

## KEY FEATURES

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-264VAC, 47-440 Hz
- Regulated Output and Low Ripple and Low Noise
- Isolation Class II
- Small Size: 2.07 x 1.08 x 0.93 Inches
- CE, CB, UL Approval
- 3-Year Product Warranty



## ELECTRICAL SPECIFICATIONS

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

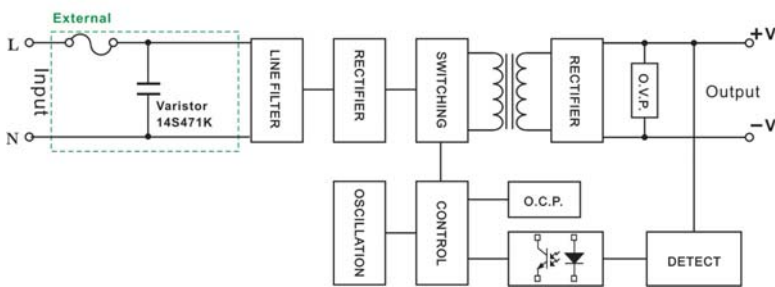
| Model No.                                    | AFC-3.3S-E1   | AFC-5S-E1 | AFC-12S-E1 | AFC-15S-E1 | AFC-24S-E1 |
|--|---|-----------|------------|------------|------------|
| Max Output Wattage (W)                       | 8.25W   | 10W       | 10W        | 10W        | 10W        |
| Input  | Voltage   |           |            |            |            |
|  | 90-264 VAC or 120-370 VDC   |           |            |            |            |
|  | Frequency (Hz)  |           |            |            |            |
|  | 47-440 Hz   |           |            |            |            |
|  | Current (Full load)   |           |            |            |            |
|  | 220 mA max. (115 VAC) / 150 mA max. (230 VAC)                         |           |            |            |            |
| Inrush Current (<2ms)                        |   |           |            |            |            |
| 23 A max. (115 VAC) / 46 A max. (230 VAC)    |   |           |            |            |            |
| Leakage Current                              |   |           |            |            |            |
| 0.25 mA max.                                 |   |           |            |            |            |
| External Fuse (mandatory)                    |   |           |            |            |            |
| 2 A slow blow type                           |   |           |            |            |            |
| Output                                       | Voltage (V.DC.)   |           |            |            |            |
|  | 3.3V  | 5V        | 12V        | 15V        | 24V        |
|  | Voltage Accuracy  |           |            |            |            |
|  | ±2%   |           |            |            |            |
|  | Current (mA) max  |           |            |            |            |
|  | 2500  | 2000      | 833        | 667        | 417        |
|  | Line Regulation (LL-HL) (typ.)  |           |            |            |            |
|  | ±0.3%.  |           |            |            |            |
|  | Load Regulation (5-100%) (typ.)                                       |           |            |            |            |
|  | ±0.5%.  |           |            |            |            |
| Minimum Load                                 |   |           |            |            |            |
| 0%   |   |           |            |            |            |
| Maximum Capacitive Load (at 230VAC)          |   |           |            |            |            |
| 75000 uF                                     | 40000 uF  | 8500 uF   | 3500 uF    | 1200 uF    |            |
| Ripple                                       |   |           |            |            |            |
| <0.2% Vout +40mV max (Vp-p)                  |   |           |            |            |            |
| Noise  |   |           |            |            |            |
| <0.5% Vout +50mV max (Vp-p)                  |   |           |            |            |            |
| Efficiency                                   |   |           |            |            |            |
| 74%  | 79%   | 82%       | 78%        | 80%        |            |
| Hold-up Time                                 |   |           |            |            |            |
| 15 ms min.                                   |   |           |            |            |            |
| 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  |   |           |            |            |            |
| Environment                                  | Operating Temperature   |           |            |            |            |
|  | -40°C...+70°C (with derating)   |           |            |            |            |
|  | Storage Temperature   |           |            |            |            |
|  | -40°C...+85°C   |           |            |            |            |
|  | Temperature Coefficient   |           |            |            |            |
| ±0.02%/°C                                    |   |           |            |            |            |
| Humidity                                     |   |           |            |            |            |
| 20-85% RH                                    |   |           |            |            |            |
| MTBF   |   |           |            |            |            |
| >450,000 h @ 25°C (MIL-HDBK-217F)            |   |           |            |            |            |
| Physical                                     | Dimension (L x W x H)   |           |            |            |            |
|  | 2.07 x 1.08 x 0.93 Inches ( 52.5 x 27.5 x 23.5 mm ) Tolerance ±0.5 mm |           |            |            |            |
|  | Case Material   |           |            |            |            |
|  | Plastic resin (flammability to UL 94V-0)                              |           |            |            |            |
| Weight                                       |   |           |            |            |            |
| 51 g   |   |           |            |            |            |
| Cooling Method                               |   |           |            |            |            |
| Free air convection                          |   |           |            |            |            |
| Genera                                       | Vibration   |           |            |            |            |
|  | 10-55 Hz 0.5 mm width/ 1 minute cycle                                 |           |            |            |            |
| Shock  |   |           |            |            |            |
| 20 G (3 directions each 3 times.)            |   |           |            |            |            |
| Safety                                       | Agency Approvals  |           |            |            |            |
| UL/cUL, CE, CB                               |   |           |            |            |            |
| EMC  | EMI (Conducted & Radiated Emission)                                   |           |            |            |            |
|  | EN 55032 class B  |           |            |            |            |
| EMS (Noise Immunity)                         |   |           |            |            |            |
| EN 55024                                     |   |           |            |            |            |

**NOTE**

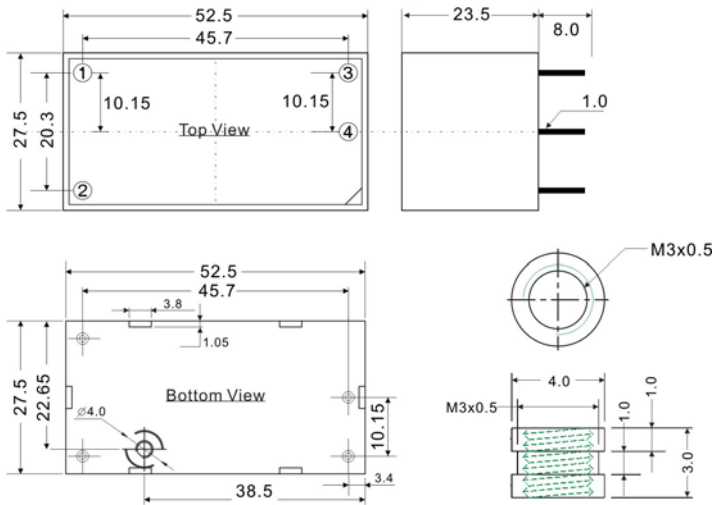
1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. It's recommended to add Varistor 14S471K at L / N input side in parallel.
3. Please refer to our PDF file "AC-DC Application" on our website: www.archcorp.com.tw

**BLOCK DIAGRAM**

Single Output



**MECHANICAL DIMENSION ( Top View )**



| PIN# | Single    |
|------|-----------|
| 1    | AC IN (N) |
| 2    | AC IN (L) |
| 3    | +DC OUT   |
| 4    | -DC OUT   |

Maximum Torque 1.2 { 1.2 1 } ( k g f . c m { N.m } )

**DERATING**

