

# High Voltage DC Contactor

## CBVC10 SERIES DC CONTACTOR



### 1. PRODUCT FEATURES

Model	CBVC10P-800
Outline Dimensions	See Section 5.1
Unit Weight	Approx. 1100±15g
Seal type	Ceramic Hermetic Seal
Contact Arrangement	1 Form A (SPST-NO)
<b>Contact Material</b>	Copper Alloy
Auxiliary Contact Type	1 Form A (SPST-NO)
<b>Auxiliary Contact Material</b>	Copper Alloy

## 2. ORDERING INFORMATION

CBVC10 P - 800 / 1500 - 24D - H A C 5 (XXX)

①    ②    ③    ④    ⑤    ⑥    ⑦    ⑧    ⑨    ⑩

①	Parameter	Standard Configuration for CBVC10P-800
②	Application	P: PV and Energy Storage
③	Rated Current	800 : 800A
④	Rated Voltage	1500 : 1500 VDC 1000 : 1000 VDC
⑤	Coil Voltage	12D: 12 VDC, Dual Coil 24D: 24 VDC, Dual Coil
⑥	Contact Type	H: 1 Form A
⑦	Auxiliary Contact Type	A: 1 Form A
⑧	Coil Termination	C: Connector
⑨	Load Termination	5: Female/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

	Parameter	Specification	
<b>Main contact Specification</b>	<b>Contact Rating</b>	800 A (with $\geq 300 \text{ mm}^2$ wire)	
	<b>Working Voltage Range</b>	12 ~ 1500 VDC	
	<b>Max. Breaking Current</b>	2000 A (1 operation)	
	<b>Min. Applicable Load</b>	6 VDC, 1 A	
	<b>Contact Resistance</b>	$\leq 0.3 \text{ m}\Omega$ (at 800 A, 23°C)	
	<b>Current Endurance</b>	800A: Continuous 1000A: 250s 1500A: 40s 2000A: 25s	
	<b>Operate Time</b>	$\leq 50 \text{ ms}$	
	<b>Release Time</b>	$\leq 30 \text{ ms}$	
	<b>Bounce Time</b>	$\leq 5 \text{ ms}$	
	<b>Aux contact Specification</b>	<b>Contact Resistance</b>	$\leq 100 \text{ m}\Omega$ (at 1A, 23°C)
<b>Contact Rating</b>		6 VDC, 0.1 A	
<b>Endurance</b>	<b>Electrical Endurance</b>	Breaking : 100A 1500Vd.c. $5 \times 10^3$ ops Breaking : 150A 1500Vd.c. $3 \times 10^3$ ops Breaking : 600A 1500Vd.c. 50 ops Breaking : 800A 1500Vd.c. 10 ops Breaking : 1500V 1000A 1 ops	
	<b>Anti-short circuit</b>	8000 A for 5 ms (No burning, no frying)	
	<b>Mechanical Endurance</b>	$2 \times 10^5$ ops	
<b>Safety insulation</b>	<b>Insulation Resistance</b>	Between main open contacts:	Initial : $\geq 1000 \text{ M}\Omega$ (1500 Vd.c. 1min)
		Between main contact and Auxiliary contact	Initial : $\geq 1000 \text{ M}\Omega$ (1500 Vd.c. 1min)
		Between main contact and coil	Initial : $\geq 1000 \text{ M}\Omega$ (1500 Vd.c. 1min)

	<b>Dielectric Strength (Leak Current:≤1 mA)</b>	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)
<b>Mechanical property</b>	<b>Vibration Resistance</b>	10G peak, 10~500Hz, sine wave	
	<b>Shock Resistance (Functional)</b>	10G peak, 11ms, half sine wave	
	<b>Shock Resistance (Destructive)</b>	50G peak, 6ms, half sine wave	
<b>Operating Condition</b>	<b>Temperature</b>	-40 °C ~ 85 °C	
	<b>Humidity</b>	5% to 85% RH (non-condensing)	
	<b>Mounting Direction</b>	Vertical	
	<b>Note:</b> The ambient environment of application shall not cause any dewing or icing inside the relay. Otherwise, the relay may fail to work consequently.		
<b>Storage Condition</b>	<b>Temperature</b>	-40 °C ~ 85 °C	
	<b>Humidity</b>	5 % ~ 85 % RH	
	<b>Storage Life</b>	12 Months (In Original Packaging)	
	<b>Environment</b>	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.	

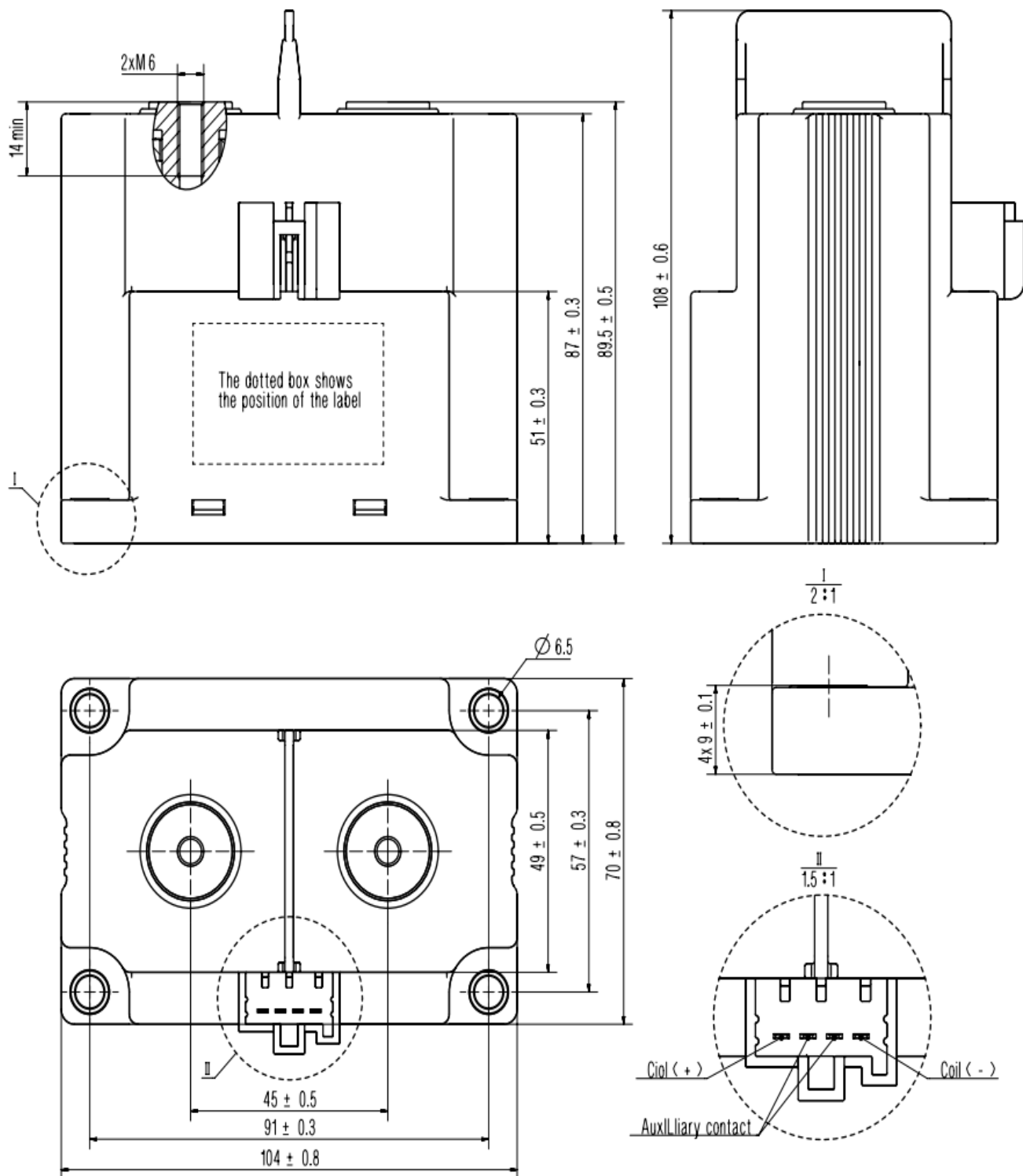
**Condition for current endurance**

- 1) Ambient temperature : 85°C ;
- 2) Supply rated voltage to coil ;
- 3) The cross section area of wire is 300 mm<sup>2</sup>.

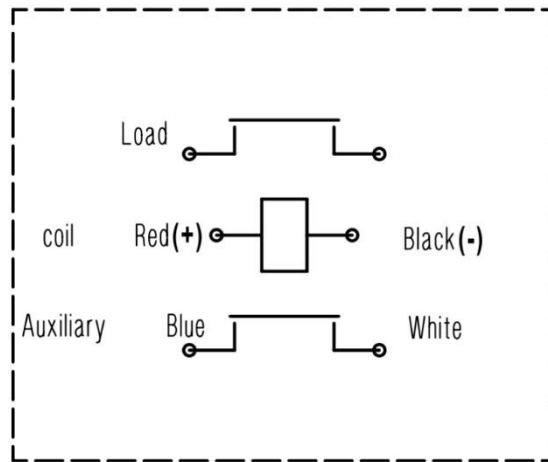
## 5. CONFIGURATION

### 5.1 Outline Dimensions :

CBVC10P-800/xxxx-xx-HAC5



## 5.2 Wiring Diagram



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

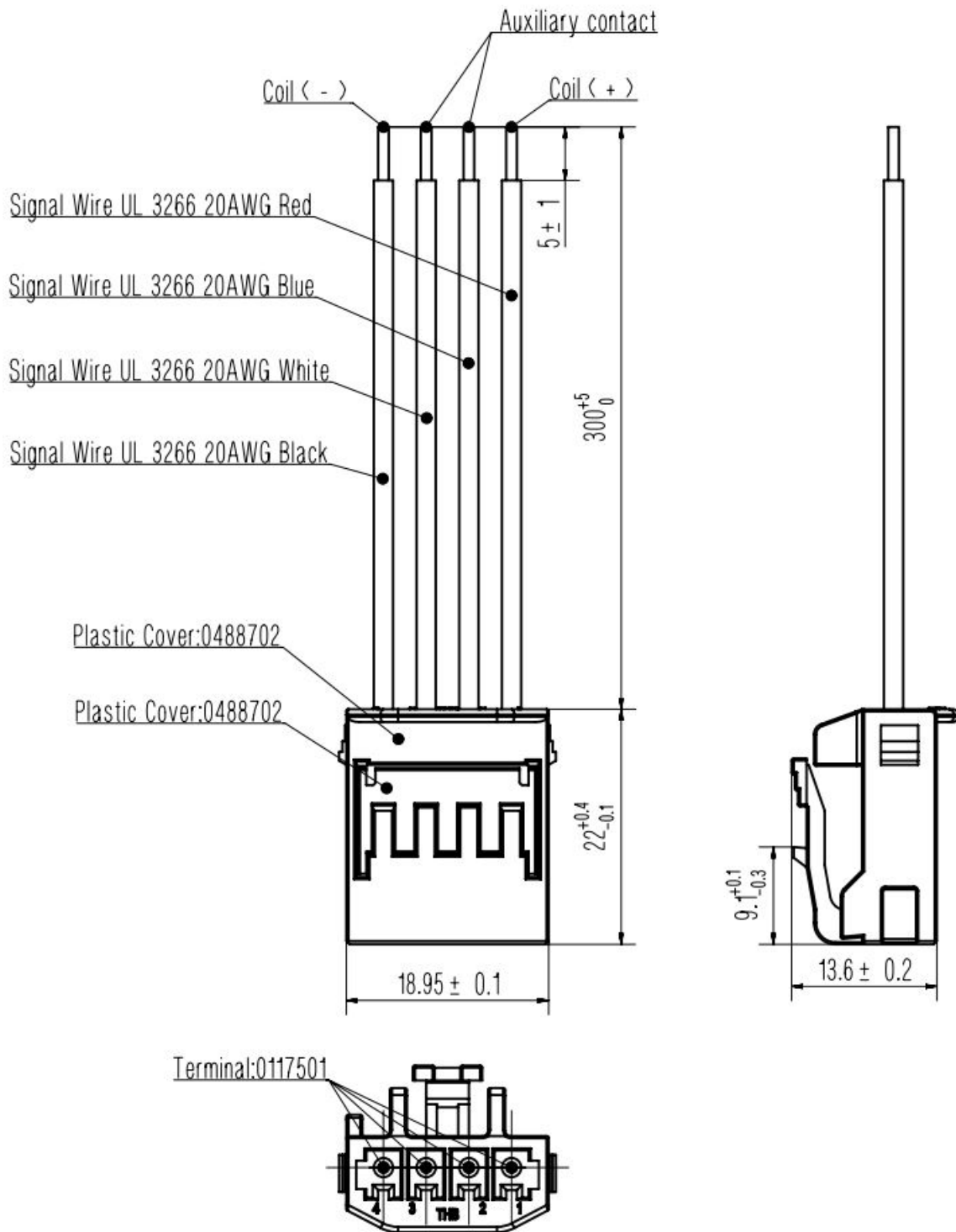
### Notes :

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



- 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

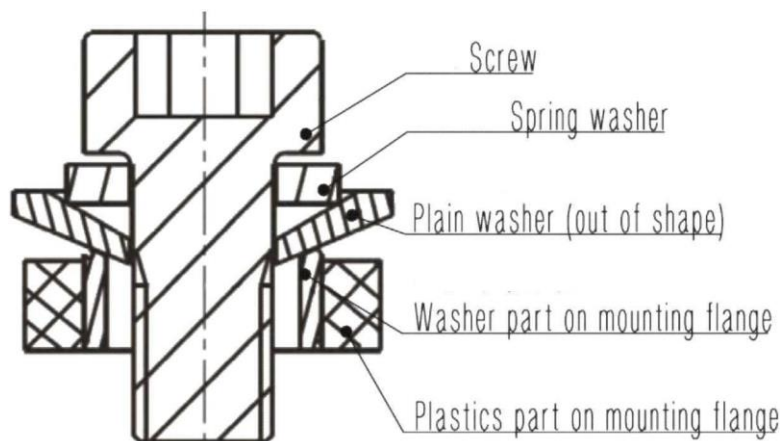
The rated load is resistive. For inductive loads ( $L/R > 1\text{ms}$ ), a surge suppression device (e.g., varistor, diode) must be used in parallel with the load to prevent premature contact wear and ensure specified electrical endurance.

### 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 **3 N·m to 4 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  $\geq 300 \text{ mm}^2$  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
M6	3 mm	$\Phi 6.0\text{mm} \sim \Phi 6.5\text{mm}$	6 N·m ~ 8 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.

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