

HC Modular Contactors



Key Features

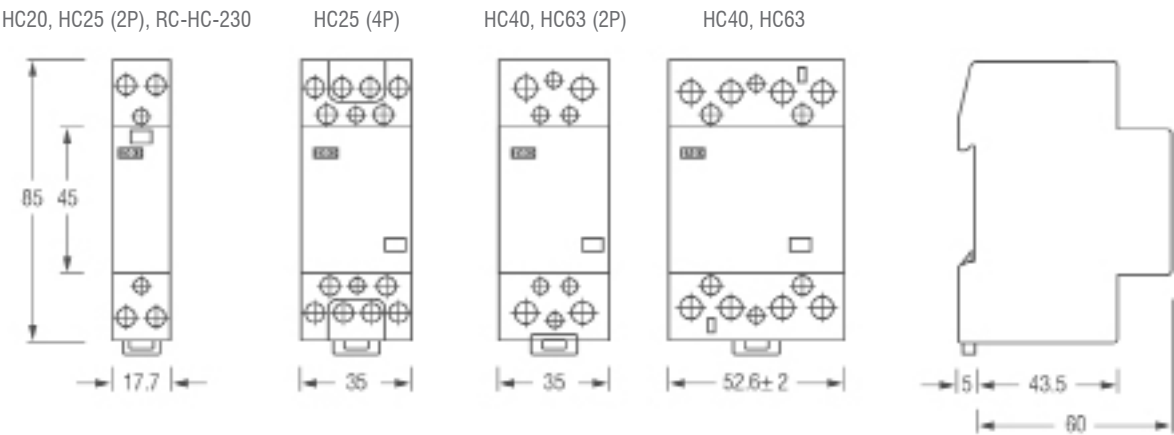
- Single & Three Phase applications
- Suitable for control of lamps, heating, air conditioning and motor control
- Suitable for panel or DIN rail mounting
- Available in 2 and 4 pole versions
- AC1 rating of 20-63Amps
- UL Certified



Options & Ordering Codes

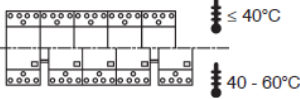
HC		20	-	20	230
Series					
Modular Contactor		HC			
Current Rating					
AC1 20 Amps		20			
AC1 25 Amps		25			
AC1 40 Amps		40			
AC1 63 Amps		63			
Coil Voltage					
230		230V AC (Supply Voltage)			
24		24V AC (Supply Voltage)			
230VS		230V AC (Supply Voltage) Hum - Free			
24VS		24V AC (Supply Voltage) Hum - Free			
Contact Configuration					
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)



HC Modular Contactors

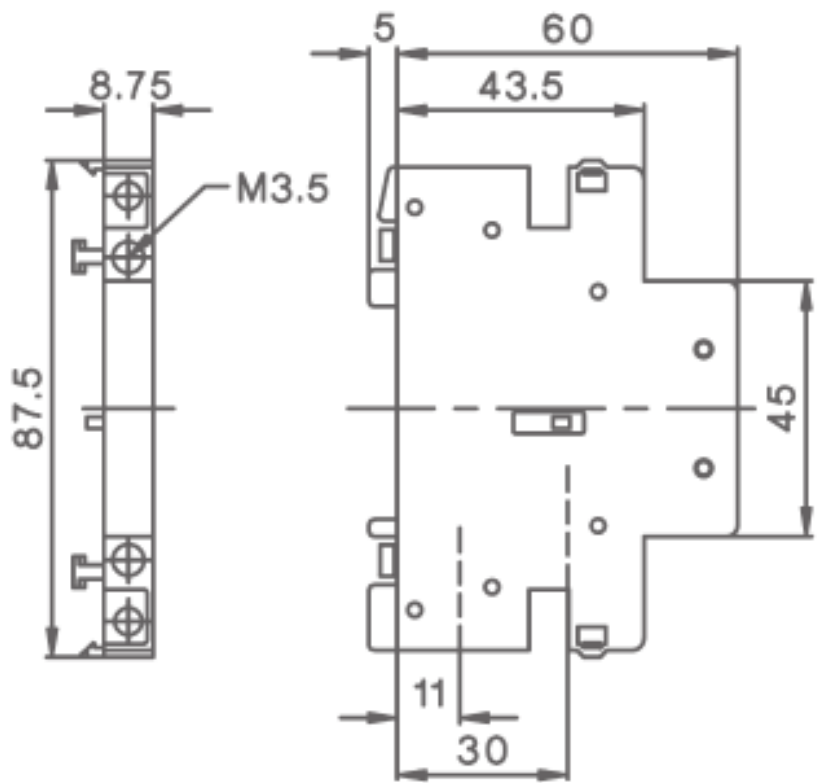
Accessories

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

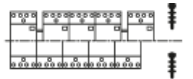


HC Modular Contactors



Technical Datasheet

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 Contacts 4) 5) 9)	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 x 10 ⁶	1	1	1	1	1	1	1	
Utilization category AC1	Rated operational current I _e (=I _{th})											
	open	at 60°C	A	20	25	40	63	25	40	63	-	
	Contact life			S x 10 ⁶	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	17/5	
	Short time current			10s-current A	72	72	216	240	72	216	240	
Utilization category AC3/AC7b Switching of three-phase motors	Power loss per pole at I _e /AC1			W	2	3	3	7	2	3	7	0.5
	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 x 10 ⁶	0.15	0.15	0.15	0.15	0.15	0.15	-	
	Power consumption of coils											
	AC operated	inrush	VA	7 - 9	7 - 9			20 - 25	33 - 45	33 - 45	-	
	sealed	VA	2.2 - 4.2	2.2 - 4.2	5 - 7	5 - 7	4 - 6	6 - 8	6 - 8			
		W	0.8 - 1.6	0.8 - 1.6	-	-				-		
AC & DC Operated		W	2 - 3	2 - 3			1.5 - 2.5	3 - 4	2.6 -	2.6 -		
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 to + 40			40 - 60°C		
				enclosed °C			-40 to + 40			≤ 40°C		
Storage				°C			-50 to + 90					
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	-		
Switching time at control voltage U _s ±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	220-240V A	-	-	3	3	3	3	3
current I _e	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	24-60V A	-	-	2	2	2	2	2
current I _e	110V A	-	-	0.4	0.4	0.4	0.4	0.4
per pole	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