High Voltage DC Contactor

CBVC8 SERIES DC CONTACTOR

1 Product Features

Model	**CBVC8-300E**
Outline Dimensions	Detail See 5.1
Weight	Approx.400±15g
Seal type	Ceramic seal
Contact Type	1 Form A
Contact Material	Copper Alloy
Auxiliary Contact Type	1 Form A

2 Model Information

CBVC8 P - 300 E / 1500 – 24D - H A C 5 （XXX）

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ④

①	Product Series	**CBVC8**
②	Application	P：PV and energy storage
③	Lode Current	300：300A
④	Model Type	E: E Type
⑤	Lode Voltage	1000：1000 Vd.c. 1500：1500 Vd.c.
⑥	Coil Voltage	12D:12 Vd.c. Double coil 24D:24 Vd.c. Double coil
⑦	Contact Type	H: 1 Form A
⑧	Auxiliary Contact Type	A: 1 Form A
⑨	Coil Lead Out Wire Type	C: Connector
⑩	Load Outlet End	5: Female/internal thread
④	Special Code	Customer demand(Only for special requirements)

3 Coil Parameter

Rated Voltage（Vd.c.）	12	24
Coil Type	Dual-coil	Dual-coil
Max. Operating Voltage（Vd.c.）	18	36
Operate Voltage (Vd.c.)(at 23 ℃)	≤9.6	≤19.2
Release Voltage(Vd.c.)(at 23 ℃)	≥1.2	≥2.4
Coil Resistance (Ω)（at 23 ℃）	Starting：4×(1±7%) Holding：24×(1±7%)	Starting：16×(1±7%) Holding：96×(1±7%)
Coil Rated Power (W)	Staring Power：Approx 36 Holding Power：Approx 6	Staring Power：Approx 36 Holding Power：Approx 6

4 Specification

Main contact parameter	Rated Load of Contacts	300 A （≥100 mm^2 wire）
	Working Voltage Range	12~1500V
	Max. Breaking Current	2000A 1000Vd.c. (1 op)
	Min. Applicable Load	6 Vd.c. 1 A
	Contact Resistance	≤0.3 mΩ (at 300A 23℃)
	Current Endurance （85℃, 100mm^2）	300A /cont. 450A 300s 600A 120s 900A 30s
	Operate Time	≤30 ms
	Release Time	≤10 ms
	Bounce Time	≤5 ms
Aux contact parameter	Contact Resistance	≤120mΩ(at 1A 23℃)
	Contact Rating	6 Vd.c. 0.1 A

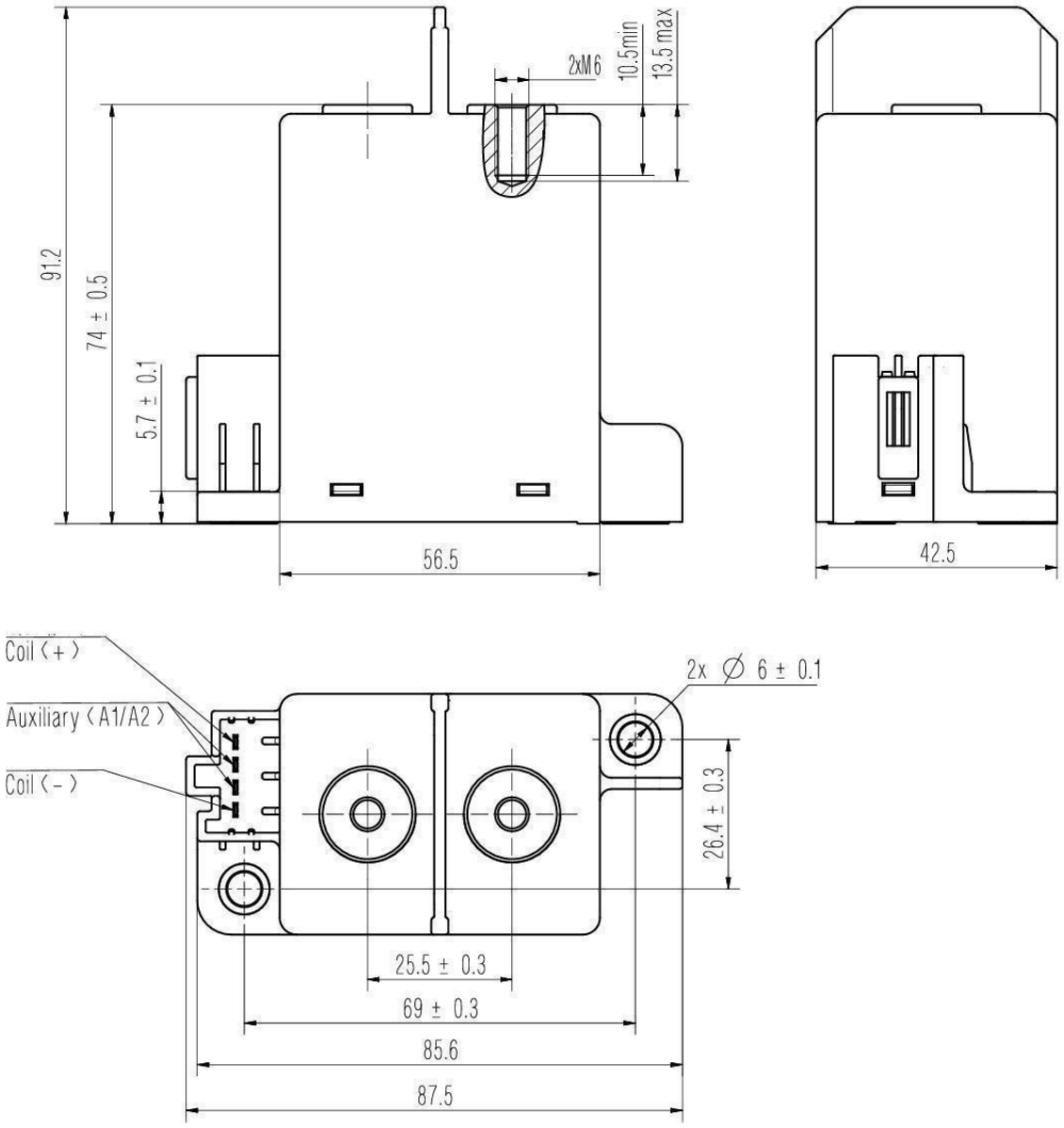
Endurance	Electrical Endurance （23℃, on-off：0.6s : 5.4s）	Turn on： 300A 20Vd.c. 7.5×10^4 times ops Breaking： 20A 1500Vd.c. 1.5×10^4 times ops Breaking： 140A 1500Vd.c. 1×10^3 times ops Breaking： 300A 1500Vd.c. 100 times ops Breaking： 2000A 1000Vd.c. 1 time op	
	Anti-short circuit	8000A 5ms With no fire or explosion	
	Mechanical Endurance	2×10^5 times ops	
Safety Insulation	Insulation Resistance	When disconnected between main contacts	Initial：≥1000MΩ (1500 Vd.c. 1min）
		Between main and auxiliary contacts	Initial：≥1000MΩ (1500 Vd.c. 1min）
		Between main contacts and coils	Initial：≥1000MΩ (1500 Vd.c. 1min）

	Dielectric Strength (Leak Current:≤1 mA)	When disconnected between main contacts	Initial：≥4000 Va.c. (50/60 Hz 1 min)
		Between main and auxiliary contacts	Initial：≥4000 Va.c. (50/60 Hz 1 min)
		Between main contacts and coils	Initial：≥4000 Va.c. (50/60 Hz 1 min)
Mechanical Character	Vibration	49m/s², 10～55Hz, sine wave	
	Impact Stability	Off： ：98m/s², 11ms, half sine wave On：98m/s², 11ms, half sine wave	
	Impact Strength	490m/s², 6ms, half sine wave	
Operating Condition	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 Temperature	-40 ℃ ～ 85 ℃	
Storage Condition	Storage Humidity	5 % ～ 85 % RH	
	Storage Period	12 Months (with original package)	
	Storage Environment	Store in locations where the product is not exposed to corrosive gas.	
		Keep product is not exposed to the direct ray of the sun.	

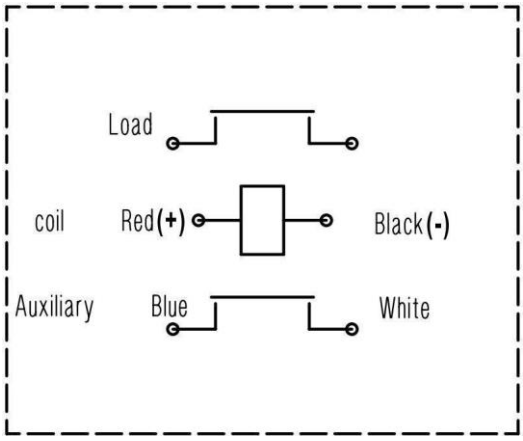
5 Product Structure

5.1 Outline Dimensions :

CBVC8P-300E/XXX-XX-HAC5



5.2 Wiring Diagram



Load non-polarity;Auxiliarycontactshave nopolarity;coil has polarity

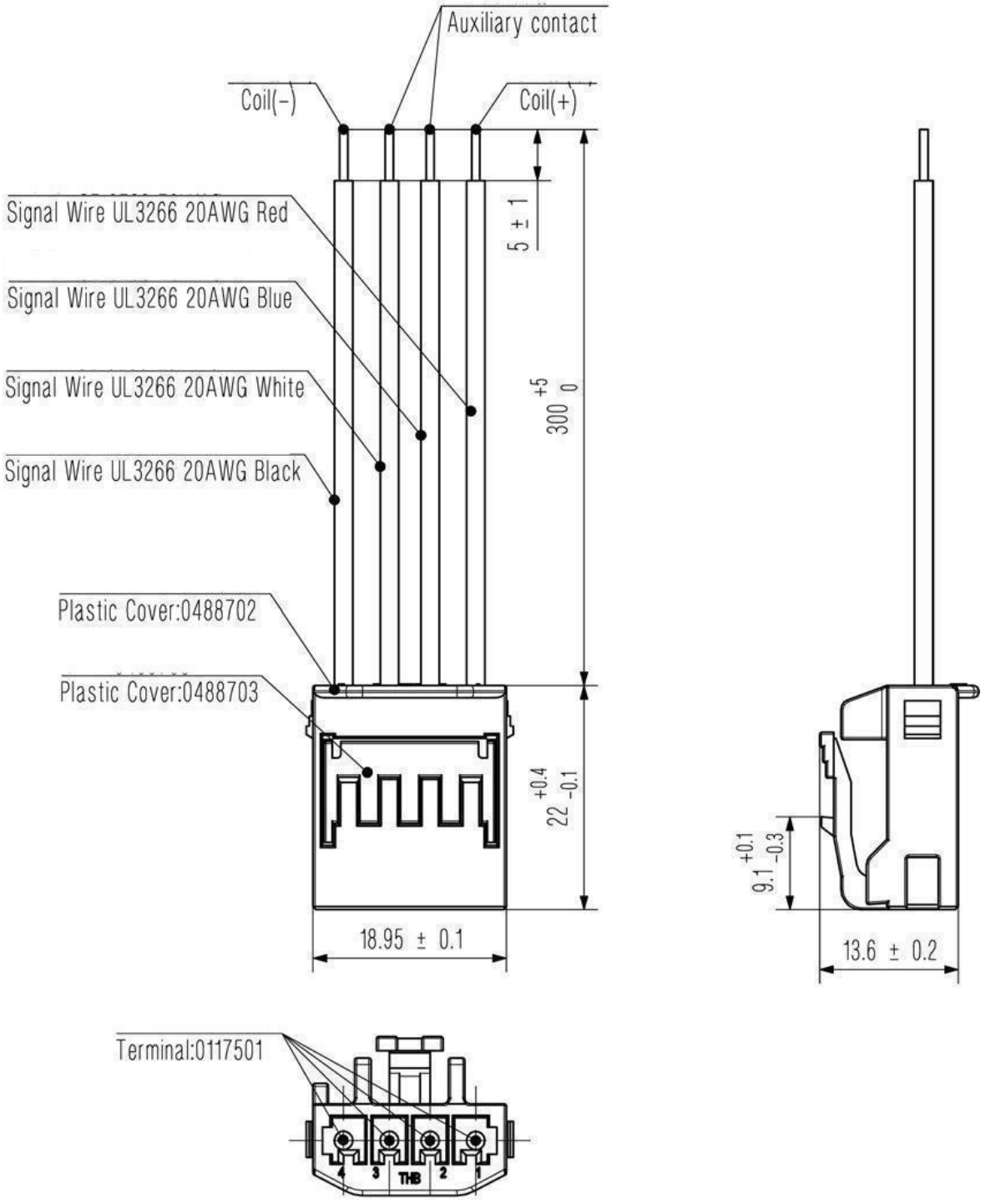
Notes：

1. All unspecified tolerance according to following table.

Product dimensions without specified tolerances	
Outline Dimensions	Tolerance
≤10	±0.3
＞10～50	±0.5
＞50	±0.8

2. The specific models of connectors that the product can adapt to are as follows：

Brand	Connector part number
THB	0488701
Yazaki	7283-1044



3. The product defaults to shipping connectors and harnesses, but does not include installation accessories such as screws, washers, and spring washers. Please notify separately if there is a need.

6 Others

Component Basics

1.1 All the paramaters listed in the datasheet are the initial values tested under standard testing condition.

1.2 Notice

1.2.1 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.

1.2.2 The load conditions promised by our company, unless otherwise specified, all refer to the rated load. If the product is used outside of the load conditions promised by us, our company will not be responsible for any failure caused by this.

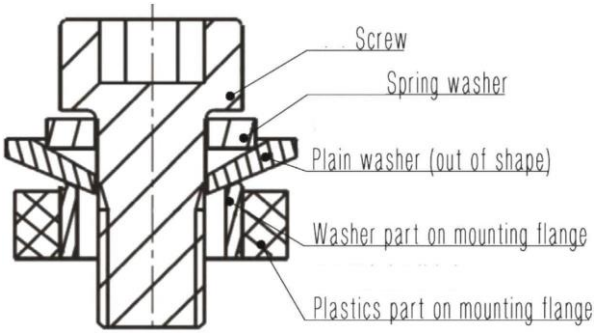
1.2.3 The rated values of the contacts are all values for resistive loads. When using an inductive load (L load) with L/R ≥ 1ms, please take surge absorption measures in parallel with the inductive load. Without taking measures, it may lead to a decrease in electrical lifespan and poor disconnection.

1.2.4 The internal contacts of this relay are protected by gas, and there may be internal gas penetration due to changes in contact temperature (ambient temperature + temperature rise caused by power on). It is strictly prohibited to place the relay in an environment beyond the product temperature range (-40 ℃ to 85 ℃) for a long time.

1.2.5 Please avoid installing near strong magnetic boundaries (transformers, magnets) and heating objects.

1.2.6 To prevent loosening, please use washers when installing the relay. Please use M5 screws for the Installation of the relay, and control the locking torque of the screws between 3N · m and 4N · m.

1.2.7 When using M5 screws, ensure that the gasket thickness and strength are sufficient, otherwise it will deform and break the shell.



1.2.8 Please avoid sticking grease and other foreign objects on the lead out piece. Please use connecting wires with a size of 100mm^2 or above, otherwise it may cause abnormal heating at the lead out end.

1.2.9 Pay attention to the thickness and torque of the connecting copper bars. If the values recommended in the table are exceeded, it may cause thread slippage or loose installation. It is not recommended to install two copper bars on the same side to avoid high voltage short circuits or ignition.

Size of load outlet screw	Suggested copper bar thickness	Suggested hole dimension of copper bus bar	Torque
Female/internal thread M6	3 mm	Φ6.0mm～Φ6.5mm	6 N·m～8 N·m

1.2.10 In the event of a relay falling, please do not use it again as a principle.

1.2.11 Environmental Protection
CBV products are all RoHS compliant.

1.2.12 CBV reserves the right to make changes to the product. Customers should confirm the content of this specification before placing their first order, and may request our company to provide new specifications if necessary.

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