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Jameco Part Number 212291



75W Single Output Industrial DIN Rail Power Supply

DR-75 series



■ Features :

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- UL 508(industrial control equipment)approved
- LED indicator for power on
- 100% full load burn-in test
- Fix switching frequency at 50KHz
- 3 years warranty

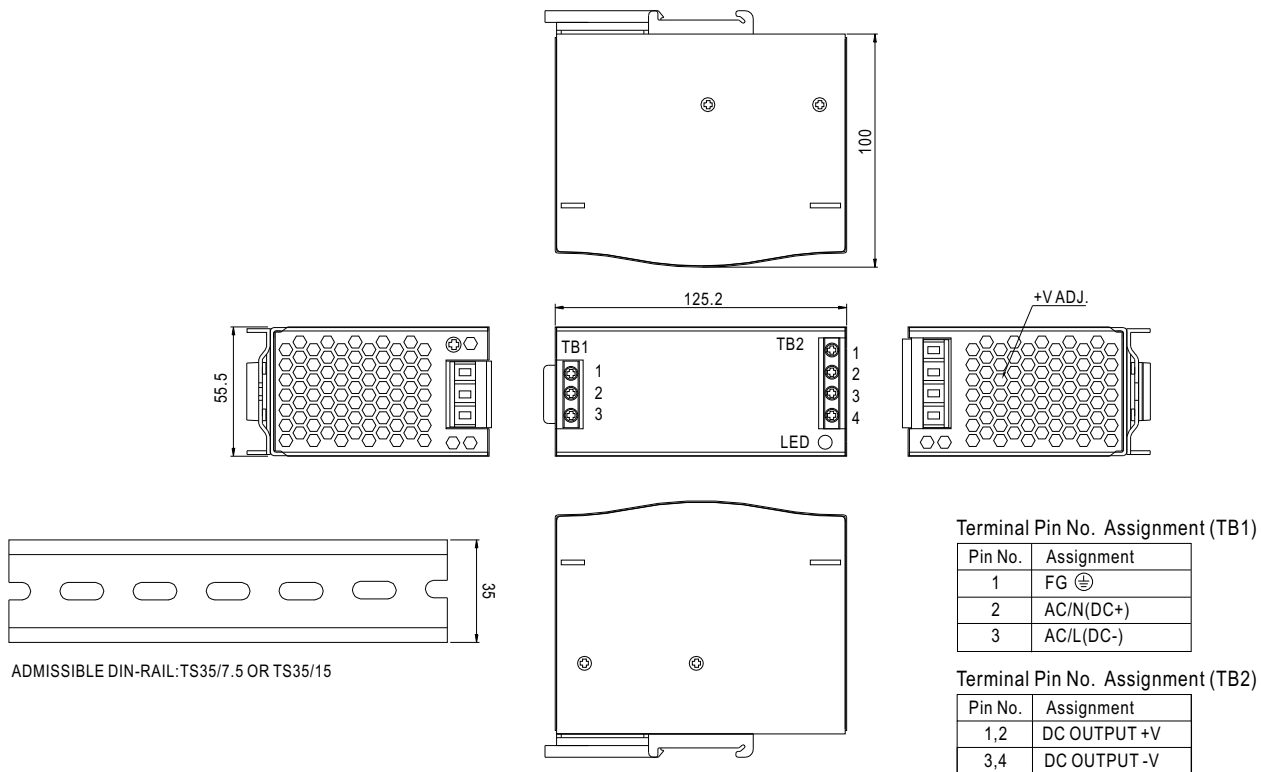


SPECIFICATION

MODEL	DR-75-12	DR-75-24	DR-75-48	
OUTPUT	DC VOLTAGE	12V	24V	48V
	RATED CURRENT	6.3A	3.2A	1.6A
	CURRENT RANGE	0 ~ 6.3A	0 ~ 3.2A	0 ~ 1.6A
	RATED POWER	76W	76.8W	76.8W
	RIPPLE & NOISE (max.) Note.2	100mVp-p	150mVp-p	240mVp-p
	VOLTAGE ADJ. RANGE	12 ~ 14V	24 ~ 28V	48 ~ 53V
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	1000ms, 60ms/230VAC 1800ms, 60ms/115VAC at full load		
HOLD UP TIME (Typ.)	60ms/230VAC 12ms/115VAC at full load			
INPUT	VOLTAGE RANGE	85 ~ 264VAC 120 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	EFFICIENCY (Typ.)	76%	80%	81%
	AC CURRENT (Typ.)	1.6A/115V 0.96A/230V		
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC 40A/230VAC		
LEAKAGE CURRENT	<1mA/ 240VAC			
PROTECTION	OVERLOAD	105 ~ 150% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed		
	OVER VOLTAGE	15 ~ 16.5V	29 ~ 34V	58 ~ 65V
	OVER TEMPERATURE	85°C ±5°C (TSW1) detect on heat sink of power transistor Protection type : Shut down o/p voltage, recovers automatically after temperature goes down		
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°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 ~ 50°C)		
VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6			
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL508, TUV EN60950-1 approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC		
	EMI CONDUCTION & RADIATION	Compliance to EN55011,EN55022 (CISPR22) Class B		
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3		
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, ENV50204, EN55024, EN61000-6-2 (EN50082-2), heavy industry level, criteria A			
OTHERS	MTBF	123.1K hrs min. MIL-HDBK-217F (25°C)		
	DIMENSION	55.5*125.2*100mm (W*H*D)		
	PACKING	0.6Kg; 20pcs/13Kg/1.29CUFT		
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 			

Mechanical Specification

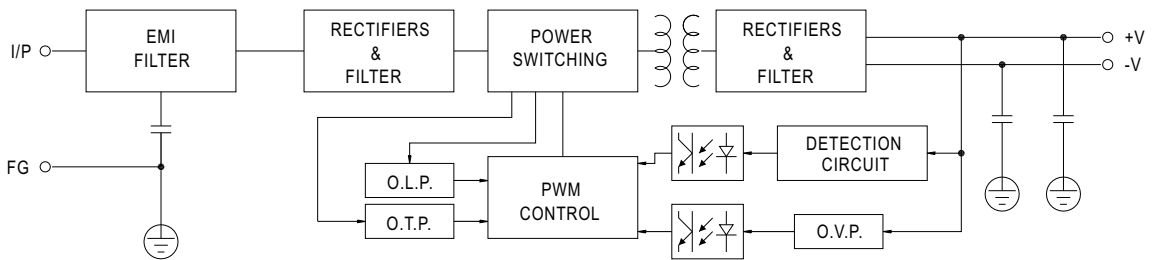
Case No. 923 Unit:mm



ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15

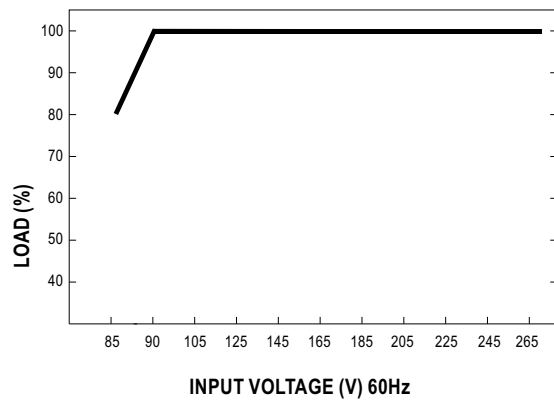
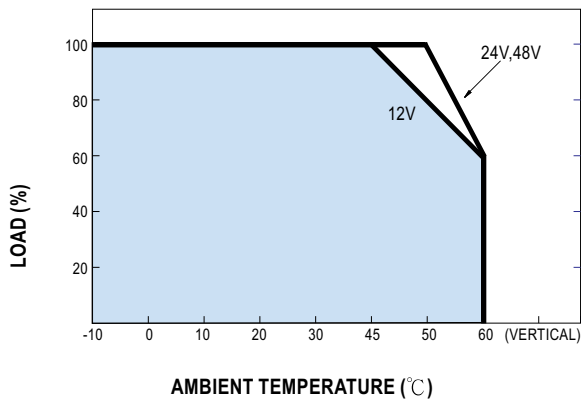
Block Diagram

fosc : 50KHz



Output Derating

Output Derating Vs Input Voltage



Quality Engineering Test Report

SERIES: DR-75 75W AC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY

**SAMPLE: A. DR-75-12 12V / 6.3A
 B. DR-75-24 24V / 3.2A
 C. DR-75-48 48V / 1.6A**

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:85~264VAC O/P:FULL LOAD	A : 65.812VAC~264VAC	P
2	LINE REGULATION	I/P:85~264VAC SPEC: A: ±0.5% O/P:FULL LOAD B: ±0.5% C: ±0.5%	A: -0.049% +0.00% B: -0.049% +0.00% C: +0.012% +0.012%	P
3	LOAD REGULATION	I/P:230VAC SPEC: A: ±1% O/P:MIN. TO FULL LOAD B: ±1% C: ±1%	A: -0.148% +0.098% B: -0.024% +0.00% C: -0.09% +0.09%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:85~264VAC SPEC: A: ±2% O/P:MIN TO FULL LOAD B: ±1% C: ±1%	A: -0.049% -0.255% B: -0.024% +0.024% C: +0.012% +0.2%	P
5	RIPPLE&NOISE	I/P:230VAC SPEC: A: 100mV O/P:FULL LOAD B: 150mV C: 240mV	A:5mV B:.8mV C:49mV	P
6	AC INPUT CURRENT	I/P:230VAC SPEC: 1.2A O/P:FULL LOAD	A :0.922A B :0.81A C :0.826 A	P
7	MAX. INRUSH CURREN	I/P:230VAC SPEC: 60A O/P: FULL LOAD	A: 37.54A B: 34A C:33.289A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC: A:12V~14V O/P:MIN. LOAD B: 24V~28V C: 48V~53V	A:10.5V~14.9V B:20.021V~29.123V C:46.01V~60.03V	P
9	SET UP TIME	I/P:230VAC SPEC:1000mS O/P:FULL LOAD	A: 596.7mS B: 598mS C: 613.6mS	P
10	HOLD UP TIME	I/P:230VAC SPEC:50mS O/P:FULL LOAD	A: 73.218mS B: 78mS C: 75.86mS	P
11	EFFICIENCY	I/P:230VAC SPEC: A:76% O/P:FULL LOAD B:80% C:81%	A:77.39% B:81.823% C:83.006%	P
12	OVER LOAD PROTECTION	O/P:TESTING SPEC: 105%~150%	A:137% B:131% C:131%	P
13	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG--<1mA N-FG--<1mA	A: L-FG:0.82mA N-FG:0.81mA	P
14	INSULATION RESISTANCE	SPEC: I/P-O/P: 500VDC/100M Ohms MIN. I/P-FG : 500VDC/100M Ohms MIN. O/P-FG: 500VDC/100M Ohms MIN.	A: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms B: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms C: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms	P
15	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 3KVAC/ 1 min. I/P - FG: 1.5KVAC/ 1 min. O/P -FG: 0.5KVAC/ 1 min.	A: I/P-O/P :5.6mA I/P-FG :3.8mA O/P-FG :3.4mA B: I/P-O/P :5.6mA I/P-FG :3.8mA O/P-FG :3.4mA C: I/P-O/P :3.287mA I/P-FG :2.68mA O/P-FG :7.18mA	P
16	BURN-IN TEST	I/P: 230VAC O/P: FULL LOAD TA:26.8°C BURN-IN DURATION : 2 hrs	A : NON BREAK	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT																																
17	ENVIRONMENT TEST	1.LOW TEMPERATURE TEST I/P:230 VAC O/P:100% LOAD AMBIENT TEMPERATURE:-9.9°C	A: AFTER 14 hrs POWER ON OK	P																																
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:50.1°C	A: AFTER 3 hrs NON BREAK																																	
		3.HIGH HUMIDITY HIGH VOLTAGE ON/OFF TEST I/P:264VAC O/P:FULL LOAD AMBIENT TEMPERATURE : 25°C AMBIENT HUMIDITY : 95%	A : AFTER 18 hrs POWER ON/OFFNON BREAK																																	
18	TEMPERATURE RISE TEST T rise OF PARTS	D: I/P :230VAC AFTER 2 hr BURN-IN O/P :FULL LOAD TA:26.8°C		P																																
		<table border="1"> <thead> <tr> <th>POSITION</th> <th>P/N</th> <th>TEMP</th> <th>T rise</th> </tr> </thead> <tbody> <tr> <td>BD1</td> <td>BRIDGE DIODE</td> <td>56.6°C</td> <td>29.8°C</td> </tr> <tr> <td>U1</td> <td>MAIN TRANSISTOR</td> <td>64.7°C</td> <td>37.9°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER WIRE</td> <td>75.7°C</td> <td>48.9°C</td> </tr> <tr> <td>D20</td> <td>O/P DIODE</td> <td>78.9°C</td> <td>52.1°C</td> </tr> <tr> <td>C25</td> <td>O/P FILTER CAPACITOR</td> <td>74.8°C</td> <td>48.0°C</td> </tr> <tr> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>54.8°C</td> <td>28.0°C</td> </tr> <tr> <td>LF1</td> <td>LINE FILTER TRANSFORMER</td> <td>61.0°C</td> <td>34.2°C</td> </tr> </tbody> </table>	POSITION	P/N	TEMP	T rise	BD1	BRIDGE DIODE	56.6°C	29.8°C	U1	MAIN TRANSISTOR	64.7°C	37.9°C	T1	MAIN TRANSFORMER WIRE	75.7°C	48.9°C	D20	O/P DIODE	78.9°C	52.1°C	C25	O/P FILTER CAPACITOR	74.8°C	48.0°C	C5	I/P FILTER CAPACITOR	54.8°C	28.0°C	LF1	LINE FILTER TRANSFORMER	61.0°C	34.2°C		
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19	LIFE CYCLE	D: SUPPOSE C25 IS THE MOST CRITICAL COMPONENT I/P:230VAC O/P:FULL LOAD Ta:25°C Tc25:74.8°C Life: 32615.3 hrs I/P:230VAC O/P:FULL LOAD Ta:45°C Tc45:92.2°C Life:12279.5 hrs		P																																
20	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	D: FUSE : 3AL/250V BRIDGE DIODE : D3SB60 4A/800V LINE FILTER : TF-484 TRANSFOMER : TF659 POWER SWITCHER : TOP-227 OUTPUT DIODE : BYQ-28X-200 OUTPUT CAPACITOR : 330uF/35V(v) 105°C ELNA LXJ INPUT CAPACITOR : RUBYCON 100uF/400V 105°C P.C.B : DR-75-R2 CEM-3 20 OZ SS																																		
DATE	SAMPLE	TEST RESULT		TEST	APPROVAL																															
20020304	RD SAMPLE 12V,24V,48V	PASS		VINCENT	MAX.LIN																															
20020531	PRODUCT SAMPLE A202B01 12V,24V,48V	PASS		VINCENT	MAX.LIN																															
20020827	PRODUCT SAMPLE A205D01 12V,24V	PASS		VINCENT	MAX.LIN																															