

## AFC5-F Series

### Single output

**Total Power:** 5W  
**Input Voltage:** 38 - 72VDC  
**# of Outputs:** Single

### Special Features

- Linear regulated outputs
- Very low output noise
- 2 x 1 x 0.375 inch package
- Six-sided shielding
- Short circuit protection
- UL94V-0 case
- Available RoHS compliant
- 2 year warranty



Rev.03.07.07  
afc5f\_single  
1 of 4

The AFC5-F Series of fixed frequency dc-dc converters provide 5 Watts of power, low output noise and tight output regulation, all housed within a 2 x 1 inch case. Six sided shielding to negate radiated noise and a non conductive base to prevent shorting to the PCB are standard features. Short circuit protection, isolation voltage of 500 Vdc, and a voltage accuracy of  $\pm 1\%$  are included to offer the best possible solution to a system designer's low power needs. Ideal applications for the AFC5-F are data acquisition, digital to analog and analog to digital conversion. AFC5-F Series dc-dc converters are suitable for a wide range of general industrial applications, especially where low noise levels are required.



# Specifications

Rev.03.07.07  
afc5f\_single  
2 of 4

All specifications are typical at nominal input, full load at 25°C unless otherwise stated.

| OUTPUT SPECIFICATIONS              |   |   |
|------------------------------------|---|---|
| Voltage accuracy                   |   | ±1.0%   |
| Line regulation                    | LL to HL  | ±0.5%, max.   |
| Load regulation                    | NL to FL  | ±0.5%   |
| Total error band                   | (See Note 2)                                      | ±3.0%   |
| Ripple and noise<br>5 Hz to 20 MHz |   | 15 mV pk-pk, typ.,<br>1 mV rms, typ.<br>40 mV pk-pk, max. |
| Transient response                 | 50% to 100% load step                             | 50 µs, max.   |
| Temperature coefficient            |   | ±0.03%/°C, max.   |
| Minimum output current             |   | 0 A   |
| Short circuit protection           |   | Indefinite  |
| INPUT SPECIFICATIONS               |   |   |
| Input voltage range                | 5 Vdc<br>12 Vdc                                   | 4.65-5.25 Vdc<br>10.8-13.2 Vdc                            |
| Input filter                       |   | LC filter   |
| Input overvoltage                  | No damage, 5 V nominal<br>No damage, 12 V nominal | 7 V, 10 s<br>15 V, 10 s                                   |
| Reflected ripple current           |   | 400 mA pk-pk  |

| EMC CHARACTERISTICS          |  |   |
|------------------------------|--|---|
| Radiated emissions           | EN55022, EN55011, FCC  | Level A   |
| GENERAL SPECIFICATIONS       |  |   |
| Efficiency                   |  | 64% to 70%  |
| Isolation voltage            | Input to output  | 500 Vdc, min.   |
| Switching frequency          | Fixed (See Note 3)   | 20 kHz, min.  |
| Case material                |  | Black anodised aluminium<br>with non-conductive base                              |
| Flammability rating          |  | Meets UL94V-0   |
| Weight                       |  | 30 g (1.1 oz)   |
| MTBF                         |  | 840,000 hours   |
| ENVIRONMENTAL SPECIFICATIONS |  |   |
| Thermal performance          | Operating, see curve<br>Non-operating<br>Derating<br>Cooling | 0 °C to +105 °C<br>–55 °C to +125 °C<br>(See chart)<br>Free-air convection cooled |
| Relative humidity            | Non-condensing   | 5% to 95% RH  |
| Altitude                     | Operating<br>Non operating                                   | 10,000 feet max.<br>40,000 feet max.  |
| Vibration (See Note 4)       | 5-500 Hz   | 2.4 G rms (approx.)   |

## Specifications Contd.

Rev.03.07.07  
afc5f\_single  
3 of 4

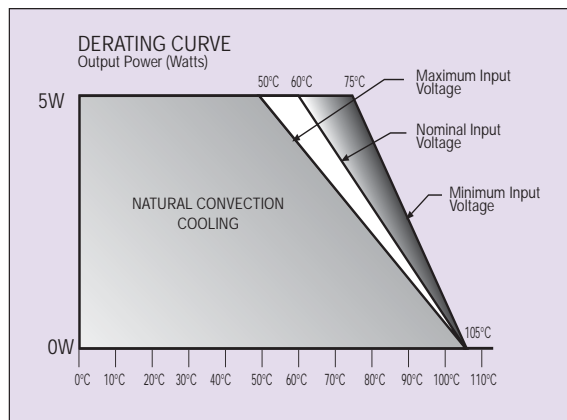
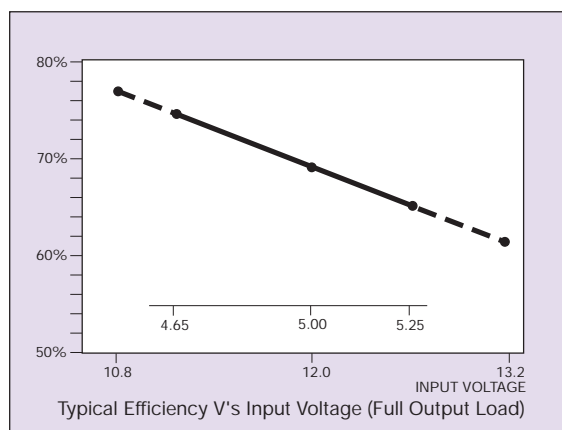
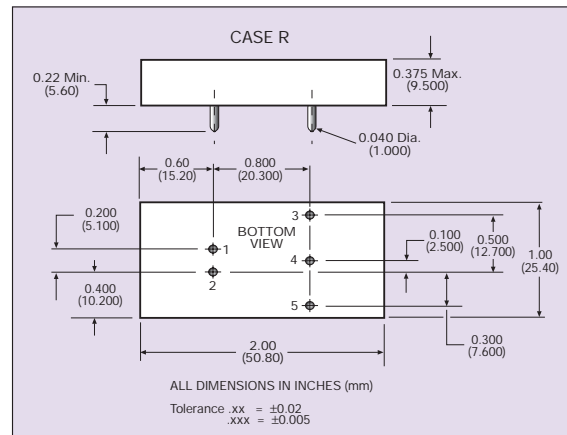
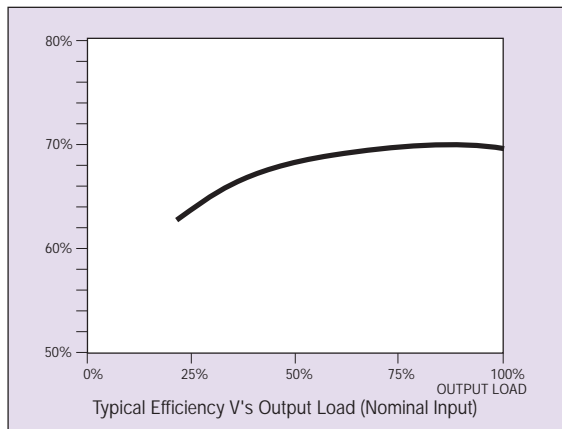
| INPUT<br>VOLTAGE | OUTPUT<br>VOLTAGE | OUTPUT<br>CURRENT | INPUT CURRENT |                          | TYPICAL<br>EFFICIENCY | MODEL<br>NUMBER <sup>(5,6)</sup> |
|------------------|-------------------|-------------------|---------------|--------------------------|-----------------------|----------------------------------|
|                  |                   |                   | NO LOAD       | FULL LOAD <sup>(1)</sup> |                       |                                  |
| 5 Vdc            | 5 Vdc             | 1000 mA           | 66 mA         | 1.64 A                   | 64%                   | AFC5-05S05-FJ                    |
| 5 Vdc            | 12 Vdc            | 420 mA            | 44 mA         | 1.52 A                   | 69%                   | AFC5-05S12-FJ                    |
| 5 Vdc            | 15 Vdc            | 350 mA            | 60 mA         | 1.58 A                   | 70%                   | AFC5-05S15-FJ                    |
| 12 Vdc           | 5 Vdc             | 1000 mA           | 23 mA         | 0.66 A                   | 66%                   | AFC5-12S05-FJ                    |
| 12 Vdc           | 12 Vdc            | 420 mA            | 17 mA         | 0.62 A                   | 70%                   | AFC5-12S12-FJ                    |
| 12 Vdc           | 15 Vdc            | 350 mA            | 21 mA         | 0.64 A                   | 71%                   | AFC5-12S15-FJ                    |

### Notes

- 1 Maximum value at nominal line voltage.
- 2 Error band is defined as the static output regulation at 25 °C, including initial setting accuracy, input voltage within stated limits and output current within stated limits.
- 3 Fixed frequency design provides for easier input filtering and better noise performance.
- 4 Three orthogonal axes, random vibration, 10 minute test for each axis.
- 5 The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant. TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 6 NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com/powergroup/products.htm> to find a suitable alternative.

### PIN CONNECTIONS

| PIN NUMBER | SINGLE OUTPUT |
|------------|---------------|
| 1          | + Input       |
| 2          | - Input       |
| 3          | + Output      |
| 4          | No Pin        |
| 5          | - Output      |



### Americas

5810 Van Allen Way  
Carlsbad, CA 92008  
USA  
Telephone: +1 760 930 4600  
Facsimile: +1 760 930 0698

### Europe (UK)

Waterfront Business Park  
Merry Hill, Dudley  
West Midlands, DY5 1LX  
United Kingdom  
Telephone: +44 (0) 1384 842 211  
Facsimile: +44 (0) 1384 843 355

### Asia (HK)

16th - 17th Floors, Lu Plaza  
2 Wing Yip Street, Kwun Tong  
Kowloon, Hong Kong  
Telephone: +852 2176 3333  
Facsimile: +852 2176 3888

For global contact, visit:

**[www.powerconversion.com](http://www.powerconversion.com)**

**[technicalsupport@powerconversion.com](mailto:technicalsupport@powerconversion.com)**

While every precaution has been taken to ensure accuracy and completeness in this literature, Emerson Network Power assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

### Emerson Network Power.

The global leader in enabling  
business-critical continuity.

- AC Power
- Connectivity
- DC Power
- **Embedded Power**
- Inbound Power
- Integrated Cabinet Solutions
- Outside Plant
- Precision Cooling
- Site Monitoring and Services

**EmersonNetworkPower.com**

Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co.  
©2007 Emerson Electric Co.