


■ Features :

- Interchangeable AC plugs (plug kit sold separately)
- Universal AC input / Full range
- No load power consumption < 0.3W
- ErP step2 compliant
- Meet EISA 2007 (Energy Independence and Security Act) for 5~24V
- Class II power (without earth pin)
- Protections: Short circuit / Overload / Over voltage
- Fully enclosed plastic case
- LED indicator for power on
- Pass LPS
- Approvals: UL / CUL / TUV / CCC / CB / FCC / CE / C-Tick
- 2 years warranty


AC INLET PLUG

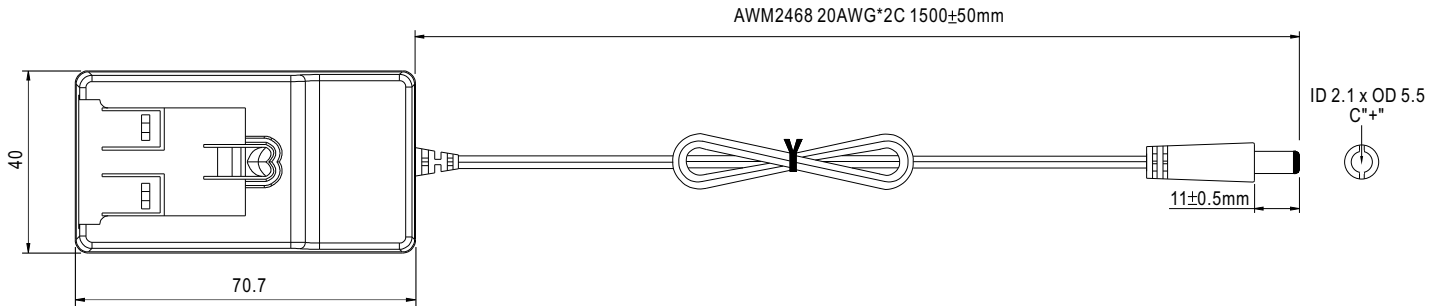
TYPE					
	Australian type	U.K type	European type	US type	Mix four type
ORDER NO.	AC plug-AU	AC plug-UK	AC plug-EU	AC plug-US	AC plug-MIX

SPECIFICATION

POWER SUPPLY MAIN BODY ORDER NO.	GE12I05-P1J	GE12I07-P1J	GE12I09-P1J	GE12I12-P1J	GE12I15-P1J	GE12I18-P1J	GE12I24-P1J																																																																																
OUTPUT	<table border="1"> <tr> <td>SAFETY MODEL NO.</td> <td>FRA012-S05-I</td> <td>FRA012-S07-I</td> <td>FRA012-S09-I</td> <td>FRA012-S12-I</td> <td>FRA012-S15-I</td> <td>FRA012-S18-I</td> <td>FRA012-S24-I</td> </tr> <tr> <td>DC VOLTAGE <small>Note.2</small></td> <td>5V</td> <td>7.5V</td> <td>9V</td> <td>12V</td> <td>15V</td> <td>18V</td> <td>24V</td> </tr> <tr> <td>RATED CURRENT</td> <td>2.0A</td> <td>1.33A</td> <td>1.33A</td> <td>1.0A</td> <td>0.8A</td> <td>0.83A</td> <td>0.625A</td> </tr> <tr> <td>CURRENT RANGE</td> <td>0 ~ 2.0A</td> <td>0 ~ 1.33A</td> <td>0 ~ 1.33A</td> <td>0 ~ 1.0A</td> <td>0 ~ 0.8A</td> <td>0 ~ 0.83A</td> <td>0 ~ 0.625A</td> </tr> <tr> <td>RATED POWER</td> <td>10W</td> <td>10W</td> <td>12W</td> <td>12W</td> <td>12W</td> <td>15W</td> <td>15W</td> </tr> <tr> <td>RIPPLE & NOISE (max.) <small>Note.3</small></td> <td>50mVp-p</td> <td>75mVp-p</td> <td>100mVp-p</td> <td>120mVp-p</td> <td>150mVp-p</td> <td>180mVp-p</td> <td>240mVp-p</td> </tr> <tr> <td>VOLTAGE TOLERANCE <small>Note.4</small></td> <td>±5.0%</td> <td>±5.0%</td> <td>±5.0%</td> <td>±3.0%</td> <td>±3.0%</td> <td>±3.0%</td> <td>±3.0%</td> </tr> <tr> <td>LINE REGULATION <small>Note.5</small></td> <td>±1.0%</td> <td>±1.0%</td> <td>±1.0%</td> <td>±1.0%</td> <td>±1.0%</td> <td>±1.0%</td> <td>±1.0%</td> </tr> <tr> <td>LOAD REGULATION <small>Note.6</small></td> <td>±5.0%</td> <td>±5.0%</td> <td>±5.0%</td> <td>±3.0%</td> <td>±3.0%</td> <td>±3.0%</td> <td>±3.0%</td> </tr> <tr> <td>SETUP, RISE, HOLD UP TIME</td> <td colspan="7">4000ms, 100ms, 30ms / 230VAC 4000ms, 100ms, 10ms / 115VAC at full load</td> </tr> </table>							SAFETY MODEL NO.	FRA012-S05-I	FRA012-S07-I	FRA012-S09-I	FRA012-S12-I	FRA012-S15-I	FRA012-S18-I	FRA012-S24-I	DC VOLTAGE <small>Note.2</small>	5V	7.5V	9V	12V	15V	18V	24V	RATED CURRENT	2.0A	1.33A	1.33A	1.0A	0.8A	0.83A	0.625A	CURRENT RANGE	0 ~ 2.0A	0 ~ 1.33A	0 ~ 1.33A	0 ~ 1.0A	0 ~ 0.8A	0 ~ 0.83A	0 ~ 0.625A	RATED POWER	10W	10W	12W	12W	12W	15W	15W	RIPPLE & NOISE (max.) <small>Note.3</small>	50mVp-p	75mVp-p	100mVp-p	120mVp-p	150mVp-p	180mVp-p	240mVp-p	VOLTAGE TOLERANCE <small>Note.4</small>	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±3.0%	LINE REGULATION <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	LOAD REGULATION <small>Note.6</small>	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±3.0%	SETUP, RISE, HOLD UP TIME	4000ms, 100ms, 30ms / 230VAC 4000ms, 100ms, 10ms / 115VAC at full load						
SAFETY MODEL NO.	FRA012-S05-I	FRA012-S07-I	FRA012-S09-I	FRA012-S12-I	FRA012-S15-I	FRA012-S18-I	FRA012-S24-I																																																																																
DC VOLTAGE <small>Note.2</small>	5V	7.5V	9V	12V	15V	18V	24V																																																																																
RATED CURRENT	2.0A	1.33A	1.33A	1.0A	0.8A	0.83A	0.625A																																																																																
CURRENT RANGE	0 ~ 2.0A	0 ~ 1.33A	0 ~ 1.33A	0 ~ 1.0A	0 ~ 0.8A	0 ~ 0.83A	0 ~ 0.625A																																																																																
RATED POWER	10W	10W	12W	12W	12W	15W	15W																																																																																
RIPPLE & NOISE (max.) <small>Note.3</small>	50mVp-p	75mVp-p	100mVp-p	120mVp-p	150mVp-p	180mVp-p	240mVp-p																																																																																
VOLTAGE TOLERANCE <small>Note.4</small>	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±3.0%																																																																																
LINE REGULATION <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%																																																																																
LOAD REGULATION <small>Note.6</small>	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±3.0%																																																																																
SETUP, RISE, HOLD UP TIME	4000ms, 100ms, 30ms / 230VAC 4000ms, 100ms, 10ms / 115VAC at full load																																																																																						
INPUT	<table border="1"> <tr> <td>VOLTAGE RANGE</td> <td>90 ~ 264VAC</td> <td colspan="6">135 ~ 370VDC</td> </tr> <tr> <td>FREQUENCY RANGE</td> <td colspan="7">47 ~ 63Hz</td> </tr> <tr> <td>EFFICIENCY (Typ.)</td> <td>74%</td> <td>77%</td> <td>79%</td> <td>81%</td> <td>82%</td> <td>83%</td> <td>83%</td> </tr> <tr> <td>AC CURRENT</td> <td>0.4A / 100VAC</td> <td colspan="6">0.25A / 230VAC</td> </tr> <tr> <td>INRUSH CURRENT (max.)</td> <td colspan="7">COLD START 40A / 100VAC 80A / 230VAC</td> </tr> <tr> <td>LEAKAGE CURRENT (max.)</td> <td colspan="7">0.25mA / 240VAC</td> </tr> </table>							VOLTAGE RANGE	90 ~ 264VAC	135 ~ 370VDC						FREQUENCY RANGE	47 ~ 63Hz							EFFICIENCY (Typ.)	74%	77%	79%	81%	82%	83%	83%	AC CURRENT	0.4A / 100VAC	0.25A / 230VAC						INRUSH CURRENT (max.)	COLD START 40A / 100VAC 80A / 230VAC							LEAKAGE CURRENT (max.)	0.25mA / 240VAC																																						
VOLTAGE RANGE	90 ~ 264VAC	135 ~ 370VDC																																																																																					
FREQUENCY RANGE	47 ~ 63Hz																																																																																						
EFFICIENCY (Typ.)	74%	77%	79%	81%	82%	83%	83%																																																																																
AC CURRENT	0.4A / 100VAC	0.25A / 230VAC																																																																																					
INRUSH CURRENT (max.)	COLD START 40A / 100VAC 80A / 230VAC																																																																																						
LEAKAGE CURRENT (max.)	0.25mA / 240VAC																																																																																						
PROTECTION	<table border="1"> <tr> <td>OVERLOAD</td> <td colspan="7">110% ~ 200% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed</td> </tr> <tr> <td>OVER VOLTAGE</td> <td colspan="7">115% ~ 135% Protection type : Clamp by zener diode</td> </tr> </table>							OVERLOAD	110% ~ 200% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed							OVER VOLTAGE	115% ~ 135% Protection type : Clamp by zener diode																																																																						
OVERLOAD	110% ~ 200% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed																																																																																						
OVER VOLTAGE	115% ~ 135% Protection type : Clamp by zener diode																																																																																						
ENVIRONMENT	<table border="1"> <tr> <td>WORKING TEMP.</td> <td colspan="7">-10 ~ +50°C (Refer to output load derating curve)</td> </tr> <tr> <td>WORKING HUMIDITY</td> <td colspan="7">20% ~ 90% RH non-condensing</td> </tr> <tr> <td>STORAGE TEMP., HUMIDITY</td> <td colspan="7">-20 ~ +85°C, 10 ~ 95% RH</td> </tr> <tr> <td>TEMP. COEFFICIENT</td> <td colspan="7">±0.03% / °C (0 ~ 40°C)</td> </tr> <tr> <td>VIBRATION</td> <td colspan="7">10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes</td> </tr> </table>							WORKING TEMP.	-10 ~ +50°C (Refer to output load derating curve)							WORKING HUMIDITY	20% ~ 90% RH non-condensing							STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH							TEMP. COEFFICIENT	±0.03% / °C (0 ~ 40°C)							VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes																																														
WORKING TEMP.	-10 ~ +50°C (Refer to output load derating curve)																																																																																						
WORKING HUMIDITY	20% ~ 90% RH non-condensing																																																																																						
STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH																																																																																						
TEMP. COEFFICIENT	±0.03% / °C (0 ~ 40°C)																																																																																						
VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes																																																																																						
SAFETY & EMC	<table border="1"> <tr> <td>SAFETY STANDARDS</td> <td colspan="7">UL60950-1, CSA C22.2, TUV EN60950 -1, CCC GB4943 approved</td> </tr> <tr> <td>WITHSTAND VOLTAGE</td> <td colspan="7">I/P-O/P:4242VDC</td> </tr> <tr> <td>ISOLATION RESISTANCE</td> <td colspan="7">I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH</td> </tr> <tr> <td>EMI CONDUCTION & RADIATION</td> <td colspan="7">Compliance to FCC part15, EN55022 class B, GB9254 class B</td> </tr> <tr> <td>HARMONIC CURRENT</td> <td colspan="7">Compliance to EN61000-3-2,3</td> </tr> <tr> <td>EMS IMMUNITY</td> <td colspan="7">Compliance to EN61000-4-2,3,4,5,6,8,11, light industry level, criteria A</td> </tr> </table>							SAFETY STANDARDS	UL60950-1, CSA C22.2, TUV EN60950 -1, CCC GB4943 approved							WITHSTAND VOLTAGE	I/P-O/P:4242VDC							ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH							EMI CONDUCTION & RADIATION	Compliance to FCC part15, EN55022 class B, GB9254 class B							HARMONIC CURRENT	Compliance to EN61000-3-2,3							EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, light industry level, criteria A																																						
SAFETY STANDARDS	UL60950-1, CSA C22.2, TUV EN60950 -1, CCC GB4943 approved																																																																																						
WITHSTAND VOLTAGE	I/P-O/P:4242VDC																																																																																						
ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH																																																																																						
EMI CONDUCTION & RADIATION	Compliance to FCC part15, EN55022 class B, GB9254 class B																																																																																						
HARMONIC CURRENT	Compliance to EN61000-3-2,3																																																																																						
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, light industry level, criteria A																																																																																						
OTHERS	<table border="1"> <tr> <td>LIFE</td> <td colspan="7">2 years : 100% load 30°C, 8 hours / day</td> </tr> <tr> <td>MTBF</td> <td colspan="7">100Khrs min. MIL-HDBK-217F (25°C)</td> </tr> <tr> <td>DIMENSION</td> <td colspan="7">70.7*40*38.8mm (L*W*H)</td> </tr> <tr> <td>PACKING</td> <td colspan="7">97g ; 60pcs / 6.88kg / CARTON</td> </tr> </table>							LIFE	2 years : 100% load 30°C, 8 hours / day							MTBF	100Khrs min. MIL-HDBK-217F (25°C)							DIMENSION	70.7*40*38.8mm (L*W*H)							PACKING	97g ; 60pcs / 6.88kg / CARTON																																																						
LIFE	2 years : 100% load 30°C, 8 hours / day																																																																																						
MTBF	100Khrs min. MIL-HDBK-217F (25°C)																																																																																						
DIMENSION	70.7*40*38.8mm (L*W*H)																																																																																						
PACKING	97g ; 60pcs / 6.88kg / CARTON																																																																																						
DC OUTPUT CONNECTOR	<table border="1"> <tr> <td>PLUG</td> <td colspan="7">Standard type P1J: 2.1φ * 5.5φ * 11mm turning fork type, center positive for stock ; Other type available by customer requested</td> </tr> <tr> <td>CABLE</td> <td colspan="7">See page2</td> </tr> </table>							PLUG	Standard type P1J: 2.1φ * 5.5φ * 11mm turning fork type, center positive for stock ; Other type available by customer requested							CABLE	See page2																																																																						
PLUG	Standard type P1J: 2.1φ * 5.5φ * 11mm turning fork type, center positive for stock ; Other type available by customer requested																																																																																						
CABLE	See page2																																																																																						
NOTE	<ol style="list-style-type: none"> 1.All parameters are specified at 230VAC input, rated load, 25°C 70% RH ambient. 2.DC voltage: The output voltage set at point measure by plug terminal & 50% load. 3.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf & 47uf capacitor. 4.Tolerance: includes set up tolerance, line regulation, load regulation. 5.Line regulation is measured from low line to high line at rated load. 6.Load regulation is measured from 10% to 100% rated load 7.Main body unit and AC inlet plug should be ordered separately ; it needs to be used along with any of the AC inlet plug. 																																																																																						

■ Mechanical Specification

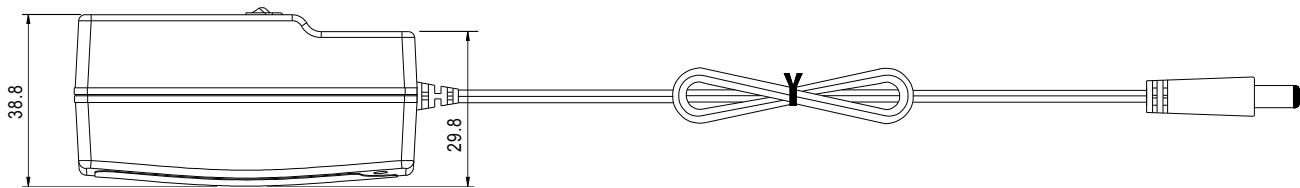
Unit:mm



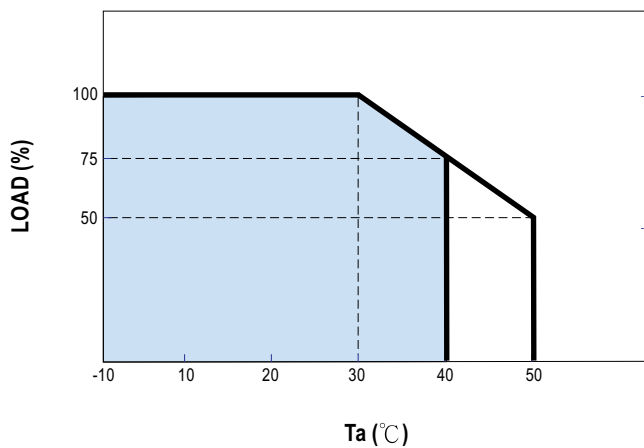
■ Plug Assignment

Standard plug: P1J (option)

P1J	
P/N	OUTPUT
CENTER	+



■ Derating Curve



■ Static Characteristics

