

HCF500 DIRECT CURRENT RELAY



Features:

- Ceramic seal structure, filled in H₂ mixed gas, resist contacts oxidation , the contact resistance is low and stable
- A group of normally open auxiliary contacts built in
- High resistance to short circuit
- No polarity requirement on loading
- Ceramic seal structure with magnetic blow-out technology, realize zero arc, assure use safety and reliability
- Carrying current 500A continuously at 85°C
- Full compliance with RoHS requirements

Product Model

	H	C	F	500	□	/	1000	-	12	H	C	1	H	-	()
HC Company Code															
Series Code	F: Square Series														
Contact Rating (Rated Current)	500: Rated Current 500A														
Derivative Model	Nil: Basic Model														
Load Voltage	450: 450VDC; 800: 800VDC; 1000: 1000VDC 1500: 1500VDC														
Coil Voltage	12:12VDC; 24:24VDC; 48:48VDC														
Main Contact Type	H: SPST-NO														
Coil Input Terminal	L: Lead Wire; C: Connector; E: Lead Wire + Connector														
Load Input Terminal	1: Screw Terminal Female; 2: External Thread														
Auxiliary Contact	Nil: No Auxiliary Contact; H: SPST-NO														
Mounting	Nil: Vertical Mounting; Y: Horizontal Mounting														
Special Code	XXX: Customer Special Code; Nil: Standard														

CHARACTERISTIC PARAMETER

MAIN CONTACT DATA

Max. Switching Voltage	1500VDC
Rated Current	500A
Contact Arrangement	SPST-NO
Contact Voltage Drop	≤0.1V (at 500A)
Limiting Short-time Current ^①	700A:10min; 1000A:150s; 2000A:5s; 4000A:0.4s
Electrical Life(Resistive Load)	500A 450VDC 2000ops 500A 800VDC 800ops 500A 1000VDC 200ops
Max. Breaking Current(Resistive Load)	3000A 750VDC 1ops
Short-Circuit Current	8000A(10ms) No Smoke Or Fire

AUXILIARY CONTACT DATA

Auxiliary Contact	Optional
Auxiliary Contact Arrangement	SPST-NO
Auxiliary Contact Current Range	100mA/8VDC~2A/30VDC

COIL DATA^②

Rated Voltage	12VDC	24VDC	48VDC
Pick-up Voltage	≤9VDC	≤18VDC	≤36VDC
Drop-out Voltage	≥1.2VDC	≥2.4VDC	≥4.8VDC
Rated Operate Power	Approx 56W(Start); 5.4W(Hold)	Approx 56W(Start); 5.4W(Hold)	Approx 56W(Start); 5.4W(Hold)
Max. Allowable Voltage	16VDC	32VDC	64VDC

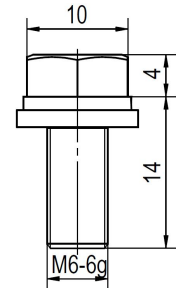
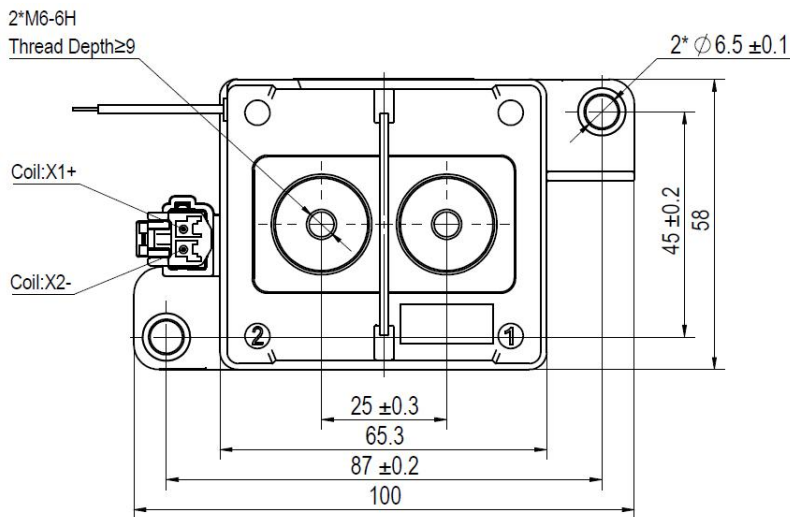
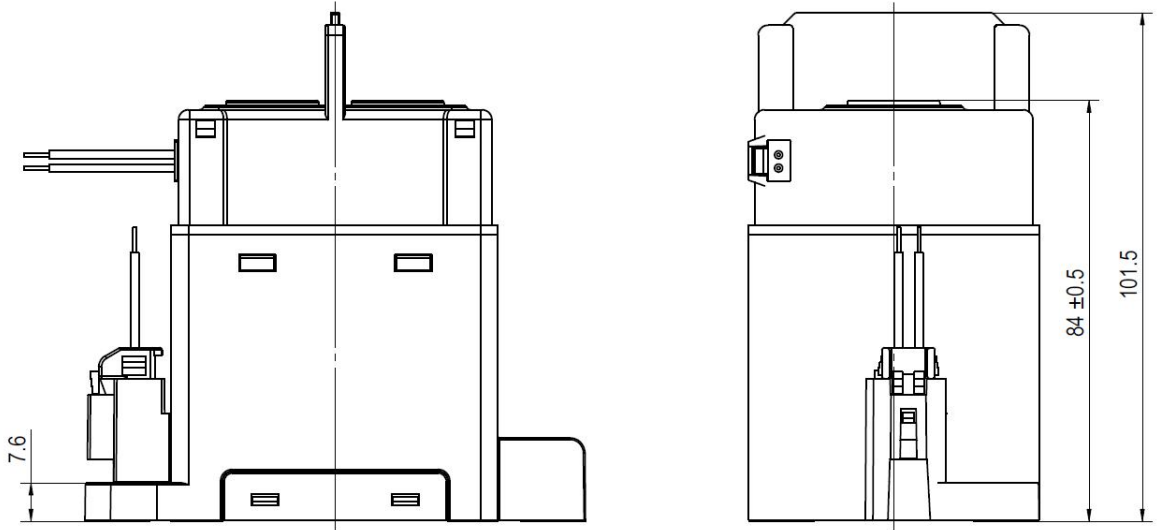
CHARACTERISTICS^③

Dielectric Strength	Between Contacts And Coil	4000VAC 1min
	Between Open Contacts	3000VAC 1min
Insulation Resistance	Between Contacts And Coil	1000MΩ(1000VDC)
	Between Open Contacts	1000MΩ(1000VDC)
Shock Resistance	Functional	20G Half-Sine Wave 11ms
	Destructive	50G Half-Sine Wave 6ms
Vibration Resistance	Functional	5.79G(10~2000Hz,Random)
Operate Time		Max:30ms
Release Time		Max:10ms
Mechanical Life		2*10 ⁵ ops
Weight		Approx 700g

Remark:

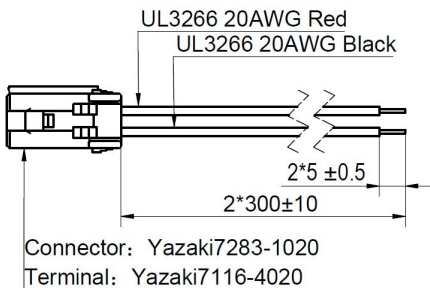
- ① Loading current capability test under 200mm² sectional area cable
- ② Product work data test under 23 °C
- ③ Characteristics data test under 23°C except vibration resistance; vibration resistance tested under -40~85 °C; dielectric strength is 2500VAC min, insulation resistance is 50MΩ min after reliability test
- ④ Unless special explain, electrical life test break-make ratio is 0.6s:5.4s

OUTLINE DIMENSIONS **HCF500/□ □ □ -HC1H**

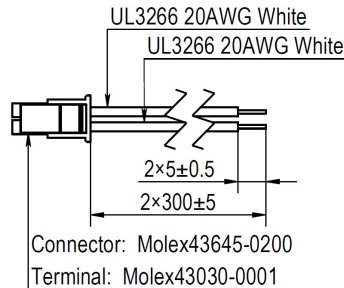


Combination Screw(Optional)

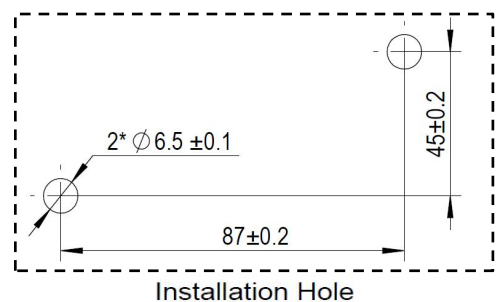
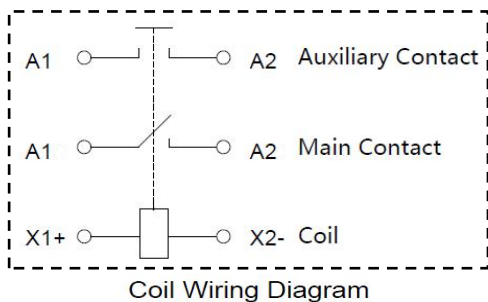
Coil Connector:



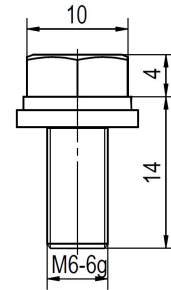
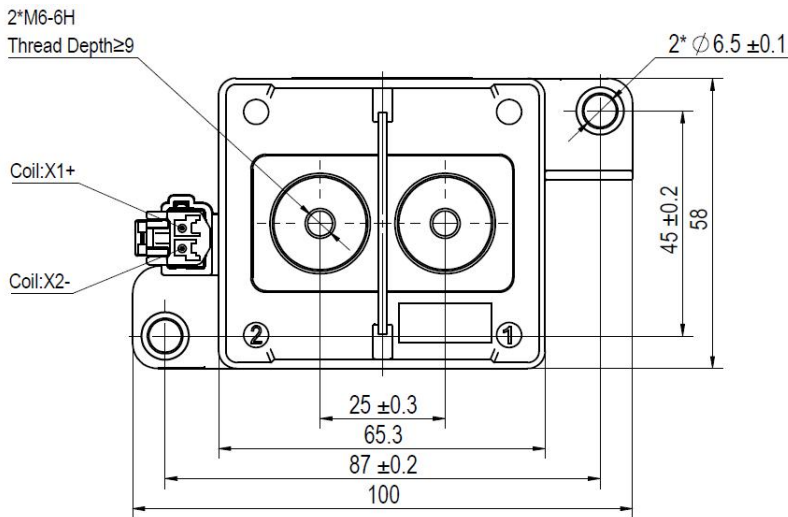
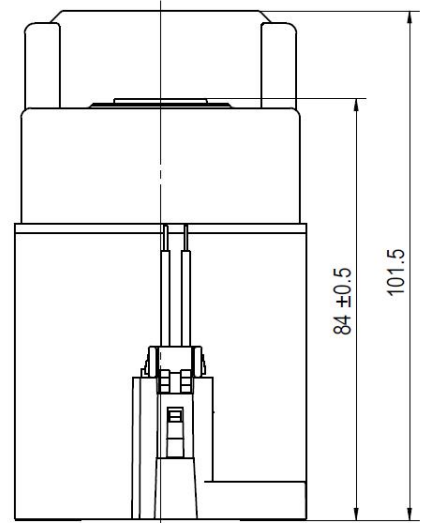
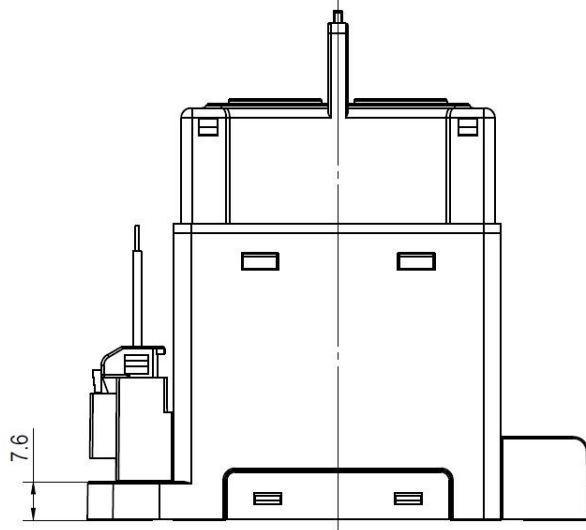
Auxiliary Contact Connector:



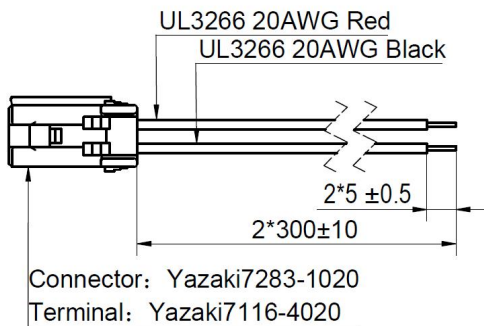
General Tolerance:
 <10mm: ±0.3mm
 10~50mm: ±0.5mm
 >50mm: ±0.8mm



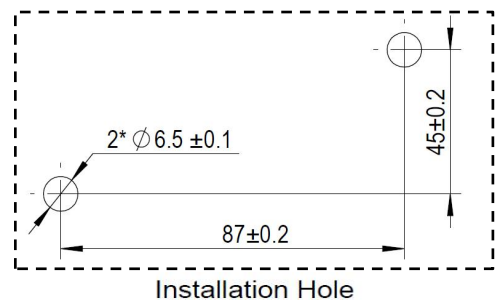
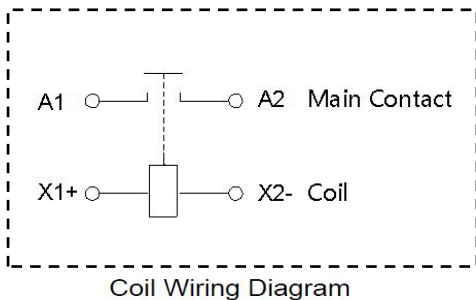
OUTLINE DIMENSIONS **HCF500/□ □ □ -HC1**



Combination Screw(Optional)

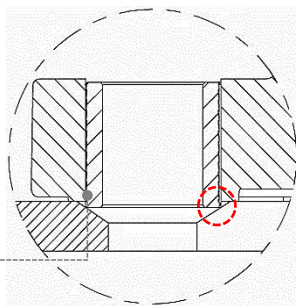


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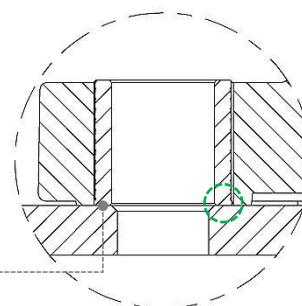


CAUTIONS

1. Please avoid installing in strong magnetic fields (transformers, magnets around) or hot objects
2. Use the environment temperature $-40\text{ }^{\circ}\text{C}\sim+85\text{ }^{\circ}\text{C}$, humidity 5%~85% RH
3. The coils of the relay are polarized, so follow the connection schematic when connecting the coils
4. The relay has a built-in one-shot pulse generator circuit, please drive the coil with a quick startup; after the signal enters relay, automatic coil current switching occurs after approximately 300ms. please avoid repetitive switching which interval time is less than 300ms
5. Electrical life test under $L/R \leq 1\text{ms}$ condition
6. During electrical life test, coil didn't link surge prevent device, please be attention, if parallel diode on coil will increase relay release time and decrease relay life
7. Please avoid the adhesion of oil and other foreign material on the lead sheet. Please use the cable with 200mm^2 or above, otherwise it may cause the abnormal fever in the lead-out part
8. In order to prevent loosening, please use the washer screw to lock when the relay is installed, and the screw locking torque of each part should be controlled in the following range:
 - a) Relay shell installation department
Recommend M6 screw: 6N.m~8N.m
 - b) Main loading installation part
Recommend M6 screw: 6N.m~8N.m
9. When screw installation, depth of match should not be too shallow, otherwise may lead to screw loose, recommend 2/3 of length of thread at least
10. Relay installation baseboard hole can't be chamfered too much, recommend $\text{Ø}6.5\text{mm}$, otherwise relay shell bushes will loose, please refer to below pictures



Baseboard hole chamfering too much, bushes loose



Baseboard hole chamfering suitable, bushes steady