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

GB4943 UL60950-1 EN60950-1 EN60335-1 IEC60950-1

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
- 150% peak load capability(100ms)
- -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

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 and 48V. 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 EN60950-1, EN60335-1, UL60950-1 and GB4943. 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**

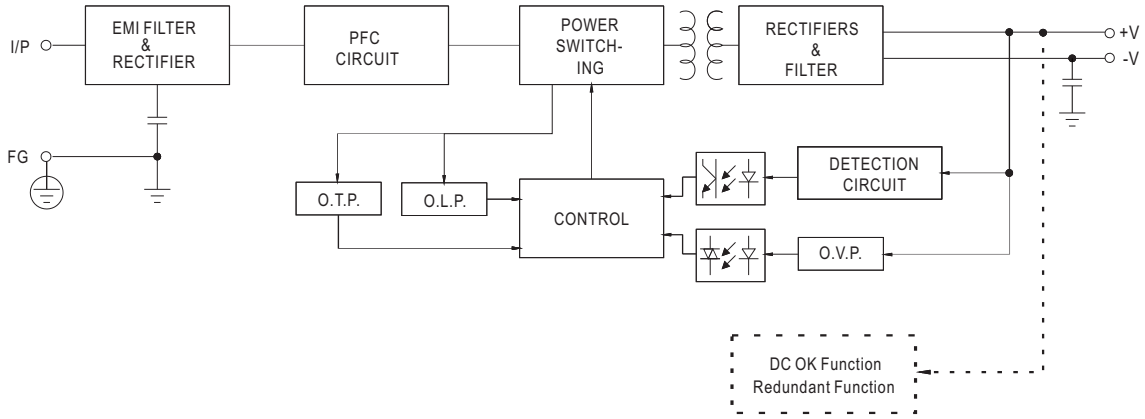
SPECIFICATION

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
OUTPUT	DC VOLTAGE	3.3V	4.2V	5V	12V	15V	24V	36V	48V
	RATED CURRENT	40A	40A	40A	16.7A	13.4A	8.4A	5.6A	4.2A
	RATED POWER(convection)	132W	168W	200W	200.4W	201W	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
	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
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±2.0%	±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%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	2000ms, 80ms/230VAC 3000ms, 80ms/115VAC at full load							
	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%
	AC CURRENT (Typ.)	2.2A/115VAC 1.1A/230VAC							
	INRUSH CURRENT (Typ.)	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
		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	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 ~ 90% 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	UL60950-1,TUV EN60950-1,EN60335-1, CCC GB4943 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 EN55032,GB9254,Class B, EN55014,EN61000-3-2,-3							
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11;EN61000-6-2 (EN50082-2), heavy industry level ,criterial A							
OTHERS	MTBF	257K hrs min. MIL-HDBK-217F (25℃)							
	DIMENSION	194*55*26mm (L*W*H)							
	PACKING	0.468kg;24pcs/12.2kg/0.49CUFT							

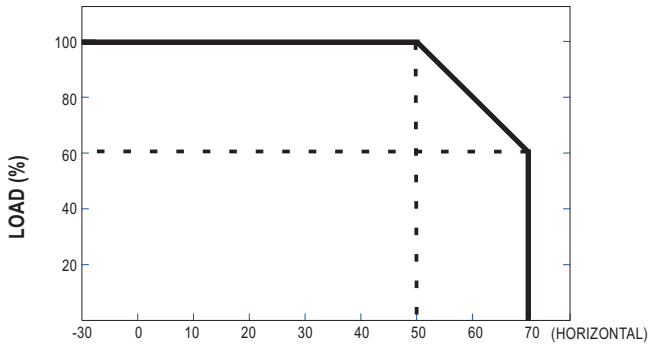
NOTE

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 http://www.meanwell.com)

■ Block Diagram

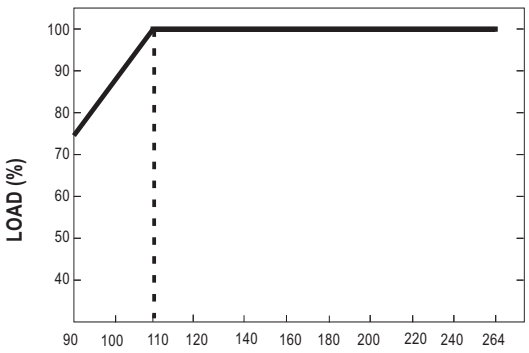


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ STATIC CHARACTERISTIC

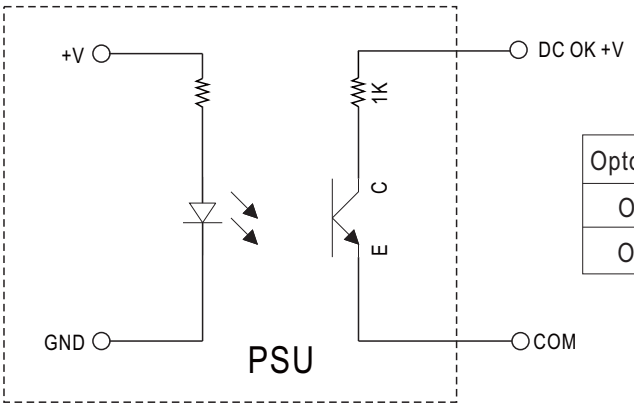


INPUT VOLTAGE (V) 60Hz

■ 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.

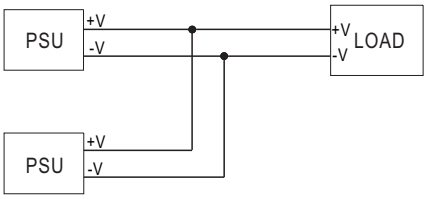


Optocoupler C-E Pin Conduction	PSU turns on	DC ok
Optocoupler C-E Pin Open	PSU turns off	DC fail
Optocoupler Rating(max.)	15Vdc/10mA resistive load	

2.Redundant function

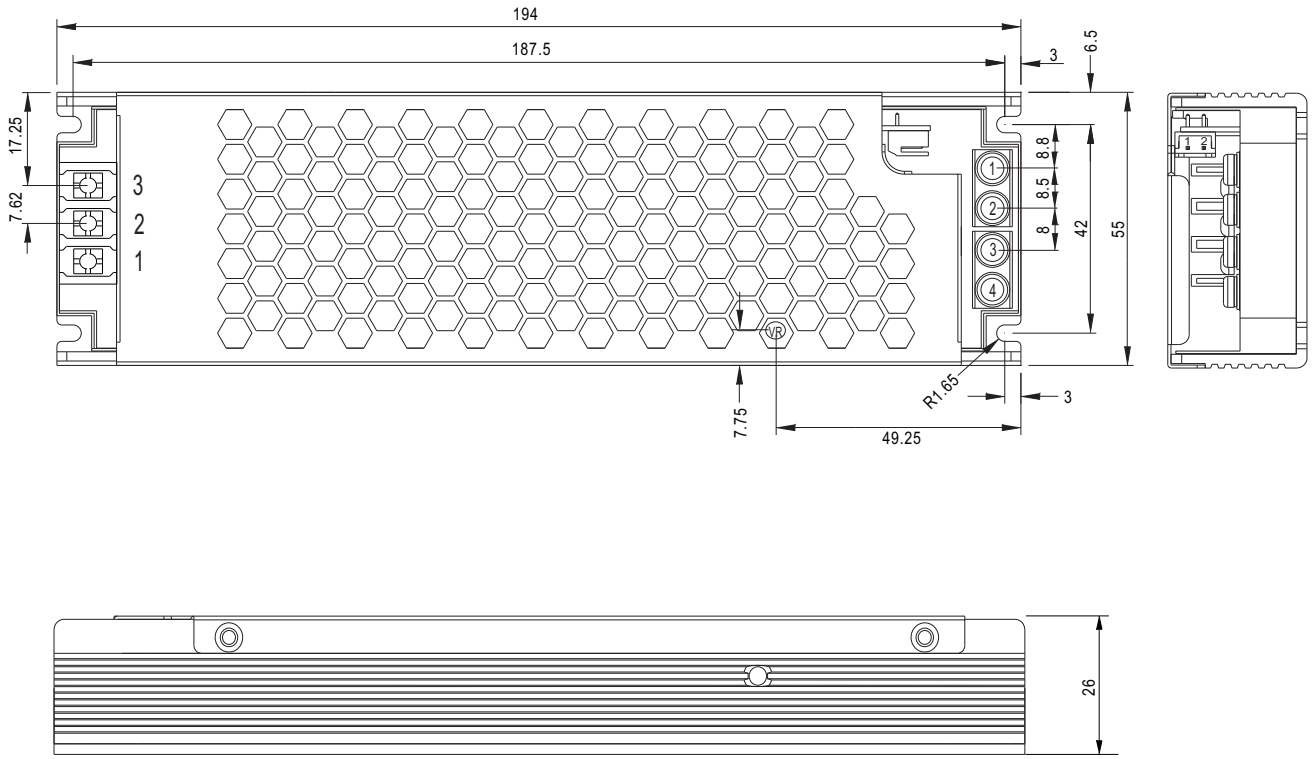
(1) UHP-200R is built-in redundant function and can be connected 2 units in parallel .

(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



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		

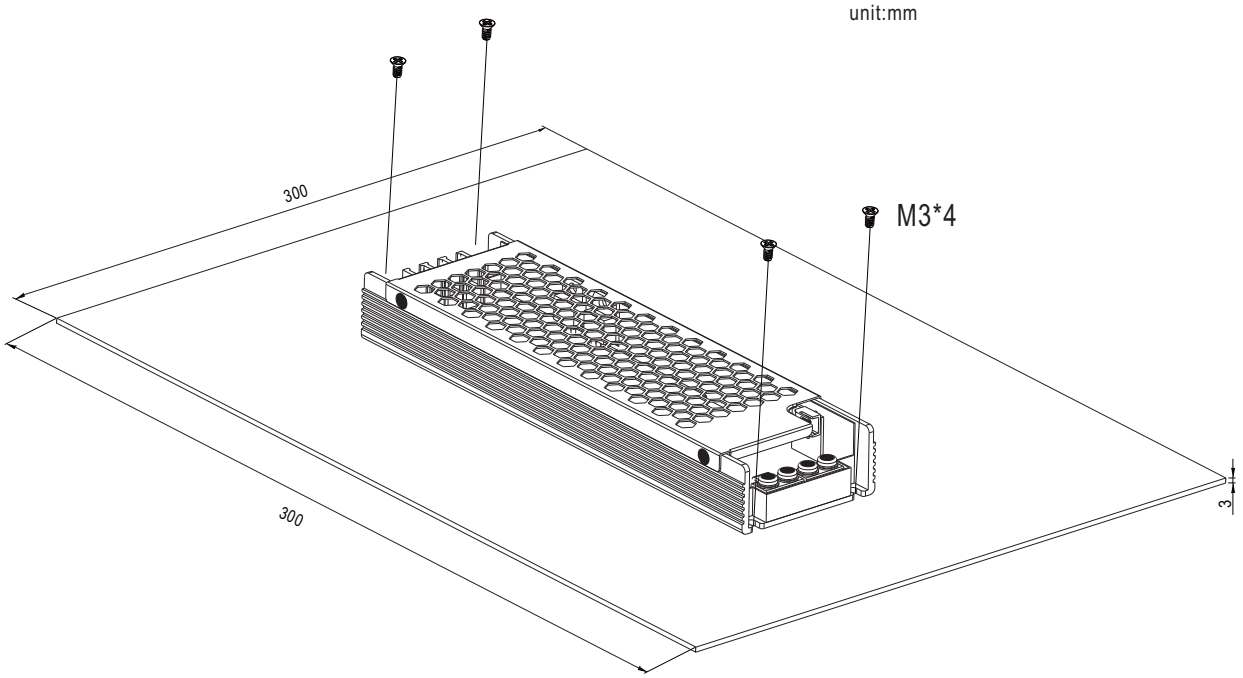
DC OK Connector(CN10):JST B2B-PH-K-S or requivalent

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



2.For heat dissipation, at least 5cm installation distance around the PSU should be kept, shown as below: