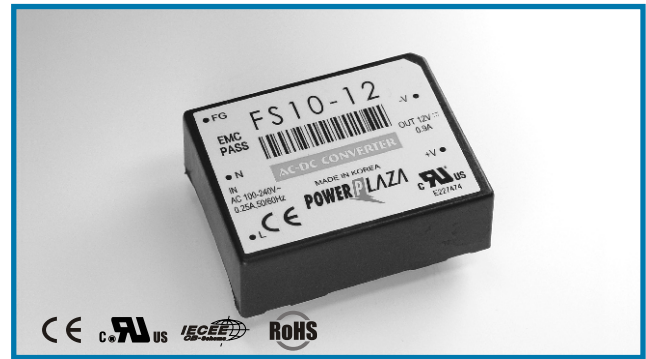


# FS 10

## FS10 Series AC/DC Converters(Power tank)

**Total power** 10 Watts  
**Input voltages** AC85~264V or DC110~340V  
**#of outputs** Single, Dual, Triple output



### SPECIAL FEATURES

- UL, C-UL, CB, CE Marking
- Encapsulated, compact case
- High efficiency
- Universal input
- Surface mounting technology
- Built - in EMI filter
- Inrush current limit
- 67KHz fixed frequency
- Fixed output voltage
- Thermal shutdown
- Output short circuit protection
- Low output ripple & noise
- Isolated output
- 2Years warranty

### ENVIRONMENTAL

- Operating temperature range ..... -10 ~60
- Storage temperature range ..... -20 ~70
- Humidity ..... 20%~90%RH
- Vibration ..... 10~55Hz at 10G 3minutes period
- Impact ..... 50G for 11ms, once on each X, Y and Z-axis
- Cooling method ..... Natural air
- MTBF (MIL-HDBK-217F) .....  $3.5 \times 10^5$  hrs
- Safety (single output) \*Approved
  - UL (UL60950, CSA C22.2 NO.60950) : E227474 / CB (IEC 60950) / CE (EN 60950) - through TÜV
- EMC (Single output) \*Approved  
 EN 61204-3 class B / EN 61000-3-2 / EN 61000-3-3 - through TÜV

\* To meet the standard of EN61204-3 class-B, use the external noise filter Between L and N (Refer to manual)

### ELECTRICAL SPECIFICATIONS

INPUT	<ul style="list-style-type: none"> <li>• Voltage ..... AC85~264V (or DC 110~340V) (note1)</li> <li>• Current ..... 0.21A max. @ 110VAC / 0.11A max. @ 220VAC</li> <li>• Frequency ..... 47~440Hz max. (50~60Hz typ.)</li> <li>• Efficiency ..... 73% typ.</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 tolerance ..... <math>\pm 2\%</math> (single and uncomplementary dual)  <math>\pm 3\%</math> (complementary dual)</li> <li>• Ripple and noise ..... <math>\pm 1\%</math> typ.</li> <li>• Line regulation ..... <math>\pm 1\%</math> typ.</li> <li>• Load regulation ..... <math>\pm 1\%</math> typ. @ Output1 / <math>\pm 2\%</math> typ. @ Output2, 3</li> <li>• Dynamic load regulaion ..... <math>\pm 3\%</math> typ. @ Output1</li> <li>• Temperature drift ..... <math>\pm 1\%</math> typ.</li> <li>• Rising time ..... 400ms max.</li> <li>• Holding time ..... 10ms min.</li> </ul>
PROTECTION CIRCUIT	<ul style="list-style-type: none"> <li>• Output short circuit protection ..... Work at over 105% of rating &amp; recovers automatically</li> <li>• Over temperature protection ..... 145 typ.</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>

**NOTE** 1. For cases where conformance to various safety specs (UL, CSA, CE, CB etc)are required input voltage and frequency range will be 100-240 VAC, 50-60Hz.

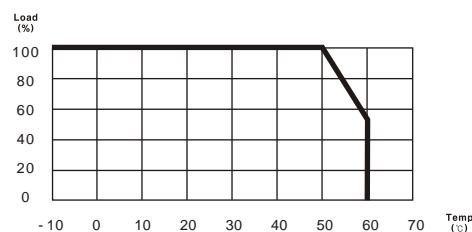
## Ordering Information

Input	Output1	Output2	Output3	Maximum Power	Ripple&Noise max	Efficiency Typ.	Model Number
AC 85 ~ 264V or DC 110 ~ 340V	3.3V@2.0A			6.6W	80mVp-p	73%	<b>FS10-3R3</b>
	5V@2.0A			10.0W	80mVp-p	73%	<b>FS10-5</b>
	12V@0.9A			10.8W	120mVp-p	75%	<b>FS10-12</b>
	15V@0.7A			10.5W	150mVp-p	75%	<b>FS10-15</b>
	24V@0.45A			10.8W	200mVp-p	75%	<b>FS10-24</b>
	+12V@0.45A +15V@0.35A	-12V@0.45A -15V@0.35A		10.8W 10.5W	120/120mVp-p 150/150mVp-p	75% 75%	<b>FSD10-1212</b> <b>FSD10-1515</b>
	5V@1.5A 5V@1.5A	+12V@0.15A +15V@0.12A	-12V@0.15A -15V@0.12A	11.1W 11.1W	80/120/120mVp-p 80/150/150mVp-p	75% 75%	<b>FST10-522M</b> <b>FST10-5FFM</b>

## Pin assignments

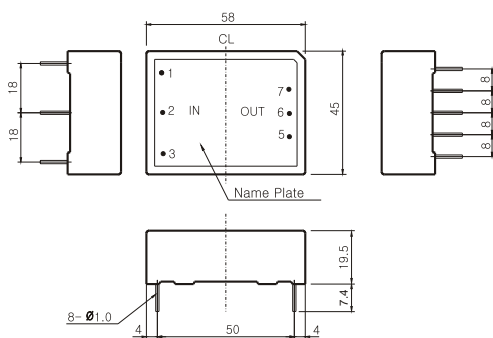
Single Output	Dual Output	Triple Output
1. FG	1. FG	1. FG
2. AC(N)	2. AC(N)	2. AC(N)
3. AC(L)	3. AC(L)	3. AC(L)
4. No pin	4. No pin	4. Output 1
5. Output 1	5. Output 1	5. Gnd
6. No pin	6. Gnd	6. Output 2
7. Gnd	7. Output 2	7. Gnd
8. No pin	8. No pin	8. Output 3

## Derating curve

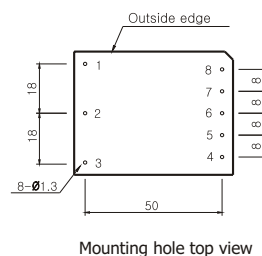
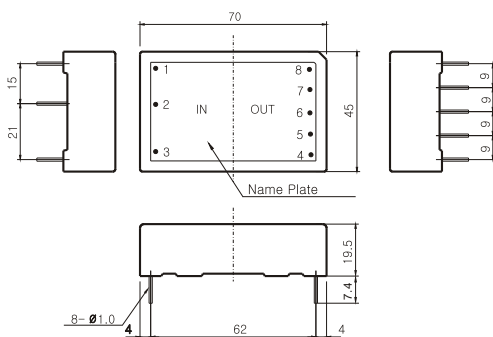


## Dimensions

### Single, Dual Output



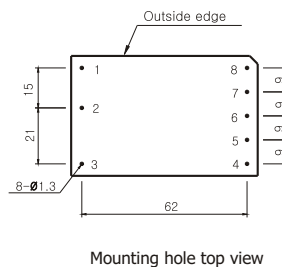
### Triple Output



Mounting hole top view

### NOTES

- All dimensions are mm.
- Weight : 90g or less (single, dual)  
100g or less (triple)



Mounting hole top view