

Contactors & Overload Relay

9 ~ 800A



Your Specialist in
Control Solution

Tel.: +44 (0) 1924 368251
sales@cromptoncontrols.co.uk
www.cromptoncontrols.co.uk

Characteristics



Characteristics - Control Relays

Environment

Type			CCR*E	CCD*E
Conforming to Standards			IEC 60947-1, 60947-5, VDE 0660	
Approvals			UL,CSA	
Degree of Protection	Protection against direct finger contact		Conforming to VDE 0106	
Ambient air Temperature around the device	Storage	°C	-40...+80	
	Operation	°C	-5...+55	
	Permissible for operation at U _c	°C	-25...+70	
Maximum operating altitude	Without derating	m	3000	
Operating positions	Without derating		±30° possible, in relation to normal vertical mounting plane	
Shock Resistance 1/2 sine wave for 11 ms	Control relay open		10g	8g
	Control relay closed		12g	11g
Vibration Resistance 5.....300Hz	Control relay open		5g	2g
	Control relay closed		10g	3g
Cabling	Flexible or solid cable with or without cable end	mm ²	Min: 1x1;	Max.: 2x2.5

Control Circuit Characteristics

Type			CCR*E	CCD*E
Rated Insulation Voltage (Ui)	Conforming to IEC 947-1& IEC 947-5	V	690	
	Conforming to CSA C22-2 no. 14	V	600	
Rated control circuit voltage (Uc)		V	12...600	
Permissible voltage variation	Operational		With 50 or 60 Hz coil: 0.8 ... 1.1 U _c	With standard Hz coil: 0.85 ... 1.1 U _c
			With 50/60Hz coil: 0.85 ... 1.1 U _c	With wide range coil: 0.7 ...1.25 U _c
Voltage limits	Drop-out		0.3 .. 0.6 U _c	0.1 .. 0.65 U _c
Average consumption at 20°C	~ 50 Hz	VA	Inrush: 60, Sealed:7	-
	~ 60 Hz	VA	Inrush: 70, Sealed:7.5	-
	~ 50/60 Hz	VA	Inrush: 70, Sealed:8	-
	With standard coil	W	-	Inrush or Sealed: 9
	With wide band coil	W	-	Inrush or Sealed: 11
Operating Time (at rated control circuit voltage and at 20°C)	Between coil energisation and opening of the NC contacts	ms	6...20	35...43
	- closing of the NO contacts	ms	12...22	40...48
	Between coil de-energisation and opening of the NO contacts	ms	4...12	6...14
	closing of the NC contacts	ms	6...17	11...19
Short supply failures	Max. duration without affecting hold-in of device	ms	2	2
Maximum operating rate	In operating cycles per second		3	3
Mechanical Life at U _c (mechanical durability)	In millions of operating cycles With: 50 or 60 Hz coil		20	-
	50/60 Hz coil (at 50 Hz)		30	-
	Standard coil		-	30
	Wide band coil		-	30

Operating Power of Contactor with AC Supply categories AC-14 & AC-15

Electrical life (upto 3600 operating cycles/hr) on an inductive load such as the coil of an electromagnet: making power (cosφ 0.7) - 10 times the power broken (cos φ 0.4)

	V	24	48	110/127	220/230	380/400	440	600
1 million operating cycles	VA	150	300	400	480	500	500	500
3 million operating cycles	VA	80	170	250	290	320	320	320
10 million operating cycles	VA	30	65	90	120	130	130	130
Occasional making capacity	VA	1200	2600	7000	13000	15000	13000	9000

- Breaking limit of contacts valid for maximum of 50 operating cycles at 10s intervals(breaking power=making power x cosφ 0.7)
- Electrical life of Contacts:
 - for 1 million operating cycles (2a);
 - for 3 million operating cycles (2b);
 - for 10 million operating cycles (2c)
- Thermal limit

Operating Power of Contactor with DC Supply categories DC-13

Electrical life (upto 1200 operating cycles/hr) on an inductive load such as the coil of an electromagnet without economy resistor, the time constant increasing with the power.

	V	24	48	110	220	440	600
1 million operating cycles	VA	120	90	75	68	61	58
3 million operating cycles	VA	70	50	38	33	28	27
10 million operating cycles	VA	25	18	14	12	10	9
Occasional making capacity	VA	1000	700	400	260	220	170

- Electrical life of Contacts:
 - for 1 million operating cycles (2a)
 - for 3 million operating cycles (2b)
 - for 10 million operating cycles (2c)
- Breaking limit of contacts valid for maximum of 20 operating cycles at 10s intervals and with current passing for 0.5s per operating cycle.
- Thermal limit

Characteristics - Contactor 9~95A with AC operating coil

General Characteristics

Type		Unit	CC09 ~ 95
Rated insulation voltage (Ui)	IEC 60947-4-1	V	1000
Conforming to standards			NFC EN 60947, VDE0660, BSEN60947, IEC 60947 & IS 13947
Approvals			UL, CSA
Degree of Protection	Conforming to VDE 0106		Protection against direct finger contacts
Protective treatment	Standard version		"TH"
Ambient air temperature	Storage	°C	-60 to +80
(around the device)	Operation	°C	-5 to +55 (0.8 to 1.1Uc)
	Permissible	°C	-40 to +70, for operation at Uc
Maximum operating altitude	Without derating	Mtr.	3000
Operating Position	Without derating		+30° possible, in relation to normal vertical mounting plane

Pole Characteristics

Type	CC	Unit	09	12	16	22	25	32	38	40	50	65	80	95
Number of poles (Power)			3 or 4	3 or 4	3	3	3 or 4	3	3	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4
Power + Auxiliary			3+1	3+1	3+1	3+1	3+1	3+1	3+1	3+2	3+2	3+2	3+2	3+2
Rated current (Ie)	AC3 up to 440V @ 55°C	A	9	12	18	22	25	32	38	40	50	65	80	95
Rated operating Voltage	Up to	V	690	690	690	690	690	690	690	690	690	690	690	690
Frequency limits	Of the operational current	Hz	25-400											
Rated thermal current (Ith)	$\theta < 40^\circ\text{C}$	A	25	25	32	32	45	50	50	60	80	80	125	125
Rated making capacity	Irms conforming to IEC-60947-4	A	250	250	300	300	450	550	550	800	900	1000	1100	1200
Rated breaking capacity	Irms conforming to 220-440V IEC-60947-4 500V	A	250	250	300	300	450	550	550	800	900	1000	1100	1100
		A	175	175	250	250	400	450	450	800	900	1000	1000	1100
		A	85	85	120	120	180	180	180	400	500	630	640	640
Average impedance per pole	At Ith and 50Hz	Milli Ω	Max. 2.5	2.5	2.5	2.5	2	2	2	1.5	1.5	1	0.8	0.8
Power dissipation per pole for the above operational currents	AC-3	W	0.2	0.36	0.8	0.8	1.25	2	2	2.4	3.7	4.2	5.1	7.2

Control Circuit Characteristics

Type		Unit	CC09-22	CC25-38	CC40-65	CC80-95			
Rated control circuit voltage (Uc)	50 or 60 Hz	V	12 to 660						
Control voltage limits ($\theta < 55^\circ\text{C}$)	50 or 60Hz Coil	Operational	0.8 - 1.1 Uc						
		Drop out	0.3 - 0.6 Uc						
Average consumption at 20°C and at Uc	50/60Hz Coil	Operational	0.85 - 1.1 Uc at 60Hz						
		AC 50 Hz	Inrush	50 Hz Coil	VA	60	90	200	200
	Sealed		50/60 Hz Coil	VA	70	100	245	245	
			COS ϕ		0.75	0.75	0.75	0.75	
	AC 60 Hz	Inrush	50 Hz Coil	VA	7	7.5	20	20	
			Sealed	50/60 Hz Coil	VA	8	8.5	26	26
				COS ϕ		0.3	0.3	0.3	0.3
		Sealed	60 Hz Coil	VA	70	100	220	220	
			Inrush	50/60 Hz Coil	VA	70	100	245	245
				COS ϕ		0.75	0.75	0.75	0.75
	Average operating time at Uc	Closing time "C"	msec	12-22	15-24	20-26	20-35		
		Opening time "O"	msec	04-12	05-19	8-12	6-20		
Mechanical life Uc (mechanical durability) in millions of operating cycles	50 or 60 Hz Coil		20(16 for TC1D18)	16	16	10			
	50/60 Hz Coil or 50 Hz		15	12	6	4			
Maximum operating rate	In operating cycle/hour		3600	3600	3600	3600			

Integral Auxiliary Contact Characteristics

Type		Unit	CC09 ~ 95
Rated thermal current (Ith)	$\theta < 55^\circ\text{C}$	A	10
Rated operational voltage (Ue)	Upto	V	660

Characteristics - Contactor 9~95A with DC operating coil

General Characteristics

Type		Unit	CCP09 ~ 80
Rated insulation voltage (Ui)	IEC 60947-4-1	V	1000
Conforming to standards			NFCEN 60947, VDE0660, BSEN60947, IEC 60947 & IS 13947
Approvals			UL, CSA
Degree of Protection	Conforming to VDE 0106		Protection against direct finger contacts
Protective treatment	Standard version		"TH"
Ambient air temperature (around the device)	Storage	°C	-60 to +80
	Operation	°C	-5 to +55 (0.8 to 1.1Uc)
	Permissible	°C	-40 to +70, for operation at Uc
Maximum operating altitude	Without derating	Mtr.	3000
Operating Position	Without derating		+30° possible, in relation to normal vertical mounting plane

Pole Characteristics

Type	CCP	Unit	09	12	18	22	25	32	38	40	50	65	80
Number of poles (P0wer)			3 or 4	3 or 4	3	3	3 or 4	3	3	3 or 4	3 or 4	3 or 4	3 or 4
Power + Auxiliary			3+1	3+1	3+1	3+1	3+1	3+1	3+1	3+2	3+2	3+2	3+2
Rated current (Ie)	AC3 up to 440V @ 55°C	A	9	12	18	22	25	32	38	40	50	65	80
Rated operating Voltage (Ue)	Upto	V	690	690	690	690	690	690	690	690	690	690	690
Frequency limits	Of the operational current	Hz	25-400										
Rated thermal current (Ith)	$\theta < 40^\circ\text{C}$	A	25	25	32	32	45	50	50	60	80	80	125
Rated making capacity	Irms conforming to IEC-60947-4	A	250	250	300	300	450	550	550	800	900	1000	1100
Rated breaking capacity	Irms conforming to IEC-60947-4	A	250	250	300	300	450	550	550	800	900	1000	1100
	500V	A	175	175	250	250	400	450	450	800	900	1000	1000
	660-690V	A	85	85	120	120	180	180	180	400	500	630	640
Average impedance per pole	At Ith and 50Hz Milli Ω	Max.	2.5	2.5	2.5	2.5	2	2	2	1.5	1.5	1	0.8
Power dissipation per pole for the above operational currents	AC-3	W	0.2	0.36	0.8	0.8	1.25	2	2	2.4	3.7	4.2	5.1

Control Circuit Characteristics

Type		Unit	CCP09~22	CCP25~38	CCP4011~65	CCP80
Rated control circuit voltage (Uc)	DC	V	12 to 660		12 to 660	
Control voltage limits ($\theta < 55^\circ\text{C}$)	Operational	Standard Coil	0.8 - 1.1 Uc		0.85 - 1.1 Uc	
		Wide Range Coil	0.7 - 1.25 Uc		0.75 - 1.25 Uc	
Average consumption DC at 20°C and at Uc	Drop out		0.1 - 0.25 Uc		0.1 - 0.3 Uc	
	DC	Inrush	W	9	11	22
		Sealed	W	9	11	22
Average operating time at Uc	Closing time "C"	msec	40-48	52-64	85-110	95-130
	Opening time "O"	msec	6-14	8-14	20-35	20-35
Mechanical life Uc (mechanical durability)	In millions of operating cycles		30	25	20	20
Maximum operating rate (at ambient temp. of $\theta < 55^\circ\text{C}$)	In operating cycle/hour		3600	3600	3600	3600

Integral Auxiliary Contact Characteristics

Type		Unit	CCP09 ~ 80
Rated thermal current (Ith)	$\theta < 40^\circ\text{C}$	A	10
Rated operational voltage (Ue)	Upto	V	660

Specification





Control Relay - Specifications

Control Relays (AC)

Contacts		Catalog Number
NO	NC	
2	2	CCR22E-XX
3	1	CCR31E-XX
4	0	CCR40E-XX

Replace XX with voltage code from table - 7

Table-7 : XX-AC Coil Voltages

Volts AC	24	48	110	120	208	220	230	240	277	380	400	415	440	480	575	600
50 Hz	B5	E5	F5			M5	P5	U5		Q5	V5	N5	R5			
60 Hz	B6	E6	F6	G6	L6	M6		U6	W6	Q6			R6	T6	S6	X6
50/60 Hz	B7	E7	F7	G7		M7	P7	U7		Q7	V7	N7	R7			

Control Relays (DC)

Contacts		Catalog Number
NO	NC	
2	2	CCD22E-XX
3	1	CCD31E-XX
4	0	CCD40E-XX

Replace XX with voltage code from table - 8

Table - 8: XX-DC Coil Voltages

Volts DC	12	24	48	72	110	125	220	250	440
	JD	BD	ED	SD	FD	GD	MD	UD	RD

Contactors 9~95A - Specifications (with AC operating coil)



3 Pole Contactor with AC operating coil

Maximum Current		Maximum HP						Aux. Contacts Built-in per contactor		Catalog Number
Inductive	Continuous	Single Phase		Three Phase				NO	NC	
AC-3 A	AC-1 A	120V	230V	200V	230V	480V	600V			
9	20	0.5	1	2	2	5	7.5	1	0	CC0910E-XX
12	25	1	2	3	3	7.5	10	0	1	CC0901E-XX
18	32	1	3	5	5	10	15	1	0	CC1210E-XX
22	32	2	3	5	7.5	15	20	0	1	CC1201E-XX
25	40	2	3	5	7.5	15	20	1	0	CC1810E-XX
32	50	2	5	10	10	20	25	0	1	CC1801E-XX
38	60	3	5	10	10	30	30	1	0	CC2210-EXX
40	60	3	5	10	10	30	30	0	1	CC2201E-XX
50	80	3	7.5	15	15	40	40	1	0	CC2510-EXX
65	80	5	10	20	20	50	50	0	1	CC2501E-XX
80	125	7.5	15	25	25	60	60	1	0	CC3210E-XX
95	125	7.5	15	25	25	60	60	0	1	CC3201E-XX
								1	0	CC3810E-XX
								0	1	CC3801E-XX
								1	1	CC4011E-XX
								1	1	CC5011E-XX
								1	1	CC6511E-XX
								1	1	CC8011E-XX
								1	1	CC9511E-XX

Note : Standard Fault Ratings U_L S_B High Fault Ratings U_L (100kA with class J/CC Fuse)



4 Pole Contactor with AC operating coil

Maximum Current		Maximum HP						Main Pole Configuration		Catalog Number
Inductive	Resistive	Single Phase		Three Phase				NO	NC	
AC-3 A	AC-1 A	120V	230V	200V	230V	480V	600V			
9	25	0.5	1	2	2	5	7.5	4	0	CC09004E-XX
		0.5	1	2	2	5	7.5	0	4	CC09006E-XX
		0.5	1	-	-	-	-	2	2	CC09008E-XX
12	25	1	2	3	3	7.5	10	4	0	CC12004E-XX
		1	2	3	3	7.5	10	0	4	CC12006E-XX
		1	2	-	-	-	-	2	2	CC12008E-XX
25	40	2	3	5	7.5	15	20	4	0	CC25004E-XX
		2	3	5	7.5	15	20	0	4	CC25006E-XX
		2	3	-	-	-	-	2	2	CC25008E-XX
40	60	3	5	10	10	30	30	4	0	CC40004E-XX
		3	5	-	-	-	-	2	2	CC40008E-XX
65	80	5	10	20	20	50	50	4	0	CC65004E-XX
		5	10	-	-	-	-	2	2	CC65008E-XX
80	125	7.5	15	20	25	60	60	4	0	CC80004E-XX
		7.5	15	-	-	-	-	2	2	CC80008E-XX

3 Pole Mechanically Interlocked Contactor with AC coil (Pre-wired)

Maximum Current			Maximum HP 3 Phase				Aux. Contacts Built-in per contactor		Catalog Number
Inductive A	AC-3	Resistive A	200V	230V	480V	600V	NO	NC	
AC-1	AC-1								
9		25	2	2	5	7.5	0	1	CC20901E-XX
							1	0	CC20911E-XX
12		25	3	3	7.5	10	0	1	CC21201E-XX
							1	0	CC21211E-XX
18		32	5	5	10	15	0	1	CC21801E-XX
							1	0	CC21811E-XX
22		32	5	5	10	15	0	1	CC22201E-XX
							1	0	CC22211E-XX
25		40	5	7.5	15	20	0	1	CC22501E-XX
							1	0	CC22511E-XX
32		50	10	10	20	25	0	1	CC23201E-XX
							1	0	CC23211E-XX
38		50	10	10	20	25	0	1	CC23801E-XX
							1	0	CC23811E-XX
40		60	10	10	30	30	1	1	CC24011E-XX
50		80	15	15	40	40	1	1	CC25011E-XX
65		80	20	20	50	50	1	1	CC26511E-XX
80		125	20	25	60	60	1	1	CC28011E-XX
95		125	20	25	60	60	1	1	CC29511E-XX

Replace XX with voltage code from table - 1

Table - 1 : XX-AC Coil Voltages

Volts AC	24	48	110	120	208	220	230	240	277	380	400	415	440	480	575	600
50 Hz	B5	E5	F5	-	-	M5	P5	U5	-	Q5	V5	N5	R5	-	-	-
60 Hz	B6	E6	F6	G6	L6	M6	-	U6	W6	Q6	-	-	R6	T6	S6	X6
50/60 Hz	B7	E7	F7	G7	-	M7	P7	U7	-	Q7	V7	N7	R7	-	-	-

Contactor 9~95A - Specifications (with DC operating coil)



3 Pole Contactor with DC operating coil

Maximum Current		Maximum HP						Aux. Contacts Built-in per contactor		Catalog Number
Inductive AC-3 A	Resistive AC-1 A	Single Phase		Three Phase				NO	NC	
		120V	230V	200V	230V	480V	600V			
9	25	0.5	1	2	2	5	7.5	1	0	CCP0910E-XX
								0	1	CCP0901E-XX
12	25	1	2	3	3	7.5	10	1	0	CCP1210E-XX
								0	1	CCP1201E-XX
18	32	1	3	5	5	10	15	1	0	CCP1810E-XX
								0	1	CCP1801E-XX
22	32	1	3	5	5	10	15	1	0	CCP2210E-XX
								0	1	CCP2201E-XX
25	40	2	3	5	7.5	15	20	1	0	CCP2510E-XX
								0	1	CCP2501E-XX
32	50	2	5	10	10	20	25	1	0	CCP3210E-XX
								0	1	CCP3201E-XX
38	50	2	5	10	10	20	25	1	0	CCP3810E-XX
								0	1	CCP3801E-XX
40	60	3	5	10	10	30	30	1	1	CCP4011E-XX
50	80	3	7.5	15	15	40	40	1	1	CCP5011E-XX
65	80	5	10	20	20	50	50	1	1	CCP6511E-XX
80	125	7.5	15	20	25	60	60	1	1	CCP8011E-XX

Note : Standard Fault Ratings (UL) (SP) High Fault Ratings (UL) (100kA with Fuse of class J/CC)



4 Pole Contactor with DC operating coil

Maximum Current		Maximum HP						Main Pole Configuration		Catalog Number
Inductive AC-3 A	Resistive AC-1 A	Single Phase		Three Phase				NO	NC	
		120V	230V	200V	230V	480V	600V			
9	25	0.5	1	2	2	5	7.5	4	0	CCP09004E-XX
		0.5	1	2	2	5	7.5	0	4	CCP09006E-XX
		0.5	1	-	-	-	-	2	2	CCP09008E-XX
12	25	1	2	3	3	7.5	10	4	0	CCP12004E-XX
		1	2	3	3	7.5	10	0	4	CCP12006E-XX
		1	2	-	-	-	-	2	2	CCP12008E-XX
25	40	2	3	5	7.5	15	20	4	0	CCP25004E-XX
		2	3	5	7.5	15	20	0	4	CCP25006E-XX
		2	3	-	-	-	-	2	2	CCP25008E-XX
40	60	3	5	10	10	30	30	4	0	CCP40004E-XX
		3	5	-	-	-	-	2	2	CCP40008E-XX
		5	10	20	20	50	50	4	0	CCP65004E-XX
65	80	5	10	-	-	-	-	2	2	CCP65008E-XX
		7.5	15	20	25	60	60	4	0	CCP80004E-XX
80	125	7.5	15	-	-	-	-	2	2	CCP80008E-XX

Note : Standard & High Fault Ratings (UL) (100kA with Fuse of class J/CC)

Low Height DC Contactor : 9A ~ 25A *

Maximum Current		Maximum HP 1 Phase		Maximum HP 3 Phase				Catalog Number
Inductive AC-3 A	Resistive AC-1 A	120V	230V	200V	230V	480V	600V	
9	25	0.5	1.0	2	2	5	7.5	CCPC09E-XX
12	25	1.0	2.0	3	3	7.5	10	CCPC12E-XX
25	40	2.0	3.0	5	7.5	15	20	CCPC25E-XX

Replace XX with voltage code from table - 2

Volts DC	12	24	48	72	110	125	220	250	440
	JD	BD	ED	SD	FD	GD	MD	UD	RD

*Under UL approval

Contactors 115~800A - Specifications



3 Pole Contactor (without AC or DC operating coil)

Maximum Current		Maximum HP Rating				Main Pole Configuration		Catalog Number
Inductive A	Resistive A	200V	230V	480V	600V	NO	NC	
115	200	30	40	75	100	3	-	CCF115AE-■
150	250	40	50	100	125	3	-	CCF150AE-■
185	275	50	60	125	150	3	-	CCF185AE-■
225	315	50	65	130	155	3	-	CCF225AE-■
265	350	60	75	150	200	3	-	CCF265AE-■
330	400	75	100	200	250	3	-	CCF330AE-■
400	500	100	125	250	300	3	-	CCF400AE-■
500	700	150	200	400	500	3	-	CCF500AE-■
630	1000	250	300	600	800	3	-	CCF630AE-■
780	1600	Current rated				3	-	CCF780AE-■
800	1000	Current rated				3	-	CCF800AE-■

Note : 115A - 630A (UL) & 115A - 780A (SP) approved (only for Standard Fault Ratings)



4 Pole Contactor (without AC or DC operating coil)

Maximum Current		Maximum HP Rating 3 Phase				Main Pole Configuration		Catalog Number
Inductive A	Resistive A	200V	230V	480V	600V	NO	NC	
115	200	30	40	75	100	4	-	CCF1154AE■
150	250	40	50	100	125	4	-	CCF1504AE■
185	275	50	60	125	150	4	-	CCF1854AE■
225	315	50	65	130	155	4	-	CCF2254AE■
265	350	60	75	150	200	4	-	CCF2654AE■
330	400	75	100	200	250	4	-	CCF3304AE■
400	500	100	125	250	300	4	-	CCF4004AE■
500	700	150	200	400	500	4	-	CCF5004AE■
630	1000	250	300	600	800	4	-	CCF6304AE■
780	1600	Current Rated				4	-	CCF7804AE■

- If Contactors are required with coil replace ■ with coil codes given below
- 4P Contactors' (UL)/(SP) listing under process

Coils (Replace ■ with coil code)

For Contactors CCF	Catalog Number	
	AC	DC
115 - 150	CCFFEXX	CC4FFEXX
185 - 225	CCFGEXX	CCX4FGEXX
265 - 330	CCFH2EXX	CCX4FH2EXX
400	CCFJEXX	CCX4FJEXX
500	CCFKEXX(3P)CCFCCEXX(4P)	CC4FKEXX(3P)CC4FCCEXX(4P)
630	CCFCCEXX	CC4FECCXX
780	CCFEXXX	CC4FEXXX
800	CCF48EXX	CC4F8EXX

Replace XX with voltage rating from Table-9 for AC Coil & from table 10 for DC Coil

Table-9: XX-AC Coil Voltages

Contactors CCF	Volts AC	24	48	110	115	120	127	200	208	220	230	240	277	380	400	415	440	480	500	600	660
115, 150	50 Hz	✓	✓	✓	x	x	✓	x	x	✓	✓	✓	x	✓	✓	✓	✓	x	✓	✓	x
185, 225	60 Hz	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓
265, 330	40-400Hz	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	x	✓	x	✓	✓	✓	x
400, 500, 630	40-400Hz	x	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	x
780	40-400Hz	x	✓	x	x	✓	x	x	x	✓	x	✓	x	x	x	✓	x	✓	x	x	x
800	40-400Hz	x	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	x

- If 24V, 50Hz Coil is required, replace XX with 24V, 50Hz

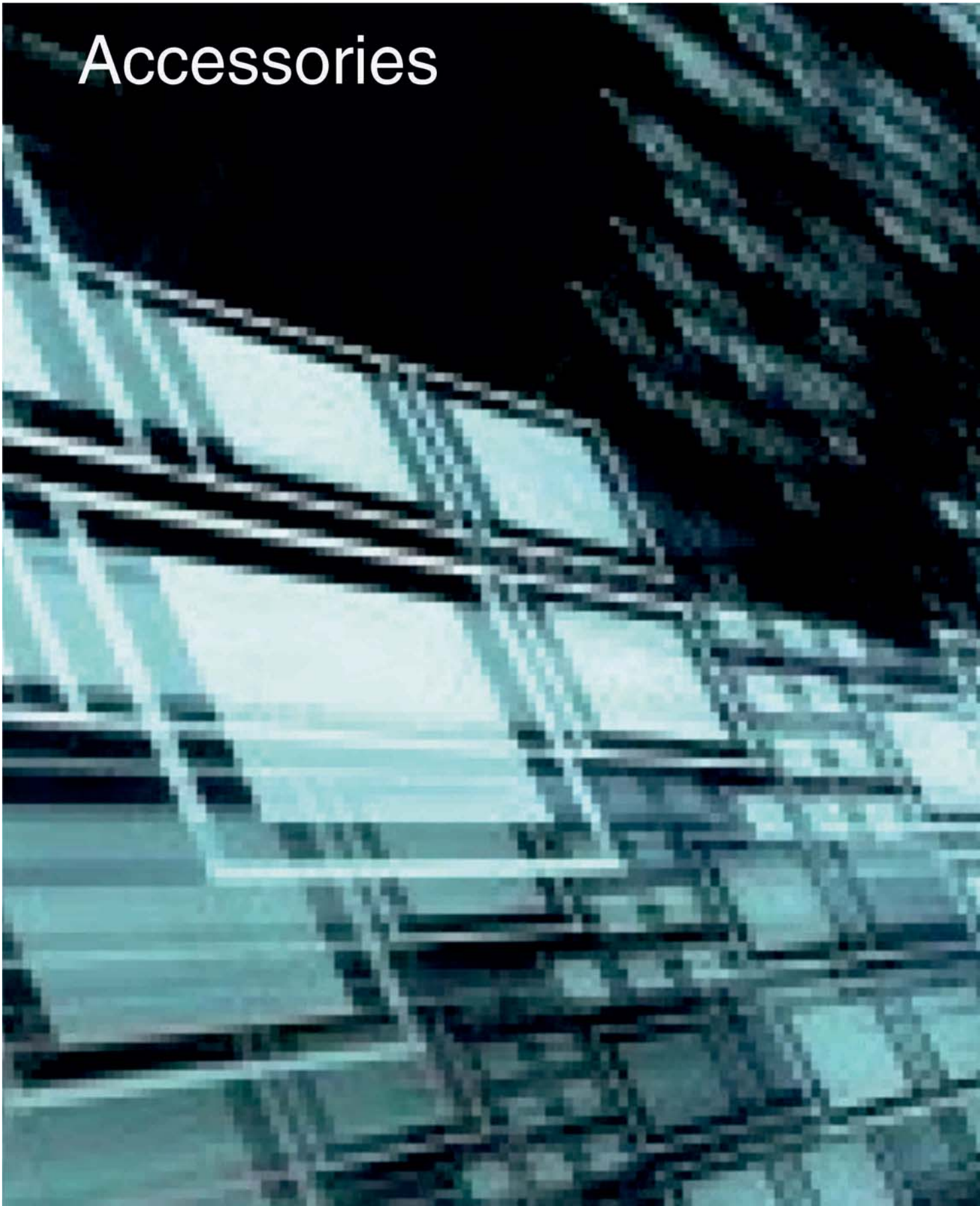
Table-10: XX-DC Coil Voltages

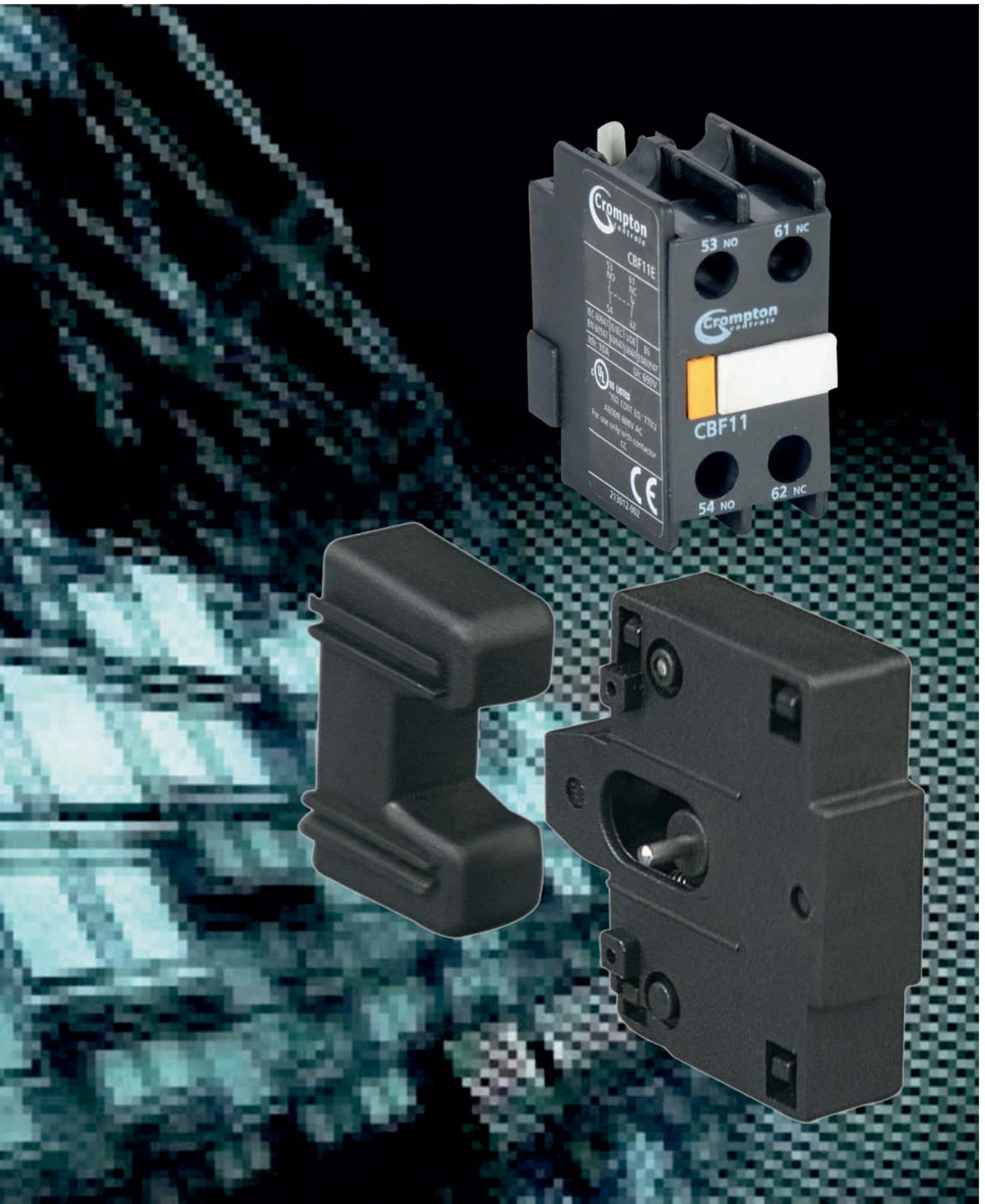
Contactors CCF	24	48	110	120	125	220	240	250	440
115, 150, 185	✓	✓	✓	x	✓	✓	x	✓	✓
225, 265, 330	✓	✓	✓	x	✓	✓	x	✓	✓
115, 150, 185	✓	✓	✓	x	✓	✓	x	✓	✓
400, 500	✓	✓	✓	x	✓	✓	x	✓	✓
630	x	✓	✓	x	✓	✓	x	✓	✓
780	x	x	✓	✓	x	✓	✓	✓	✓
800	x	x	✓	✓	x	✓	✓	✓	✓

Note : Protected shrouds for main poles available & to be ordered separately from page B-25



Accessories





Accessories

Instantaneous Time Delay Contact Characteristics

Type		UNIT	CBF	CTD3	CTE	CBS
Number of contacts			2 or 4	2	2	2
Rated operational Voltage (Ue)	Upto	V		660		
Rated Insulation Voltage (Ui)	Conforming to IEC 60947-1	V		690		
	Conforming to CSA C22-2 No. 14	V	6 00	-	-	-
Rated Thermal current (Ith)	For ambient temperature <40°C	A		10		
Frequency of operational current		Hz		25...400		
Minimum switching capacity	U min	V		17		
	I min	mA		5		
Short time rating	Permissible for	1s	A	100		
		500ms	A	120		
		100 ms	A	140		
Insulation resistance		MΩ		>10		
Time Delay	Ambient air temperature for operation°C			-40...+70		
(TA2D & TA3D contact blocks)	Repeat accuracy		-	± 5%	± 5%	
Accuracy only valid for setting range indicated on the front face	Drift upto 0.5 million operating cycles			+ 15%	+ 15%	
	Drift depending on ambient air temp.	-		0.25% per°C	0.25% per °C	-
Mechanical Life	In millions of operating cycles		30	5	5	30

Standard, instantaneous auxilliary contact blocks



No. of Contacts	Contacts		Snap-On Mounting	Catalog Number
	NO	NC		
4	2	2	To the front of CC1-D09-95 CC1-F115A-800A CC1-D09-80 CCP1-C09/12/25 CCR/CCRD	CBF22E
	1	3		CBF13E
	4	0		CBF40E
	0	4		CBF04E
	3	1		CBF31E
	1	1		CBF11E
2	2	0		CBF20E
	0	2		CBF02E
1	1	0	To the front of CC1-D09-95 CC1-D09-80 CC1-D09/12/25	CBF10E
	0	1		CBF01E
2	1	1	To the side of CC1-D09-95 CC1-D09-80 CC1-D09/12/25 CCR / CCRD	CBS11E
	2	0		CBS20E

Pneumatic Timer Block (Front Mounted)



Description	Contacts		Range	Catalog Number
	NO	NC		
ON Delay	1	1	0.1 ... 3s	CTD3E
ON Delay	1	1	0.1 ... 30s	CTD30E
ON Delay	1	1	10 ... 180s	CTD180E
OFF Delay	1	1	0.1 ... 3s	CTE3E
OFF Delay	1	1	0.1 ... 30s	CTE30E
OFF Delay	1	1	10 ... 180s	CTE180E
On Delay	1	1	1 ... 30s*	CTDSE

* With switching time of 40msec + 15 msec between the opening of NC contact to the closing of NO contact (for Star Delta application)

Accessories



Power Connectors Wire Sets for Reversing Contactors

With two Identical Contactors	Catalog Number
CC09, CC12, CP09, CP12	CA9-D1269E
CC18, CP18	CA9-D1869E
CC25, CP25	CA9-D2569E
CC32, CP32	CA9-D3269E
CP40, CP65, CC40, CC50, CC65	CA9-D6569E
CC80, CP80, CC95	CA9-D8069E

Mechanical Interlocks Horizontally Mounted

Use for Contactor	Mechanical
CCR, CCRD	CML09-32E
CC09 ~ 32, CP09 ~ 32	
CC40 ~ 65, CP40 ~ 65	CML40-65E
CC80 ~ 95, CP80	CML80E

Coil Suppressor

Description	Voltage Ratings	Catalog Number
Varistor (AC/DC) Clip-on mounting for 9~95A Contactor	24 ~ 48V AC/DC	CA9AMOV980E
	110 ~ 240V AC/DC	CA9AMOV980U
RC Circuit (AC) Clip-on mounting for 9A~95A Contactor	24 ~ 48V AC	CA9RC980E
	110 ~ 240V AC	CA9RC980U
	380 ~ 440V AC	CA9RC980N



Spare Coils (AC)

Use for contactor AC	Catalog Number
CC09~22	CX09-18EXX
CC25~38	CX25-32EXX
CC40~95	CX40-95EXX

Replace XX with voltage code from table - 3

Table-3: XX-AC Coil Voltages

Volts AC	24	48	110	120	208	220	240	277	380	415	440	480	575	600
50 Hz	B5	E5	F5			M5	U5		Q5	N5	R5			
60 Hz	B6	E6	F6	G6	L6	M6	U6	W6	Q6		R6	T6	S6	X6
50/60 Hz	B7	E7	F7	G7		M7	U7		Q7	N7	R7			

Spare Coils (DC)

Use for contactor DC	Catalog Number
CCP09 ~ CCP22	CCX09-18EXX
CCP25 ~ CCP38	CCX25-32EXX
CCP40 ~ CCP65	CCX440-65EXX
CCP80	CCX480EXX
CCP09 ~ CCP12	CCX4-DC2EXX*available coil voltage
CCP25	CCX4-DC4EXX *available coil voltage

Replace XX with voltage code from table - 4

Table-4: XX-DC Coil Voltages

Volts DC	12	24*	48*	72	110*	125	220*	250	440
	JD	BD	ED	SD	FD	GD	MD	UD	RD

Mechanical Latching Blocks

Description of Contactors	Catalog Number
For Contactors up to 32 Amps	CA6DK01E-XX

Replace XX with voltage code from table - 5 / 6

For Mechanical Latching Block	Table-5: For AC Voltage										
	24	48	110-115	120-127	220-225	230-240	380	400-415	440	500	660
CA6-DK01E	B	E	F	G	M	U	Q	N	R	S	Y
For Mechanical Latching Block	Table-6: For DC Voltage										
	24	48	72	110-115	120-127	220-225	230-240				
CA6-DK01E	BD	ED	SD	FD	GD	MD	UD				



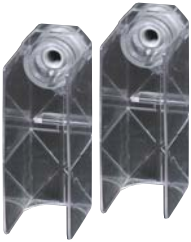
Accessories

Protective Shroud Covers for 115A ~ 800A Contactors

For 3P Contactor Type	Catalogue Number		
CCF115AE	CA9-F701	CCF115 4AE	CA9-F706
CCF150AE CCF185AE	CA9-F702	CCF150 4AE CCF185 4AE	CA9-F707
CCF225AE CCF265AE CCF330AE CCF400AE CCF500AE	CA9-F703	CCF225 4AE CCF265 4AE CCF330 4AE CCF400 4AE CCF500 4AE	CA9-F708
CCF630AE CCF800AE	CA9-F704	CCF630 4AE CCF800 4AE	CA9-F709

Coil Suppressor

Description	Voltage Ratings	Catalog Number
Wire mounting 250VAC/400VDC max	CCF115~330	CA9F980E(BR)
	CCF400~780	CA9DO9980E(BR)



Power Connectors Wire Sets for Reversing Contactors

Catalog Number	With two identical contactors
CCF115AE	CA9-FF976
CCF150AE	CA9-F15076
CCF185AE	CA9-FG976
CCF225AE	CA9-F22576
CCF265AE	CA9-FH976
CCF330AE	CA9-FJ976
CCF400AE	CA9-FJ976
CCF500AE	CA9-FK976
CCF630AE	CA9-FC976
CCF800AE	CA9-F80076

Set of Power Connections - 3 Pole Changeover Contactor Pair - On Request

Contactor Type	With two identical contactors
CCF115AE	CA9-F11582
CCF150AE	CA9-F15082
CCF185AE	CA9-F18582
CCF225A	CA9-F22582
CCF265AE	CA9-F26582
CCF330AE	CA9-F33082
CCF400AE	CA9-F40082
CCF500AE	CA9-F50082
CCF630AE	CA9-F60082

3 Pole Mechanically Interlocked 115A ~ 800A Contactors - On Request

Contactor Type	Catalog Number
CCF115AE	CC2F115AE
CCF150AE	CC2F150AE
CCF185AE	CC2F185AE
CCF225AE	CC2F225AE
CCF265AE	CC2F265AE
CCF330AE	CC2F330AE
CCF400AE	CC2F400AE
CCF500AE	CC2F500AE
CCF630AE	CC2F630AE

1 “**” Reversers assembled using two contactors of identical rating type etc.

2 Replace “***” with available coils BD for 24V DC, ED for 48V DC and EED for 54V DC

Accessories



Mechanical Interlocks Horizontally Mounted

For Contactor Type	Catalog Number
CCF115AE	CML-HFFE970
CCF150AE	
CCF185AE	CML-HFGE970
CCF225AE	
CCF265AE	CML-HFJE970
CCF330AE	
CCF400AE	
CCF500AE	
CCF630AE / CCF800AE	CML-HFLE970

Mechanical Interlocks Vertically Mounted

For Contactor Type	Catalog Number
CCF115AE	CML-VFF4FE
CCF150AE	
CCF185AE	CML-VFG4GE
CCF225AE	
CCF265AE	CML-VFH4HE
CCF330AE	CML-VFJ4JE
CCF400AE	
CCF500AE	CML-VFK4KE
CCF630AE / CCF800AE	CML-VFL4LE
CCF780AE	CML-VFX970E



Main Contact Sets** for 3 Pole Contactor

For Contactor Type	CataCog Number
CCF115AE	CA5-FF431 (F115)
CCF150AE	CA5-FF431 (F150)
CCF185AE	CA5-FG431 (F185)
CCF225AE	CA5-FG431 (F225)
CCF265AE	CA5-FH431 (F265)
CCF330AE	CA5-F400803 (F330)
CCF400AE	CA5-F400803 (F400)
CCF500AE	CA5-F500803 (F500)
CCF630AE	CA5-F630803 (F630)
CCF780AE	CA5-F780801 (F780)***
CCF800AE	CA5-F800803 (F800)

Main Contact Sets** for 4 Pole Contactor

For Contactor Type	CataCog Number
CCF1154AE	CA5-FF441 (F1154)
CCF1504AE	CA5-FF441 (F1504)
CCF1854AE	CA5-FG441 (F1854)
CCF2254AE	CA5-FG441 (F2254)
CCF2654AE	CA5-FH441 (F2654)
CCF3304AE	CA5-F400804 (F3304)
CCF4004AE	CA5-F400804 (F4004)
CCF5004AE	CA5-F500804 (F5004)
CCF6304AE	CA5-F630804 (F6304)
CCF7804AE	CA5-F780801 (F7804)***

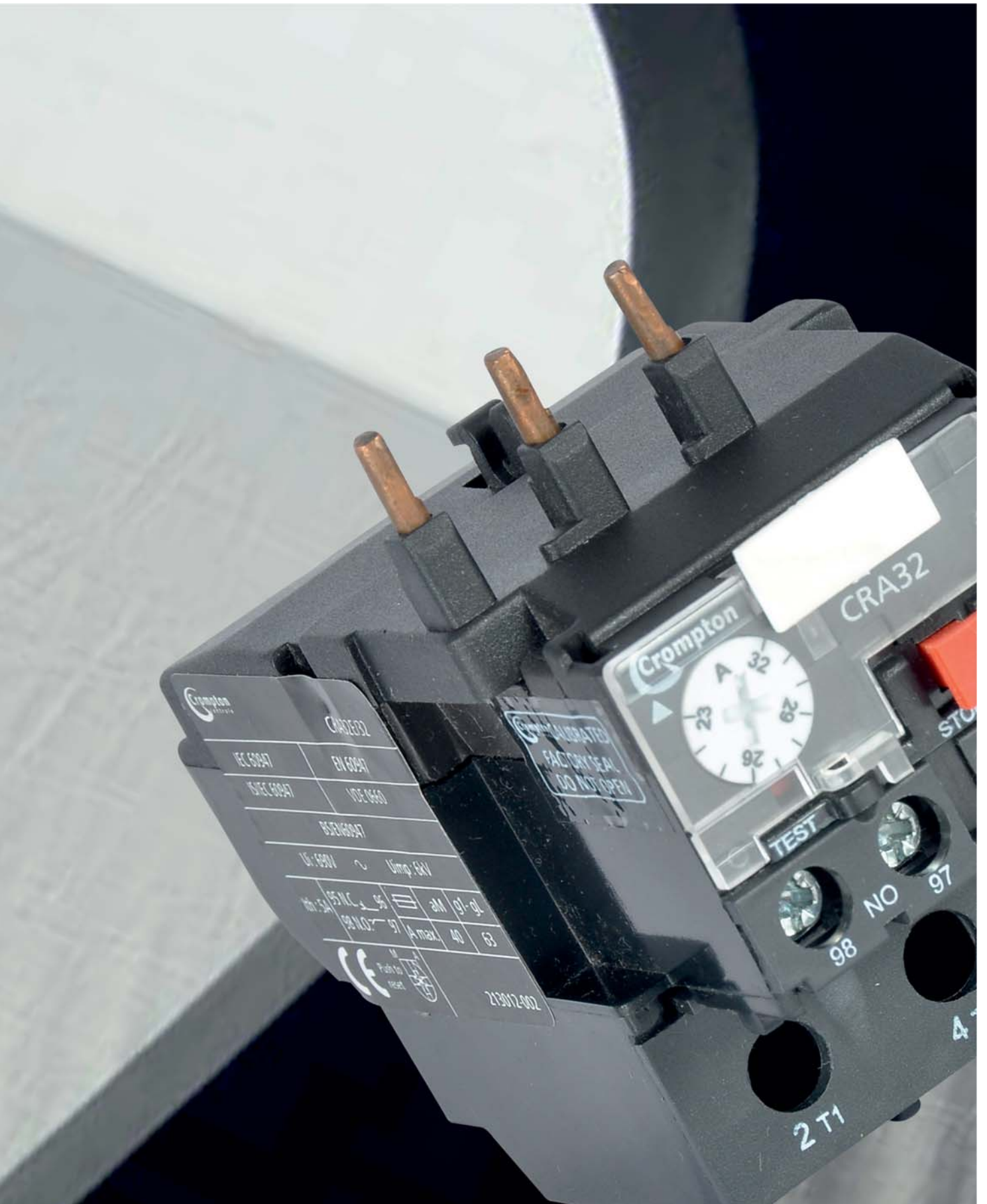
* Double mechanical interlock mechanism with 2 interlock, connecting roads and 3 power connecting links

** For 3-pole contact (per pole: 2 fixed contacts and moving contacts, 2 deflectors, 1 back plate, fixing screws and washers).

*** Set of main contacts provided is 1 set of 2 blocks for one pole

Overload Relay





Crompton
CRA32

1/2C 609A7	EM 609A7
1/2C 609A7	1/2C 660
6570609A7	
U: 500V	U _{imp} : 6kV
Min 5A	95
99	97
A max.	40
63	

Push to reset

213012402

Crompton

FACTORY SEAL
DO NOT OPEN

TEST

CRA32

STOP

2 T1

98 NO 97

Overload Relays - Characteristics

Environment

Conforming to standards			IEC 60947-1, IEC 60947-4-1, NFCEN 60947-4-1, VDE 0660, BSEN 60947
Approvals			UL, CSA, IEC
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X
Protective treatment	Conforming to IEC 68		“TH”
Ambient air temperature (around the device)	Storage	°C	-60 to +70
	Operation, without derating	°C	-25 to +60
	Max. & Min. operating temp.	°C	-40 to +70
Shock resistance	Permissible acceleration		15gn - 11ms, conforming to IEC 68-2-7
Vibration resistance	Permissible acceleration		6gn, conforming to IEC 68-2-6
Dielectric strength at 50 Hz	Conforming to IEC 255-5	kV	6
Impulse withstand voltage	Conforming to IEC 801-5	kV	6

Electrical Characteristics of Power Circuit

TYPE	CRA	UNIT	09/0.25-12/13	18/18	25/25-65/70	80/80-80/93
Tripping class			10	10	10	10
Rated insulation Voltage (Ui)	Conforming to IEC 60947-4-1	V	CRA09E/0.25~32E/36:690V		CRA40E~80E:1000V	
Rated operating voltage upto	Conforming to UL, CSA	V	600	600	600	600
Rated impulse withstand voltage (Uimp)		kV	6	6	6	6
Frequency limits	Of the operational current	Hz	0... 400	0...400	0...400	0...400
Setting range	Depending on model	A	0.1...13	16...18	17...70	63...193
Connecting to screw clamp terminal			Minimum / Maximum CSA			
Flexible cable without cable end	1 conductor	mm ²	1.5 / 10	1.5 / 10	4 / 35	4 / 50
Flexible cable with cable end	1 conductor	mm ²	1 / 4	1 / 6	4 / 35	4 / 50
Solid cable without cable end	1 conductor	mm ²	1 / 6	1.5 / 4	4 / 35	4 / 50
Tightening torque		Nm	1.7	2.5	9	9
Connection to spring terminals			Minimum / Maximum CSA			
Flexible cable without cable end	1 conductor	mm ²	1.5 / 4	1.5 / 4	-	-
SolidCable without cable end	1 conductor	mm ²	1.5 / 4	1.5 / 4	-	-

Operating Characteristics

TYPE	CRA	UNIT	09E/0.25-12E/13	18E/18	25E/25-65E/7080E/80-80/93
Temperature Compensation		°C	-20...+60	-30...+60	-30...+60
Tripping Threshold	Conforming to IEC 6047-4-1	A		1.14 + 0.06In	
Sensitivity to phase failure	Conforming to IEC 60947-4-1		Tripping current 25% above In		

Auxiliary Contact Characteristics

Conventional thermal Curent		A	5						
Maximum consumption of operating coil of controlled contactors (Occasional operating cycles of contact 95 - 96)	AC Supply	V	24	48	110	220	380	600	
		VA	100	200	400	600	600	600	
		V	24	48	110	220	440	-	
		W	100	100	50	45	25	-	
Short circuit protection	By gG or BS fuse Max. rating or by GB2 circuit-breaker	A	5						
Connection to screw clamp terminal			Minimum / Maximum CSA						
Flexible cable without cable end	1 or 2 conductors	mm ²		1 / 2.5					
Flexible cable withcable end	1 or 2 conductors	mm ²		1 / 2.5					
Solid cable without cable end	1 or 2 conductors	mm ²		1 / 2.5					
Tightening torque	1 or 2 conductors	Nm		1.85					
Connecting to spring terminal			Minimum / Maximum CSA						
Flexible cable without cable end	1 or 2 conductors	mm ²		1 / 2.5					
Solid cable without cable end	1 or 2 conductors	mm ²		1 / 2.5					



Overload Relays - Specifications



Overload Relay (Class 10), Base Plate for Independent Mounting

RELAY REFERENCE	RELAY SETTING RANGE (A)	STANDARD POWER RATINGS OF SPARE MOTORS 500Hz AC3 CATEGORY					BACK UP		BASE PLATE* REFERENCE
		220V KW	380V KW	415V KW	440V KW	660V KW	FUSE RATING aM(A)	g1 (A)	
CRA09E/0.16	0.1 to 0.16	-	-	-	-	-	0.25	2	CMBA09-25E
CRA09E/0.25	0.16 to 0.25	-	-	-	-	-	0.5	2	
CRA09E/0.4	0.25 to 0.4	-	-	-	-	-	1	2	
CRA09E/0.63	0.4 to 0.63	-	-	-	-	0.37	1	2	
CRA09E/1	0.63 to 1	-	-	-	-	0.55	2	4	
CRA09E/1.6	1 to 1.6	-	0.37	-	0.55	1.1	2	4	
CRA09E/2	1.25 to 2	-	0.55	0.75	0.75	1.3	4	6	
CRA09E/2.5	1.6 to 2.5	0.37	0.75	1.1	1.1	1.5	4	6	
CRA09E/4	2.5 to 4	0.75	1.5	1.5	1.5	3	6	10	
CRA09E/6	4 to 6	1.1	2.2	2.2	2.2	4	8	16	
CRA09E/8	5.5 to 8	1.5	3	3.7	3.7	5.5	12	20	
CRA09E/10	7 to 10	2.2	4	4	4	7.5	12	20	
CRA12E/13	9 to 13	3	5.5	5.5	5.5	10	16	25	
CRA18E/18	12 to 18	4	7.5	9	9	15	20	35	
CRA25E/25	17 to 25	5.5	11	11	11	18.5	25	50	
CRA32E/32	23 to 32	7.5	15	15	15	-	40	63	CMBA32E
CRA32E/36	28 to 36	9	15	18.5	18.5	-	40	80	
CRA40E/40	30 to 40	10	18.5	22	22	30	40	100	CMBA40-80E
CRA65E/50	37 to 50	11	22	25	25	37	63	100	
CRA65E/65	48 to 65	18.5	25	30	30	50	63	100	
CRA65E/70	55 to 70	20	30	37	37	55	80	125	
CRA80E/80	63 to 80	22	33	40	40	59	80	125	
CRA95E/93	80 to 93	25	45	49	50	80	100	160	
CRF105E	65 to 105	25	51	55	59	90	0.25	160	
CRF125E	80 to 125	30	59	59	63	110	125	200	
CRF160E	100 to 160	45	80	80	90	140	160	250	
CRF200E	125 to 200	55	90	100	110	160	200	315	
CRF250E	160 to 250	63	110	129	140	200	250	400	
CRF315E	200 to 315	80	150	160	160	257	315	500	
CRF400E	250 to 400	110	185	200	220	335	400	630	
CRF500E	315 to 500	140	250	257	280	445	500	800	
CRF630E	400 to 630	180	315	355	375	500	630	800	
*CRF800E	500 to 800	220	400	425	450	—	-	1000	
*CRF1000E	630 to 1000	295	500	500	500	—	-	1250	

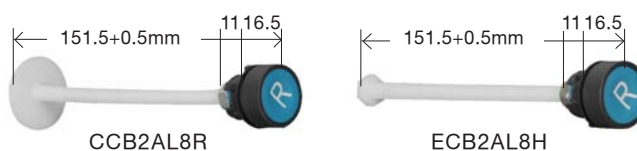
Notes : 1. Protected shrouds for main poles or power poles to be ordered separately for CRF Relays

2. Standard Fault Ratings   with CRA Relay.

*Under UL/CSA approval

Reset Extended Push Button

Description	Reference
Reset Extended Push Button (Round Type)	ECB2AL8R
Reset Extended Push Button (Hex Type)	ECB2AL8H



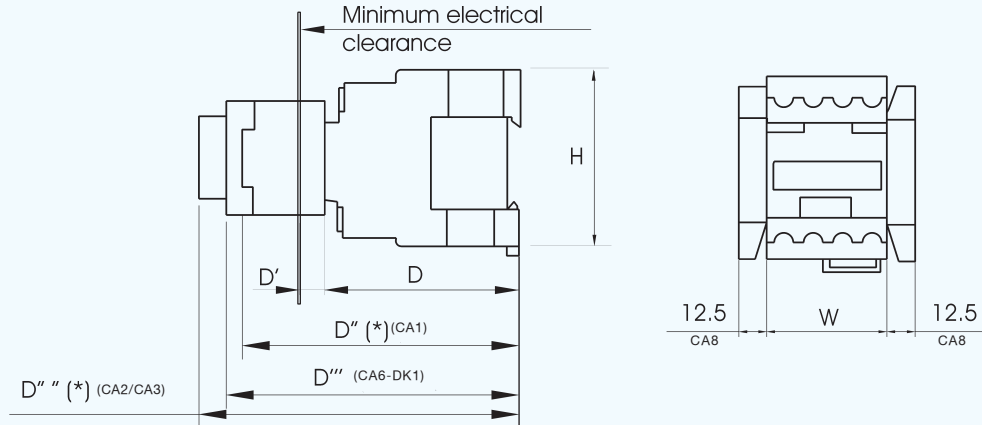
Dimensions



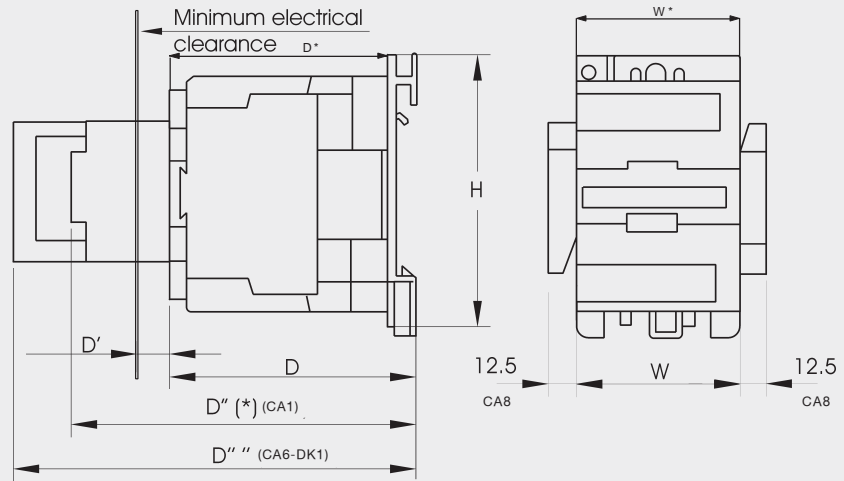


Dimensions - Contactor (9~95A with AC operating coil)

Product Dimensions CC09~38 CCPDC09/DC12/DC25



CC40 ~95

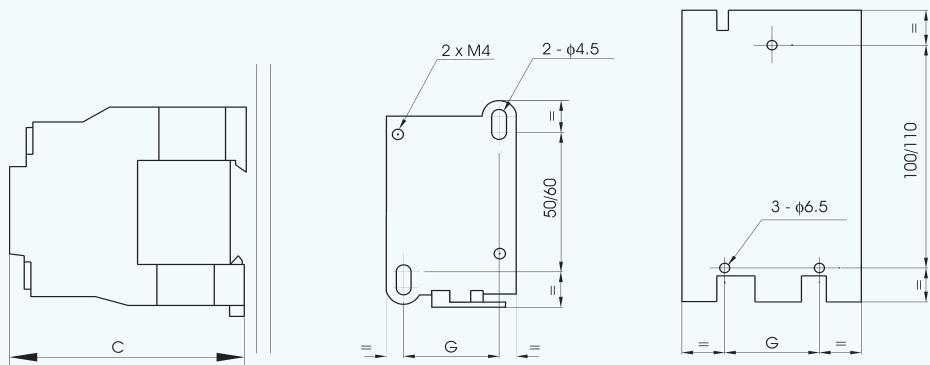


CC	09	12	18	22	25	32	38	40	50	65	80-95
CCP	DC09	DC12	-	-	DC25	-	-	-	-	-	-
W (3 Pole)	45	45	45	45	56	56	56	75	75	75	85
W* (4 Pole)	45	45	-	-	56	-	-	85	85	85	96
H (3/4 Pole)	74	74	74	74	84	84	84	127	127	127	127
D (3/4 Pole)	80	80	85	85	94	99	99	114	114	114	120
D' (3/4 Pole)	10	10	10	10	10	10	10	12	12	12	12
D'' (3/4 Pole)	113	113	118	118	126	131	131	145	145	145	153
D''' (3/4 Pole)	120	120	125	125	135	140	140	-	-	-	-
D'''' (3/4 Pole)	133	133	138	138	147	152	152	166	166	166	173
D*(008)	-	-	-	-	-	-	-	124	124	124	140

Panel Mounting Reference CC09~95 CCPDC09/DC12/DC25

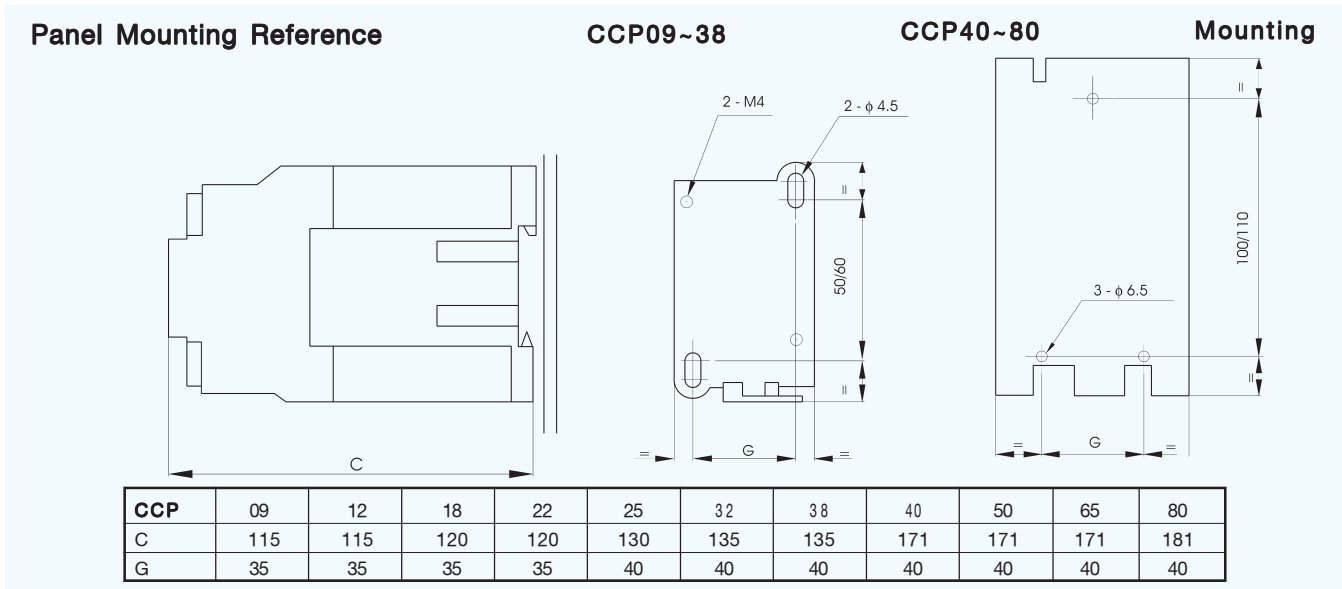
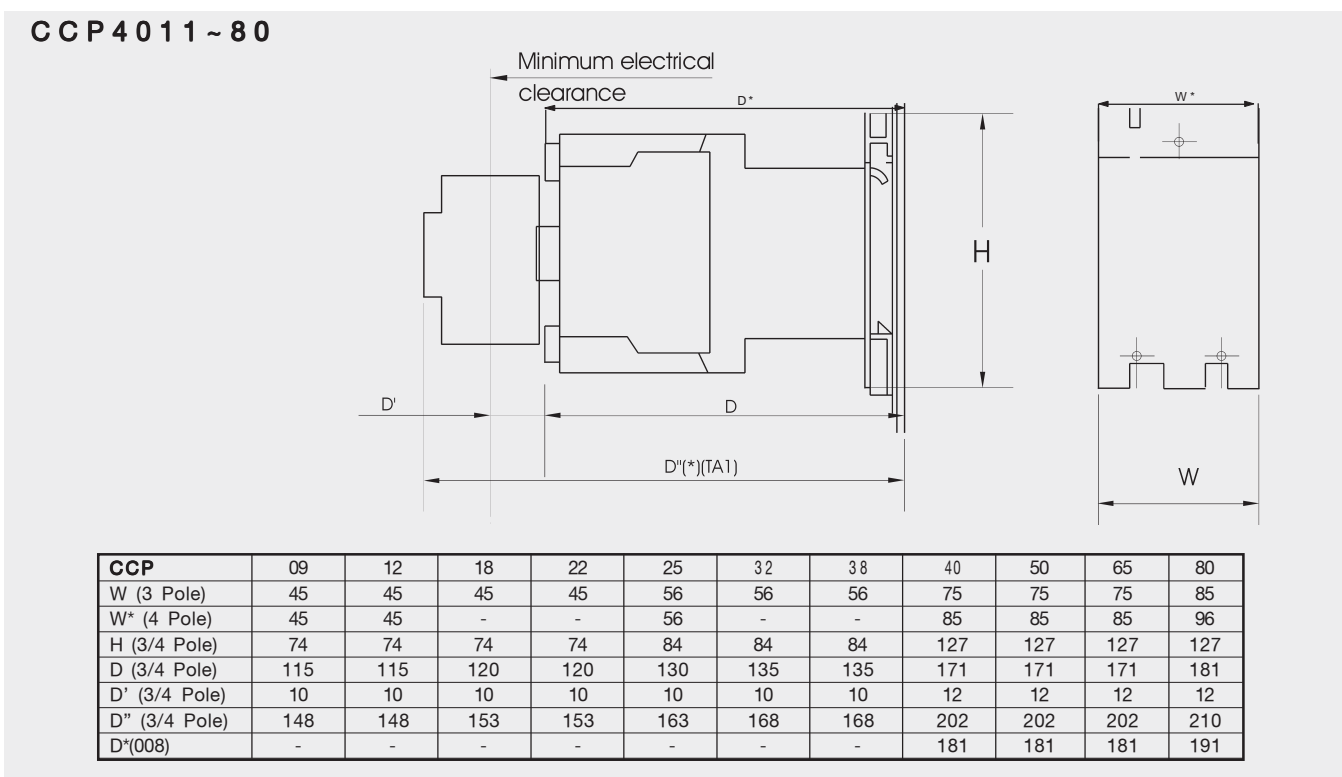
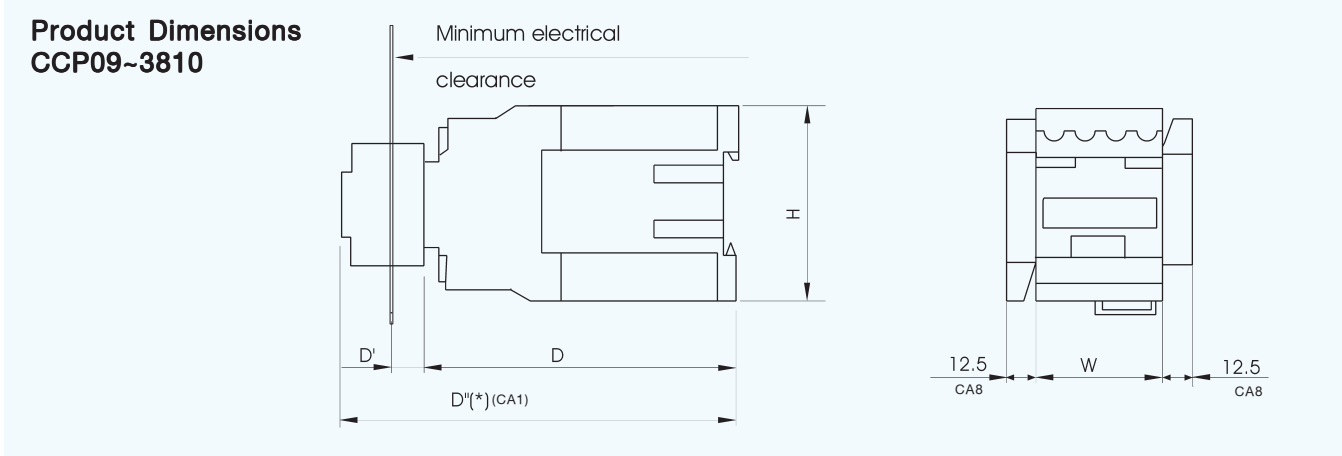
CC09~38 CCPC09/DC12/DC25

CC40~95



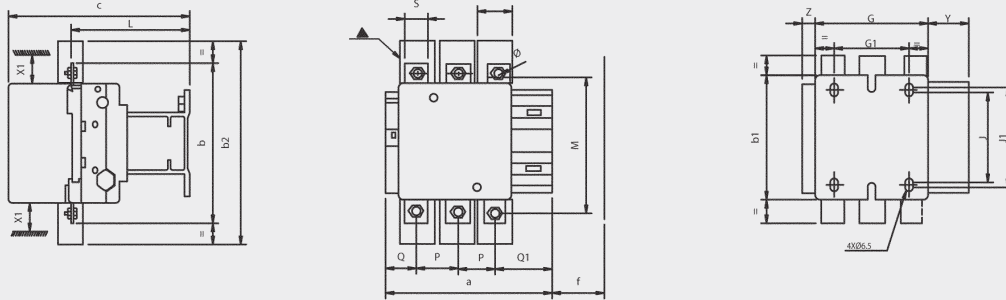
CC	09	12	18	22	25	32	38	40	50	65	80	95
CCP	DC09	DC12	-	-	DC25	-	-	-	-	-	-	-
C	80	80	85	85	93	98	98	114	114	114	125	125
G	35	35	35	35	44	44	44	40	40	40	40	40

Dimensions - Contactor (9~95A with DC operating coil)

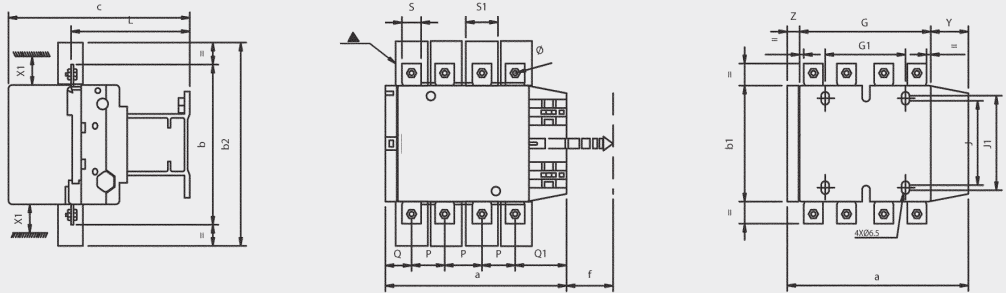


Dimensions - Contactor (115~330A)

CCF115-330A

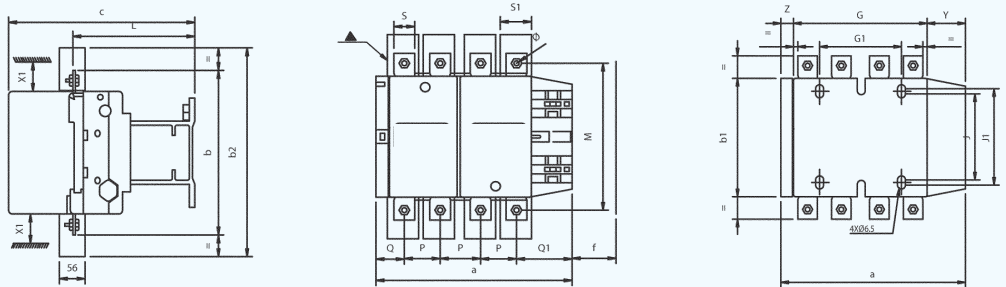


CCF1154-2654A



f:- minimum distance required for coil removal.
 ▲ Power terminal protection shroud

CCF3304A



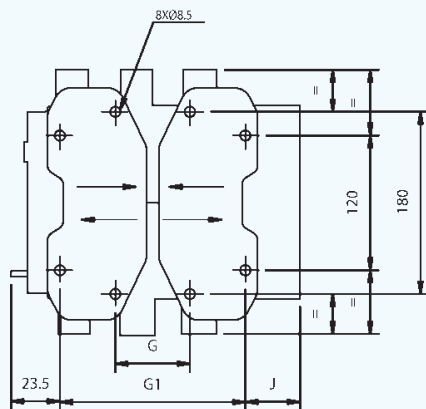
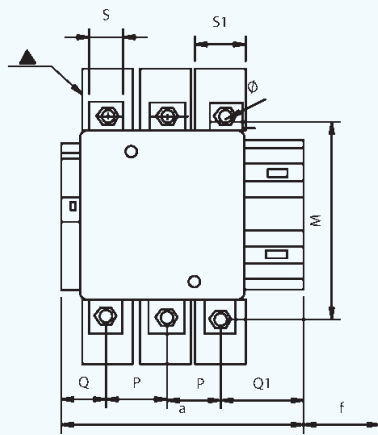
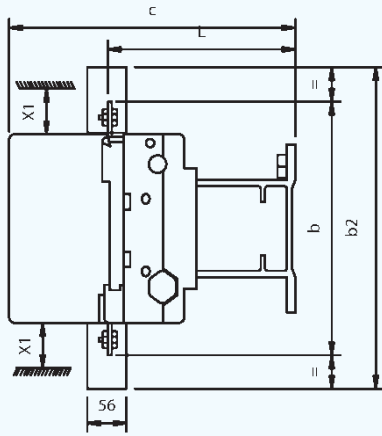
f:- minimum distance required for coil removal.
 ▲ Power terminal protection shroud

CCF	a	b	b1	b2	c	f	G	G1	J	J1	L	M	P	Q	Q1	S	S1	Y	Z	Ø
115A	163.5	162	137	265	172	131	106	80	106	120	107	147	37	29.5	60	15	27	44	13.5	M6
1154A	200.5	162	137	265	172	131	143	80	106	120	107	147	37	29.5	60	15	27	44	13.5	M6
150A	163.5	171	137	301	172	131	106	80	106	120	107	150	40	26.5	57.5	20	34	44	13.5	M8
1504A	200.5	171	137	301	172	131	143	80	106	120	107	150	40	25.5	55.5	20	34	44	13.5	M8
185A	168.5	174	137	305	181	130	111	80	106	120	113.5	154	40	29	59.5	20	34	44	13.5	M8
1854A	208.5	174	137	305	181	130	151	80	106	120	113.5	154	40	29	59.5	20	34	44	13.5	M8
225A	168.5	197	137	364	181	130	111	80	106	120	113.5	172	48	20	51.5	25	44.5	44	13.5	M10
2254A	208.5	197	137	364	181	130	151	80	106	120	113.5	172	48	17	47.5	25	44.5	44	13.5	M10
265A	201.5	203	145	370	214	147	142	96	106	120	141	178	48	39	66.5	25	44.5	38	21.5	M10
2654A	244.5	203	145	370	214	147	190	96	106	120	141	178	48	34	66.5	25	44.5	38	21.5	M10
330A	206	206	145	375	220	147	154.5	96	106	120	147	181	48	43	74	25	44.5	38	20.5	M10
3304A	254	206	145	375	220	147	202.5	96	106	120	147	181	48	43	74	25	44.5	38	20.5	M10

X1(mm) = Minimum electrical clearance according to operating voltage & breaking capacity		
CCF	200 to 500V	600 to 1000V
115A/1154A	10	15
150A/1504A	10	15
185A/1854A	10	15
225A/2254A	10	15
265A/2654A	10	15
330A/3304A	10	15

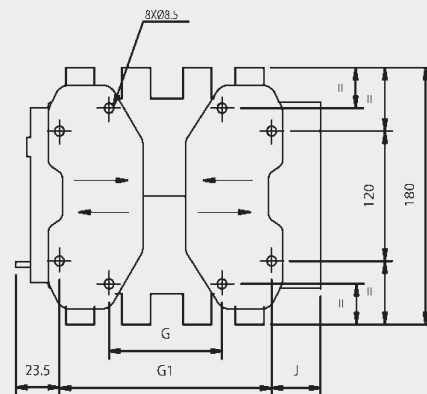
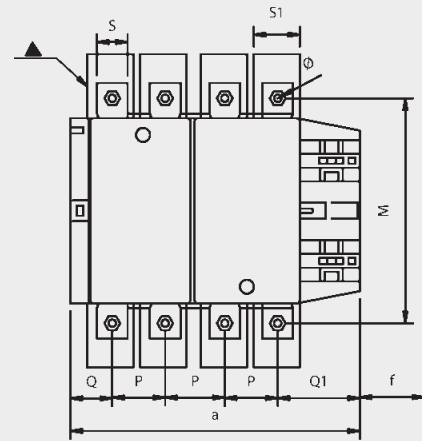
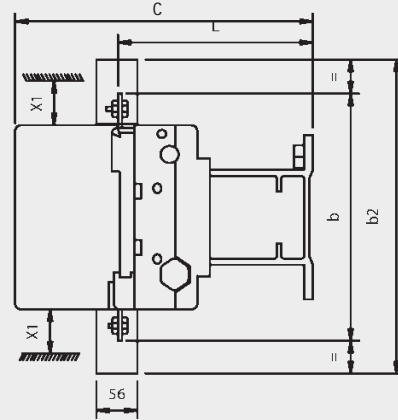
Dimensions - Contactor (400~500A)

CCF400AE/CCF500AE



f: minimum distance required for coil removal.
▲ Power terminal protection shroud

CCF4004AE

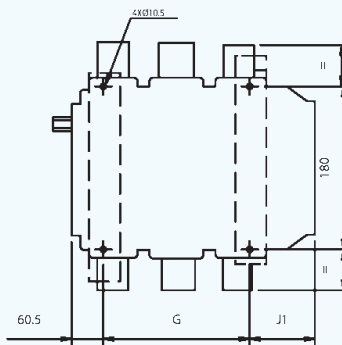
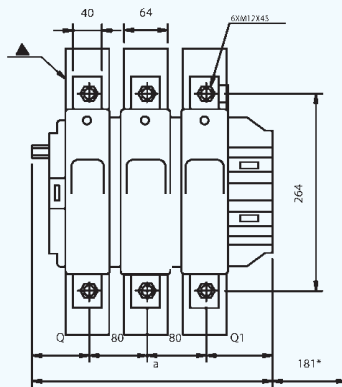
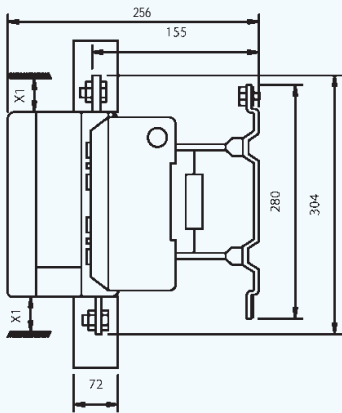


CCF	a	b	b1	b2	c	f	G*	Gmin	Gmax	G1*	G1min	G1max	J	L	M	P	Q	Q1	S	S1
400AE	211	206	209	375	220	119	170	66	102	170	156	192	19.5	145	181	48	43	74	25	44.5
4004AE	261	206	209	375	220	119	170	66	150	170	156	240	67.5	145	181	48	43	74	25	44.5
500AE	231	238	209	400	235	141	170	66	120	170	156	210	39.5	146	205	55	46	77	30	44.5

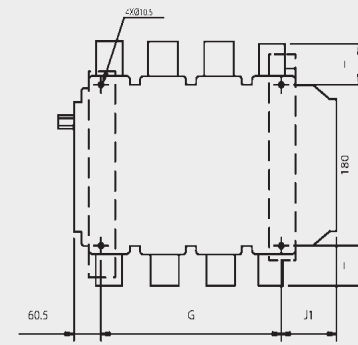
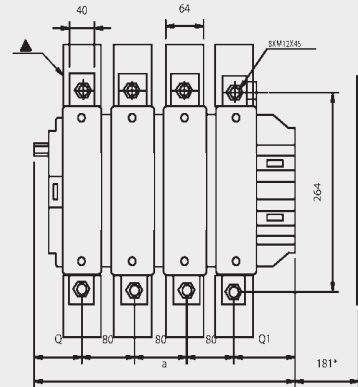
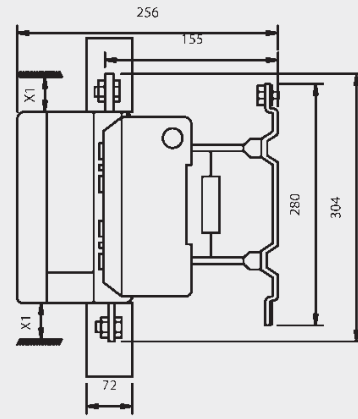
X1(mm) = Minimum electrical clearance according to operating voltage & breaking capacity		
CCF	200 to 500V	600 to 1000V
400AE	15	20
500AE	15	20

Dimensions - Contactor (630~800A)

CCF630AE



CCF5004AE/CCF6304AE



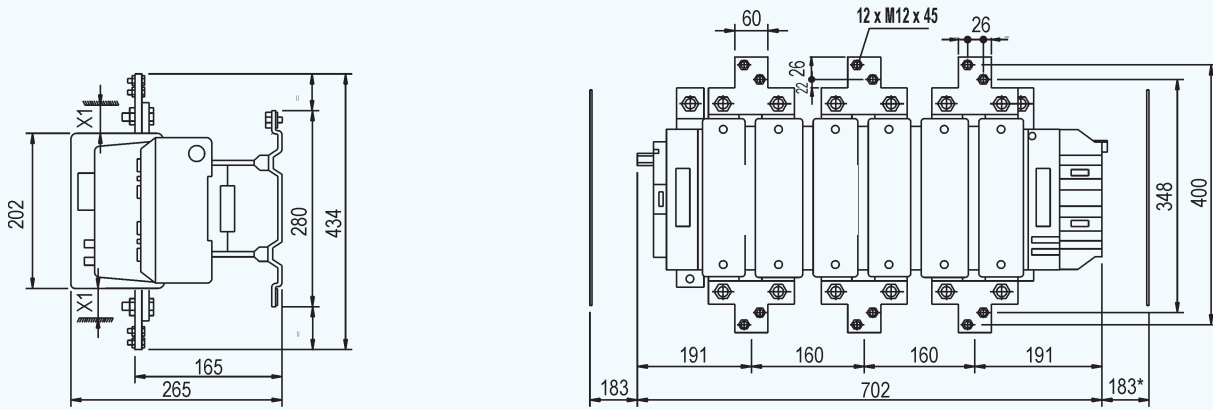
* - minimum distance required for coil removal
 ▲ Power terminal protection shroud

CCF	a	b2	G*	Gmin	Gmax	J1	Q	Q1	S	S1
5004AE	389	464	240	150	275	68.5	60	89	25	64
630AE	306	464	180	100	195	68.5	60	89	25	64
6304AE	389	464	240	150	275	68.5	60	89	30	64
800AE	306	464	180	100	195	68.5	60	89	25	64
8004AE	389	464	240	150	275	68.5	60	89	30	64

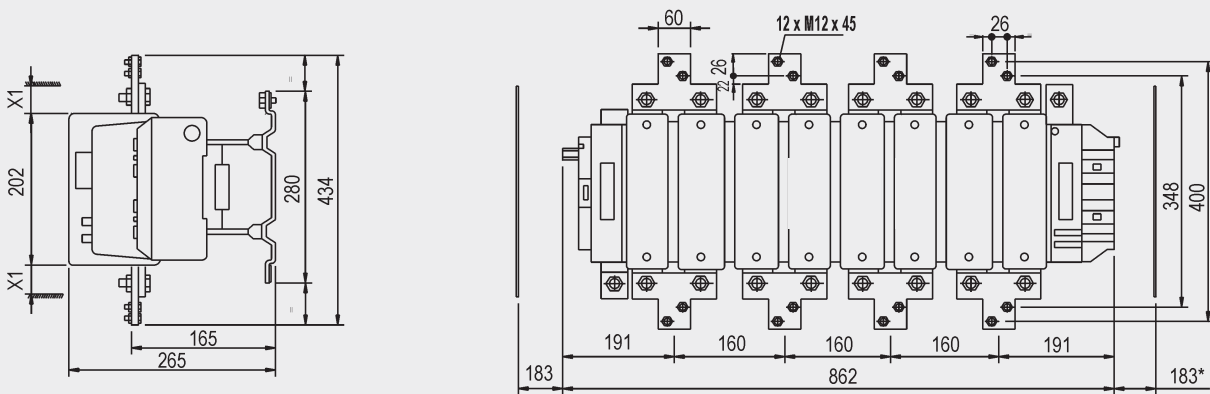
X1(mm) = Minimum electrical clearance according to operating voltage & breaking capacity		
CCF	200 to 500V	600 to 1000V
630AE	20	30
5004AE	15	20

Dimensions - Contactor (780A)

CCF780AE



CCF7804AE

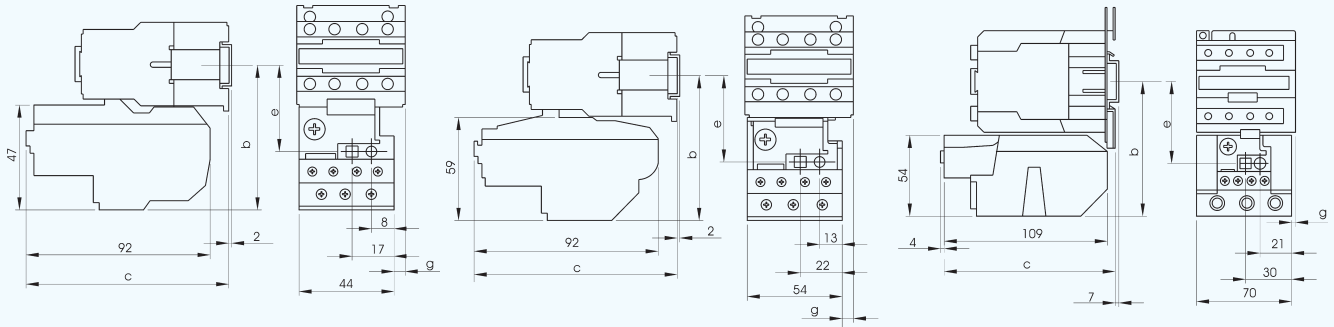


* - minimum distance required for coil removal

X1(mm) = Minimum electrical clearance according to operating voltage & breaking capacity

CCF780AE/7804AE	200 to 500V	600 to 1000V
	30	35

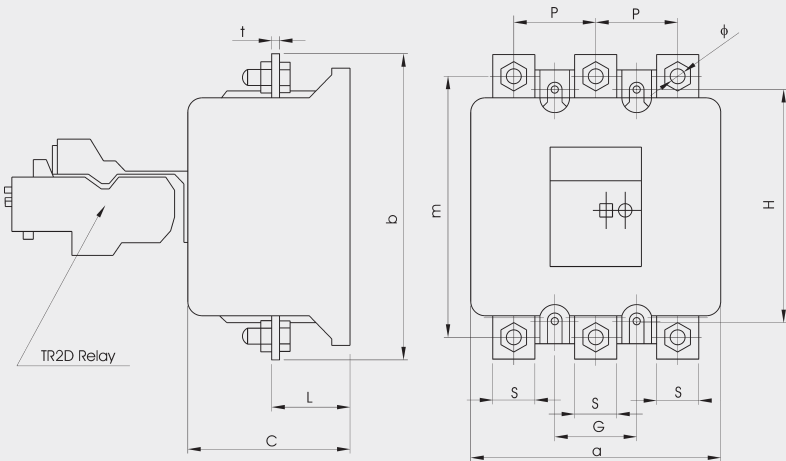
Dimensions & Tripping Curves - Overload Relays



CRA09E/0.25-25/25				
Mounting With	b	c	e	g
CC09, 12, 18	81	98	50	0
CCPDC09, DC12	81	98	50	0
CC25 / CPDC25	86	108	55	10.7
CC32	86	109	55	8.1
CCP09, 12, 18	81	133	50	0
CCP25	86	152	55	10.7
CCP32	86	153	55	8.1

CRA32E/32-32E/36				
Mounting With	b	c	e	g
CC25/CCPDC25	97.5	98	60	1.5
CC32	97.5	98	60	0.5
CCP25	97.5	155	60	1.5
CCP32	97.5	155	60	0.5

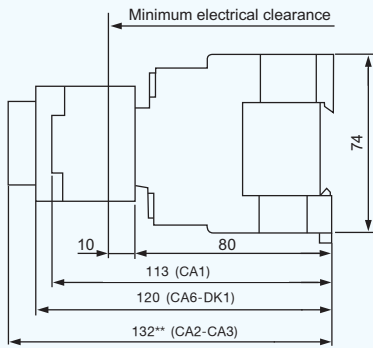
CRA40E/32-80E/93				
Mounting With	b	c	e	g
CC40	111	119	72.4	4.5
CC50	111	119	72.4	4.5
CC65	111	119	72.4	4.5
CC80	115.5	123.4	76.9	9.5
CC95	115.5	123.4	76.9	9.5
CCP40	111	176	72.4	4.5
CCP50	111	176	72.4	4.5
CCP65	111	176	72.4	4.5
CCP80	115.5	179.4	76.9	9.5



CCF	a	b	C	G	H	L	M	P	S	φ	t
105E	126	160	81	40	110 120	56	140	40	20	9	3
125E	126	160	81	40	110 120	56	140	40	20	9	3
160E	126	160	81	40	110 120	56	140	140	20	9	3
200E	126	160	81	40	110 120	56	140	140	20	9	3
250E	171	182	120	49	140	44.5	157	48	25	11	4
315E	171	182	120	49	140	44.5	157	48	25	11	4
400E	171	182	120	49	140	44.5	157	48	25	11	4
500E	171	194	120	49	140	45.5	164	55	25	11	5
630E	171	194	120	49	140	45.5	164	55	30	11	5

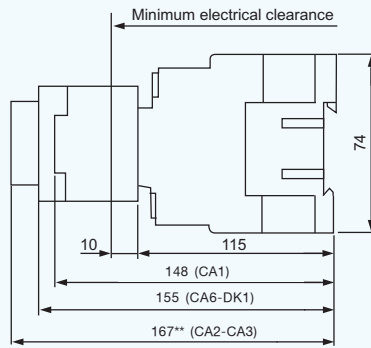
Dimensions - Control Relay

Independent Mounting

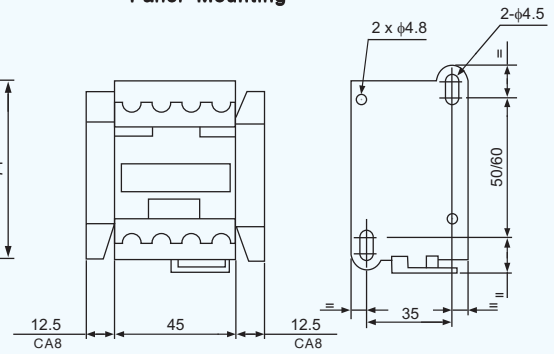


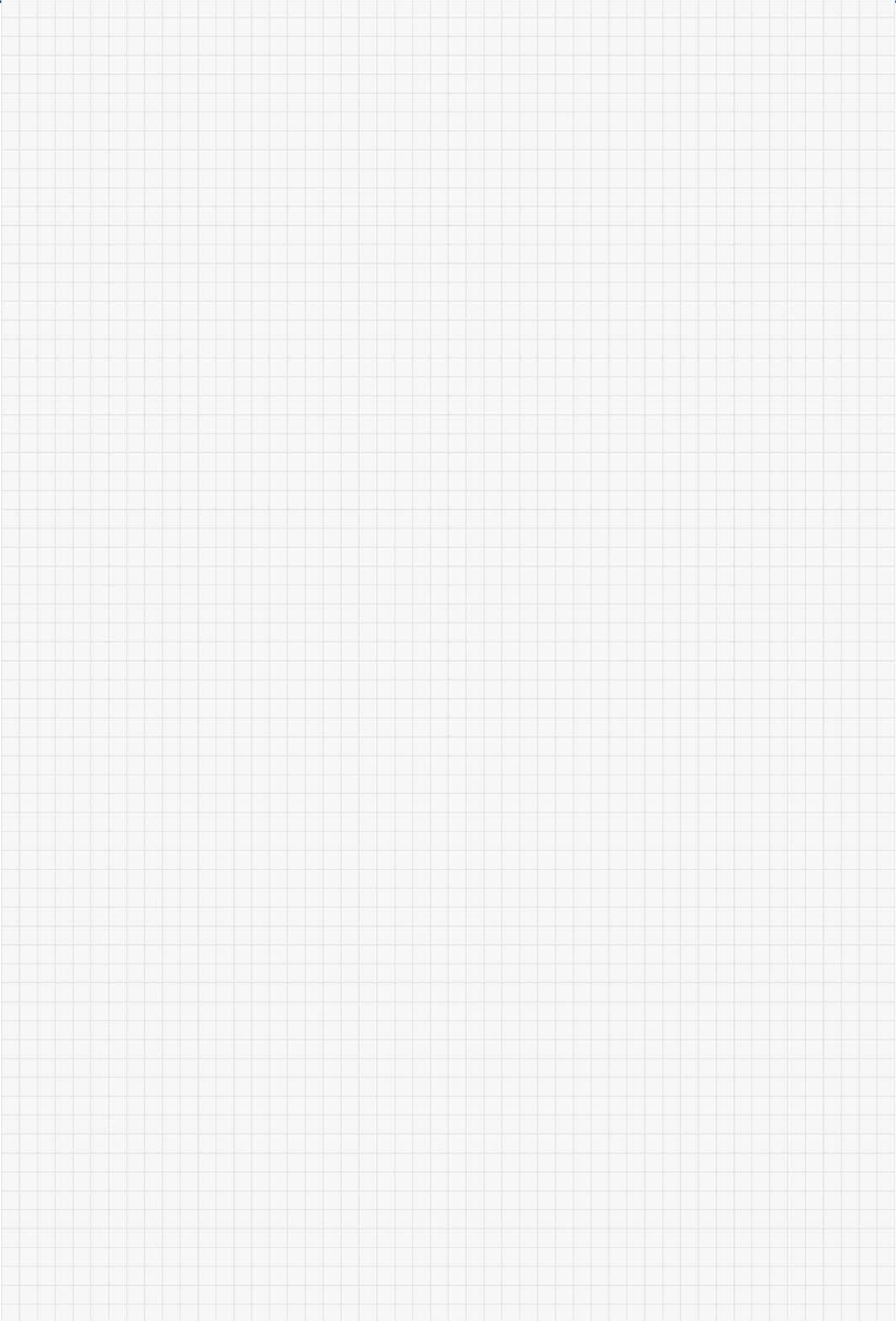
** + 4mm with lead sealing kit

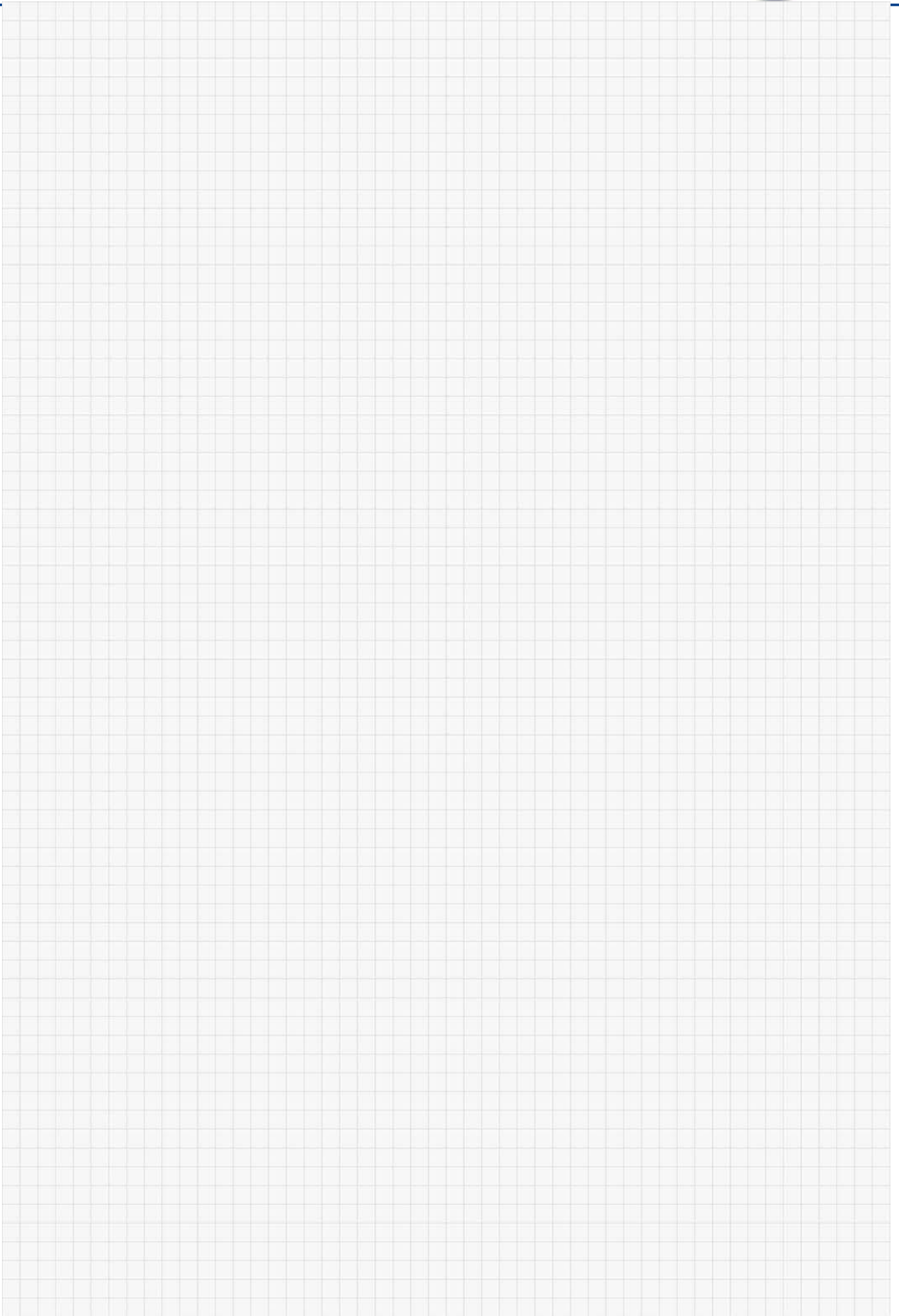
Panel Mounting



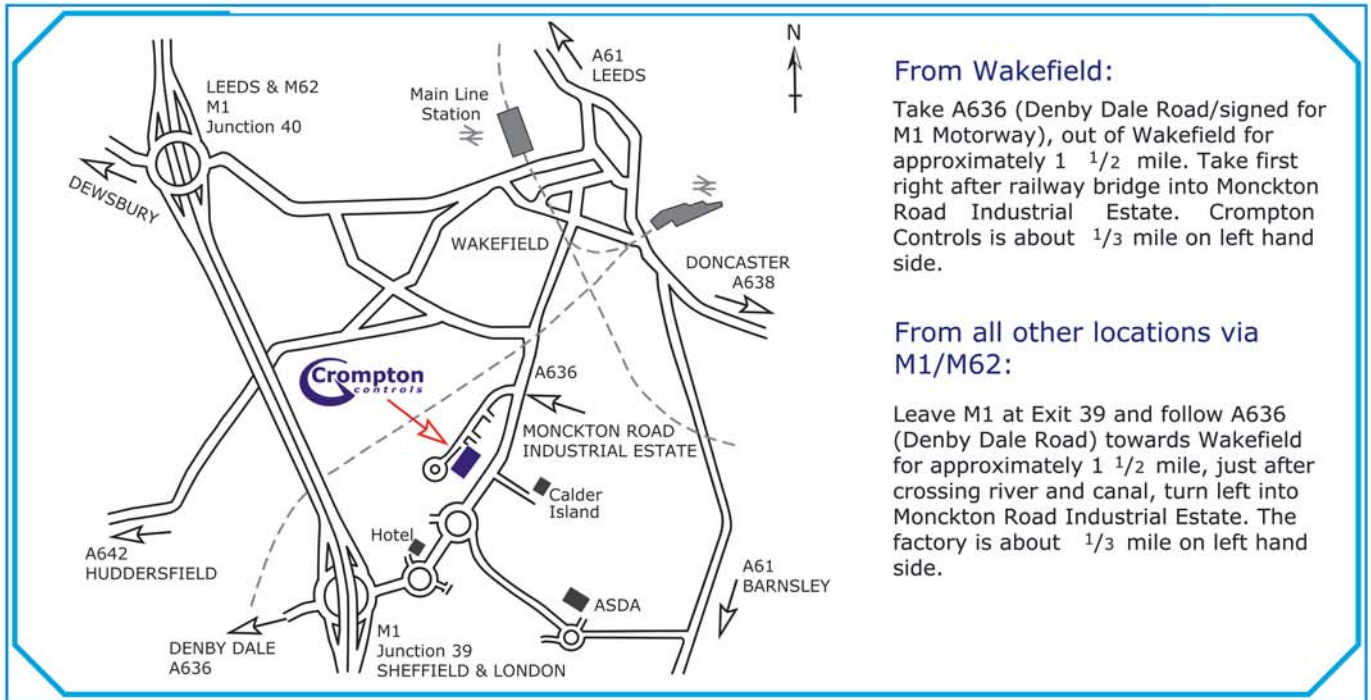
Panel Mounting







You are welcome to visit us



Your **Specialist** in **Control Solutions**

Monckton Road, Wakefield, West Yorkshire WF2 7AL UK
Tel: +44 (0)1924 368251 E-mail: sales@cromptoncontrols.co.uk
www.cromptoncontrols.co.uk

All information contained in this publication is, as far as possible, correct at the time of publication. However, due to our policy of continued improvement, we reserve the right to alter specifications and prices without prior notice. © 2011 Crompton Controls. All rights reserved.
Printed in England. Printed on FSC certified paper.



BS EN ISO 9001:2008
FM565231