

電氣規格書



Efficiency Testing Criteria

| | Regulation | Output Power | Average Efficiency in Active Mode | Maximum Power in No Load |
|------------------|-------------------------------|-----------------------|-----------------------------------|--------------------------|
| The Product Meet | Department of Energy Level VI | $1W \leq PO \leq 49W$ | $\geq 86.35\%$ | $\leq 0.1W$ |
| | Code of Conduct V5 (Tier 2)* | $1W < PO \leq 49W$ | $\geq 86.98\%$ | $\leq 0.075W$ |



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SPECIFICATION

AC Adapter
FSP025-DHAN3

anticipate IEC 62368-1

| P.E | R/D | APPROVED | REV. |
|--------|--------|----------|------|
| Victor | Arthur | Shipu | 00 |



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Electrical Specification

| REV. | <u>Description</u> | Date | E.E | Approved |
|------|--------------------|--------------|--------|----------|
| 00 | SPEC ISSUE | DEC. 22,2017 | Arthur | Shipu |
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Electrical Specification

Electrical Requirements

1. Input Characteristics:

| ITEM | CONDITION | SPECIFICATION |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| 1.1 Rated Input Voltage: | | 100Vac~240Vac |
| 1.2 Input Voltage Range: | | 90Vac to 264Vac |
| 1.3 Input Frequency Range: | | 47Hz to 63Hz |
| 1.4 Input Current: | 100Vac / Full Load 240Vac / Full Load | $\leq 1.0A$ $\leq 0.5A$ |
| 1.5 Input Current Harmonic: | | IEC61000-3-2 |
| 1.6 Inrush Current: | 100Vac,240Vac / Full load(Cold start) | Shall be less than the rating of Adapter critical component (including rectifiers, fuse surge And current limiting device) |
| 1.7 Meet DOE(Level VI): | (1)115Vac / 0A load (2)115Vac / 25%,50%,75%,100% load (Average Active Mode Efficiency , Warm up 30 minutes later) | $\leq 0.1W$ $\geq 86.35\%$ (DC Cable ≤ 1500 mm,20AWG) |
| 1.8 Meet Code of Conduct V5 (Tier 2)* | (1)230Vac / 0A load (2)230Vac / 25%,50%,75%,100% load (Average Active Mode Efficiency , Warm up 30 minutes later) | $\leq 0.075W$ $\geq 86.98\%$ (DC Cable ≤ 1500 mm,20AWG) |
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Electrical Requirements

2. Output Characteristics:

※Measured at the end of DC cable.

| ITEM | CONDITION | SPECIFICATION |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------|
| 2.1 Output Rated Voltage: | | 12V |
| 2.2 Output Current: | at constant voltage mode | 0A to 2.08A |
| 2.3 Output Voltage Setting: | at the output end of DC cable | 12V \pm 5% |
| 2.4 Output Voltage Ripple and Noise: (0.1uF Ceramic Cap. and 35V 47uF Aluminum Cap. Paralleled between the end of output cable) | 115Vac, 230Vac / 0A~2.08A load | \leq 180mVp-p |
| 2.5 Turn-On Delay Time: | At 115Vac / 2.08A load, output voltage shall remain regulation | \leq 3.5Sec |
| 2.6 Hold Up Time: | At 115Vac or 230Vac / 2.08A load, Output voltage shall remain regulation | \geq 5ms |
| 2.7 Rise Time: | At 115Vac / 2.08A load, DC output rise time from 10%~90% of VO | \leq 50ms |
| 2.8 Dynamic Load Change: | (1) Output load step is : (a) 10% ~50 % (b) 50 %~90 % (2) S/R=0.5A/us (3) Frequency is 100Hz | 12V \pm 10% |
| 2.9 Overshoot: | 115Vac, 230Vac / 0A and 2.08A | 12V \pm 10% |
| 2.10 Connector Pin Designations: | | Refer to Outline |
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Electrical Requirements

3. Protection Characteristics:

| ITEM | CONDITION | SPECIFICATION |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 3.1 Short Circuit Protection: | When an internal fault occurs, or an external fault is applied to the power supply, such that an overload or short circuit is applied to the output, the power supply shall shut down and enter auto-recovery mode. | Shutdown and no damage |
| 3.2 Over Voltage Protection: | The adapter will enter into shut down that means no output while over voltage happened at output terminal that caused by internal fault, the output trip voltage shall not exceed 18 volts. Only internal test. | Shutdown and no damage |
| 3.3 Over Current Protection: | When an internal fault occurs, or an external fault is applied to the power supply, such that an overload is applied to the output, the power supply shall shut down and enter auto-recovery mode. at 115Vac & 230Vac & C. C. Mode | Shutdown and no damage Output current limit : 4.0A(Max) |
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Electrical Requirements

4. Environmental Characteristics:

| ITEM | CONDITION | SPECIFICATION |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 4.1 Electric Fast Transients: Refer to IEC61000-4-4 | Impulse: $\pm 1\text{kV}$ applied to L,N | Normal operation shall be continued |
| 4.2 Lightning Surge: Refer to IEC61000-4-5 | $\pm 1\text{kV}$ applied differential mode | Normal operation shall be continued |
| | $\pm 2\text{kV}$ applied common mode | Normal operation shall be continued |
| 4.3 Electron Static Discharge: (Refer to IEC61000-4-2 Energy Storage Capacitor 150pF; Discharge Resistor 330 Ω) | Contact Discharge: $\pm 4\text{KV}$ Air Discharge: $\pm 8\text{KV}$ | Normal operation shall be continued |
| 4.4 Cooling: | Natural air cooling | |
| 4.5 EMI: Adapter comply with the following national standards: EMI Conducted Emission EMI Radiated Emission | 1.Full Load 2. The power supply with internal filter can meet. | FCC PART 15J CLASS B CISPR32 EN55032 CLASS B VCCI LEVEL II |
| 4.6 Safety conforming: 4.6.1 Department of Energy(DoE) Code of Conduct V5 (Tier 2)* | | Regulated by customer Comply with DoE standard Comply with CoC standard |
| 4.7 Leakage Current: | 264Vac / 50Hz | $\leq 0.25\text{mA}$ |
| 4.8 Dielectric Strength: (Hi-Pot) | Between AC input and secondary applied AC 1.5KV / test time 1 minute / cut off current shall be less than 10mA | |
| 4.9 Insulation Resistance | Between AC input and secondary applied DC 500V/ test time 1 second | $\geq 100\text{M}\Omega$ |
| 4.10 Temperature: | Operating | 0 to 40°C(Safety) 40 to 70°C Linearly de-rate to 50% load at 70°C , need to check safety with system |
| | Storage | -20 to +80°C |
| 4.11 Humidity: | Operating | 20% ~ 80% |
| | Storage | 10% ~ 90% |



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5. Mechanical Characteristics:

| ITEM | CONDITION | SPECIFICATION |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| 5.1 Dimension(Length x Width x Height) | | 98.0 X 37.0 X 28.5 mm |
| 5.2 Adapter weight | | 100g (typical) |
| 5.3 Input AC socket Type | | IEC 320-C14 Type |
| 5.4 Vibration Test: | (1) Non-operating, $0.01g^2/Hz$ at 5Hz slopping to $0.02g^2/Hz$ at 20Hz, And maintain $0.02g^2/Hz$ from 20Hz ~ 500Hz (2) PSD= $3.13grms$, 15 minutes/axis (3) Vibration duration : 15minutes (4) Vibration waveform : Random (5) Force Direction X,Y,Z | Normal operation shall be continued. |
| 5.5 MTBF: | (1) Full Load (2) 230Vac (3) 25°C | 100,000Hrs Min. Telcordia SR-332 Issue2 |
| 5.6 SEA Level: | | 5000 meters |
| 5.7 RoHS: | | Meet RoHS required |
| 5.8 Acoustic Noise: | (1) Position the microphone 30 Centimeters above the x-y center Of the AC adapter (2) Input voltage: 110Vac/60Hz 220Vac/50Hz (3) Test Point: No load 20% load 40% load 60% load 80% load Full load | The EUT <30dB |
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Note : Acoustic Noise

