

KEY FEATURES

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-264VAC, 47-440 Hz
- Regulated Output
- Low Ripple and Noise
- Screw Terminal For Optional
- CE, UL, TUV Approval
- 2-Years Product Warranty



ELECTRICAL SPECIFICATIONS

| Model No. (Single Output) | APC-3.3S | APC-5S | APC-12S | APC-15S | APC-24S |
|--|---|---------|---------|---------|---------|
| Max Output Wattage (W) | 5W | 5W | 5W | 5W | 5W |
| Input | Voltage | | | | |
| | 90-264 VAC or 120-370 VDC | | | | |
| | Frequency (Hz) | | | | |
| | 47-440 Hz | | | | |
| | Current (Full load) | | | | |
| | 120 mA max. (115 VAC) / 70 mA max. (230 VAC) | | | | |
| Inrush Current (<2ms) | | | | | |
| 10 A max. (115 VAC) / 20 A max. (230 VAC) | | | | | |
| Leakage Current | | | | | |
| 0.75 mA max. | | | | | |
| External Fuse (recommend) | | | | | |
| 1.5 A slow blow type | | | | | |
| Output | Voltage (V.DC.) | | | | |
| | 3.3V | 5V | 12V | 15V | 24V |
| | Voltage Accuracy | | | | |
| | ±2% | | | | |
| | Current (mA) max | | | | |
| | 1500 | 1000 | 416 | 333 | 200 |
| | Line Regulation (LL-HL) (typ.) | | | | |
| | ±0.3% | | | | |
| | Load Regulation (5-100%) (typ.) | | | | |
| | ±0.5%. | | | | |
| | Minimum Load | | | | |
| | 4% | 1% | 1% | 0% | 0% |
| Maximum Capacitive Load | | | | | |
| 40000 uF | 19000 uF | 4000 uF | 3500 uF | 900 uF | |
| Ripple | | | | | |
| <0.2% Vout +40mV max (Vp-p) | | | | | |
| Noise | | | | | |
| <0.5% Vout +50mV max (Vp-p) | | | | | |
| Efficiency | | | | | |
| 63% | 71% | 75% | 75% | 74% | |
| Hold-up Time | | | | | |
| 15 ms min. | | | | | |
| Switching Frequency | | | | | |
| 100 kHz | | | | | |
| Protection | Over Power Protection | | | | |
| | Hiccup technique, auto-recovery | | | | |
| | Over Voltage Protection | | | | |
| Zener diode clamp | | | | | |
| Short Circuit Protection | | | | | |
| Hiccup mode, indefinite (automatic recovery) | | | | | |
| Isolation | Input-Output (V.AC) | | | | |
| | 3000V | | | | |
| | Input-FG (V.AC) | | | | |
| 1500V | | | | | |
| Output-FG (V.AC) | | | | | |
| 500V | | | | | |
| Environment | Operating Temperature | | | | |
| | -25°C...+70°C (with derating) | | | | |
| | Storage Temperature | | | | |
| | -40°C...+85°C | | | | |
| | Temperature Coefficient | | | | |
| ±0.02%/°C | | | | | |
| Humidity | | | | | |
| 95% RH | | | | | |
| MTBF | | | | | |
| >300,000 h @ 25°C (MIL-HDBK-217F) | | | | | |
| Physical | Dimension (L x W x H) | | | | |
| | 2.17 x 1.77 x 0.81 Inches (55.0 x 45.0 x 20.5 mm) Tolerance ±0.5 mm | | | | |
| | Case Material | | | | |
| | Plastic resin with Fiberglass (flammability to UL 94V-0) | | | | |
| Weight | | | | | |
| 80 g | | | | | |
| Cooling Method | | | | | |
| Free air convection | | | | | |
| Safety | Agency Approvals | | | | |
| UL/cUL, CE, TUV | | | | | |
| EMC | EMI (Conducted & Radiated Emission) | | | | |
| | EN 55022 class B | | | | |
| EMS (Noise Immunity) | | | | | |
| EN 50082-1 | | | | | |

1.All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

2.Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

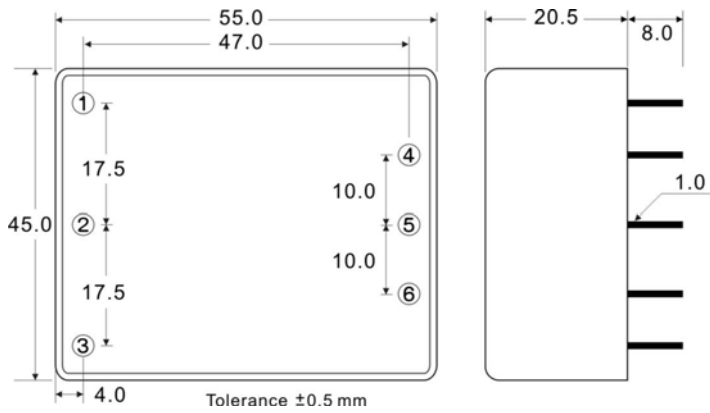
ELECTRICAL SPECIFICATIONS

| Model No. (Dual Output) | APC-5D | APC-12D | APC-15D | |
|---|--|---|---------------------------------|---------|
| Max Output Wattage (W) | 5W | 5W | 5W | |
| Input | Voltage | | | |
| | 90-264 VAC or 120-370 VDC | | | |
| | Frequency (Hz) | | | |
| | 47-440 Hz | | | |
| | Current (Full load) | | | |
| | 120 mA max. (115 VAC) / 70 mA max. (230 VAC) | | | |
| Inrush Current (<2ms) | | | | |
| 10 A max. (115 VAC) / 20 A max. (230 VAC) | | | | |
| Leakage Current | | | | |
| 0.75 mA max. | | | | |
| External Fuse (recommend) | | | | |
| 1.5 A slow blow type | | | | |
| Output | Voltage (V.DC.) | ±5V | ±12V | ±15V |
| | Voltage Accuracy | ±2% | | |
| | Current (mA) max | ±500 | ±200 | ±160 |
| | Line Regulation (LL-HL) (typ.) | ±0.3% | | |
| | Load Regulation (5-100%) (typ.) | ±0.5% | | |
| | Minimum Load | 0% | 0% | 3% |
| | Maximum Capacitive Load | ±9500 uF | ±1400 uF | ±950 uF |
| | Ripple | <0.2% Vout +40mV max (Vp-p) | | |
| | Noise | <0.5% Vout +50mV max (Vp-p) | | |
| | Efficiency | 72% | 74% | 74% |
| | Hold-up Time | 15 ms min. | | |
| | Switching Frequency | 100 kHz | | |
| | Protection | Over Power Protection | Hiccup technique, auto-recovery | |
| Over Voltage Protection | | Zener diode clamp | | |
| Short Circuit Protection | | Hiccup mode, indefinite (automatic recovery) | | |
| Isolation | Input-Output (V.AC) | 3000V | | |
| | Input-FG (V.AC) | 1500V | | |
| | Output-FG (V.AC) | 500V | | |
| Environment | Operating Temperature | -25°C...+70°C (with derating) | | |
| | Storage Temperature | -40°C...+85°C | | |
| | Temperature Coefficient | ±0.02%/°C | | |
| | Humidity | 95% RH | | |
| | MTBF | >300,000 h @ 25°C (MIL-HDBK-217F) | | |
| Physical | Dimension (L x W x H) | 2.17 x 1.77 x 0.81 Inches (55.0 x 45.0 x 20.5 mm) Tolerance ±0.5 mm | | |
| | Case Material | Plastic resin with Fiberglass (flammability to UL 94V-0) | | |
| | Weight | 80 g | | |
| | Cooling Method | Free air convection | | |
| Safety | Agency Approvals | UL/cUL, CE, TUV | | |
| EMC | EMI (Conducted & Radiated Emission) | EN 55022 class B | | |
| | EMS (Noise Immunity) | EN 50082-1 | | |

1.All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

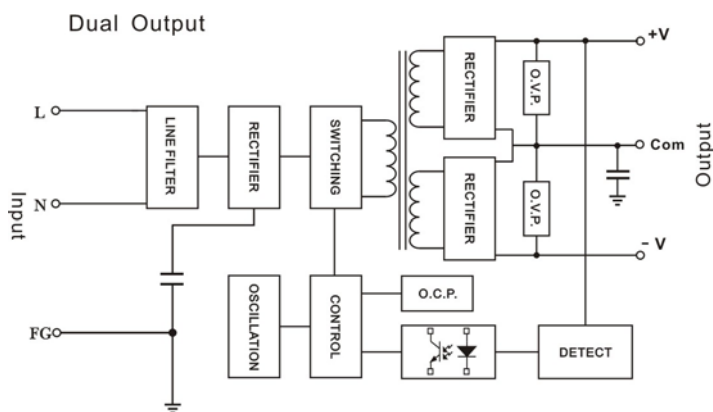
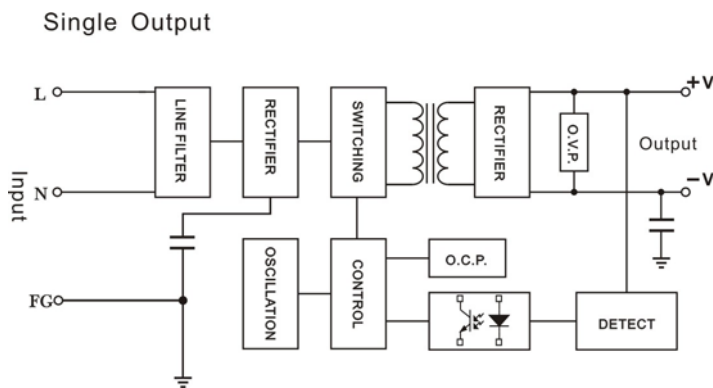
2.Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

MECHANICAL DIMENSION (Top View)

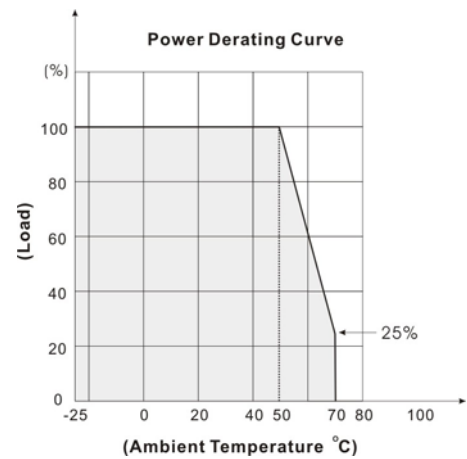


| PIN# | SINGLE | Dual |
|------|-----------|-----------|
| 1 | FG | FG |
| 2 | AC IN (N) | AC IN (N) |
| 3 | AC IN (L) | AC IN (L) |
| 4 | -DC OUT | -DC OUT |
| 5 | NO PIN | COMMON |
| 6 | +DC OUT | +DC OUT |

BLOCK DIAGRAM

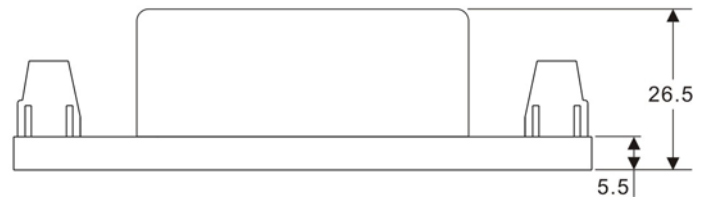
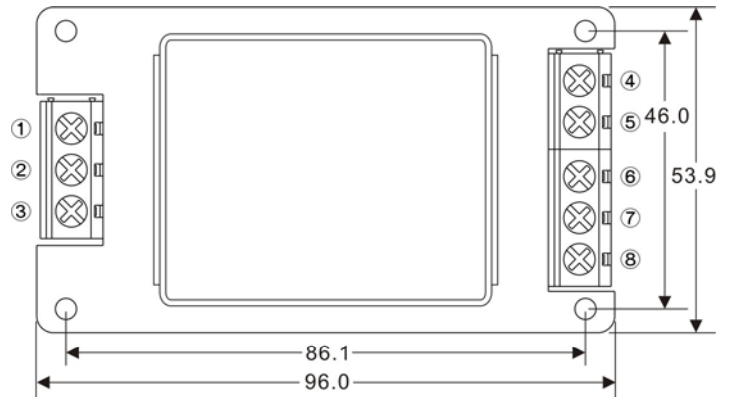


DERATING

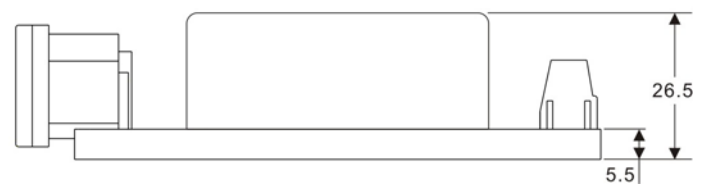
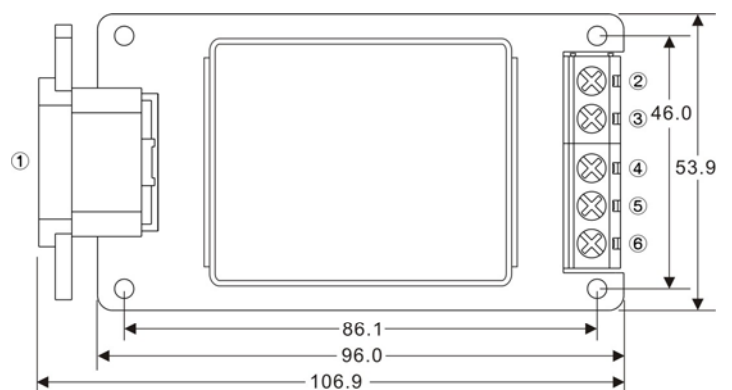


APC SERIES
5 Watts
SCREW TERMINAL
APC-A2


| PIN# | Single | Dual |
|------|------------|------------|
| 1 | FG | FG |
| 2 | AC IN (N) | AC IN (N) |
| 3 | AC IN (L) | AC IN (L) |
| 4. | NO CONNECT | NO CONNECT |
| 5 | -DC OUT | -DC OUT |
| 6 | NO CONNECT | COMMON |
| 7 | +DC OUT | +DC OUT |
| 8 | NO CONNECT | NO CONNECT |

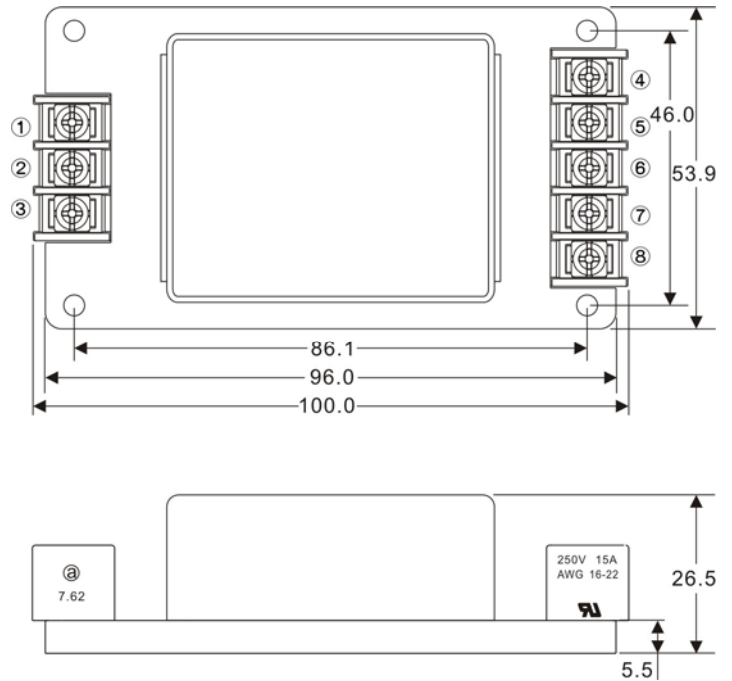

APC-A4


| PIN# | Single | Dual |
|------|------------|------------|
| 1 | AC IN | FG |
| 2 | NO CONNECT | NO CONNECT |
| 3 | -DC OUT | -DC OUT |
| 4. | NO CONNECT | COMMON |
| 5 | +DC OUT | +DC OUT |
| 6 | NO CONNECT | NO CONNECT |



APC SERIES
5 Watts
APC-A5


| PIN# | Single | Dual |
|------|------------|------------|
| 1 | FG | FG |
| 2 | AC IN (N) | AC IN (N) |
| 3 | AC IN (L) | AC IN (L) |
| 4. | NO CONNECT | NO CONNECT |
| 5 | -DC OUT | -DC OUT |
| 6 | NO CONNECT | COMMON |
| 7 | +DC OUT | +DC OUT |
| 8 | NO CONNECT | NO CONNECT |


APC-A7


| PIN# | Single | Dual |
|------|------------|------------|
| 1 | AC IN | FG |
| 2 | NO CONNECT | NO CONNECT |
| 3 | -DC OUT | -DC OUT |
| 4. | NO CONNECT | COMMON |
| 5 | +DC OUT | +DC OUT |
| 6 | NO CONNECT | NO CONNECT |

