.7 kVAr/20 A	20 kVAr/20 A	0.8	20	15	200.000
KC20	20	10	26.24	20	28.86	10 kVAr/24 A	20 kVAr/24 A	25 kVAr/24 A	1.25	16	12	100.000
KC25	25	15	39.36	25	36.08	12.5 kVAr/30 A	25 kVAr/30 A	33.3 kVAr/30 A	2	16	12	100.000
KC33	33.3	20	52.48	33.3	48.06	16.5 kVAr/40 A	33.3 kVAr/40 A	40 kVAr/40 A	4.2	16	6	100.000
KC40	40	25	65.6	40	57.73	20 kVAr/48 A	40 kVAr/48 A	50 kVAr/48 A	4.2	16	6	100.000
KC60	50	40	104.9	60	86.6	30 kVAr/72 A	60 kVAr/72 A	80 kVAr/77 A	5.1	10	4	100.000

¹ For KC12 to KC25: clip-on mounting on 35 mm wide rail
For KC33 - KC60: clip-on mounting on 75 mm wide rail

² Average ambient temperature should not exceed 45 °C within the 24-hour period in accordance with IEC 60871 and IEC 60831

Contactors

CAPACITOR DUTY CONTACTORS

KC12, KC16, KC20, KC25, KC33, KC40, KC60

TECHNICAL DATA												
Product Code	Rating at 50 / 60 Hz kVAr	Upper Block		Wire Details					Coil Consumption			
		Time lag between make contacts of Aux block & contactor	Holding time of main contacts of Aux block	Cross-sectional Area	Length	Material	Lugs - at Contactor end	Lugs at Aux Block end	Tightening Torque	VA	VA	VA
	≤ 55°C	ms	ms	mm ²	mm				Nmm ²	50 Hz	60 Hz	50/60 Hz
KC12	12.5	2 - 10	5 - 12	0.292	174.0	PTFE coated Resistance wire	Ring type lug	Pin type lug	1.2	7	7.5	8
KC16	16.7	2 - 10	5 - 12	0.292	174.0	PTFE coated Resistance wire	Ring type lug	Pin type lug	1.7	7	7.5	8
KC20	20	2 - 10	5 - 12	0.292	174.0	PTFE coated Resistance wire	Ring type lug	Pin type lug	1.85	7.5	7.5	8.5
KC25	25	2 - 10	5 - 12	0.292	174.0	PTFE coated Resistance wire	Ring type lug	Pin type lug	2.5	7.5	7.5	8.5
KC33	33.3	2 - 10	5 - 12	0.196	245.0	PTFE coated Resistance wire	Pin type lug with Connector	Pin type lug	5.0	20	22	26
KC40	40	2 - 10	5 - 12	0.196	245.0	PTFE coated Resistance wire	Pin type lug with Connector	Pin type lug	5.0	20	22	26
KC60	50	2 - 10	5 - 12	0.196	245.0	PTFE coated Resistance wire	Pin type lug with Connector	Pin type lug	9.0	20	22	26

MOUNTING AND CONNECTION

KC12, KC16, KC20, KC25

KC33, KC40, KC60

	(mm ²)	(mm ²)	(mm ²)	(mm ²)	(mm)	(mm)	(mm)
KC12	2.5	1.5	4	4			1.2
KC16	4	2.5	6	6			1.7
KC20	4	4	10	6			1.85
KC25	6	4	16	10			2.5
KC33	16	6	25	16			5
KC40	16	6	25	16			5
KC60	16	25	50	35	15	5	

ANMG 16 = 1.31 mm²
 ANMG 18 = 2.08 mm²
 ANMG 12 = 3.31 mm²
 ANMG 10 = 6.26 mm²
 ANMG 8 = 8.57 mm²
 ANMG 6 = 13.3 mm²
 ANMG 4 = 21.15 mm²
 ANMG 3 = 28.37 mm²
 ANMG 2 = 33.62 mm²
 ANMG 1 = 42.41 mm²
 ANMG 15 = 53.48 mm²

ORDERING DATA

The type designation and control voltage are stated when ordering the contactors.

KC12 - 11 - 230 - 50/60

