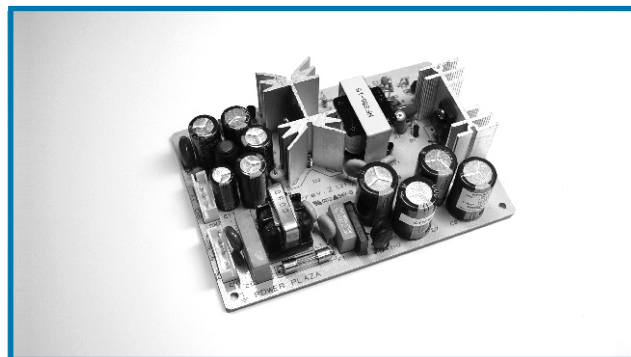


# NF 50

## NF 50 Series AC/DC Converters

**Total power**            **50 Watts**  
**Input voltages**        **AC85~132V**  
                                  **AC170~264V (or DC240~340V)**  
**#of outputs**            **Single, Dual output**



### SPECIAL FEATURES

- Cost effective unit
- Small, compact footprint
- High efficiency
- Dual input voltage range (selectable)
- Built - in EMI filter
- Inrush current limit
- Adjustable output voltage (Output1)
- Output over current protection
- Low output ripple & noise
- Isolated output
- 2 Years warranty

### ENVIRONMENTAL

- Operating temperature range ..... -10 ~60
- Storage temperature range ..... -20 ~70
- Humidity ..... 20%~90%RH
- Vibration ..... 10~55Hz at 2G 3minutes period
- Impact ..... 20G for 11ms, once on each X, Y and Z-axis
- Cooling method ..... Natural air
- MTBF .....  $1.6 \times 10^5$  hrs
- Safety ..... CB standard design
- Noise ..... Meets FCC class B

### ELECTRICAL SPECIFICATIONS

INPUT	<ul style="list-style-type: none"> <li>· Voltage ..... AC85~132V / AC170~264V (or DC 240~340v)</li> <li>· Current ..... 1.2A max. @ 110VAC / 0.6A max. @ 220VAC</li> <li>· Frequency ..... 47~440Hz max. (50~60Hz typ.)</li> <li>· Efficiency ..... 70% min.</li> <li>· Inrush current (at cold start) ..... 30A max. @ 110VAC / 60A max. @ 220VAC</li> <li>· Leakage current ..... 0.5mA max. @ 110VAC / 0.75mA max. @ 220VAC</li> </ul>
OUTPUT	<ul style="list-style-type: none"> <li>· Voltage adj. Range ..... <math>\pm 10\%</math> typ. @ Output1</li> <li>· Ripple and noise ..... 1% max.</li> <li>· Line regulation ..... <math>\pm 1\%</math> max. @ Output1 / <math>\pm 2\%</math> max. @ Output2</li> <li>· Load regulation ..... <math>\pm 1\%</math> max. @ Output1 / <math>\pm 2\%</math> max. @ Output2</li> <li>· Dynamic load regulaion ..... <math>\pm 3\%</math> max. @ Output1</li> <li>· Temperature drift ..... <math>\pm 1\%</math> typ.</li> <li>· Rising time ..... 100ms max.</li> <li>· Holding time ..... 10ms min.</li> </ul>
PROTECTION CIRCUIT	<ul style="list-style-type: none"> <li>· Over current protection ..... Work at over 105% of rating &amp; recovers automatically</li> </ul>
ELECTRICALLY ISOLATED	<ul style="list-style-type: none"> <li>· Input - Output ..... AC 3kV, 1minute, 10mA / DC 500V, 100MOhms min.</li> <li>· Input - FG ..... AC 2kV, 1minute, 10mA / DC 500V, 100MOhms min.</li> <li>· Output - FG ..... AC 0.5kV, 1minute, 10mA / DC 500V, 70MOhms min.</li> </ul>

## Ordering Information

Input	Output1	Output2	Maximum Power	Ripple&Noise max	Efficiency Typ.	model Number
AC85~132V / 170~264V or 240~340V	5V@10.0A 12V@4.2A 15V@3.4A 24V@2.1A		50.0W 50.4W 51.0W 50.4W	80mVp-p 120mVp-p 150mVp-p 200mVp-p	72% 80% 80% 81%	<b>NFS50-5</b> <b>NFS50-12</b> <b>NFS50-15</b> <b>NFS50-24</b>
	5V@5.0A 5V@5.0A 5V@5.0A	+12V@2.0A +15V@1.6A +24V@1.0A	49.0W 49.0W 49.0W	80 / 120mVp-p 80 / 150mVp-p 80 / 200mVp-p	79% 79% 79%	<b>NFD50-52</b> <b>NFD50-5F</b> <b>NFD50-54</b>

## Mating connectors

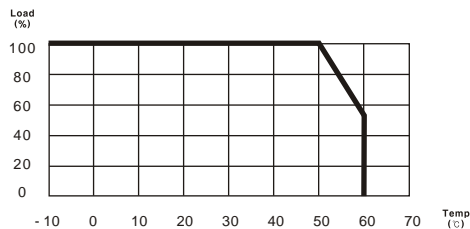
Output type	Name	I/O Connector	Mating Connector	Terminal
Single	CN 1	YPW500-03	YPH500-03	YLT-500
	CN 2	YW396-04	YH396-04	YLT-500
Dual	CN 1	YPW500-03	YPH500-03	YLT-500
	CN 2	YW396-06	YH396-06	YLT-500

## Pin assignments

Connector	Input
CN 1 (input)	1. FG
	2. AC(N)
	3. AC(L)

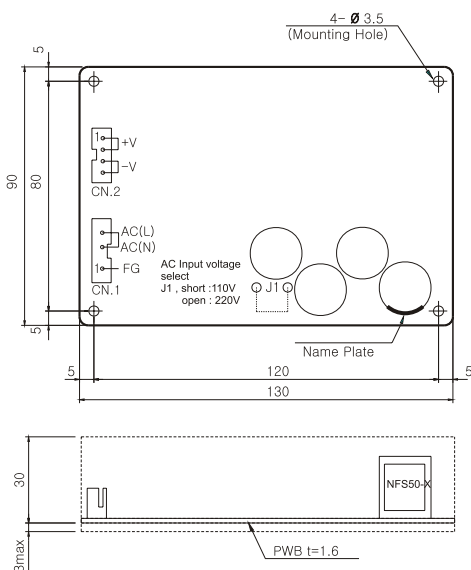
Connector	Single	Dual
CN 2 (output)	1. Output1	1. Output2
	2. Output1	2. Gnd
	3. GND	3. Gnd
	4. GND	4. Gnd
		5. Output1
		6. Output1

## Derating curve

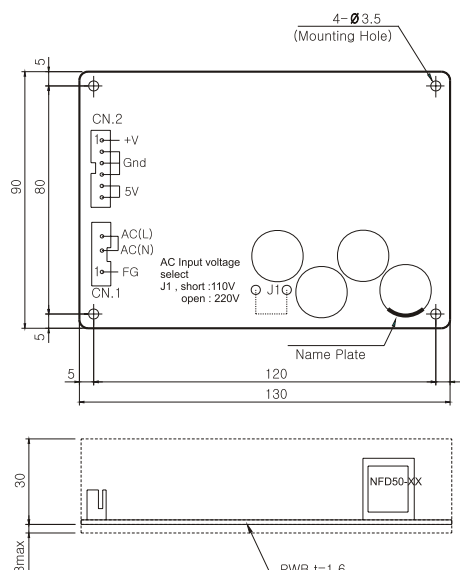


## Dimensions

Single Output



Dual Output



### NOTES

1. All dimensions are mm
2. Weight : 245g or less