Product Specification

Product Name	High Voltage DC Contactor
Product model	CBVC10P-800/1500-24D-HAC5
Publish Date	2023.11.13
Production Plant	/
Customer	/
Customer Product Name	High Voltage DC Contactor
Customer Part No.	
Version	a

Signature by CBV			**Customer Approval**
Make	**Check**	**Approve**	

Especially claim:
1. This specification is expected to be checked within 2 weeks. Without feedback after 2 weeks, CBV will take it as granted that customer approves of this specification.
2. This specification will be invalid if no order within 2 years.

Revisions Record

Customer		Part No.				
Version No.	**Change Date**	**Description**	**Reason**	**Before Change**	**After Change**	**By**
a	20231113	/	creation	/	/	Component Basics

1 Features

Type	CBVC10P-800
Outline Dimensions	5.1 See5.1
Unit Weight	Approx.1100±15g
Seal type	Ceramic seal
Contact Arrangement	1 Form A
Contact Material	Copper Alloy
Auxiliary Contact Type	1 Form A
Auxiliary Contact Material	Copper Alloy

2 Model **Information**

CBVC10 ① P ② - 800 ③ / 1500 ④ – 24D ⑤ - H ⑥ A ⑦ C ⑧ 5 ⑨ （XXX） ⑩

①	Product Series	CBVC10
②	Application	P：PV and energy storage
③	Lode Current	800：800A
④	Lode Voltage	1500：1500 Vd.c. 1000：1000 Vd.c.
⑤	Coil Voltage	12D:12 Vd.c.Double coil 24D:24 Vd.c.Double coil
⑥	Contact Type	H: 1 Form A
⑦	Auxiliary Contact Type	A：1 Form A
⑧	Coil Lead out wire type	C: Connector
⑨	Load Termination	5: Female/internal thread
⑩	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
Coil Resistance (Ω) （at 23 ℃）	Starting 3.2×(1±7%) Holding 28.8×(1±7%)	Starting 11.5×(1±7%) Holding 115×(1±7%)
Coil Rated Power(W)	Starting Power：Approx 50 Holding Power：Approx 5	Starting Power：Approx 50 Holding Power：Approx 5

4 Contacts Parameter

Main contact parameter	Rated load of contacts	800 A （≥300 mm^2 wire）
	Working Voltage Range	12~1500V
	Max. Breaking Current	2000A (lop)
	Min. Applicable Load	6 Vd.c. 1 A
	Contact Resistance	≤0.3 mΩ (at 800 A 23℃)
	Current Endurance （85℃, 300 mm^2）	800A cont. 1000A 250s 1500A 40s 2000A 25s
	Operate Time	≤50 ms
	Release Time	≤30 ms
	Bounce Time	≤5ms

Aux contact Parameter	Contact Resistance	≤100mΩ(at 1A 23℃)	
	Rated load of Contacts	6 Vd.c. 0.1 A	
Endurance	Electrical Endurance	Breaking：100A 1500Vd.c. 5×10^3cycles Breaking：150A 1500Vd.c. 3×10^3cycles Breaking：600A 1500Vd.c. 50cycles Breaking：800A 1500Vd.c. 10cycles Breaking：1500V 1000A 1cycles	
	Anti-short circuit	8000A 5ms With no burning, bno frying	
	Mechanical Endurance	2×10^5 cycles	
Safety Insulation	Insulation Resistance	When disconnected between main contacts	Initial： ≥1000MΩ(1500 Vd.c. 1min)
		Between main contact and aux contact	Initial： ≥1000MΩ(1500 Vd.c. 1min)
		Between main contact and coil	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 contact and aux contact	Initial： ≥4000 Va.c. (50/60 Hz 1 min)
		Between main contact and coil	Initial： ≥4000 Va.c. (50/60 Hz 1 min)
Mechanical Character	Vibration	10G peak, 10～500Hz, sine wave	
	Impact	Functional	10G peak, 11ms, half sine wave
		Destructive	50G peak, 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 Condition	Storage Temperature	-40 ℃ ～85 ℃
	Storage Humidity	5 % ～85 % RH
	Storage Period	12Months (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.

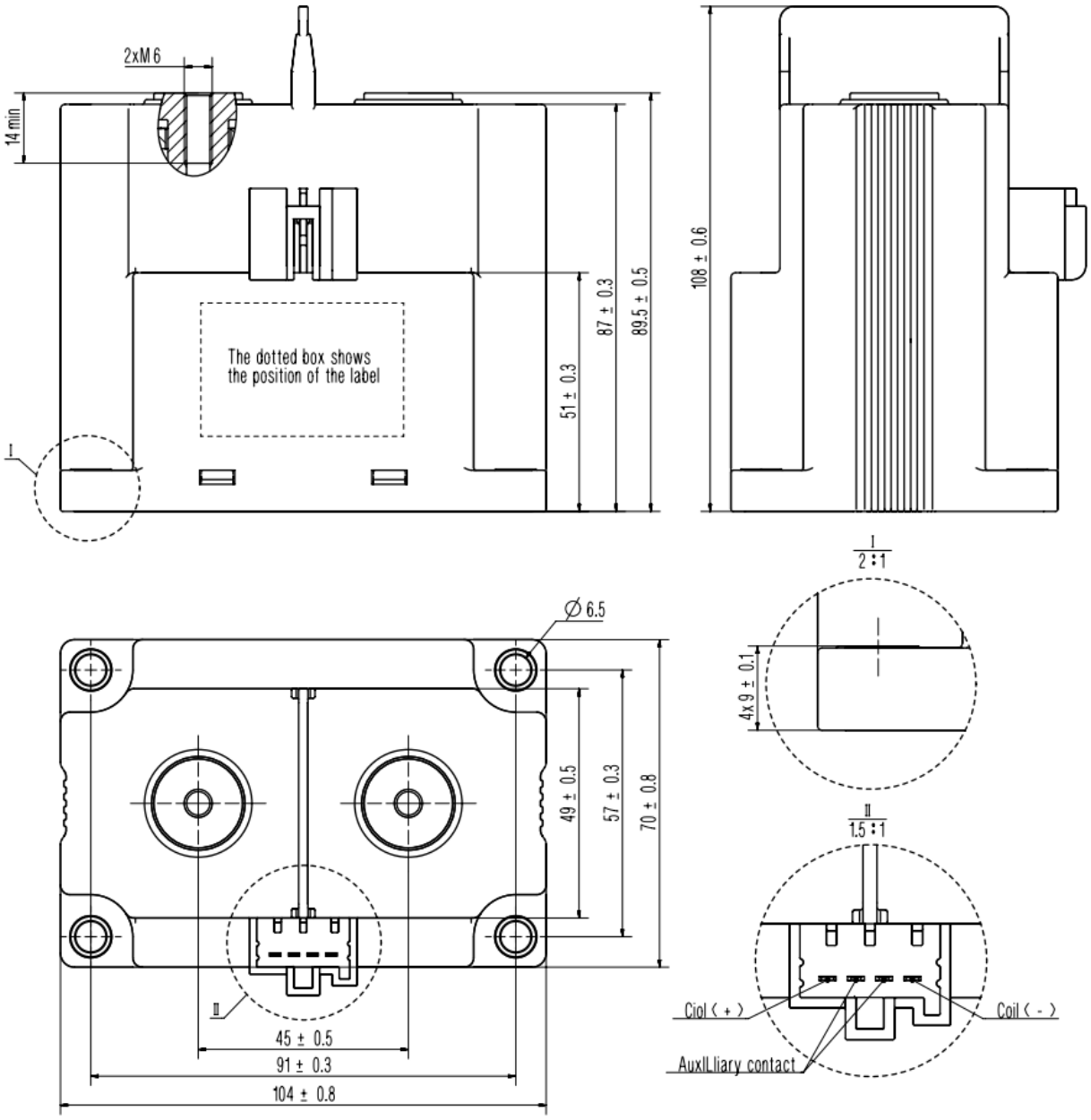
Condition for current endurance

1) Ambient temperature：85 ℃；
2) Supply rated voltage to coil；
3) The cross section area of wire is 300 mm^2.

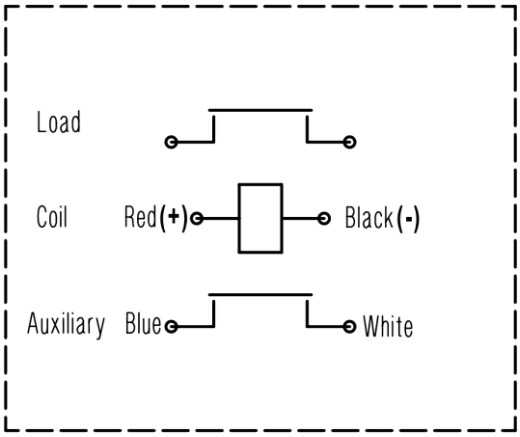
5 Product Structure

5.1 Outline Dimensions：

CBVC10P-800/XXX-XX-HAC5



5.2 Wiring Diagram



Load non-polarity; Auxiliary contacts have no polarity; coil has polarity

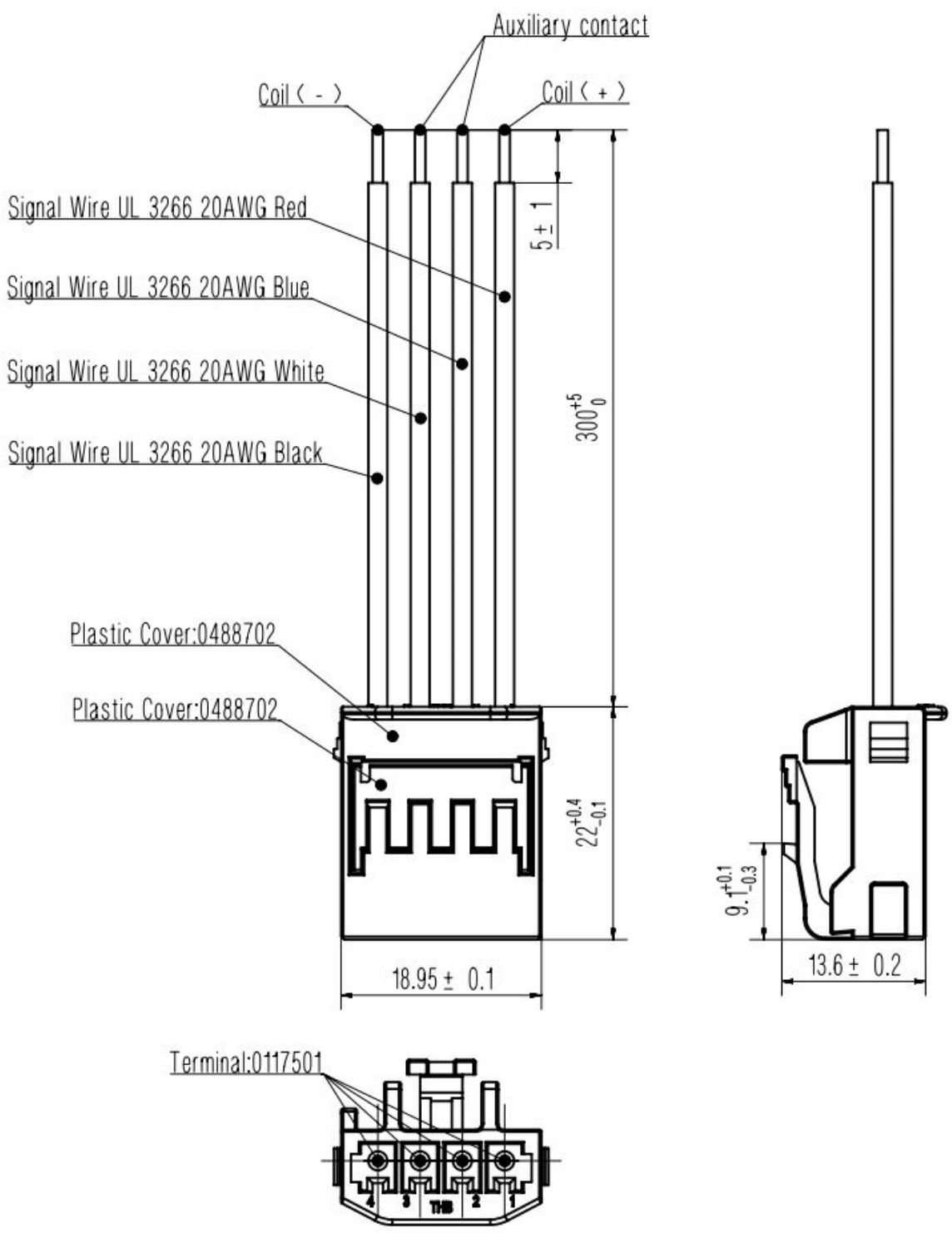
Notes：

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 default connector of the product and THB connector can be used, the specific models are as follows：

Brand	Connector number
THB	0488701



3. The default product is shipped with connector harness, without screws, washers, spring washers and other installation accessories.

6 Others

6.1 Supplier

Component Basics

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

6.3 Notes

6.3.1 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.

6.3.2 Without special note ,the load we commit to the load is the rating load .CBV doesn't response for any usage beyond our guarantee.

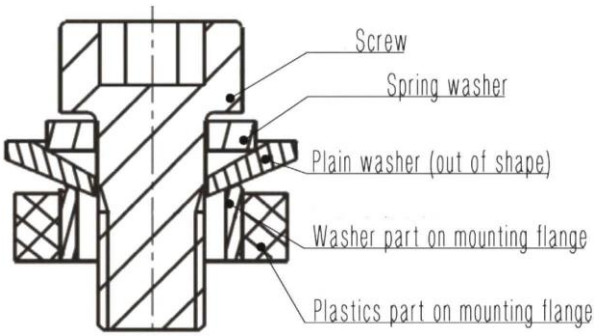
6.3.3 The rating load of contact is resistive load. Please assure a surge absorption device together with inductive load when using the L/R≥1ms inductive load (L Load),otherwise it may lead to the decrease of electrical endurance and defective switch.

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

6.3.5 Please avoid installation in strong magnetic field(around the transformers & the magnet)and the heating objects nearby.

6.3.6 In order to prevent loosening, please use the washer when installing the relay. Please use the M5 screws to install relay, screw locking torque within 3N·m～4N·m.

6.3.7 When use M5 screw, make sure the washer's thickness and strength are enough. Otherwise it will be out of shape, and the case will be broke.



6.3.8 Please avoid grease and other foreign matter in the terminal please use the connecting wire with a cross section area ≥ 300 mm^2,or they may cause overheating to the terminal part .

6.3.9 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. To avoid short circuit or fire,it's not suggest fix two copper bus bar at same side.

screw on load terminal	the thickness of copper bus bar	suggest hole dimension of copper bus bar	Torque
M6	3 mm	Φ6.0mm～Φ6.5mm	6 N·m～8 N·m

6.3.10 In principle, please do not use it when the relay has fallen down.

6.3.11 Environmental Protection
CBV products are all RoHS compliant.

6.3.12 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.