

Why compensate for reactive energy?

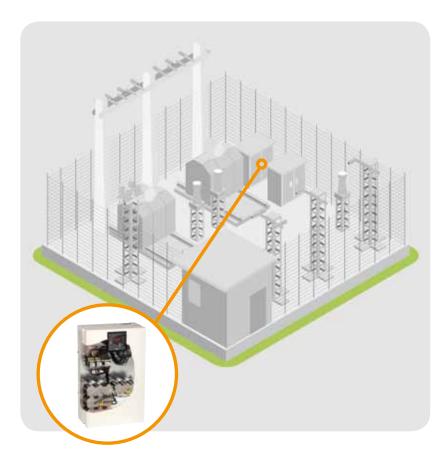
- 1- To reduce your electricity bills by eliminating charges for excess reactive energy consumed. This consumption is generated by various types of load: transformers, motors, air-conditioning units, ballasts, etc.
- 2- To improve the quality of the energy provided by certain mains supplies.

How to compensate for reactive energy?

By using capacitor-based power factor correction equipment.

How does this impact power switching?

Capacitor switching is accompanied by transient phenomena resulting from the capacitor load, which generate very high transient currents. TeSys D contactors for capacitor switching are specially designed to commutate and limit such current peaks at energizing.



Benefits

Opt for energy savings and quality

- Reduce your electricity bills
- Control the quality of your energy

Opt for simplicity: no more calculations needed

- Contactor rated in kVAR
- Sized to absorb current peaks
- Optimized number of sales references
- Common accessories with the TeSys D contactor range

Opt for efficiency

- 300,000 switching operations guaranteed
- Shorter installation time
- Smaller overall size due to the compact design of TeSys D contactors



TeSys Solution

Characteristics

The impedance of any electrical circuit has both an inductive and a resistive component.

Capacitors, together with such circuits, form oscillatory circuits which can, when switched on, give rise to high transient currents (> 180 ln) at high frequencies (about 15 kHz).

As a general rule, the peak current at energizing is lower when:

- · Mains inductances are high
- · Line transformer ratings are low
- The transformer short-circuit voltage is high
- The ratio between the sum of the ratings of the capacitors already switched into the circuit and that of the capacitors to be switched in is small (for multiple-step capacitor banks).

In practice, the current peak is often incompatible with the characteristics of standard-technology contactors. It is therefore necessary:

- Either to limit this current peak by increasing the inductance of the mains supply by inserting choke inductors and by calculating the size of the standard contactor to be used.
- Or to use special contactors (early make poles, high pressure at the poles, contact materials, etc.).

TeSys LC1 D•K contactors have been specially designed for switching 3-phase, single- or multiple-step capacitor banks. They are compliant with the IEC 60947-4-1 standard, according to AC-6b utilization category, and are UL, CSA and CCC certified.

These products provide a ready-to-use solution.

Selection guide

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Contactors	LC1D	F	K	B7
Operating power as per	13 kVAR	F		
IEC 60947-4-1	16 kVAR	G		
AC-6b at 400V, 50/60Hz, T<60°C	20 kVAR	L		
	25 kVAR	M		
	30 kVAR	Р		
	40 kVAR	Т		
	63 kVAR	W*		
Capacitor switching			K	
AC Coil voltage, 50/60Hz	24V			B7
	48V			E7
	110V			F7
	120V			G7
	220V			M7
	230V			P7
	240V			U7
	380V 400V			Q7 V7
	415V			N7
	440V			R7
	. 10 0			- 1



TeSys LC1DFK TeSys LC1DGK



TeSys LC1DPK TeSys LC1DTK

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^{*} Complete suffix in this case being WK12.