

(877),634-0982 www.digipwr.com

HDM500 SERIES

AC-DC ITE AND MEDICAL SWITCHING PSU 500 WATT





KEY FEATURES

Digital Power's HDM500 Series are switching power supplies that produce superior output wattages with natural convection. The series include enclosed, open fame and U bracket format with output voltage options of 12V, 15V, 24V and 48V. Featured with compact, low profile footprint, and best-in-class performance, HDM500 Series are optimal for ITE and Medical Applications.

Designed with energy saving in mind, Digital Power's HDM500 Series boasts not only high operating efficiency up to 93%, but also high-power density with full input range of 90-264Vac.

HDM500 operates over wide temperature range from -30°C to +70°C with complete protections and certified to UL / IEC / EN 60601 3.1rd Edition & UL / IEC / EN 60950 AM2 Safety Approvals.



PRODUCT SPECIFICATION

Enclosed, U Bracket Switching Power Supply

- Remote ON/OFF Function
- 240 Watt with Free Air Convection
- 500 Watt with 30CFM FAN
- 4000VAC Input to Output 2MOPP Insulation
- Built-in 12V/0.3A Auxiliary Output
- Standby 5Ve1A with Fan, e0.4A without Fan
- High Efficiency up to 93%
- With P.F.C. Function >0.94
- Current Share Function for Option (except for 115)
- Ultra Compact Size:

HDM500O: 5.03 x 3.0 x 1.38 Inches

HDM500U: 5.5 x 3.25 x 1.6 Inches

HDM500E: 5.5 x 3.25 x 2.42 Inches



ELECTRICAL SPECIFICATION - HDM5000 SERIES

Model No.			HDM500O-112	HDM500O-115	HDM500O-124	HDM500O-148	
Max Output V	Vattage (W)		500 W (30CFM F	=AN)			
			Others: 230 W (115 VAC) / 240 W (230 VAC)				
Max Output V	Vattage (W)		115: 210 W (115 VAC) / 220 W (230 VAC)				
	Voltage (Note 3)		90-264 VAC or 127-370 VDC				
	Frequency (Hz)		47-63 Hz				
Input	Current (Full load)			VAC) / <3.15 A m	ax. (230 VAC)		
	Inrush Current (<2ms) (Clod St	art)		VAC) / < 80 A ma			
	Leakage Current		< 0.1 mA max. (Ir		(==== // // //		
	Power Factor (at 230 VAC)	A STATE OF THE STA	PF>0.94 at Full L				
	Voltage (V.DC.)		12V	15V	24V	48V	
	Voltage Accuracy		±2%				
	Voltage Adj. Range (V.DC)		±4% Output Vol	taae	11 12 12 12		
	Current (with 30CFM FAN) (A)	(max.)	41.5	33.3	20.8	10.41	
	Current(Free air Convection)	at 115 VAC	19.16	14	9.58	4.8	
	(A) max	at 230 VAC	20	14.66	10	5	
	Line Regulation (115–264 VAC)	1	±0.5%	1	1		
Output	Load Regulation (10-100%) (typ	. 1	±1%				
	Minimum Load	•1	3%				
	Maximum Capacitive Load		5,000µF	3,750µF	2,500μF	1,250μF	
	Ripple & Noise (typ.)		160mV	160mV	240mV	480mV	
	Efficiency (at 230 VAC)		90.5%	90.5%	92%	93%	
	Hold-up Time (at 115 VAC)		8 ms min.	70.570	7 2 70	7 3 70	
	Over Power Protection		Auto recovery				
	Over Voltage Protection	31	Auto recovery				
	Overt Temperature Protection	1,7	Auto recovery				
Protection			Protection level 1 (nominal): Continuous, Auto recovery				
	Short Circuit Protection		Protection level 2 (instantaneous high current): Latch				
	Input-Output (V.AC)		4000VAC or 56		<u>g</u>		
Isolation	Input-PE (V.AC)		2000V				
	Output-PE (V.AC)	- The same of the	1500V				
				14 17			
	Operating Temperature	lotthan a con	-30°C+70°C (v	vith deratina)			
	Storage Temperature		-35°C+85°C				
		Mg i	±0.03%/°C(0~50°C)				
	Temperature Coefficient		±0.06%/°C(-30~0°C)				
	Altitude During Operation		5000m				
	Humidity		95% RH				
Environment	Atmospheric Pressure		56 kPa to 106 kPa				
	MTBF		>160,000 h @ 25°C (MIL-HDBK-217F)				
Vibration		IEC60068-2-6 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y,					
	CI I		axes)				
	Shock	1.0	IEC60068-2-27				
Physical	Dimensions (L x W x H) Weight		5.03 x 3.0 x 1.38 Inches (127.8 x 76.2 x 35.0 mm) Tolerance 0.5 mm				
rnysicai	Cooling Method		480 g				
	Cooling Method	11 1	Free convection / 30 CFM FAN Others: UL / IEC / EN 60601 3.1rd Edition & UL / IEC / EN 60950 AM2				
Safety	Approval) / EN 60601 3.1 rd E		EN 00930 AM2	
Julety	Conducted and Radiated EMI			ucted class B, Radi			
EMC	EMS				uteu Cluss A		
_,,,,	LIVIO	EN60601-1-2 4th edition					

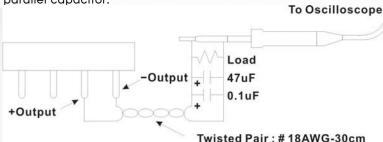
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.



ELECTRICAL SPECIFICATION - HDM5000 SERIES

NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with ceramic 0.1uF & chemi-con KY 47uF parallel capacitor.



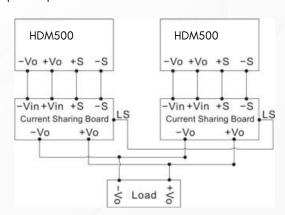
A 30cm twisted pair of no.18 AWG copper wire is connected to a 47uF and 0.1uF capacitor of proper polarity and voltage rating. The oscilloscope probe ground led should connect right to the ground ring of the probe and be as short as possible. The oscilloscope bandwidth should be at 20MHz and connected to AC ground.

- 2. Hold-up Time measured at 90% Vout.
- 3. Please check the derating curve for more details.
- 4. Main Vout >3% Load, 12V (Aux) / 0.3A., 12V (Aux) need 0.1A Minimum Load, Auxiliary voltage output ground 10.2~13.3V
- 5. Strongly recommend to conduct this test with DC Voltage. If customer wishes to test with AC Voltage, please disconnect all Y-Capacitors from Digital Power power supply.
- 6. Current Share Board (Optional):
 - (a.)The output voltage difference of each parallel single element should be less than 0.2V.
 - (b.)Output power at parallel operation = rated power per unit x number of unit x 90%
 - (c.)Connect in parallel no more than 2 units.

Please contact Digital Power for advice if more than 2 is needed.

- (d.)Minimum Load Should be 15%.
- 7. CAUTION: Double pole, neutral fusing.

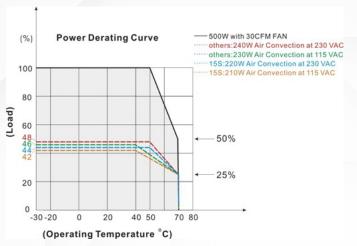
Disconnect mains before servicing.

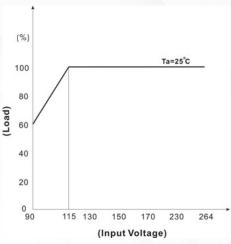




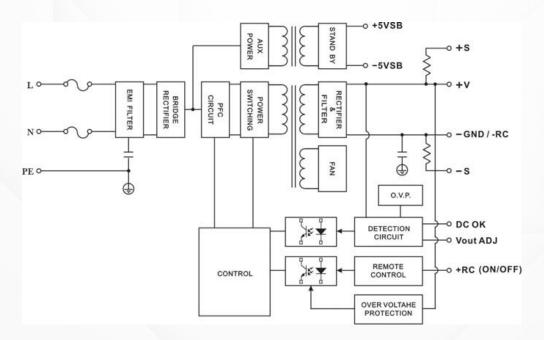
ELECTRICAL SPECIFICATION - HDM5000 SERIES

DERATING

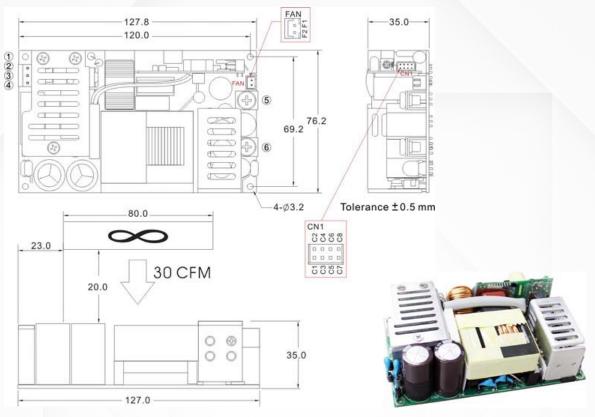




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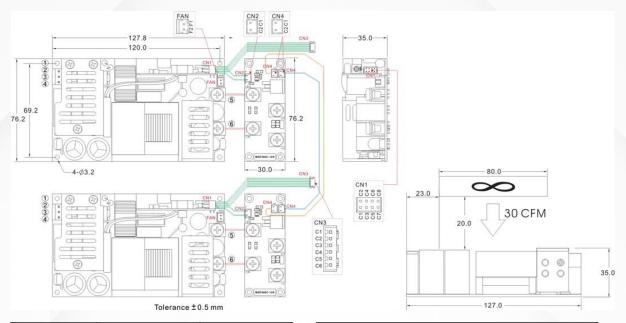
Bro	Brands		Alex		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
1	PE	ı	1	-	_	
2	AC IN (N)		1,27			
3	NO PIN	9396-3	96T series	VHR-3N	SVH-41T- Pl.1	
4	AC IN (L)				F 1.1	
5	+DC OUT	Terminal : M5 Pan HD screw in 2 positions.				
6	-DC OUT	Torque to 8 lbs-in(90cNm) max				

Connector Pin (FAN)						
Brands		Al	ex	JST		
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
F1	+12V	CX-	0)/ 70501	VIID 0	SXH- 002T-	
F2	GND	H250-02	CX-T2501	XHP-2	P0.6	

Conn	ector Pin (CN1)	/		
E	Brands	Cherng	Weei	J	ST
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
C1	-5V SB				
C2	+5V SB				
C3	GND				
C4	DC-OK	PHD-H20-	PHD-T20	PHDR-	SPHD-
C5	-RC	2X4P		08VS	001T- P0.5
C6	+RC		111		
C7	-S				
C8	+S	. 4			



HDM5000 with Current Share Function



Brands		Alex		JST		
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
1	PE	1	_	-	10 kg -	
2	AC IN (N)				a	
3	NO PIN	9396-3	96T series	VHR-3N	SVH-41T- P1.1	
4	AC IN (L)				F 1.1	
5	+DC OUT	Terminal : M5 Pan HD screw in 2 positions.				
6	-DC OUT	Torque to 8 lbs-in(90cNm) max				

Connector Pin (FAN)						
Brands		Al	ex	JST		
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
F1	+12V	CX-	OV TO 501	VIID 0	SXH- 002T-	
F2	GND	H250-02	CX-T2501	XHP-2	P0.6	

Connector Pin (CN1)						
Brands		Cherng Weei		JST		
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
C1	-5V SB					
C2	+5V SB					
C3	GND					
C4	DC-OK	PHD-H20-	PHD-T20	PHDR-	SPHD-	
C5	-RC	2X4P	- 10	08VS	001T- P0.5	
C6	+RC			0.7		
C7	-S					
C8	+S					

Connector Pin (CN2)						
Bra	inds	Cherng Weei		JST		
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
C1	-S					
C2	+S	CP- H20-02	CP- T20B	PHR-2	SPH- 002T- P0.5L	



lating Hou	sing Pin (CN3)			
Brands		Cherng Weei	JST	
PIN#	Single	Connector	Connector	
C1	-5V SB			
C2	+5V SB			
C3	GND			
C4	DC-OK	CP-W20-06	B6B-PH-K-S	
C5	-RC			
C6	+RC			

Connector Pin (CN4)							
Brands		Cherng Weei		JST			
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal		
C1	LS	CP- H20-02	CP- T20B	PHR-2	SPH-		
C2	LS				002T- P0.5L		

FUNCTION DESCRIPITON of CN1 and CN3 (CN3 without C7 and C8 pin)

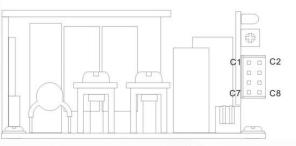
Pin No.	Function	Description			
C1	-5VSB	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.			
C2	+5VSB	Stand by voltage output ground 4.2~5.5V, referenced to pin C1(-5VSB). The maximum load current is 1A with Fan, 0.4A without Fan			
C3	GND	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.			
C4	DC OK	DC-OK Signal is a DC output, referenced to pin C3(DC-OK GND).			
C5	-RC	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.			
C6	+RC	Turns the output on and off by electrical or dry contact between pin C5 (-RC), Short: Power OFF, Open: Power ON. The input voltage must be less than IV in order to disable VOUT and greater than 3.5V (up to 5V) to enable it.			
C7	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect.			
C8	+S	Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect.			



FUNCTION MANUAL & APPLICATION NOTE

1. DC-OK Signal

Between DC-OK and GND	Output Status
3.7~6V	ON
0~1V	OFF

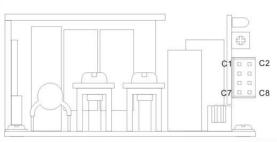


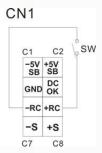
CN1 C1 C2 -5V +5V SB SB GND DC OK -RC +RC -S +S C7 C8

2. Remote Control

It can be turned ON/OFF by using the "Remote Control" function.

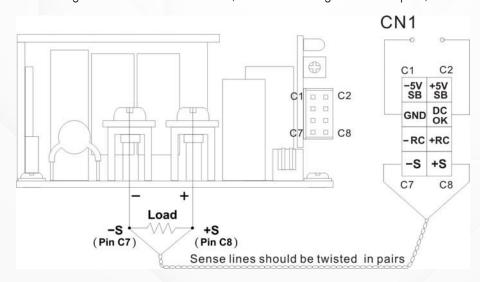
Between +RC and -RC	Output Status
SW ON (Short)	OFF
SW OFF (Open)	ON





3. +S and -S Sense

Shorter wiring to each unit is recommended, as well as twisting +S and -S in pairs, as shown below





ELECTRICAL SPECIFICATION - HDM500U SERIES

Model No.	Model No.			HDM500U-115	HDM500U- 124	HDM500U- 148	
Max Output V	Vattage (W)		500 W (30CFM FAN)				
			Others: 190 W (115 VAC) / 200 W (230 VAC)				
Max Output V	Vattage (W)			(115 VAC) / 180 W			
	Voltage (Note 3)	100 m	90-264 VAC or				
	Frequency (Hz)		47-63 Hz				
	Current (Full load)			5 VAC) / <3.15 A m	nax (230 VAC)		
Input	Inrush Current (<2ms) (Clod Sto	urt)		VAC) / < 80 A ma			
	Leakage Current	,	< 0.1 mA max. (II		ax. (200 1710)		
	Power Factor (at 230 VAC)		PF>0.94 at Full I				
	Voltage (V.DC.)		12V	15V	24V	48V	
	Voltage Accuracy		±2%	10 7	1 2	10 1	
	Voltage Adj. Range (V.DC)		±4% Output Vol	tage			
	Current (with 30CFM FAN) (A) n	nax	41.5	33.3	20.8	10.41	
	Current (Free air Convection)	at 115 VAC	15.83	11.33	7.91	3.96	
	(A) max	at 230 VAC	16.6	12	8.33	4.17	
	Line Regulation (115–264 VAC)	ui 200 V/(0		12	0.00	4.17	
		1	±0.5%				
Output	Load Regulation (10–100%) (typ.		±1%				
	Minimum Load	17 × 1 × 17 × 1 × 1	3%	7.750.5	I 0 500 5	1,050 5	
-	Maximum Capacitive Load		5,000μF	3,750μF	2,500μF	1,250μF	
	Ripple & Noise (typ.)		160mV	160mV	240mV	480mV	
	Efficiency (at 230 VAC)	<u> </u>	90.5%	90.5%	92%	93%	
	Hold-up Time (at 115 VAC)		8 ms min.				
	Over Power Protection		Auto recovery				
	Over Voltage Protection		Auto recovery				
Protection	Overt Temperature Protection		Auto recovery				
	Short Circuit Protection		Protection level 1 (nominal): Continuous, Auto recovery				
		11 11 11 11	Protection level 2 (instantaneous high current): Latch				
Isolation	Input-Output (V.AC)		4000VAC or 5656VDC				
isolation	Input-PE (V.AC)		2000V 1500V				
	Output-PE (V.AC)		15007		7		
	Operating Temperature		-30°C+70°C (v	vith derating)	s=2	4.44	
	Storage Temperature		-35°C+85°C				
			±0.03%/°C(0~50°C)				
	Temperature Coefficient	N.E.	±0.06%/°C (-30~0°C)				
	Altitude During Operation		5000m				
_******	Humidity		95% RH				
Environment	Atmospheric Pressure	N. Nila	56 kPa to 106 kPa				
	MTBF		>160,000 h @ 25°C (MIL-HDBK-217F)				
	Vibration		IEC60068-2-6 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y axes)				
	Shock		IEC60068-2-27				
	Dimension s(L x W x H)		5.5 x 3.25 x 1.6 Inches (139.7 x 82.55 x 40.6 mm) Tolerance 0.5 mm				
Physical	Weight		580 g				
	Cooling Method		Free convection / 30 CFM FAN				
				/ EN 60601 3.1rd E	dition & UL / IEC	/ EN 60950 AM2	
Safety	Approval	1 50	115: UL / IEC	/ EN 60601 3.1rd E	dition		
2.5	Conducted and Radiated EMI		EN55011 / condu	ıcted class B, Radi	ated Class A		
EMC	EMS		EN60601-1-2 4th	edition			

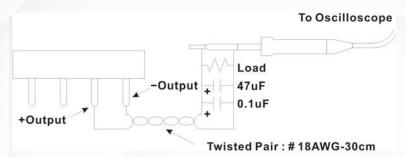
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.



ELECTRICAL SPECIFICATION - HDM500U SERIES

NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with ceramic 0.1uF & chemi-con KY 47uF parallel capacitor.

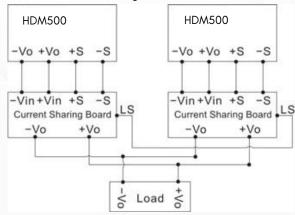


A 30cm twisted pair of no.18 AWG copper wire is connected to a 47uF and 0.1uF capacitor of proper polarity and voltage rating. The oscilloscope probe ground led should connect right to the ground ring of the probe and be as short as possible. The oscilloscope bandwidth should be at 20MHz and connected to AC ground.

- 2. Hold-up Time measured at 90% Vout.
- 3. Please check the derating curve for more details.
- Main Vout >3% Load, 12V (Aux) / 0.3A., 12V (Aux) need 0.1A Minimum Load, Auxiliary voltage output ground 10.2~13.3V
- 5. Strongly recommend to conduct this test with DC Voltage. If customer wishes to test with AC Voltage, please disconnect all Y-Capacitors from Digital Power power supply.
- 6. Current Share Board (Optional):
 - (a.)The output voltage difference of each parallel single element should be less than 0.2V.
 - (b.)Output power at parallel operation = rated power per unit x number of unit x 90%
 - (c.)Connect in parallel no more than 2 units. Please contact Digital Power for advice if more

than 2 is needed.

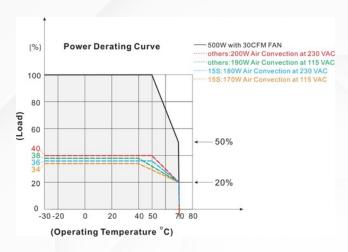
- (d.)Minimum Load Should be 15%.
- 7. CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.

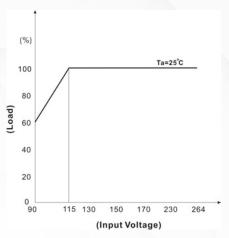




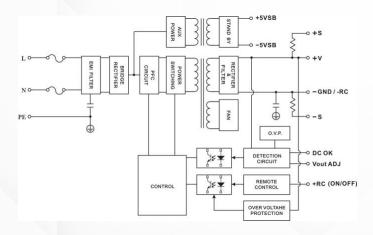
ELECTRICAL SPECIFICATION - HDM500U SERIES

DERATING

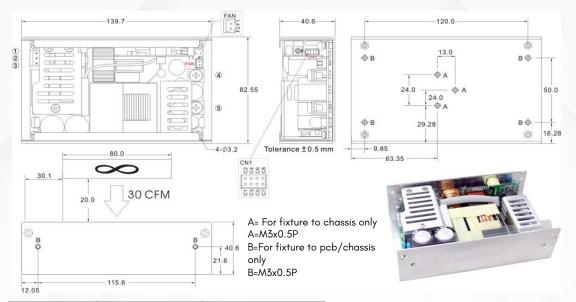




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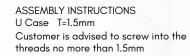


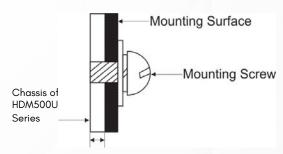




Br	Brands		Alex		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
A.B	PE	_		_	_	
1	AC IN (N)					
2	NO PIN	9396-3	96T series	VHR-3N	SVH-41T-P1.1	
3	AC IN (L)					
4	+DC OUT	Terminal : M5 Pan HD screw in 2 positions.				
5	-DC OUT	Torque to 8 lbs-in(90cNm) max				

Conn	ector Pin (CN1)		Marian.	
E	Brands	Cherng Weei		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
C1	-5V SB	2.19			
C2	+5V SB				
C3	GND		77		a _ 11 _ 4n=
C4	DC-OK	PHD-H20-	PHD-T20	PHDR-	SPHD-
C5	-RC	2X4P		08VS	001T- P0.5
C6	+RC				1 1/4 2 4 1
C7	-S				
C8	+S				

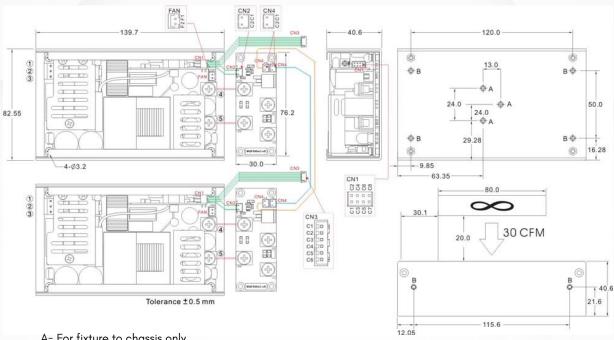




T=1.5mm

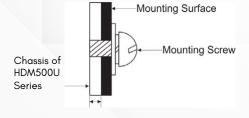
Connector Pin (FAN)						
Brands		Alex		JST		
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
F1	+12V	CX-	OV TO 501	VIID 0	SXH-	
F2	GND	CX- H250-02	CX-T2501	XHP-2	002T- P0.6	

HDM500U with Current Share Function



A= For fixture to chassis only A=M3x0.5P B=For fixture to pcb/chassis only B=M3x0.5P

ASSEMBLY INSTRUCTIONS U Case T=1.5mm Customer is advised to screw into the threads no more than 1.5mm



T=1.5mm

Brands		Alex		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
A.B	PE		_	-	<u> </u>
1	AC IN (N)			ii ii	
2	NO PIN	9396-3	96T series	VHR-3N	SVH-41T-P1.1
3	AC IN (L)				
4	+DC OUT	Terminal : M5 Pan HD screw in 2 positions. Torque to 8 lbs-in(90cNm) max			
5	-DC OUT				

Connector Pin (FAN)						
Brands		Alex		JST		
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
F1	+12V	OV 11050	OV T0501	VIID 0	SXH-002T-	
F2	GND	CX- H250- 02	CX- T2501	XHP-2	P0.6	



Conn	Connector Pin (CN1)						
E	Brands	Cherng	y Weei	JST			
PIN#	Single	gle Mating Housing Te		Mating Housing			
C1	-5V SB						
C2	+5V SB						
C3	GND						
C4	DC-OK	PHD-H20-	PHD-T20	PHDR-	SPHD-		
C5	-RC	2X4P	4P	08VS	001T- P0.5		
C6	+RC						
C7	-S				W. W.		
C8	+S						

Matina F	Mating Housing Pin (CN3)							
Maning I	Mulling Housing Fill (CNS)							
Br	ands	Cherng Weei	JST					
PIN#	Single	Connector	Connector					
C1	-5V SB							
C2	+5V SB							
C3	GND	CP-W20-06	B6B-PH-K-S					
C4	DC-OK							
C5	-RC	100 mm						
C6	+RC							

Connecto	or Pin (CN2)				
Brands		Cherng Weei		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
C1	-S			-	
C2	+S	CP- H20-02	CP- T20B	PHR-2	SPH- 002T- P0.5L

Connector Pin (CN4)							
Brands		Cherng Weei		JST			
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal		
C1	LS				SPH-		
C2	LS	CP- H20-02	CP- T20B	PHR-2	002T- P0.5L		

FUNCTION DESCRIPITON of CN1 and CN3 (CN3 without C7 and C8 pin)

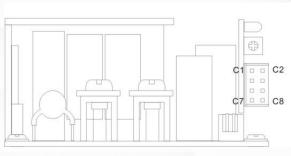
Pin No.	Function	Description
Cl	-5VSB	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.
C2	+5VSB	Stand by voltage output ground 4.2~5.5V, referenced to pin C1(-5VSB). The maximum load current is 1A with Fan, 0.4A without Fan
C3	GND	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.
C4	DC OK	DC-OK Signal is a DC output, referenced to pin C3(DC-OK GND).
C5	-RC	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.
C6	+RC	Turns the output on and off by electrical or dry contact between pin C5 (-RC), Short: Power OFF, Open: Power ON. The input voltage must be less than 1V in order to disable VOUT and greater than 3.3V (up to 5V) to enable it.
C7	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect.
C8	+S	Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect.



FUNCTION MANUAL & APPLICATION NOTE

1. DC-OK Signal

Between DC-OK and GND	Output Status
3.7~6V	ON
0~1V	OFF

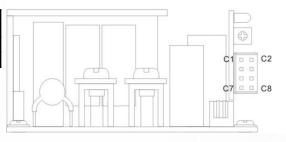


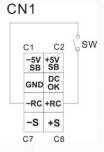
CN1 C1 C2 -5V +5V SB SB GND OK -RC +RC -S +S C7 C8

2. Remote Control

It can be turned ON/OFF by using the "Remote Control" function.

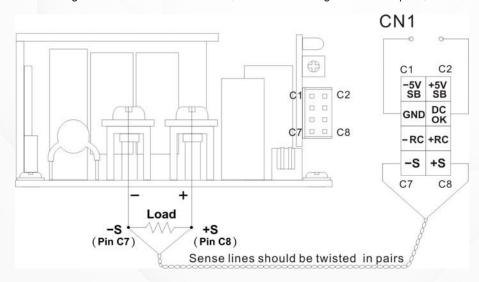
Between +RC and -RC	Output Status
SW ON (Short)	OFF
SW OFF (Open)	ON





3. +S and -S Sense

Shorter wiring to each unit is recommended, as well as twisting +S and -S in pairs, as shown below





ELECTRICAL SPECIFICATION - HDM500E SERIES

Model No.		HDM500E-112	HDM500E-1	15 HDM500E-124	HDM500E-148	
Max Output Wo	attage (W)	500 W				
	Voltage (Note 3)	90-264 VAC or 1	27-370 VDC			
	Frequency (Hz)	47-63 Hz		and a regular		
	Current (Full load)	< 6.3 A max. (115	VAC) / <3 15 A	max (230 VAC)		
Input	Inrush Current (<2ms) (Clod Start)	< 40 A max. (115)				
	Leakage Current	< 0.1 mA max. (In				
	Power Factor (at 230 VAC)	PF>0.94 at Full La	pad			
	Voltage (V.DC.)	12V	15V	24V	48V	
	Voltage Accuracy	±2%				
	Voltage Adj. Range (V.DC)	±4% Output Volt	age	**		
	Current (A) (max.)	41.5	33.3	20.8	10.41	
	Line Regulation (115-264 VAC)	±0.5%				
	Load Regulation (10–100%) (typ.)	±1%				
Output	Minimum Load	3%				
	Maximum Capacitive Load	5,000μF	3,750μF	2,500μF	1,250μF	
	Ripple & Noise (typ.)	160mV	160mV	240mV	480mV	
	Efficiency (at 230 VAC)	89%	89%	91%	92%	
	Hold-up Time (at 115 VAC)	8 ms min.				
	Over Power Protection	Auto recovery				
	Over Voltage Protection	Auto recovery				
	Overt Temperature Protection	Auto recovery				
Protection		Protection level 1 (nominal): Continuous, Auto recovery				
	Short Circuit Protection	Protection level 2	(instantaneou	s high current) : Late	eh	
	Input-Output (V.AC)	4000VAC or 565	6VDC			
Isolation	Input-PE (V.AC)	2000V	F 1 1	<u>. 4</u>		
	Output-PE (V.AC)	1500V				
	Operating Temperature	-30°C+70°C (w	ith derating)			
	Storage Temperature	-35°C+85°C				
		±0.03%/°C(0~5				
	Temperature Coefficient	±0.06%/°C(-30	~0°C)			
	Altitude During Operation	5000m				
	Humidity	95% RH				
Environment	Atmospheric Pressure	56 kPa to 106 kPa				
	MTBF	>160,000 h @ 25°	_			
	Vibration		500Hz, 2G 10)min./1cycle, 60min.	each along X, Y, Z axes)	
	Shock	IEC60068-2-27				
DI . I	Dimensions (L x W x H)	5.5 x 3.25 x 2.42 Inches (139.7 x 82.55 x 61.4 mm) Tolerance 0.5 mm				
Physical	Weight	690 g				
	15 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m	Others: UL / IEC	/ EN 60601 3.1 ^r	d Edition & UL / IEC	/ EN 60950 AM2	
Safety	Approval		/ EN 60601 3.1			
	Conducted and Radiated EMI	EN55011 / condu				

	The state of the s	Others: UL / IEC / EN 60601 3.1 rd Edition & UL / IEC / EN 60950 AM2
Safety	Approval	115: UL / IEC / EN 60601 3.1rd Edition
	Conducted and Radiated EMI	EN55011 / conducted class B, Radiated Class A
EMC	EMS	EN60601-1-2 4th edition

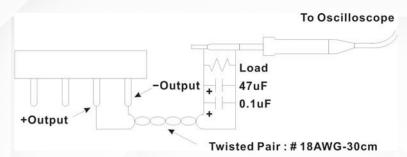
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.



ELECTRICAL SPECIFICATION - HDM500E SERIES

NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with ceramic 0.1uF & chemi-con KY 47uF parallel capacitor.

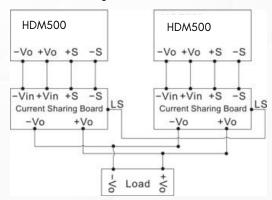


A 30cm twisted pair of no.18 AWG copper wire is connected to a 47uF and 0.1uF capacitor of proper polarity and voltage rating. The oscilloscope probe ground led should connect right to the ground ring of the probe and be as short as possible. The oscilloscope bandwidth should be at 20MHz and connected to AC ground.

- 2. Hold-up Time measured at 90% Vout.
- 3. Please check the derating curve for more details.
- Main Vout >3% Load, 12V (Aux) / 0.3A., 12V (Aux) need 0.1A Minimum Load, Auxiliary voltage output ground 10.2~13.3V
- 5. Strongly recommend to conduct this test with DC Voltage. If customer wishes to test with AC Voltage, please disconnect all Y-Capacitors from Digital Power power supply.
- 6. Current Share Board (Optional):
 - (a.)The output voltage difference of each parallel single element should be less than 0.2V.
 - (b.)Output power at parallel operation = rated power per unit x number of unit x 90%
 - (c.)Connect in parallel no more than 2 units. Please contact Digital Power for advice if more

than 2 is needed.

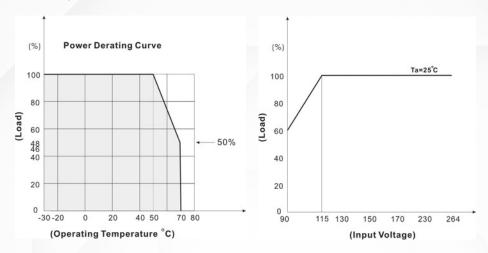
- (d.)Minimum Load Should be 15%.
- 7. CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.



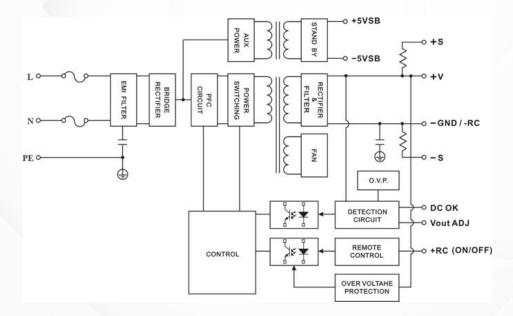


ELECTRICAL SPECIFICATION - HDM500E SERIES

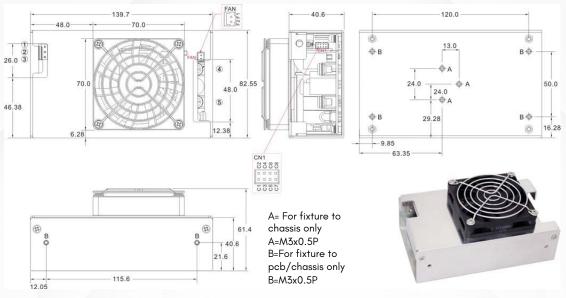
DERATING



BLOCK DIAGRAM

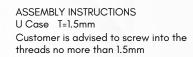


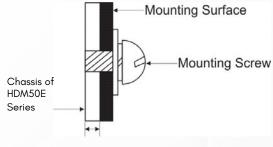




Br	ands	Al	Alex JST		Alex		JST
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal		
A.B	PE	_	_	-	_		
1	AC IN (N)	1					
2	NO PIN	9396-3	96T series	VHR-3N	SVH-41T-P1.1		
3	AC IN (L)						
4	+DC OUT	Terminal : M5 Pan HD screw in 2 positions.					
5	-DC OUT	Torque to 8 lbs-in(90cNm) max					

Connec	tor	Pin (CN1)				
	Bra	nds	Cherno	g Weei	؛ر	ST
PIN#		Single	Mating Housing	Terminal	Mating Housing	Terminal
C1		-5V SB	ste.			
C2		+5V SB				
C3		GND				
C4		DC-OK	PHXD-H20-	PHD-T20	PHDR-	SPHD-001T
C5		-RC	2X4P	PHD-120	08VS	P0.5
C6		+RC			1 7/2	
C7		-S				
C8		+S				



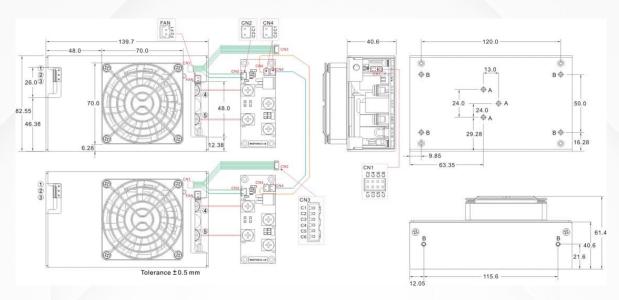


T=1.5mm

Connecto	Connector Pin (FAN)						
Brands Alex JST							
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal		
F1	+12V	CX-	CX-	VIID 0	SXH- 002T-		
F2	GND	H250-02	T2501	XHP-2	P0.6		

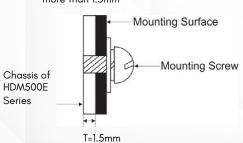


HDM500E with Current Share Function



A= For fixture to chassis only A=M3x0.5P B=For fixture to pcb/chassis only B=M3x0.5P





Br	ands	Al	ex	JST		
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
A.B	PE	_		_		
1	AC IN (N)					
2	NO PIN	9396-3	96T series	VHR-3N	SVH-41T-P1.1	
3	AC IN (L)					
4	+DC OUT	Terminal : M5 Pan HD screw in 2 positions.				
5		Torque to 8 lbs-in(90cNm) max				

Connector Pin (FAN)						
Bro	ınds	Cherng Weei		JST		
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal	
F1	+12V	CX-	CX-	XHP-2	SXH- 002T-	
F2	GND	H250-02	T2501	XHP-2	P0.6	



Conn	Connector Pin (CN1)							
E	Brands	Cherng	Weei	JST				
PIN#	Single	gle Mating Housing Terminal		Mating Housing	Terminal			
C1	-5V SB							
C2	+5V SB							
C3	GND							
C4	DC-OK	PHD-H20-	PHD-T20	PHDR-	SPHD-			
C5	-RC	2X4P		08VS	001T- P0.5			
C6	+RC							
C7	-S	Ŷ.						
C8	+S							

Mating H	Mating Housing Pin (CN3)						
Br	ands	Cherng Weei	JST				
PIN#	Single	Connector	Connector				
C1	-5V SB						
C2	+5V SB						
C3	GND	OD WOO O	DVD DIL K C				
C4	DC-OK	CP-W20-06	B6B-PH-K-S				
C5	-RC						
C6	+RC						

Connecto	r Pin (CN2)				
Bra	nds	Cher	ng Weei		JST
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
C1	-S				
C2	+S	CP- H20-02	CP- T20B	PHR-2	SPH- 002T- P0.5L

Connector Pin (CN4)							
Brands		Cherng Weei		JST			
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal		
C1	LS	CP- H20-02	CP- T20B	PHR-2	SPH-		
C2	LS				002T- P0.5L		

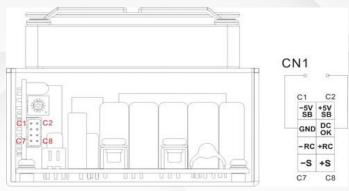
FUNCTION DESCRIPITON of CN1 and CN3 (CN3 without C7 and C8 pin)

Pin No.	Function	Description
C1	-5VSB	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.
C2	+5VSB	Stand by voltage output ground 4.2~5.5V, referenced to pin C1(-5VSB). The maximum load current is 1A with Fan, 0.4A without Fan
C3	GND	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.
C4	DC OK	DC-OK Signal is a DC output, referenced to pin C3(DC-OK GND).
C5	-RC	This pin connects to the negative terminal(-V). Return for DC-OK and -RC signal output.
C6	+RC	Turns the output on and off by electrical or dry contact between pin C5 (-RC), Short: Power OFF, Open: Power ON. The input voltage must be less than IV in order to disable VOUT and greater than 3.3V (up to 5V) to enable it.
C7	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect.
C8	+S	Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect.

FUNCTION MANUAL & APPLICATION NOTE

1. DC-OK Signal

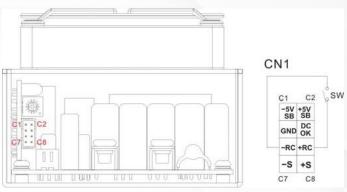
Between	Output				
DC-OK and GND	Status				
3.7~6V	ON				
0~1V	OFF				



2. Remote Control

It can be turned ON/OFF by using the "Remote Control" function.

Between	Output
+RC and -RC	Status
SW ON (Short)	OFF
SW OFF (Open)	ON



3. +S and -S Sense Shorter wiring to each unit is recommended, as well as twisting +S and -S in pairs, as shown below



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Digital Power Corporation designs and manufactures full custom, value added and standard comprehensive power solutions for the most demanding applications in the defense, healthcare, telecom, and industrial markets.

