High Voltage DC Contactor

CBVC8 SERIES DC CONTACTOR

PRODUCT FEATURES

Type	CBVC8V-500E
Outline Dimensions	See5.1
Unit Weight	Approx.400±15g
Seal type	Ceramic seal
Main contact Arrangement	1 Form A
Auxiliary contact Arrangement	1 Form A

●ORDERING INFORMATION

CBVC8V - 500E / 1000 – 24D - H A C 5 (XXX)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

①	Type	CBVC8
②	Application	V： Vehicle
③	Lode Current	500：500A
④	Series Breakdown	E：E series
⑤	Lode Voltage	750：750 Vd.c. 1000：1000 Vd.c.
⑥	Coil Voltage	12D：12 Vd.c. Double coil 24D：24 Vd.c Double coil
⑦	Main contact Type	H：—1 Form A
⑧	Auxiliary contact Arrangement	A：—1 Form A
⑨	Coil Termination	C： Connector
⑩	Load Termination	5： Bolt terminal Female
⑪	Special Code	Customer demand (Only for special requirements)

COIL RATING

Rated Voltage（Vd.c.）	12	24
Driving Mode	Dual-coil	Dual-coil
Max. Operating Voltage（Vd.c.）	18	36
Operate Voltage (Vd.c.) (at 23 ℃)	≤9	≤18
Operate Voltage (Vd.c.) (at 23 ℃)	≥1.2	≥2.4
	Driving：	Driving：
Coil Resistance (Ω) （at 23 ℃）	4×(1±7%) Holding：	16×(1±7%) Holding：
	24×(1±7%)	96×(1±7%)
Rated Power (W) (at 23 ℃)	Driving Power：Approx 36 Holding Power：Approx 6	

SPECIFICATION

Main contact Specification	Contact Rating	500 A （≥200 mm^2 wire）
	Working Voltage Range	12~1000V
	Max. Breaking Current	2000A 1000Vd.c. (1 op)
	Min. Applicable Load	6 Vd.c. 1 A
	Contact Resistance	≤0.3 mΩ (at 500A 23℃)
	Current Endurance （85℃，200 mm^2）	500A out 600A 120s 900A 30s 1000A 10s
	Operate Time	≤30 ms
	Release Time	≤10 ms
	Bounce Time	≤5 ms

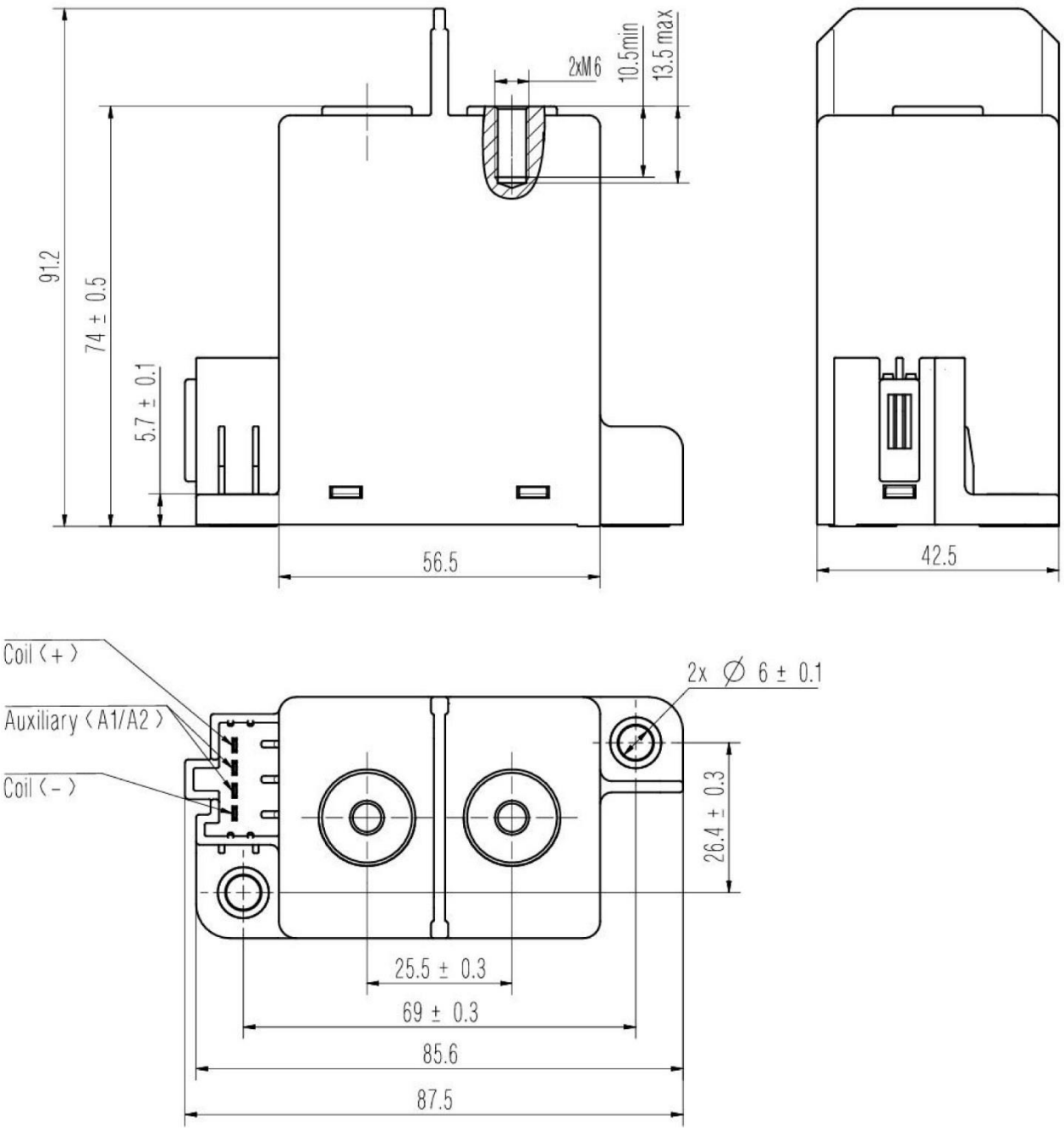
Aux contact Specification	Contact Resistance	≤150mΩ (at 1A 23℃)	
	Contact Rating	6 Vd.c. 0.1 A	
	CBVC8V-500E/750 (23℃, 0.6s on : 5.4s off)	Breaking : 200A 800Vd.c. 1000 ops Breaking : 400A 800Vd.c. 200 ops Breaking : 500A 800Vd.c. 100 ops Breaking : 2000A 1000Vd.c. 1 op	
Electrical Endurance	CBVC8V-500E/1000 (23℃, 0.6s on : 5.4s off)	Breaking : 200A 1000Vd.c. 500 ops Breaking : 400A 1000Vd.c. 200 ops Breaking : 500A 1000Vd.c. 100 ops Breaking : 2000A 1000Vd.c. 1 op	
	Anti-short circuit	8000A 5ms With no fire or explosion	
Mechanical Endurance	23℃, 0.5s on : 0.5s off	2×10^5 ops	
		Between main open contacts	Initial : ≥1000MΩ(1000 Vd.c.)
Safety insulation	Insulation Resistance	Between main contact and coil	Initial : ≥1000MΩ(1000 Vd.c.)
		Between main contact and auxiliary contact	Initial : ≥1000MΩ(1000 Vd.c.)
		Between main open contacts	Initial : ≥3000 Va.c. (50/60 Hz 1min)
	Dielectric Strength (Leak Current: ≤1 mA)	Between main contact and coil	Initial : ≥4000 Va.c. (50/60 Hz 1min)
		Between main contact and auxiliary contact	Initial : ≥4000 Va.c. (50/60 Hz 1min)

Mechanical property	Vibration	49m/s², 10～500Hz, sine wave
	Shock-Functional	Off : :196m/s², 11ms half sine wave On : 196m/s², 11ms half sine wave
	Shock-Destructive	490m/s², 6ms half sine wave
Operating Condition	Maximum allowable temperature of contacts	130℃（Suitable for continuous system）
		180℃（Suitable for Short-time system）
	Temperature	-40 ℃ ～ 85 ℃
	Humidity	5 % ～ 85 % RH
	Mounting Direction	Vertical
	Note: The ambient environment of application shall not cause any dewing or icing inside the relay. Otherwise, the relay may fail to work consequently.	
Storage Condition	Temperature	-40 ℃ ～ 85 ℃
	Humidity	5 % ～ 85 % RH
	Storage Life	12 Months (Original Package)
	Environment	1. Store in locations where the product is not exposed to corrosive gas.
		2. Keep product is not exposed to the direct ray of the sun.

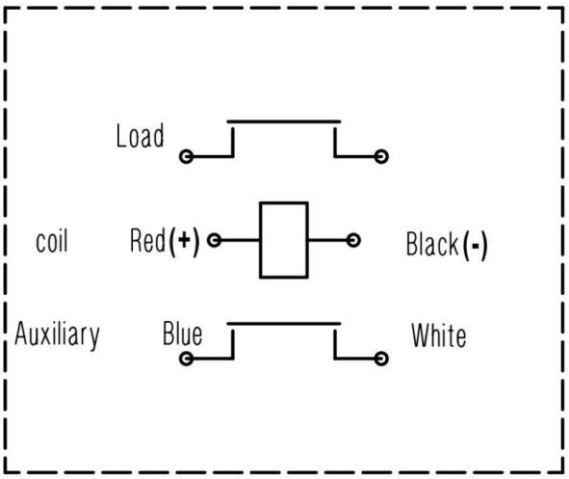
CONFIGURATION

1.1 Outline Dimensions :

CBVC8V-500E/XXXX-XXD-HAC5(XXX)



1.2 Wiring Diagram



No polarity on load and auxiliary contacts are non-polar; polarity on the coil

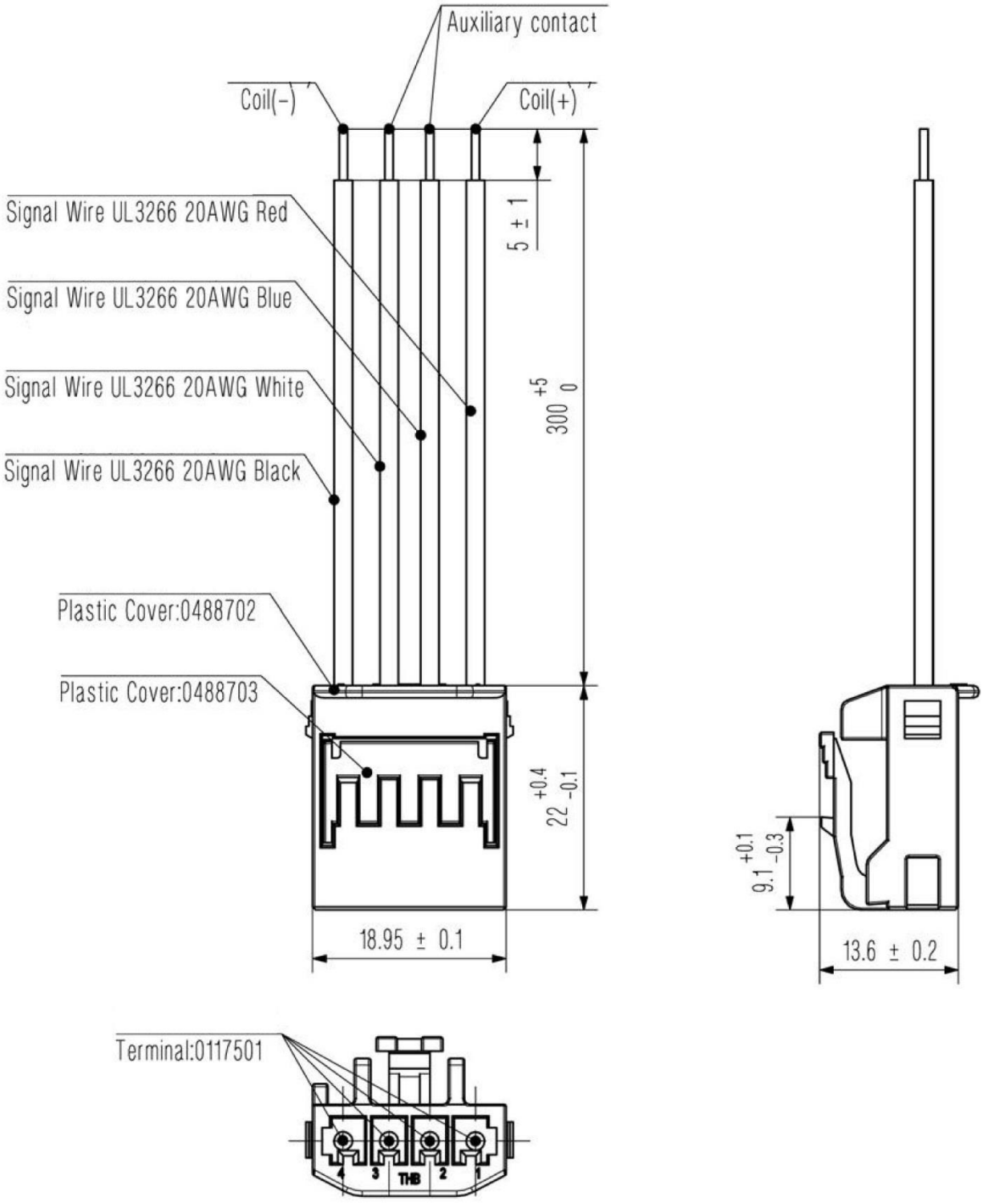
Notes :

1. All unspecified tolerance according to following table.

Dimension	<10	10~50	>50
Tolerance	±0.3	±0.5	±0.8

2. By default, the product is shipped with connector, shipped without installation accessories such as and assembly screws.
3. The default connector of the product and THB connector can be used, the specific models are as follows :

Brand	Connector number
THB	0488701
Yazaki	7283-1044



● NOTES

1.3 Application Description

1.3.1 To prevent loosening, use flat washers and spring washers when installing contactors.

1.3.2 Please pay attention to the thickness of copper bars and the value of the torque. If it goes beyond the recommended values in the below table, it will cause thread slide or installation is not tight.

Installation for terminal with load						Contactor installation	
Installation way	Torque	Recommended copper bar thickness	Recommended copper bar aperture	cable section area	Flatness of copper bar in installation area	Installation way	Torque
M6 screw	8~10N·m	5mm	ϕ6.0~6.5mm	≥200mm²	0.1	M5 screw	3~4N·m

1.3.3 When the contactor is used at L/R≥1ms inductive load (L load), please take parallel surge absorption measures. Otherwise, it may cause a decrease in electrical life and bad cutting.

1.3.4 When the contactor is used with a capacitive load, take measures such as pre-charging, and it is recommended that the closing pressure difference of the contactor be controlled within 20V. Otherwise, it may cause contact fusion welding.

1.3.5 For products without an energy-saving plate, it is recommended to install a varistor or TVS tube to suppress the reverse electromotive force of the contactor coil. If the diode is used, the contactor release time will be greatly extended, which will certainly lead to a decline in cutting performance.

1.3.6 The contactor contacts are sealed and filled with gas. When the contact temperature changes, there is internal gas penetrating characteristic. contactors are forbidden to be used at the temperature beyond our suggestion -40 ℃～85 ℃ for long time.

1.3.7 Please avoid installation near the strong magnetic boundary (around the transformer and magnet), otherwise it may cause poor electrical performance and cutting performance of the contactor;

1.3.8 Do not install in the vicinity of hot objects (such as fuses, diverters, etc.); otherwise, the contact end of the temperature rise supercontactor may overheat.

1.3.9 Please avoid sticking grease and other foreign matter on the extraction sheet, otherwise it will cause abnormal heating of the contactor contact end.

1.3.10 In principle, please do not use it when the contactor has fallen down.

1.4 Others

1.4.1 CBV products are all RoHS compliant.

1.4.2 All the performance data listed in the datasheet are the initial values tested under standard testing condition.

1.4.3 CBV could not evaluate all the performance and all the parameters for every potential application. The customer can choose the right product according to the specific usage conditions and requirements. If there is any queries, please contact CBV for the technical service. However, customer will responsible for what they choose and it is the user's responsibility to determine which product should be used.

1.4.4 CBV reserves the right to make changes. Customers should reconfirm the contents of the specification before first orders and ask for us to supply a new specification if necessary.

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