200W Slim Type with PFC Switching Power Supply UHP-200 series

User's Manual

Video

Note 9

(only for UHP-200-24)

R33100
RoHS

GB 4943.1

UL62368-1

BS EN/EN62368-1
BS EN/EN60335-1
BS EN/EN61558-1
BS EN/EN61558-2-16

IEC62368-1
IEC61558-1
IEC61558-2-16

LED Display | ECO | Household | Automate | Industrial | Security | Network | Telecom

Features

- Slim and Low profile (26mm)
- Fanless design,200W convection
- Withstand 300VAC surge input for 5 seconds
- Built-in active PFC function
- -30~+70℃ working temperature
- Protections: Short circuit / Overload / Over voltage / Over temperature
- DC OK active signal and redundant function(option)
- Operating altitude up to 5000 meter (Note.5)
- LED indicator for power on
- 3 years warranty

Applications

- Industrial automation machinery
- Industrial control system
- Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus
- Household appliances
- LED display application
- Power Source Equipment for PoE(55V model)

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

UHP-200 series is a 200W single-output slim type power supply with 26mm of low profile design. Adopting the full range 90~264VAC input, the entire series provides an output voltage line of 3.3V, 4.2V, 5V, 12V, 15V, 24V, 36V,48V and 55V . In addition to the high efficiency up to 94%, that the whole series operates from -30℃ ~ 70℃ under air convection without fan. UHP-200 has the complete protection functions and 5G anti-vibration capability;It is complied with the international safety regulations such as TUV BS EN/EN62368-1,BS EN/EN60335-1,UL 62368-1 and GB 4943.1. UHP-200 series serves as a high performance power supply solution for various industrial applications.

Model Encoding

UHP - 200 □ - 5

- 5 — Output Voltage
- □ — Blank / R
- 200 — Rated wattage
- UHP — Series name

Type	Description	Note
Blank	Enclosed	In Stock
R	Built-in DC OK active signal and redundant function.	In Stock

MEAN WELL

200W Slim Type with PFC Switching Power Supply **UHP-200 series**

SPECIFICATION

MODEL		UHP-200□-3.3	UHP-200□-4.2	UHP-200□-5	UHP-200□-12	UHP-200□-15	UHP-200□-24	UHP-200□-36	UHP-200□-48	UHP-200□-55
OUTPUT	DC VOLTAGE	3.3V	4.2V	5V	12V	15V	24V	36V	48V	55V
	RATED CURRENT	40A	40A	40A	16.7A	13.4A	8.4A	5.6A	4.2A	3.6A
	RATED POWER	132W	168W	200W	200.4W	201W	201.6W	201.6W	201.6W	201.6W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	200mVp-p	240mVp-p	240mVp-p	240mVp-p	240mVp-p	300mVp-p	360mVp-p
	VOLTAGE ADJ. RANGE	3.2~3.5V	3.6~4.4V	4.5~5.5V	11.4~12.6V	14.3~15.8V	22.8~25.2V	34.2~37.8V	45.6~50.4V	45~58V
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.3%	±0.3%	±0.3%	±0.3%	±0.3%	±0.3%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	2000ms, 80ms/230VAC; 3000ms, 80ms/115VAC at full load;550ms/230VAC for 55V setup time								
	HOLD UP TIME (Typ.)	10ms/230VAC 10ms/115VAC								
INPUT	VOLTAGE RANGE Note.4	90 ~ 264VAC 127 ~ 370VDC								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF≥0.94/230VAC PF≥0.98/115VAC at full load								
	EFFICIENCY (Typ.)	89%	90%	91%	93%	94%	94%	94%	94%	94%
	AC CURRENT (Typ.)	2.2A/115VAC 1.1A/230VAC								
	INRUSH CURRENT (Typ.)Note.8	Cold start 40A/115VAC 80A/230VAC								
	LEAKAGE CURRENT	<0.75mA / 240VAC								
PROTECTION	OVERLOAD	110~140% rated output power								
		Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	3.8~ 4.6V	4.62 ~ 5.46V	5.75 ~ 6.75V	13.2 ~ 15.6V	16.5 ~ 19.5V	26.4 ~ 31.2V	39.6 ~46.8V	52.8 ~ 62.4V	60 ~ 69V
		Protection type :Shut down O/P voltage,re-power on to recover								
	OVER TEMPERATURE	Protection type :Shut down O/P voltage or Hiccup mode, recovers automatically after temperature goes down								
FUNCTION	DC OK SIGNAL(Optional)	Contact rating(max.):15Vdc/10mA resistive load								
	REDUNDANT(Optional)	For parallel connection protection:For parallel applications, when one PSU can not work , the another one will be automatically enabled. This can prevent the system crash, and provide the reliability of system								
ENVIRONMENT	WORKING TEMP.	-30 ~ +70℃ (Refer to "Derating Curve")								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing								
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)								
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes								
SAFETY & EMC (Note.6)	SAFETY STANDARDS	UL 62368-1,TUV BS EN/EN62368-1,BS EN/EN60335-1(Except for 55V), GB 4943.1, EAC TP TC 004, KC62368-1(only for UHP-200-24),BS EN/EN61558-1,BS EN/EN61558-2-16,BSMI CNS15598-1 approved								
	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℃/ 70%RH								
	EMC EMISSION	Compliance to BS EN/EN55032,GB17625.1,GB/T 9254.1,Class B, BS EN/EN55014,BS EN/EN61000-3-2,-3, EAC TP TC 020,BSMI CNS15936								
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11;BS EN/EN61000-6-2 (BS EN/EN50082-2),BS EN/EN55035, heavy industry level ,EAC TP TC 020								
OTHERS	MTBF	2472.1 K hrs min. Telcordia SR-332 (Bellcore) ; 257.0K hrs min. MIL-HDBK-217F (25℃)								
	DIMENSION	194*55*26mm (L*W*H)								
	PACKING	0.468kg;24pcs/12.2kg/0.49CUFT								

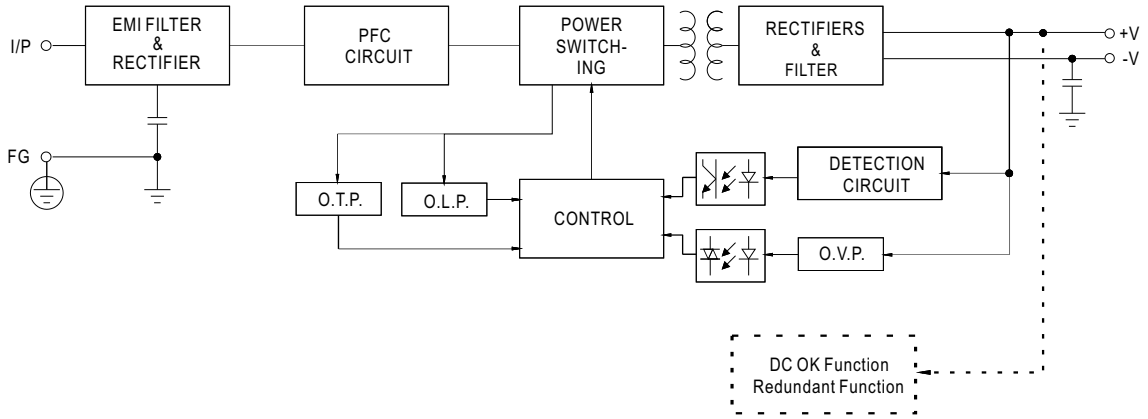
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, 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 0.1uf & 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 for more details.
5. The ambient temperature derating of 5℃/1000m is needed for operating altitude greater than 2000m(6500ft)
6. 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. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
7. R type efficiency slightly less than the Blank type, according to the actual measurement.
8. Inrush current parameter has 10% tolerance .
9. RCM is on voluntary basis and meets relevant IEC or AS/NZS standards complying with AS/NZS 4417.1.

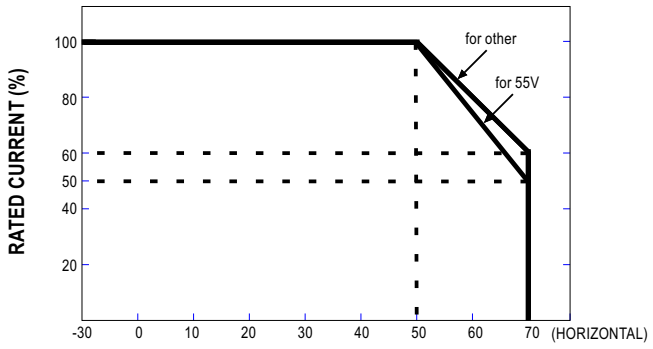
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Block Diagram

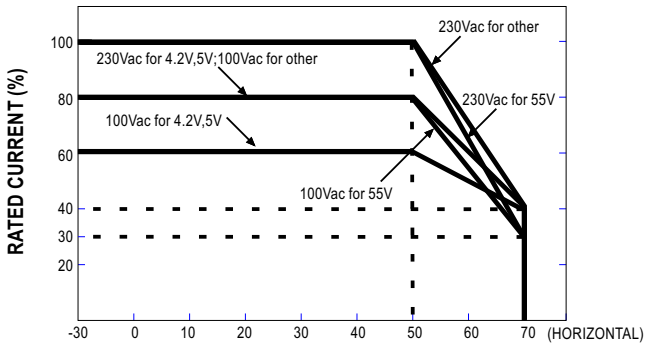
PFC fosc:100KHz
PWM fosc:90KHz~110KHz



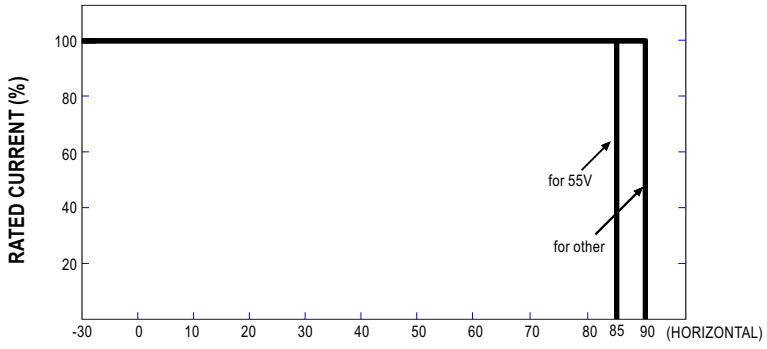
■ Derating Curve



AMBIENT TEMPERATURE (℃)

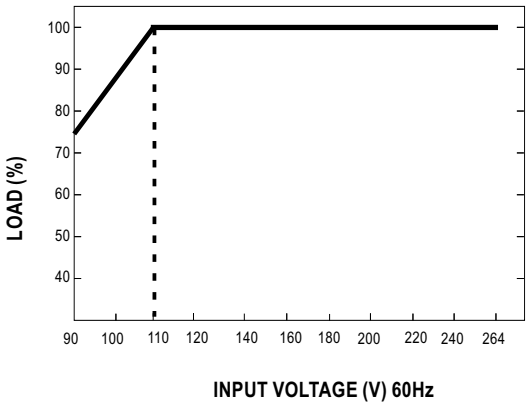


AMBIENT TEMPERATURE WITHOUT ALUMINUM PLATE(℃)



Tcase (℃)

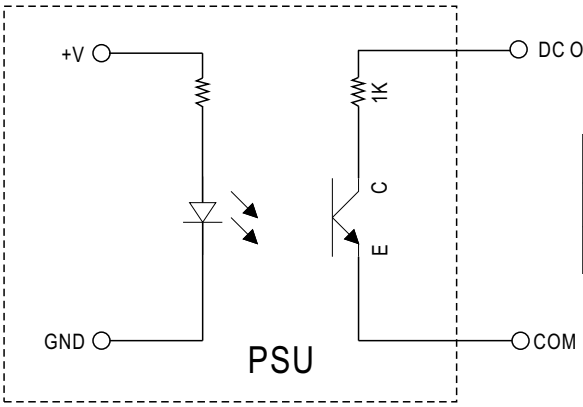
■ STATIC CHARACTERISTIC



■ Function Manual

1.DC_OK Signal

DC_OK is a collector shorted signal. It is used by an optocoupler in the power supply which indicates the output status of the power supply as exhibited below.

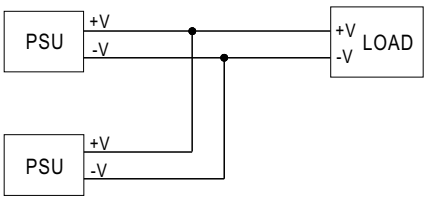


Optocoupler C-E Pin Conduction	PSU turns on	DC ok
Optocoupler C-E Pin Open	PSU turns off	DC fail
Optocoupler Rating(max.)	15Vdc/10mA resistive load	

2.Redundant function

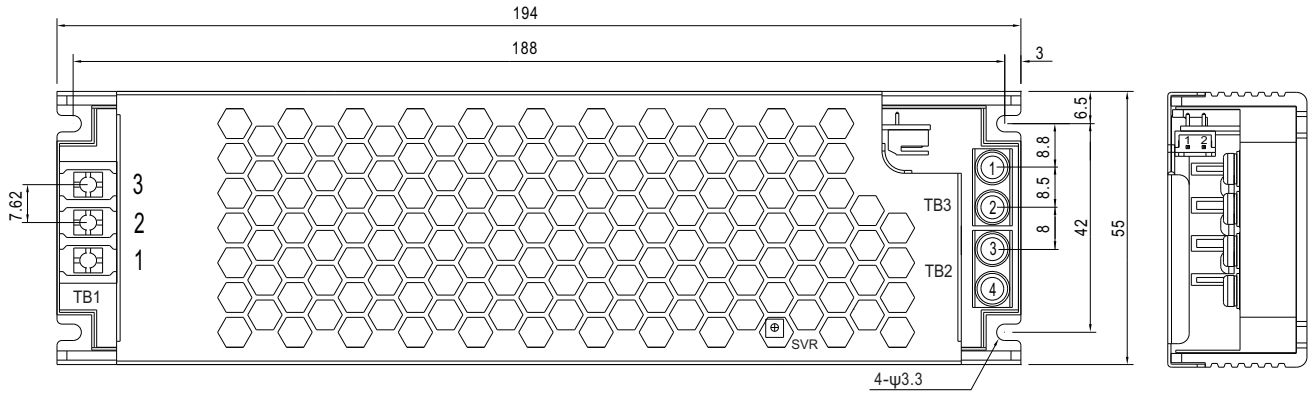
(1) UHP-200R is built-in redundant function and can be connected 2 units in parallel .

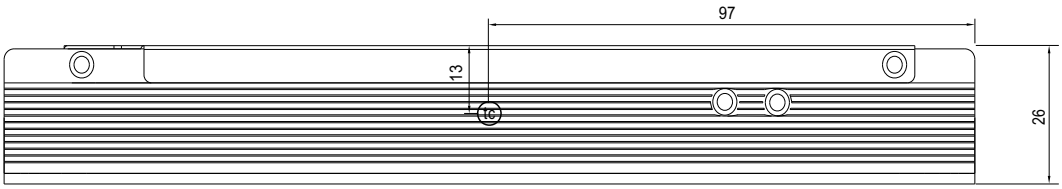
(2) When in parallel operation the maximum load should not be greater than the rated power of any PSU.



■ Mechanical Specification

CASE NO.:249B Unit:mm Tolerance:±1





• ⓣc : Max. Case Temperature

AC Input Terminal(TB1) pin NO. Assignment

Pin No.	Assignment	Terminal	Max mounting torque
1	AC/L	(DEGSON) DG28C-B-03P	5Kgf-cm
2	AC/N		
3	⏚		

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

Pin No.	Assignment	Terminal	Max mounting torque
1,2	-V	(MW) TB-HTP-200-40A	8Kgf-cm
3,4	+V		

DC OK Connector(CN10):JST B2B-PH-K-S or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	DC COM	JST PHR-2 or equivalent	JST SPH-002T-P0.5S or equivalent
2	DC OK +V		

■ Installation

1.Operate with additional aluminum plate

In order to meet the"Derating Curve"and the "Static Characteristics" ,UHP-200 series must be installed onto an aluminum plate(or the cabinet of the same size) on the bottom.The size of the suggested aluminum plate is 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-200 series must be firmly mounted at the center of the aluminum plate.

unit:mm