



Features

- . Input voltage 176 ~ 264VAC 50/60Hz or 200~360VDC
- . Protections: Short Circuit / Overload / Over Voltage Protection
- . Output voltage selectable from 12Vdc to 110Vdc for 800W series
- . Efficiency is no less than 85% and 2 years guarantee.
- . Forced air cooling by built-in DC ball bearing fan
- . All using high quality 105°C long life electrolytic capacitors
- . 100% full load burn-in test for 2Hrs to make every unit reliable.

Safety Standards

- . IEC62368-1 CB report for worldwide use
- . EN 62368-1:2014/A11:2017 for European Union
- . UL62368-1 + CAN/CSA 62368-1 for USA and Canada
- . AS/NZS 62368.1:2018 for Australia and New Zealand
- . J62368-1 for Japan and GB4943.1 for China market.



Product Description:

It is a high reliable 13.8Vdc 58A 800W single output constant voltage type switching power supply solution with 176 ~ 264VAC or 200 ~ 360VDC input. The product is designed and manufactured strictly according to the international safety standards with high reliable components and operating temperature is suitable from -10 °C to +60 °C. The switching power supply utilizes aluminum alloy housing built-in a on/off controllable DC fan for forced air cooling. This 13.8Vdc 58A power supply is suitable for various types of new energy, railway, smart farming, smart logistics, smart transportation, industrial robots, laser galvanometer, CNC machining and so on.

Technical Specification

| Typ. Model | TL-800S-12 | TL-800S-13.8 | TL-800S-15 | TL-800S-24 | TL-800S-48 |
|------------------------|--|--------------|------------|------------|------------|
| Output | | | | | |
| Output Voltage | 12VDC | 13.8VDC | 15VDC | 24VDC | 48VDC |
| Rated Current | 66.6A Max. | 58A Max. | 53A Max. | 33A Max. | 16.7A Max. |
| Current Range | 0 ~ 66.6A | 0 ~ 58A | 0 ~ 53A | 0 ~ 33A | 0 ~ 16.7A |
| Output Power | 800W Max. | 800W Max. | 800W Max. | 800W Max. | 800W Max. |
| Voltage Tolerance | ±5% | ±5% | ±5% | ±5% | ±5% |
| Ripple & Noise | 200mVp-p | 200mVp-p | 200mVp-p | 300mVp-p | 400mVp-p |
| Input | | | | | |
| Input voltage | 176 ~264 Vac or 200- 360Vdc | | | | |
| Input Frequency | 50-60Hz (When the input is AC) | | | | |
| Input Current | 9A Max. @ 100 ~240Vac 50/60Hz input | | | | |
| Inrush Current | 60A Max. @ 100 ~240Vac 50/60Hz input | | | | |
| Efficiency (Typ.) | 85% | 85% | 86% | 87% | 87% |
| Leakage Current | ≤0.5mA @ full input range | | | | |
| Protections | | | | | |
| Over current | 110~130% rated output power. Auto-Recovery when the fault is removed | | | | |
| Short Circuit | No damage. Auto-Recovery when the fault is removed | | | | |
| Over temperature | Shut down o/p voltage, re-power on to recover | | | | |
| Environmental | | | | | |
| Operation Temperature | -10°C to +45°C, 20%RH to 90%RH | | | | |
| Storage Temp, Humidity | -45~ +85°C, 10%RH to 95%RH | | | | |
| Operation Altitude | ≤2000m @ full load and rated operating temperatures | | | | |
| MTBF | ≥50000Hrs @ full load and rated operating temperatures | | | | |
| Mechanical | | | | | |
| Dimensions (W x L x H) | 291.0 x 133.0 x 68.0mm (11.46 x 5.24 x 2.68 inch) | | | | |
| Unit Weight | 650g±40 grams | | | | |
| Packing Information | 20pcs/ Carton, carton dimensions:47*37*20cm, 14.2kgs/ Carton | | | | |

TEST REPORT

OUTPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDIDTION | RESULT | VERDICT |
|----|-------------------|-----------------|---|-----------------------------------|---------|
| 1 | RIPPLE & NOISE | 200mVp-p (Max) | I/P:230VAC / O/P:FULL LOAD / Ta:25°C | 166mVp-p | P |
| 2 | VOLTAGE TOLERANCE | -5% ~ +5% (Max) | I/P:176VAC~264VAC O/P:FULL~MIN. LOAD / Ta:25°C | -2% ~ +2% of output voltage | P |
| 3 | LINE REGULATION | -1% ~ +1% (Max) | I/P:176VAC ~264VAC O/P:FULL LOAD / Ta:25°C | -0.09% ~ +0.09% of output voltage | P |
| 4 | LOAD REGULATION | -3% ~ +3% (Max) | I/P:230VAC O/P:FULL ~MIN LOAD / Ta:25°C | -1.12% ~ +1.11% of output voltage | P |
| 5 | OVER/UNDERSHOOT | <±5% | I/P: 230VAC O/P:FULL LOAD / Ta:25°C | 0.94% | P |
| 6 | SET UP TIME | 2000 mS (Max) | I/P:230VAC O/P:FULL LOAD / Ta:25°C | 1590 mS | P |
| 7 | RISE TIME | 50 mS (Max) | I/P: 230VAC O/P:FULL LOAD / Ta:25°C | 40 mS | P |
| 8 | HOLD UP TIME | 10 mS (Min) | I/P: 230VAC O/P:FULL LOAD / Ta:25°C | 14 mS | P |

INPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDIDTION | RESULT | VERDICT |
|----|--------------------|------------------------------------|---|----------------------------|---------|
| 1 | VOLTAGE RANGE | 176VAC~264VAC | I/P:TESTING O/P:FULL LOAD / Ta:25°C | 168V~264V | P |
| 2 | FREQUENCY RANGE | 50HZ - 60HZ (Typ) NO DAMAGE OSC | I/P: 176VAC ~ 240VAC O/P:FULL~MIN LOAD / Ta:25°C | TEST: OK | P |
| 3 | EFFICIENCY | >85% (Typ) | I/P:230VAC O/P:FULL LOAD / Ta:25°C | 85.83% | P |
| 4 | AVERAGE EFFICIENCY | >83% | I/P:230VAC & O/P:25%、50%、75%、100% LOAD & Ta:25°C | 84.21% (230VAC) | P |
| 5 | AC CURRENT | 8.0A (Max) | I/P:230VAC & O/P:FULL LOAD Ta:25°C | 7.20A | P |
| 6 | INRUSH CURRENT | <80A COLD START | I/P: 230VAC / O/P:FULL LOAD Ta:25°C | 66.27A | P |
| 7 | LEAKAGE CURRENT | < 0.5mA | I/P:230VAC & O/P:Min LOAD Ta:25°C | L-FG:0.38mA N-FG:0.37mA | P |

PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDIDTION | RESULT | VERDICT |
|----|-------------------------|----------------------------------|---------------------------------------|--|---------|
| 1 | OVER LOAD PROTECTION | 110 ~ 130% (Typ) | I/P:230VAC & O/P:TESTING Ta:25°C | 119.9% HICCUP MODE | P |
| 2 | OVER VOLTAGE PROTECTION | 115 ~ 135% (Typ) | I/P:230VAC O/P:MIN LOAD & Ta:25°C | Hiccup mode, recovers automatically after fault condition is removed | P |
| 3 | SHORT PROTECTION | SHORT OUTPUT 1 HOUR NO DAMAGE | I/P:264VAC O/P:FULL LOAD & Ta:25°C | NO DAMAGE HICCUP MODE | P |

SAFETY TEST & E.M.C TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDIDTION | RESULT | VERDICT |
|----|----------------------|---|---|--|---------|
| 1 | WITHSTAND VOLTAGE | I/P-O/P: 1.5KVAC/min I/P- FG: 1.5KVAC/min O/P-FG:0.5KVAC/min | I/P-O/P: 1.8 KVAC/min I/P-FG: 1.8 KVAC/min O/P-FG:0.6 KVAC/min Ta:25°C | I/P-O/P:6.85mA I/P-FG: 6.71mA O/P-FG: 4.18mA NO DAMAGE | P |
| 2 | ISOLATION RESISTANCE | I/P-O/P:500VDC>100MΩ I/P-FG: 500VDC>100MΩ O/P-FG:500VDC>100MΩ | I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25°C | I/P-O/P: 9999MΩ I/P-FG: 9999MΩ O/P-FG:9999 MΩ NO DAMAGE | P |
| 3 | CONDUCTION | BS EN/EN55032(CISPR32), FCC PART 15 / CISPR22 CAN | I/P: 230 VAC (50HZ) O/P: FULL/50% LOAD Ta: 25°C | PASS Test by certified Lab | P |
| 4 | RADIATION | BS EN/EN55032(CISPR32), FCC PART 15 / CISPR22 CAN | I/P: 230 VAC (50HZ) O/P: FULL LOAD Ta: 25°C | PASS Test by certified Lab | P |
| 5 | SURGE | BS EN/EN61000-4-5 LIGHT INDUSTRY L-N: 1KV | I/P: 230 VAC/50HZ O/P: FULL LOAD Ta: 25°C | CRITERIA B | P |
| 6 | E.S.D | BS EN/EN61000-4-2 LIGHT INDUSTRY AIR: 8KV / Contact: 4KV | I/P: 230 VAC/50HZ O/P: FULL LOAD Ta: 25°C | CRITERIA B | P |

| TEST RESULT | TESTER | REVIEW | APPROVAL |
|-------------|---------------|----------------|-----------------|
| PASS | ZHU LI | WANG LW | ZHANG DL |