MEAN WELL

120W DIN Rail Type DC-DC Converter

DDR-120 series

SPECIFICATION

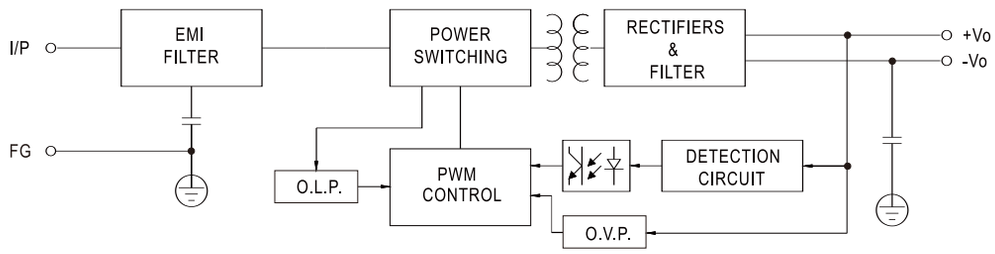
MODEL		DDR-120C-12	DDR-120C-24	DDR-120C-48	DDR-120D-12	DDR-120D-24	DDR-120D-48
OUTPUT	DC VOLTAGE	12V	24V	48V	12V	24V	48V
	RATED CURRENT	10A	5A	2.5A	10A	5A	2.5A
	CURRENT RANGE	0 ~ 10A	0 ~ 5A	0 ~ 2.5A	0 ~ 10A	0 ~ 5A	0 ~ 2.5A
	RATED POWER	120W	120W	120W	120W	120W	120W
	PEAK CURRENT	15A	7.5A	3.75A	15A	7.5A	3.75A
	PEAK POWER Note.5	180W (3sec.)					
	RIPPLE & NOISE (max.) Note.2	50mVp-p	50mVp-p	50mVp-p	50mVp-p	50mVp-p	50mVp-p
	VOLTAGE ADJ. RANGE	9 ~ 14V	24 ~ 28V	48 ~ 56V	9 ~ 14V	24 ~ 28V	48 ~ 56V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	500ms, 60ms @48Vdc			500ms, 60ms @110Vdc		
	HOLD UP TIME (Typ.)	comply with S1 level (6ms) @ full load, S2 level (10ms) @ 60% load			comply with S2 level (10ms) @ full load		
INPUT	VOLTAGE RANGE Note.4	33.6 ~ 67.2Vdc	33.6 ~ 67.2Vdc	33.6 ~ 67.2Vdc	67.2 ~ 154Vdc	67.2 ~ 154Vdc	67.2 ~ 154Vdc
	EFFICIENCY (Typ.)	89.5%	91%	92%	89.5%	91%	91.5%
	DC CURRENT (Typ.)	2.8A @48Vdc			1.3A @110Vdc		
	INRUSH CURRENT (Typ.)	5A @48Vdc			5A @110Vdc		
PROTECTION	OVERLOAD	Normally works within 150% rated output power for more than 3 seconds and then constant current protection 105~135% rated output power with auto-recovery					
	OVER VOLTAGE	14.4 ~ 16.8V	28.8 ~ 33.6V	57.6 ~ 67.2V	14.4 ~ 16.8V	28.8 ~ 33.6V	57.6 ~ 67.2V
		Protection type : Shut down o/p voltage, re-power on to recover					
	REVERSE POLARITY	By internal MOSFET, no damage, recovers automatically after fault condition removed					
	UNDER VOLTAGE LOCKOUT	48Vin (C - type) :Power ON≧33.6V , OFF≦33V			110Vin (D - type):Power ON≧67.2V , OFF≦65V		
ENVIRONMENT	WORKING TEMP.	-40 ~ +70℃ (Refer to "Derating Curve")					
	WORKING HUMIDITY	5 ~ 95% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 5 ~ 95% RH non-condensing					
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 55℃)					
	VIBRATION	Component:10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC61373					
	OPERATING ALTITUDE	2000 meters					
SAFETY & EMC (Note 6)	SAFETY STANDARDS	IEC 62368-1 (LVD), EAC TP TC 004, AS/NZS 62368.1 approved; Design refer to UL508					
	WITHSTAND VOLTAGE	I/P-O/P:4KVdc I/P-FG:2.5KVdc O/P-FG:2.5KVdc					
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:>100M Ohms / 500Vdc / 25℃/ 70% RH					
	EMC EMISSION	**Parameter**		**Standard**		**Test Level / Note**	
		Conducted		EN55032		Class B	
		Radiated		EN55032		Class B	
		Voltage Flicker		EN61000-3-3		-----	
		Harmonic Current		-----		-----	
	EMC IMMUNITY	EN55024 , EN61000-6-2(EN50082-2)					
		Parameter		**Standard**		**Test Level / Note**	
		ESD		EN61000-4-2		Level 3, 8KV air ; Level 3, 6KV contact; criteria A	
		Radiated		EN61000-4-3		Level 3, 10V/m ; criteria A	
		EFT / Burst		EN61000-4-4		Level 3, 2KV ; criteria A	
		Surge		EN61000-4-5		Level 3, 1KV/Line-Line ;Level 3, 2KV/Line-Line-FG ;criteria A	
		Conducted		EN61000-4-6		Level 3, 10V ; criteria A	
		Magnetic Field		EN61000-4-8		Level 4, 30A/m ; criteria A	
	RAILWAY STANDARD	Compliance to EN45545-2 for fire protection ; Meet EN50155 / IEC60571 including IEC61373 for shock & vibration, EN50121-3-2 for EMC					
OTHERS	MTBF	214.6K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	32*125.2*102mm (W*H*D)					
	PACKING	510g; 28pcs/15.3Kg/1.22CUFT					

NOTE

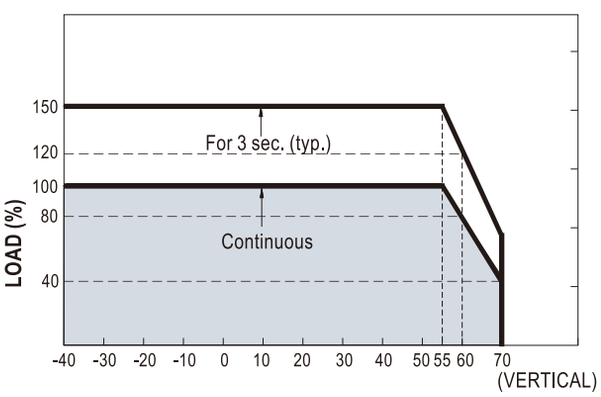
1. All parameters NOT specially mentioned are measured at normal input (C:48Vdc , D:110Vdc) , rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μf & 47 μf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltage. Please check the derating curve for more details.
5. 3 seconds max., please refer to peak loading curves.
6. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to “EMI testing of component power supplies.” (as available on http://www.meanwell.com)
7. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

■ Block Diagram

fosc : 65KHz

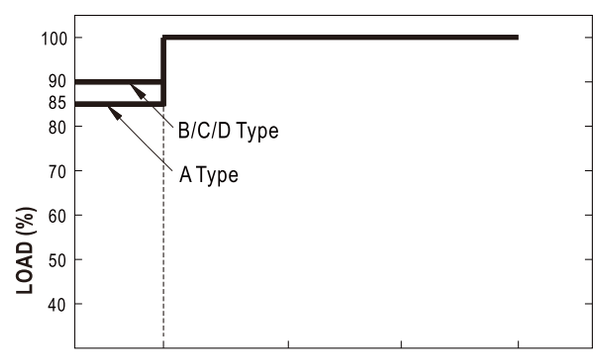


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ Output derating VS input voltage

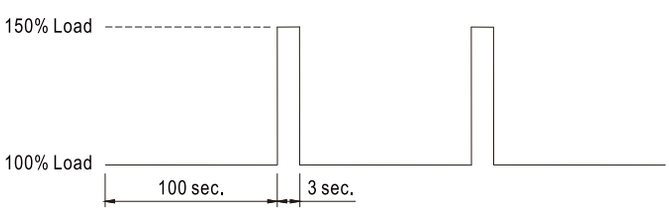
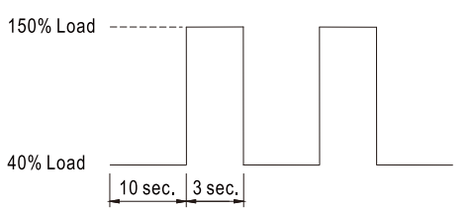


A Type:	9	10.8	12	15	18
B Type:	16.8	21.6	24	30	33.6
C Type:	33.6	43.2	48	60	67.2
D Type:	67.2	86.4	96	110	154

INPUT VOLTAGE

■ Peak Loading

(1)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