

1 GENERAL

1.1 Description

- This specification defines the performance characteristics for a class II adapter, single-phase 10.0 watts. Single output level power supply.
- Simple design philosophy.
- Reliability level of 50K hours MTBF @ 25° C (rated input voltage, and using the BELLCORE SR-332 method).
- DC output voltage must be Safe Extra Low Voltage (SELV) & Limited Power as defined by IEC62368-1.
- The maximum room ambient temperature (T_{mra}), as mentioned in clause B.1.6 and B.2.6 of IEC62368-1, for the external power supply is 40 °C.
- Cooling: natural convection.

2 INPUT REQUIREMENTS

2.1 Input Conditions

The supply shall operate over the voltage ranges as follows:

| | |
|--------------------------------|--|
| Rated input voltage | 100-120Vac |
| Operating range | 90-132Vac |
| Rated input frequency | 50/60Hz +/- 3Hz |
| Rated input current | 0.4A max. |
| Power consumption (no-loading) | 0.1W max. |
| Primary current protection | An adequate internal fuse on the AC input line is provide. |
| Configuration | <u>2</u> Conductor |

2.2 AC Inrush Current

No damage shall be occurred and the input fuse shall not be blown up nominal input voltage full load 25°C cold starts.

3 OUTPUT REQUIREMENTS

| | | |
|-----|---------------------------|--|
| 3.1 | Nominal DC output voltage | +5.0V |
| 3.2 | Minimum load current | 0.01A |
| 3.3 | Rating load current | 2.0A |
| 3.4 | Peak load current | / |
| 3.5 | Rating output power | 10.0W |
| 3.6 | Line regulation | The line regulation is less than <u>±5%</u> while measuring at rated load and +/-10% of input voltage changing. |
| 3.7 | Load regulation | The load regulation for <u>+5.0V</u> is less than <u>±5%</u> , at measured output load from 10% to 100% rated load . |

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| 3.8 | Peak load regulation | The peak load regulation for <u>+5.0V</u> is less than <u> / </u> , at measured output load from 30% to 100% rated load. |
| 3.9 | Ripple and noise | <u>150 mVp-p</u> Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope. |
| 3.10 | Switching efficiency | <u>78.7%</u> minimum 115V/60Hz, output current from 100%, 75%, 50%, 25%. |
| 3.11 | Turn on delay time | <u>3000 mS max</u> at nominal input AC voltage and full load |
| 3.12 | Rise time | The supply shall have a start-up rise time of less than <u>20mS</u> to rise to within regulation limits for all DC outputs. |
| 3.13 | Hold up time | <u>8 mS</u> minimum at nominal input 100Vac minimum voltage and full load. |
| 3.14 | Output over-shoot | Less than <u>10%</u> of nominal voltage value |
| 3.15 | LED indication function | / |
| 3.16 | Protection function | |
| | Short-circuit protection | The adapter shall not be damaged by short the DC output to Ground. The adapter shall resume normal operation when a short circuited fault condition is removed. |
| | Over current protection | The output shall be protected against the over current conditions. |

4 MECHANICAL

4.1 Enclosure and Layout

Plastic case: UL94V-0
 Weight : / g (Max.)
 Dimensions: 27.0x27.0x25.0mm
 Color : Black

4.2 Input and Output Configuration

Input pin: International Pin
 Output connector : DC plug type: Type-C
 Polarity: /

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5 REGULATORY COMPLIANCE

5.1 Safety Requirements and Certification

5.1.1 Regulatory Standard

The power supply shall comply with the following international regulatory standards

| Approval | Country | Standard |
|----------|---------|----------------------|
| UL | USA | UL 62368-1 |
| CUL | Canada | CSA C22.2 NO.62368-1 |

5.1.2 Additional Safety Requirements

- ⊙ Dielectric Withstand Voltage, Primary(input AC short)-to-Secondary(output DC short): 3000Vac, 5mA, 1 minute.
- ⊙ Insulation Resistance, Input to output: 10MΩ(MIN.) at 500VDC.
- ⊙ Reinforced insulation system, Primary-to-Ground and Primary-to-Secondary.
- ⊙ The leakage current shall not exceed 0.25mA.

6 ENVIRONMENTAL REQUIREMENTS

6.1 Temperature

- ⊙ Operating: 0°C +40 °C
- ⊙ Non-Operating: -25°C +70 °C

6.2 Humidity

- ⊙ Operating: 10%~90% (Non Condensing)
- ⊙ Non-Operating: 10%~90% (Non Condensing)

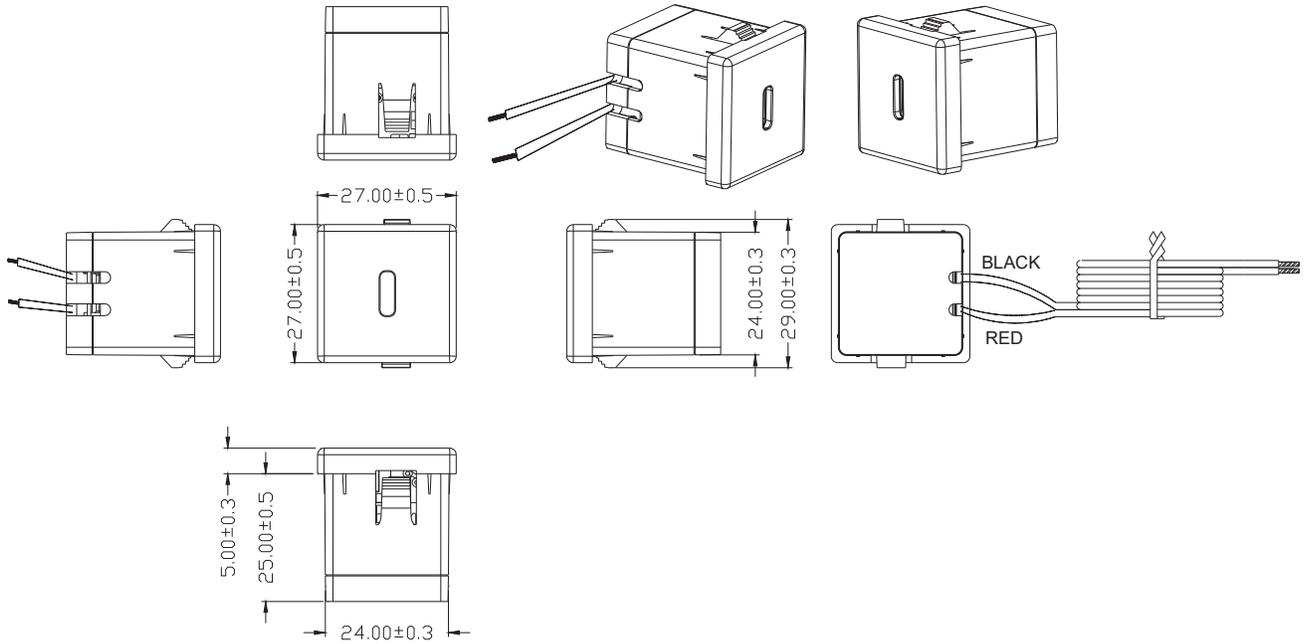
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7 APPEARANCE DRAWING: (Unit: mm)



- NOTE: 1. Case cover & chassis material:
 PC: BLACK
 2. AC PIN MATERIAL: BRASS (NI PLATED)
 3. Panel Thickness: 0.8~1.8mm

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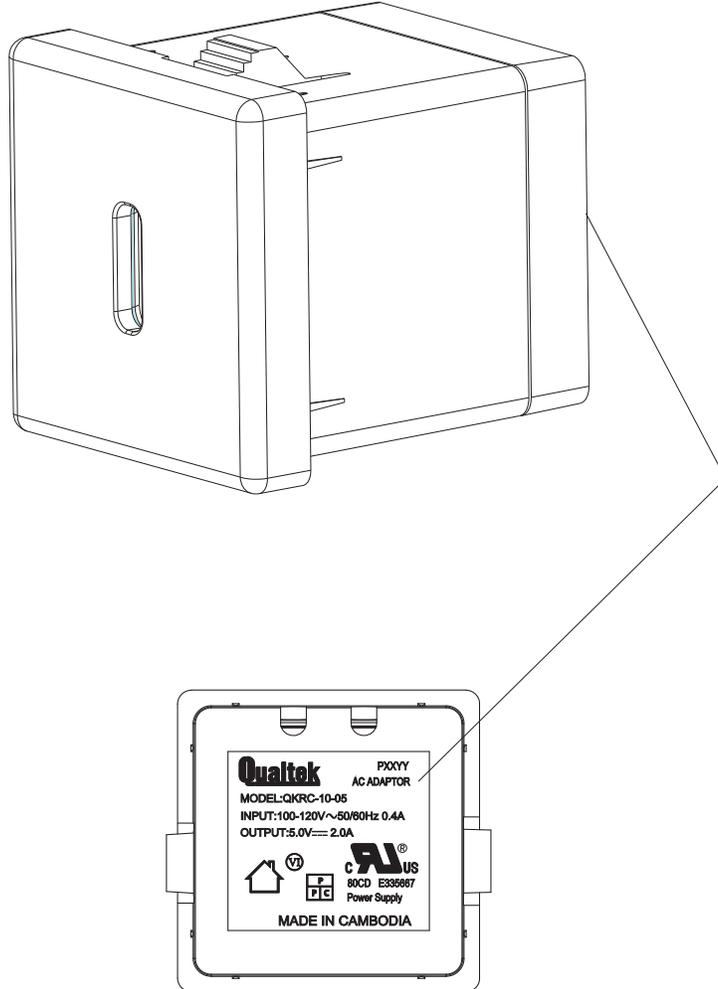


10W 5V Snap-in USB Type C Power Supply Receptacle

Qualtek P/N:

QKRC-10-05

8 NAME PLATE:

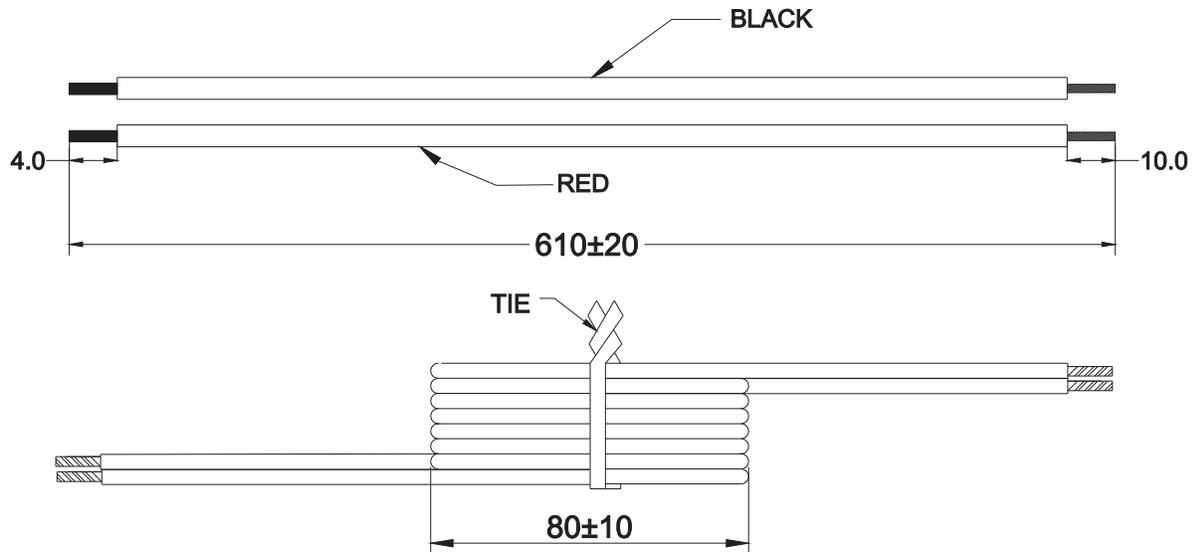


Note: 1. Laser

Date code(PXXYY: P=PAHS+REACH+ROHS, XX=Week, YY=Year)

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9 AC Cable



Note: (unit:mm)

Wire type: VW-1 125°C 300V UL3266 L=610mm 22AWG BLACK+RED

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