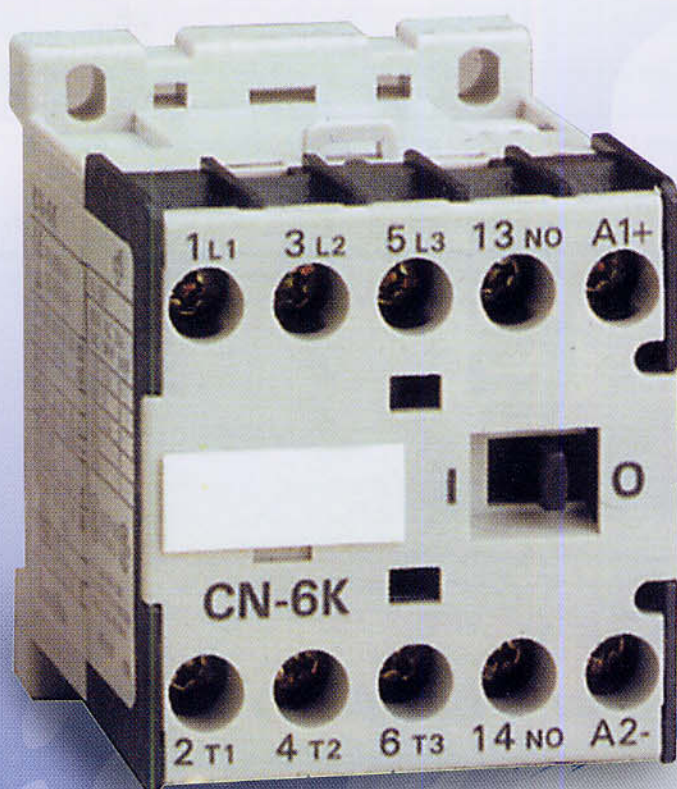


AC/DC Motor Controls

TECO



ISO 9001
BSM

ISO 14001
BSM

CE

△

UL US

SP

UL US

AC/DC MAGNETIC CONTACTORS (N Series) (Approvals : CE CUL)

<p>Overall Dimensions (w x h x d) mm Dimensions of mounting holes (e x f) mm</p>	<p>45 x 58 x 54 (35 x 50)</p>		<p>45 x 70 x 82 (35 x 55)</p>																	
	Catalog number	CN-5(k)*1	CN-6(k)*1	CN-9	CN-11	CN-16														
Rated insulation voltage U_i (V)	690	690	660	660	660															
AC1 duty thermal current (I _{th}) A IEC	20	20	25	25	25															
NAME SIZE EQUIVALENT	00+	00+	0+	0+	0+															
AC2 & AC3 (50/60Hz) Power rating A KW HP Complying with IEC 60947-4-1	Single phase	110V	A	KW	HP	A	KW	HP	A	KW	HP	A	KW	HP						
		220V	8	0.37	0.5	10.5	0.55	0.75	10.5	0.55	0.75	10.5	1.1	1.5	10.5	1.1	1.5	14	1.5	2
		220/230V	7	0.75	1	10	1.1	1.5	10.5	1.1	1.5	10.5	1.1	1.5	12	3	4	16	4	5.5
	380/400V	7.5	1.5	2	10.1	2.2	3	11.5	2.5	3.5	12	3	4	16	4	5.5	16	7.5	10	
	415V	7	3	4	9	4	5.5	11	4	5.5	12	5.5	7.5	16	7.5	10	16	7.5	10	
	440V	6.5	3	4	8.5	4	5.5	10	4	5.5	11	5.5	7.5	15	7.5	10	15	7.5	10	
	500V	6	3	4	8	4	5.5	9	4	5.5	11	5.5	7.5	15	7.5	10	15	7.5	10	
660/690V	5	3	4	6.5	4	5.5	8	4	5.5	9	5.5	7.5	13	7.5	10	10	7.5	10		
Instantaneous auxiliary contacts	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C	1 N/O or 1 N/C						
Weight (kg)	0.18 (0.23)			0.3																

Note *1 : DC control available in CN-5k and CN-6k.

THERMAL OVERLOAD RELAYS

Temperature compensated and differential overload relays, with 1 N/O+1 N/C electrically separated auxiliary contacts. (Ap)


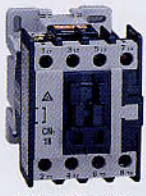

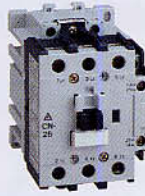

Catalog number	RHN-5	RHN-10	1		
Relay current range(A) Complying with IEC 60947-4-1					
	0.3~0.45	1.8~2.7	8.5~12.5	0.3~0.45	1.8~2.7
	0.45~0.67	2.4~3.6		0.45~0.67	2.4~3.6
	0.67~1.0	3.5~5.0		0.67~1.0	3.5~5.0
	1.0~1.5	4.0~6.0		1.0~1.5	4.0~6.0
	1.4~2.1	5.5~8.5		1.4~2.1	5.5~8.5

Note : 1 : RHN-10/□A : 3 pole differential type ; RHN-10/□M : 3 pole non-differential type ; RHN-10/□K : 2 pole non-differential type.



ACCESSORIES (Approvals : CE CUL)



Catalog number	CNA-2□□M CNA-4□□M	CNA-2□□
Auxiliary contact blocks Complying with IEC 60947-5-1	<p>Top-mounting</p> <p>1 N/O+N/C CNA-211M 4 N/C CNA-404M 2 N/O CNA-220M 1 N/O+3 N/C CNA-413M 2 N/C CNA-202M 2 N/O+2 N/C CNA-422M 4 N/O CNA-440M 3 N/O+1 N/C CNA-431M</p>	<p>Top-mounting</p> <p>CNA-211 1 N/O+1 N/C CNA-220 2 N/O CNA-202 2 N/C</p>
Catalog number	CNI-6	CI-18
Mechanical interlock	<p>Top-mounting</p>	<p>Side-mounting</p>
Catalog number	CNE-1□S	CNE-1□
Coil drive unit CNE-1□ Contactors mounted with CNE-1 can be applied to AC/DC dual control sources.	<p>□ : B / 22-24V E / 100-120V C / 45-50V H / 200-240V</p>	<p>□ : B / 22-24V E / 100- C / 45-50V H / 200-</p>
Catalog number	CSS-1□S CSS-2□S	CSS-1□(RC)
Coil surge suppressor CSS-1□ RC Type ; CSS-2□ : Varistor Type	<p>□ : B / 22-24V E / 100-125V C / 45-50V H / 200-240V O / 380-440V</p>	<p>□ : B / 22-24V E / 100- C / 45-50V H / 200-</p>

Note* 1 : Special coils should be used

							
55 x 72 x 92 (45 x 55)	55 x 72 x 92 (45 x 55)	55 x 72 x 92 (45 x 55)	69 x 99 x 107 (60 x 81)	94 x 118 x 123 (80 x 90)			
CN-18	CN-18 (4 Pole)	CN-22	CN-25	CN-35	CN-50	CN-65	CN-65U
660	660	660	1000	1000	660	660	660
32	32	32	50	60	70	80	100
1+	1+	1+	1+	2+	2+	2+	2++
A KW HP	A KW HP	A KW HP	A KW HP	A KW HP	A KW HP	A KW HP	A KW HP
19.5 1.1 1.5	19.5 1.1 1.5	25.5 1.5 2	25.5 1.5 2	37 2.2 3	37 2.2 3	50 3 4	60 4 5.5
20.5 2.2 3	20.5 2.2 3	26 3 4	26 3 4	33 4 5.5	33 4 5.5	45 6 8	55 7.5 10
23 5.5 7.5	23 5.5 7.5	27 7.5 10	30 7.5 10	42 11 15	55 15 20	65 18.5 25	75 22 30
22 11 15	22 11 15	26 11 15	30 15 20	40 20 27	55 25 35	64 30 40	72 37 50
21 11 15	21 11 15	21 11 15	30 15 20	40 22 30	52 25 35	64 33 45	72 40 54
21 11 15	21 11 15	21 11 15	30 15 20	40 22 30	52 30 40	64 37 50	70 40 54
19 11 15	19 11 15	19 11 15	25 15 20	35 22 30	45 30 40	55 37 50	65 45 60
14 11 15	14 11 15	—	18 15 20	26 22 30	35 30 40	45 37 50	60 45 60
1 N/O 1 N/C	—	—	1 N/O 1 N/C	1 N/O 1 N/C	2 N/O 2 N/C	2 N/O 2 N/C	2 N/O 2 N/C
0.4		0.4	0.8		1.3		

Approvals : CE CUL

	RHN-80	RHN-80P	
			Separate mounting type
8.5 ~ 12.5 12.5 ~ 18 17 ~ 24 22 ~ 30	17 ~ 25 23 ~ 32 30 ~ 40 37 ~ 50	48 ~ 65 63 ~ 80	

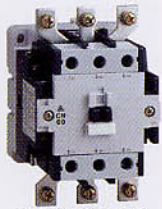
CNA-4 <input type="checkbox"/>	CNA-111S
	
Top-mounting	Side-mounting 1 N/O+1 N/C
4 N/C 1 N/O+3 N/C 4 N/O	(CN-9 CN-35)
CNA-404 2 N/O+2 N/C CNA-422 CNA-413 3 N/O+1 N/C CNA-431 CNA-440	

CNI-18	CI-35
	
Side-mounting with 2 N/C aux contacts.	Side-mounting

	CNE-1 <input type="checkbox"/> * 1
	
	<input type="checkbox"/> : C/45-50V * 3 E/100-120V H/200-240V

	CSS-2 <input type="checkbox"/> (VARISTOR)
	
	<input type="checkbox"/> : B/22-24V E/100-125V O/380-440V C/45-50V H/200-240V

When CNE- is mounted for CN-25 to CN-80 so that the contactors will have excellent performance.



94 x 150 x 123
(80 x 90)



100 x 139 x 133 (83 x 110)



130 x 177 x 158 (100 x 127.5)



146 x 210 x 171
(45,83.4~133,190~198.150)

CN-80			CN-100			CN-125			CN-150			CN-180			CN-220			CN-300					
660			1000			1000			1000			1000			1000			1000					
100			135			150			200			240			260			350					
3+			3+			4+			4+			4+			4+			5					
A	KW	HP	A	KW	HP	A	KW	HP	A	KW	HP	A	KW	HP	A	KW	HP	A	KW	HP			
60	4	5.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
55	7.5	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
75	22	30	105	30	40	126	37	50	150	45	60	182	55	75	225	65	85	300	90	120			
72	37	50	105	55	75	115	60	80	147	80	110	179	95	125	225	120	160	300	160	220			
72	40	54	100	55	75	115	63	85	138	80	110	182	100	136	220	125	170	300	160	220			
72	40	54	100	60	80	109	63	85	131	80	110	178	110	150	220	132	180	300	160	220			
65	45	60	93	65	85	105	75	100	129	90	125	156	110	150	190	132	180	250	160	220			
60	45	60	75	65	85	85	75	100	107	100	136	118	110	150	140	132	180	220	220	270			
2 N/O 2 N/C			2 N/O 2 N/C			2 N/O 2 N/C			2 N/O 2 N/C			2 N/O 2 N/C			2 N/O 2 N/C			2 N/O 2 N/C					
						1.9						4.1						6.7					

ACCESSORY of RHN-10

Separate mounting block

RHN-180		Catalog number	RP-10
65 ~ 95	110 ~ 160	Application (for RHN-10 only)	For independent DIN rail mounting or panel mounting
85 ~ 125	125 ~ 185		

CNA-111BC



Side-mounting
1 N/O+1 N/C

CNI-100



Side-mounting

Contactors with built-in coil drive unit :

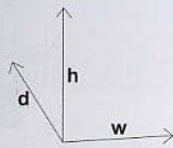
CN-□□□WE 110-120V

CN-□□□WH 220-240V

□□□ : Basic model 100/125/150/180/220/300

A.C. DIRECT ON LINE STARTERS

with IP 40 plastic enclosure



Dimensions (w x h x d mm)



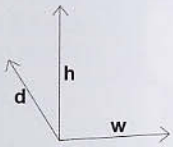
88 x160 x108

Catalog number		HNE□-5			HNE□-6			HNE□-9			HNE□-11			HNE□-16			
Magnetic contactor used		CN-5			CN-6			CN-9			CN-11			CN-16			
Thermal overload relay used		RHN-5			RHN-5			RHN-10			RHN-10			RHN-10			
AC2 & AC3 (50/60Hz) Power Rating	Single phase	110V	8	0.37	0.5	10.5	0.55	0.75	10.5	0.55	0.75	10.5	0.55	0.75	13.5	0.75	1
		220V	7	0.75	1	10.5	1.1	1.5	10.5	1.1	1.5	10.5	1.1	1.5	14	1.5	2
Complying with IEC 60947-4-1	Three phase	220/230V	7.5	1.5	2	10.1	2.2	3	11.5	2.5	3.5	12	3	4	16	4	5.5
		380/400V	7	3	4	9	4	5.5	11	4	5.5	12	5.5	7.5	16	7.5	10
		415V	6.5	3	4	8.5	4	5.5	10	4	5.5	11	5.5	7.5	15	7.5	10
		440V	6	3	4	8	4	5.5	9	4	5.5	11	5.5	7.5	15	7.5	10
		500V	5	3	4	6.5	4	5.5	8	4	5.5	9	5.5	7.5	13	7.5	10
		660/690V	4	3	4	5	4	5.5	6	4	5.5	7	5.5	5.5	10	7.5	10
Instantaneous auxiliary contacts		1 N/O			1 N/O			1 N/O			1 N/O			1 N/O			
Weight (kg)		0.5			0.5			0.65			0.65			0.65			

Note : □ : B/ with 1 start and 1 stop/reset push buttons. R/ with only 1 stop/reset push button. Blank/ without any push button.

A.C. DIRECT ON LINE STARTERS

with IP 65 plastic enclosure



Dimensions (w x h x d mm)



90 x184 x113

100 x194 x123

Catalog number		HNF□-9			HNF□-11			HNF□-16			HNF□-18			
Magnetic contactor used		CN-9			CN-11			CN-16			CN-18			
Thermal overload relay used		RHN-10			RHN-10			RHN-10			RHN-10			
AC2 & AC3 (50/60Hz) Power Rating	Single phase	110V	10.5	0.55	0.75	10.5	0.55	0.75	13.5	0.75	1	19.5	1.1	1.5
		220V	10.5	1.1	1.5	10.5	1.1	1.5	14	1.5	2	20.5	2.2	3
Complying with IEC 60947-4-1	Three phase	220/230V	11.5	2.5	3.5	12	3	4	16	4	5.5	23	5.5	7.5
		380/400V	11	4	5.5	12	5.5	7.5	16	7.5	10	22	11	15
		415V	10	4	5.5	11	5.5	7.5	15	7.5	10	21	11	15
		440V	9	4	5.5	11	5.5	7.5	15	7.5	10	21	11	15
		500V	8	4	5.5	9	5.5	7.5	13	7.5	10	19	11	15
		660/690V	6	4	5.5	7	5.5	7.5	10	7.5	10	14	11	15
Instantaneous auxiliary contacts		1 N/O			1 N/O			1 N/O			1 N/O 1 N/C			
Weight (kg)		0.85			0.85			0.85			0.95			

Note : □ : B/ with 1 start and 1 stop/reset push buttons. R/ with only 1 stop/reset push button. Blank/ without any push button.

Contactor	CN-25	CN-35	CN-50	CN-65	CN-65U	CN-80
Thermal Overload Relays	RHN-18	RHN-35 (L)		RHN-65 (L)		
Relay Current range (A)	16 ~ 23 23 ~ 32	25 ~ 32 32 ~ 42 40 ~ 52		50 ~ 68 58 ~ 75		



CSS-1, 2
Coil Surge Suppressor



CNE-1
Coil Drive Unit



ECU-1
Electronic Coil
Interface Unit



CNA-111S
Aux. Contact Unit
(Side on)



CNA-2 CNA-4
Aux. Contact Unit
(Head on)



CN-11



RHN-10



CNI-18
Inter-lock Unit