

HC Modular Contactors



Technical Datasheet

Key Features

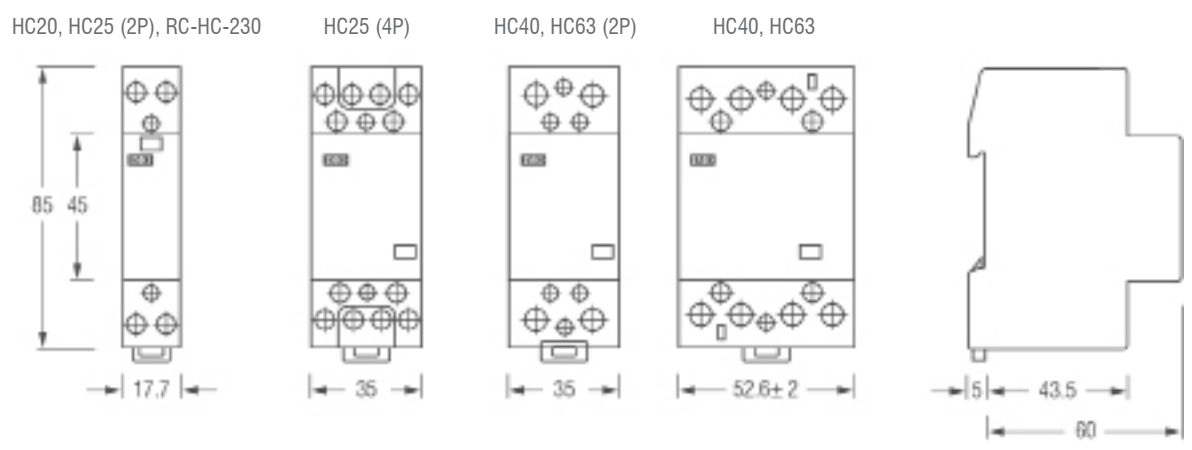
- Single & Three Phase applications
- Suitable for control of lamps, heating, air conditioning and motor control
- Suitable for panel or DIN rail mounting
- Available in 2 and 4 pole versions
- AC1 rating of 20-63Amps
- AC/DC Coil Voltage on Hum-Free models only
- UL Certified



Options & Ordering Codes


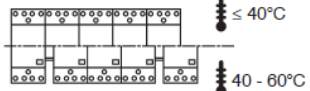
HC		20	-	20	230
Series		Coil Voltage			
Modular Contactor	HC				
Current Rating					
AC1 20 Amps	20				
AC1 25 Amps	25				
AC1 40 Amps	40				
AC1 63 Amps	63				
		Contact Configuration			
		10	1 Pole NO Contact		
		20	2 Pole NO Contacts		
		11	1 NO, 1 NC Contacts		
		02	2 Pole NC Contacts		
		40	4 Pole NO Contacts		
		31	3 NO, 1 NC Contacts		
		13	1 NO, 3 NC Contacts		
		22	2 NO, 2 NC Contacts		
		04	4 Pole NC Contacts		

Dimensions (mm)



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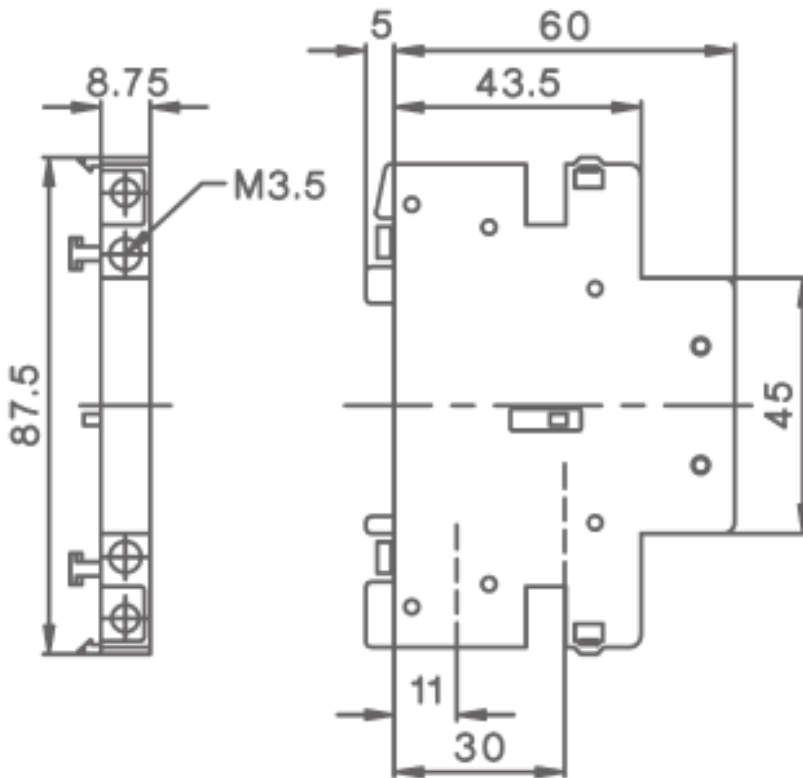
Accessories

Part Number	Description	Rated Current	Technical Diagram
HCA11	Auxiliary Contact Block (1NO + 1NC), Side Mounting	AC15, 230V 3A	
	Suitable for HC25 (4 Pole only), HC40, HC63	AC15, 400V 2A	
	8.8mm Width (half module)	AC1, 400V 10A	
HC-SPACER	Spacer for Ambient Temperature > 40°C 8.8mm Width (half module)	N/A	
Part Number	Description	Capacitance/Resistance	Voltage Range
RC-HC-230	Coil Suppressor - not suitable for Hum Free versions	220nF / 1000hm	12V to 250VAC

NOTE: For RC-HC-230 dimensions, see previous page.

Dimensions (mm)

Aux. contact block



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Technical Data according to IEC 60947-4-1, IEC 60947-5-1, VDE 0660-5-1

				2-pole				4-pole					
Type				HC20 (VS) ⁶⁾	HC25 (VS) ⁶⁾	HC40	HC63	HC25 (VS) ⁶⁾	HC40	HC63	HCA11		
Main Contact 4/3/0	Rated insulation voltage U_i			V~	440 ¹⁾	440 ¹⁾	440 ¹⁾	440 ¹⁾	440 ¹⁾	440 ¹⁾	440 ¹⁾		
	Rated operation voltage U_e			V~	440	440	440	440	440	440	440		
	Frequency of operations z	AC1, AC3	1/h	300	300	600	600	300	600	600	600		
	Mechanical life			$S \times 10^6$	1	1	1	1	1	1	1	1	
Utilization category AC1	Rated operational current $I_e (=I_n)$												
	open		at 60°C	A	20	25	40	63	25	40	63	-	
	Contact life			$S \times 10^6$	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-	
	Minimum switch voltage			V/mA	24/100	24/100	24/100	24/100	24/100	24/100	24/100	17/5	
	Short time current			10s-current	A	72	72	216	240	72	216	240	-
	Power loss per pole at $I_e/AC1$			W	2	3	3	7	2	3	7	0.5	
Utilization category AC3/AC7b Switching of three-phase motors	Rated operational current I_e			A	-	-	-	-	9	27	30	-	
	Rated operational power												
	of three-phase motors	220V	kW	-	-	-	-	-	2.2	7.5	8	-	
	50-60Hz	230-240V	kW	-	-	-	-	-	2.5	8	8.5	-	
		380-415V	kW	-	-	-	-	-	4	12.5	15	-	
	2-pole motors	230V	kW	1.1 ¹⁾	1.3	2.6	5	-	-	-	-	-	
	Contact life			$S \times 10^6$	0.15	0.15	0.15	0.15	0.15	0.15	0.15	-	
	Power consumption of coils												
	AC operated	inrush	VA	7 - 9	7 - 9	5 - 7	5 - 7	20 - 25	33 - 45	33 - 45	-		
		sealed	VA	2.2 - 4.2	2.2 - 4.2	-	-	4 - 6	6 - 8	6 - 8	-		
AC & DC Operated		W	0.8 - 1.6	0.8 - 1.6	-	-	1.5 - 2.5	3 - 4	2.6	2.6	-		
		W	2 - 3	2 - 3	-	-	-	-	-	-	-		
Operation range of coils													
in multiples of control voltage U_s			(-40°C ~ +40°C)	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	-		
Noise level (operation)													
acc. to EN ISO 3744													
from front, distance 0.5mm			dB	16 (0) ⁶⁾	16 (0) ⁶⁾	8	8	8 (0) ⁶⁾	< 4	< 4	-		
Type				HC20	HC25 (2p)	HC25 (4p)	HC25-..VS	HC40 (2p/4p)	HC63 (2p/4p)	HCA11			
Maximum ambient temperature													
Operation	open	°C									40 - 60°C		
	enclosed	°C									≤ 40°C		
Storage		°C											
Short circuit protection													
max. fuse Coordination-type "1" gL			(gG) A	35	35	35	35	63	80	-	-		
Rated short circuit current			"I _r " kA	3	3	3	3	3	3	-	-		
			"I _q " kA	3	3	10	10	10	10	-	-		
Switching time at control voltage $U_s \pm 10\%$													
	make time	ms		7 - 16	7 - 16	9 - 15	17 - 24	11 - 15	11 - 15	-	-		
	release time	ms		6 - 12	6 - 12	4 - 8	17 - 23	6 - 13	6 - 13	-	-		
	arc duration	ms		10 - 15	10 - 15	10 - 15	10 - 15	10 - 15	10 - 15	-	-		
Cable cross-sections													
Main connector	solid or stranded	mm ²		1.5 - 10	1.5 - 10	1.5 - 10	1.5 - 10	2.5 - 25	2.5 - 25	0.5 - 2.5 ²⁾			
	flexible	mm ²		1.5 - 6	1.5 - 6	1.5 - 6	1.5 - 6	2.5 - 16	2.5 - 16	0.5 - 2.5 ²⁾			
	flexible with multicore cable end	mm ²		1.5 - 6	1.5 - 6	1.5 - 6	1.5 - 6	2.5 - 16	2.5 - 16	0.5 - 1.5			
Clamps per pole				1	1	1	1	1	1	2			
Magnetic coil	solid or stranded	mm ²		0.75 - 2.5	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5	-			
	flexible	mm ²		0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	-			
	flexible with multicore cable end	mm ²		0.5 - 1.5	0.5 - 2.5	0.5 - 1.5	0.5 - 1.5	0.5 - 1.5	0.5 - 1.5	-			
Clamps per pole				1	1	1	1	1	1	-			
Auxiliary Contacts ^{3) 4) 5)}													
Rated insulation voltage U_i			V AC	-	-	440	440	440	440	440			
Thermal rated current I_{th}			40°C	A	-	25	25	40	63	10			
Ambient temperature			60°C	A	-	25	25	40	63	6			

1) Suitable for: earthed-neutral systems, overvoltage category I to III, pollution degree 3 (standard-industry): $U_{imp} = 4kV$
 2) Half module (8.8mm) Distance required for ambient temperature $\leq 40^\circ C$
 3) Rated frequency 50/60Hz

4) Max. occ. switching overvoltage <4kV
 5) Duty cycle: 100%
 6) 0 dB for contactors type "VS" (AC/DC operated)

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Type		HC20	HC25 (2p)	HC25 (4p)	HC25-.VS	HC40 (2p/4p)	HC63 (2p/4p)	HCA11
Utilization category AC15								
Rated operational current I _e	220-240V A	-	-	3	3	3	3	3
	380-415V A	-	-	2	2	2	2	2
	440V A	-	-	1.6	1.6	1.6	1.6	1.6
Utilization category AC15								
Rated operational current I _e	24-60V A	-	-	2	2	2	2	2
per pole	110V A	-	-	0.4	0.4	0.4	0.4	0.4
	220V A	-	-	0.1	0.1	0.1	0.1	0.1
Short circuit protection								
Short-circuit current 1kA, contact welding not accepted max. fuse size	gL (gG) A	-	-	10	10	10	10	10

Technical Data according to UL508

Main Contacts (cULus)	Type	HC20	HC25 (2p)	HC25 (4p)	HC40 (2p/4p)	HC63 (2p/4p)	HCA11
Rated operational current "General Use"	A	20	25	25	40	63	10
Rated operational power of three-phase motors at 60Hz (3hp)	110-120V hp	-	-	1	2	3	-
	200-208V hp	-	-	2	5	7½	-
	220-240V hp	-	-	3	7½	10	-
	265-277V hp	-	-	3	7½	10	-
Rated operational power of AC motors at 60Hz (1hp)	110-120V hp	½	½	½	1	1½	-
	200-208V hp	1	1	1	2	3	-
	220-240V hp	1½	1½	1½	3	5	-
	265-277V hp	1½	2	2	3	5	-
Fuses	A	40	40	40	80	80	-
Suitable for use on a capability of delivering not more than	rms A	5000	5000	5000	5000	5000	-
	V	300	300	300	300	300	300
Rated operation voltage	V~	300	300	300	300	300	300
Auxiliary Contacts (cULus)	heavy pilot duty AC	-	-	-	-	-	C300