



# Clamp Type AC Current Sensors

For energy management systems

## CCT series

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CCT406393

CCT354571

CCT323047

CCT272440

CCT261631

### **Caution**

This catalog includes the products which are in preparation for mass production.

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# SENSORS



Products in this page are in preparation for mass production.

Part No.	Status
CCT406393-600-36-00	Preliminary
CCT406393-600-36-02	Preliminary

## An attention matter on use

Please read this specifications before using this product by all means.

## An attention matter on security

I undertake use with this product, and it is paid attention enough, and please design an attention matter safely.

### Attention on a design

- When choosing load resistances used for current detection, be sure to select products with high precision and good temperature characteristics.
- Magnetic flux to leak out occurs. Please confirm it about influence of magnetic flux beforehand.  
There is fear to cause false movement of machinery.
- The product is not quakeproof structure.  
Accordingly please do not add vibration and a shock to it.  
There is fear to lose a function.

### Attention on the handling

- Please do not use it when you let a product drop.  
The product produces possibility to lose a function
- Please avoid the next place. The place that receives a drop of water, trash, the dust, foggy influence. The place where direct rays of the sun hits. There is fear to cause false movement of machinery.
- Please prohibit safekeeping and use at the next place. Environment to be accompanied with gas corrosion, salt, acid, alkali. There is fear to lose a function.
- When you carry the product on a base of an electric circuit.  
Please do not use a metal tool. Because impossible power is added to a product.  
There is fear to lose a function.

### Attention

- I considered the next matter, and we designed a product.  
Safe standard and power supply voltage and circuit drive condition, drive frequency and Duty ON-TIME.  
By those conditions, we decided structure and the turns number.  
Please avoid use in designed condition outside.  
There are destruction of a circuit part and fear of ignition.
- This product considered a characteristic of a component and a self temperature rise, and it was made.  
We select range of humidity as use temperature already.  
Please avoid use by range more than this.  
There are the damage and fear of ignition.
- Please avoid use in the environment next.  
The environment that trash and the dust stick to a product. There is fear to cause a fire.
- The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.  
The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.  
If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

- (1) Aerospace/Aviation equipment
- (2) Transportation equipment (cars, electric trains, ships, etc.)
- (3) Medical equipment
- (4) Power-generation control equipment
- (5) Atomic energy-related equipment
- (6) Seabed equipment
- (7) Transportation control equipment

- (8) Public information-processing equipment
- (9) Military equipment
- (10) Electric heating apparatus, burning equipment
- (11) Disaster prevention/crime prevention equipment
- (12) Safety equipment
- (13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.

# Clamp Type AC Current Sensors

Product compatible with RoHS directive  
Compatible with lead-free solders

For energy management systems

## Overview of the CCT Series

### FEATURES

- Clamp type for easy installation on existing power equipment.
- Accommodates automatic processes from wire wrapping and winding to soldering, ensuring high-quality and stable supply.
- Equipped with a built-in open-circuit protective device.
- Product compatible with RoHS directive.

### APPLICATION

For energy management systems such as HEMS, BEMS, FEMS, CEMS

### PART NUMBER CONSTRUCTION

CCT	406393	-	600	-	36	-	00
Series name	External		Current		Internal clamp section diameter		Internal code
	40 L (Length)		600 600A		36 36mm		
	63 W (Width)		300 300A		24 24mm		
	93 H (Height)		100 100A		16 16mm		
			80 80A		10 10mm		
			30 30A		06 06mm		

### OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

Type	Temperature range		Package quantity	Individual weight
	Operating temperature*	Storage temperature**		
	(°C)	(°C)	(pieces/box)	(g)
CCT406393	-20 to 60	-30 to 60	8	535
CCT354571	-20 to 60	-30 to 60	24	221
CCT323047	-20 to 60	-30 to 60	36	70
CCT272440	-20 to 60	-30 to 60	36	41
CCT261631	-20 to 60	-30 to 60	60	24

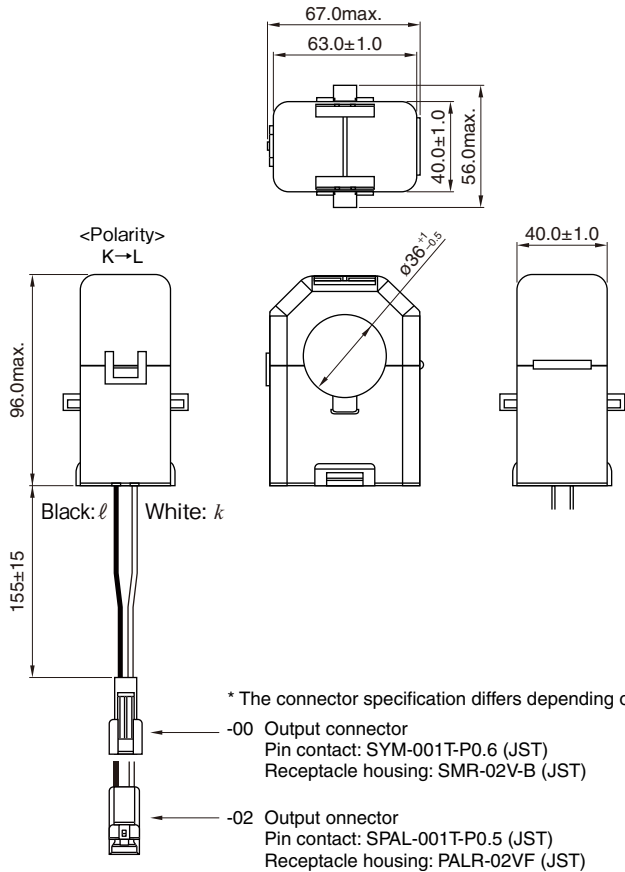
\* Operating temperature range includes self-temperature rise.

\*\* The Storage temperature range is for after the assembly.

CCT series

# CCT406393 Type

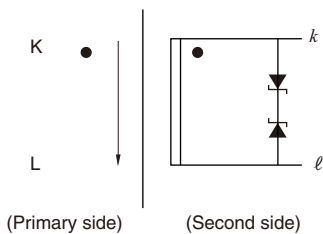
## SHAPE & DIMENSIONS



Dimensions in mm



## CIRCUIT DIAGRAM



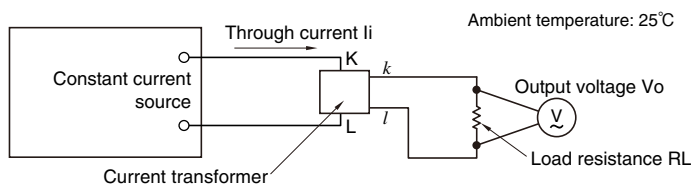
# CCT series CCT406393 Type

## SPECIFICATION

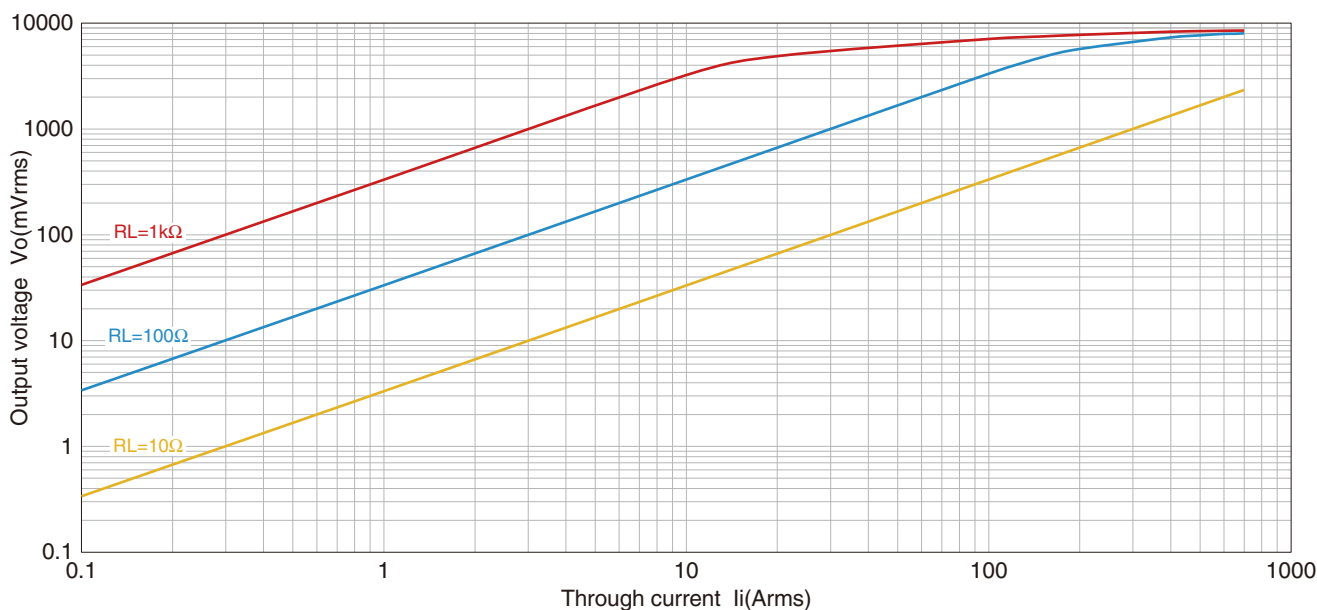
Part No.	CCT406393-600-36-00	CCT406393-600-36-02
Applied current	AC 1.0 to 600Arms (50/60Hz)	AC 1.0 to 600Arms (50/60Hz)
Maximum allowed current	AC 700Arms continuous	AC 700Arms continuous
Internal clamp section diameter	36mm	36mm
Nominal current transformation ratio	3000:1	3000:1
Output current accuracy	200.0mA±1% (600A, 50/60Hz)	200.0mA±1% (600A, 50/60Hz)
Phase difference	0.35°±0.2°(10Ω, 600A, 50/60Hz)	0.35°±0.2°(10Ω, 600A, 50/60Hz)
Secondary winding resistance	64Ω	64Ω
Open-circuit protection	7.5V Clamp element	7.5V Clamp element
Output connector	Pin contact	SYM-001T-P0.6 (JST)
	Receptacle housing	SMR-02V-B (JST)
Adaptation connector	Socket contact	SHF-001T-0.8BS (JST)
	Plug housing	SMP-02V (JST)
Output lead wire	AWG22 155mm	AWG22 155mm
Allowable desorption number of times	About100 times	About100 times
Withstanding Voltage	AC2200V, 1min. (Between outer case and output)	AC2200V, 1min. (Between outer case and output)
Insulation Resistance	100MΩ Over (DC500V)	100MΩ Over (DC500V)
Flame retardant grade	UL 94 V-0	UL 94 V-0

## ELECTRICAL CHARACTERISTICS

### MEASURING DIAGRAM



### OUTPUT VOLTAGE CHARACTERISTIC

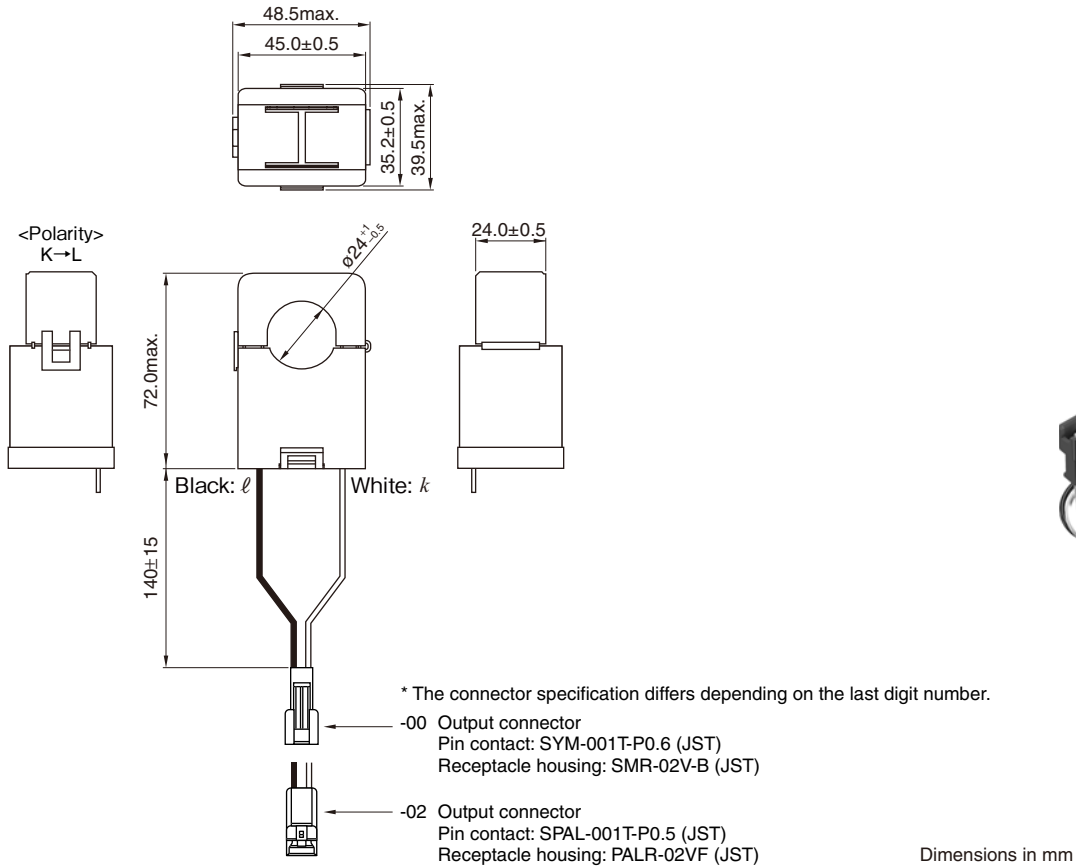


⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.

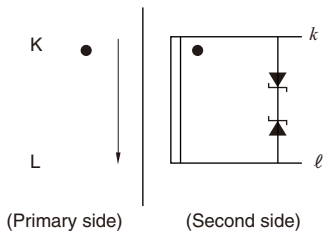
# CCT series


# CCT354571 Type

## SHAPE & DIMENSIONS



## CIRCUIT DIAGRAM



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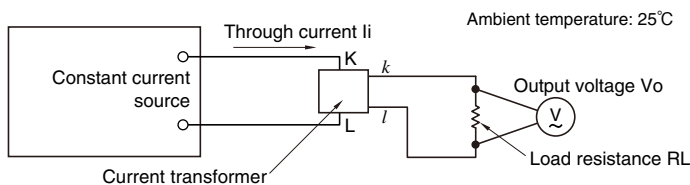
CCT series **CCT354571 Type**

## ■ SPECIFICATION

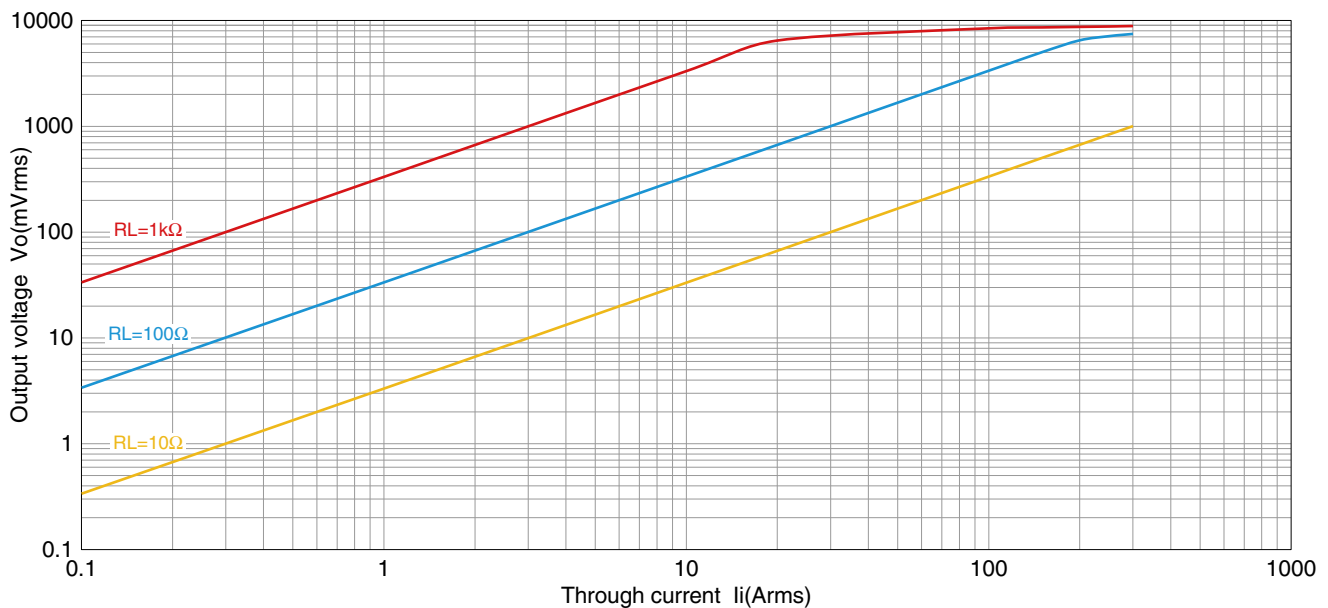
Part No.	CCT354571-300-24-00	CCT354571-300-24-02
Applied current	AC 0.1 to 300Arms (50/60Hz)	AC 0.1 to 300Arms (50/60Hz)
Maximum allowed current	AC 400Arms continuous	AC 400Arms continuous
Internal clamp section diameter	24mm	24mm
Nominal current transformation ratio	3000:1	3000:1
Output current accuracy	100.0mA±1% (300A, 50/60Hz)	100.0mA±1% (300A, 50/60Hz)
Phase difference	0.7°±0.5° (10Ω, 300A, 50/60Hz)	0.7°±0.5° (10Ω, 300A, 50/60Hz)
Secondary winding resistance	103Ω	103Ω
Open-circuit protection	7.5V Clamp element	7.5V Clamp element
Output connector	Pin contact	SYM-001T-P0.6 (JST)
	Receptacle housing	SMR-02V-B (JST)
Adaptation connector	Socket contact	SHF-001T-0.8BS (JST)
	Plug housing	SMP-02V (JST)
Output lead wire	AWG22 140mm	AWG22 140mm
Allowable desorption number of times	AC2200V, 1min. (Between outer case and output)	AC2200V, 1min. (Between outer case and output)
Withstanding Voltage	About100 times	About100 times
Insulation Resistance	100MΩ Over (DC500V)	100MΩ Over (DC500V)
Flame retardant grade	UL 94 V-0	UL 94 V-0

## ■ ELECTRICAL CHARACTERISTICS

## □ MEASURING DIAGRAM



## □ OUTPUT VOLTAGE CHARACTERISTIC



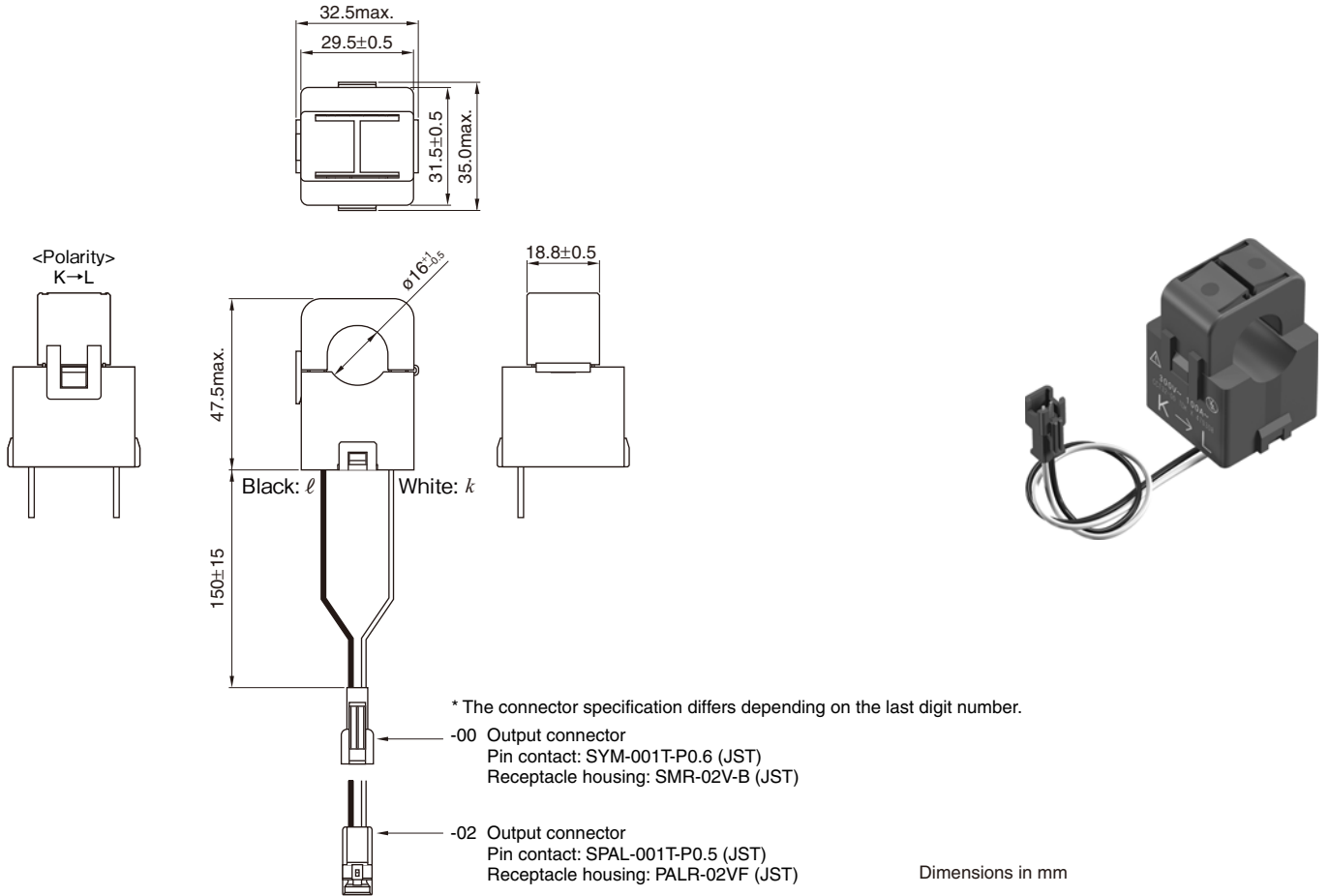
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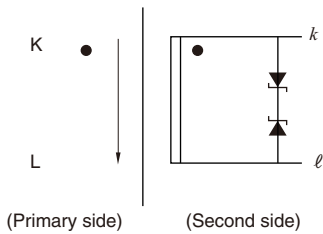
# CCT series


# CCT323047 Type

## SHAPE & DIMENSIONS



## CIRCUIT DIAGRAM



 Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.  
Please note that the contents may change without any prior notice due to reasons such as upgrading.

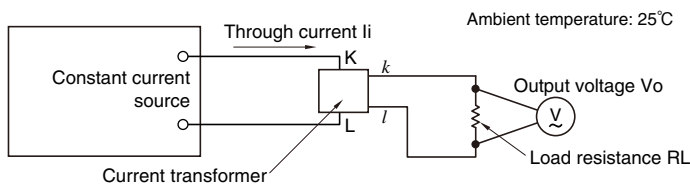
CCT series **CCT323047 Type**

## ■ SPECIFICATION

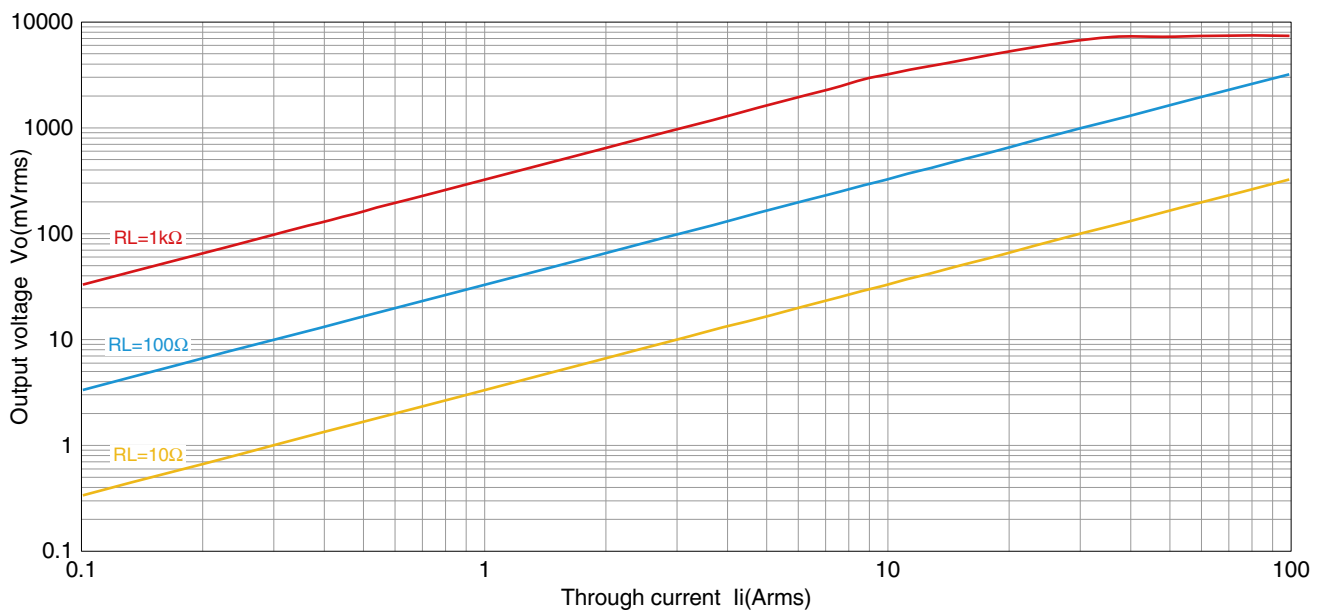
Part No.	CCT323047-100-16-00	CCT323047-100-16-02
Applied current	AC 0.1 to 100Arms (50/60Hz)	AC 0.1 to 100Arms (50/60Hz)
Maximum allowed current	AC 200Arms continuous	AC 200Arms continuous
Internal clamp section diameter	16mm	16mm
Nominal current transformation ratio	3000:1	3000:1
Output current accuracy	33.3mA±1% (100A, 50/60Hz)	33.3mA±1% (100A, 50/60Hz)
Phase difference	1.2°±0.8° (10Ω,100A, 50/60Hz)	1.2°±0.8° (10Ω,100A, 50/60Hz)
Secondary winding resistance	285Ω	285Ω
Open-circuit protection	7.5V Clamp element	7.5V Clamp element
Output connector	Pin contact	SYM-001T-P0.6 (JST)
	Receptacle housing	SMR-02V-B (JST)
Adaptation connector	Socket contact	SHF-001T-0.8BS (JST)
	Plug housing	SMP-02V (JST)
Output lead wire	AWG22 150mm	AWG22 150mm
Allowable desorption number of times	About100 times	About100 times
Withstanding Voltage	AC2200V , 1min. (Between outer case and output)	AC2200V , 1min. (Between outer case and output)
Insulation Resistance	100MΩ Over (DC500V)	100MΩ Over (DC500V)
Flame retardant grade	UL 94 V-0	UL 94 V-0

## ■ ELECTRICAL CHARACTERISTICS

## □ MEASURING DIAGRAM



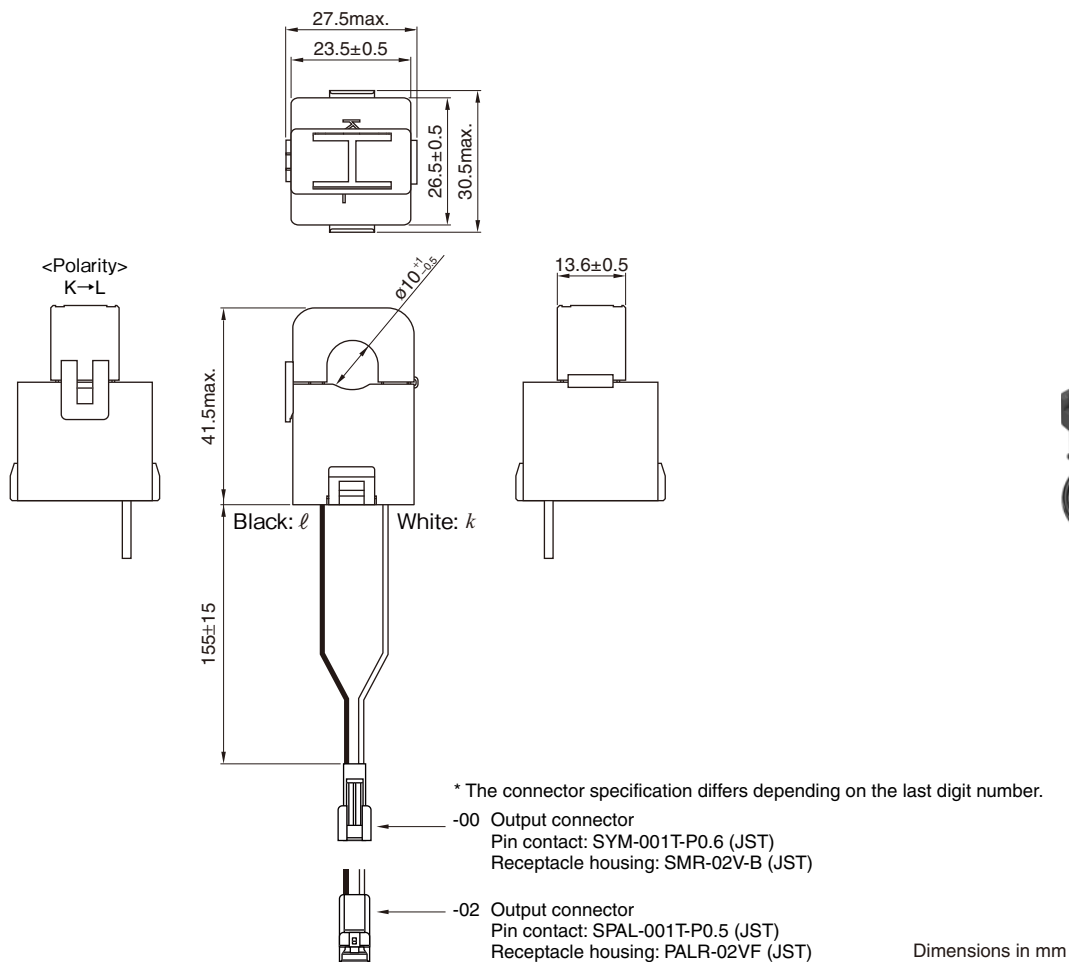
## □ OUTPUT VOLTAGE CHARACTERISTIC



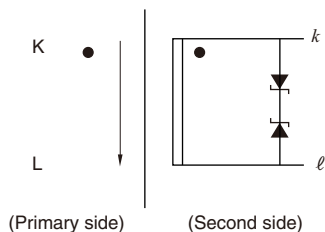
# CCT series


# CCT272440 Type

## SHAPE & DIMENSIONS



## CIRCUIT DIAGRAM



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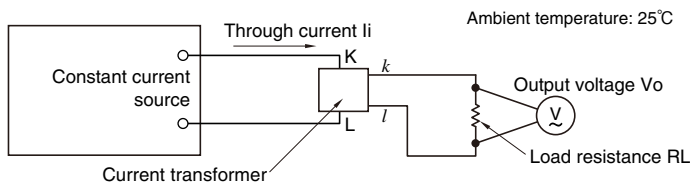
CCT series **CCT272440 Type**

## ■ SPECIFICATION

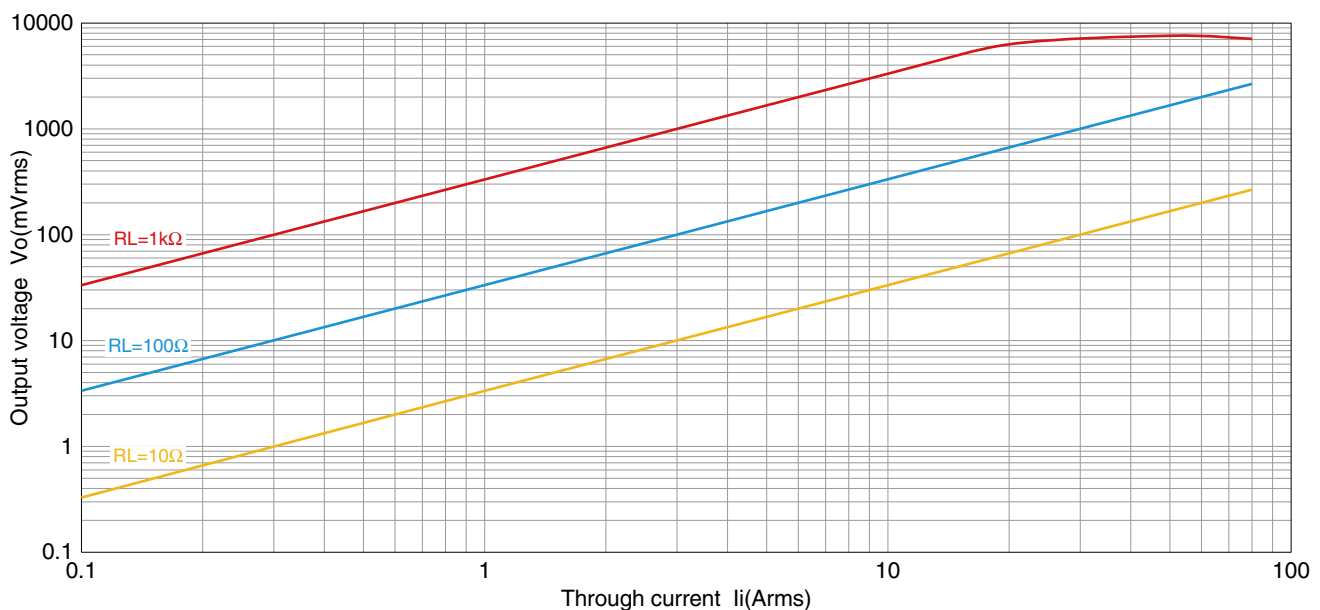
Part No.	CCT272440-80-10-00	CCT272440-80-10-02
Applied current	AC 0.1 to 80Arms (50/60Hz)	AC 0.1 to 80Arms (50/60Hz)
Maximum allowed current	AC 120Arms continuous	AC 120Arms continuous
Internal clamp section diameter	10mm	10mm
Nominal current transformation ratio	3000:1	3000:1
Output current accuracy	26.6mA±1% (80A, 50/60Hz)	26.6mA±1% (80A, 50/60Hz)
Phase difference	1.7°±1.0° (10Ω, 80A, 50/60Hz)	1.7°±1.0° (10Ω, 80A, 50/60Hz)
Secondary winding resistance	352Ω	352Ω
Open-circuit protection	7.5V Clamp element	7.5V Clamp element
Output connector	Pin contact	SYM-001T-P0.6 (JST)
	Receptacle housing	SMR-02V-B (JST)
Adaptation connector	Socket contact	SHF-001T-0.8BS (JST)
	Plug housing	SMP-02V (JST)
Output lead wire	AWG22 155mm	AWG22 155mm
Allowable desorption number of times	About100 times	About100 times
Withstanding Voltage	AC2200V, 1min. (Between outer case and output)	AC2200V, 1min. (Between outer case and output)
Insulation Resistance	100MΩ Over (DC500V)	100MΩ Over (DC500V)
Flame retardant grade	UL 94 V-0	UL 94 V-0

## ■ ELECTRICAL CHARACTERISTICS

## □ MEASURING DIAGRAM



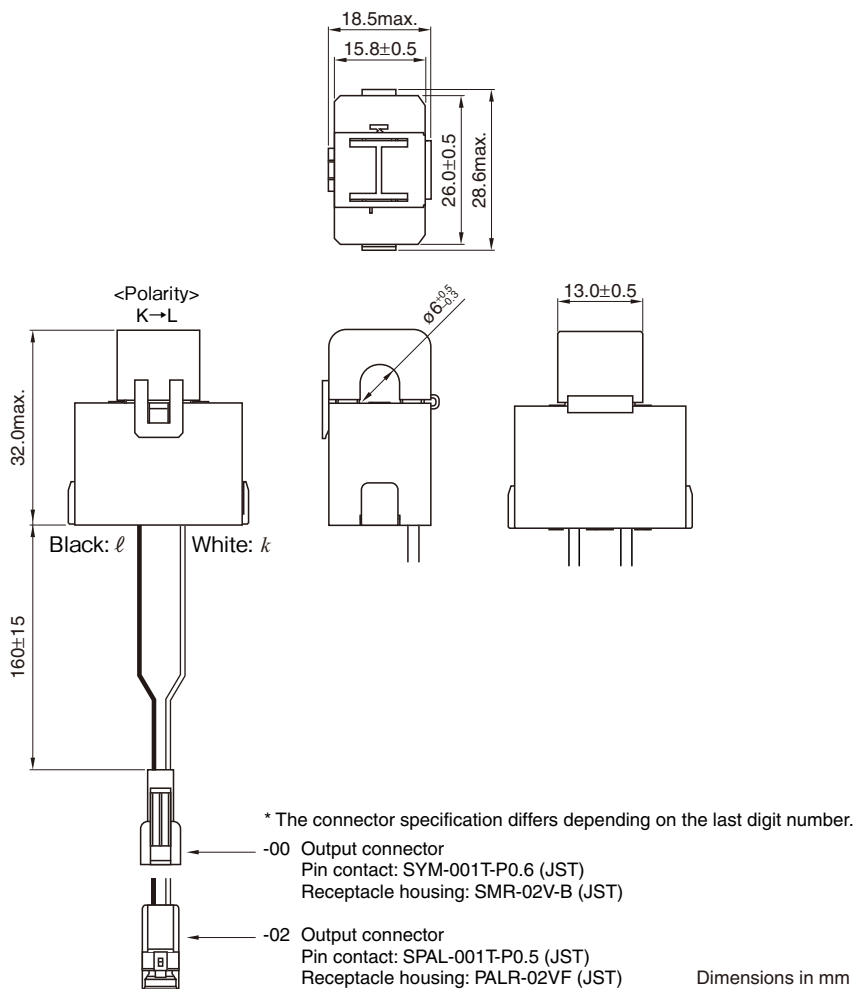
## □ OUTPUT VOLTAGE CHARACTERISTIC



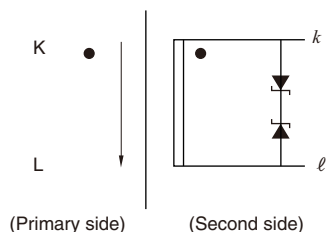
# CCT series


# CCT261631 Type

## SHAPE & DIMENSIONS



## CIRCUIT DIAGRAM



 Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.

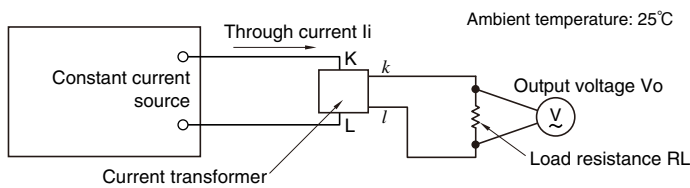
CCT series **CCT261631 Type**

## ■ SPECIFICATION

Part No.	CCT261631-30-06-00	CCT261631-30-06-02
Applied current	AC 0.1 to 30Arms (50/60Hz)	AC 0.1 to 30Arms (50/60Hz)
Maximum allowed current	AC 50Arms continuous	AC 50Arms continuous
Internal clamp section diameter	6mm	6mm
Nominal current transformation ratio	3000:1	3000:1
Output current accuracy	10mA±1% (30A, 50/60Hz)	10mA±1% (30A, 50/60Hz)
Phase difference	3.0°±1.5° (10Ω,30A, 50/60Hz)	3.0°±1.5° (10Ω,30A, 50/60Hz)
Secondary winding resistance	492Ω	492Ω
Open-circuit protection	7.5V Clamp element	7.5V Clamp element
Output connector	Pin contact	SYM-001T-P0.6 (JST)
	Receptacle housing	SMR-02V-B (JST)
Adaptation connector	Socket contact	SHF-001T-0.8BS (JST)
	Plug housing	SMP-02V (JST)
Output lead wire	AWG22 160mm	AWG22 160mm
Allowable desorption number of times	About100 times	About100 times
Withstanding Voltage	AC2200V , 1min. (Between outer case and output)	AC2200V , 1min. (Between outer case and output)
Insulation Resistance	100MΩ Over (DC500V)	100MΩ Over (DC500V)
Flame retardant grade	UL 94 V-0	UL 94 V-0

## ■ ELECTRICAL CHARACTERISTICS

## □ MEASURING DIAGRAM



## □ OUTPUT VOLTAGE CHARACTERISTIC

