



## HDCX AC Contactor

[www.himel.com](http://www.himel.com)

MOTOR MANAGEMENT

# HDCX AC Contactors

Standard: IEC60947-4



Range Presentation

HDCX is Himel X series range of contactors designed for Motor Control AC3 applications up to 38A .

HDCX contactors are applicable to DC power systems with rated operating voltage up to 220V.

HDCX contactors can be combined with HDRX thermal overload relays to form magnetic motor starters up to 38A.

- ◆ 2 frame sizes: 18A DC 38A DC
- ◆ Wide range of operating voltage from 80%~110% Us
- ◆ Full range of accessories for any type of application
- ◆ Can be combined with HDRX thermal overload relay

Selection Code

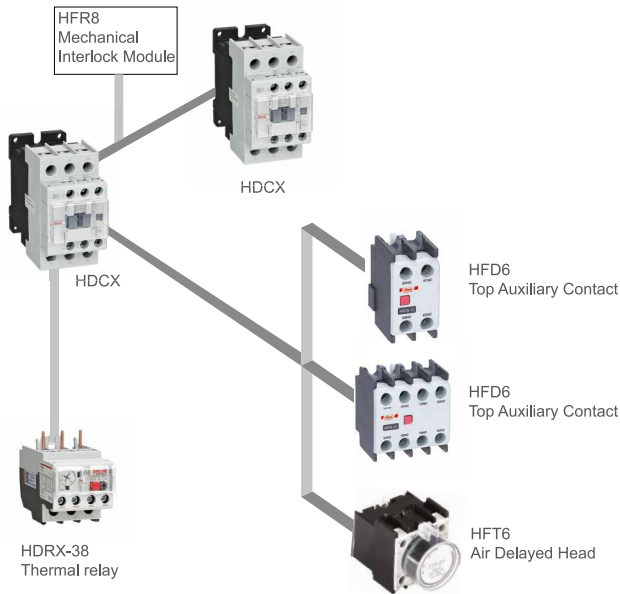
Range name	Current specification	Auxiliary contact	Coil voltage	Coil type
<b>HDCX</b>	<b>09</b>	<b>11</b>	<b>B</b>	<b>D</b>
09-38A	09:09A 12:12A 18:18A 25:25A 32:32A 38:38A	11: 1NO+1NC	B: 24V E: 48V F: 110V M: 220V	D: DC

Note:

The current specifications of DC operation products are only 38A at present, and the operating coils are B, E, F, and M specifications. 3P is a conventional pole number and is not indicated in the model number.

Overview of Accessories

HDCX 09-38A Accessories



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### Specification

Technical Parameter								
DC Coil Contactor			HDCX					
Contactor model			09	12	18	25	32	38
Main circuit characteristics								
Conversional thermal current(Ith)		A	25	25	32	40	50	50
Rated operational current(Ie)	AC-3 220/230V	A	9	12	18	25	32	38
	AC-3 380/400V	A	9	12	18	25	32	38
	AC-3 660/690V	A	6.6	8.9	12	18	22	22
Rated Operational Power(Pe)	AC-3 220/230V	kW	2.2	3	4	5.5	7.5	9
	AC-3 380/400V	kW	4	5.5	7.5	11	15	18.5
	AC-3 660/690V	kW	5.5	7.5	10	15	18.5	18.5
Mechanical durability		Million times	15					
Electrical durability	AC-3	Million times	1				0.8	
Operation frequency		Times/hour	1200				600	
Auxiliary(standard)			1NO+1NC					
Number of poles			3P					
Rated insulation voltage(Ui)		V	690					
Maximum rated operational voltage(Ue)		V	660/690					
Certificate			CB, CE, SEMKO					
Coil								
Rated control circuit voltage(Us)	DC	V	24, 48, 110, 220					
Allowable control circuit voltage(Us)	Operation	V	80%~110%					
	Drop-out	V	10%~70%					
DC coil power	Actuation	VA	6.5					
	Holding	VA	6.5					
Main circuit terminal wiring capability								
Soft wire	1 wire	mm²	1...4			1.5...10		
	2 wire	mm²	1...4			1.5...6		
Hard wire	1 wire	mm²	1...4			1.5...6		
	2 wire	mm²	1...4			1.5...6		
Auxiliary contact								
Conventional thermal current(Ith)		A	10					
Rated operational voltage(Ue)	AC	V	220/380					
	DC	V	220					
Rated control capacity	AC-15	VA	360					
	DC-13	VA	33					

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Technical Parameter							
DC Coil Contactors	HDCX						
Contactor model		09	12	18	25	32	38
Thermal relay							
HDRX thermal relay 0.1-38A	<div>  <div> HDX-38  P16: 0.1-0.16A  P25: 0.16-0.25A  .....  38: 30-38A </div> </div>						
Accessories							
Top auxiliary contact	<div>  <div> 2 Poles : HFD6-11, HFD6-20 , HFD6-02  4 Poles : HFD6-22, HFD6-31 , HFD6-13 , HFD6-40 , HFD6-04 </div> </div>						
Air delayed head	<div>  <div> Making time delay : HFT6-20 , HFT6-22 , HFT6-24  Breaking time delay : HFT6-30 , HFT6-32 , HFT6-34 </div> </div>						
Mechanical interlock	HDCX 09-38 horizontal installation: HFR8-38						

## MOTOR MANAGEMENT

# HDCX AC Contactors

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### Order Information

HDCX 09-38A

Motor power AC-3 380/400V(kW)	I <sub>e</sub> (A)	Auxiliary contact		Reference No
4	09	1	1	HDCX0911*
5.5	12	1	1	HDCX1211*
7.5	18	1	1	HDCX1811*
11	25	1	1	HDCX2511*
15	32	1	1	HDCX3211*
18.5	38	1	1	HDCX3811*

### HDCX 09-38A Contactor Accessories

Auxiliary contact

Installation position	Pole	Auxiliary Contact NO NC	Contact point layout	Reference
Top	2	0 2		HFD6 02
		1 1		HFD6 11
		2 0		HFD6 20
	4	0 4		HFD6 04
		1 3		HFD6 13
		2 2		HFD6 22
		3 1		HFD6 31
		4 0		HFD6 40
	3	1 2		HFD6 12
		2 1		HFD6 21



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Air Delayed Head

Installation Position	Delay type	Wiring diagram	Delay range	Reference
Top	Making time-delay		0.1-3s	HFT6 20
			0.1-30s	HFT6 22
			10-180s	HFT6 24
	Breaking time-delay		0.1-3s	HFT6 30
			0.1-30s	HFT6 32
			10-180s	HFT6 34



Mechanical Interlock

Horizontal installation		
Interlock method	Contact type	Reference
Mechanical interlock with electrical interlock	HDCX-09~38	HFR838HR

Motor Power

Motor power of HDCX (AC-4)

Product	Ith(A)	AC-4					
		Ie(A)			Pe(kW)		
		220/230V	380/400V	660/690V	220/230V	380/400V	660/690V
HDCX-09	25	3.5	3.5	1.5	0.6	1.5	1.1
HDCX-12	25	5	5	2	1.1	2.2	1.5
HDCX-18	32	7.7	7.7	3.8	1.5	3.3	3
HDCX-25	40	8.5	8.5	4.4	2.2	4	3.7
HDCX-32	50	12	12	7.5	3	5.4	5.5
HDCX-38	50	14	14	8.9	4	5.5	6

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# HDCX AC Contactors

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Motor power of HDCX (Reversible AC contactor)

Product	Ith(A)	AC-4					
		Ie(A)			Pe(kW)		
		220/230V	380/400V	660/690V	220/230V	380/400V	660/690V
HDCX-09	25	3.5	3.5	1.5	0.6	1.5	1.1
HDCX-12	25	5	5	2	1.1	2.2	1.5
HDCX-18	32	7.7	7.7	3.8	1.5	3.3	3
HDCX-25	40	8.5	8.5	4.4	2.2	4	3.7
HDCX-32	50	12	12	7.5	3	5.4	5.5
HDCX-38	50	14	14	8.9	4	5.5	6

## Star-Delta Stater

Contactor (HDCX-09~38)

Max. Starting Frequency: 30 times/h; Max. Starting Time: 30s						
Class AC-3 50Hz 3-Phase Electromotor Delta Connection		Contactor			Thermal Relay	
		Straight Connection	Delta Connection	Star Connection		
		KM2	KM3	KM1		
In (A)	IrD (A)	Type	Type	Type	Type	Setting Range (A)
3.5	2	HDCX-09	HDCX-09	HDCX-09	HDRX-38	1.8~2.5
5	3	HDCX-09	HDCX-09	HDCX-09	HDRX-38	2.5~3.6
6.6	4	HDCX-09	HDCX-09	HDCX-09	HDRX-38	3.5~4.8
8.5	5	HDCX-09	HDCX-09	HDCX-09	HDRX-38	4.5~6.3
11.5	7	HDCX-09	HDCX-09	HDCX-09	HDRX-38	5~7
15.5	9	HDCX-12	HDCX-12	HDCX-09	HDRX-38	9~12
18.5	11	HDCX-18	HDCX-18	HDCX-12	HDRX-38	11~15
22	13	HDCX-18	HDCX-18	HDCX-12	HDRX-38	11~15
30	17	HDCX-25	HDCX-25	HDCX-18	HDRX-38	14~18
37	21	HDCX-25	HDCX-25	HDCX-18	HDRX-38	18~25
44	25	HDCX-32	HDCX-32	HDCX-25	HDRX-38	23~32

HDCX AC Contactors

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Normal Installation And Operation Conditions

Standards

- ◆ IEC 60947-1 General rules
- ◆ IEC 60947-4-1 Contactors
- ◆ IEC 60947-5-1 Relays

Pollution class

- ◆ Class 3

Ambient temperature

- ◆ In normal operation, the ambient temperature range is between -5°C and +40°C , but average value in 24h is no more than +35°C ;
- ◆ Storage temperature: -25°C ~ +55°C ; a short time (24h) is allowed with maximum +70°C

Altitude

- ◆ Altitude at normal installation position does not exceed 2000m.

Humidity

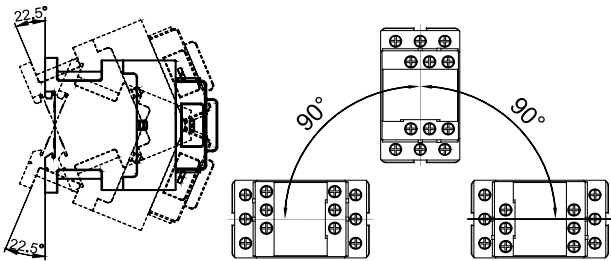
- ◆ The atmospheric relative humidity does not exceed 50% when the highest ambient temperature is +40°C. It is allowed to have a relative higher humidity under lower temperature, e.g. up to 90% at +20°C.
- ◆ For occasional dew due to the temperature change, preventive measures shall be taken.

Product protection grade

- ◆ IP20

Installation Conditions

- ◆ Installation type: III
- ◆ Installation position: should be installed in the absence of a significant shock and vibration place. The installation site shall be vertical , and inclination at all directions shall not exceed ±22.5°. When the coil control voltage is not lower than 85%Us, the inclination should be no more than ±30°.



Temperature Derating				
Ambient temperature(°C)	55°C	60°C	65°C	70°C
Correction factor	0.73	0.64	0.5	0.4

Altitude Derating				
Altitude(m)	2000	3000	4000	5000
Rated operational current coefficient	1	0.87	0.82	0.8
Rated impulse withstand voltage coefficient	1	0.9	0.7	0.6

## MOTOR MANAGEMENT

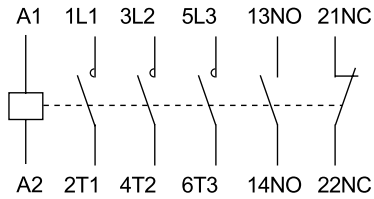
# HDCX AC Contactors

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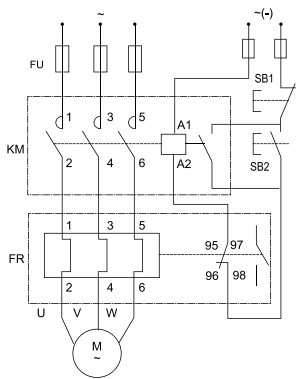


## Wiring Diagram

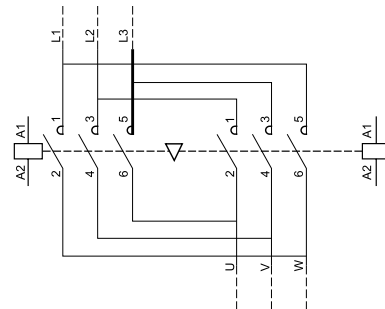
HDCX 09~38 with 1NO+1NC Auxiliary Contact



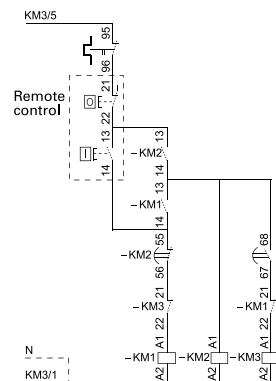
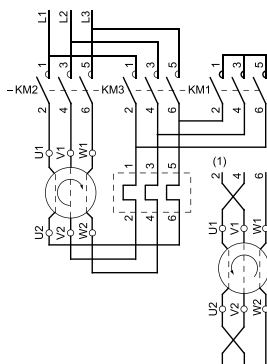
### DOL Control



### Reversible Control



### Star-Delta Control



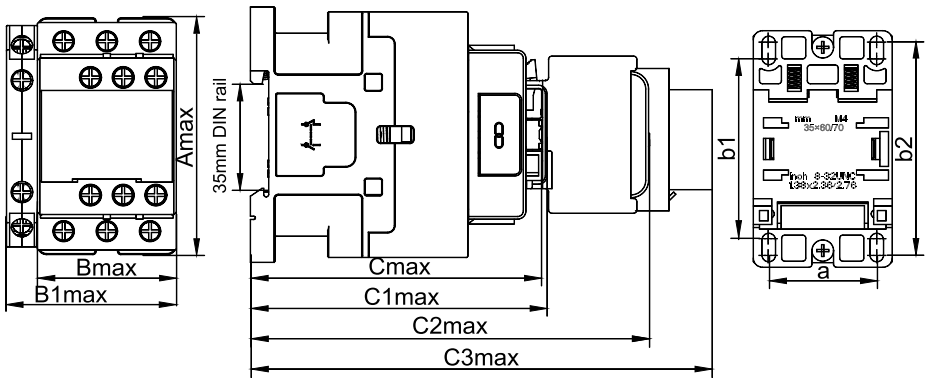
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Installation Dimensions

HDCX-09~38A



Overall Dimension of HDCX-09~38A DC Coil Contactor

Model	Amax	Bmax	B1max	Cmax	C1max	C2max	C3max
HDCX-09, 12, 18	79	45.5	-	97	98.5	130	155
HDCX-25, 32, 38	86.5	45.5	-	103	104.5	136	161

Note: B1max- Contactor+HC4 C1max- Contactor+Transparent cover C2max- Contactor+HFD6 C3max- Contactor+HFT6

Plate Installation Dimension of HDCX-09~38A DC Coil Contactor

Model	a	b1	b2
HDCX-09, 12, 18	35	69.6	70.4
HDCX-25, 32, 38	35	69.6	70.4

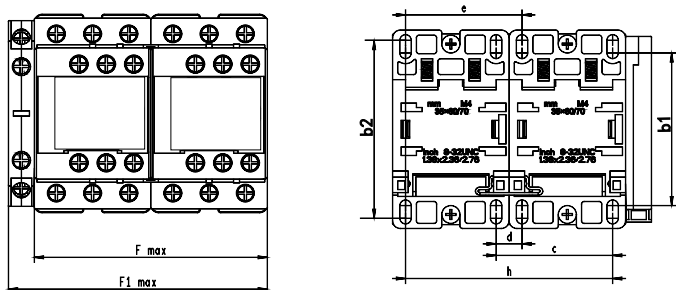
## HDCX AC Contactors

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### Installation Dimensions

HDCX-09~38A Reversible



### Overall Dimension of HDCX-09~38A Reversible Directional AC Contactor

Model	Fmax	F1max	b1	b2	c	d	e	h
HDCX-09, 12, 18	90	100	60	70	45±0.5	10±0.5	45±0.5	80±0.8
HDCX-25, 32, 38	90	100	60	70	45±0.5	10±0.5	45±0.5	80±0.8



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