



Clamp Type AC Current Sensors

For energy management systems

CCT series

CCT406393

CCT354571

CCT323047

CCT272440

CCT261631

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.

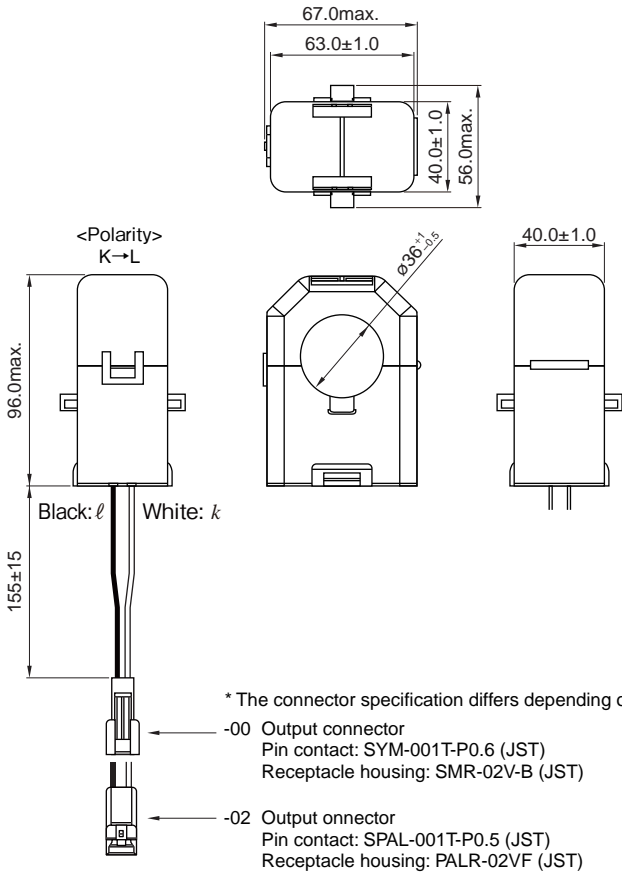
○ RoHS Directive Compliant Product: See the following for more details. <https://product.tdk.com/info/en/environment/rohs/index.html>

 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

CCT406393 Type

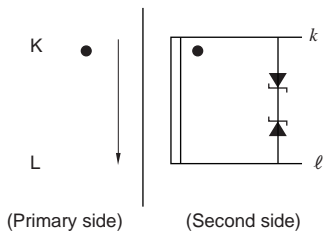
SHAPE & DIMENSIONS




Dimensions in mm



CIRCUIT DIAGRAM



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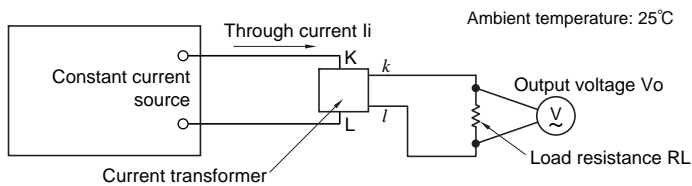
CCT series **CCT406393 Type**

■ SPECIFICATION

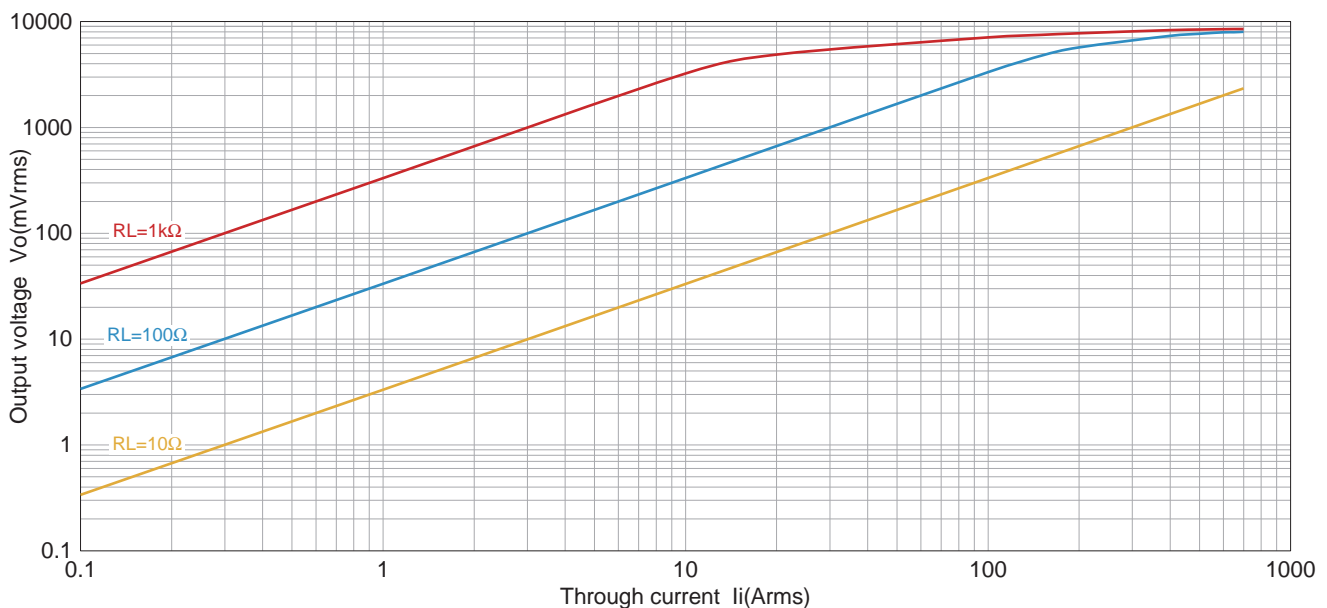
| | | |
|--------------------------------------|--|--|
| Part No. | CCT406393-600-36-00 | CCT406393-600-36-02 |
| Applied current | AC 1.0 to 600Arms (50/60Hz) | AC 1.0 to 600Arms (50/60Hz) |
| Maximum allowed current | AC 700Arms continuous | AC 700Arms continuous |
| Internal clamp section diameter | 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 | Receptacle housing |
| | SYM-001T-P0.6 (JST) | SPAL-001T-P0.5 (JST) |
| Adaptation connector | Socket contact | Plug housing |
| | SHF-001T-0.8BS (JST) | SPHD-001T-P0.5 (JST) |
| | SMP-02V (JST) | PAP-02V-S (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



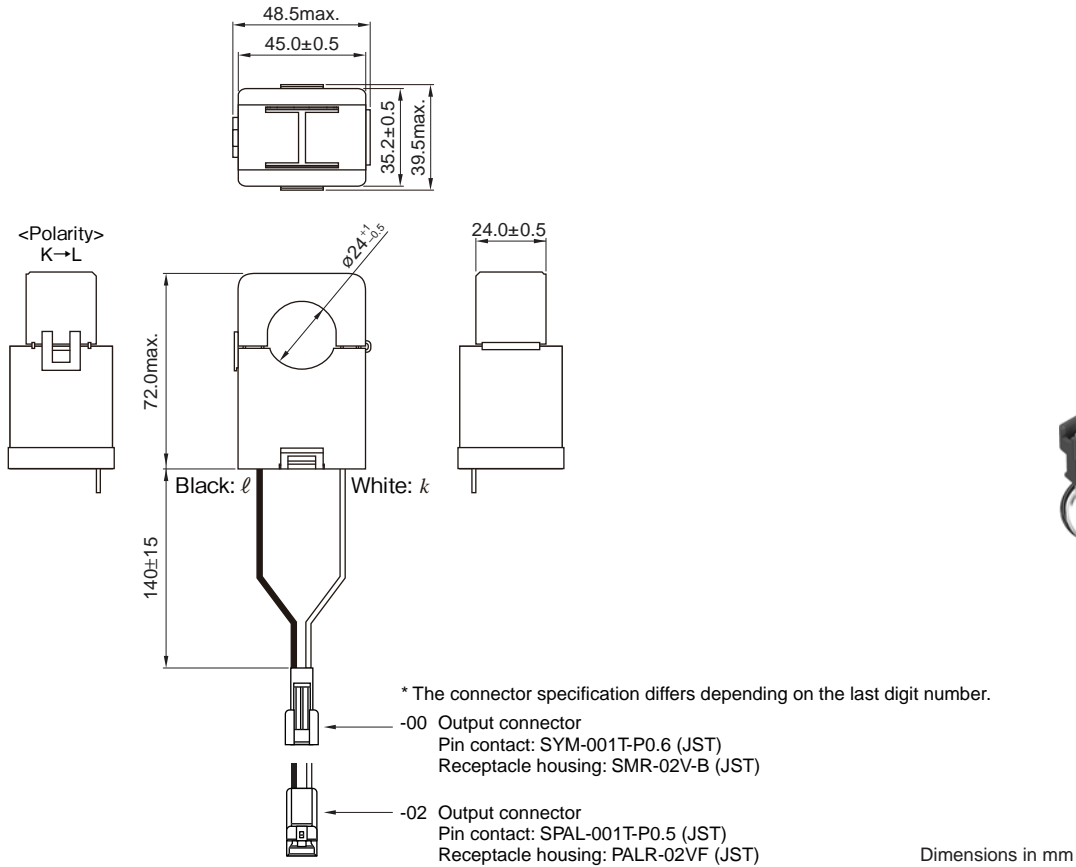
□ OUTPUT VOLTAGE CHARACTERISTIC



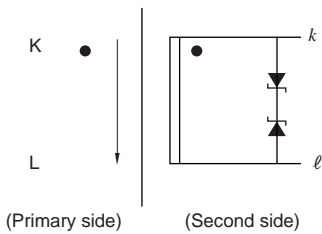
CCT series


CCT354571 Type

SHAPE & DIMENSIONS



CIRCUIT DIAGRAM



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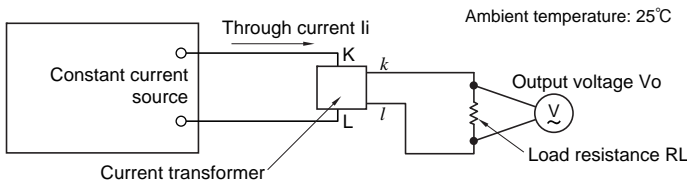
CCT series CCT354571 Type

SPECIFICATION

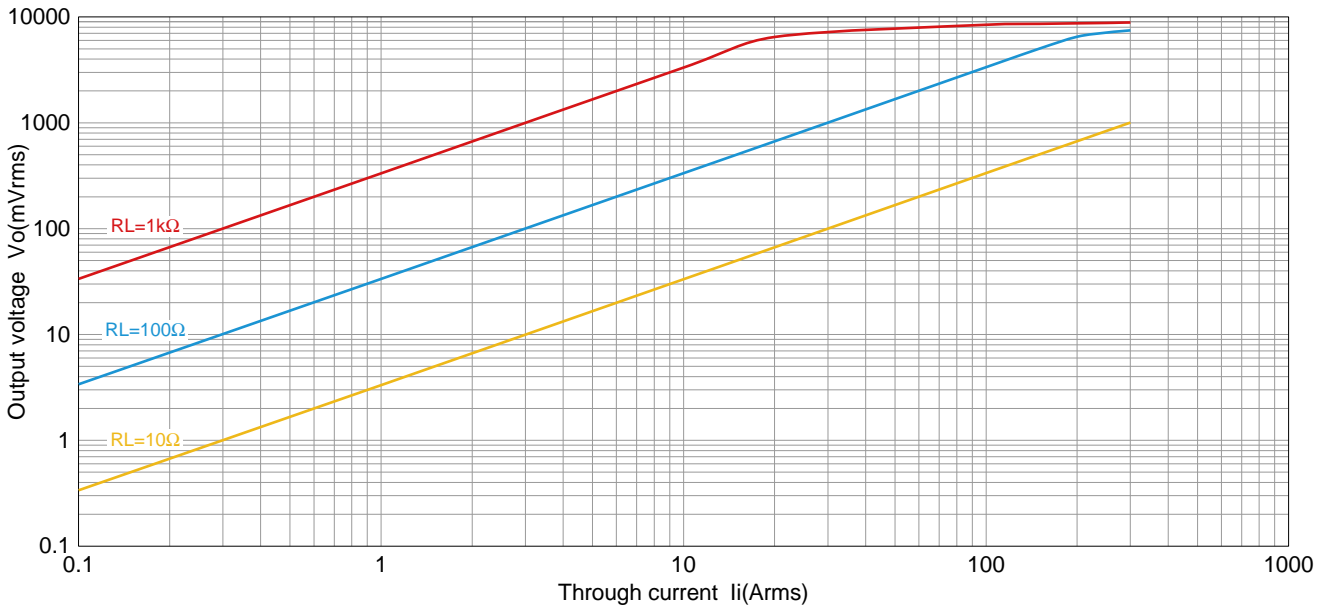
| | | |
|--------------------------------------|--|--|
| Part No. | CCT354571-300-24-00 | CCT354571-300-24-02 |
| Applied current | AC 0.1 to 300Arms (50/60Hz) | AC 0.1 to 300Arms (50/60Hz) |
| Maximum allowed current | AC 400Arms continuous | AC 400Arms continuous |
| Internal clamp section diameter | 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 | SPAL-001T-P0.5 (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 | About 100 times | About 100 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

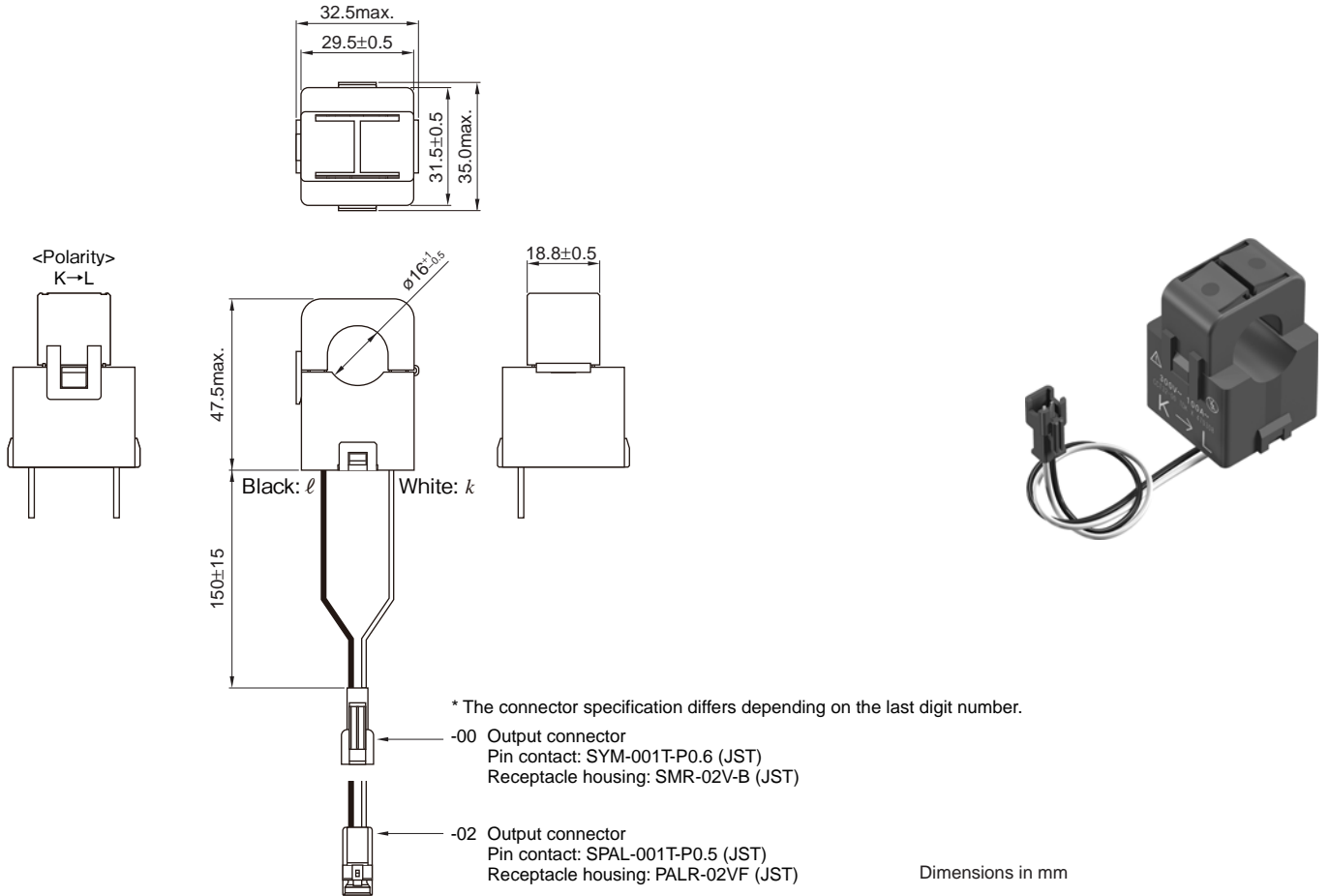


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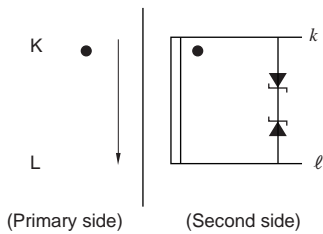
CCT series


CCT323047 Type

SHAPE & DIMENSIONS



CIRCUIT DIAGRAM



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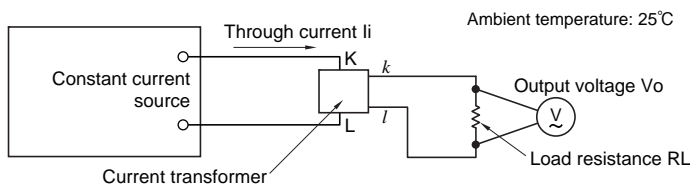
CCT series **CCT323047 Type**

■ SPECIFICATION

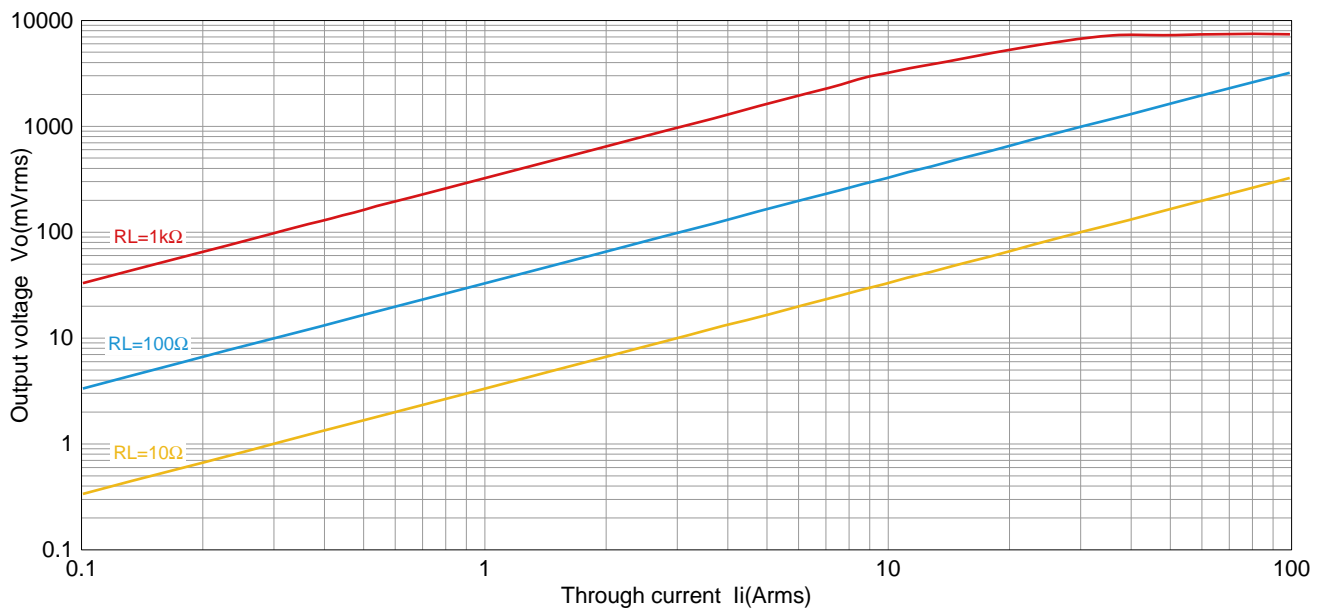
| | | |
|--------------------------------------|---|---|
| Part No. | CCT323047-100-16-00 | CCT323047-100-16-02 |
| Applied current | AC 0.1 to 100Arms (50/60Hz) | AC 0.1 to 100Arms (50/60Hz) |
| Maximum allowed current | AC 200Arms continuous | AC 200Arms continuous |
| Internal clamp section diameter | 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 | SPAL-001T-P0.5 (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



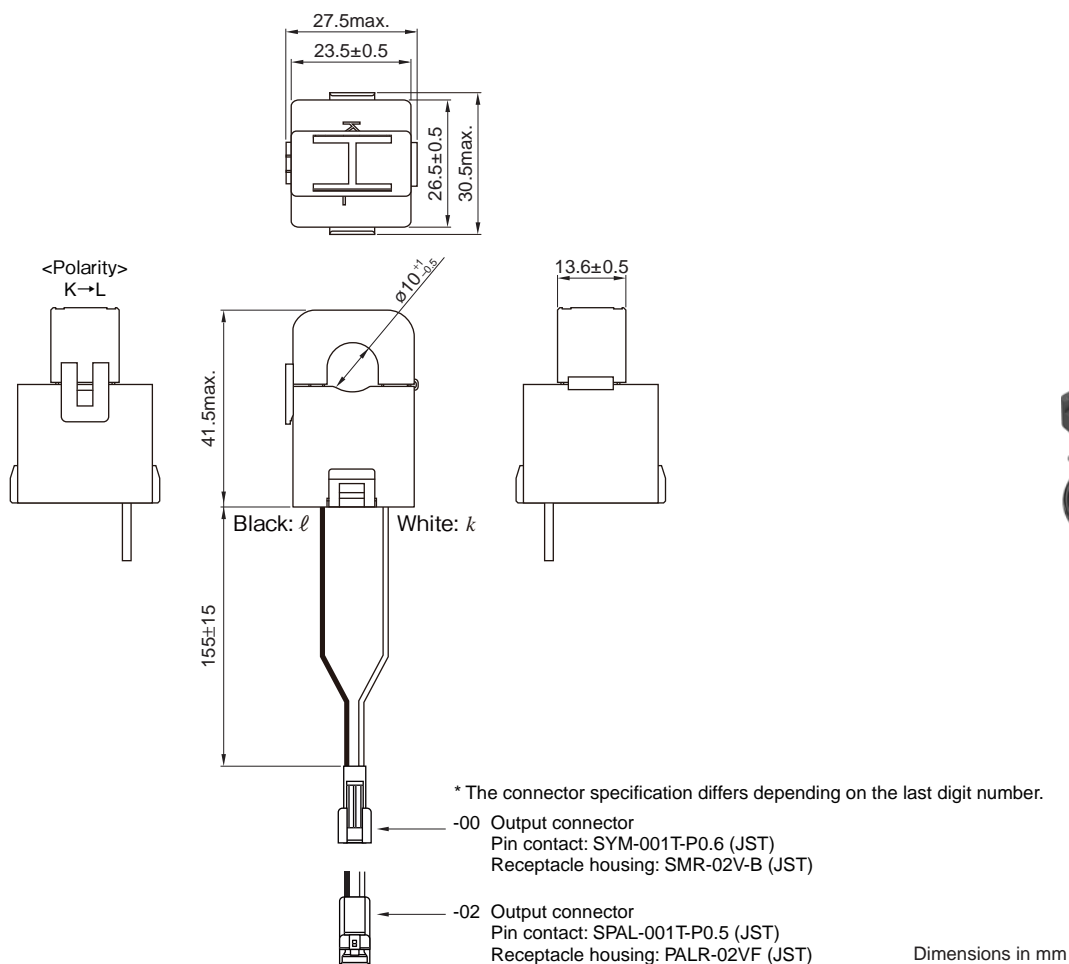
□ OUTPUT VOLTAGE CHARACTERISTIC



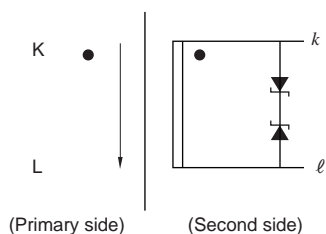
CCT series


CCT272440 Type

SHAPE & DIMENSIONS



CIRCUIT DIAGRAM



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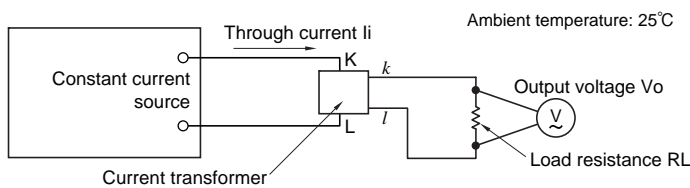
CCT series **CCT272440 Type**

■ SPECIFICATION

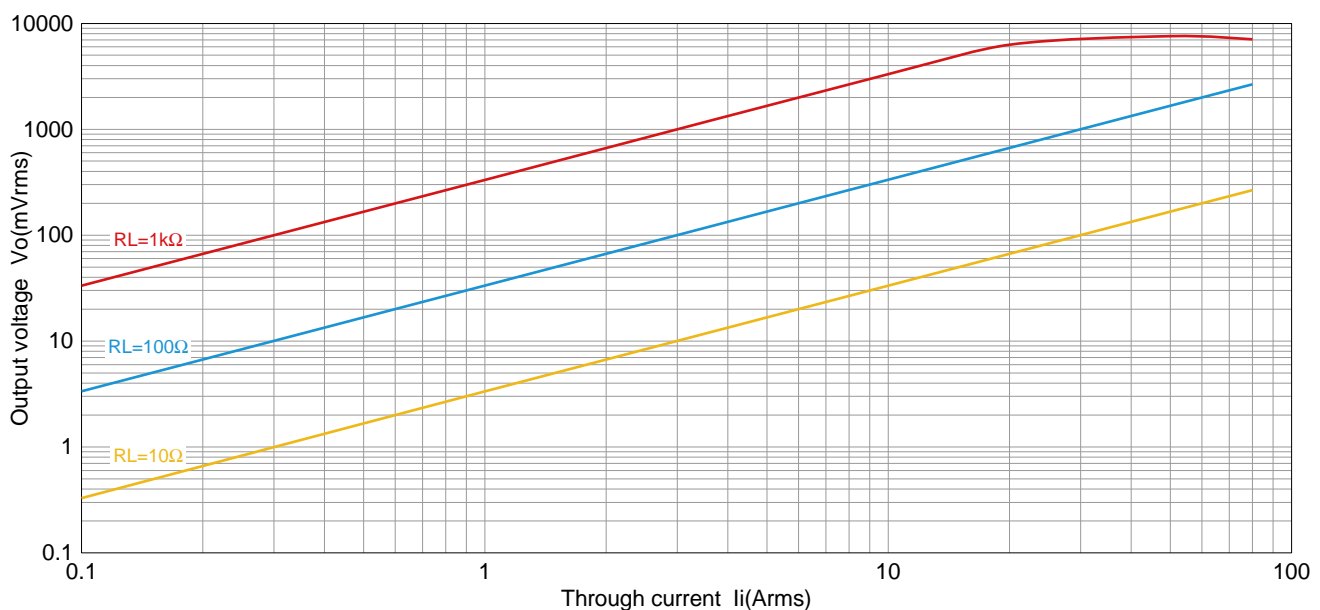
| | | |
|--------------------------------------|--|--|
| Part No. | CCT272440-80-10-00 | CCT272440-80-10-02 |
| Applied current | AC 0.1 to 80Arms (50/60Hz) | AC 0.1 to 80Arms (50/60Hz) |
| Maximum allowed current | AC 120Arms continuous | AC 120Arms continuous |
| Internal clamp section diameter | 10mm | 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 | Receptacle housing |
| | SYM-001T-P0.6 (JST) | SPAL-001T-P0.5 (JST) |
| Adaptation connector | Socket contact | Plug housing |
| | SHF-001T-0.8BS (JST) | SPHD-001T-P0.5 (JST) |
| | SMP-02V (JST) | PAP-02V-S (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



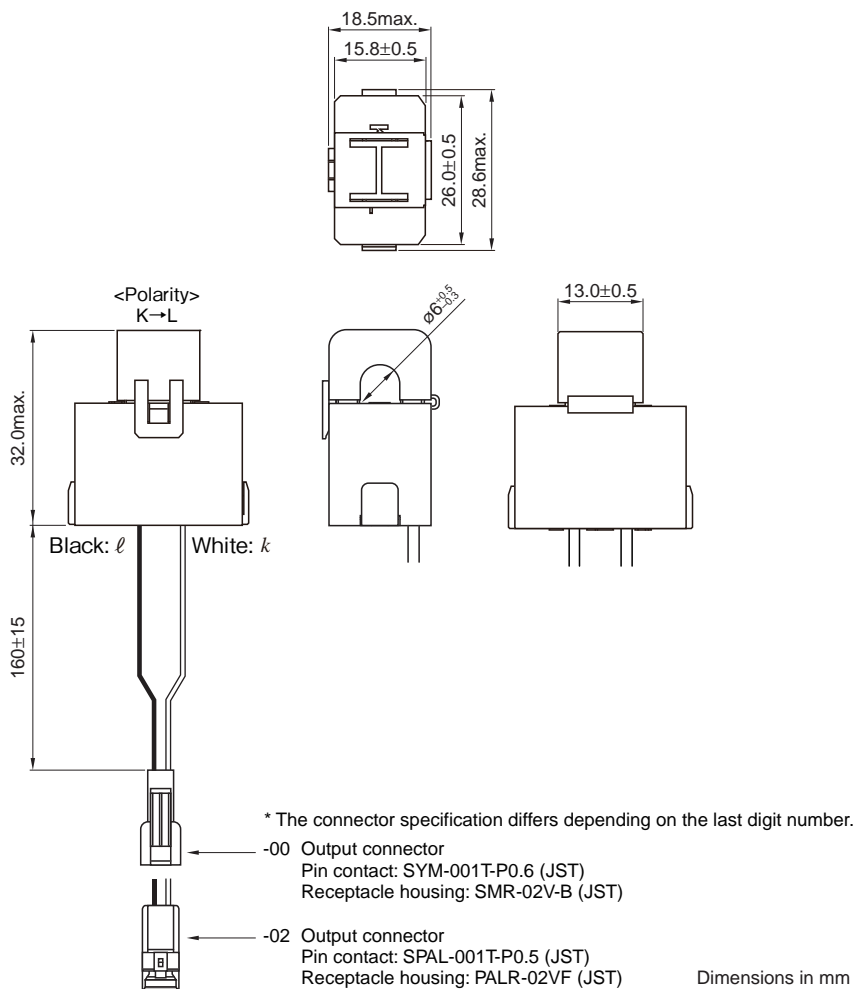
□ OUTPUT VOLTAGE CHARACTERISTIC



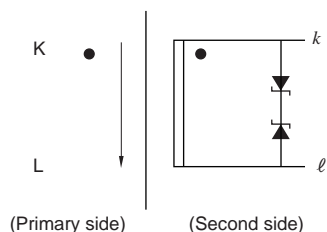
CCT series


CCT261631 Type

SHAPE & DIMENSIONS



CIRCUIT DIAGRAM



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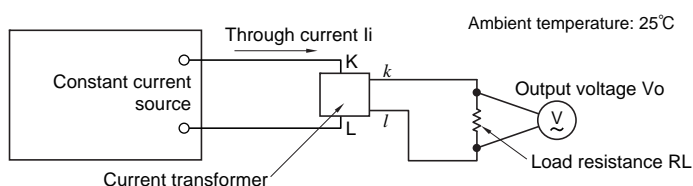
CCT series **CCT261631 Type**

■ SPECIFICATION

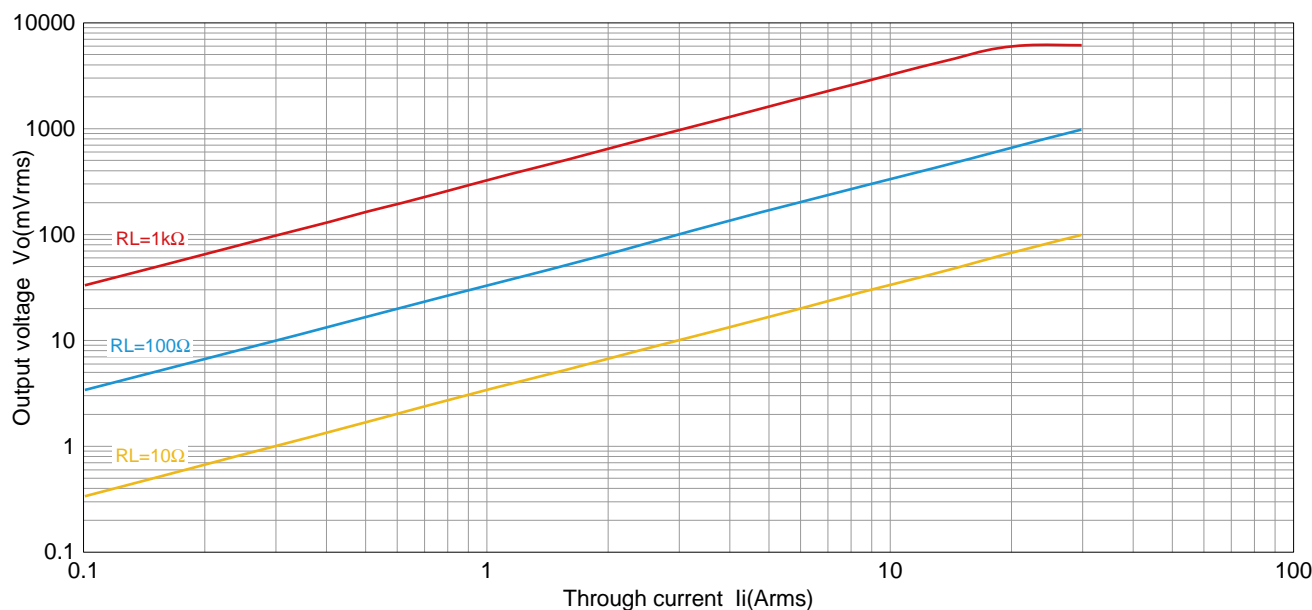
| | | |
|--------------------------------------|--|--|
| Part No. | CCT261631-30-06-00 | CCT261631-30-06-02 |
| Applied current | AC 0.1 to 30Arms (50/60Hz) | AC 0.1 to 30Arms (50/60Hz) |
| Maximum allowed current | AC 50Arms continuous | AC 50Arms continuous |
| Internal clamp section diameter | 6mm | 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) | SPAL-001T-P0.5 (JST) |
| Adaptation connector | Receptacle housing SMR-02V-B (JST) | PALR-02VF (JST) |
| Socket contact | SHF-001T-0.8BS (JST) | SPHD-001T-P0.5 (JST) |
| Plug housing | SMP-02V (JST) | PAP-02V-S (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



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