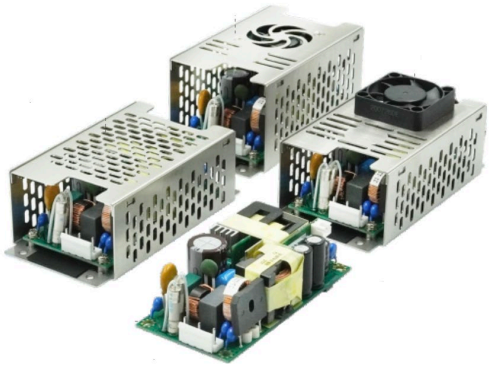
AC – DC

Features

- Wide Operating Voltage, 85 to 264VAC, 47 to 63 Hz
- Single Output from 12V to 48V
- Protection: OVP, OLP, OTP, SCP
- Input to Output:2MOPP
- High Surge Immunity
- Efficiency Up to 93%
- Peak 300W(90 to 264 VAC)
- 3-Year Warranty for Power Supply



Certified to UKCA, CE, cURus, CB, CCC, TUV, RoHS, REACH & IEC 60601-1/EN 60601-1/ES 60601-1/IEC 62368-1/EN 62368-1/UL 62368-1 Standards and complies with the relevant Efficiency Regulations. These are primarily used in Medical, ITE, Audio & Video Industries and customised solutions are available upon request.

Rating Chart - 50HBU250-xy

Model No.	Voltage Range		Output Current			Maximum Output Power	Ripple & Noise (Vo)	Load Regulation (Vo)	Typ. No Load	Typ. Eff
	Vo	Fan Output	Vo		Fan Output					
			Max1	Max2						
	(VDC)	(VDC)	(A)	(A)	(A)	(W)	(mVp-p max.)	(%)	(W)	(%)
50HBU250-105	12.0	12.0	12.50	20.83	0.5	250	108	±3	0.21	91
50HBU250-106	15.0	12.0	10.00	16.66	0.5	250	135	±3	0.21	91
50HBU250-107	19.0	12.0	7.89	13.15	0.5	250	170	±3	0.21	91
50HBU250-108	24.0	12.0	6.25	10.41	0.5	250	210	±3	0.21	92
50HBU250-109	30.0	12.0	5.00	8.32	0.5	250	270	±3	0.21	92
50HBU250-110	36.0	12.0	4.16	6.94	0.5	250	300	±3	0.21	93
50HBU250-111	48.0	12.0	3.12	5.20	0.5	250	300	±3	0.21	93

* With 8 CFM Forced Air to max load
* Max.1: Convection cool, Max.2: Forced Air
* 0~2% Max.2 Load ripple≤2% Vo
* 50HEU250 series output for fan cannot be used.
* 0~4% Load ripple≤2% Vo

Rating Chart - 50HEU250-xy

Model No.	Voltage Range (Vo)	Output Current (Vo)	Maximum Output Power	Ripple & Noise	Load regulation	Typ. No Load Consumption	Typ. Eff
	(VDC)	(A)	(W)	(mVp-p max.)	(%)	(W)	(%)
50HEU250-105	12.0	10.00	120	108	±3	0.21	91
50HEU250-106	15.0	8.00	120	135	±3	0.21	91
50HEU250-107	19.0	6.31	120	170	±3	0.21	91
50HEU250-108	24.0	5.00	120	210	±3	0.21	92

Ideal Power Limited
14 Larks Way, Tree Beech Enterprise Park, Gunn, Barnstaple, Devon, England, EX32 7NZ.
www.idealpower.co.uk | salessupport@idealpower.co.uk | +44 (0) 1733 309865

50HEU250-109	30.0	4.00	120	270	±3	0.21	92
50HEU250-110	36.0	3.33	120	300	±3	0.21	93
50HEU250-111	48.0	2.50	120	300	±3	0.21	93

* Under convection cool, fan output cannot be used.
* Temperature-controlled fan output voltage: 7V-12V

Rating Chart - 50HEU250A-F-xy/50HEU250B-F-xy

Model No.	Voltage Range (Vo)	Output Current (Vo)	Maximum Output Power	Ripple & Noise	Load regulation	Typ. No Load Consumption	Typ. Eff
	(VDC)	(A)	(W)	(mVp-p	(%)	(W)	(%)
50HEU250A-105F 50HEU250B-105F	12.0	20.83	250	108	±3	3	91
50HEU250A-106F 50HEU250B-106F	15.0	16.66	250	135	±3	3	91
50HEU250A-107F 50HEU250B-107F	19.0	13.15	250	170	±3	3	91
50HEU250A-108F 50HEU250B-108F	24.0	10.41	250	210	±3	3	92
50HEU250A-109F 50HEU250B-109F	30.0	8.32	250	270	±3	3	92
50HEU250A-110F 50HEU250B-110F	36.0	6.94	250	300	±3	3	93
50HEU250A-111F 50HEU250B-111F	48.0	5.20	250	300	±3	3	93

* With 8 CFM Forced Air
* 0~2% Load ripple≤2% Vo

Electrical Characteristics

Characteristic	Condition	Min.	Typ.	Max.	Unit
Safety Approval Input Voltage Range	Safety Approval & Specification in Label	100	--	240	VAC
Input Operate Voltage Range	See Fig.1 for Detail	85	--	264	VAC
Input Frequency	Sine Wave	47	--	63	Hz
Power Factor Correction	Io=Full Load, Vin=Vins	0.9	--	1	
Output Power Range	See Rating Chart	--	--	250	W
Low Line Input Current	Full Load, Vin=100VAC	--	3.1	--	A
High Line Input Current	Full Load, Vin=240VAC	--	1.3	--	A
Low Line Input Inrush Current	Full Load, 25°C, Cool Start, Vin=100VAC	--	--	20	A
High Line Input Inrush Current	Full Load, 25°C, Cool Start, Vin=240VAC	--	--	40	A
Safety Ground Leakage Current	Vin=240VAC, Fi=60Hz	--	0.25	--	mA
Efficiency	Full Load, Vin=230VAC, See Rating Chart for Detail	See Rating Chart			
Line Regulation	Full Load, Vin=100~120VAC or 200~240VAC	--	--	1	%
Over Temperature Protection	Main Nominal Output, Recovers Automatically when the Fault Condition is Removed				
Over Voltage Protection	Main Nominal Output, Latch Protection	112	--	132	%
Over Load Protection	Recovers Automatically when the Fault Condition is Removed @250W	120	--	150	%
Time of Transient Response	Io=Full Load to Half Load, Vin=110VAC	--	--	4	ms
Hold-Up Time	Full Load, Vin=110VAC@250W	--	--	10	ms
Start-Up Time	Full Load, Vin=100~240VAC	--	1	--	s
Insulation Resistance		50	--	--	MΩ
Temperature Coefficient	All Condition	--	--	±0.04	%/°C

Dielectric Withstanding Voltage (P-S)	Primary to Secondary, Limit Current <10mA	--	--	4000	VAC
Dielectric Withstanding Voltage (P-G)	Primary to PE, Limit Current <10mA	--	--	1500	VAC
EMC Emission	Compliant with EN55011 (CISPR11), EN60601-1-2, EN55032(CISPR 32)	B	--	--	Class

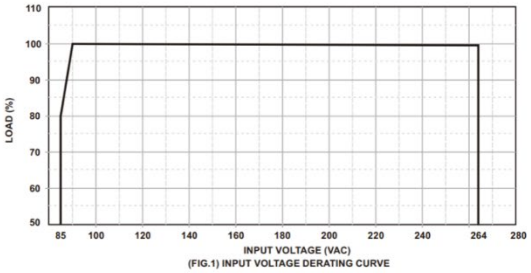
Environmental

Characteristic	Condition	Min.	Typ.	Max.	Unit
Operating Temperature	See Fig.2 for Detail (Derate Linearly from 100% Load at 50°C to 50% Load at 70°C)	-40	--	70	°C
Storage Temperature	10 ~ 95% RH	-40	--	85	°C
Operating Humidity	Non-Condensing	0	--	95%	RH
Storage Humidity		0	--	95%	RH
Electrostatic Discharge	Air Discharge, IEC61000-4-2	--	--	15	kV
Electrostatic Discharge	Contact Discharge, IEC61000-4-2	--	--	8	Kv
Mean Time Between Failure	Operating Temperature at 25°C, Nominal Line, Calculated per MIL-HDBK-217F	300k	--	--	h
Operating Altitude (Elevation)		--	--	5000	m
Vibration	10 ~ 500Hz, 10min./1Cycle, 60min. Each Along X, Y, Z Axes	--	--	5	G
Surge Voltage	Line-Neutral	--	--	1	kV
Surge Voltage	Line-PE & Neutral-PE	--	--	2	kV

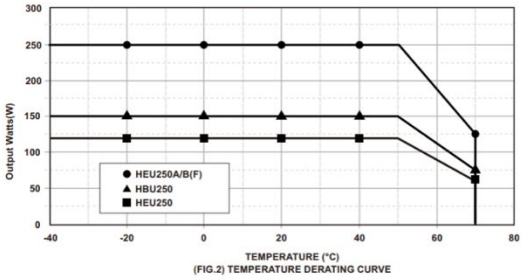
Specification Note:

1.50HEU250A-F-xy and 50HEU250B-F-xy series support a peak load of 3 sec. max of 300 W for 3 seconds in every 13 seconds. (Refer FIG 3.)
2. 50HBU250-xy and 50HEU250-xy series support a peak load of 3 sec. max of 300 W for 3 seconds in every 30 seconds. (Refer FIG 4.)
3.At the factory, in 60% rated load condition, each output is checked to be within voltage accuracy.
4.Line regulation is defined by changing ±10% of input voltage from the nominal line at the rated load.
5.Load regulation is defined by changing ±40% of measured output load from 60% rated load.
6. The ripple is measured from peak to peak with a bandwidth limit of 20MHz (Measured at the output connector with a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor).
7. Hold-up time is measured from the end of the last charging pulse to the time at which the main output drops down to low limit of the main output at the rated load and nominal line.
8. Efficiency is measured at rated load and nominal line.
9. Compliance with the requirement of EMC (Class II equipment) shall insert the appropriate ferrite core, please contact us for more information.

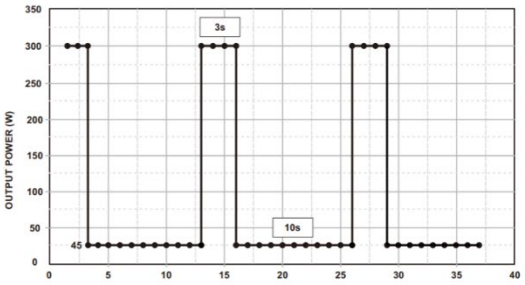
Characteristic Curves



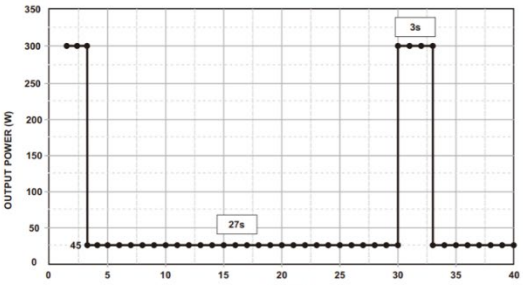
(FIG.1) INPUT VOLTAGE DERATING CURVE



(FIG.2) TEMPERATURE DERATING CURVE



(FIG.3) PEAK CYCLE DIAGRAM



(FIG.4) PEAK CYCLE DIAGRAM

Safety Standards

Safety	IEC 62368-1 Edition 2.0, IEC 62368-1 Edition 3.0, EN 62368-1, UL62368-1, CAN/CSA-C22.2 NO.62368-1, IEC 60601-1 Edition 3.1, IEC 60601-1 Edition 3.2, EN60601-1, ANSI/AAMI ES60601-1, CAN/CSA-C22.2 NO. 60601-1

EMC Specifications

Emission

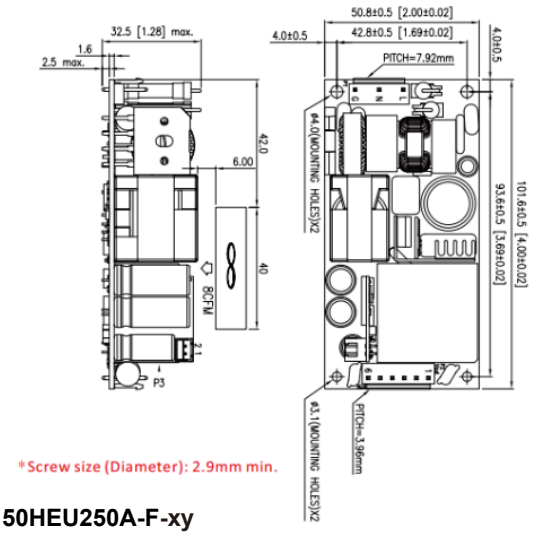
Item	Standard	Result
Conducted	EN 55011, EN 55032	CLASS B
Radiated	EN 55011, EN 55032	CLASS B
Harmonics	EN 61000-3-2	CLASS A, CLASS D
Flicker	EN 61000-3-3	PASS

Immunity

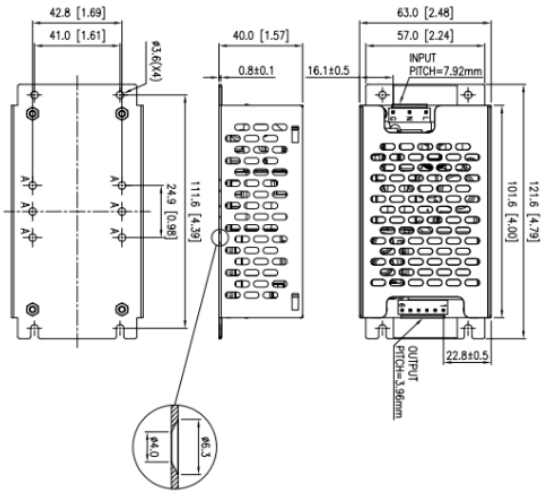
Item	Standard	Result	Criterion
ESD	IEC 61000-4-2	15KV air discharge, 8KV contact discharge	A
RS	IEC 61000-4-3	PASS	A
EFT	IEC 61000-4-4	Power line 2KV, 5 or 100KHz	A
SURGE	IEC 61000-4-5	1KV line to line 2KV line to PE	A
CS	IEC 61000-4-6	3Vrms, 6Vrms	A
PFMF	IEC 61000-4-8	30A/m,50Hz	A
Voltage dips	IEC 61000-4-11	I) 100% reduction for 0.5 cycle at 50Hz	A
		ii) 100% reduction for 1 cycle at 50Hz	A
		iii) 30% reduction for 25/30 cycles at 50/60Hz	A
Voltage interruptions	IEC 61000-4-11	100% reduction for 250/300 cycles at 50/60Hz	B

Mechanical Drawings

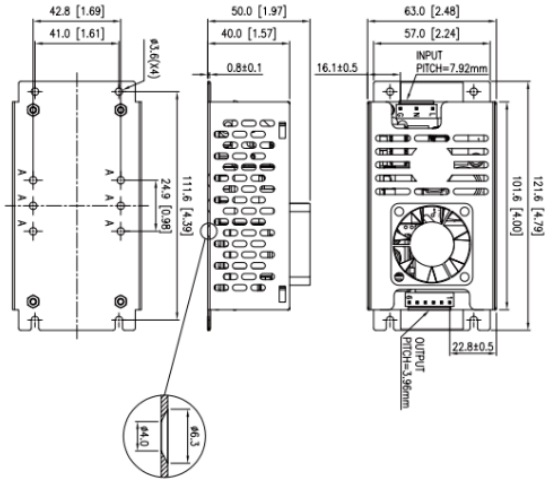
50HBU250-xy
Net Weight: 200g approx



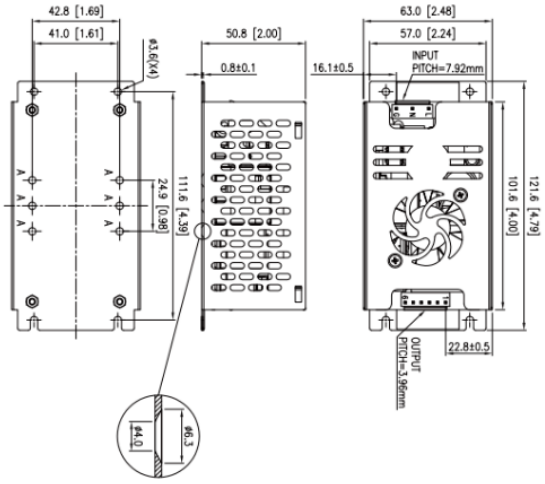
50HEU250-xy
Net Weight: 325g approx



50HEU250A-F-xy
Net Weight: 330g approx



50HEU250B-F-xy
Net Weight: 340g approx



Pin Chart

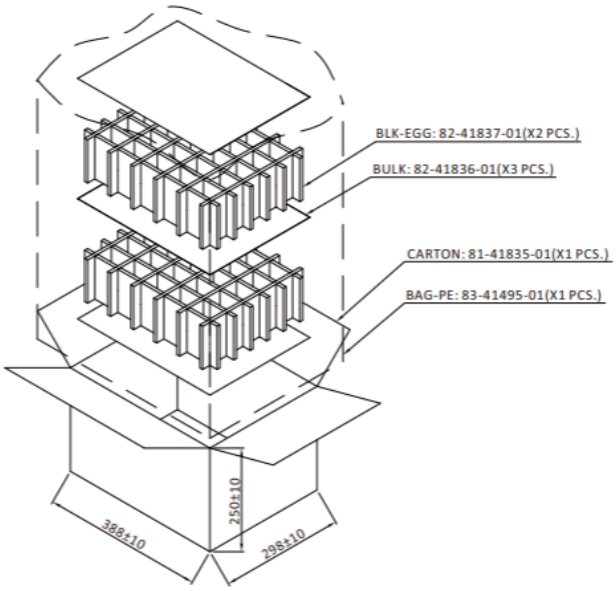
Model	Connector Definition	Pin					
		1	2	3	4	5	6
50HBU250	P2 Single Output	OUT	OUT	OUT	RTN	RTN	RTN
50HEU250	P3 Fan Output	OUT	RTN	--	--	--	--
50HEU250A-F 50HEU250B-F	P2 Single Output	OUT	OUT	OUT	RTN	RTN	RTN

OUTPUT CABLE REMARK:

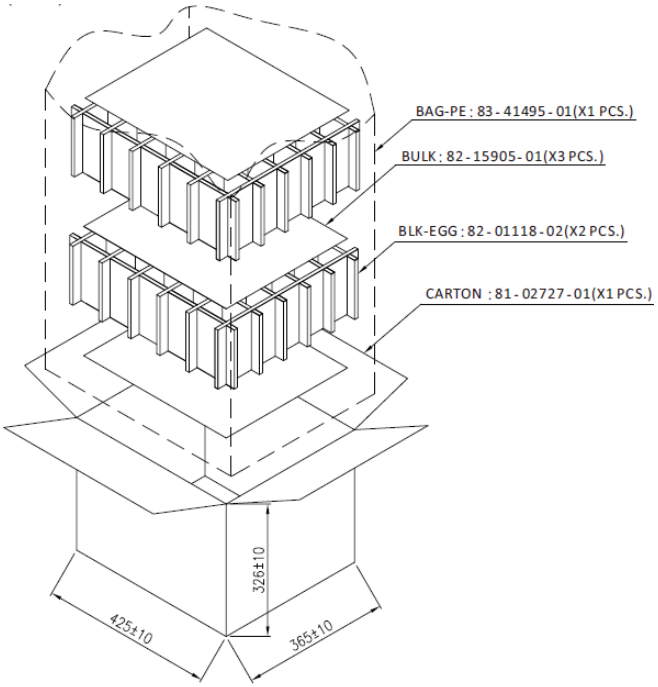
1. Input connector mates with JST housing VHR-5N and JST SVH series crimp terminal.
2. Output connector mates with JST housing VHR-6N and JST SVH series crimp terminal.
3. Fan connector mates with JOINT_TECH housing A2501H-02P-N and JOINT A2501-XX-A series crimp terminal.
4. Fan comes with a 1-year warranty. The specifications of the fan are: (1) DC FAN, YEN_SUN, #FD124010EB (2) DC FAN, SUNON, MF40101V1-10000-A99

Standard Packaging

STANDARD PACKAGING - 50HBU250 : (UNIT: mm)
Power Supplies per Box (full box): 50 PCS.(5X5X2)
Box Dimensions: L38.8*W29.8*H25cm
Gross Weight (full box): 11 KG
Packaging Part No: 84-40619-01



STANDARD PACKAGING - 50HEU250 / 50HEU250A-F / 50HEU250B-F : (UNIT: mm)
Power Supplies per Box (full box): 50 PCS.(5X5X2)
Box Dimensions: L43*W37*H33 cm
Gross Weight (full box): 50HEU250: 17.2 KG
50HEU250A-F: 17.8 KG 50HEU250B-F: 18.3 KG
Packaging Part No: 84-40676-01



Note: The above packing is for reference only. Please contact sales for confirmation.