Xiamen Hongfa Electroacoustic Co. Ltd

Add: No.560-578, Donglin Rd., Jimei North Ind. Dist., Xiamen, China
TEL: +86-592-6106688 **FAX:** +86-592-6106678 **E-mail:** marketing@hongfa.com

Marketing & Sales Network

Hongfa Europe GmbH

ADD: Marie-Curie-Ring 26, D-63477 Maintal, Germany
TEL: +49-6181-4306-0
E-mail: info@hongfa-europe.com

Hongfa America,Inc.

ADD: 20381 Hermana Circle, Lake Forest, CA92630, USA
TEL: +1-714-669-2888
E-mail: sales@hongfaamerica.com

KG Technologies,Inc.

ADD: 6028 Stat Farm Drive Rohnert Park, CA 94928, USA
TEL: +1-888-513-1874
E-mail: info@kgtechnologies.com

Hongfa Electroacoustic (Hongkong) Co.,Ltd.

ADD: Unit A6, 25/F., NCB Innovation Centre, 888 Lai Chi Kok Road, Kowloon.H.K.
TEL: +852-2947-7889
E-mail: hongkong@hongfa.com

Beijing Hongfa Electroacoustic Relay Co.,Ltd.

ADD: 111Bldg, Phase IV Westside of Lian -dong U Valley,Tongzhou Dist., Beijing
TEL: +86-10-56495556
E-mail: beijing@hongfa.com

Shanghai Hongfa Electroacoustic Co.,Ltd.

ADD: NO.51.341, Jiuxin Rd., Jiuting Town, Songjiang Dist., Shanghai
TEL: +86-21-37693111
E-mail: shanghai@hongfa.com

Zhejiang Hongfa Electric Technologies Co., Ltd.

ADD: NO.47 North Youyi Road, Taozhu Subdistrict, Zhuji City, Zhejiang Province
TEL: +86-575-87218598

Sichuan Hongfa Relay Co.,Ltd.

ADD: 12F, Hongfa Building, No.6 Wuxing 4th Road, Wuhou Dist., Chengdu
TEL: +86-28-86627550
E-mail: sichuan@hongfa.com

Hongfa India Branch

TEL: +86-592-6196714
E-mail:power-sa@hongfa.com

TEL: +91-9971187792
E-mail: rohit@hongfa.com

Hongfa Philippine Branch

TEL: +63-9177189352
E-mail: nia-videna@hongfa.com

Hongfa Turkey Branch

TEL: +90-535-0221881
E-mail: info-turkey@hongfa.com

Hongfa Korea Branch

ADD: Sanggadong 203, 24, Cheonghak-ro 68beon-gil, Byeollae-myeon, Namyangju-si, Gyeonggi-do, Republic of Korea
TEL: +82-10-8704-4706
E-mail: khlee@hongfa.com

Hongfa Brazil Branch

Non-automotive relay project
TEL: +86-592-6196714
E-mail: southamerica@hongfa.com

Automotive relay project
TEL: +86-592-6196751
E-mail: auto-asia3@hongfa.com

The relevant information on the products contained is for reference only.
For details, please consult our business staff.

July 2026

Headquarter's Marketing & Sales Center
ADD: No.566-578, Donglin Rd., Jimei North Ind. Dist., Xiamen
E-mail: marketing@hongfa.com

SALES SERVICE HOTLINE
400-600-1502

HONGFA GROUP

HONGFA ELECTRIC

HONGFA GROUP

HONGFA

AC Contactors

HFUC5-09...170





INTRODUCTION

Hongfa, (Shanghai Stock Exchange: 600885), founded in 1984, has been adhering to the enterprise spirit of “persevere for progress, strive for excellence”, and has built a complete industry system with complete categories and supporting facilities. At present, Hongfa has more than 30 subsidiaries and has established three districts of R & D and production bases. Its products cover various categories, such as medium and low voltage products, relays, high and low voltage switchgear, capacitors, precision parts and automation equipment.

Xiamen Hongfa Electrical Safety & Controls Co., Ltd. is a wholly-owned subsidiary of Hongfa, which specializes in R & D, design and manufacture medium and low voltage products. Its distribution apparatus, terminal apparatus, control apparatus and other products are widely used in real estate, electric power, new energy, industry, HVAC, transportation, information and other fields.

In the United States, Europe, Southeast Asia and other regions, Hongfa has established localized marketing and service networks with global market operation and technical service. Relying on professional and rigorous technical support, fast response and all-round service, safe and reliable product quality and high cost performance, Hongfa has reached business cooperation relationship with many global top 500 enterprises and other well-known enterprises, such as Enel, GE, Honeywell, Carrier, Trane, Johnson Controls, Danfoss, State Grid, China Southern Power Grid, CRRC, China Mobile, China Unicom, etc.


Sunban Industrial Park


Donglin Industrial Park


Haicang Industrial Park


Zhongjiang Industrial Park


Zhangzhou Industrial Park


Zhoushan Industrial Park


Xi’an Factory

In terms of technology R & D and manufacturing, taking the national enterprise technology center as the platform, Hongfa has set up postdoctoral research workstation, academician and expert workstation. Now it has developed into a leading scientific research and production base in the industry. From product development, mold manufacturing, parts manufacturing, automated product assembly and online testing, Hongfa has successfully built an integrated whole industry chain of medium and low voltage products. In terms of product testing, Hongfa testing center has passed the certification of VDE, UL, CNAS and other international organizations, and has complete testing and analysis equipment for low-voltage products, such as 50kA ultimate short circuit test, 8kA electrical life test, 80kA characteristic test, mechanical simulation and testing system, electromagnetic simulation and testing system.

Hongfa always adheres to the policy of "focused on the market, winning through quality", and has a completed quality assurance system. Its products have passed UL / CUL, VDE, CQC, CCC and other international safety certification. In the process of quality management, Hongfa actively implements the advanced quality concept, constantly improves the quality management system, continuously promotes the product process quality control and testing, strengthens the supply chain management, and is committed to providing each customer with high-quality products and creating greater value.

Advanced technology and strict quality control have created Hongfa's brand strength. Hongfa is willing to work hand in hand with global customers to share the convenience and well-being brought by science and technology.

CONTENT

Content List

HFUC5-09...170
AC Contactors

01 Product Overview 05

02 Ordering Information 07

03 Technical Characteristics 09

04 Accessories 17

05 Outline and Installation dimensions 21

06 Circuit Diagram 23

07 Reference Selection Table 28

08 Information for Use 32

HFUC5-09...170
AC Contactors

Product Overview

The HFUC5-09...170 AC contactors range to a rated current of 9...170A under the utilization category AC-3 and can be driven by both 50Hz and 60Hz. They can be combined with a thermal overload protection

Product Features

- Designed under several patents.
- Optimized structure to be compatible with other industrial control contactors.
- Material with excellent ability to withstand abnormal heat conditions.
- Optimized arc extinguishing system for extended product life.
- Diversity of auxiliary blocks, which can be combined freely.
- Reliable performance even in harsh environment.

Design Features

- Magnetic circuit of high efficiency and an effective arc extinguishing structure minimize the contact wear and give strong performance even under heavy load conditions.
- Critical insulation parts use thermosetting material, thus effectively avoiding short circuit in overload situations.
- For 9…95A, each contactor of the HFUC5 series can hold up to 4 built-in auxiliary contacts.
- Consistent design approach, expressing the Hongfa brand.
- Modular accessories, such as auxiliary contacts and thermal protection relays, can be mounted to individual needs.
- All HFUC5 models can be mounted by screw. 9…95A can also be mounted on 35mm DIN rail and 40...95A can be mounted on both 35mm and 75mm DIN rail, 115...170A can be mounted on 2 x 35 mm DIN rails.

产品外观



Typical Applications

Machinery, manufacturing control, elevator, metallurgy, chemical industry, power management, air conditioning compressor, water pump, conveyor belt, lighting control, heater, and electric vehicles.

Approval Certificate

CCC	**CCC**	GB/T 14048.4，GB/T 14048.5
CB	**CB**	IEC 60947-4-1，IEC 60947-5-1
CE	**CE**	EN 60947-4-1，EN 60947-5-1
UKCA	**UKCA**	BS EN 60947-4-1，BS EN 60947-5-1
VDE	**VDE** (1)	EN 60947-4-1 (VDE 0660 Teil 102) EN 60947-5-1 (VDE 0660 Teil 200)
cULus LISTED	**UL** (1) **(cULus LISTED)**	UL 60947-4-1，UL 60947-5-1 CSA C22.2 No. 60947-4-1，CSA C22.2 No. 60947-5-1

Note: (1) Except for HFUC5-40...65 DC Coil and HFUC5-115...170.

Ordering Information

HFUC5 Contactors

HFUC	5	-	25	C	11	M7

Contactor series

Design series number

Rated operational current at rated operational voltage 400V under AC-3 category

09: 9A	**25:** 25A	**40:** 40A	**80:** 80A
12: 12A	**32:** 32A	**50:** 50A	**95:** 95A
18: 18A	**38:** 38A	**65:** 65A	

Product structure

C: C type

CS: CS type, Auxiliary contacts are used in low capacity load.

Number of built-in auxiliary NO contacts/NC contacts

11: 1NO+1NC	**20:** 2NO	**31:** 3NO+1NC	**40:** 4NO
22: 2NO+2NC	**02:** 2NC	**13:** 1NO+3NC	**04:** 4NC

a) “10” or “01” can be customized for the contactor 9...38A.

b) Only “11”, “22” can be available for built-in auxiliary contacts provided by CS type.

c) Only “10”, “01” , “11” can be available for built-in auxiliary contacts provided by low consumption.

Coil control voltage

1) AC supply - 50/60Hz

Voltage(V)	24	36	42	48	110	115	127	220	230	240	380	400	415
Code	B7	CC7	D7	E7	F7	FE7	FC7	M7	P7	U7	Q7	V7	N7

2) DC supply (9…65A)

Voltage(V)	12	24	36	48	60	72	110	125	220	250
Code	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD

3) DC supply - low consumption(9…38A)

Voltage(V)	12	24	48	110	220	250
Code	JL	BL	EL	FL	ML	UL

4) AC/DC supply - 50/60Hz DC (40…95A)

Voltage(V)	24...60	100...250
Code	BNE	KUE

* Other coil versions on request

Special type product code

No code(Blank): Standard type

(098):Dustproof contator(CS type already includes a dustproof configuration, no need to select (098) code)

HFUC5 Contactors

HFUC	5	-	115	C		M7

Contactor series

Design series number

Rated operational current at rated operational voltage 400V under AC-3 category

115： 115A **150：** 150A **170：** 170A

Product structure

C: C type

Number of built-in auxiliary NO contacts/NC contacts

No code(Blank): without build-in auxiliary contacts

Coil control voltage

AC supply - 50/60Hz

Voltage(V)	24	36	42	48	110	115	127	220	230	240	380	400	415
Code	B7	CC7	D7	E7	F7	FE7	FC7	M7	P7	U7	Q7	V7	N7

*Other coil versions on request

Special type product code

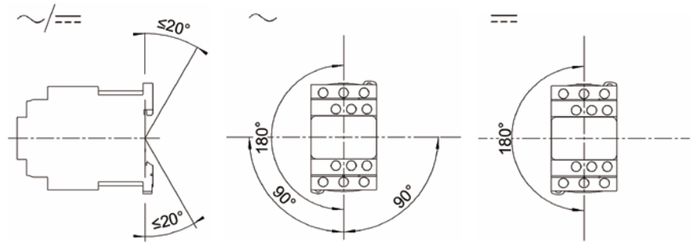
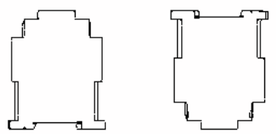
No code(Blank): Standard type

T: With built-in wiring terminal block

Technical Characteristics

Parameters \ Model			HFUC5-09…18	HFUC5-25…38	HFUC5-40…65	HFUC5-80…95	HFUC5-115…170
Operating environment							
Rated insulation voltage U_i		V	690				1000
Rated impulse withstand voltage U_{imp}		kV	6			8	8
Conforming to standards			GB/T 14048.4, GB/T 14048.5, IEC 60947-4-1, IEC 60947-5-1, EN 60947-4-1,EN 60947-5-1, BS EN 60947-4-1，BS EN 60947-5-1				
			UL 60947-4-1, UL 60947-5-1, CSA C22.2 No. 60947-4-1, CSA C22.2 No. 60947-5-1				-
Certifications			CCC, CB, CE, UKCA, VDE, UL(cULus LISTED)(1)				CCC, CB, CE, UKCA
Degree of protection (front only)			Against direct finger contact: IP20				Standard type:IP00
							With built-in wiring terminal block can protect against direct finger contact: IP20
Ambient air temperature	**Storage**	°C	-60…+80				
	Operation	°C	-40...+60（+60...+70,for operation at 1.0U_s...1.1U_s）				-40...+60
Max. operating altitude without derating		m	3000				
Pollution degree			3				
Mounting category			III				
Mounting type			Screw TH35 DIN rail		Screw TH35/TH75(1.8mm thick) DIN rail		Screw 2 x TH35 DIN rails
Flame resistance			Current-carrying part: 850°C				

Technical Characteristics

Parameters \ Model	HFUC5-09…18	HFUC5-25…38	HFUC5-40…65	HFUC5-80…95	HFUC5-115…170
Operating environment					
Operating position					
	horizontal mounting is not allowed for DC coil 				

Technical Characteristics

Technical Data




Parameters				Model	HFUC5-09	HFUC5-12	HFUC5-18	HFUC5-25	HFUC5-32	HFUC5-38
Power circuit, 3-pole contactors											
IEC	AC-3	Rated operational current I_e	400V/≤60°C	A	9	12	18	25	32	38
		Rated operational power	220V/230V	kW	2.2	3	4	5.5	7.5	9
			380V/400V	kW	4	5.5	7.5	11	15	18.5
			660V/690V	kW	5.5	7.5	10	15	18.5	18.5
	AC-1	Rated operational current I_e	690V/≤60°C	A	25	25	32	40	50	50
			690V/≤70°C	A	17	17	22	28	35	35
	Conventional thermal current I_{th}≤60°C			A	25	25	32	40	50	50
UL CSA	1-phase motor rating		110…120 V	hp	1	1	1	2	2	3
			200…208 V	hp	1	2	2	3	5	5
			220…240 V	hp	1	2	3	3	5	5
	3-phase motor rating		200…208 V	hp	2	3	5	7-1/2	10	10
			220…240 V	hp	3	3	5	7-1/2	10	10
			440…480 V	hp	5	7-1/2	10	15	20	25
			550…600 V	hp	7-1/2	10	15	20	25	25
	AC general use rating AC resistance rating		600V/≤60°C	A	25	25	32	40	50	50
Average impedance per pole			Ith 50Hz	mΩ	2.7			2		
Built-in auxiliary contacts standard type					1NO+1NC					
Max. electrical operating frequency AC-3/400V			cycles/h		750	750	750	600	600	400
Mechanical durability			10^6 cycles		10			10		
Max. mechanical operating frequency(1)			cycles/h		3600			3600		

Technical Data





Parameters				Model	HFUC5-40	HFUC5-50	HFUC5-65	HFUC5-80	HFUC5-95	HFUC5-115	HFUC5-150	HFUC5-170
Power circuit, 3-pole contactors												
IEC	AC-3	Rated operational current I_e	400V/≤60°C	A	40	50	65	80	95	115	150	170
		Rated operational power	220V/230V	kW	11	15	18.5	22	25	30	40	55
			380V/400V	kW	18.5	22	30	37	45	55	75	90
			660V/690V	kW	30	33	37	45	45	80	100	110
	AC-1	Rated operational current I_e	690V/≤60°C	A	60	80	80	125	125	160	185	200
			690V/≤70°C	A	42	56	56	81	81	-	-	-
	Conventional thermal current I_{th}≤60°C			A	60	80	80	125	125	160	185	200
UL CSA	1-phase motor rating		110…120 V	hp	3	3	5	7-1/2	10	-	-	-
			200…208 V	hp	5	7-1/2	10	15	15	-	-	-
			220…240 V	hp	7-1/2	10	10	15	20	-	-	-
	3-phase motor rating		200…208 V	hp	10	15	20	25	30	-	-	-
			220…240 V	hp	15	15	20	30	30	-	-	-
			440…480 V	hp	30	40	50	60	75	-	-	-
			550…600 V	hp	40	50	50	75	75	-	-	-
	AC general use rating AC resistance rating		600V/≤60°C	A	60	70	80	105	115	-	-	-
Average impedance per pole			Ith 50Hz	mΩ	1.5			0.8		0.45		
Built-in auxiliary contacts standard type					1NO+1NC					No auxiliary contact		
Max. electrical operating frequency AC-3/400V			cycles/h		400	400	400	400	400	300	300	300
Mechanical durability			10^6 cycles		5			3		3		
Max. mechanical operating frequency(1)			cycles/h		3600			3600		1200		

Note: (1) The max. mechanical operating frequency of AC/DC coil is 1800 cycles per hour. For 24...60V 50/60Hz supply coil voltage, the total length of wire must be shorter than 6 meters.

Technical Characteristics

Technical Data

Parameters		Model	HFUC5-09...18	HFUC5-25...38	HFUC5-40...65	HFUC5-80...95	HFUC5-115...170
Coil control circuit, 1) AC supply							
Rated control voltage U_s 50Hz/60Hz		**V**	24...415				
Control voltage range (+60°C)	**Operating voltage**		0.8U_s...1.1U_s 50Hz 0.85U_s...1.1U_s 60Hz				0.8U_s...1.1U_s 50Hz(+40°C) 0.85U_s...1.1U_s60Hz(+40°C)
	Drop-out voltage		0.2U_s...0.75U_s				0.2U_s...0.75U_s
Max.power consumption at 25°C (for reference)	**Inrush**	**VA**	75	75	170	200	300
	Sealed	**VA**	9.5	9.5	20	21	35
Operating time Between coil energization and	**main NO contact closing**	**ms**	12...22	12...22	12...26	12...26	12...26
	auxiliary NO closing	**ms**	15...26	15...26	15...26	15...26	-
	auxiliary NC opening	**ms**	4...19	4...19	4...19	4...19	-
Operating time Between coil de-energization and	**main NO contact opening**	**ms**	4...19	4...19	4...19	6...20	4...19
	auxiliary NO opening	**ms**	4...19	4...19	4...19	4...19	-
	auxiliary NC closing	**ms**	12...32	12...32	12...32	12...32	-
Coil control circuit, 2) DC supply[1]							
Rated control voltage U_s		**V**	12...250		12...250	-	-
Control voltage range (+60°C)	**Operating voltage**		0.8U_s...1.1U_s		0.75U_s...1.25U_s	-	-
	Drop-out voltage		0.1U_s...0.6U_s		0.1U_s...0.6U_s	-	-
Max.power consumption at 25°C (for reference)	**Inrush**	**W**	7		19	-	-
	Sealed	**W**	7		7	-	-
Operating time Between coil energization and	**main NO contact closing**	**ms**	52...72		32...48	-	-
	auxiliary NO closing	**ms**	52...72		32...48	-	-
	auxiliary NC opening	**ms**	44...68		28...38	-	-
Operating time Between coil de-energization and	**main NO contact opening**	**ms**	10...20		8...20	-	-
	auxiliary NO opening	**ms**	10...20		8...20	-	-
	auxiliary NC closing	**ms**	10...30		12...22	-	-
Coil control circuit, 3) DC supply - low consumption[1]							
Rated control voltage U_s		**V**	12...250		-	-	-
Control voltage range (+60°C)	**Operating voltage**		0.8U_s...1.25U_s		-	-	-
	Drop-out voltage		0.1U_s...0.3U_s		-	-	-
Max.power consumption at 25°C (for reference)	**Inrush**	**W**	3.5		-	-	-
	Sealed	**W**	3.5		-	-	-
Operating time Between coil energization and	**main NO contact closing**	**ms**	52...72		-	-	-
	auxiliary NO closing	**ms**	52...72		-	-	-
	auxiliary NC opening	**ms**	44...68		-	-	-
Operating time Between coil de-energization and	**main NO contact opening**	**ms**	10...20		-	-	-
	auxiliary NO opening	**ms**	10...20		-	-	-
	auxiliary NC closing	**ms**	10...30		-	-	-

Technical Data

Parameters		Model	HFUC5-09…18	HFUC5-25…38	HFUC5-40…65	HFUC5-80…95	HFUC5-115…170
Coil control circuit, 4) AC/DC supply							
Rated control voltage U_s		**V**	-	-	24-60V AC/DC 100-250V AC/DC		-
Control voltage range (+60°C)	**Operating voltage**		-	-	0.85U_{smin}…1.1U_{smax}		-
	Drop-out voltage		-	-	0.1U_{smax}…0.75U_{smin}		-
Max. power consumption at 25°C (for reference)	**Inrush**	**W**	-	-	150V·A/150W		-
	Sealed	**W**	-	-	5V·A/5W		-
Operating time Between coil energization and	**main NO contact**	**ms**	-	-	40…60		-
	auxiliary NO closing	**ms**	-	-	40…60		-
	auxiliary NC opening	**ms**	-	-	32…55		-
Operating time Between coil de-energization and	**main NO contact**	**ms**	-	-	18…60		-
	auxiliary NO opening	**ms**	-	-	18…60		-
	auxiliary NC closing	**ms**	-	-	22…65		-

Built-in auxiliary contacts									
Max. rated operational voltage U_e		**V**	690						-
Max. insulation voltage U_i		**V**	690						-
Min. switching capacity	**C Type**		24V,0.1A						-
	CS Type		17V,5mA						-
A600 AC-15	**Conventional enclosed thermal**	**A**	10						-
	Rated operational voltage U_e	**V**	120	240	380	480	500	600	-
	Rated operational current	**A**	6	3	1.9	1.5	1.4	1.2	-
	Make apparent power VA rating	**V**	7200						-
	Break apparent power VA rating	**V**	720						-
Q600 DC-13	**Conventional enclosed thermal**	**A**	2.5						-
	Rated operational voltage U_e	**V**	125	250	-	400	500	600	-
	Rated operational current	**A**	0.55	0.27	-	0.15	0.13	0.1	-
	Make apparent power VA rating	**V**	69						-
	Break apparent power VA rating	**V**	69						-

Note: (1)The control peripheral circuit of the DC coil cannot be directly connected in parallel with a diode, otherwise it may conflict with products with specific configurations (equipped with built-in varistor), causing the product to release more slowly, which in turn affects the electrical life of the product. If there are special requirements, please contact the manufacturer for evaluation.

Technical Characteristics

Wiring Connection Capability

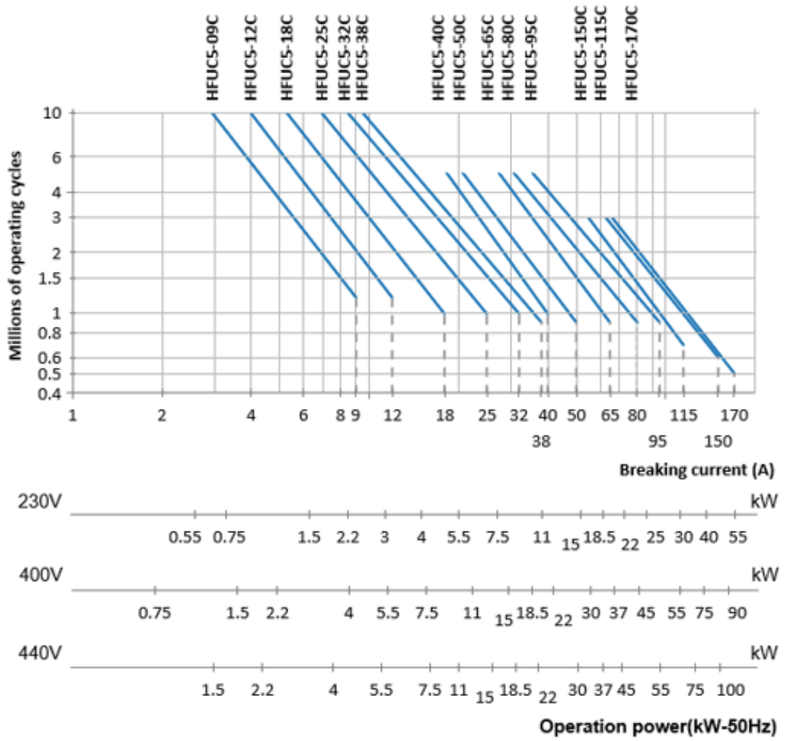
Parameters		Model	HFUC5-09…18	HFUC5-25…38	HFUC5-40…65	HFUC5-80…95	HFUC5-115…T …170…T(1)
Power circuit connections							
Solid cable without cable end	1 conductor	mm²	1…6	1.5…10	2.5…35	4…50	10…120
	2	mm²	1…6	2.5…10	2.5…25	4…25	10…120 +10…50
Flexible cable without cable end	1 conductor	mm²	1…6	2.5…10	2.5…35	4…50	10…120
	2	mm²	1…6	2.5…10	2.5…16	4…25	10…120 +10…50
Flexible cable with cable end	1 conductor	mm²	1…6	1.5…10	2.5…25	4…50	10…120
	2	mm²	1…4	1.5…6	2.5…16	4…16	10…120 +10…50
Lugs	L ≤	mm	9.6	12	-	-	-
	l >	mm	3.7	4.2	-	-	-
Connection capacity acc. to UL/CSA	1 conductor	AWG	18…10	16…8	14…2	12…1	-
	2	AWG	18…10	14…8	14…6	12…4	-
Screwdriver	Phillips screwdriver		N°2	N°2	-	-	-
	Φ Slotted		Φ 6	Φ 6	-	-	-
Hexagonal key			-	-	4	4	5
Tightening torque		Nm	1.5	2.5	5	9	12
		lb.in	13	22	45	80	-
Coil circuit connections and Built-in auxiliary circuit connections							
Solid cable without cable end	1 conductor	mm²	1…4		1…4		1…4
	2	mm²	1…4		1…4		1…4
Flexible cable without cable end	1 conductor	mm²	1…4		1…4		1…4
	2	mm²	1…4		1…4		1…4
Flexible cable with cable end	1 conductor	mm²	1…4		1…4		1…4
	2	mm²	1…2.5		1…2.5		1…2.5
Lugs	L ≤	mm	8.1		8.1		8.1
	l >	mm	3.7		3.7		3.7
Connection capacity acc. to UL/CSA	1 conductor	AWG	18…12		18…12		-
	2	AWG	18…12		18…12		-
Screwdriver	Phillips screwdriver		N°2		N°2		N°2
	Φ	Slotted	Φ 6		Φ 6		Φ 6
Tightening torque		Nm	1.2		1.2		1.2
		lb.in	11		11		-

Note: (1)Wiring method of standard type HFUC5-115...170: stud terminals; stud specification: M8×25; tightening torque: 12 Nm; busbar specification: 18×3; max. number of busbar: 2.

Electrical Durability

Selection table according to electrical durability

■ The breaking current (Ic) of AC-3 utilization catalogue is equal to the rated operational current of motor. The characteristic curve in the figure below shows the durability of the main contact when the contactor is used for making and breakingthree-phase (AC-3 Ue≤440V) inductive load.



■ Example: Asynchronous motor:

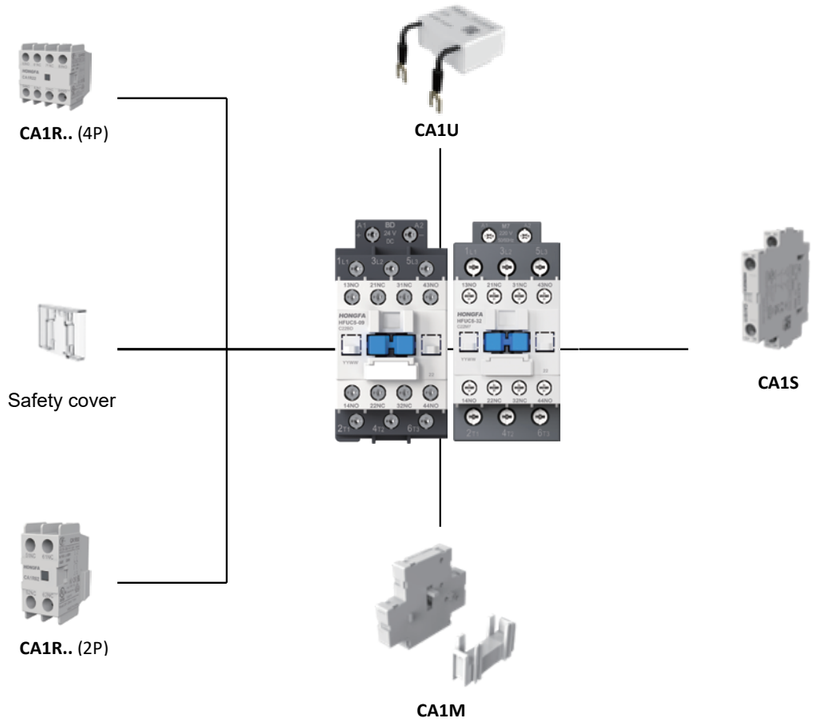
Asynchronous motor: P = 5.5kW, Ue = 400 V, Ie = 11 A, Ic = Ie = 11 A

Or asynchronous motor: P =5.5kW, Ue = 415 V, Ie = 11A, Ic = Ie = 11A

Need electrical durability of 2 million cycles.

Above selective curve shows that the contactor part number is HFUC5-18C.

Accessories



Product	Model	Scope of application
safety cover(1)	—	HFUC5-09…95
Top mounting Auxiliary Contact Block(2) （2P/4P）	CA1R	HFUC5-09…95 AC Coil HFUC5-09…38 DC Coil(3) HFUC5-40…65 DC Coil HFUC5-40…95 AC/DC Coil
Side mounting Auxiliary Contact Block	CA1S	HFUC5-09…170 AC Coil HFUC5-40…65 DC Coil HFUC5-40…95 AC/DC Coil
Coil Suppressor Module	CA1U	HFUC5-09…95 AC Coil HFUC5-09…38 DC Coil
Mechanical Interlock Block	CA1M	HFUC5-09…95

Note: (1) Safety cover is not sold separately, please contact the manufacturer for details.

(2) The max. total number of add-on NO and NC auxiliary contact is 4 besides the build-in auxiliary contacts are required, please contact us for evaluation.

(3) For low consumption, the max. total number of add-on NO and NC auxiliary contact is 2 besides the build-in auxiliary contact.

Accessories

(1) Auxiliary Contact Block

CA	1	R	22

Contactor accessory

Design series number

Mounting type

R: Top mounting

S: Side mounting

Number of auxiliary NO contacts/NC contacts

1) CA1R (2P) and CA1S:

11: 1NO+1NC **20:** 2NO **02:** 2NC

2) CA1R(4P):

22: 2NO+2NC **40:** 4NO **31:** 3NO+1NC **13:** 1NO+3NC **04:** 4NC

(2) Mechanical Interlock Block

CA	1	M	38

Contactor accessory

Design series number

Module type

M: Mechanical interlock without integral electrical interlocking

Suitable for contactor current range

38: Suitable for 9A…38A

65: Suitable for 40A…95A

(3) Coil Suppressor Module

CA	1	U	RC	2	G	AC

Contactor accessory

Design series number

Module type

U: Suppressor module

Protection type

RC: RC circuits (Resistor-Capacitor)

V: Varistors (Peak limiting)

Installation type

2: Fix with screw

Suitable for coil voltage range

E: 24…48V **G:** 50…127V **U:** 110…250V **N:** 380…440V

Coil voltage type

AC： AC supply (Just for RC circuits)

AD： AC/DC supply (Just for Varistors)

Accessories

Technical Data for Auxiliary Contact Block

Parameters		Model /	CA1R, CA1S					
Standards			GB/T 14048.5，IEC 60947-5-1，BS EN 60947-5-1，EN 60947-5-1（VDE 0660 Teil 200），UL 60947-5-1（CSA C22.2 No. 60947-5-1）					
Certifications			CCC, CB, CE, UKCA ,VDE, UL(cULus LISTED)					
Degree of protection(Front only)			Against direct finger contact: IP20					
Ambient air temperature	Storage	℃	-60…+80					
	Operation	℃	-40…+70					
Max. operating altitude without derating		m	3000					
Solid cable without cable end	1 conductor	mm^2	1…4					
	2 conductors	mm^2	1…4					
Flexible cable without cable end	1 conductor	mm^2	1…4					
	2 conductors	mm^2	1…4					
Flexible cable with cable end	1 conductor	mm^2	1…4					
	2 conductors	mm^2	1…2.5					
Lugs	L ≤	mm	8.1					
	l >	mm	3.7					
Connection capacity acc. to UL/CSA	1 conductor	AWG	18…10					
	2 conductors	AWG	18…10					
Screwdriver	Phillips screwdriver		N°2					
	Φ Slotted screwdriver		Φ6					
Tightening torque		Nm	1.2					
		lb.in	11					
Max. rated operating voltage U_e		V	690					
Max. insulation voltage U_i		V	690					
Min. switching capacity			24V, 0.1A					
A600 AC-15	Conventional enclosed thermal current I_{the}	A	10					
	Rated operational voltage U_e	V	120	240	380	480	500	600
	Rated operational current	A	6	3	1.9	1.5	1.4	1.2
	Make apparent power VA rating	VA	7200					
	Break apparent power VA rating	VA	720					
Q600 DC-13	Conventional enclosed thermal current I_{the}	A	2.5					
	Rated operational voltage U_e	V	125	250	-	400	500	600
	Rated operational current	A	0.55	0.27	-	0.15	0.13	0.1
	Make apparent power VA rating	VA	69					
	Break apparent power VA rating	VA	69					
For use on contactors(1)			HFUC5-09…170（CA1R not optional for 115A…170A）					

Note: (1) For use with contactor, please refer to the details in Reference Selection Table.

Technical Data for Coil Suppressor Module

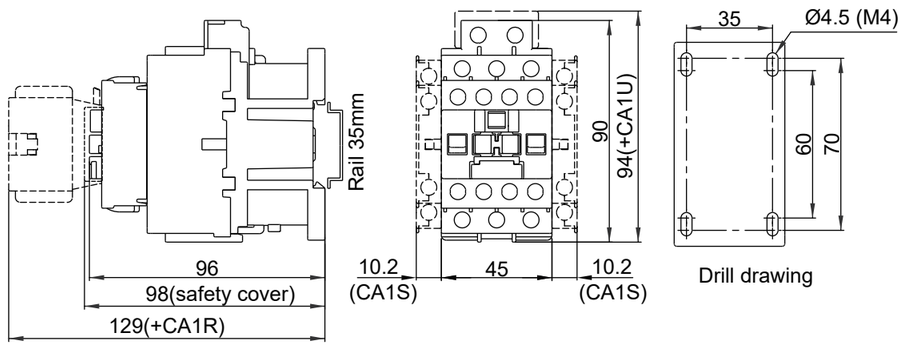
Parameters		Model /	Varistors	RC circuits
			CA1UV2…	CA1URC2…
Ambient air temperature	Storage	℃	-60…+80	
	Operation	℃	-40…+70	
Max. operating altitude		m	3000	
Suitable for coil voltage range	50/60Hz	V	24…440V	24…440V
	DC	V	24…440V	—
Increase in contactor operating time			delay 1.1 to 1.5 times	delay 1.2 to 2 times
For use with contactor (1)			HFUC5-09…95	

Note: (1) HFUC5-40…65 DC Coil and HFUC5-40…95 AC/DC coil product has built-in suppressor module, no need to install external suppressor module.

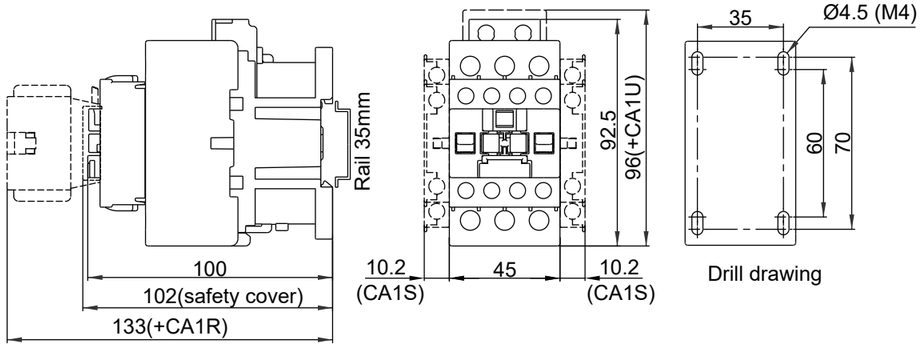
Outline and Installation dimensions

AC contactor

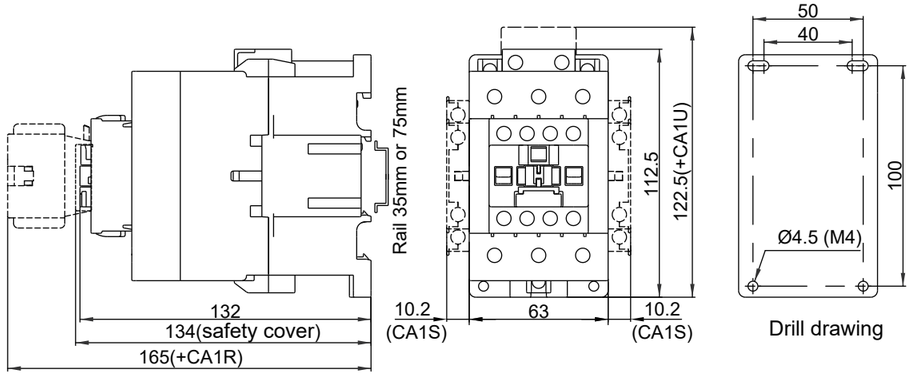
HFUC5-09，HFUC5-12，HFUC5-18 (AC Coil)



HFUC5-25，HFUC5-32，HFUC5-38 (AC Coil)



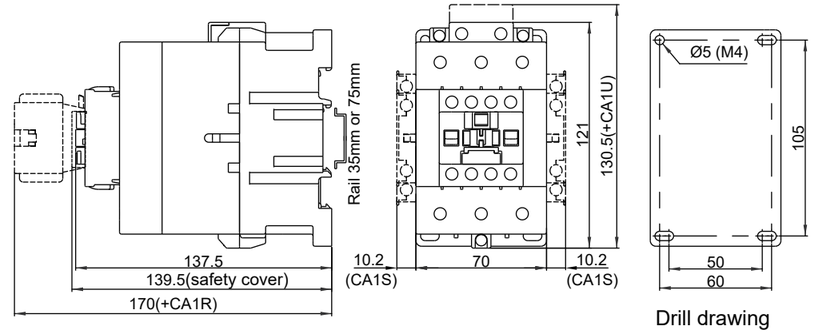
HFUC5-40，HFUC5-50，HFUC5-65 (AC Coil、DC Coil and AC/DC Coil)



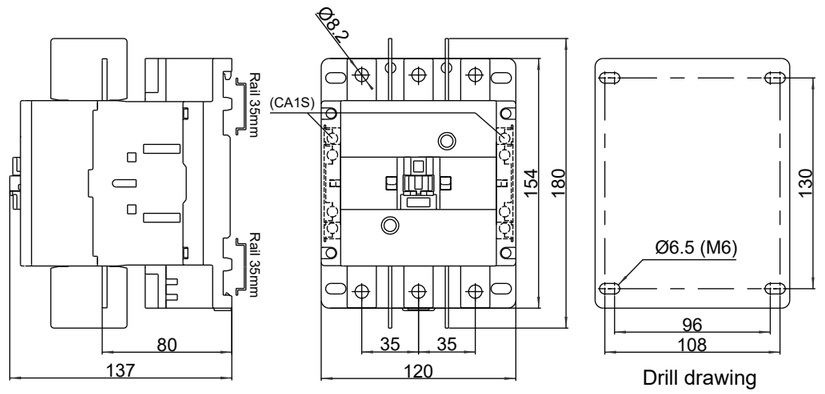
Note: The unit is mm. The tolerance for mounting holes: ± 0.5; for other external dimensions: ± 1.5, unless otherwise specified.

AC contactor

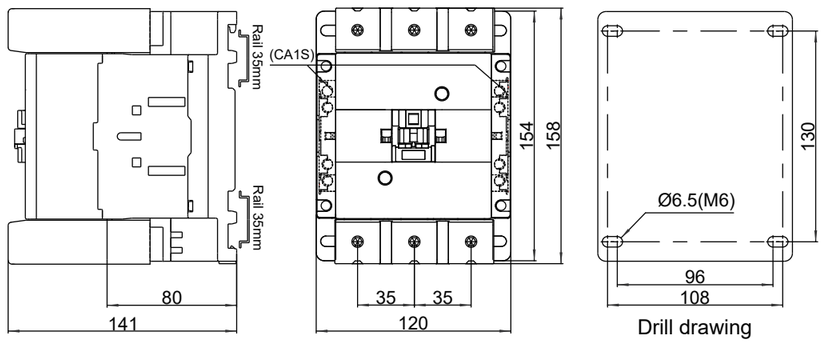
HFUC5-80, HFUC5-95 (AC Coil and AC/DC Coil)



HFUC5-115, HFUC5-150, HFUC5-170(AC Coil)



HFUC5-115，HFUC5-150，HFUC5-170...T（AC Coil With built-in wiring terminal block)

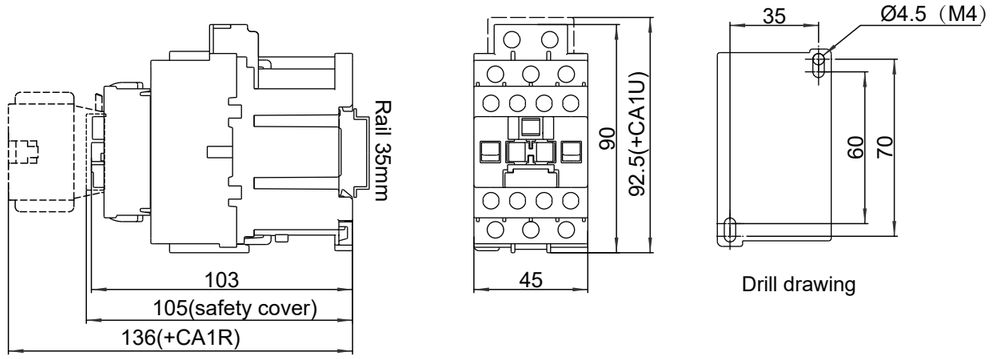


Note: The unit is mm. The tolerance for mounting holes: ± 0.5; for other external dimensions: ± 1.5, unless otherwise specified.

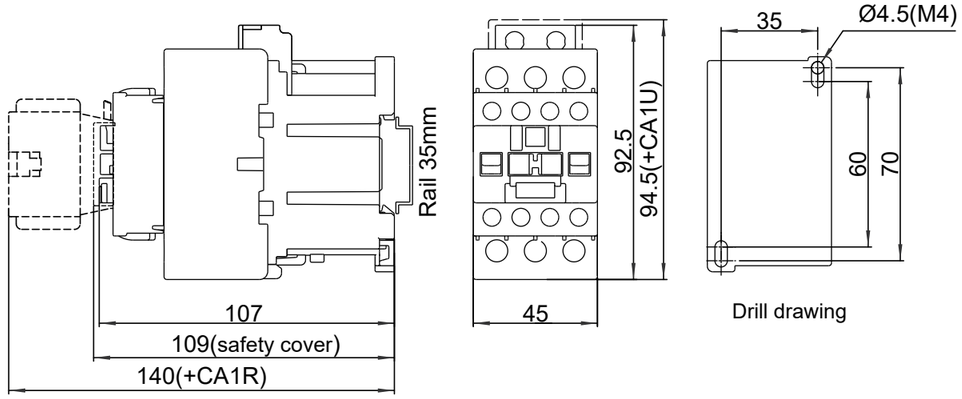
Outline and Installation dimensions

AC contactor

HFUC5-09、HFUC5-12、HFUC5-18（DC Coil)



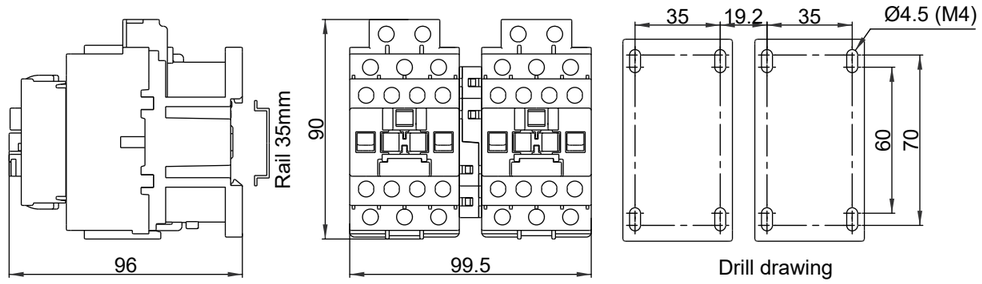
HFUC5-25、HFUC5-32、HFUC5-38（DC Coil)



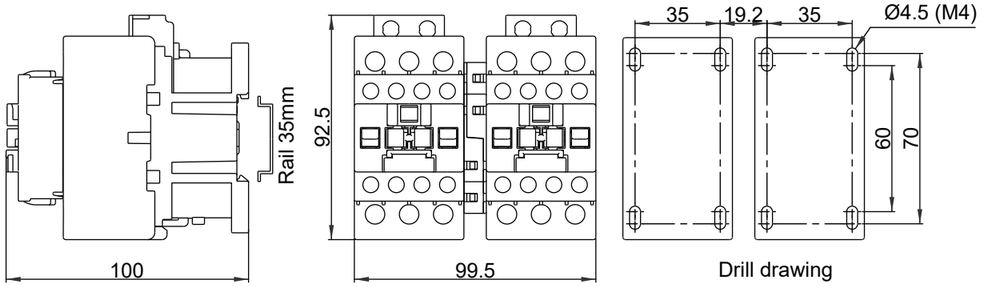
Note: The unit is mm. The tolerance for mounting holes: ± 0.5; for other external dimensions: ± 1.5, unless otherwise specified.

Interlock contactor

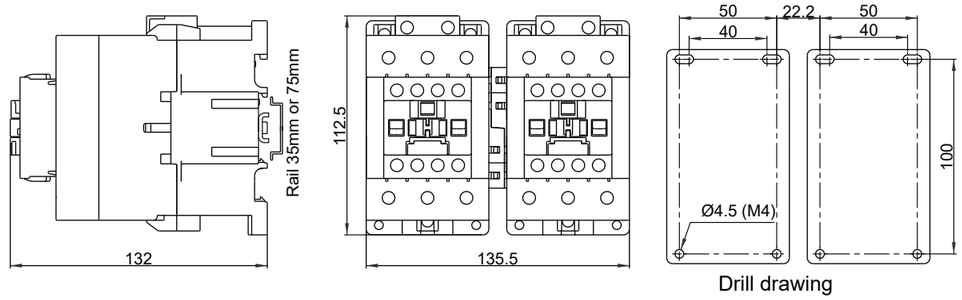
HFUC5-09，HFUC5-12，HFUC5-18（AC Coil)



HFUC5-25，HFUC5-32，HFUC5-38（AC Coil)



HFUC5-40，HFUC5-50，HFUC5-65 (AC Coil and DC Coil and AC/DC Coil)

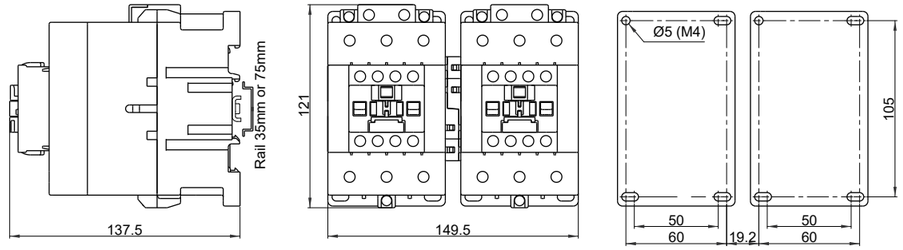


Note: The unit is mm. The tolerance for mounting holes: ± 0.5; for other external dimensions: ± 2, unless otherwise specified.

Outline and Installation dimensions

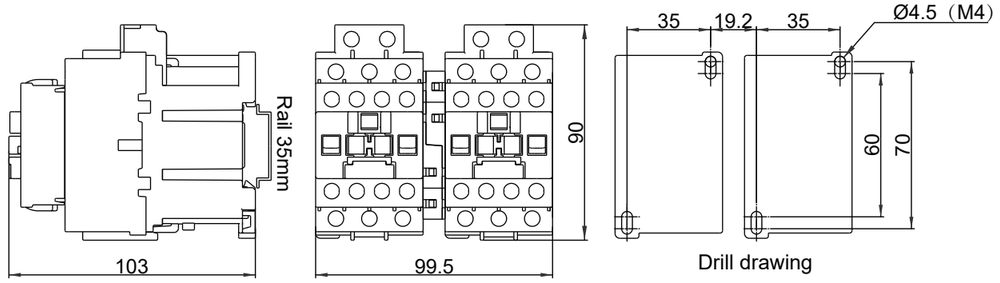
Interlock contactor

HFUC5-80，HFUC5-95（AC Coil and AC/DC Coil)



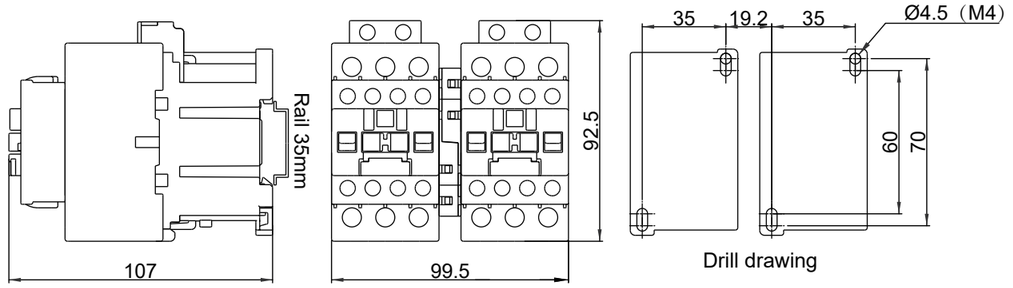
Drill drawing

HFUC5-09，HFUC5-12，HFUC5-18（DC Coil)



Drill drawing

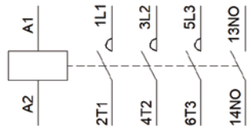
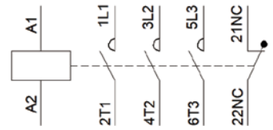
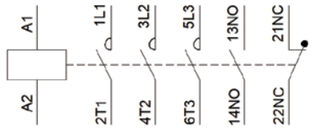
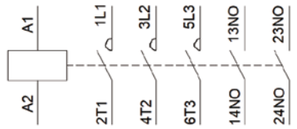
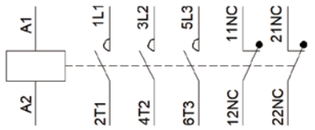
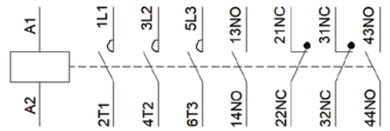
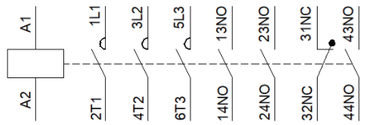
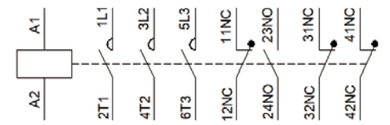
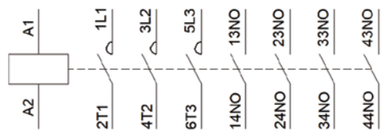
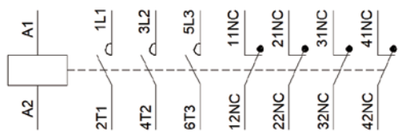
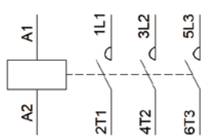
HFUC5-25，HFUC5-32，HFUC5-38（DC Coil)



Drill drawing

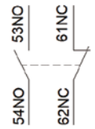
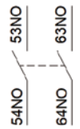
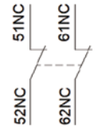
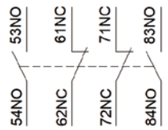
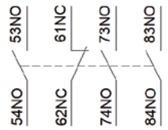
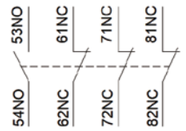
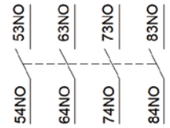
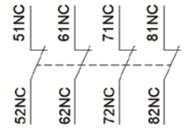
Note: The unit is mm. The tolerance for mounting holes: ± 0.5; for other external dimensions: ± 2, unless otherwise specified.

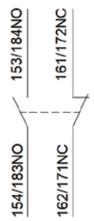
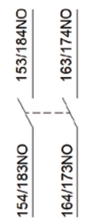
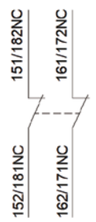
Circuit Diagram

AC contactor	
3P+1NO **(9…38A)**	3P+1NC **(9…38A)**
	
3P+1NO1NC	3P+2NO
	
3P+2NC	3P+2NO2NC
	
3P+3NO1NC	3P+1NO3NC
	
3P+4NO	3P+4NC
	
3P **(115…170A)**	
	

Note：The DC coil product has positive and negative polarity (positive pole A1, negative pole A2). If the positive and negative poles are connected inversely, the product will not be able to operate.

Circuit Diagram

CA1R top mounting Auxiliary contact block		
1NO1NC	2NO	2NC
		
2NO2NC	3NO1NC	1NO3NC
		
4NO	4NC	
		

CA1S side mounting Auxiliary contact block		
1NO1NC	2NO	2NC
		

Reference Selection Table

AC Contactor

IEC			UL/CSA			Number of poles	Built-in auxiliary contacts (1)		Complete Type					Net weight (1 pc) (2)
Standard power ratings of 3-phase motors 50Hz/60Hz in category AC-3 (θ≤60°C)		Rated operational current AC-3	3-phase motor rating		General use rating					Coil control voltage				
220 V 230 V	380 V 400 V	400 V	220 V 240 V	440 V 480 V	600 V				Type					
kW	kW	A	hp	hp	A					50/60 Hz	DC	low consum-ption	AC/DC	kg
2.2	4	9	3	5	25	3	1	1	HFUC5-09C11…	M7	BD	BL	—	0.42
							2	2	HFUC5-09C22…	M7	BD	—	—	
3	5.5	12	3	7-1/2	25	3	1	1	HFUC5-12C11…	M7	BD	BL	—	0.42
							2	2	HFUC5-12C22…	M7	BD	—	—	
4	7.5	18	5	10	32	3	1	1	HFUC5-18C11…	M7	BD	BL	—	0.42
							2	2	HFUC5-18C22…	M7	BD	—	—	
5.5	11	25	7-1/2	15	40	3	1	1	HFUC5-25C11…	M7	BD	BL	—	0.47
							2	2	HFUC5-25C22…	M7	BD	—	—	
7.5	15	32	10	20	50	3	1	1	HFUC5-32C11…	M7	BD	BL	—	0.47
							2	2	HFUC5-32C22…	M7	BD	—	—	
9	18.5	38	10	25	50	3	1	1	HFUC5-38C11…	M7	BD	BL	—	0.47
							2	2	HFUC5-38C22…	M7	BD	—	—	
11	18.5	40	15	30	60	3	1	1	HFUC5-40C11…	M7	BD	—	KUE	1.00
							2	2	HFUC5-40C22…	M7	BD	—	KUE	
15	22	50	15	40	70	3	1	1	HFUC5-50C11…	M7	BD	—	KUE	1.00
							2	2	HFUC5-50C22…	M7	BD	—	KUE	
18.5	30	65	20	50	80	3	1	1	HFUC5-65C11…	M7	BD	—	KUE	1.00
							2	2	HFUC5-65C22…	M7	BD	—	KUE	
22	37	80	30	60	105	3	1	1	HFUC5-80C11…	M7	—	—	KUE	1.40
							2	2	HFUC5-80C22…	M7	—	—	KUE	
25	45	95	30	75	115	3	1	1	HFUC5-95C11…	M7	—	—	KUE	1.40
							2	2	HFUC5-95C22…	M7	—	—	KUE	
30	55	115	—	—	—	3	—	—	HFUC5-115C…	M7	—	—	—	2.10
40	75	150	—	—	—	3	—	—	HFUC5-150C…	M7	—	—	—	
55	90	170	—	—	—	3	—	—	HFUC5-170C…	M7	—	—	—	
30	55	115	—	—	—	3	—	—	HFUC5-115C…T	M7	—	—	—	2.50
40	75	150	—	—	—	3	—	—	HFUC5-150C…T	M7	—	—	—	
55	90	170	—	—	—	3	—	—	HFUC5-170C…T	M7	—	—	—	

Note: (1) For other types of built-in auxiliary contacts, please refer to the details in page 2.

(2) The net weight in the table refers to the weight of the standard AC control contactor. The weight increases by 0.01kg with the inclusion of 2NO+2NC auxiliary contacts compared to 1NO+1NC. For DC control contactors HFUC5-09...38, the weight increases by 0.15kg. The weight of AC/DC control contactors HFUC5-65...95 is the same as that of AC control contactors.

Reference Selection Table

AC Contactor

(1) Coil control voltage:

AC supply-50/60Hz (9A...170A)	**Voltage (V)**	24	36	42	48	110	115	127	220	230	240	380	400	415
	Code	**B7**	**CC7**	**D7**	**E7**	**F7**	**FE7**	**FC7**	**M7**	**P7**	**U7**	**Q7**	**V7**	**N7**
DC supply (9A...65A)	**Voltage (V)**	12	24	36	48	60	72	110	125	220	250	-	-	-
	Code	**JD**	**BD**	**CD**	**ED**	**ND**	**SD**	**FD**	**GD**	**MD**	**UD**	-	-	-
DC supply low consumption (9A...38A)	**Voltage (V)**	**12**	**24**	**48**	**110**	**220**	**250**	-	-	-	-	-	-	-
	Code	**JL**	**BL**	**EL**	**FL**	**ML**	**UL**	-	-	-	-	-	-	-
AC/DC supply -50/60Hz DC (40A...95A)	**Voltage (V)**	24…60			100…250			-						
	Code	**BNE**			**KUE**			-						

HFUC5-09...170
AC Contactors

Reference Selection Table

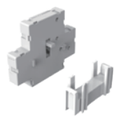
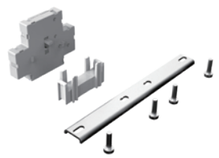
Auxiliary Contact Block

Mounting type		Switching capacity	Auxiliary contacts(1)		For use with contactor	Reference	Net weight (1 pc) kg
Top mounting		A600 Q600	0	2	**HFUC5-09…95 AC Coil**	**CA1R02**	0.035
			1	1		**CA1R11**	
			2	0		**CA1R20**	
			0	4	**HFUC5-09…38 DC Coil(2)**	**CA1R04**	0.066
			1	3	**HFUC5-40…65 DC Coil**	**CA1R13**	
			2	2	**HFUC5-40…95 AC/DC Coil**	**CA1R22**	
			3	1		**CA1R31**	
			4	0		**CA1R40**	
Side mounting			1	1	**HFUC5-09…170 AC Coil**	**CA1S11**	0.040
			2	0	**HFUC5-40…65 DC Coil**	**CA1S20**	
			0	2	**HFUC5-40…95 AC/DC Coil**	**CA1S02**	

Note: (1) All the above auxiliary contacts are all instantaneous auxiliary contacts.
(2) For low consumption, the max. total number of add-on NO and NC auxiliary contact is 2 besides the build-in auxiliary contact.

Reference Selection Table

Mechanical Interlock Block

Mounting type		For use with contactor	Reference	Net weight (1 pc) kg
Side mounting		HFUC5-09…38	**CA1M38**	0.021
		HFUC5-40…95	**CA1M65**	0.056

Suppressor Module

Mounting type		Protection type	Coil voltage range	For use with contactor(1)	Reference	Net weight (1 pc) kg
Top mounting		Varistors	24-48V	HFUC5-09…95 AC Coil HFUC5-09…38 DC Coil(2)	**CA1UV2EAD**	0.016
			50-127V		**CA1UV2GAD**	
			110-250V		**CA1UV2UAD**	
			380-440V		**CA1UV2NAD**	
		RC circuits	24-48V	HFUC5-09…95 AC Coil HFUC5-09…38 DC Coil(2)	**CA1URC2EAC**	
			50-127V		**CA1URC2GAC**	
			110-250V		**CA1URC2UAC**	
			380-440V		**CA1URC2NAC**	

Note: (1) AC/DC coil product has built-in suppressor module, no need to install external suppressor module.
(2)The control peripheral circuit of the DC coil cannot be directly connected in parallel with a diode, otherwise it may conflict with products with specific configurations (equipped with built-in varistor), causing the product to release more slowly, which in turn affects the electrical life of the product. If there are special requirements, please contact the manufacturer for evaluation.

Information for Use

Altitude dependent compensation factort

- The rarefied atmosphere at high altitude reduces the dielectric strength of the air and hence the rated operational voltage of the contactor. It also reduces the cooling effect of the air and hence the rated operational current of the contactor (unless the temperature drops at the same time).
- At an altitude of less than 3000m, no significant effect on the performance of the product. When the altitude is above 3000m, conditions of air cooling and decrease of rated impulse withstand voltage have to be considered, so the design and application need to be further communicated with manufacturer.

Correction coefficients of operational voltage and operational current when the altitude is above 3000m are described as below.

Altitude(m)	Rated operational voltage	Rated operational current
≤3500	0.90	0.92
≤4000	0.80	0.90
≤4500	0.70	0.88
≤5000	0.60	0.86

Technical parameter explanation

-Parameters contained in this catalogue such as electrical durability and mechanical durability are based on standard samples' test results, and the actual use may differ from these due to the difference of environment, operating frequency, devices etc.