

### DESCRIPTION

The TFC130 series incorporates creative high efficiency circuitry, high power density (6.94 Watts/in<sup>3</sup>) and active Power Factor Correction (PFC) to meet the requirements of data networking, computing and telecommunication systems.

### FEATURES

- EN61000-3-2 class A and D compliant
- Power factor 0.98 typical
- Very compact size, 3"x5"x1.2"
- Overvoltage protections
- Short circuit protections
- Remote sense
- Compliant with RoHS requirements

### INPUT SPECIFICATIONS

Input voltage : 90 to 264VAC  
Input frequency : 47 to 63Hz  
Input current : 2.1A (rms) max. for 115VAC  
1.1A (rms) max. for 230VAC  
Earth leakage current: 0.3mA max. @ 115VAC, 60Hz  
(Touch current) 0.6mA max. @ 230VAC, 50Hz

### OUTPUT SPECIFICATIONS

Output voltage/current : See Rating Chart  
Ripple and noise : 2% peak to peak on 5.1V model  
1% peak to peak on other models.  
Overvoltage protection : Provided on output set at 112-132% of its nominal output voltage  
Overcurrent protection : Protected to short circuit conditions  
Temperature coefficient : All outputs  $\pm 0.04\%/^{\circ}\text{C}$  maximum  
Transient response : Maximum excursion of 4% or better on all models; recovering to 1% of final value within 500 $\mu\text{s}$  after a 25% step load change

### ENVIRONMENTAL SPECIFICATIONS

Operating temperature : -10°C to +60°C  
Storage temperature : -40°C to +85°C  
Relative humidity : 5% to 95% non-condensing  
Derating : Derate from 100% at +40°C linearly to 50% at +60°C  
Cooling : 10 CFM total forced air from two 40mm diameter fans or the like is required and provided by user

### TFC130 SERIES (SINGLE OUTPUT)

CE (LVD)  
RoHS



### Safety Standard Approvals :



UL 60950-1  
CSA C22.2 No. 60950-1



TÜV EN60950-1

### GENERAL SPECIFICATIONS

Switching frequency : 110KHz  $\pm 15\text{KHz}$   
Power factor : 0.98 typical  
Efficiency : 72% typical on 5.1V output,  
76% typical on other outputs  
Hold-up time : 15 msec minimum at 115VAC  
Line regulation :  $\pm 0.5\%$  maximum at full load  
Inrush current : 35 amps @ 115VAC or 70 amps  
@ 230VAC at 25°C cold start  
Withstand voltage : 3000VAC from input to output  
1500VAC from input to ground  
500VAC from output to ground  
MTBF : 200,000 hours minimum

#### EMC Performance (EN55024)

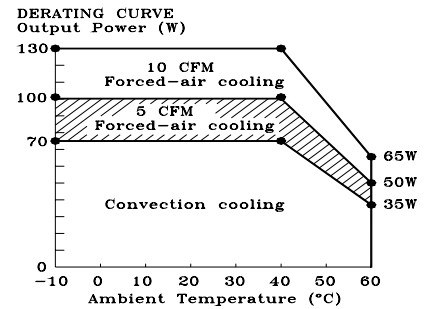
EN55022: Class B conducted, class A radiated  
FCC Part 15 Class B conducted, class A radiated  
VCCI: Class B conducted, class A radiated  
EN61000-3-2: Harmonic distortion, class A and D  
EN61000-3-3: Line flicker  
EN61000-4-2: ESD,  $\pm 8\text{KV}$  air and  $\pm 4\text{KV}$  contact  
EN61000-4-3: Radiated immunity, 3V/m  
EN61000-4-4: Fast transient/burst,  $\pm 1\text{KV}$   
EN61000-4-5: Surge,  $\pm 1\text{KV}$  diff,  $\pm 2\text{KV}$  com.  
EN61000-4-6: Conducted immunity, 3Vrms  
EN61000-4-8: Magnetic field immunity, 1A/m  
EN61000-4-11: Voltage dips, 30% reduction for 500ms  
and >95% reduction for 10ms

## OUTPUT VOLTAGE/CURRENT RATING CHART

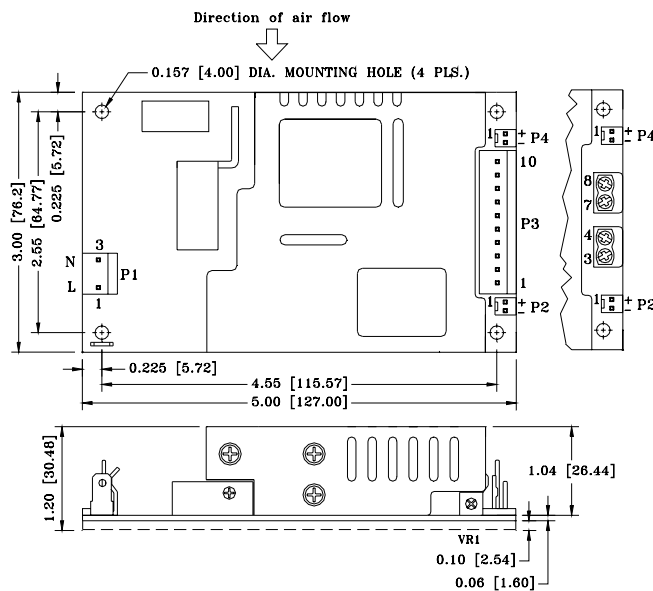
Product No.	Vnom.	Output		Tol.	Maximum Output Power
		Imin.	Imax.		
TFC130-S5.1	5.1V	0.7A	25.5A	2%	130W
TFC130-S12	12V	0.5A	10.8A	2%	130W
TFC130-S15	15V	0.5A	8.7A	2%	130W
TFC130-S18	18V	0.5A	7.2A	2%	130W
TFC130-S24	24V	0.4A	5.4A	2%	130W
TFC130-S30	30V	0.4A	4.3A	2%	130W
TFC130-S36	36V	0.3A	3.7A	2%	130W
TFC130-S48	48V	0.3A	2.7A	2%	130W

### NOTES:

- 130 watts maximum at 10 CFM forced air cooling.
- Ripple and noise is measured peak to peak across a 20MHz bandwidth by using a 12 inch twisted pair terminated with a 10uF tantalum capacitor in parallel with a 0.1μF ceramic capacitor.
- Suffix codes for over-temperature protection function and output connector are as follows. TFC130-X1 X2 X3, where "X1" is the product code from the above table, "X2" is the over-temperature protection function (Blank=without over-temperature protection, W=with over-temperature protection), "X3" is output connector (Blank=Molex KK type, T=miniature terminal blocks), e.g. TFC130-S24-W (24V output voltage, with over-temperature protection, Molex KK type).



## MECHANICAL SPECIFICATIONS



### NOTES:

- Dimensions shown in inch [mm]
- Tolerance 0.02 [0.5] maximum
- Connector P1 mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal.
- Molex KK type connectors: Connector P3 mates with Molex housing 09-50-3101 and Molex 2878 series crimp terminal.
- Miniature terminal blocks: Connector P3 are suitable for AWG#18-AWG#12 electric wires.
- Connector P2, P4 mates with Molex housing 22- 01-1023 and Molex 40445 series crimp terminal.
- Weight: 0.38 kgs (0.84 lbs.) approx.
- Potentiometer (VR1) is for output voltage adjustment.

## PIN CHART

Product No.	CONN MINI TERMINAL MOLEX CONNECTOR	P1			P2		P3										P4			
		1	2	3	1	2	Void	Void	3	4	Void	Void	7	8	Void	Void	1	2		
TFC130-S5.1	TFC130-S12																			
TFC130-S15	TFC130-S18	AC	Void	AC	+SENSE	-SENSE	OUTPUT										RETURN		FAN (12V)	RET.
TFC130-S24	TFC130-S30	LIVE		NEUTRAL																
TFC130-S36	TFC130-S48																			