



TRUMPower

P/N: TRA45-S15-4G-111R
Specifications Sheet

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1-0 SCOPE

1-1. THIS DOCUMENT CONTAINS GENERAL CUSTOMER REQUIREMENTS ,QUALIFICATION REQUIREMENTS , AND THOSE SPECIFIC ELECTRICAL AND MECHANICAL REQUIREMENTS FOR AN AC TO DC OFF-LINE SWITCH-MODE POWER SUPPLY.
IT DEFINES A WORLDWIDE SAFTY REQUIREMENT AND ELECTROMAGNETIC COMPATIBILITY REQUIREMENT FOR INFORMATION TECHNOLOGY EQUIPMENT.

1-2.THE SWITCHING POWER SUPPLY MEETS RoHS REQUIREMENT.

2-0 INPUT REQUIREMENTS

2-1 INPUT VOLTAGE

90 TO 264 VAC,NOMINAL LINE IS 115VAC OR 230VAC.

2-2 INPUT FREQUENCY

47 TO 63Hz

2-3 INPUT CURRENT

- 1.) 1.2 A MAX., AT 100Vac, FULL LOAD
- 2.) 0.6 A MAX., AT 240Vac, FULL LOAD

2-4 INRUSH CURRENT

- 1.) 30A MAX. AT 100Vac, COLD START ,25°C.
- 2.) 60A MAX. AT 240Vac, COLD START ,25°C.

2-5 RISE TIME

100mS MAXIMUM AT NOMINAL INPUT VOLTAGE.

2-6 TURN ON DELAY TIME

5Sec MAXIMUM AT NOMINAL INPUT VOLTAGE.

2-7 NO LOAD INPUT POWER CONSUMPTION.

LESS THAN 0.3W AT NOMINAL INPUT VOLTAGE.

2-8 LINE REGULATION:

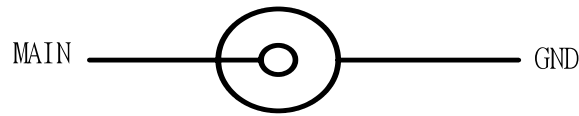
THE LINE REGULATION IS BETTER THAN +/-1% WHILE MEASURING AT RATED LOAD AND +/-10% OF NOMINAL LINE INPUT VOLTAGE CHANGING.

3-0 OUTPUT REQUIREMENTS

3-1 DC OUTPUT

DC OUTPUT	TOLERANCE (ACCURACY)	OUTPUT CURRENT	
		MIN.	MAX.
+15Vdc(main)	+/-5%	0A	3.0A

OUTPUT PIN OF THE MOUNTING CONNECTOR(FRONT VIEW)



3-2 LOAD REGULATION

VOLTAGE	TOLERANCE	REGULATION
+15Vdc(main)	+/-5%	14.25-15.75V

3-3 DYNAMIC LOAD REGULATIONS

+/-5% EXCURSION FOR 50% - 100% OR 100%-50% LOAD CHANGE FOR OUTPUT DC AT ANY FREQUENCY UP TO 250Hz (DUTY 50%) .

3-4 RIPPLE & NOISE

THE POWER SUPPLY SHALL NOT EXCEED THE FOLLOWING LIMITS ON THE INDICATED VOLTAGES FOR 60Hz OR 50Hz RIPPLE , SWITCHING FREQUENCY RIPPLE AND NOISE MEASURED WITH A 20MHZ BANDWIDTH.

A	B
+15Vdc	150mVp-p

COLUMN A:OUTPUT VOLTAGE.

COLUMN B:60Hz RIPPLE AND SWITCHING RIPPLE AND NOISE.

RIPPLE & NOISE ARE MEASURED AT THE END OF OUTPUT CABLES WHICH ARE PARALLELED WITH A 0.1uF CERAMIC CAPACITOR AND A 47uF ELECTROLYTIC CAPACITOR.

3-5 OVER CURRENT PROTECTION

THE POWER SUPPLY SHALL NOT BE DAMAGED BY A OVER CURRENT FROM THE OUTPUT TO RETURN LINE, PROTECTION TO BE INVOKED IF CURRENT EXCEEDS MAX. RATING ABOUT +110% TO +180% AT INPUT VOLTAGE 115VAC.

IF OCCUR OVERCURRENT CONDITION FOR OUTPUT OF ADAPTER, IT SHOULD BECOME SHUT DOWN STATE. IN THE CASE OF AUTOMATIC RETURN MODE, IT SHOULD BE RETURN TO NOMINAL STATUS WITHOUT ANY DAMAGE AFTER THE OVERLOAD HAD BEEN REMOVED.

OUTPUT VOLTAGE	LOWER	UPPER
+15Vdc(main)	3.3A	5.4A

3-6 EFFICIENCY

AT 115VAC AND 230VAC INPUT VOLTAGE AND MEET EFFICIENCY LEVEL: V

3-7 OVER VOLTAGE PROTECTION

20V MAX, THE OUTPUT WILL AUTOMATICALLY RECOVER AFTER REMOVING THE CIRCUIT,

3-8 SHORT-CIRCUIT PROTECTION

A SHORT CIRCUIT PLACE AT ANY OUTPUT WILL CAUSE NO DAMAGE TO THIS ADAPTER.
IN THE CASE OF AUTOMATIC RETURN MODE, IT SHOULD BE RETURN TO NOMINAL STATUS WITHOUT ANY DAMAGE AFTER REMOVING THE CIRCUIT .

3-9 OPEN CIRCUIT PROTECTIONS

WHEN PRIMARY POWER IS SUPPLIED WITH NO LOAD ON ANY OUTPUT LEVEL, NO DAMAGES OR HAZARDOUS CONDITIONS SHOULD OCCUR.

3-10 TEMPERATURE COEFFICIENTS

0.1%/°C MAX., OVER ENTIRE OPERATING TEMPERATURE RANGE FROM 0°C TO 40°C.

3-11 HOLD UP TIME

10mS MIN AT NOMINAL LINE(115VAC) INPUT AND RATED LOAD,WHICH IS MEASURED FROM THE END OF THE LAST CHARGING PULSE TO WHEN THE MAIN OUTPUT DROPS DOWN TO 95% OUTPUT VOLTAGE.

3-12 OVERSHOOT

TURN-ON AND TURN-OFF OVERSHOOT NOT EXCEEDING 10% OF OVER NOMINAL VOLTAGE

3-13 LED DISPLAY

DESCRIPTION	GREEN LED
POWER ON	LIGHT
POWER OFF	NO LIGHT

-0 ENVIRONMENTAL REQUIREMENTS

4-1 OPERATION CONDITIONS:

1.) OPERATION TEMPERATURE: -10°C TO 50 °C

REMARK:DERATE LINEARLY FROM 100% LOAD AT 40°C TO 75% LOAD AT 50°C.

(WARNING: APPLICATION OUT OF ABOVE RANGE PROBABLY DAMAGE THE POWER SUPPLY AND WILL CAUSE WARRANTY INVALID.)

2.) OPERATION HUMIDITY: 20%~95%.

4-2 STORAGE CONDITIONS

1.)STORAGE TEMPERATURE:-20 °C TO 85°C.

2.)STORAGE HUMIDITY : 5%~95%.

4-3 VIBRATION AND SHOCK

NO EVIDENCE OF ANY MECHANICAL OR FUNCTIONAL DAMAGE AFTER THE VIBRATION AND SHOCK TESTING.

1.) SHIPPING VIBRATION

THIS AC ADAPTER MAY BE VIBRATED IN THE THREE MUTUALLY PERPENDICULAR AXES OF 0.5mm DISPLACEMENT PEAK TO PEAK AT 5 TO 50 Hz, 0.6Grms MAX, 10 MINUTES PER CYCLE FOR A DURATION OF 60 MINUTES.

2.) SHIPPING SHOCK

THIS AC ADAPTER IN THE SHIPPING PACKAGE MAY BE DROPPED 8 TIMES FROM A HEIGHT OF 90cm.

4-4 COOLING

COOLING SHALL BE NATURAL CONVECTION COOLING, THE POWER SUPPLY MUST BE CAPABLE OF OPERATION WHEN MOUNTED EITHER VERTICALLY OR HORIZONTALLY ACCORDING TO THE MECHANICAL DRAWING.

5-0 INSULATION REQUIREMENTS:

5-1 DIELECTRIC STRENGTH:

1.) PRIMARY-SECONDARY (V+) 4242Vdc FOR 3 SECONDS (LEAKAGE CURRENT 10mA).

2.) PRIMARY-FG 2121Vdc FOR 3 SECONDS (LEAKAGE CURRENT 10mA)

5-2 INSULATION RESISTANCE

INSULATION RESISTANCE SHALL BE MORE THAN 50Mohm AT 500Vdc BETWEEN PRIMARY LINE, NEUTRAL LINE AND SECONDARY, BETWEEN PRIMARY LINE, NEUTRAL LINE AND FRAME GROUND.

5-3 INPUT LEAKAGE CURRENT

0.75mA MAX.

6-0 GROUND CONTINUITY TEST

LESS THAN 100m ohm AT CURRENT 25A FOR 3SECONDS.

7-0 SAFETY AND EMC REQUIREMENTS

7-1 SAFETY STANDARDS

DESIGNED TO MEET THE FOLLOWING STANDARDS.

1.) UL AND cUL60950-1

2.) EN60950-1

3.) IEC60950-1

7-2 EMI STANDARDS.

DESIGNED TO MEET THE FOLLOWING LIMITS.

1.) FCC PART 15 CLASSB

2.) CISPR22 CLASSB

3.) EN55022 CLASSB

4.) EN61000-3-2, EN61000-3-3

7-3 EMS STANDARDS.

DESIGNED TO MEET THE FOLLOWING REQUIREMENTS.

1.) EN61000-4-2: +/-8KV AIR DISCHARGE; +/-4KV CONTACT DISCHARGE.

2.) EN61000-4-3: 3V/M.

- 3.) EN61000-4-4: IMPULSE +/-1KV.
- 4.) EN61000-4-5: +/-1KV LINE (L1) TO NEUTRAL (L2); +/-2KV LINE (L1) & NEUTRAL (L2) TO FG.
- 5.) EN61000-4-6: 3V WITH 80% AM CRITERION A.
- 6.) EN61000-4-8: 1A/M.
- 7.) EN61000-4-11: DIPS & INTERCEPTIONS.

8-0 RELIABILITY

THE POWER SUPPLY SHALL BE DESIGNED AND PRODUCED TO HAVE A MEAN TIME BETWEEN FAILURES (MTBF) MORE THAN 100000 HOURS WHICH BY COMPONENTS COUNT, ACCORDING TO MIL-HDBK-217f @ 25°C AMBIENT TEMPERATURE.

9-0 MECHANICAL FEATURES

9-1 DC CABLE AND MOUNTING CONNECTOR

CABLE: UL1185 18AWG 1C+S L=1200mm
DC PLUG: Switchcraft S761K 5.5*2.1*12mm, 180°

9-2 WEIGHT

POWER ASS'Y : ABOUT 285(±10%)GRAMS.

9-3 DIMENSION

117L × 53W × 31.2H mm

9-4 CASE SEALING METHOD

BY ULTRASONIC METHOD.

