

## UMK Contactors equipped with damping resistors for Capacitor Switching

### Switching of power factor correction capacitors

**HHI's special UMK** contactors line for capacitor switching is designed according to IEC 60947-1 and provides the best solution for the switching of your power factor correction capacitors.

### No more in-rush

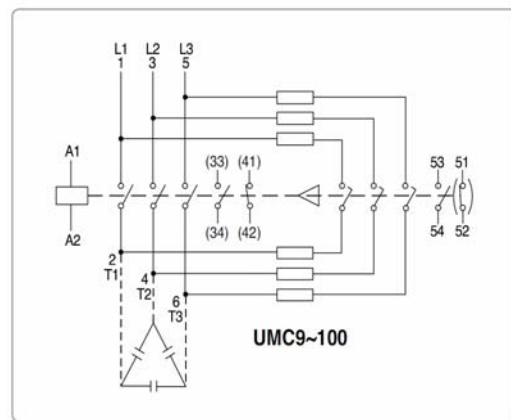
When you switch on a capacitor bank, the capacitors are uncharged and the system sees them as a short circuit for a quick period of time.

The in-rush current is the result of this little short circuit and usually lasts for some milliseconds. It may reach 100 times the rated current, being one of the main reasons for the short life of a capacitor.

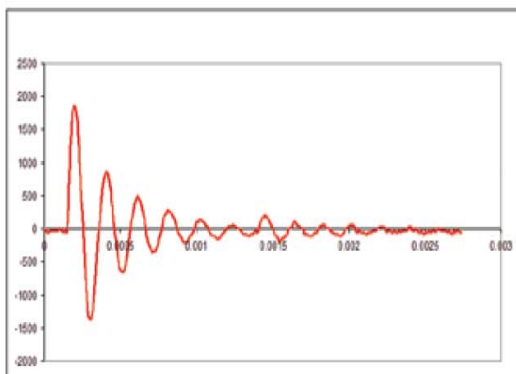
The **UMK** contactor is assembled with damping resistors which limit the high in-rush current when the capacitors are switched on. They are assembled with an early-make contact block, which is switched on before the main contacts, thus, limiting the in-rush current.

However, the damping resistors don't influence the final load, leaving only the capacitors in parallel with your inductive load, providing the proper power factor correction.

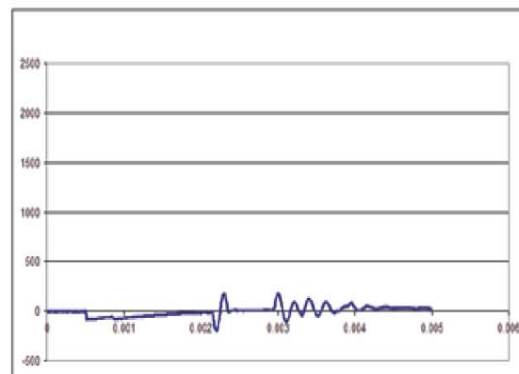
This process increases the lifetime of the capacitors and also prevents net distortions.



※ 53-54 : UAD 1A / 51-52 : UAD 1B

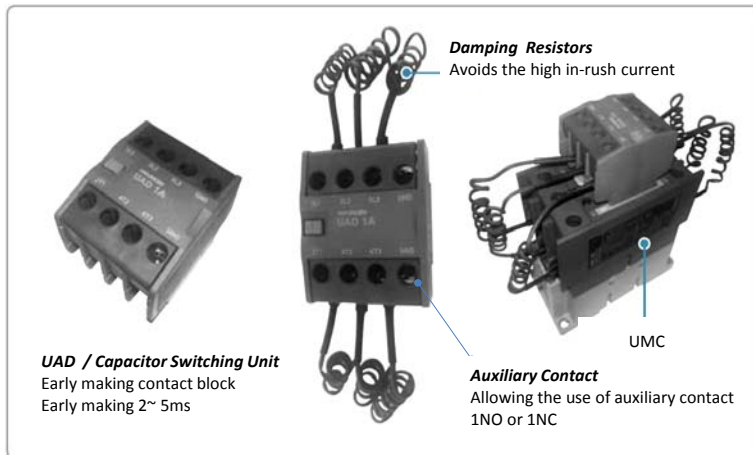


$I_u$  (A) with standard contactors



$I_u$  (A) with HHI's UMK contactor

## Components



## Selection Table for UMK

Allowable Making&Breaking Frequency		240 Cycles/h
Electrical life time(AC-6b)	$U_e \leq 440\text{Vac}$	250,000 Operating Cycles
	$500\text{Vac} \leq U_e \leq 550\text{Vac}$	100,000 Operating Cycles

Type	Ith [A]	Rated operational power AC-6b[KVAR] ,50/60Hz, ambient Temperature : 55°C			Components
		220~240V	400~440V	500~550V	
UMK9	25	5	9.7	14	UMC9 + UAD100
UMK12	25	6.7	12.5	15	UMC12 + UAD100
UMK18	40	8.5	16.7	24	UMC18 + UAD100
UMK25	45	10	18	25	UMC25 + UAD100
UMK32	55	15	28	34	UMC32 + UAD100
UMK40	60	16	30	38	UMC40 + UAD100
UMK50	70	19	35	44	UMC50 + UAD100
UMK65	100	25	46	56	UMC65 + UAD100
UMK75	115	30	50	65	UMC75 + UAD100
UMK85	125	35	60	75	UMC85 + UAD100
UMK100	145	40	75	82	UMC100 + UAD100