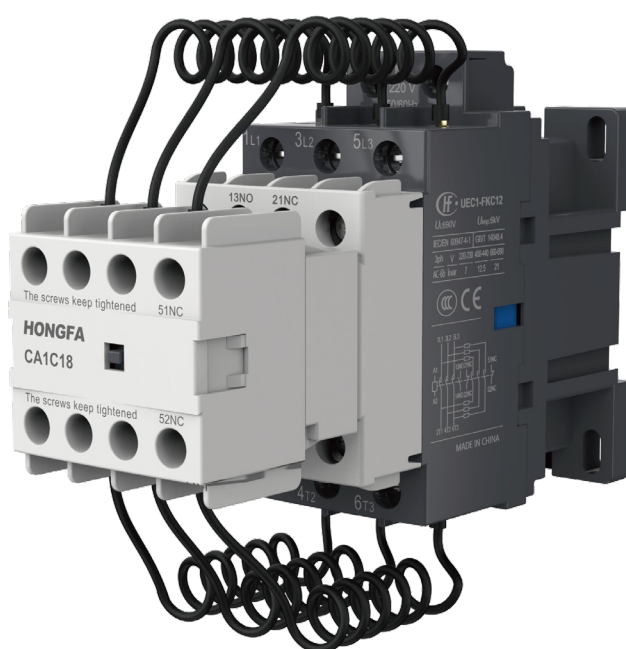


Motor Control and Protection Components

UEC1-EK...WK Contactors
for Capacitor Switching



INTRODUCTION



Sunban Industrial Park

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.



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, electro-magnetic 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.

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UEC1-EK...WK Contactors for Capacitor Switching

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NOTE:

The contents and data in this catalogue are not binding. We reserve the right to modify the contents of this document on the basis of technical development of the products, without prior notice. The real order requirements and technical agreements shall prevail.




Product Overview

UEC1- EK...WK Series Contactors are specially designed for capacitor switching application. It can be used in both 50 and 60 Hz electrical circuits with rated insulation voltage 690V, rated operational capacity 10kvar to 65kvar at rated operational voltage 400V, AC-6b utilization category. It is used for low-voltage reactive power compensation equipment to join or remove low-voltage parallel capacitors. The contactor is equipped with an inrush current suppression device, which can effectively reduce the impact of closing inrush current on the capacitor and suppress the overvoltage during disconnection.

Product Features

- Inrush current suppression: modular design, the suppression circuit closes first and then opens, effectively reducing the impact of closing inrush current on capacitors;
- Innovative design: the contact system of the suppression circuit adopts the force balance design to improve the reliability of the product;
- Safety and reliability: the resistance wire terminal is designed with anti-falling to prevent short circuit, which caused by incorrect wiring after the terminal falling.
- Multiple auxiliary contacts: max. 5 auxiliary contacts available on the contactor body and top switching module.
- Convenient mounting: compatible with screw mounting and 35mm DIN rail mounting. Products of 33.3kvar to 65kvar are also suitable for 75mm DIN rail mounting.

Approval Certificate

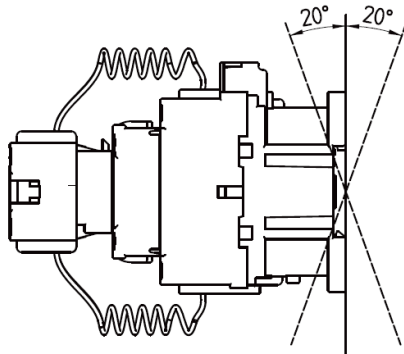
	CCC	GB/T 14048.4, GB/T 14048.5
	CE	EN 60947-4-1, EN 60947-5-1
	UKCA	BS EN 60947-4-1, BS EN 60947-5-1

Ordering Information

UEC1-EK...WK Contactors for Capacitor Switching

	UEC	1	-EK	C	12	M7
Contactor series						
Design series number						
Rated operational power at rated operational voltage 400V under AC-6b category						
EK: 10kvar	LK: 20kvar	TK: 40kvar				
FK: 12.5kvar	MK: 25kvar	WK: 65kvar				
GK: 16.7kvar	PK: 33.3kvar					
Product structure						
C: C type						
Number of built-in auxiliary NO contacts /NC contacts						
12: 1NO+2NC						
23: 2NO+3NC						
a) The above combinations include the auxiliary contacts on the contactor body and one normally closed auxiliary contact (1NC) on the compensation block.						
b) Please consult the factory if other auxiliary contact combination requested.						
Coil control voltage (AC supply - 50/60Hz)						
B7: 24V	F7: 110V	M7: 220V	Q7: 380V			
CC7: 36V	FE7: 115V	P7: 230V	V7: 400V			
D7: 42V	FC7: 127V	U7: 240V	N7: 415V			
E7: 48V						
* Other coil versions on request						

Technical Data

		Model	UEC1-EK	UEC1-FK	UEC1-GK	UEC1-LK	UEC1-MK	UEC1-PK	UEC1-TK	UEC1-WK
Parameters										
Operational environment										
Rated insulation voltage U_i		V	690							
Rated impulse withstand voltage U_{imp}		kV	6							
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							
Certification			CCC, CE,UKCA							
Degree of protection (front only)			Against direct finger contact: IP20							
Ambient air temperature around the device	Storage	°C	-60...+80							
	Operational	°C	-25...+60							
Relative humidity			50% at 40°C							
Operating altitude			3000m without derating							
Pollution degree			3							
Mounting category			III							
Mounting type			Screw 35mm DIN rail					Screw 35mm or 75mm DIN rail		
Flame resistance			Current-carrying part: 850°C							
Operational Position ⁽¹⁾			Vertical mounting (±20°) 							

Note: ⁽¹⁾ The contactor should be installed and used in a place without significant shock or vibration.

Technical Data









Parameters			Model	UEC1-EK	UEC1-FK	UEC1-GK	UEC1-LK	UEC1-MK	UEC1-PK	UEC1-TK	UEC1-WK
			Main circuit								
AC-6b	I _n max		A	14.9	18.4	25	28.9	36.8	48.1	58.7	93.9
	Q _e	220V/230V	kvar	5.5	7	9.5	11	14	17	22	35
		400V/440V	kvar	10	12.5	16.7	20	25	33.3	40	65
		660V/690V	kvar	17	21	28.5	33	42	50	67	104
Built-in auxiliary contacts in the contactor body (standard type)			1NO+2NC								
Electrical endurance AC-6b/400V			cycles	200,000					150,000		
Max. electrical operating frequency			cycles/h	180					100		
Mechanical endurance			cycles	1,500,000					1,000,000		
Max. Mechanical operational frequency			cycles/h	500					500		
Coil control circuit, a.c. supply											
Rated control voltage U _c 50Hz/60Hz			V	24...415							
Control voltage range (Tested at room temperature and cold state)	Pick-up voltage		0.85U _s ...1.1U _s								
	Drop-out voltage		0.2U _s ...0.75U _s								
Max. Power consumption at 25°C (for reference)	Inrush	VA	63				63		105		200
	Sealed	VA	9.5				9.5		20		21

Technical Data

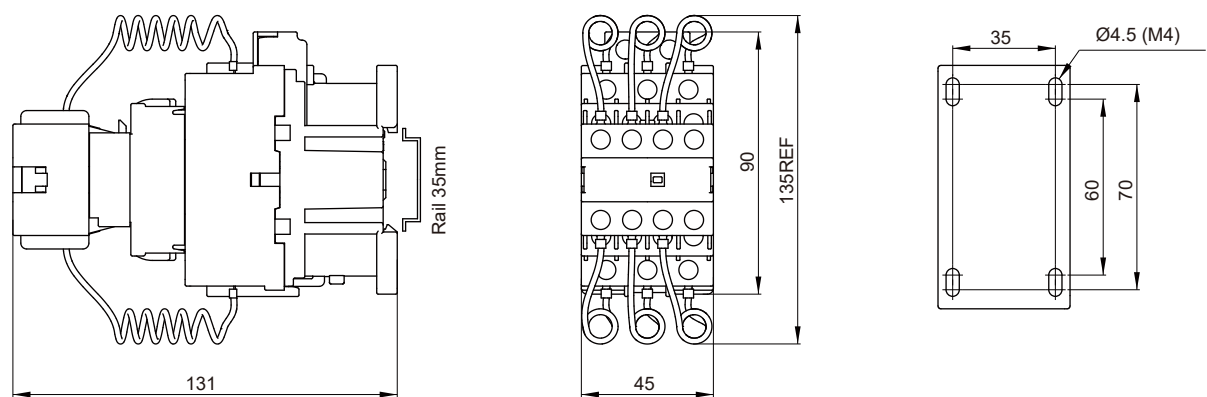
Parameters		Model	UEC1-EK...WK					
Built-in auxiliary contacts								
Max. rated operational voltage U _o		V	690					
Max. Insulation voltage U _i		V	690					
Min. Switching capacity	U _{min}	V	24					
	I _{min}	A	0.1					
A600 AC-15	Conventional enclosed thermal current I _{the}	A	10					
	Rated operational voltage U _o	V	120	240	380	480	500	600
	Rated operational current I _o	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 _o	V	125	250	—	400	500	600
	Rated operational current I _o	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					

Note: The mechanical endurance and electrical endurance in this catalogue are based on manufacturer's standard test condition. The actual application may vary due to the differences in environment, load, operational frequency and application equipment.

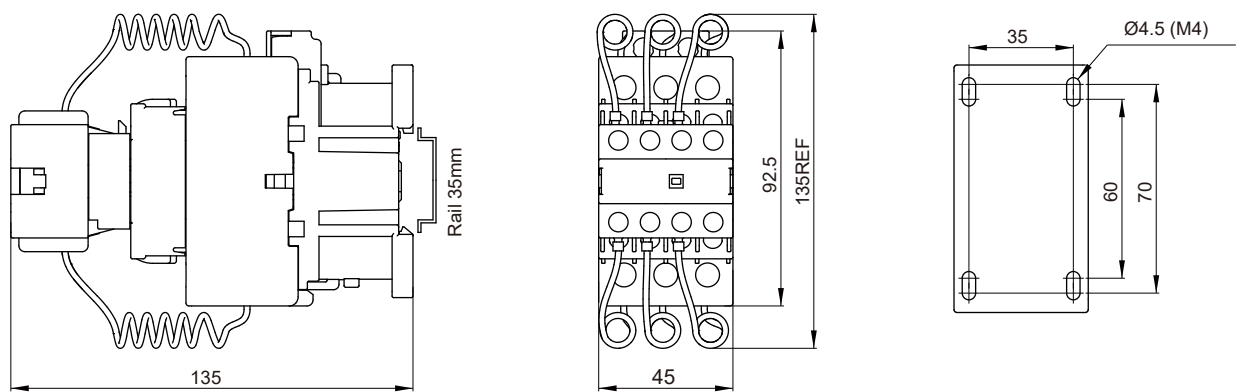
Technical Data

Parameters			Model	UEC1-EK	UEC1-FK	UEC1-GK	UEC1-LK	UEC1-MK	UEC1-PK	UEC1-TK	UEC1-WK
Power circuit connections											
<div>Solid cable without cable end</div> <div></div>	1 conductor	mm ²	1...6			1.5...10		2.5...35		4...50	
	2 conductors	mm ²	1...6			2.5...10		2.5...25		4...25	
<div>Flexible cable Without cable end</div> <div></div>	1 conductor	mm ²	1...6			2.5...10		2.5...35		4...50	
	2 conductors	mm ²	1...6			2.5...10		2.5...16		4...25	
<div>Flexible cable with cable end</div> <div></div>	1 conductor	mm ²	1...6			1.5...10		2.5...25		4...50	
	2 conductors	mm ²	1...4			1.5...6		2.5...16		4...16	
<div>Lugs</div> <div></div>	L max.	mm	9.6			12		—		—	
	l min.	mm	3.7			4.2		—		—	
<div>Screwdriver</div>	Cross (Philips)		N°2			N°2		—		—	
	Φ Flat screwdriver		Φ 6			Φ 6		—		—	
Hexagon head wrench			—			—		4		4	
Tightening torque (N·m)			1.5			2.5		5		9	
Coil circuit connections and Built-in auxiliary circuit connections											
<div>solid wire without cable end</div> <div></div>	1 conductor	mm ²				1...4					
	2 conductors	mm ²				1...4					
<div>Flexible wire without cable end</div> <div></div>	1 conductor	mm ²				1...4					
	1 conductor	mm ²				1...4					
<div>Flexible wire with cable end</div> <div></div>	1 conductor	mm ²				1...4					
	2 conductors	mm ²				1...2.5					
<div>Cable end</div> <div></div>	L max.	mm				8.1					
	l min.	mm				3.7					
<div>Screwdriver</div>	Cross (Philips)					N°2					
	Φ Flat screwdriver					Φ 6					
Tightening torque (N·m)						1.2					

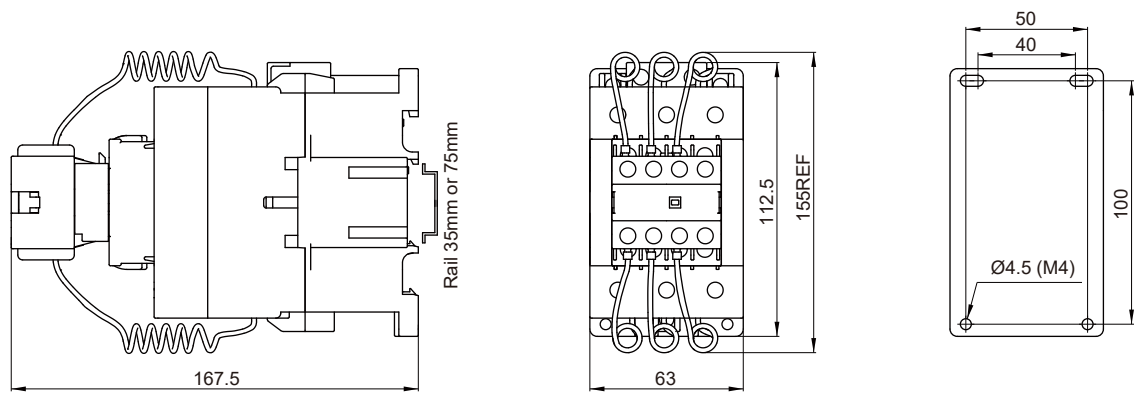
Dimensions



UEC1-EK, UEC1-FK, UEC1-GK

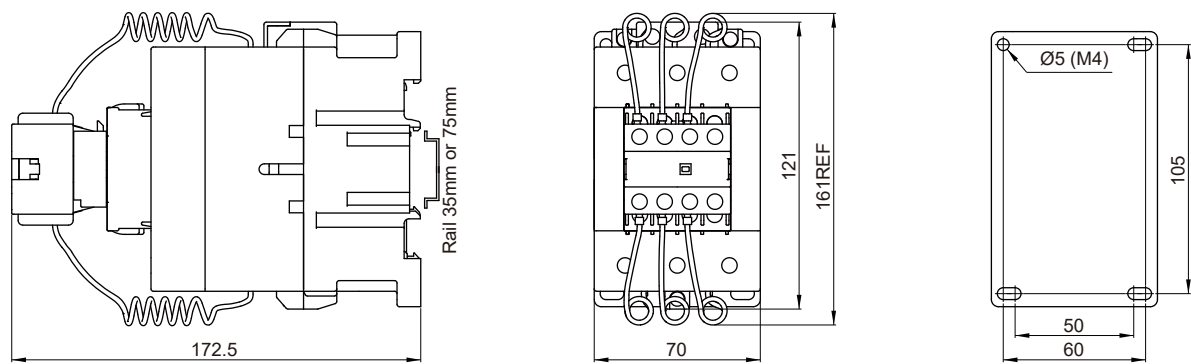


UEC1-LK, UEC1-MK



UEC1-PK, UEC1-TK

Dimensions





UEC1-WK

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




Circuit Diagram

<div>UEC1-EKC12</div> <div>UEC1-FKC12</div> <div>UEC1-GKC12</div> <div>UEC1-LKC12</div> <div>UEC1-MKC12</div> <div>UEC1-PKC12</div> <div>UEC1-TKC12</div> <div>UEC1-WKC12</div>	
<div>UEC1-EKC23</div> <div>UEC1-FKC23</div> <div>UEC1-GKC23</div> <div>UEC1-LKC23</div> <div>UEC1-MKC23</div> <div>UEC1-PKC23</div> <div>UEC1-TKC23</div> <div>UEC1-WKC23</div>	

Reference Selection Table

Rated power 50Hz/60Hz in category AC-6b			Number of poles	Built-in auxiliary contacts ⁽¹⁾		Coil control voltage ⁽²⁾ 50Hz/60Hz	Reference	Net weight (pc)
220V 230V kvar	400V 440V kvar	660V 690V kvar						kg
5.5	10	17	3	1	2	24	UEC1-EKC12B7	0.50
						110	UEC1-EKC12F7	
						220	UEC1-EKC12M7	
						380	UEC1-EKC12Q7	
				2	3	24	UEC1-EKC23B7	
						110	UEC1-EKC23F7	
						220	UEC1-EKC23M7	
						380	UEC1-EKC23Q7	
7	12.5	21	3	1	2	24	UEC1-FKC12B7	0.50
						110	UEC1-FKC12F7	
						220	UEC1-FKC12M7	
						380	UEC1-FKC12Q7	
				2	3	24	UEC1-FKC23B7	
						110	UEC1-FKC23F7	
						220	UEC1-FKC23M7	
						380	UEC1-FKC23Q7	
9.5	16.7	28.5	3	1	2	24	UEC1-GKC12B7	0.50
						110	UEC1-GKC12F7	
						220	UEC1-GKC12M7	
						380	UEC1-GKC12Q7	
				2	3	24	UEC1-GKC23B7	
						110	UEC1-GKC23F7	
						220	UEC1-GKC23M7	
						380	UEC1-GKC23Q7	
11	20	33	3	1	2	24	UEC1-LKC12B7	0.55
						110	UEC1-LKC12F7	
						220	UEC1-LKC12M7	
						380	UEC1-LKC12Q7	
				2	3	24	UEC1-LKC23B7	
						110	UEC1-LKC23F7	
						220	UEC1-LKC23M7	
						380	UEC1-LKC23Q7	
14	25	42	3	1	2	24	UEC1-MKC12B7	0.55
						110	UEC1-MKC12F7	
						220	UEC1-MKC12M7	
						380	UEC1-MKC12Q7	

Reference Selection Table (Continued)

Rated power 50Hz/60Hz in category AC-6b			Number of poles	Built-in auxiliary contacts ⁽¹⁾		Coil control voltage ⁽²⁾ 50Hz/60Hz	Reference	Net weight (pc)
220V 230V kvar	400V 440V kvar	660V 690V kvar				V		kg
14	25	42	3	2	3	24	UEC1-MKC23B7	0.55
						110	UEC1-MKC23F7	
						220	UEC1-MKC23M7	
						380	UEC1-MKC23Q7	
17	33.3	50	3	1	2	24	UEC1-PKC12B7	1.09
						110	UEC1-PKC12F7	
						220	UEC1-PKC12M7	
						380	UEC1-PKC12Q7	
			2	3	3	24	UEC1-PKC23B7	
						110	UEC1-PKC23F7	
						220	UEC1-PKC23M7	
						380	UEC1-PKC23Q7	
22	40	67	3	1	2	24	UEC1-TKC12B7	1.09
						110	UEC1-TKC12F7	
						220	UEC1-TKC12M7	
						380	UEC1-TKC12Q7	
			2	3	3	24	UEC1-TKC23B7	
						110	UEC1-TKC23F7	
						220	UEC1-TKC23M7	
						380	UEC1-TKC23Q7	
35	65	104	3	1	2	24	UEC1-WKC12B7	1.45
						110	UEC1-WKC12F7	
						220	UEC1-WKC12M7	
						380	UEC1-WKC12Q7	
			2	3	3	24	UEC1-WKC23B7	
						110	UEC1-WKC23F7	
						220	UEC1-WKC23M7	
						380	UEC1-WKC23Q7	

Note: (1) The auxiliary contacts above include the auxiliary contacts on the contactor body and one normally closed auxiliary contact (1NC) on the compensation block. Please consult the factory if other auxiliary contact combination requested.

(2) Coil control voltage code as followed (other coil versions on request).

Coil control voltage V a.c. (50Hz/60Hz)	24	36	42	48	110	115	127	220	230	240	380	400	415
Coil control voltage code	B7	CC7	D7	E7	F7	FE7	FC7	M7	P7	U7	Q7	V7	N7

Information for Use

- Operational temperature range in this catalogue refers to the maximum tolerable temperature range under specific load conditions.
- All the performance data listed in the datasheet are the initial values tested under standard testing condition.
- 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.
- We could not evaluate all the performance and all the parameters for every possible application and environment. This is why the user should be in a right position to choose the suitable produce for their own application. If there is any query, please contact Hongfa for the technical support. However, it is the sole user's responsibility to determine right part number to be used in their application.
- If the actual condition differs from this specification, please contact us for further discussion.

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HONGFA GROUP



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