High Voltage DC Contactor

CBVC10 SERIES DC CONTACTOR

1. PRODUCT FEATURES

Model	CBVC10P-600
Outline Dimensions	See Section 5.1
Unit Weight	Approx.1100±15g
Seal type	Ceramic Hermetic Seal
Contact Arrangement	1 Form A (SPST-NO)
Contact Material	Copper Alloy
Auxiliary Contact Type	1 Form A (SPST-NO)
Auxiliary Contact Material	Copper Alloy

2. ORDERING INFORMATION

CBVC10 P -600 /1500 – 24D - H A C 5 (XXX)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

①	**Parameter**	**Standard Configuration for CBVC10P-600**
②	Application	P: PV and Energy Storage
③	Rated Current	600: 600A
④	Rated Voltage	1500: 1500 VDC (Max)
⑤	Coil Voltage	24D: 24 VDC, Dual Coil (12D available)
⑥	Contact Type	H: 1 Form A
⑦	Auxiliary Contact Type	A: 1 Form A
⑧	Coil Termination	C: Connector
⑨	Load Termination	5: Internal Thread
⑩	Special Code	(None): Standard configuration

3. COIL PARAMETERS

Parameter	**24 VDC Coil (Standard)**	**12 VDC Coil (Optional)**
Driving Mode	Dual-coil	Dual-coil
Rated Voltage (VDC)	24	12
Max. Operating Voltage (VDC)	36	18
Operate Voltage (VDC) at 23°C	≤19.2	≤9.6
Release Voltage (VDC) at 23°C	≥2	≥1
Coil Resistance (Ω) at 23°C	Driving: 11.5 × (1±7%) Holding: 115 × (1±7%)	Driving: 3.2 × (1±7%) Holding: 28.8 × (1±7%)
Rated Power (W)	Driving: Approx 50 W Holding: Approx 5 W	Driving: Approx 50 W Holding: Approx 5 W

4. MAIN CONTACT SPECIFICATIONS

Main contact Specification	**Parameter**	**Specification**	
	Contact Rating	600 A (with ≥300 mm² wire)	
	Working Voltage Range	12 ~ 1500 VDC	
	Max. Breaking Current	2000 A (1 operation)	
	Min. Applicable Load	6 VDC, 1 A	
	Contact Resistance	≤0.3 mΩ (at 600 A, 23°C)	
	Current Endurance	600A: Continuous 750A: 900s 900A: 120s 2000A: 1s	
	Operate Time	≤50 ms	
	Release Time	≤30 ms	
	Bounce Time	≤5 ms	
Aux contact Specification	**Contact Resistance**	≤100 mΩ (at 1A, 23°C)	
	Contact Rating	6 VDC, 0.1 A	
Endurance	**Electrical Endurance**	Breaking： 100A 1500Vd.c. 5×103 ops Breaking： 150A 1500Vd.c. 3×103 ops Breaking： 350A 1000Vd.c. 1×103 ops Breaking： 600A 1000Vd.c. 100 ops Breaking： 1000A 1500Vd.c. 1 op	
	Anti-short circuit	8000 A for 5 ms (No burning, no frying)	
	Mechanical Endurance	2×10^5 ops	
Safety insulation	**Insulation Resistance**	Between main open contacts:	Initial： ≥1000MΩ(1500 Vd.c. 1min)
		Between main contact and Auxiliary contact	Initial： ≥1000MΩ(1500 Vd.c. 1min)
		Between main contact and coil	Initial： ≥1000MΩ(1500 Vd.c. 1min)

	Dielectric Strength (Leak Current:≤1 mA)	Between main open contacts:	Initial： ≥4000 Va.c. (50/60 Hz 1 min)
		Between main contact and Auxiliary 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 property	**Vibration Resistance**	49m/s^2 ， 10～55Hz， sine wave	
	Shock Resistance (Functional)	98m/s^2， 11ms half sine wave	
	Shock Resistance (Destructive)	490m/s^2， 6ms half sine wave	
Operating Condition	**Temperature**	-40 ℃ ～ 85 ℃	
	Humidity	5% to 85% RH (non-condensing)	
	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 (In Original Packaging)	
	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.	

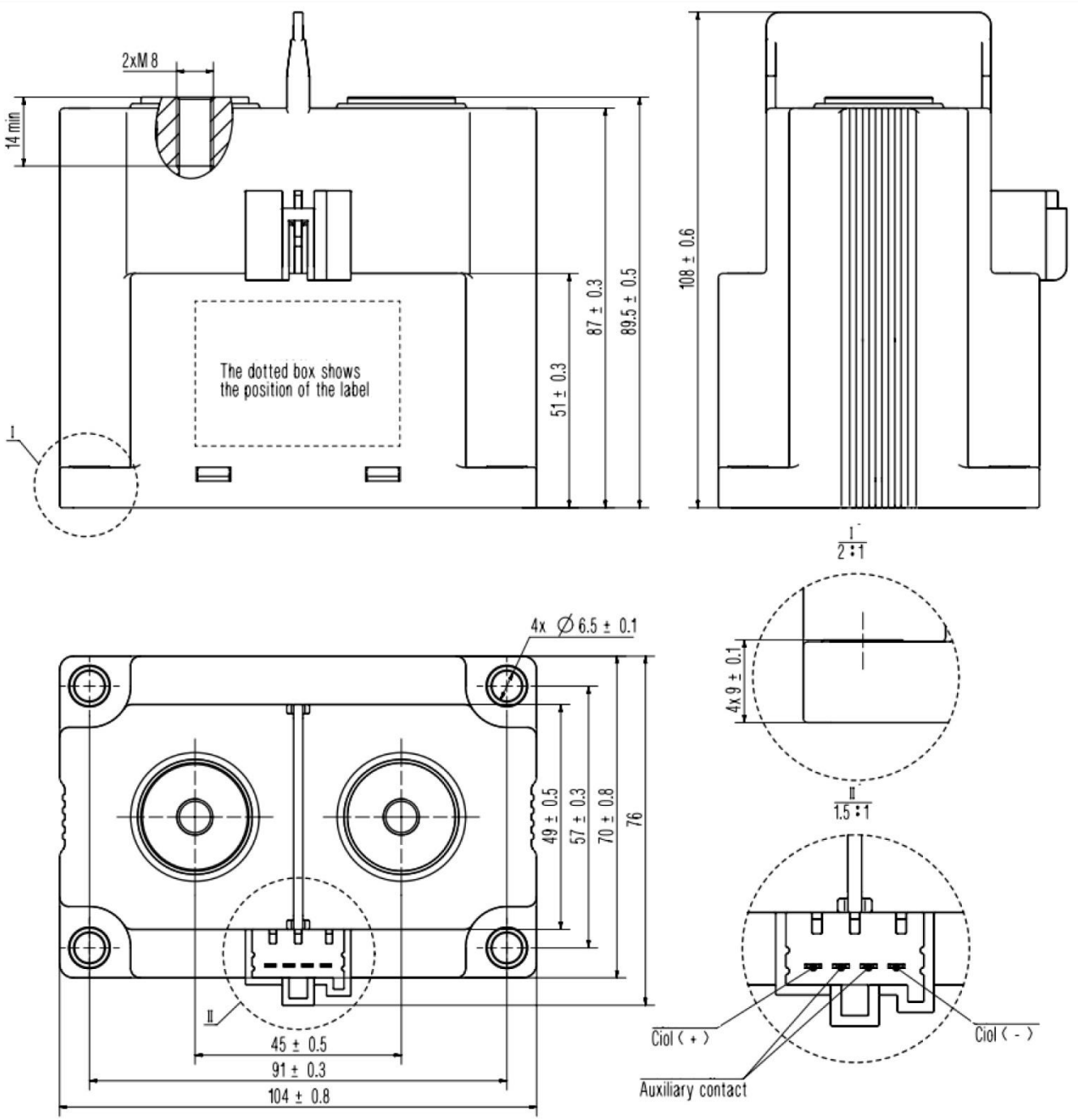
Condition for current endurance

1) Ambient temperature：85℃；
2) Supply rated voltage to coil；
3) The cross section area of wire is 300 mm2.

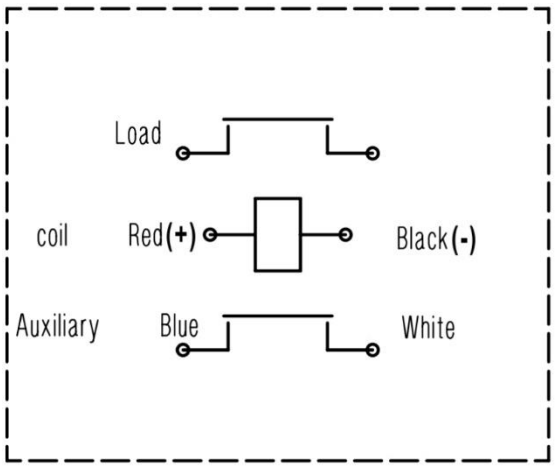
5. CONFIGURATION

5.1 Outline Dimensions :

CBVC10P-600/xxxx-xx-HAC5



5.2 Wiring Diagram



- Load and auxiliary contacts are non-polar.
- Observe polarity for the coil terminals as marked

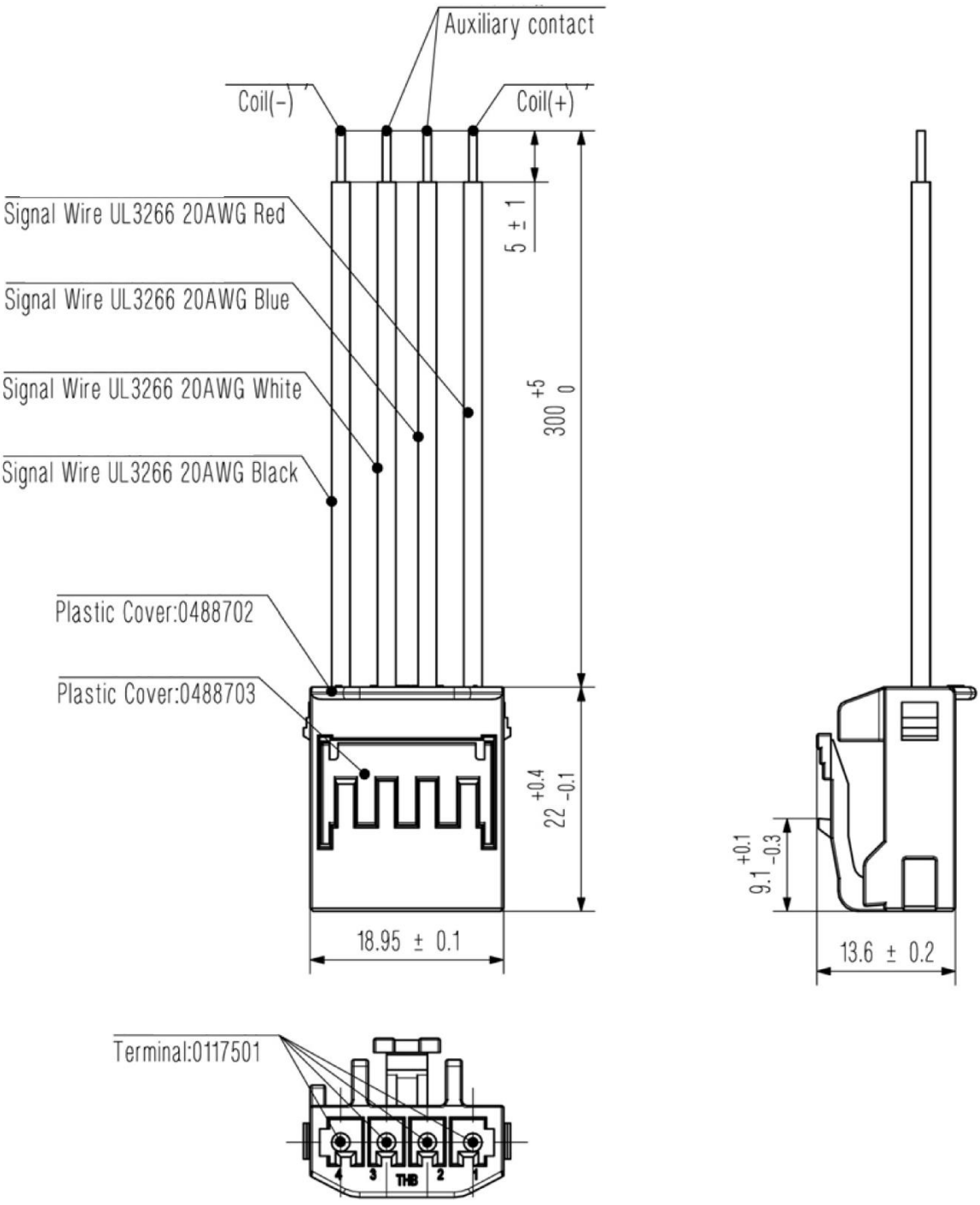
Notes :

1. All unspecified tolerance according to following table.

Outline dimensions hadn't specified tolerance			
Outline Dimensions	≤10	＞10～50	＞50
Tolerance	±0.3	±0.5	±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 Application & Installation Notes

6.1 General

All performance data listed are initial values tested under standard conditions. It is the customer's responsibility to verify product suitability for their specific application. Please contact Component Basics technical support for assistance.

6.2 Load Type

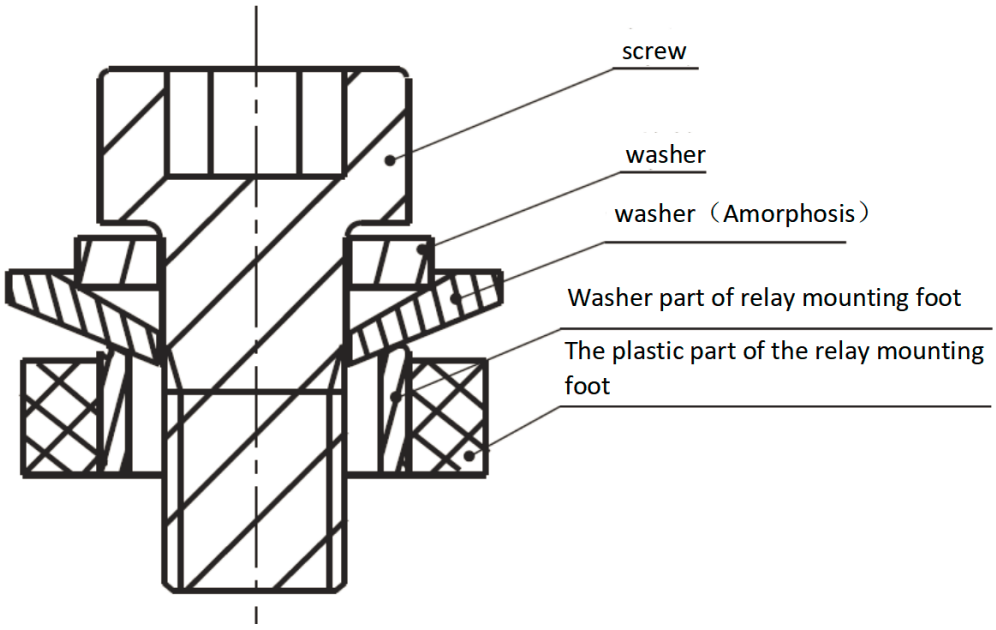
The rated load is resistive. For inductive loads (L/R > 1ms), a surge suppression device (e.g., varistor, diode) must be used in parallel with the load to prevent premature contact wear and ensure specified electrical endurance.

6.3 Operating Environment

- Operating the relay outside the specified temperature range of **-40°C to +85°C** is prohibited and may lead to failure.
- Avoid installation in areas with strong magnetic fields (e.g., near transformers, large inductors) or close to heat sources (e.g., fuses, power resistors). If close proximity is unavoidable, perform a temperature rise test to ensure safe operation.

6.4 Mounting & Torque

- To prevent loosening, use washers when mounting the relay.
- Use M8 screws for load terminals. Recommended locking torque is **5 N·m to 6 N·m**.
- Ensure any washers used are of sufficient thickness and strength to prevent deformation of the relay case.



6.5 Terminals

- Keep terminals clean and free of grease or other contaminants.
- Use connecting wire with a cross-section area of **≥ 300 mm²** to prevent overheating at the terminal.
- Pay close attention to the recommended bus bar thickness and torque values below to prevent thread damage or loose connections. Do not install two bus bars on the same terminal stud.

Screw on Load Terminal	Recommended Thickness of Copper Bus Bar	Recommended Hole Dimension of Copper Bus Bar	Recommended Torque
M8	4 mm	Φ8.0mm ~ Φ8.5mm	8 N·m ~ 10 N·m

6.6 Handling

Do not use a contactor that has been dropped, as unseen internal damage may compromise its safety and performance.

6.7 Environmental Compliance

This product is RoHS compliant.

6.8 Disclaimer

Component Basics reserves the right to make changes to this specification without prior notice. Customers should reconfirm the contents of the specification before first orders and request a new revision if necessary.

ABOUT US

Component Basics ("CBV") datasheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate CBV products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, valuation, and judgment in designing Buyer's systems and products. CBV datasheets have been created using standard laboratory conditions and engineering practices. CBV has not conducted any testing other than that specifically described in the published documentation for a particular datasheet. CBV may make corrections, enhancements, improvements, and other changes to its datasheets or components without notice.

Buyers are authorized to use CBV datasheets with the CBV component(s) identified in each particular datasheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER CBV INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. CBV DATASHEETS ARE PROVIDED "AS IS". CBV MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATASHEETS OR USE OF THE DATASHEETS, EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. CBV DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO CBV DATASHEETS OR USE THEREOF.

All products are sold subject to CBV's terms and conditions of sale supplied at www.componentbasics.com. CBV ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY, AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF CBV COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY CBV.

Mailing Address: Component Basics, 1539, 35-Viking Lane, Toronto, M9B 0A2, ON, Canada.

CONTACT US

COMPONENT BASICS
1539, 35-Viking Lane, Toronto
M9B 0A2, ON, Canada
Tel.: +1 437 4229280
Email: info@componentbasics.com