

HUC1

Series AC Contactor

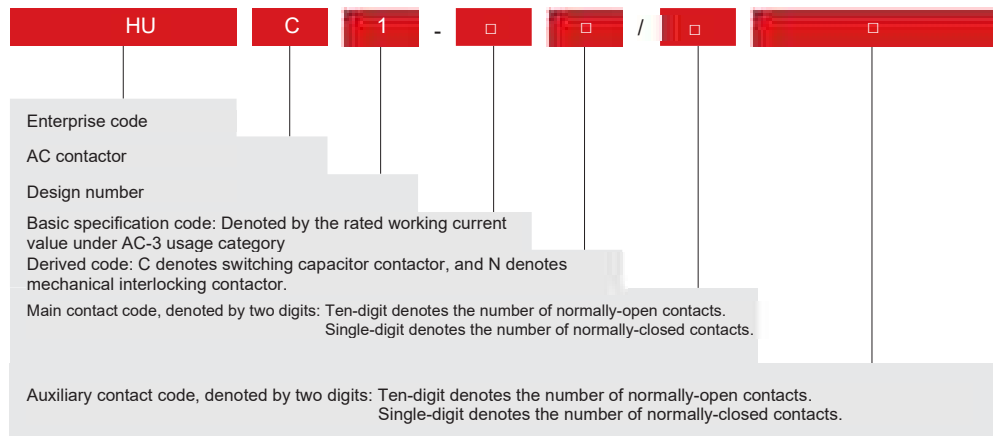


I. Scope of Application

The HUC1 Series AC Contactor is a new generation of product designed and developed after fully absorbing the advanced technology of foreign excellent products. This product is characterized by complete specifications, small size, short flashover distance, long service life, high performance indicators and reliability. The product, with a rated insulation voltage of 690 V, is mainly suitable for the making and breaking of circuits in power systems with AC 50 Hz (or 60 Hz), rated working voltage up to 690 V and rated working current up to 800 A. Meanwhile, it is combined with appropriate thermal relays or electronic protection devices to form motor starters to protect circuits that may be overloaded.

Standards followed: GB14048.4 and IEC60947-4-1.

II. Model Description



III. Product Comparison

The rated current of CJ20-630 AC Contactor is 630 A, the maximum current grade among the domestic AC contactors. HUC1-700 and HUC1-800 fill the gap of domestic large-capacity contactor, with a conventional thermal current of 1,000 A. This series of contactors adopts plastic arc-extinguishing covers, and each breakpoint is equipped with an independent iron grid arc-extinguishing chamber, which not only achieves rapid arc-extinguishing, but also greatly improves the electrical life of contactors, which is unmatched by domestic contactors at present. The control coil adopts plastic secondary packaging, which improves the heat dissipation of the coil, prevents the short circuit caused by interturn creep resulted from electromotive force, and enhances the reliability. The accessories and derivative products are complete, such as additional auxiliary contact group, mechanical interlocking mechanism, air delay, voltage surge suppressor, switching capacitor contactor, and 4-pole contactor, which can meet the different requirements of various users.

The development trend of AC contactors in the world is large capacity and multi-derivative. There are many excellent products of foreign brands, whose prices are, however, expensive, bringing a lot of inconvenience to the maintenance and replacement. The HUC1 Series AC Contactor is a new generation of product developed on the basis of learning from the advanced technology of foreign excellent products. This product not only has the same technical performance as foreign advanced products, but also has the unique advantages of low domestic cost and good quality. It is an ideal product for upgrading imports at present.

IV. Main Technical Parameters

1. Basic parameters of the main circuit of switching the capacitor contactor HUC1-40C—75C

Model	Use category	Rated insulation voltage U_i (V)	Rated operating current I_e (A)	Conventional thermal current I_{th} (A)	Rated control capacity Q_n (kvar)
HUC1-40C	AC-6b	500	40	85	25
HUC1-50C			50	85	30
HUC1-63C			63	85	40
HUC1-75C			75	85	50

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2. Types, quantity and basic parameters of contacts of auxiliary circuits

Auxiliary contact code	Ith A	Ui A	Ue V		Ie A		Types and quantity of contacts	Rated control capacity		Matched contactor model
			Alternating Current (AC)	Direct Current (DC)	Alternating Current (AC)	Direct Current (DC)		AC VA	DC W	
HUF 1	10	690	127	48	0.8	0.63	- Normally open or - Normally closed	100	30	HUC1-9-75 A (top hanging)
			220	60	0.45	0.5				
HUF 2 HUF 3 HUF 5			400	110	0.26	0.27	- Normally open - Normally closed			
			690	220	0.15	0.14				

3. The rated insulation voltage (Ui), rated working voltage (Ue), conventional thermal current (Ith), rated working current (Ie) and rated control power (Pe) of the main circuit under the corresponding working system and category, and the basic parameters of the main circuit (the basic parameters of the 3-pole contactor are the same with those of the 4-pole contactor)

Model HUC1-	6 / 30	9 / 30	12 / 30	16 / 30	25 / 30	30 / 30	30 / 40	50 / 40	63 / 40	75 / 40	
Appearance											
Ui V	690										
Ith A	20	26	28	28	45	65	100	125	125	125	
Ue V	230	230	230	230	230	230	230	230	230	230	
	400	400	400	400	400	400	400	400	400	400	
	690	690	690	690	690	690	690	690	690	690	
Ie (A) under the intermittent working system	AC-1	20	22	24	28	45	55	70	100	115	125
		6	9	12	16	25	30	40	50	63	75
	AC-3	6	9	12	16	25	30	40	50	63	75
		3	3.5	4.9	6.7	13	17.5	25	35	43	45
	AC-4	6	9	12	16	25	30	40	50	63	75
		3	3.5	4.9	6.7	13	17.5	25	35	43	45
AC-3 Pe (kW)	1.5	2.2	3	4	6.5	9	11	15	18.5	22	
	2.2	4	5.5	7.5	11	15	18.5	22	30	37	
	3	4	5.5	5.5	11	15	22	30	37	40	
Ie (A) under the uninterrupted working system	20	22	24	28	45	55	70	100	115	125	
Coil power (VA)	Sustaining	9				12		22			
	Pull-in	60				122		242			
Matched thermal overload relay recommended	JR29-16 (plug-in)				JR29-25 (plug-in)		JR29-85 (plug-in)				

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Table (continued)

Model HUC1-	80 / 30	90 / 30	100 / 30 40	145 / 30 40	175 / 30 40	210 / 30 40	260 / 30	300 / 30	370 / 30 40	550 / 30 40	700 / 30	800 / 30	
Appearance													
Ui V	690												
Ith A	145	160	200	230	260	300	400	445	550	800	1,000	1,000	
Ue V	230	230	230	230	230	230	230	230	230	230	230	230	
	400	400	400	400	400	400	400	400	400	400	400	400	
Ie (A) under the intermittent working system	690	690	690	690	690	690	690	690	690	690	690	690	
	AC-1	145	160	200	230	260	300	400	445	550	800	1,000	1,000
	AC-3	80	90	100	145	175	210	260	300	370	550	700	800
		80	90	100	145	175	210	260	300	370	550	700	800
	AC-4	65	70	100	120	170	210	250	280	370	550	700	750
		80	80	117	125	146	175	250	250	350	450	630	630
		80	80	117	125	146	175	250	250	350	450	630	630
AC-3 Pe (kW)	30	35	47	55	66	75	95	95	117	140	185	185	
	22	22	30	45	55	59	80	90	110	160	220	220	
	40	45	55	75	90	110	140	160	200	280	370	400	
45	59	110	110	132	160	200	250	355	500	600	650		
Ie (A) under the uninterrupted working system	145	160	200	230	260	300	400	445	550	800	1,000	1,000	
Coil power (VA)	Sustaining	22		38		40		45		130		130	
	Pull-in	360		570		800		1,050		2,100		3,160	
Matched thermal overload relay recommended	JRS2-180/F					JR20-250L JR29-250	JR20-400L JR29-250	JR20-400L JR29-370	JR20-630L				
Installation mode	Independent												

Note: Please pay attention to the color system when reading the "Appearance" row in the above table. Multiple types of the same color denote the current value and power under the same voltage.

IV. Structural Features

The HUC1 Series AC Contactor is a new product developed on the basis of absorbing the advanced technology of foreign excellent products. It has the advantages of simple and reasonable structure, small size, light weight and high reliability, and is one of the ideal products for upgrading. The whole series is three-dimensional formal, with HUC1-6 – 75 as the two-section structure and HUC1-80–800 as the three-section structure. There are ten frames and twenty-two specifications in total, as well as many general and grafting parts, bringing great convenience to production and maintenance. Its main features include:



1. HUC1-40, 50, 63, 75, 100, 145, 175, 210, 370, and 550 have 4-pole AC contactors derived with the same rated value and accessories as the 3-pole contactors, which are mainly suitable for neutral wire switching of the distribution system, emergency standby generator, resistive load and lighting.



2. HUC1-6 to 75 adopt the closed contact system. Besides the traditional screw method, 35 mm standard clamping rail can also be used for installation, which brings great convenience to users.

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3. The control coils of the HUC1-80 and above products adopt the secondary packaging method, which improves the thermal conductivity and insulation strength of the coils and effectively prevents the short circuit caused by interturn creep resulted from electrodynamic force.



4. The HUC1-175-300 coil adopts plug-in installation, which facilitates the replacement of the coil.



5. The electromagnet core of products with the rated current of 175 A and above adopts permanent air gap to ensure reliable release under long service life.



6. HUC1-6 to 30 are enclosed natural arc extinguishing devices. HUC1-80 and above products absorb the design idea of the circuit breaker. The arc extinguishing system is made of high-strength arc-resistant plastic, and each contact is equipped with an independent iron grid type arc extinguishing chamber, which not only achieves the purpose of quickly extinguishing the arc, but also effectively prevents the arc from burning the plastic enclosure, and improves the service life of the plastic arc extinguishing cover.



7. The contact system of the products with the rated current above 370 A adopts the structure that the arc contact and the conductive contact are separated. The arc contact adopts the multi-element copper-based contact with wear resistance and welding resistance, and the conductive contact adopts the silver-based contact with low resistivity and good conductivity, which greatly enhances the reliability of making and breaking.



8. The HUC1 and HUJ1 series (new JR29 or T25, T75, etc.) thermal overload relays are skillfully matched to form a motor starter.

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9. All series of products have mechanical interlocking mechanism, which can meet various control requirements.



10. The C-type switching capacitor contactor derived from HUC1-40-75 is suitable for the switching capacitors in reactive power compensation with AC 50 Hz and voltage up to 380 V, which can effectively restrain closing inrush current.



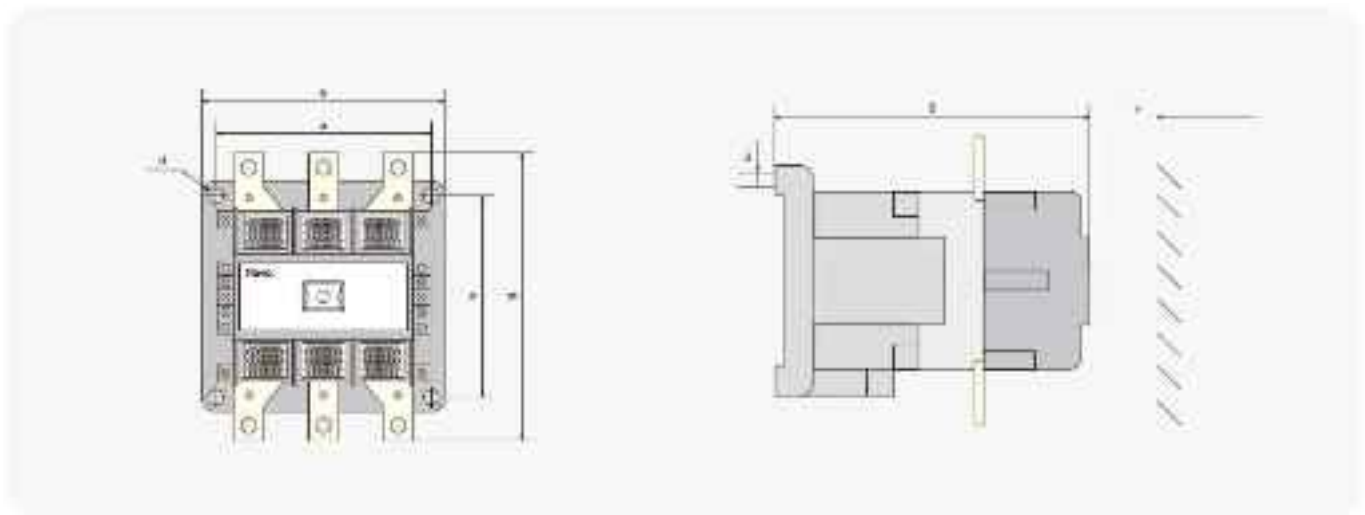
11. HUC1-9 – 30 is equipped with HUF1 (top hanging) and HUF5 (side hanging) auxiliary contacts up to 4 groups; HUC1-40 – 75 is equipped with HUF1 (top hanging) up to 6 groups and HUF2 (side hanging) auxiliary contacts up to 2 groups; and HUC1-80-800 is equipped with HUF 3 auxiliary contacts (side hanging) up to 4 groups. The auxiliary contacts are electrically separated and can be hung freely.



12. All series of HUC1-9-800 can be assembled into N-type mechanical interlocking contactors with complete interlocking accessories and convenient installation.

VI. Outline and Installation Dimensions

1. HUC 1 series 3-pole



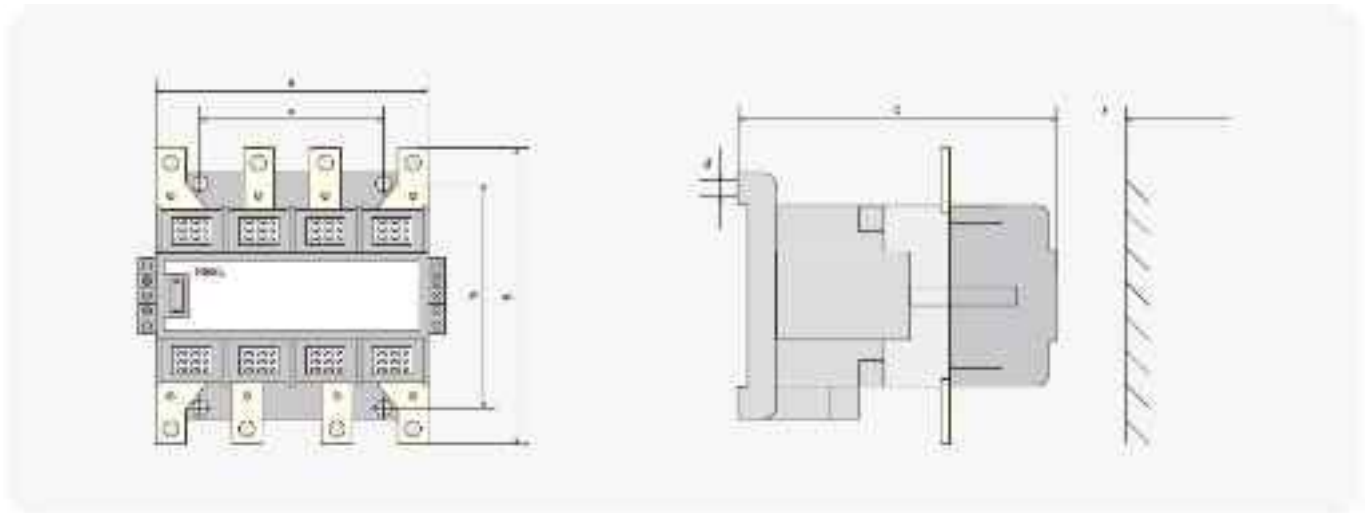
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Basic specifications	A max	B max	C max	a	b	ϕ	F
HUC1-6-16	46	75	75	35, 46	50	4.5	
HUC1-25	55	92	95	45	80, 75, 70	4.3	
HUC1-30	55	92	110	45	80, 75, 70	4.3	
HUC1-40-75	71	112	110	60	100, 90	6	20
HUC1-80-90	103	132	138	90	100	5.5	30
HUC1-100	125	158	144	110	120	5.5	40
HUC1-145	125	174	144	110	120	5.5	40
HUC1-175-210	137	200	170	120	140	6.5	15
HUC1-260-300	177	210	176	160	140	6.5	30
HUC1-370-550	200	273	227	170	200	15	40
HUC1-700	245	296	227	220	200	15	40
HUC1-800	245	346	227	220	200	15	40

2. HUC1 series 4-pole



Basic specifications	A max	B max	C max	a	b	d	F
HUC1-40-75	92	112	110	60	100, 90	6	20
HUC1-100	165	158	154	120	140	5.5	40
HUC1-145	165	172	154	120	140	5.5	40
HUC1-175	201	198	175	160	140	6.5	15
HUC1-210	201	198	175	160	140	6.5	15
HUC1-370	270	273	227	220	200	15	40
HUC1-550	270	273	227	220	200	15	40

VII. Ordering Information

When ordering, users must indicate:

1. Complete name and model of the contactor.
2. Rated working voltage, frequency and number of poles of the coil.
3. Order quantity.
4. If a standard clamping rail is required, please specify it separately.

Example of ordering: HUC1-9/10, with the coil voltage of 220 V, the frequency of 50 Hz, 3 poles, and 10 sets, being denoted by HUC1-9/10, Us: 220 V, 50 Hz, 3P, 10 sets.