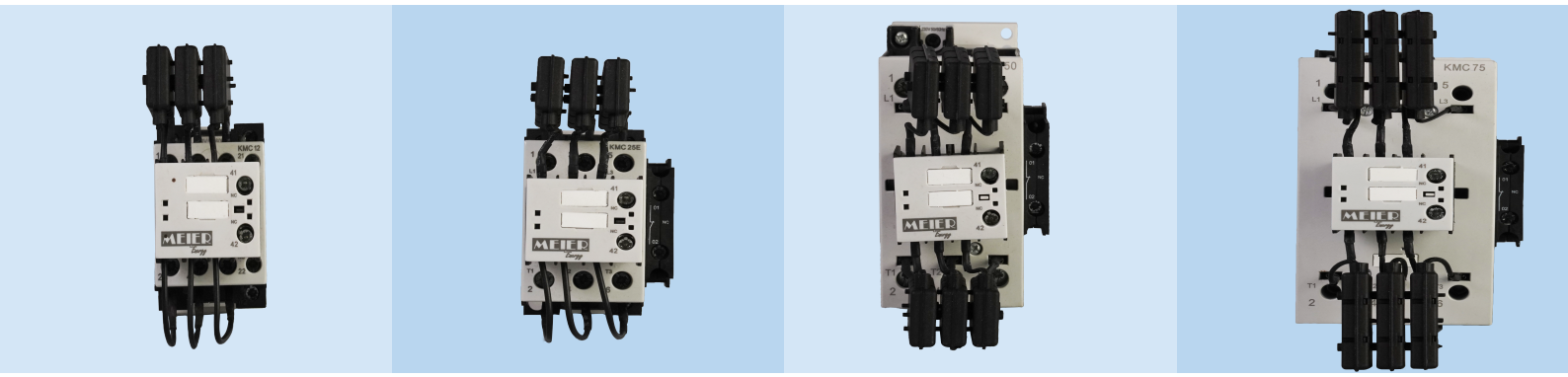
Product Brochure 2021

PFC Contactors
KMC Range



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Capacitor Contactors KMC Type

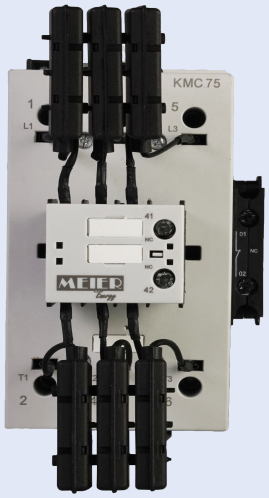
Specially designed for damping of inrush current in LV PFC systems

General

When a capacitor is switched to an AC voltage, the result is a resonant circuit damped to a greater or lesser degree. The switching of capacitors can cause high inrush currents, particularly when they are switched in parallel to others already activated in the power line, and if high short-circuit powers are present on the line.

Capacitor contactors with damping resistors make use of pre-switching auxiliary contacts. They close before the main contacts and pre-load the capacitor thus avoiding current peak values.

This influences positively the life expectancy of the capacitor significantly in addition to the positive impact on the power quality (avoiding transients and voltage sags that otherwise may be caused by switching in capacitors).



Applications

- Damping of inrush current in low-voltage PFC systems
- For PFC systems with and without reactors

Features

- Excellent damping of inrush current
- Improved power quality (e.g. avoidance of voltage sags)
- Longer useful service life of main contacts of capacitor contactor
- Soft switching of capacitor and thus longer useful service life
- Enhanced mean life expectancy of PFC system
- Reduced ohmic losses
- Leading contacts with wiper function
- Tamper-proof and protected resistors
- Easy access for cable connection
- Voltage range: 400 … 690 V
- Output range: 12.5 … 105 kvar
- AC6b utilization category

Approvals

- CE
- Cmim

Please read *Important notes* on page 12 and *Cautions* on page 121–125.

CAPACITOR CONTACTORS type KMC

In confomity with: IEC 60947-1, IEC 60947-4

Special contactors for power factor correction

Main characteristics

These contactors are equipment with early - make contacts. This special type of contact has the purpose of connecting for a very brief interval, 2-3 ms, during the contactor closing, resistors which limit the connecting current of the capacitors. These resistors are then excluded when the closing operation is complete and the current capacity is conveyed to the main contacts. Maximum permissible peak current 1≤200 times the nominal rms current of the switched capacitor.

Type designation		**KMC12**	**KMC25**	**KMC50**	**KMC75**
Capacitor rating at operating voltage 50/60Hz	230V kVAr	6.7	14	29	38
	400-440V kVAr	**12.5**	**25**	**50**	**75**
	500-550V kVAr	15	30	60	80
	660-690V kVAr	18	35	70	105
Rated operational current **Ie**/AC-6b at **400V**	**A**	**18**	**36**	**72**	**108**
Rated operational current Ith at 400V	A	25	50	100	150
Insulation rating Ui	V	690		1000	
Permissible ambient temperature	°C	- 25 to + 55			
Rated impuls wihtstand voltage Uimp	kV	8			
Consumption of electromagnet in cold state with Un AC operated					
closing	VA	62	65	155	204
p.f.		0,75	0,75	0,6	0,54
closed	VA	7	8	12	16
p.f.		0,3	0,3	0,29	0,26
Coil Voltage tolerances		0,85 - 1,1 Un			
Coil Tightening torque	Nm	0,8			
Coil Terminal screw/Screw head		M3,5/PZ2			
Degree of protection		IP 20			
Maximum permissible fuse ratings main circuit gL/gG	A	35	63	125	160
auxilliary circuit	A	16	16	16	16
Frequency of switching operations	s/h	240	120	100	100
Electrical endurance	min.	250.000	125.000		100.000
Sizes of connecting conductors - main circuit multi-wire conductor	mm^2	1.5-6	2.5-10	16-35	25-50
multi-wire conductor with cable shoe	mm^2				
Terminal screw		M4	M4	M6	M8
Screw head		PZ2	PZ2	PZ2	⬡4
Tightening torque	Nm	1,2	1,6	3 - 4	4 - 4.5
- auxiliary circuit multi-wire conductor	mm^2	1-2,5			
multi-wire conductor with cable shoe	mm^2	0,75-1,5			
Terminal screw		M3,5			
Screw head		PZ2			
Tightening torque	Nm	0,8			
Loadability of auxiliary contacts rated continuous current 35°C	A	10		16	
AC rated operational current Ie/AC15 for 230V	A	6		10	
400V	A	4		6	
500V	A	2		4	
690V	A	1		2	

Edition 2021 · PP 01211.1