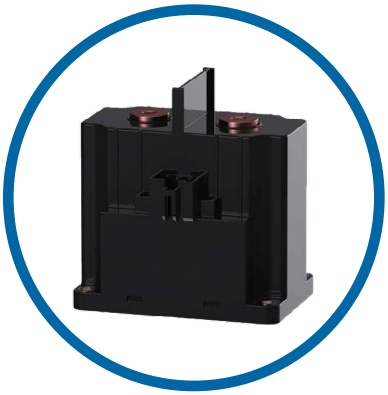
GCB500 1500VDC/500A BIDERCTIONAL CONTACTORS

HIGHT VOLTAGE DC CONTACTORS



Features

- Silver-plated contacts and moveable blades with IP67 protection; Contact resistance less than 0.1 milliohms resulting in low heat generation.
- Sealed nitrogen design which quickly cools arcs; Enhanced magnetic blowout design enabling rapid disconnection of DC loads.
- Dust-free vacuum production environment; Special glue filling and curing processes ensuring product quality and enhancing production efficiency.
- Full Certificates: UL/CE/RoHS/Reach Compliant.

SPECIFICATIONS

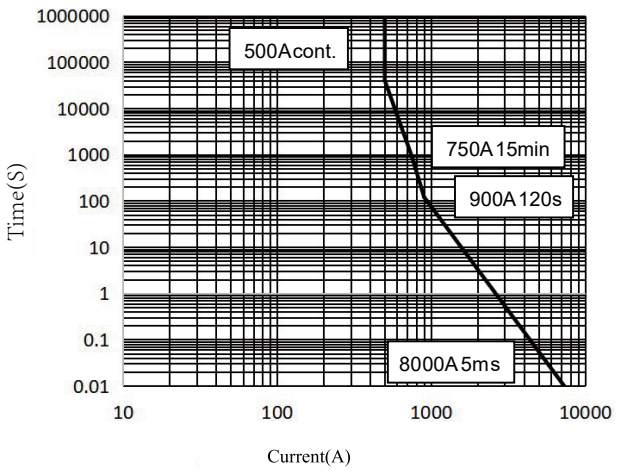
Product Family			GCB500 Series
Electric Type		Main Contacts Arrangement	SPST-NO
		Media Type when Cutting-off	Inactive Gas
		Auxiliary Contacts	SPST-NO
Main Contacts Related Parameters & Limits		Main Contacts Polarity	Without Polarity
		Rated Voltage	1500Vdc
		Rated Current	500A
		Contact Resistance	≤0.1 mΩ(@In=500A)
		Max Break Current, 1 cycle	1000Vdc/2000A
		Operate Time (at 20°C)	50ms Max.
		Release Time(at 20°C, Arc extinguishing included)	30ms Max.
Auxiliary Contacts Related Parameters			12Vdc/100mA (12Vdc/6mA Min)
Endurance		Mechanical Life	300,000 Cycles
		Electric Life	1500V/500A 100 Cycles 1000V/500A, 1,000 Cycles
Dielectric Parameters	Insulation Resistance	Between Main Contacts	1,000MΩ (@1,500Vdc 1 min)
		Between Contacts and Coil	
		Between Main Contacts and Auxiliary Contacts	
	Dielectric Strength	Between Main Contacts	5,375 Vac 1 min, Leakage Current ≤1mA
		Between Contacts and Coil	
		Between Main Contacts and Auxiliary Contacts	
Mechanical Parameters		Shock, 1/2 Sine	20G peak, 11ms, 1/2 sine wave (coil powered)
		Vibration, Sine	5G peak, 10 - 55Hz, sine wave
Environment		Operating Ambient Temperature	-40˚C ~ +85˚C
		Operating Ambient Humidity	5% ~ 85% RH
		Altitude	≤4000m
Weight			Approx. 1,050g

COIL

Nominal Voltage (Vdc)	12	24
Range of Working Voltage (Vdc)	0.85Us ~ 1.1Us	
Pick-up Voltage (at 20°C) (Vdc)	≤9	≤18
Drop-out Voltage (at 20°C) (Vdc)	≥1.2	≥2.4
Coil Power (W)	Pick-up ~50W / Holding ~5W	
Holding Current (A)	Pick-up ≤4.2 / Holding ≤0.42	Pick-up ≤2.1 / Holding ≤0.21

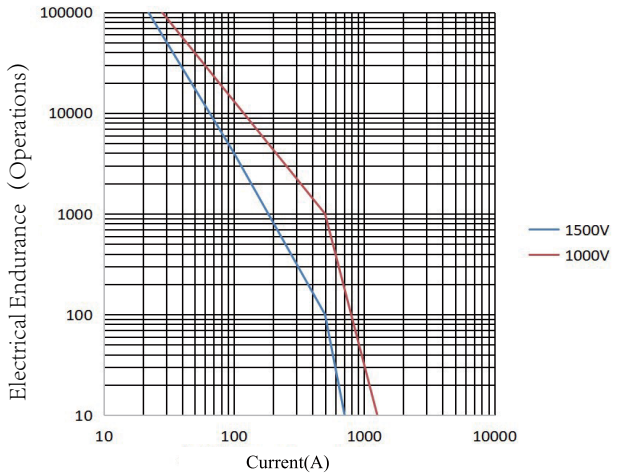
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CURRENT ENDURANCE CURVE



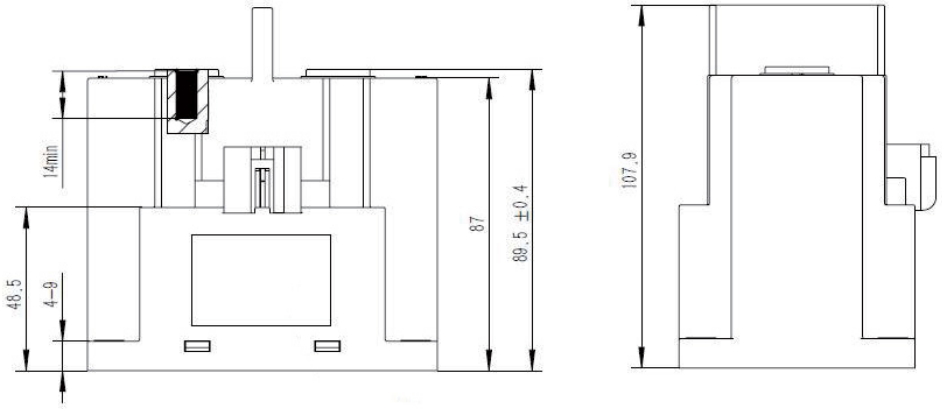
The above data was measured at the temperature of 85°C with the lead that cross-sectional area ≥ 240mm². The data is for reference only and should not be used directly to select the fuse.

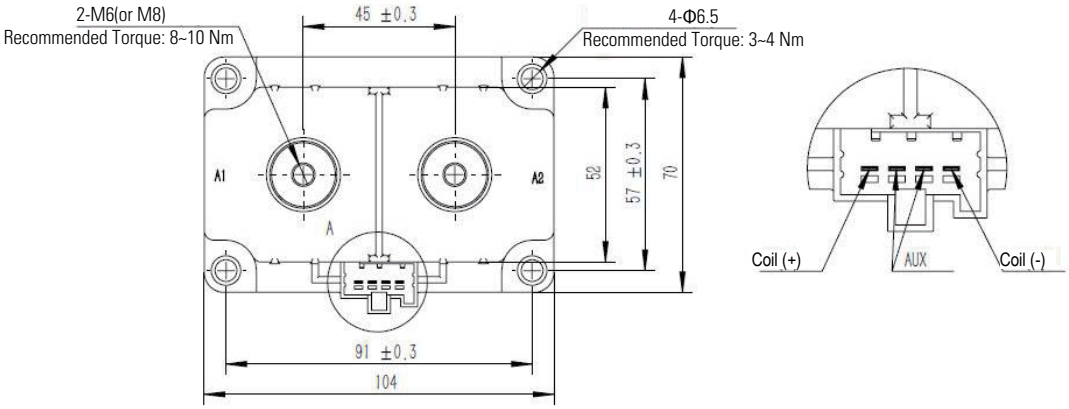
ELECTRIC LIFE CURVE



1, The rated electrical life of the product is based on the resistance load test.
2, The figure above is drawn according to the estimation of test and inferred data, and it is recommended that users test and confirm according to the actual use of the line.

DIMENSIONS





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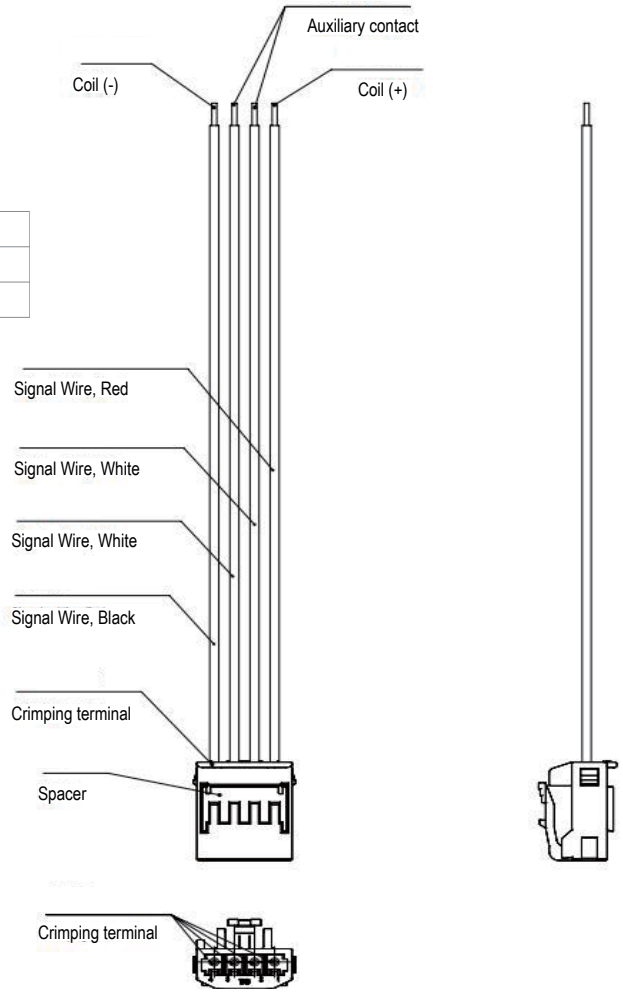
Hecommended connector:

①THB connector:0488701

②Yazaki connector:7283-1044

Supplier	Signal Wire	Female housing	Spacer	Crimping terminal
THB 0488701	UL 3266 20AWG	0488702	0488703	0117505
Yazaki7283-1044	UL 3266 20AWG	7283-1044	7157-4012	7116-4020

Note: connector are optional parts.



ORDERING OPTIONS

Example Part Number: GCB501BB-1

GCB50 - 1 - B - B - 1

Family

GCB500

Mounting

1= Upright

Coil Voltage

B= 12 Vdc, Dual coils
C= 24Vdc, Dual coils

Auxiliary Contacts

B= SPST-NO Normally Open

Main Terminal Size

1= M8
2= M6

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INSTALLATION, WIRING AND USAGE

Installation of Contactor

1. The screw locking torque of each part should be controlled within the following or the specified range agreed by both parties, and in the case of exceeding the range, it may cause damage.
2. After the contactor accidentally falls to the ground, even if the electrical properties have not changed, the mechanical parameters will definitely change, which may make the contactor unable to meet the performance specifications, and even cause other damage, electric shock or fire.
3. When installing the contactor body with screws, ensure that flat washers and spring washers are used to guarantee installation strength. It is also recommended-to use shims at the bottom for optimal torque.

Circuit Wiring

1. When using L/R>1ms inductive load (L-load), parallel surge devices are recommended. Failure to take measures may result in shortened electrical life and poor cut-off.
2. Be sure to install correctly in accordance with the polarity requirements indicated in the label of each product housing, as connecting the terminals in the opposite direction may cause accidents such as overheating of the contactor and fire.
3. When installing the busbar, do not apply excessive load to the terminals, otherwise it may cause a failure of on-off performance. When powering on, before installation, maintenance, and troubleshooting, the power supply of the contactor and the connector, socket and other connecting parts should be cut off in advance.

Time interval of contactor action

For the repetitive action of the contactor, the interval between its actions should be fully considered. To avoid malfunction, it is recommended that the time interval between the two actions of the contactor should be greater than 0.5s.

WARNINGS



RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product may become hot during operation. Allow the product to cool before touching.
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.



HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Disconnect all power before installing or working with this product
- Verify all connections are secure and reinstall all safety covers before turning on power.

Failure to follow these instructions will result in death or serious injury.

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