



Enhancing power reliability with safe and durable capacitor duty contactors



## *Capacitor Switching Contactors*



**Product Application**

In Low Voltage installations, switching **ON** a capacitor results in a resonant circuit with greater damping. During the transition period (1 to 2 ms), in addition to the rated current, high-amplitude over currents (>180 times the nominal current) and high frequencies (3–5 kHz) occur. These sudden high in-rush current peaks, caused by capacitor switching, depend on several factors:

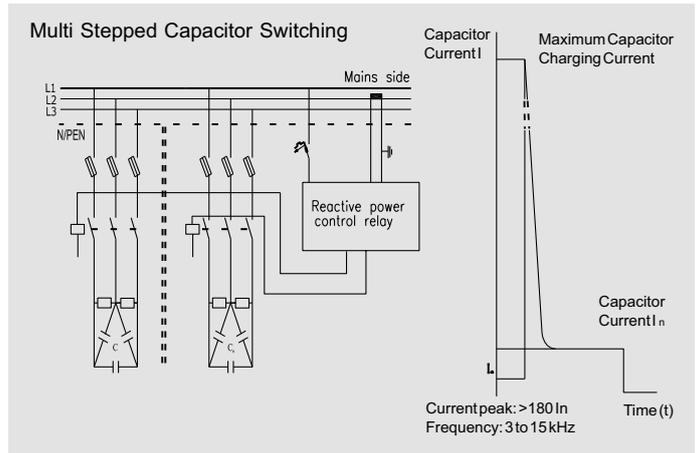
**Network inductances**

- ❖ Transformer power and short-circuit voltage
- ❖ Type of power factor correction (fixed or automatic)
- ❖ Presence of harmonics in the system

Such high-magnitude in-rush currents are undesirable as they may cause the main poles of standard contactors to weld. Therefore, the contactor used for switching capacitor banks must be designed to withstand:

- ❖ Continuous currents up to 1.5 times the nominal current of the capacitor bank
- ❖ Short but high peak currents during pole closure

Selecting the appropriate capacitor-duty switching device is critical. It is always recommended to use a dedicated Capacitor Duty Switching Contactor for capacitor bank switching, which optimizes switchgear costs and enhances the longevity of the equipment.



**Operating Principal**

Capacitor contactors are specifically designed to meet the stringent demands of capacitor switching, as outlined above. These contactors are equipped with a front-mounted block of three early-make auxiliary contacts, which work in series with six quick-discharge damping resistors—two per phase. This design effectively limits peak inrush current to a level within the contactor’s making capacity. Once the main contacts close, they seamlessly bypass the resistors, ensuring that the normal rated capacitor current is carried safely and efficiently.

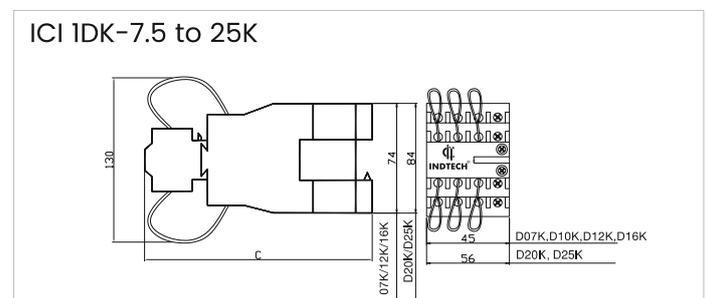
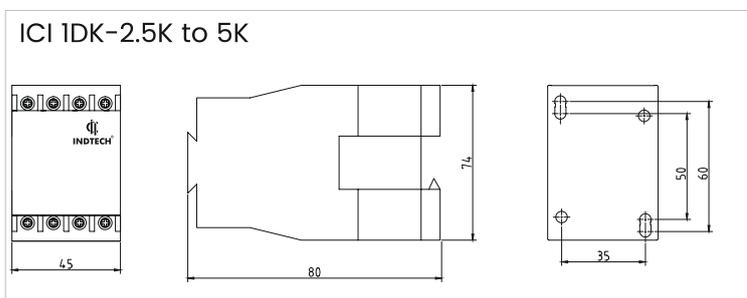
**Product Range**

Ratings: 2.5 kVAr to 100 kVAr, 3P, 415V AC, 50/60Hz  
 Conforms to IEC 60947-4-1 & IS 13947-4-1 AC-6b utilization category.

**Add ON Block Option**

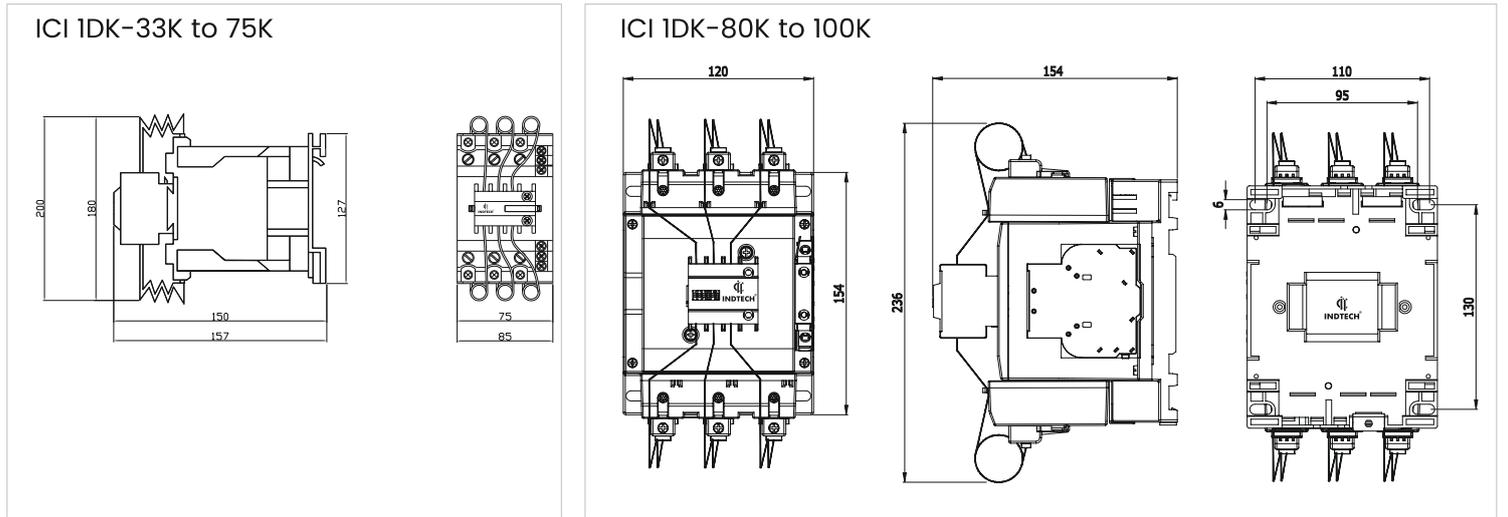
Contactor Type/Rating	Mounting Details	Type	Auxiliary Contacts
2.5 kVAr onwards	Side Mounting	TA8DN11	1No+1NC
		TA8DN20	2NO
IDC-07K - 25K	Clip - on	35mm DIN rail	
IDC-33K - 100K	Clip - on	75mm DIN rail	

**Dimensional Drawing**



Please note that the dimensions provided are approximate and may differ slightly from the actual product. For precise details, kindly refer to the current data sheet.

Dimensional Drawing



Capacitor Switching Contactors: Ordering Information

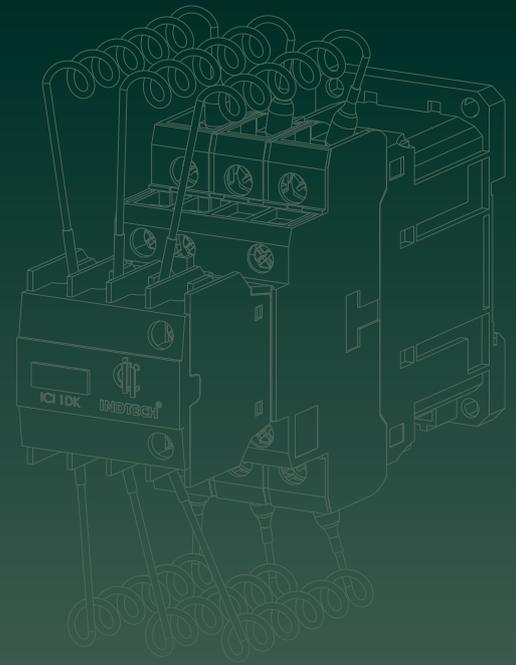
Sr. No.	kVAr RATING	NO/ NC CODE	COIL REFERENCE	PART CODE
1	2.5	1 NO, 0 NC	240V, 50/60Hz	IDC025K10U7
2	5	1 NO, 0 NC	240V, 50/60Hz	IDC050K10U7
3	7.5	1 NO, 1 NC	240V, 50/60Hz	IDC075K11U7
4	10	1 NO, 1 NC	240V, 50/60Hz	IDC100K11U7
5	12.5	1 NO, 1 NC	240V, 50/60Hz	IDC125K11U7
6	16.7	1 NO, 1 NC	240V, 50/60Hz	IDC167K11U7
7	20	1 NO, 1 NC	240V, 50/60Hz	IDC200K11U7
8	25	1 NO, 1 NC	240V, 50/60Hz	IDC250K11U7
9	33.3	1 NO, 2 NC	240V, 50/60Hz	IDC333K12U7
10	40	1 NO, 2 NC	240V, 50/60Hz	IDC400K12U7
11	50	1 NO, 2 NC	240V, 50/60Hz	IDC500K12U7
12	60	1 NO, 2 NC	240V, 50/60Hz	IDC600K12U7
13	75	1 NO, 2 NC	240V, 50/60Hz	IDC750K12U7
14	80	1 NO, 2 NC	240V, 50/60Hz	IDC800K12U7
15	100	1 NO, 2 NC	240V, 50/60Hz	IDC1000K12U7

**TABLE: COIL REFERENCE**

Frequency	Volts				
	230	240	400	415	440
50 Hz	P5	U5	V5	N5	R5
50/60 Hz	P7	U7	V7	N7	R7

## Features & Benefits of Capacitor Duty Contactors

- ❖ Excellent damping of In-rush Current
- ❖ Reduced watt loss during 'ON' condition, saves energy
- ❖ Capacitor Bank Switching in parallel without de-rating
- ❖ Enhanced equipment life
- ❖ Low maintenance & down-time
- ❖ Power quality improvement
- ❖ Optimized solution cost
- ❖ Higher electrical life & higher product reliability



**State of the art technology all in one place**



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