



TPTC004 IEC62368-1



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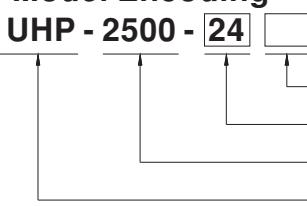
■ Features

- Slim and Low profile (60mm)
- Fanless and conduction-cooled design
- Built-in active PFC function
- -30~+70°C working temperature
- Output voltage and constant current level programmable
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in remote ON-OFF control
- DC OK active signal
- Operating altitude up to 5000 meter (Note.7)
- LED indicator for power on
- Optional PMBus or CANBus protocol
- 5 years warranty

■ Description

UHP-2500 series is a 2500W single-output slim type power supply with 60mm of low profile design. Adopting the full range 90~264VAC input, the entire series provides an output voltage line of 24V, 36V and 48V. In addition to the high efficiency up to 96%, that the whole series operates from -30°C ~ 70°C under air convection without fan. UHP-2500 has the complete protection functions and 2G anti-vibration capability; It is complied with the international safety regulations such as TUV BS EN/EN62368-1, UL62368-1, and design refers to BS EN/EN61558-1 and BS EN/EN60335-1. UHP-2500 series serves as a high performance power supply solution for various industrial applications.

■ Model Encoding



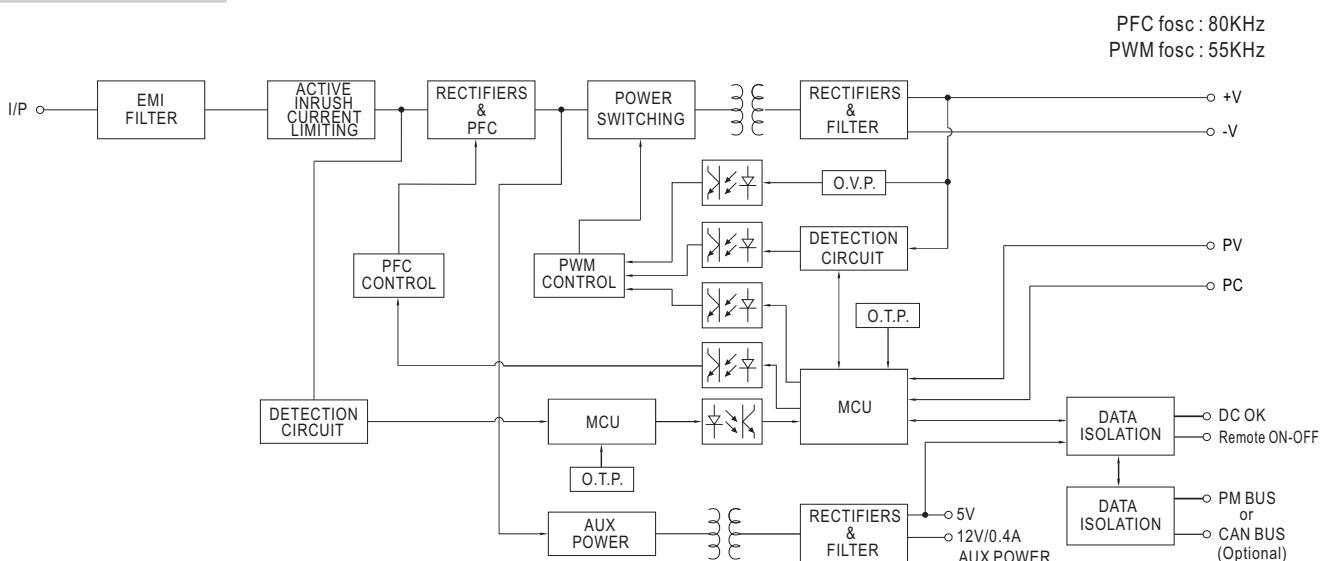
Communication protocol option
Output voltage(24V/36V/48V)
Rated wattage
Series name

Type	Communication Protocol	Note
Blank	None	In Stock
PM	PMBus protocol	By request
CAN	CANBus protocol	By request

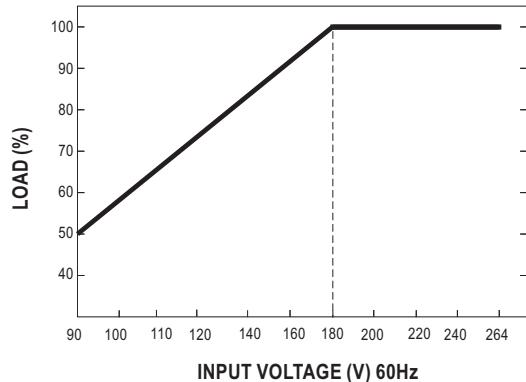
SPECIFICATION

MODEL	UHP-2500-24	UHP-2500-36	UHP-2500-48
OUTPUT	DC VOLTAGE	24V	36V
	RATED CURRENT	104.2A	69.4A
	RATED POWER	2500.8W	2498.4W
	RIPPLE & NOISE (max.) Note.2	300mVp-p	360mVp-p
	VOLTAGE ADJ. RANGE	By built-in potentiometer, SVR	
		24~28.8V	36~43.2V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%
SETUP, RISE TIME Note.4		1800ms, 60ms/230VAC	1800ms, 60ms/115VAC at full load
HOLD UP TIME (Typ.) Note.4		16ms/230VAC at 75% load	10ms/230VAC at full load ; 16ms/115VAC at 75% load
INPUT	VOLTAGE RANGE Note.4	90 ~ 264VAC	250 ~ 370VDC
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR (Typ.) Note.4	PF ≥ 0.95/230VAC	PF ≥ 0.99/115VAC at full load
	EFFICIENCY (Typ.)	95%	95.5%
	AC CURRENT (Typ.)	15A/115VAC	14.3A/230VAC
	INRUSH CURRENT (Typ.)	Cold start 30A/115VAC	60A/230VAC
LEAKAGE CURRENT		<0.75mA / 240VAC	
PROTECTION	OVERLOAD	105 ~ 115% rated output power Protection type : Constant current limiting, unit will shutdown after 5 sec. re-power on to recover.	
	OVER VOLTAGE	30 ~ 35V	45 ~ 51V
		Protection type : Shut down O/P voltage, re-power on to recover	
	OVER TEMPERATURE	Protection type : Shut down O/P voltage, recovers automatically after temperature goes down	
FUNCTION	OUTPUT VOLTAGE PROGRAMMABLE(PV) Note 5	Adjustment of output voltage is allowable to 50 ~ 120% of nominal output voltage Please refer to the Function Manual.	
	OUTPUT CURRENT PROGRAMMABLE(PC) Note 5	Adjustment of constant current level is allowable to 20 ~ 100% of rated current. Please refer to the Function Manual.	
	REMOTE ON/OFF CONTROL	Power ON : Short circuit	Power OFF : Open circuit
	AUXILIARY POWER	12V@0.4A tolerance±10%, ripple 150mVp-p	
	DC-OK SIGNAL	The TTL signal out, PSU turn on = 4.5 ~ 5.5V ; PSU turn off = -0.5 ~ 0.5V. Please refer to the Function Manual.	
ENVIRONMENT	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")	
	WORKING HUMIDITY	20 ~ 90% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing	
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)	
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes	
SAFETY & EMC (Note.6)	SAFETY STANDARDS	UL62368-1, Dekra seal BS EN/EN62368-1, EAC TP TC 004 approved; design refers to BS EN/EN61558-1, BS EN/EN60335-1(by request)	
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.25KVAC	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG,O/P-FG:100M Ohms/500VDC/25°C / 70%RH	
	EMC EMISSION	Parameter	Standard
		Conducted	BS EN/EN55032 (CISPR32)
		Radiated	BS EN/EN55032 (CISPR32)
		Harmonic Current	BS EN/EN61000-3-2
		Voltage Flicker	BS EN/EN61000-3-3
	EMC IMMUNITY	BS EN/EN55024, BS EN/EN61000-6-2	
		Parameter	Standard
		ESD	BS EN/EN61000-4-2
		Radiated	BS EN/EN61000-4-3
		EFT / Burst	BS EN/EN61000-4-4
		Surge	BS EN/EN61000-6-2
		Conducted	BS EN/EN61000-4-6
		Magnetic Field	BS EN/EN61000-4-8
		Voltage Dips and Interruptions	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods
OTHERS	MTBF	166.12K hrs min. Telcordia SR-332 (Bellcore) ; 48.91K hrs min. MIL-HDBK-217F (25°C)	
	DIMENSION	310*140*60mm (L*W*H)	
	PACKING	3.5kg; 4pcs/15kg/1.76CUFT	
NOTE	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. Derating may be needed under low input voltages. Please check the derating curve and Static characteristics for more details. 5. PV/PC functions when users do not use SVR. 6. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 1100mm*650mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets 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°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx		

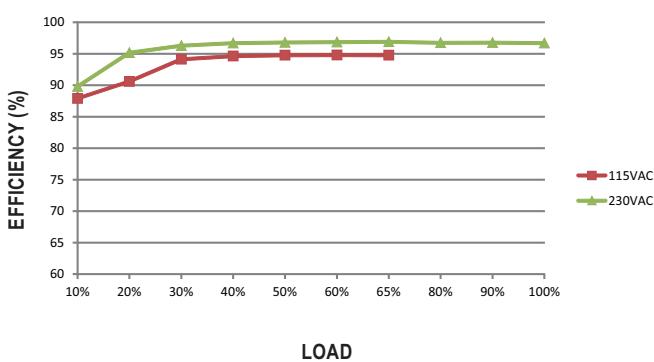
■ BLOCK DIAGRAM



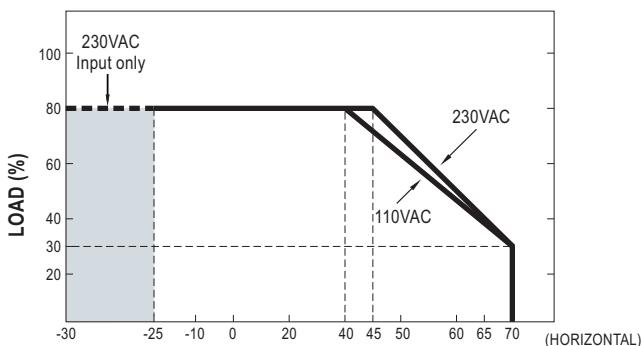
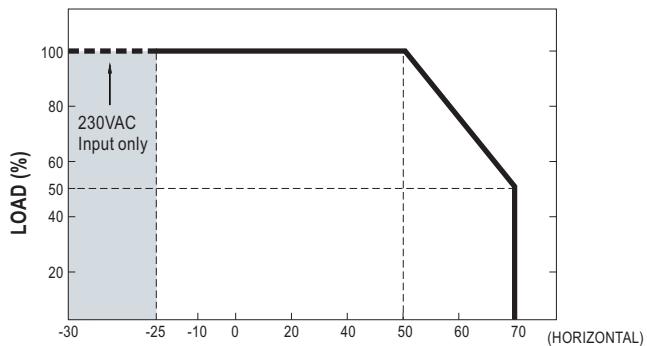
■ STATIC CHARACTERISTIC



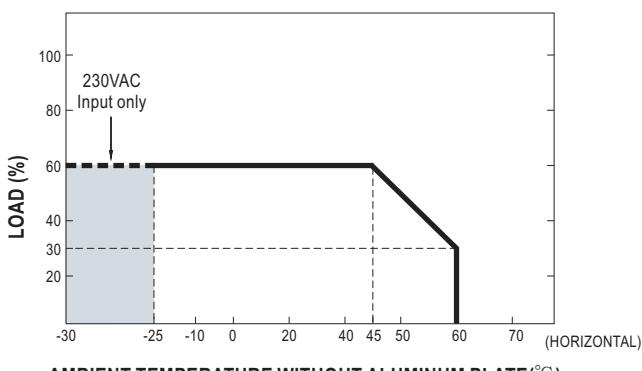
■ EFFICIENCY VS LOAD (48V MODEL)



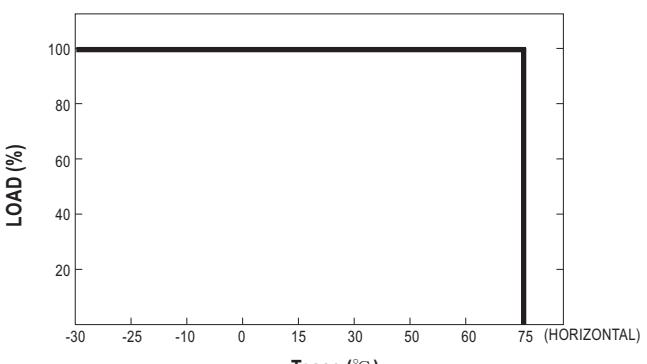
■ DERATING CURVE


 AMBIENT TEMPERATURE WITH ADDITIONAL ALUMINUM PLATE(°C)
(450x450x3mm)


AMBIENT TEMPERATURE WITH 45CFM FAN(°C)



AMBIENT TEMPERATURE WITHOUT ALUMINUM PLATE(°C)

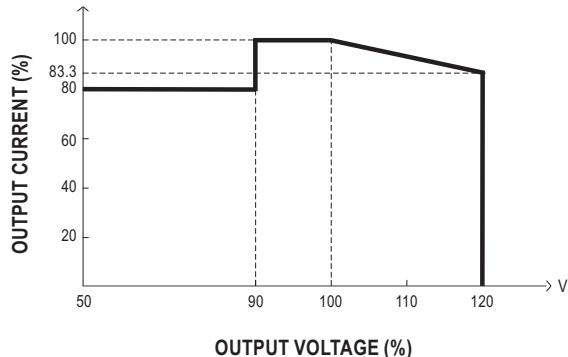
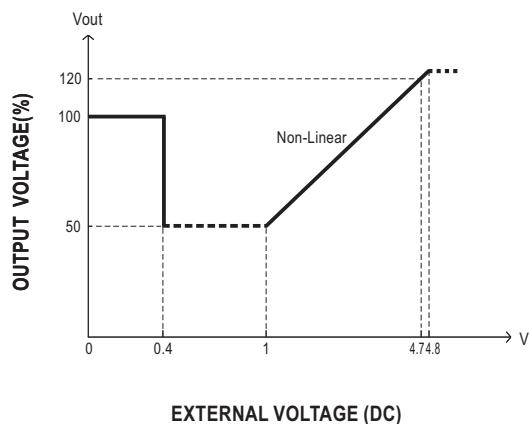
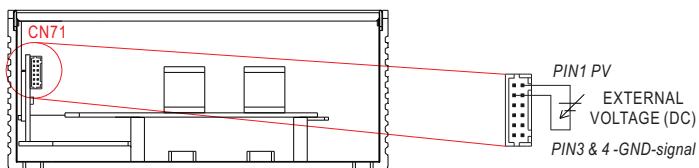


Tcase (°C)

FUNCTION MANUAL

1. Output Voltage Programming (or, PV / remote voltage programming / remote adjust / margin programming / dynamic voltage trim)

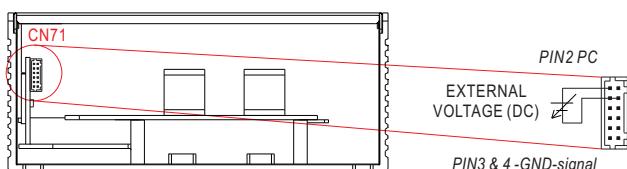
※ In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed by applying EXTERNAL VOLTAGE.



◎ The rated current should change with the Output Voltage Programming accordingly.

2. Constant Current Programming (or, PC / remote current programming / dynamic current trim)

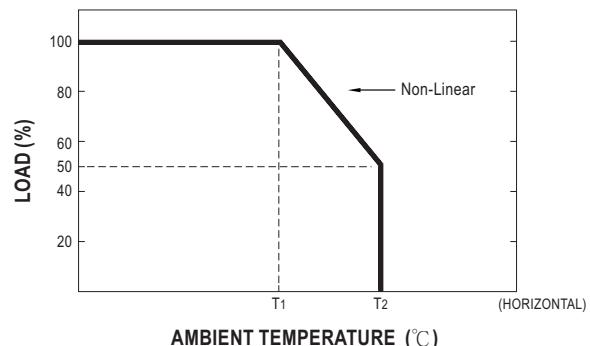
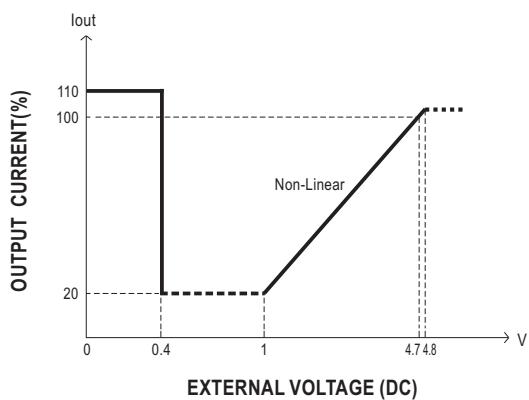
※ The output current can be trimmed to 20~100% of the rated current by applying EXTERNAL VOLTAGE.



※ Covered by over temperature protection, auto de-rating function works under operation either in PC mode or under control by communication protocol.

T1(Typ.): Maximum ambient temperature of full load.

T2(Typ.): T1+5°C.



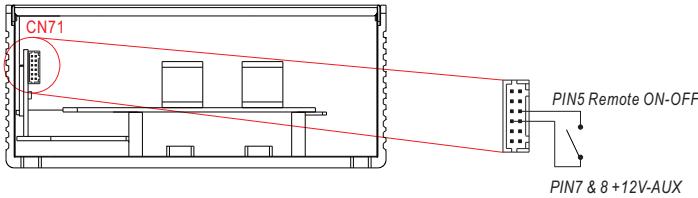


2500W Conduction Cooling with PFC Switching Supply

UHP-2500 series

3. Remote ON-OFF Control

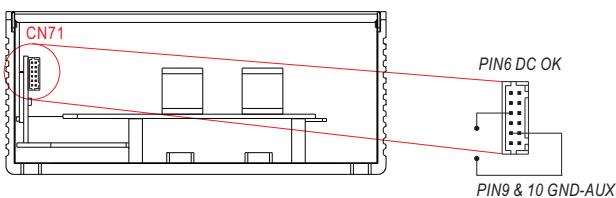
The power supply can be turned ON/OFF individually or along with other units in parallel by using the "Remote ON-OFF" function.



Remote ON-OFF	Power Supply Status
Short circuit	ON
Open circuit	OFF

4. DC-OK Signal

DC-OK signal is a TTL level signal. The maximum sourcing current is 10mA.



DC-OK signal	Power Supply Status
"High" >4.5~5.5V	ON
"Low" <-0.5~0.5V	OFF

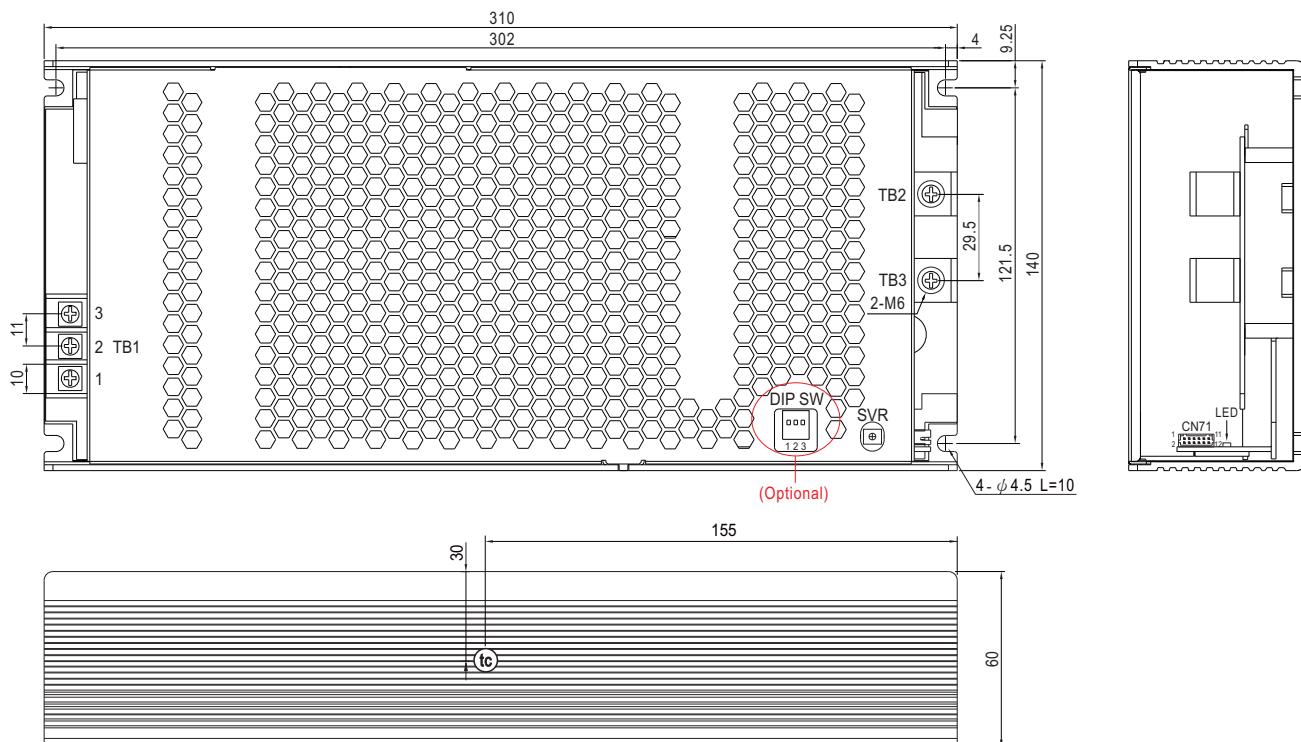
5. PMBus Communication Interface

UHP-2500 supports PMBus Rev. 1.2 with maximum 100KHz bus speed, allowing information reading, status monitoring, output trimming, etc. For details, please refer to the Function Manual.

■ MECHANICAL SPECIFICATION

Case No.276A

Unit:mm



• (tc) : Max. Case Temperature

AC Input Terminal(TB1) Pin NO. Assignment

Pin No.	Assignment	Terminal	Max mounting torque
1	AC/L	DECA T36	18Kgf-cm
2	AC/N		
3	±		

DC Output Terminal(TB2,TB3) Pin NO. Assignment

Pin No.	Assignment	Terminal	Max mounting torque
TB2	+V	(MW)	8Kgf-cm
TB3	-V	HS147	

※DIP SW(Optional):

Pin No.	Function	Description
1	A0	PMBus / CANBus interface address switch.
2	A1	
3	A2	

※Control Pin No. Assignment(CN71) : HRS DF11-12DP-2DS or equivalent

2	1	Mating Housing	HRS DF11-12DS or equivalent
12	11	Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1	PV	Connection for output voltage programming.(Note1)
2	PC	Connection for constant current level programming.(Note.1)
3,4	GND (Signal)	Negative output voltage signal.
5	Remote ON-OFF	The unit can turn the output ON/OFF by dry contact between Remote ON/OFF and 12-AUX.(Note.2) Short (10.8 ~ 13.2V) : Power ON ; Open(-0.5 ~ 0.5V) : Power OFF ; The maximum input voltage is 13.2V
6	DC-OK	Low (-0.5 ~ 0.5V) : When the Vout \leq 77% \pm 6%. High (4.5 ~ 5.5V) : When Vout \geq 80% \pm 6%. The maximum sourcing current is 10mA and only for output.(Note.2)
7,8	+12V-AUX	Auxiliary voltage output, 10.8~13.2V, referenced to GND-AUX (pin3 & 4). The maximum load current is 0.4A. This output is not controlled by "Remote ON-OFF".
9,10	GND-AUX	Auxiliary voltage output GND. The signal return is isolated from the output terminals (+V & -V).
11	SDA	For PMBus model: Serial Data used in the PMBus interface. (Note.2)
	CANH	For CANBus model: Data line used in CANBus interface. (Note.2)
12	SCL	For PMBus model: Serial Clock used in the PMBus interface. (Note.2)
	CANL	For CANBus model: Data line used in CANBus interface. (Note.2)

Note1: Non-isolated signal, referenced to [GND(signal)].

Note2: Isolated signal, referenced to GND-AUX.



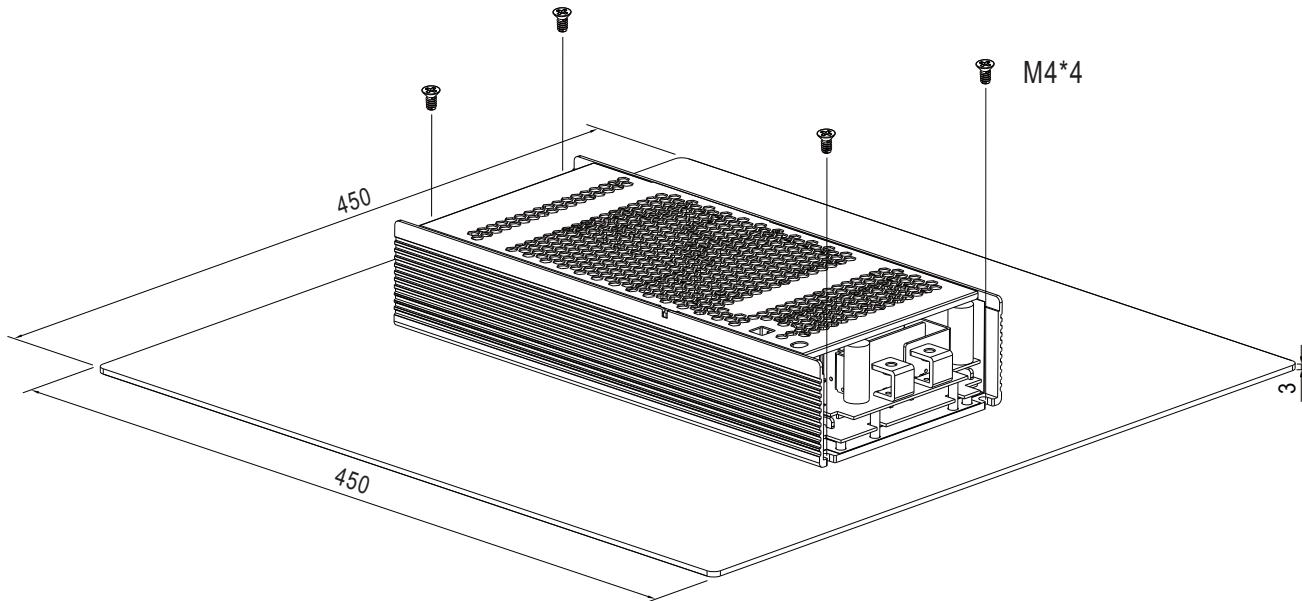
2500W Conduction Cooling with PFC Switching Supply

UHP-2500 series

1. Operate with additional aluminum plate and fan

In order to meet the "Derating Curve" and the "Static Characteristics", UHP-2500 series can be installed onto an aluminum plate (or the cabinet of the same size) on the bottom or apply forced air cooled solution. The size of the suggested aluminum plate and configuration of fan are shown as below. And for optimizing thermal performance, the aluminum plate must have an even and smooth surface (or coated with thermal grease), and UHP-2500 series must be firmly mounted at the center of the aluminum plate.

unit:mm



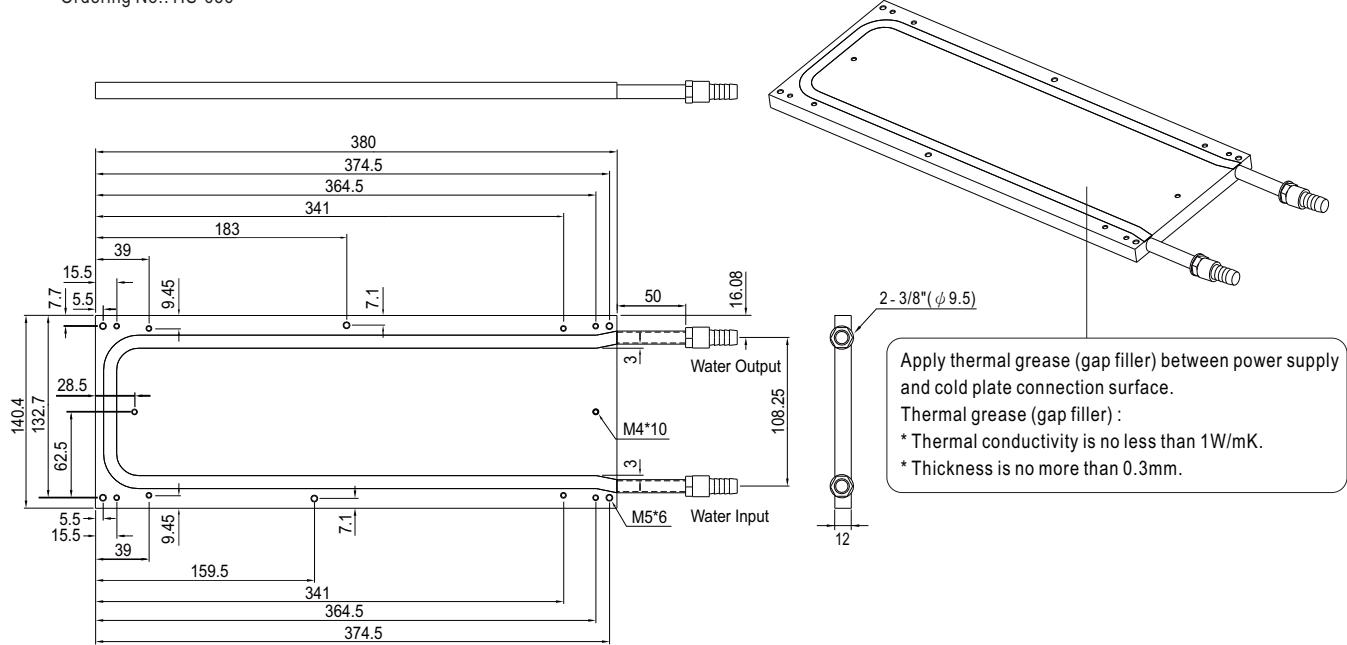
2. Suitable for conduction cooling

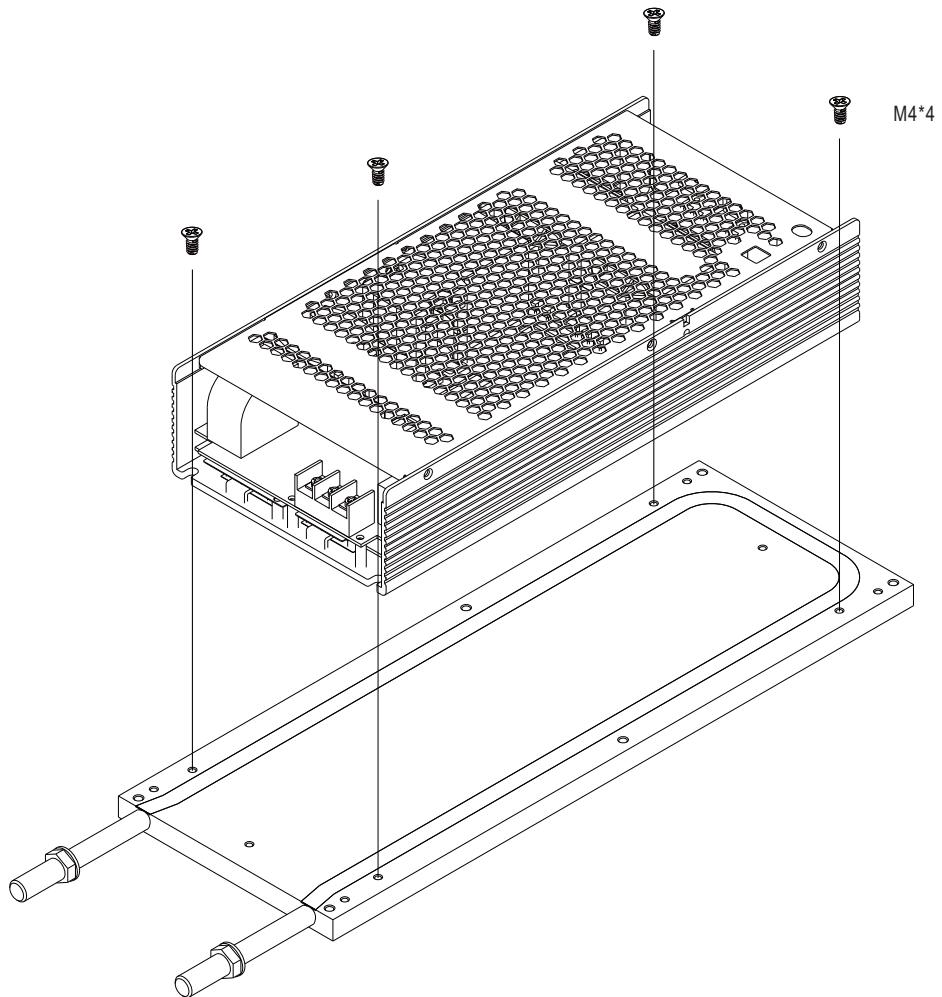
Inlet temperature: 25°C

Flow rate (minimum): 1 LPM

If optional cold plate is in need, please contact MEAN WELL for details.

Ordering No.: HS-656





3. With 45CFM forced air

