

Global Leader



Innovative Technology

**Hi Series**

# Magnetic Contactor Thermal Overload Relay





# HiMC Series

## Reliability

The HiMC Magnetic Contactor series employs a modular design which allows quick and simple mounting of auxiliary contact blocks, timers, mechanical latching blocks, etc. HiMC provides convenience, economic benefit and high reliability.

## Solution

Superior design for industrial applications such as motor control centers, the HiMC contactor is appropriate to various control systems, and favored by shipyard and power plant; where high reliability and performance are the criteria.

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Significantly extended mechanical and electrical life through increased contact capacity.

Noise-free operation through the use of new materials and DC control method.

Free voltage in control power using electronic circuits.

New model with high performance and reliability.

Innovative Technology

# High Performance Magnetic Contactor



## Qualified Standards & Approvals

### Standards

- KS C4504
- IEC 60947
- EN 60947
- UL 508
- BS 47794, BS 5424, BS 4941
- VDE 0660
- Det Norske Veritas
- JISC 8328, JEM 1038

### Approvals

- UL / C-UL
- CE (Community European / TÜV Rheinland)
- ISO 14001, 9001

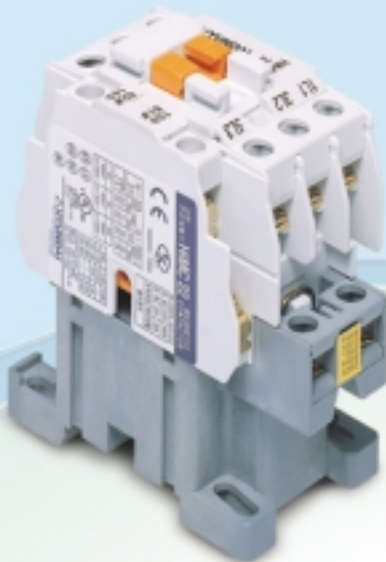
TYPE	CE	UL C-UL	KR	LR	ABS	BV	NK	TYPE	CE	UL C-UL	KR	LR	ABS	BV	NK
HiMC 9								HMX							
HiMC 12								HMT							
HiMC 18								HiTH 22K(H)							
HiMC 22								HiTH 40K(H)							
HiMC 32								HiTH 50K(H)							
HiMC 40								HiTH 90K(H)							
HiMC 50								HiTH 130K(H)							
HiMC 65								HiTH 220K(H)							
HiMC 80								HiTH 300K(H)							
HiMC 90								HiTH 500K(H)							
HiMC 110								HiTH 800K(H)							
HiMC 130								HAB							
HiMC 150								HAS							
HiMC 180								HAC							
HiMC 220								HiAL							
HiMC 260								HiAR							
HiMC 300															
HiMC 400															
HiMC 500															
HiMC 630															
HiMC 800															

Available    Testing    Not Applicable

# HiMC 9 ~ HiMC 50

## > Small Frame Size Contactor

- The electrical and mechanical lifetime of HiMC has been significantly extended.
- Both 50Hz and 60Hz are available.
- New materials prevent any generation of corroded substances, and the core enables noise-free status with the help of special anti-rust oil treatment.
- Various accessories can be attached easily.
- Terminal wiring is designed to meet IEC 60529 and protection degree of IP 20.
- By using clips, HiMC's coil can be replaced easily.



HiMC 22

HiMC

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Contactor

22

Type	Ampere	Type	Ampere	Type	Ampere
9	9A	65	65A	220	220A
12	12A	80	80A	260	260A
18	18A	90	90A	300	300A
22	22A	110	110A	400	400A
32	32A	130	130A	500	500A
40	40A	150	150A	630	630A
50	50A	180	180A	800	800A

\* Rated Motor Output (AC3) at 380/440V

## HiMC 65 ~ HiMC 800

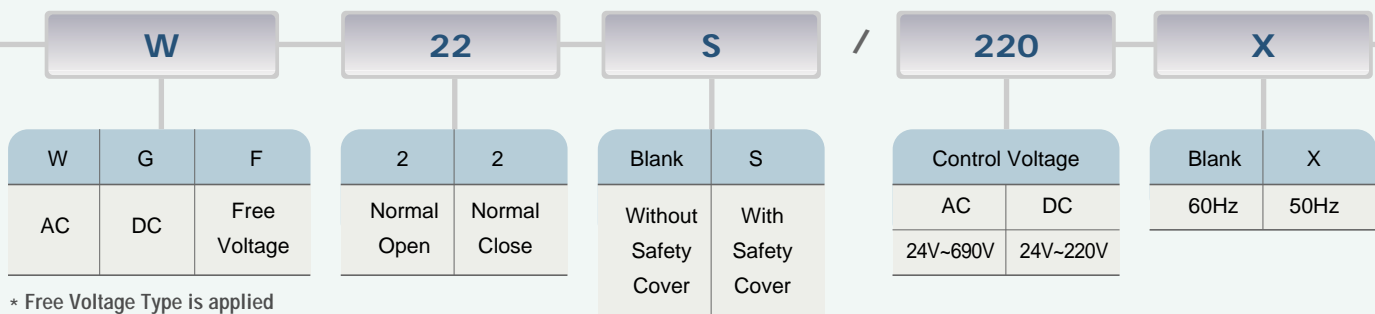
### > Large Frame Size Contactor

- The electrical and mechanical lifetime of HiMC has been significantly extended. The optimized design of the arc chamber minimizes contact erosion.
- HiMC contactor maintains noise-free operation through the DC-control method.
- Free voltage type HiMC contactor is available in both AC/DC and 50Hz/60Hz with an electronic circuit, which enables operation through severe voltage drop.
- HiMC contactors can be used in various environments by adopting special plastic(CTI/600 V) which has heat & waterproof characteristics.
- By adopting a cassette unit, the coil assembly can be replaced conveniently.
- As the cover of HiMC contactor can be easily opened, maintenance is very convenient.
- Two auxiliary contact blocks of 1NO+1NC can be attached to each side of HiMC, allowing auxiliary contacts to be added up to 4NO+4NC.



HiMC 130

HiMC 130



\* Free Voltage Type is applied from HiMC 65 to HiMC 800

# HiMC Series



## HiMC 9 ~ HiMC 800

TYPE			HiMC 9	HiMC 12	HiMC 18	HiMC 22	HiMC 32	HiMC 40	HiMC 50	HiMC 65	HiMC 80		
IEC 60947	Rated Insulation Voltage		V	750	750	750	750	750	750	750	750		
	Rated Operational Voltage		V	690	690	690	690	690	690	690	690		
	AC1(Ith)		A	20	20	25	32	50	50	70	100	110	
	AC3	kW/A	200-240 V	2.2/10	3.7/13	4.5/18	5.5/22	7.5/32	11/40	15/50	18.5/70	22/80	
			380-440 V	4/9	5.5/12	7.5/18	11/22	15/32	18.5/40	22/50	30/65	37/80	
			500-550 V	4/7	7.5/12	8.5/15	15/22	18.5/28	22/32	30/45	37/60	45/64	
			660-690 V	5.5/7	7.5/9	7.5/9	15/18	18.5/22	22/26	25/31	37/44	45/52	
		HP	1000 V	-	-	-	-	-	-	-	-	-	-
			200 V	2	3	5	5	10	10	15	20	25	
			230 V	2	3	5	7.5	10	10	15	20	30	
			460 V	5	7.5	10	15	20	30	40	50	60	
	AC4	A	200-240 V	8	11	15	18	22	25	35	50	55	
			380-440 V	6	9	9	13	17	24	32	47	52	
	Lifetime	Electrical(AC3)	x1,000	2,500	2,500	2,500	2,500	2,000	2,000	2,000	2,000	2,000	
		Mechanical	x1,000	25,000	25,000	25,000	25,000	15,000	15,000	10,000	10,000	10,000	
	Operating Times AC/DC	Closing	ms	15~25				15~25		14~25	50~65		
		Opening	ms	4~15				4~15		4~15	25~90		
	Operating Frequency per hour(AC3)		times	1000	1000	1000	1000	750	750	750	450	450	
	AC Making Capacity	220 VAC	A	100	130	180	220	320	400	500	700	800	
		480 VAC		90	120	180	220	320	400	500	650	800	
AC Breaking Capacity	220 VAC	A	80	104	144	176	256	320	400	560	640		
	480 VAC		72	96	144	176	256	320	400	520	640		
Continuous Current		A	20	20	25	32	45	50	65	80	90		
UL508 Max. HP	100-120 V	1-Ph	0.5/9.8	0.5/9.8	1/16	1.5/20	2/24	2/24	3/34	-	-		
	220-240 V	HP/A	1/8	1/8	3/17	3/17	5/28	5/28	7.5/40	-	-		
	220-240 V	3-Ph	2/6.8	3/9.6	5/15.2	5/15.2	10/28	10/28	15/42	20/54	25/68		
	440-480 V	HP/A	5/7.6	5/7.6	10/14	10/14	20/27	20/27	30/40	40/52	50/65		
Size			00		0		1		2				
NEMA Max. HP	115 V	1-Ph	0.33		1		2		3				
	230 V	HP	1		3		3		7.5				
	200 V	3-Ph HP	1.5		3		7.5		10				
	230 V		1.5		3		7.5		15				
	460/575 V		2		5		10		25				
Mounting Method			Screw & DIN-Rail						Screw				
Auxiliary Contact			1a1b	1a1b	1a1b	1a1b	2a2b	2a2b	2a2b	2a2b	2a2b		
Weight	AC	Kg	0.37	0.37	0.37	0.37	0.47	0.47	0.74	2.10	2.10		
	DC		0.68	0.68	0.68	0.68	0.77	0.77	0.77	2.15	2.15		
	A/DC									2.23	2.23		

The auxiliary contact of HiMC 50 for DC is 2a1b.

AC making and AC breaking capacity are 50 operations.

# Technical Data of HiMC Contactor

HiMC 90	HiMC 110	HiMC 130	HiMC 150	HiMC 180	HiMC 220	HiMC 260	HiMC 300	HiMC 400	HiMC 500	HiMC 630	HiMC 800
750	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
690	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
135	150	160	200	230	260	300	350	450	550	750	900
25/90	30/110	37/130	45/150	55/180	63/220	75/260	90/300	125/400	140/500	190/630	220/800
45/90	55/110	65/130	75/150	90/180	110/220	132/260	160/300	220/400	250/500	330/630	440/800
50/80	60/110	70/120	90/140	110/180	132/200	150/220	160/273	220/350	300/426	330/500	500/720
50/60	55/65	60/70	90/100	110/120	132/150	160/173	200/220	250/300	335/360	400/412	500/630
-	65/50	75/54	90/66	110/78	132/96	160/113	200/141	250/178	275/192	300/213	400/284
30	30	40	40	50	60	75	100	125	150	200	250
30	40	40	50	60	75	75	100	150	200	250	300
60	75	100	100	125	150	200	200	300	400	500	600
75	100	100	125	150	200	200	250	350	400	500	600
65	80	90	125	150	180	200	220	300	350	400	630
62	75	90	110	150	180	200	220	300	350	400	630
2,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	500	500	500	500
10,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
50~65	55~65		50~55			55~65		55~65		55~65	
25~90	55~65		42~55			45~65		45~65		45~65	
450	450	450	300	300	300	300	300	300	300	300	300
900	1100	1300	1500	1800	2200	2600	3000	4000	5000	6300	8000
900	1100	1300	1500	1800	2200	2600	3000	4000	5000	6300	8000
720	880	1040	1200	1440	1760	2080	2400	3200	4000	5040	6400
720	880	1040	1200	1440	1760	2080	2400	3200	4000	5040	6400
100	150	160	200	230	260	300	350	450	550	750	900
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
30/80	30/80	40/104	50/130	60/154	75/192	75/192	100/248	125/312	150/360	250/480	300/720
50/65	60/77	75/96	100/124	125/156	150/180	150/180	200/240	250/302	250/302	500/477	600/708
3			4				5			6	7
7.5			-				-			-	-
15			-				-			-	-
25			40				75			150	-
30			50				100			200	300
50			100				200			400	600
Screw											
2a2b	2a2b	2a2b	2a2b	2a2b	2a2b	2a2b	2a2b	2a2b	2a2b	2a2b	2a2b
2.10	2.95	2.95	5.45	5.45	5.45	7.05	7.05	14.50	14.50	26.55	26.55
2.15	3.00	3.00	5.60	5.60	5.60	7.20	7.20	14.60	14.60	26.55	26.55
2.23	3.23	3.23	5.67	5.67	5.67	7.40	7.40	14.60	14.60	27.55	27.55

## HMX / HMT Series



HMX

HMT

### > Ordering Information

<b>HMX</b>	<b>22</b>	/	<b>220</b>	<b>X</b>	
Control Relay	Number of Contacts			Operational Voltage	
AC : HMX	22	31	40	Blank	X
DC : HMT	2a2b	3a1b	4a	60Hz	50Hz
				AC 24 ~ 690V	
				DC 24 ~ 220V	

### > Auxiliary Block

Applying Type	Aux. Contact Block	Contact Composition	Remark
HMX / HMT	HAC 13	1NO + 3NC (2NO + 2NC) (0NO + 4NC)	Default Change Change
	HAC 40	4NO + 0NC	
	HAC 11	1NO + 1NC	
	HAC 02	0NO + 2NC	
	HAC 20	2NO + 0NC	



## > HMX & HMT Series Features

- HMX is for AC, and HMT is for DC.
- The protection degree is IP20.
- Screw and 35 mm DIN-Rail mounting are available.
- Both HMX and HMT have three contact types. (2NO+2NC, 3NO+1NC and 4NO)
- These are proper for control circuit and factory automation.
- The following auxiliary blocks can be attached by one-touch method.
  - Aux. contact block
  - Timer
  - Latching Block
  - Surge absorber(RC-Unit)

## > Applicable Standard

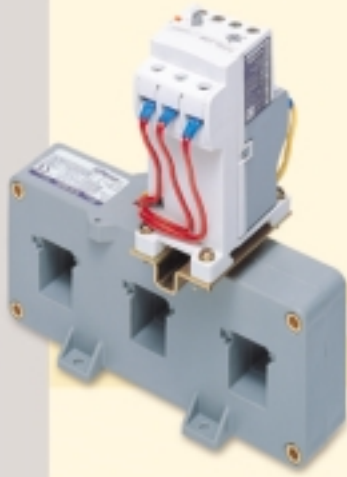
- IEC 60947-5-1
- UL 508
- VDE 0660
- CENELEC-EN 50011

## > Specification

Insulation class	IEC 60947	V	750
	VDE 0660	V	1000
Thermal Current I <sub>th</sub> (AC1)		A	20
Rated Operational Current I <sub>e</sub> (AC15)	220 V		10
	380 V		4
	440 V	A	3.5
	500 V		3
	600 V		2
Closing Time	AC Operated	ms	10 ~ 25
	DC Operated		20 ~ 50
Opening Time	AC Operated	ms	5 ~ 20
	DC Operated		15 ~ 35
Mechanical Lifetime		1,000 times	15,000
Electrical Lifetime		1,000 times	500
Wire Size		mm <sup>2</sup>	2 x 0.75...2.5
Operation Frequency		Times/Hour	3000
Applicable Max. Fuse	Plug-fuse(Fast/Slow)		35/25
	MCB-C Features	A	16
	HRC Fuse(DIN/BS88)		25

## > DC Breaking Current

L / R = 15 ms	60 V		80
	110 V	A	9
	220 V		1.5
L / R = 40 ms	60 V		67
	110 V	A	7
	220 V		0.8



HiTH 40K(H)



HiTH 50K(H)



HiTH 90K(H)

HiTH 130K(H)

## HiTH Selection Table

### > Technical Data / Specification

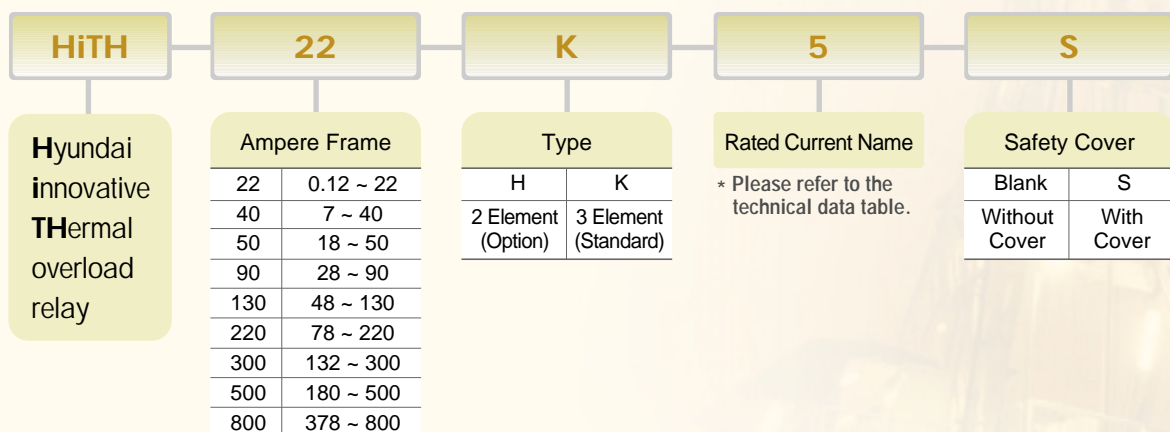
		HiTH 22K(H)	HiTH 40K(H)	HiTH 50K(H)	HiTH 90K(H)
Applicable Contactor		HiMC 9 ~ 22	HiMC 32 ~ 40	HiMC 50	HiMC 65 ~ 90
Rated Current Name		Allowable Scope of Current			
0.18		0.12 ~ 0.18	-	-	-
0.26		0.18 ~ 0.26	-	-	-
0.35		0.25 ~ 0.35	-	-	-
0.5		0.34 ~ 0.5	-	-	-
0.7		0.5 ~ 0.7	-	-	-
0.9		0.6 ~ 0.9	-	-	-
1.2		0.8 ~ 1.2	-	-	-
1.6		1.1 ~ 1.6	-	-	-
2.1		1.5 ~ 2.1	-	-	-
3		2 ~ 3	-	-	-
4.2		2.8 ~ 4.2	-	-	-
5		3 ~ 5	-	-	-
6		4 ~ 6	-	-	-
8		5.6 ~ 8	-	-	-
10		7 ~ 10	7 ~ 10	-	-
13		9 ~ 13	9 ~ 13	-	-
18		12 ~ 18	12 ~ 18	-	-
22		16 ~ 22	16 ~ 22	-	-
26		-	18 ~ 26	18 ~ 26	-
32		-	24 ~ 32	24 ~ 32	-
40		-	28 ~ 40	28 ~ 40	28 ~ 40
50		-	-	36 ~ 50	36 ~ 50
65		-	-	-	45 ~ 65
80		-	-	-	60 ~ 80
90		-	-	-	70 ~ 90
Element Number	2 Heaters	H type (Option)			
	3 Heaters	K type (Standard)			
Aux. Contact		1a1b			
Reset Type		Manual / Automatic reset			
Phase Fault Protection		K type Only (Standard)			
Suitable Wire (mm <sup>2</sup> )	Main Circuit	1 ~ 6	2 ~ 14	2 ~ 22	2 ~ 35
	Control Circuit	2 x 0.75 ~ 2.5			
Weight (Kg) K type / H type		0.17 / 0.16	0.23 / 0.22	0.28 / 0.27	0.53 / 0.51

Net Weight.

	HiTH 130K(H)	HiTH 220K(H)	HiTH 300K(H)	HiTH 500K(H)	HiTH 800K(H)
Applicable Contactor	HiMC 110 ~ 130	HiMC 150 ~ 220	HiMC 260 ~ 300	HiMC 400 ~ 500	HiMC 630 ~ 800
Rated Current Name	Allowable Scope of Current				
80 (CT Ratio - 80 : 5)	48 ~ 80	-	-	-	-
130 (CT Ratio - 130 : 5)	78 ~ 130	78 ~ 130	-	-	-
180 (CT Ratio - 180 : 5)	-	108 ~ 180	-	-	-
220 (CT Ratio - 220 : 5)	-	132 ~ 220	132 ~ 220	-	-
300 (CT Ratio - 300 : 5)	-	-	180 ~ 300	180 ~ 300	-
400 (CT Ratio - 400 : 5)	-	-	-	240 ~ 400	-
500 (CT Ratio - 500 : 5)	-	-	-	300 ~ 500	-
630 (CT Ratio - 630 : 5)	-	-	-	-	378 ~ 630
800 (CT Ratio - 800 : 5)	-	-	-	-	480 ~ 800
Features	CT Assembly				
Element Number	2 Element	H type (Option)			
	3 Element	K type (Standard)			
Aux. Contact	1a1b				
Reset Type	Manual / Automatic reset				
Phase Fault Protection	K type Only (Standard)				
Suitable Wire (mm <sup>2</sup> )	Main Circuit	-	-	-	-
	Control Circuit	2 x 0.75 ~ 2.5			
Weight (Kg) K type / H type	1.65 / 1.3	1.85 / 1.49	1.94 / 1.59	2.25 / 1.88	5.74 / 4.62

Net Weight.

## > Ordering Information





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