

## DESCRIPTION

The 3F/3RF is a series of fan-less AC/DC switching power adapters with 150 watts of continuous output power. The units are enclosed in a 94V-1 rated polyphenylene-oxide case with an IEC 320/C14 or IEC320/C6 AC inlet to mate with interchangeable cord for world-wide use. All model meet CISPR 22 and FCC class B emission limits, and comply with UL, CSA, IEC and CE requirements.

## 3F/3RF SERIES



## FEATURES

- High efficiency
- Low ripple & noise
- Overvoltage protection
- Short-circuit protection
- Overpower protection
- Over temperature protection
- 100% burn-in at full rated load
- Standby consumption less than 1W
- Compliant with RoHS requirements

## INPUT SPECIFICATIONS

Input voltage :	90 to 264VAC
Input frequency :	47 to 63 Hz
Input current :	2.0A ( rms ) for 115VAC 1.0A ( rms ) for 230VAC
Earth leakage current:	150µA max. @ 115VAC, 60Hz 250µA max. @ 230VAC, 50Hz

## OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart
Total output power:	See rating chart
Ripple and noise:	380mV peak to peak maximum
Overvoltage protection:	Set at 110-140% of its nominal output voltage
Overcurrent protection:	All models 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 500µs after a 25% step load change

## ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	0°C to +40°C
Storage temperature:	-20°C to +80°C
Relative humidity:	10% to 90% non-condensing

## Safety Standard Approvals :



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



Nemko EN60950: 2000

## GENERAL SPECIFICATIONS

Hold-up time:	3 msec minimum at 100VAC
Turn on delay time:	5 seconds maximum at 100VAC
Power factor:	0.95 typical
Efficiency:	88% min.
Line regulation:	$\pm 0.5\%$ maximum at full load
Inrush current:	60A @ 115VAC or 100A @ 230VAC, at 25°C cold start
Withstand voltage:	3000VAC from input to output 1500VAC from input to ground
MTBF:	150,000 hours at full load at 25°C ambient, calculated per MIL-HDBK- 217F

## EMC Performance (EN55024)

EN55022:	Class B conducted, Class B radiated
FCC:	Class B conducted, Class B radiated
VCCI:	Class B conducted, Class B radiated
EN61000-3-2:	Harmonic distortion, Class 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

# UNIVERSAL INPUT

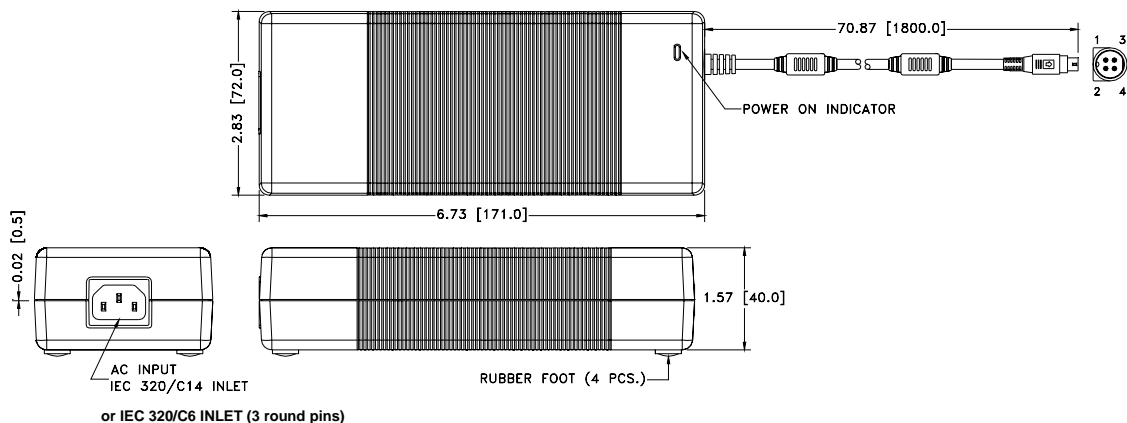
# 3F & 3RF SERIES

## OUTPUT VOLTAGE/CURRENT RATING CHART

Product No.		Output				Maximum
IEC 320/C14 Inlet	IEC 320/C6 Inlet	Vnom.	I <sub>max.</sub>	I <sub>min.</sub>	Tol.	Output Power
3F-12-150	3RF-12-150	12V	12.5A	0A	5%	150W
3F-15-150	3RF-15-150	15V	10.0A	0A	5%	150W
3F-19-150	3RF-19-150	19V	7.89A	0A	5%	150W
3F-20-150	3RF-20-150	20V	7.5A	0A	5%	150W
3F-24-150	3RF-24-150	24V	6.25A	0A	5%	150W

NOTE: Ripple and noise: Peak-to-peak with 20MHz bandwidth and 47µF tantalum capacitor in parallel with a 0.1µF ceramic capacitor at rated line voltage and load ranges.

## MECHANICAL SPECIFICATIONS



### NOTES:

1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 800 grams approx.
4. Standard output connector is a 4-pin power DIN. Please consult TRUMPower for other connector options.
5. The length of the output cable on 3F-12-150 and 3RF-12-150 is 37.4" (950.0mm).

## PIN CHART

1	2	3	4	Shell of connector
Output +V	Output +V	Return	Return	DC Return & AC Ground

**Tumbler Technologies + TRUMPower**

3350 Scott Blvd., Bldg. 13, Santa Clara, California 95054, USA

Phone: 408-988-6616 • Fax: 408-988-6622 • email: sales@trumpower.com • Website: www.TRUMPower.com