



## ■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- CH1,2 can be adjustable from -5~+10%
- With power good and fail signal output(Optional)
- Built-in remote sense function for CH1,2
- 100% full load burn-in test
- CH4 can set to positive after consult us before delivery(Optional)
- Fixed switching frequency at PFC:67KHz PWM:134KHz
- 3 years warranty



## SPECIFICATION

| MODEL                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | QP-200D                                                                                                                               |          |                             |          | QP-200F           |          |                    |          | QP-200-3A        |          |                   |          |  |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------|----------|-------------------|----------|--------------------|----------|------------------|----------|-------------------|----------|--|
| OUTPUT                   | OUTPUT NUMBER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | CH1                                                                                                                                   | CH2      | CH3                         | CH4      | CH1               | CH2      | CH3                | CH4      | CH1              | CH2      | CH3               | CH4      |  |
|                          | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5V                                                                                                                                    | 12V      | 24V                         | -12V     | 5V                | 15V      | 24V                | -15V     | 5V               | 3.3V     | 12V               | -5V      |  |
|                          | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 15A                                                                                                                                   | 4A       | 3A                          | 0.7A     | 15A               | 3A       | 3A                 | 0.7A     | 15A              | 15A      | 6A                | 0.7A     |  |
|                          | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3 ~ 20A                                                                                                                               | 0 ~ 6A   | 0.4 ~ 5A                    | 0 ~ 1A   | 3 ~ 20A           | 0 ~ 5A   | 0.4 ~ 5A           | 0 ~ 1A   | 3 ~ 20A          | 0 ~ 20A  | 0.5 ~ 8A          | 0 ~ 1A   |  |
|                          | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 203.4W                                                                                                                                |          |                             |          | 202.5W            |          |                    |          | 200W             |          |                   |          |  |
|                          | PEAK CURRENT      Note.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 20A                                                                                                                                   | 7A       | 6A                          | 1A       | 20A               | 6A       | 6A                 | 1A       | 20A              | 20A      | 8A                | 1A       |  |
|                          | RIPPLE & NOISE (max.)    Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 100mVp-p                                                                                                                              | 150mVp-p | 150mVp-p                    | 150mVp-p | 100mVp-p          | 150mVp-p | 150mVp-p           | 150mVp-p | 100mVp-p         | 100mVp-p | 150mVp-p          | 150mVp-p |  |
|                          | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | CH1: 4.75 ~ 5.5V                                                                                                                      |          | CH2: 11.4 ~ 13.2V           |          | CH1: 4.75 ~ 5.5V  |          | CH2: 14.25 ~ 16.5V |          | CH1: 4.75 ~ 5.5V |          | CH2: 3.14 ~ 3.63V |          |  |
|                          | VOLTAGE TOLERANCE    Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ±3.0%                                                                                                                                 | ±3.0%    | +10,-6%                     | ±6.0%    | ±3.0%             | ±3.0%    | +10,-6%            | ±6.0%    | ±3.0%            | ±3.0%    | +8,-10%           | ±6.0%    |  |
|                          | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ±1.0%                                                                                                                                 | ±1.0%    | ±2.0%                       | ±1.0%    | ±1.0%             | ±1.0%    | ±2.0%              | ±1.0%    | ±1.0%            | ±1.0%    | ±2.0%             | ±1.0%    |  |
|                          | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ±2.0%                                                                                                                                 | ±2.0%    | ±6.0%                       | ±2.0%    | ±2.0%             | ±2.0%    | ±6.0%              | ±2.0%    | ±2.0%            | ±2.0%    | ±6.0%             | ±2.0%    |  |
| SETUP, RISE TIME         | 800ms, 50ms at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                       |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
| HOLD UP TIME (Typ.)      | 24ms at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                       |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
| INPUT                    | VOLTAGE RANGE      Note.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 90 ~ 264VAC                                                                                                                           |          | 127 ~ 370VDC                |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 47 ~ 63Hz                                                                                                                             |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | POWER FACTOR (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | PF>0.95/230VAC                                                                                                                        |          | PF>0.98/115VAC at full load |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 75%                                                                                                                                   |          |                             |          |                   | 75%      |                    |          |                  |          | 72%               |          |  |
|                          | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3.5A/115VAC                                                                                                                           |          | 2A/230VAC                   |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | COLD START 30A                                                                                                                        |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <2mA / 240VAC                                                                                                                         |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
| PROTECTION               | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 105 ~ 150% rated output power<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CH1:5.75 ~ 6.75V                                                                                                                      |          | CH2:13.8 ~ 16.2V            |          | CH1: 5.75 ~ 6.75V |          | CH2:17.25 ~ 20.25V |          | CH1:5.75 ~ 6.75V |          | CH2:3.8 ~ 4.4V    |          |  |
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Protection type : Shut down o/p voltage, re-power on to recover                                                                       |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Shut down o/p voltage, recovers automatically after temperature goes down                                                             |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
| FUNCTION                 | POWER GOOD / POWER FAIL(OPTIONAL)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10ms/1ms                                                                                                                              |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
| ENVIRONMENT              | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -10 ~ +60℃ (Refer to "Derating Curve")                                                                                                |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 20 ~ 90% RH non-condensing                                                                                                            |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -20 ~ +85℃, 10 ~ 95% RH                                                                                                               |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ±0.03%/℃ (0~50℃)                                                                                                                      |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                                          |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
| SAFETY & EMC<br>(Note 5) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | UL60950-1, TUV EN60950-1 approved                                                                                                     |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | I/P-O/P:3KVAC    I/P-FG:2KVAC    O/P-FG:0.5KVAC                                                                                       |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃ / 70% RH                                                                             |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Compliance to EN55022 (CISPR22) Class B, EN61000-3-2,-3                                                                               |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A                                                     |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
| OTHERS                   | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 160.6K hrs min.    MIL-HDBK-217F (25℃)                                                                                                |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 215*115*50mm (L*W*H)                                                                                                                  |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
|                          | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.2Kg; 12pcs/15.4Kg/0.92CUFT                                                                                                          |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |
| NOTE                     | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. 33.3% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.<br>5. 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. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."<br>(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a> )<br>6. Derating may be needed under low input voltages. Please check the derating curve for more details. |                                                                                                                                       |          |                             |          |                   |          |                    |          |                  |          |                   |          |  |



## 200W Quad Output with PFC Function

## QP-200 series



### ■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- CH1,2 can be adjustable from -5~+10%
- With power good and fail signal output(Optional)
- Built-in remote sense function for CH1,2
- 100% full load burn-in test
- CH4 can set to positive after consult us before delivery(Optional)
- Fixed switching frequency at PFC:67KHz PWM:134KHz
- 3 years warranty



### SPECIFICATION

| MODEL                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | QP-200-3B                                                                                                                             |          |                   |                             | QP-200-3C        |          |                   |          | QP-200-3D        |          |                   |          |  |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------|-----------------------------|------------------|----------|-------------------|----------|------------------|----------|-------------------|----------|--|
| OUTPUT                   | OUTPUT NUMBER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CH1                                                                                                                                   | CH2      | CH3               | CH4                         | CH1              | CH2      | CH3               | CH4      | CH1              | CH2      | CH3               | CH4      |  |
|                          | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5V                                                                                                                                    | 3.3V     | 12V               | -12V                        | 5V               | 3.3V     | 15V               | -15V     | 5V               | 3.3V     | 24V               | -12V     |  |
|                          | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 15A                                                                                                                                   | 15A      | 6A                | 0.7A                        | 15A              | 15A      | 5A                | 0.7A     | 10A              | 15A      | 4A                | 0.7A     |  |
|                          | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 3 ~ 20A                                                                                                                               | 0 ~ 20A  | 0.5 ~ 8A          | 0 ~ 1A                      | 3 ~ 20A          | 0 ~ 20A  | 0.5 ~ 6A          | 0 ~ 1A   | 3 ~ 15A          | 0 ~ 20A  | 0.4 ~ 5A          | 0 ~ 1A   |  |
|                          | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 204.9W                                                                                                                                |          |                   |                             | 210W             |          |                   |          | 203.9W           |          |                   |          |  |
|                          | PEAK CURRENT      Note.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20A                                                                                                                                   | 20A      | 8A                | 1A                          | 20A              | 20A      | 7A                | 1A       | 20A              | 20A      | 6A                | 1A       |  |
|                          | RIPPLE & NOISE (max.)    Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 100mVp-p                                                                                                                              | 100mVp-p | 150mVp-p          | 150mVp-p                    | 100mVp-p         | 100mVp-p | 150mVp-p          | 150mVp-p | 100mVp-p         | 100mVp-p | 150mVp-p          | 150mVp-p |  |
|                          | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CH1: 4.75 ~ 5.5V                                                                                                                      |          | CH2: 3.14 ~ 3.63V |                             | CH1: 4.75 ~ 5.5V |          | CH2: 3.14 ~ 3.63V |          | CH1: 4.75 ~ 5.5V |          | CH2: 3.14 ~ 3.63V |          |  |
|                          | VOLTAGE TOLERANCE    Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ±3.0%                                                                                                                                 | ±3.0%    | +8,-10%           | ±6.0%                       | ±3.0%            | ±3.0%    | +10,-6%           | ±6.0%    | ±3.0%            | ±3.0%    | +10,-6%           | ±6.0%    |  |
|                          | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ±1.0%                                                                                                                                 | ±1.0%    | ±2.0%             | ±1.0%                       | ±1.0%            | ±1.0%    | ±2.0%             | ±1.0%    | ±1.0%            | ±1.0%    | ±2.0%             | ±1.0%    |  |
|                          | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ±2.0%                                                                                                                                 | ±2.0%    | ±6.0%             | ±2.0%                       | ±2.0%            | ±2.0%    | ±6.0%             | ±2.0%    | ±2.0%            | ±2.0%    | ±6.0%             | ±2.0%    |  |
|                          | SETUP, RISE TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 800ms, 50ms at full load                                                                                                              |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | HOLD UP TIME (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 24ms at full load                                                                                                                     |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
| INPUT                    | VOLTAGE RANGE      Note.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 90 ~ 264VAC                                                                                                                           |          | 127 ~ 370VDC      |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 47 ~ 63Hz                                                                                                                             |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | POWER FACTOR (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | PF>0.95/230VAC                                                                                                                        |          |                   | PF>0.98/115VAC at full load |                  |          |                   |          |                  |          |                   |          |  |
|                          | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 72%                                                                                                                                   |          |                   |                             |                  | 72%      |                   |          |                  |          | 74%               |          |  |
|                          | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3.5A/115VAC                                                                                                                           |          |                   | 2A/230VAC                   |                  |          |                   |          |                  |          |                   |          |  |
|                          | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | COLD START 30A                                                                                                                        |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <2mA / 240VAC                                                                                                                         |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
| PROTECTION               | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 105 ~ 150% rated output power<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CH1:5.75 ~ 6.75V      CH2:3.8 ~ 4.4V<br>Protection type : Shut down o/p voltage, re-power on to recover                               |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Shut down o/p voltage, recovers automatically after temperature goes down                                                             |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | FUNCTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | POWER GOOD / POWER FAIL(OPTIONAL)                                                                                                     | 10ms/1ms |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
| ENVIRONMENT              | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -10 ~ +60°C (Refer to "Derating Curve")                                                                                               |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 20 ~ 90% RH non-condensing                                                                                                            |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | -20 ~ +85°C, 10 ~ 95% RH                                                                                                              |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ±0.03%/°C (0~50°C)                                                                                                                    |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                                          |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
| SAFETY & EMC<br>(Note 5) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | UL60950-1, TUV EN60950-1 approved                                                                                                     |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I/P-O/P:3KVAC    I/P-FG:2KVAC    O/P-FG:0.5KVAC                                                                                       |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH                                                                            |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Compliance to EN55022 (CISPR22) Class B, EN61000-3-2,-3                                                                               |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A                                                     |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
| OTHERS                   | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 160.6K hrs min.    MIL-HDBK-217F (25°C)                                                                                               |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 215*115*50mm (L*W*H)                                                                                                                  |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
|                          | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.2Kg; 12pcs/15.4Kg/0.92CUFT                                                                                                          |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |
| NOTE                     | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. 33.3% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.<br>5. 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. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."<br>(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a> )<br>6. Derating may be needed under low input voltages. Please check the derating curve for more details. |                                                                                                                                       |          |                   |                             |                  |          |                   |          |                  |          |                   |          |  |


**■ Features :**

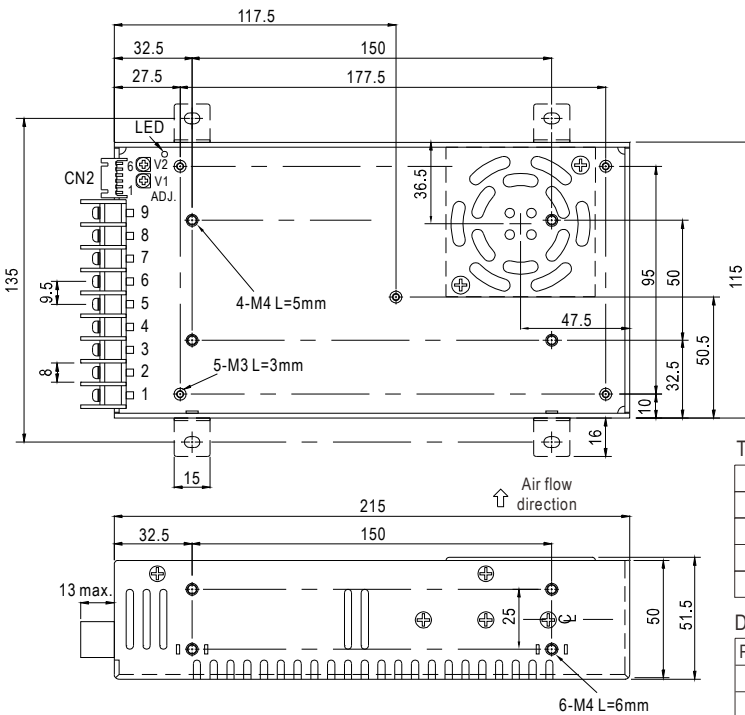
- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- CH1,2 can be adjustable from -5~+10%
- With power good and fail signal output(Optional)
- Built-in remote sense function for CH1,2
- 100% full load burn-in test
- CH4 can set to positive after consult us before delivery(Optional)
- Fixed switching frequency at PFC:67KHz PWM:134KHz
- 3 years warranty


**SPECIFICATION**

| MODEL                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | QP-200-3E                                                                                                                             |          |          |          |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|
| OUTPUT                   | OUTPUT NUMBER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CH1                                                                                                                                   | CH2      | CH3      | CH4      |
|                          | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5V                                                                                                                                    | 3.3V     | 24V      | -15V     |
|                          | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10A                                                                                                                                   | 15A      | 4A       | 0.7A     |
|                          | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3 ~ 15A                                                                                                                               | 0 ~ 20A  | 0.4 ~ 5A | 0 ~ 1A   |
|                          | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 206W                                                                                                                                  |          |          |          |
|                          | PEAK CURRENT <span>Note.4</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 20A                                                                                                                                   | 20A      | 6A       | 1A       |
|                          | RIPPLE & NOISE (max.) <span>Note.2</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 100mVp-p                                                                                                                              | 100mVp-p | 150mVp-p | 150mVp-p |
|                          | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | CH1: 4.75 ~ 5.5V    CH2: 3.14 ~ 3.63V                                                                                                 |          |          |          |
|                          | VOLTAGE TOLERANCE <span>Note.3</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±3.0%                                                                                                                                 | ±3.0%    | +10,-6%  | ±6.0%    |
|                          | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ±1.0%                                                                                                                                 | ±1.0%    | ±2.0%    | ±1.0%    |
|                          | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ±2.0%                                                                                                                                 | ±2.0%    | ±6.0%    | ±2.0%    |
|                          | SETUP, RISE TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 800ms, 50ms at full load                                                                                                              |          |          |          |
| HOLD TIME (Typ.)         | 24ms at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                       |          |          |          |
| INPUT                    | VOLTAGE RANGE <span>Note.6</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 90 ~ 264VAC    127 ~ 370VDC                                                                                                           |          |          |          |
|                          | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 47 ~ 63Hz                                                                                                                             |          |          |          |
|                          | POWER FACTOR (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | PF>0.95/230VAC    PF>0.98/115VAC at full load                                                                                         |          |          |          |
|                          | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 74%                                                                                                                                   |          |          |          |
|                          | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3.5A/115VAC    2A/230VAC                                                                                                              |          |          |          |
|                          | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | COLD START 30A                                                                                                                        |          |          |          |
|                          | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <2mA / 240VAC                                                                                                                         |          |          |          |
| PROTECTION               | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 105 ~ 150% rated output power<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed |          |          |          |
|                          | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CH1:5.75 ~ 6.75V    CH2:3.8 ~ 4.4V<br>Protection type : Shut down o/p voltage, re-power on to recover                                 |          |          |          |
|                          | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Shut down o/p voltage, recovers automatically after temperature goes down                                                             |          |          |          |
|                          | FUNCTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | POWER GOOD / POWER FAIL(OPTIONAL)                                                                                                     | 10ms/1ms |          |          |
| ENVIRONMENT              | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -10 ~ +60°C (Refer to "Derating Curve")                                                                                               |          |          |          |
|                          | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 20 ~ 90% RH non-condensing                                                                                                            |          |          |          |
|                          | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | -20 ~ +85°C, 10 ~ 95% RH                                                                                                              |          |          |          |
|                          | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ±0.03%/°C (0~50°C)                                                                                                                    |          |          |          |
|                          | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                                          |          |          |          |
| SAFETY & EMC<br>(Note 5) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | UL60950-1, TUV EN60950-1 approved                                                                                                     |          |          |          |
|                          | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | I/P-O/P:3KVAC    I/P-FG:2KVAC    O/P-FG:0.5KVAC                                                                                       |          |          |          |
|                          | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH                                                                            |          |          |          |
|                          | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compliance to EN55022 (CISPR22) Class B, EN61000-3-2,-3                                                                               |          |          |          |
| OTHERS                   | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A                                                     |          |          |          |
|                          | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 160.6K hrs min.    MIL-HDBK-217F (25°C)                                                                                               |          |          |          |
|                          | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 215*115*50mm (L*W*H)                                                                                                                  |          |          |          |
|                          | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.2Kg; 12pcs/15.4Kg/0.92CUFT                                                                                                          |          |          |          |
| NOTE                     | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. 33.3% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.<br>5. 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. For guidance on how to perform these EMC tests, please refer to EMI testing of component power supplies. (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a> )<br>6. Derating may be needed under low input voltages. Please check the derating curve for more details. |                                                                                                                                       |          |          |          |

Case No. 912B Unit:mm

### Mechanical Specification



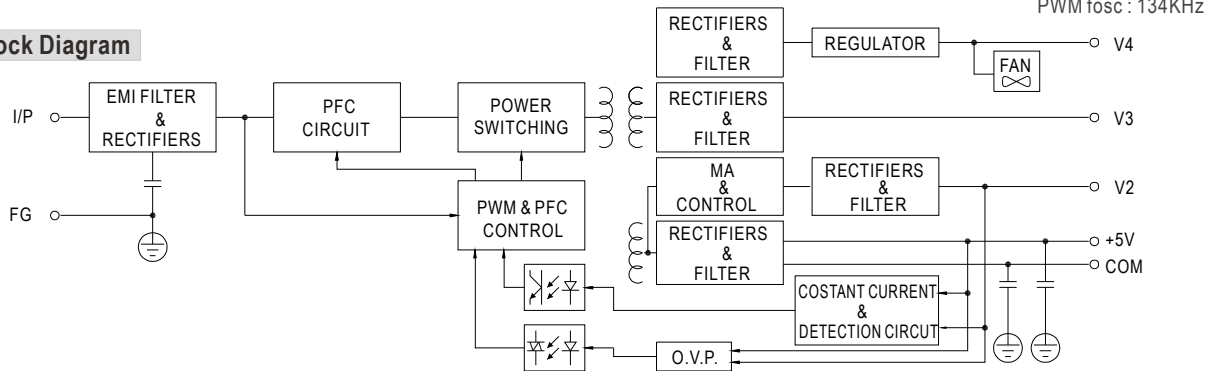
### Terminal Pin No. Assignment

| Pin No. | Assignment   | Pin No. | Assignment    |
|---------|--------------|---------|---------------|
| 1       | AC/L         | 5       | DC OUTPUT V3  |
| 2       | AC/N         | 6       | DC OUTPUT V1  |
| 3       | FG $\perp$   | 7,8     | DC OUTPUT COM |
| 4       | DC OUTPUT V4 | 9       | DC OUTPUT V2  |

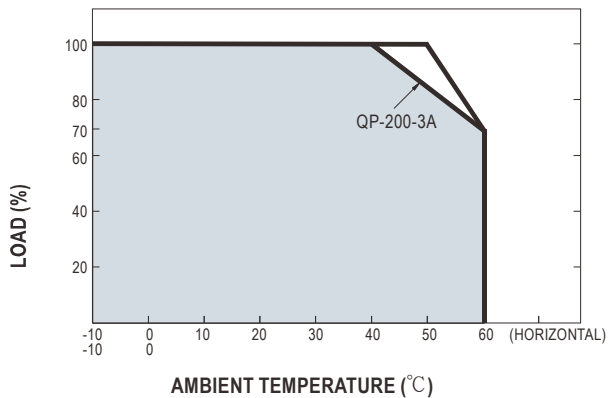
### DC Output Connector (CN2) : JST S6B-XH-A-1 or equivalent

| Pin No. | Assignment | Pin No. | Assignment | Mating Housing        | Terminal                        |
|---------|------------|---------|------------|-----------------------|---------------------------------|
| 1       | V1(+S)     | 4       | V2(-S)     | JST XHP or equivalent | JST SXH-001T-P0.6 or equivalent |
| 2       | V1(-S)     | 5       | PF/PG      |                       |                                 |
| 3       | V2(+S)     | 6       | GND        |                       |                                 |

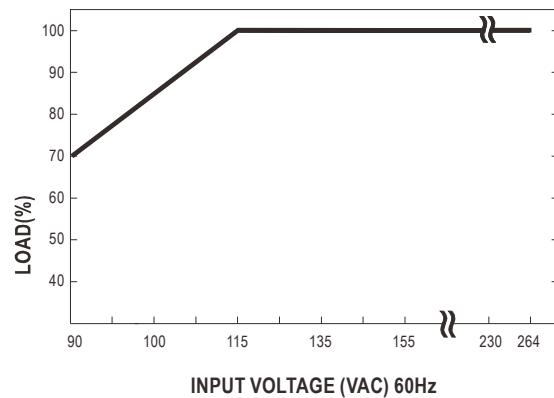
### Block Diagram



### Derating Curve



### Output Derating VS Input Voltage



Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)

[www.lifeelectronics.ru](http://www.lifeelectronics.ru)