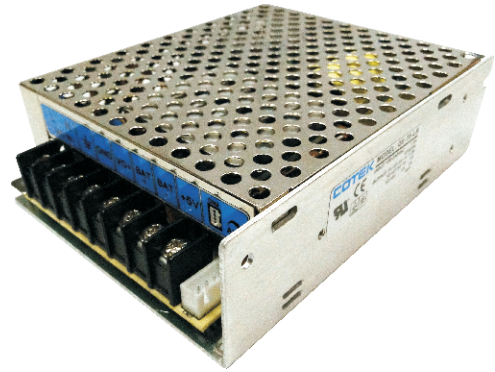


### Features :

- Universal AC input / Full range
- Auto switch when power off (UPS function)
- Built-in constant current limiting circuit
- Alarm signal for AC OK and Battery low (TTL open collector output or Relay contact output)
- Protections: Short circuit / Over load / Over voltage  
Brown-out (Low AC Input Voltage)  
Battery low protection  
Battery polarity protection  
(by Resettable Fuses)
- Cooling by free air convection
- High efficiency, long life and high reliability
- Withstand 2G vibration test
- All using 105°C long life electrolytic capacitors
- 3 years warranty



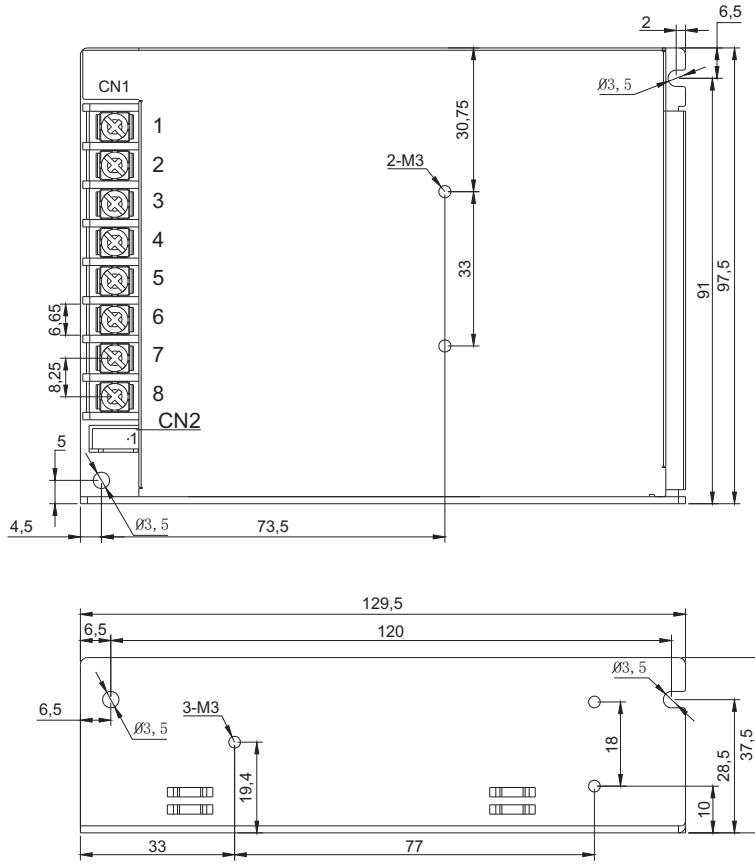
| MODEL               |                                                    | QE-100-G                                                                                                                                                                                   |                           | QE-100-GB     |                      |        | QE-100-L                    |                           | QE-100-LB |                      |        |       |
|---------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------|----------------------|--------|-----------------------------|---------------------------|-----------|----------------------|--------|-------|
| Output              | Output Number                                      | CH1                                                                                                                                                                                        | CH2                       | CH1           | CH2                  | CH3    | CH1                         | CH2                       | CH1       | CH2                  | CH3    |       |
|                     | DC Voltage Range                                   | 13.8V                                                                                                                                                                                      | 13.8V                     | 13.8V         | 13.8V                | 5V     | 27.6V                       | 27.6V                     | 27.6V     | 27.6V                | 5V     |       |
|                     | Rated Current                                      | 4.8A                                                                                                                                                                                       | 2.5A                      | 3.7A          | 2.5A                 | 3A     | 2.15A                       | 1.5A                      | 1.6A      | 1.5A                 | 3A     |       |
|                     | Max. Output Current                                | Note.8                                                                                                                                                                                     | 7.3A                      | 2.875A        | 6.2A                 | 2.875A | 3A                          | 3.65A                     | 1.725A    | 3.1A                 | 1.725A | 3A    |
|                     | Rated Power                                        | 100.74W                                                                                                                                                                                    |                           | 100.56W       |                      |        | 100.74W                     |                           | 100.56W   |                      |        |       |
|                     | Ripple & Noise (max.)                              | Note.2                                                                                                                                                                                     | 100mV                     | 150mV         | 100mV                | 150mV  | 100mV                       | 150mV                     | 100mV     | 150mV                | 100mV  |       |
|                     | Voltage Adj. Range                                 | CH1:±10%                                                                                                                                                                                   |                           |               |                      |        | CH1:±10%                    |                           |           |                      |        |       |
|                     | Voltage Tolerance                                  | Note.3                                                                                                                                                                                     | ±2%                       | -----         | ±2%                  | -----  | ±3%                         | ±2%                       | -----     | ±2%                  | -----  | ±3%   |
|                     | Line Regulation                                    | Note.4                                                                                                                                                                                     | ±0.5%                     | -----         | ±0.5%                | -----  | ±0.5%                       | ±0.5%                     | -----     | ±0.5%                | -----  | ±0.5% |
|                     | Load Regulation                                    | Note.5                                                                                                                                                                                     | ±0.5%                     | -----         | ±0.5%                | -----  | ±1.5%                       | ±0.5%                     | -----     | ±0.5%                | -----  | ±1.5% |
| Setup, Rise Time    | 800ms, 30ms/230VAC 800ms, 30ms/115VAC at full load |                                                                                                                                                                                            |                           |               |                      |        |                             |                           |           |                      |        |       |
| Hold up Time (Typ.) | 50ms / 230VAC                                      |                                                                                                                                                                                            | 8ms / 115VAC at full load |               |                      |        |                             |                           |           |                      |        |       |
| Input               | Voltage Range                                      | 90 ~ 264VAC                                                                                                                                                                                |                           | 127 ~ 373VDC  |                      |        |                             |                           |           |                      |        |       |
|                     | Frequency Range                                    | 47Hz ~ 63Hz                                                                                                                                                                                |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Efficiency (Typ.) at 230Vac                        | 86%                                                                                                                                                                                        |                           |               | 85%                  |        |                             | 87%                       |           | 85%                  |        |       |
|                     | AC Current (Typ.)                                  | 2A / 115VAC                                                                                                                                                                                |                           | 1.2A / 230VAC |                      |        |                             |                           |           |                      |        |       |
|                     | Inrush Current (Typ.)                              | Cold Start 35A / 115VAC 70A / 230VAC (Withstand 300VAC surge for 5sec. Without damage)                                                                                                     |                           |               |                      |        |                             |                           |           |                      |        |       |
| Leakage Current     | For earth <1mA / 264VAC                            |                                                                                                                                                                                            |                           |               |                      |        |                             |                           |           |                      |        |       |
| Protection          | Over Load                                          | Above 110% rated output power CH1 / CH3 (GB / LB only)<br>Above 100% rated output current for CH2<br>Protection type :Hiccup mode , recovers automatically after fault condition is remove |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Over Voltage                                       | CH1: 115% ~ 150% rated output voltage<br>Protection type : latch-off mode                                                                                                                  |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Battery cut off                                    | 10V±5%                                                                                                                                                                                     |                           |               |                      |        | 20V±5%                      |                           |           |                      |        |       |
| Function            | AC OK                                              | TTL open collector output                                                                                                                                                                  |                           |               | Relay contact output |        |                             | TTL open collector output |           | Relay contact output |        |       |
|                     | BAT Low                                            | Battery low voltage <12V±3%                                                                                                                                                                |                           |               |                      |        | Battery low voltage <22V±3% |                           |           |                      |        |       |
| Environment         | Working Temp.                                      | -20°C ~ +70°C (Refer to output load de-rating curve)                                                                                                                                       |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Working Humidity                                   | 20 ~ 90% RH non-condensing                                                                                                                                                                 |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Storage Temp., Humidity                            | -40 ~ +85°C, 20 ~ 90%                                                                                                                                                                      |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Temp. Coefficient                                  | ±0.03%/°C (0 ~ 50°C) on CH1                                                                                                                                                                |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Vibration                                          | 10 ~ 500Hz, 2G 10min./1 cycle, period for 60 min. each along X,Y,Z axes                                                                                                                    |                           |               |                      |        |                             |                           |           |                      |        |       |
| Safety & EMC        | Safety Standards                                   | Meet UL60950-1 / TUV EN60950-1 Approved                                                                                                                                                    |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Withstand Voltage                                  | I/P - O/P : 3KVAC I/P - FG : 1.5KVAC O/P-FG : 0.5KVAC                                                                                                                                      |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Isolation Resistance                               | I/P - O/P: 100M Ω / 500VDC                                                                                                                                                                 |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | EMI Conduction & Radiation                         | EN55022 : 2006+A1:2007 Class B                                                                                                                                                             |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Harmonic Current                                   | EN61000-3-2 :2006 Class A, EN61000-3-3 : 2008                                                                                                                                              |                           |               |                      |        |                             |                           |           |                      |        |       |
| EMS Immunity        | EN61000-4-2,3,4,5,6,8,11; ENV50204; EN55024        |                                                                                                                                                                                            |                           |               |                      |        |                             |                           |           |                      |        |       |
| Others              | MTBF                                               |                                                                                                                                                                                            |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Dimension (L*W*H)(mm)                              | 129.5x97.5x37.5mm                                                                                                                                                                          |                           |               |                      |        |                             |                           |           |                      |        |       |
|                     | Packing                                            | 21PCS                                                                                                                                                                                      |                           |               |                      |        |                             |                           |           |                      |        |       |

### Note

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47 uf parallel capacitor.
3. Tolerance: includes set up tolerance, line regulation and load regulation.
4. Line regulation is measured from low line to high line at rated load.
5. Load regulation is measured from 10% to 100% rated load.
6. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.
7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply very quickly may lead to increase of the set up time.
8. The total power output can not exceed the rated power, max. output current is each channel.
9. CH2: Battery discharge current can not exceed 50% of the rated power.
10. Do not connect the GND port with B- port in your application to prevent any damage of the product.

## Mechanical Specification

Unit:mm



### Terminal Pin No. Assignment(CN1)

| Pin No. | Assignment    | Pin No. | Assignment                    |
|---------|---------------|---------|-------------------------------|
| 1       | AC/L          | 5       | DC output VO+                 |
| 2       | AC/N          | 6       | BAT+                          |
| 3       | FG $\perp$    | 7       | BAT-                          |
| 4       | DC Output GND | 8       | DC/DC Output +5V (GB/LB only) |

### QE-100-G/L

Alarm output Connector(CN2): JST B3B-XH or equivalent

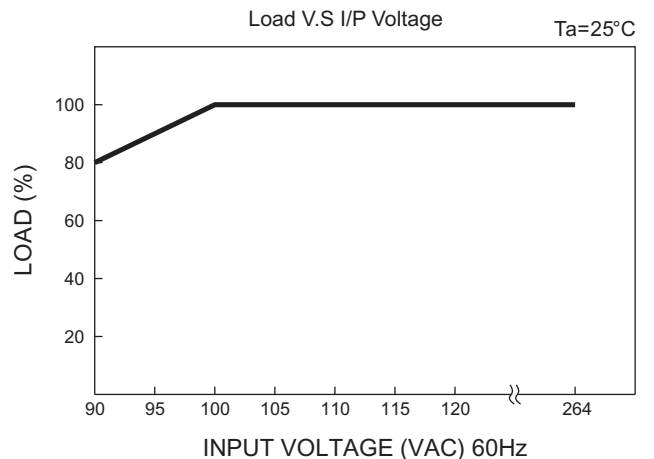
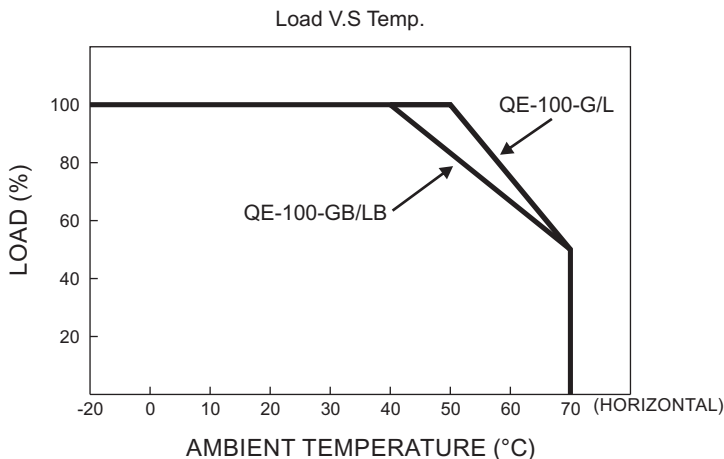
| Pin No. | Assignment                       | Mating Housing          | Terminal                         |
|---------|----------------------------------|-------------------------|----------------------------------|
| 1       | AC OK                            | JST XHP-3 or equivalent | JST SXH-001 T-P0.6 or equivalent |
| 2       | BAT LOW                          |                         |                                  |
| 3       | G (13.8V/20mA)<br>L (27.6V/20mA) |                         |                                  |

### QE-100-GB/LB

Alarm output Connector(CN2): JST B4B-XH or equivalent

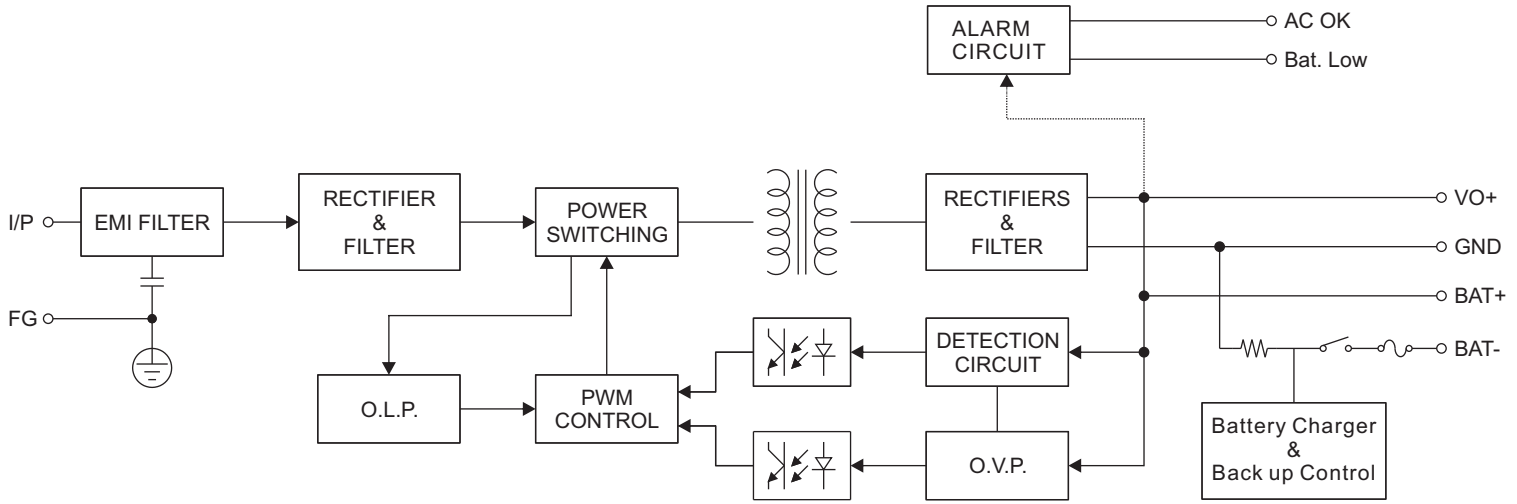
| Pin No. | Assignment | Mating Housing          | Terminal                         |
|---------|------------|-------------------------|----------------------------------|
| 1 2     | AC OK      | JST XHP-4 or equivalent | JST SXH-001 T-P0.6 or equivalent |
| 3 4     | Bat. Low   |                         |                                  |

## De-rating Curve



■ For QE-100-G/L

■ Block Diagram

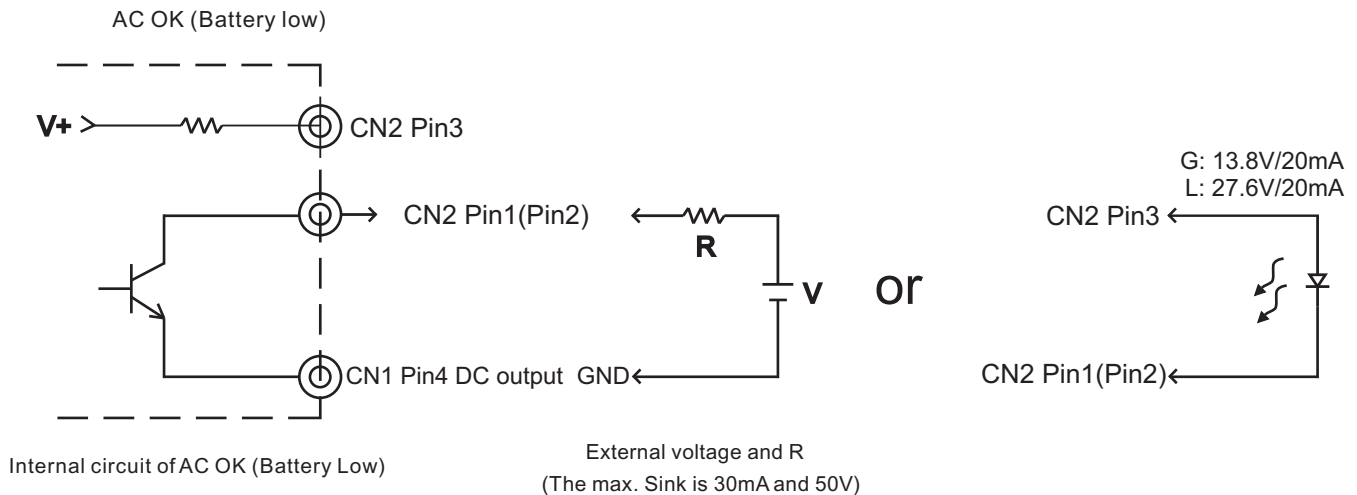


■ Alarm Signal for AC OK and Battery Low

- (1) Alarm Signal is sent out through "AC OK" & "Battery Low" pins.
- (2) An external voltage source is required for this function. The maximum applied voltage is 50V and the maximum sink current is 30mA.
- (3) Table 3.1 explain the alarm function built-in the power supply

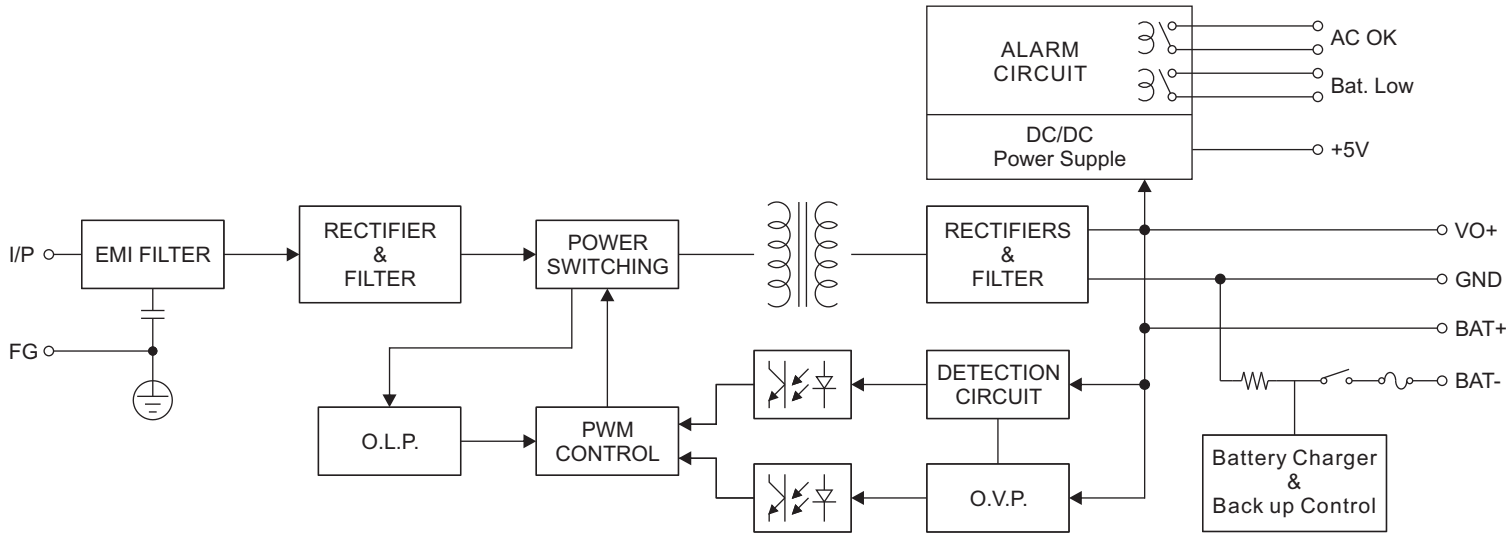
| Function    | Description                                                             | Output of alarm                                  |
|-------------|-------------------------------------------------------------------------|--------------------------------------------------|
| AC OK       | The signal is "Low" when the power supply turns on                      | Low (0.3V max. at 30mA)                          |
|             | The signal turns to be "High" when the power supply turns OFF           | High or open(External applied voltage 30mA max.) |
| Battery Low | The signal is "Low" when the voltage of battery is under G:12V , L:22V  | Low (0.3V max. at 30mA)                          |
|             | The signal is "High" when the voltage of battery is above G:12V , L:22V | High or open(External applied voltage 30mA max.) |

Table 3.1 Explanation of Alarm Signal



### ■ For QE-100-GB/LB

### ■ Block Diagram



### ■ Alarm Signal for AC OK and Battery Low

- (1) Alarm Signal is sent out through "AC OK" & "Battery Low" pins. (relay contact type)
- (2) An external voltage source is required for this function. The maximum applied voltage is 30V and the maximum sink current is 1A.
- (3) Table 4.1 explain the alarm function built-in the power supply

| Function    | Description                                                               | Output of alarm                                |
|-------------|---------------------------------------------------------------------------|------------------------------------------------|
| AC OK       | The signal is "Low" when the power supply turns on                        | Low or short                                   |
|             | The signal turns to be "High" when the power supply turns OFF             | High or open(External applied voltage 1A max.) |
| Battery Low | The signal is "Low" when the voltage of battery is under GB:12V , LB:22V  | Low or short                                   |
|             | The signal is "High" when the voltage of battery is above GB:12V , LB:22V | High or open(External applied voltage 1A max.) |

Table 4.1 Explanation of Alarm Signal

