

CAPACITOR DUTY CONTACTORS

(5 to 60 KVAR)



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LIMITED



A capacitor can function as a short-circuit element during switch-on. The magnitude of capacitor inrush or charging current depends upon AC voltage at the time of switch-on, impedance of the feeder cables and supply transformers. When switching individual capacitor bank, charging current can reach a peak value up to 30 times the rated capacitor current and in case of multistage capacitors it can reach up to 180 times of the rated capacitor current (for 1 to 2 ms).

Conventional power contactor will simply allow the inrush current to flow through, as a result both contactors and capacitors will be heavily stressed. Such high inrush current is undesirable. Therefore to limit this peak current within contactor making capacity, capacitor duty contactors are fitted with a block of three early make aux. contacts in series with 6 damping resistors (two per phase).

After successful dampening of inrush current, the main contacts close & the aux contacts get automatically disconnected from the circuit through a "de-latching" mechanism.

Benefit

If a conventional power contactor is used for a capacitor switching application, the size of contactor will be more which will in turn increase the system cost. On the other hand, size of a special capacitor duty contactor will be less and so the total system cost for the same application. Hence, capacitor duty contactors are best suited for capacitor switching applications which not only save cost but also improve the life of the equipment.

Technical Data

Catalogue Reference	CCD.05.11.*	CCD.10.11.*	CCD.15.11.*	CCD.20.11.*	CCD.26.11.*	
Conformance to Standards	IS/IEC60947-4-1					
Pollution Degree	III					
Ambient Temperature	Service	-5 to +55 Deg. C				
	Storage	-25 to +70 Deg. C				
Power						
Rated Operational Voltage - U _e	415V	415V	415V	415V	415V	
Rated Insulation Voltage - U _i	690V	690V	690V	690V	690V	
Rated Impulse withstand Voltage - U _{imp}	6kV	6kV	6kV	6kV	6kV	
Operational Power Utilization at ≤ 55°C at 50Hz	230/240 (KVAR)	3	5	10	15	
	380/400 (KVAR)	5	10	15	20	
	415 (KVAR)	5	10	15	20	
Max Operations Per Hour	240	240	240	240	240	
Electrical Endurance at Nominal Load (Operations) at 415V	100000	100000	100000	100000	100000	
Short Circuit Protection	20A	32A	40A	63A	63A	
Mechanical						
Weight	0.54 kg	0.565kg	0.565kg	1.340kg	0.565kg	
Tightening Torque on Cable End	1.2 Nm	1.2 Nm	1.7Nm	1.7Nm	5.7Nm	
Cable Termination	No of Conductors	1	1	1	1	
	Flexible Cable with lug (mm ²)	0.75 to 4	0.75 to 4	1 to 10	1 to 10	2.5 to 25
	Solid Cable (mm ²)	0.75 to 4	0.75 to 4	1 to 10	1 to 10	2.5 to 25
Control	Coil Consumption at 50HZ					
	Inrush VA	70	70	92	92	230
	Sealed VA	6.4	6.4	8	8	28
	Aux Contacts as a standard	1NO+1NC	1NO+1NC	1NO+1NC	1NO+1NC	1NO+1NC

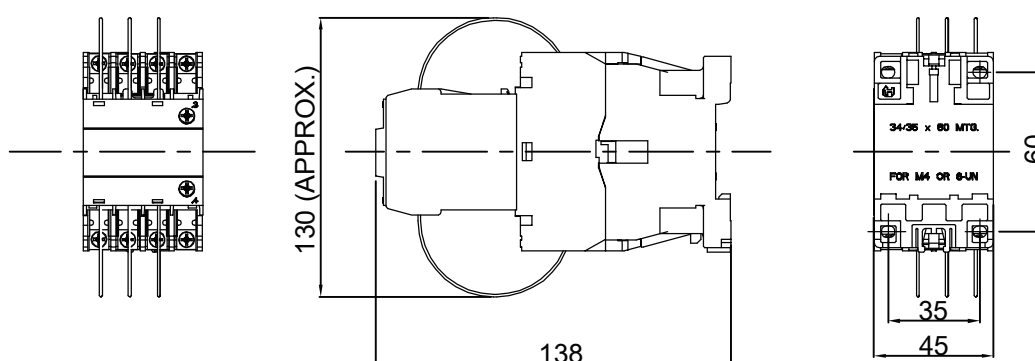
Catalogue Reference		CCD.30.11.*	CCD.40.11.*	CCD.50.21.*	CCD.60.21.*
Conformance to Standards		IS/IEC60947-4-1			
Pollution Degree		III			
Ambient Temperature	Service	-5 to +55 Deg. C			
	Storage	-25 to +70 Deg. C			
Power					
Rated Operational Voltage - Ue		415V	415V	415V	415V
Rated Insulation Voltage - Ui		690V	690V	1000V	1000V
Rated Impulse withstand Voltage - Uimp		6kV	6kV	8kV	8kV
Operational Power Utilization at <= 55°C at 50Hz	230/240 (KVAR)	20	25	30	40
	380/400 (KVAR)	30	40	50	60
	415 (KVAR)	30	40	50	60
Max Operations Per Hour		240	240	240	240
Electrical Endurance at Nominal Load (Operations) at 415V		100000	100000	100000	100000
Short Circuit Protection		80A	125A	125A	160A
Mechanical					
Weight		0.565kg	1.340kg	0.565kg	1.340kg
Tightening Torque on Cable End		5.7Nm	5.7Nm	8Nm	8Nm
Cable Termination	No of Conductors	1	1	1	1
	Flexible Cable with lug (mm2)	2.5 to 25	2.5 to 25	4 to 50	4 to 50
	Solid Cable (mm2)	2.5 to 25	2.5 to 25	4 to 50	4 to 50
Control	Coil Consumption at 50HZ				
	Inrush VA	230	230	250	250
	Sealed VA	28	28	19	19
	Aux Contacts as a standard	1NO+1NC	1NO+1NC	2NO+1NC	2NO+1NC

*For coil voltage codes refer below table

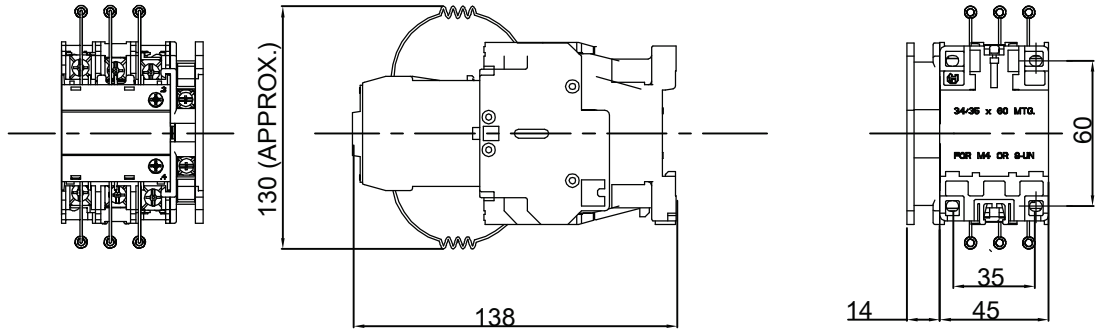
* Coil Voltage	24V	48V	110V	220V	240V	380V	415V	440V	550V
	U	W	A	B	K	L	M	C	D

Dimensional details

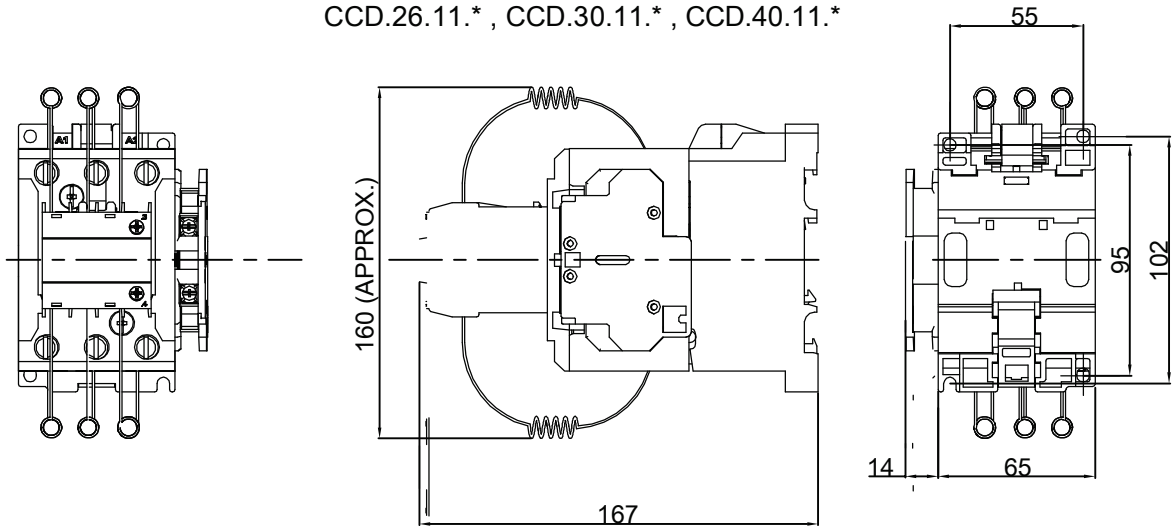
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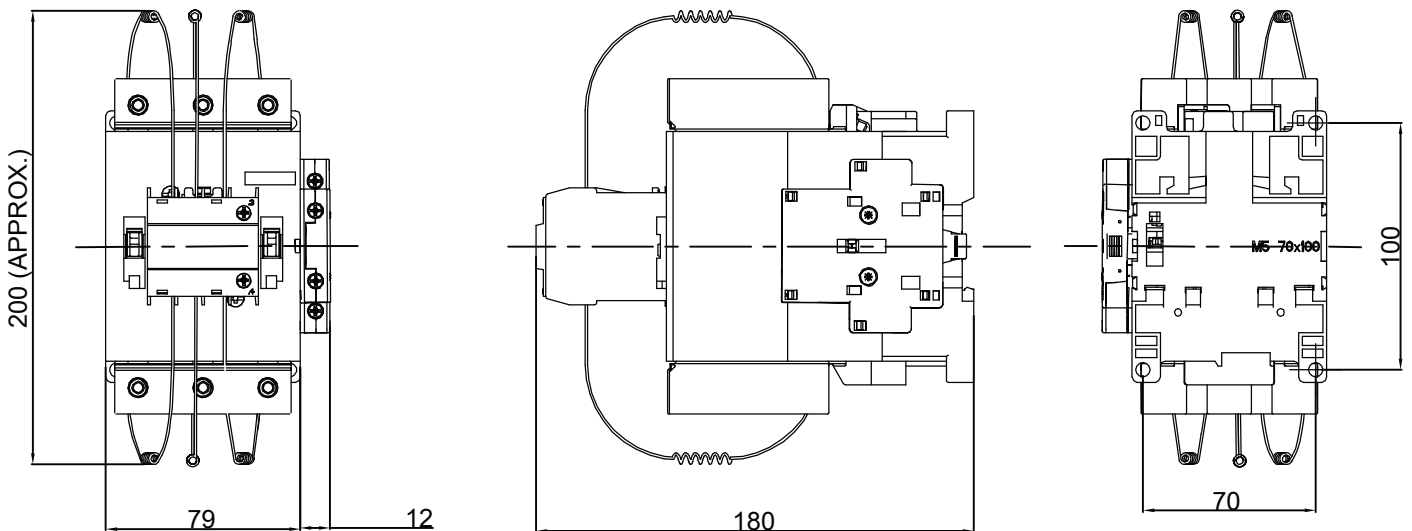
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CCD.26.11.* , CCD.30.11.* , CCD.40.11.*



CCD.50.21.* , CCD.60.21.*



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