

Features

80–264V AC / 113–370V DC Wide Input
 Built-In Active PFC
 No-Load Consumption <0.5W
 4000V Isolation Voltage
 1.5x Overload For 3 Seconds
 12V Auxiliary Fan Supply
 Class I And Class II Applications
 -40°C to +80°C Operation
 Screw Terminal Block or Pin Header
 1.5x Overload Capability
 UVP, SCP, OVP, OCP, OTP
 4 x 2" compact size
 3 Year Warranty

64CLB-300x-yP Series

300W Industrial AC/DC Power Supply (PSU)

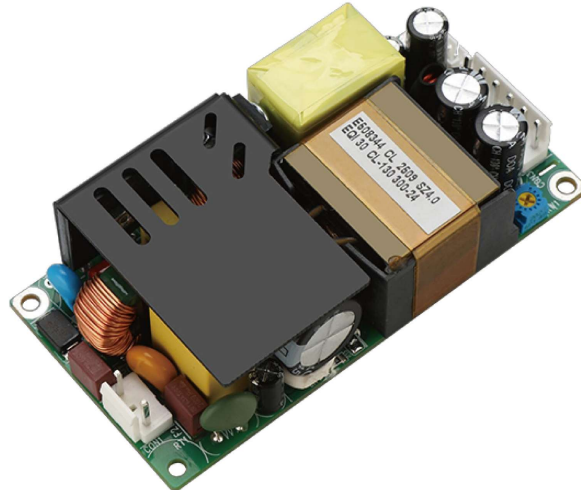


Image for illustration purposes only.



Description

The 64CLB-300x-yP is a 300W industrial AC/DC power supply on a 4 x 2 inch footprint, supplied as an open frame, baseplate or fully cased assembly under one series number. It accepts an 80–264V AC / 113–370V DC input with built-in active PFC and delivers a single potentiometer-adjustable DC output at 12, 15, 18, 24, 27, 36, 48 or 54V DC with efficiency up to 94% and 4000V AC input to output isolation. The 300W rating applies with 10.98CFM of forced air; around 180W is available under natural air convection, with a 12V auxiliary output provided to run that fan.

Protection covers input undervoltage, overload, short circuit, overvoltage and over-temperature, and the unit will support 1.5x rated output for 3 seconds continuously. Operating range is -40°C to +80°C and the manufacturer states an MTBF of 300,000 hours. Typical applications include industrial control, machine building, instrumentation, industrial automation and semiconductor equipment; the manufacturer excludes IT equipment from its stated applications. If you cannot find what you need, contact us for alternative or custom-made options.

Part Number Breakdown

64CLB	300	x	y	P(blank)	P-0P
Series Name	Output Power	Appearance Style: (blank): Open Frame B: Baseplate C: Case	Output Voltage	Screw Terminal Block	Pin-headed Terminal

Models

Part Number	Output Voltage (V DC)	Adjustment Range (V DC)	Output Power (W) Conv. / 10.98CFM		Output Current (A) Conv. / 10.98CFM		Ripple & Noise (mV)	Efficiency (Typ. %)	Max. Capacitive Load (µF)
64CLB-300x-12P (-0P)	12	11.4–12.6	180.00	300.00	0–15.00	0–25.00	120	92.5	6000
64CLB-300x-15P (-0P)	15	14.3–15.8	180.00	300.00	0–12.00	0–20.00	150	93	5000
64CLB-300x-18P (-0P)	18	17.1–18.9	180.00	300.60	0–10.00	0–16.70	180	93.5	4000
64CLB-300x-24P (-0P)	24	22.8–25.2	180.00	300.00	0–7.50	0–12.50	200	93	3200
64CLB-300x-27P (-0P)	27	25.6–28.4	180.90	299.70	0–6.70	0–11.10	200	93	2600
64CLB-300x-36P (-0P)	36	34.2–37.8	180.00	299.80	0–5.00	0–8.30	250	94	2000
64CLB-300x-48P (-0P)	48	45.6–50.4	182.40	302.40	0–3.80	0–6.30	250	94	2000
64CLB-300x-54P (-0P)	54	52.0–58.0	183.60	302.40	0–3.40	0–5.60	250	94	2000

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	80V AC	-	264V AC	
Rated Input AC Voltage	100V AC	-	240V AC	
Input DC Voltage	113V DC	-	370V DC	
Input Frequency	47Hz	-	63Hz	
Input Current	-	-	3.5A	115V AC, full load
	-	-	1.8A	230V AC, full load
Power Factor	-	0.98	-	115V AC, full load
	-	0.95	-	230V AC, full load
Leakage Current	-	-	500µA	Earth, 240V AC / 50Hz
	-	-	70µA	Touch, 240V AC / 50Hz
Inrush Current	-	40A	-	115V AC, cold start
	-	80A	-	230V AC, cold start
No-Load Input Power Consumption	-	-	0.5W	

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-2%	-	+2%	12V, 15V, 18V and 24V
Output Voltage Tolerance	-1%	-	+1%	27V, 36V, 48V and 54V
Line Regulation	-0.5%	-	+0.5%	All models
Load Regulation	-1%	-	+1%	All models
Turn-On Delay Time	-	-	1500mS	115V AC / 230V AC, full load
Rise Time	-	-	30mS	115V AC / 230V AC, full load
Hold-Up Time	16mS	-	-	Convection cooled, 115V AC / 230V AC, full load
	12mS	-	-	10.98CFM forced air, 115V AC / 230V AC, full load
Fan Auxiliary Power Supply	-	12V / 0.1A	-	Convection cooled. For external fan supply
	-	12V / 0.15A	-	With 10.98CFM forced air. For external fan supply
Temperature Coefficient	-0.02%/°C	-	+0.02%/°C	0 to 50°C

Protection

Parameter	Min.	Typ.	Max.	Notes
Input Undervoltage Protection	65V AC	70V AC	75V AC	Shutdown threshold
	70V AC	75V AC	80V AC	Recovery threshold, restarts automatically
Overcurrent Protection	105% Io	-	150% Io	Hiccup mode after 3 seconds of overload, automatic recovery
Overvoltage Protection	110% Vo	-	140% Vo	Hiccup mode or latching, automatic recovery
Overtemperature Protection	-	75°C	-	Output shutdown with automatic restart
Short Circuit Protection	-	-	-	Hiccup mode, automatic recovery once the fault is cleared
Overload Capability	-	1.5x	-	Rated output for 3 seconds continuously

Environmental Characteristics

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-40°C	-	+80°C	Refer to Derating Curve graph
Operating Humidity	20%RH	-	95%RH	Non-condensing
Storage Temperature	-40°C	-	+85°C	
Storage Humidity	10%RH	-	95%RH	Non-condensing

Safety Standards

Parameter	Specification
Safety Standards	UL 62368-1, ANSI/AAMI ES 60601-1, CAN/CSA C22.2 No. 62368-1:19, EN 62368-1, EN 60335-1, EN 61558-1, EN 61558-2-16, EN 60601-1, IEC 62368-1, IEC 60335-1, IEC 61558-1, IEC 61558-2-16, IEC 60601-1, GB 4943.1
Certifications	CE, cURus, CCC, CB, RoHS, REACH
Application Class	Suitable for Class I (with protective earth) and Class II (without protective earth) products. For Class I systems, positions 2 and 3 must be connected to protective earth
Dielectric Strength (Hi-pot)	Input to Output: 4000V AC Input to PE: 2000V AC Output to PE: 1500V AC Lasts for 60 seconds Leakage current <10mA
Insulation Resistance	Input to Output: 100MΩ Input to PE: 100MΩ Output to PE: 100MΩ Test Voltage: 500V DC
Isolation Level	Input to Output: 2 x MOPP Input to PE: 1 x MOPP Output to PE: 1 x MOPP

Electromagnetic Compatibility (EMC)

Parameter	Specification
Conducted Emission	FCC Part 15 (ANSI C63.4) Class B, EN 55032 Class B, GB/T 9254.1 Class B
Radiated Emission	FCC Part 15 (ANSI C63.4) Class B @ Class I & Class A @ Class II, EN 55032 Class B @ Class I & Class A @ Class II, GB/T 9254.1 Class B @ Class I & Class A @ Class II
Harmonic Current	EN 61000-3-2 Class A & Class D, GB/T 17625.1 Class A & Class D
Voltage Flicker	EN 61000-3-3
Electrostatic Discharge	EN 61000-4-2: air 15kV / contact 10kV, criteria A
Radiated RF Immunity	EN 61000-4-3: 80MHz to 1GHz, 10V/m, criteria A
Electrical Fast Transient	EN 61000-4-4: ±4kV, criteria A
Surge Immunity	EN 61000-4-5: Common Mode: ±4kV / Differential Mode: ±2kV, criteria A
Conducted RF Immunity	EN 61000-4-6: 10V RMS, criteria A
Power Frequency Magnetic Field	EN 61000-4-8: 30A/m continuous, criteria B
Voltage Dips and Interruptions	EN 61000-4-11: 100% drop for 0.5 periods criteria B, 20% drop for 250 periods criteria B, 30% drop for 25 periods criteria B, 100% interruption for 250 periods criteria C

Reliability

Parameter	Min.	Typ.	Max.	Notes
MTBF	300,000h	-	-	25°C, MIL-HDBK-217F
Warranty	-	3 years	-	

General Specifications

Parameter	Notes
Output Terminal Type	Screw terminal block or pin header terminal available
Input Connector	JST VH-3.96-3P on all versions. Mating part JST VHR housing with JST SVH-21T-P1.1 terminals or equivalent
Output Connector	40A copper terminal on the open frame and baseplate versions, JST VH-3.96-6P on the cased version. Mating part JST VHR housing with JST SVH-21T-P1.1 terminals or equivalent
Fan Connector (P2)	TKP8812-2 or equivalent. Mating part TKP2502 or equivalent
Cooling	Free air convection or 10.98CFM forced air

Weight & Dimensions

Parameter	Min.	Typ.	Max.	Notes
Dimensions, Open Frame	-	-	-	101.6 x 50.8 x 27.6mm (L x W x H)
Dimensions, Baseplate	-	-	-	105.3 x 54.5 x 32.6mm (L x W x H)
Dimensions, Case	-	-	-	103.4 x 62 x 40mm (L x W x H)
Net Weight	-	-	-	Open Frame: TBC Baseplate: TBC Case: TBC

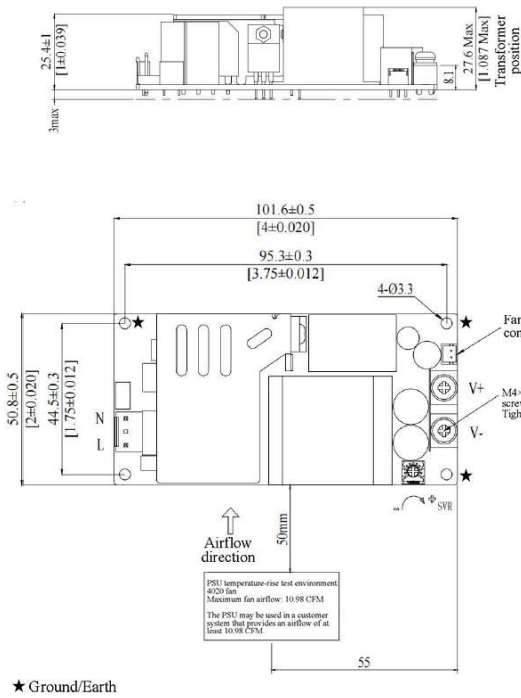
Packaging

Parameter	Min.	Typ.	Max.	Notes
Open Frame	-	60pcs	-	Qty./Carton
Baseplate	-	60pcs	-	Qty./Carton
Cased	-	60pcs	-	Qty./Carton
Open Frame Carton Size	-	-	-	505 x 460 x 210mm (L x W x H)
Baseplate Carton Size	-	-	-	505 x 460 x 210mm (L x W x H)
Cased Carton Size	-	-	-	545 x 355 x 250mm (L x W x H)
Carton Weights	-	-	-	TBC

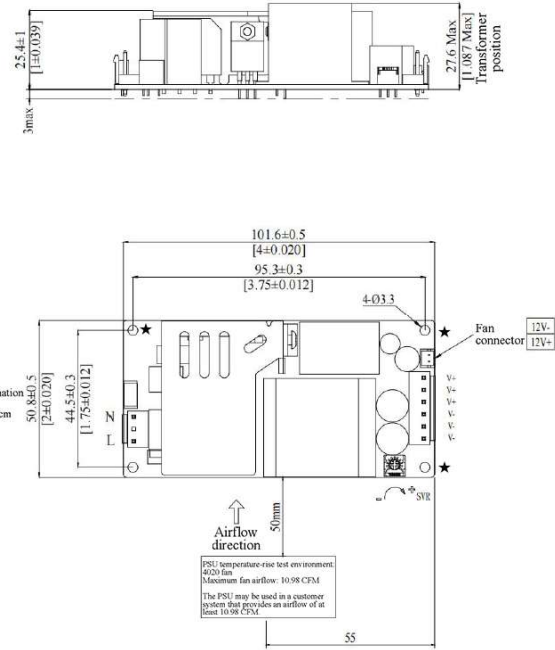
Mechanical Drawings

64CLB-300-yP:

CLB-300-YP-ZZ

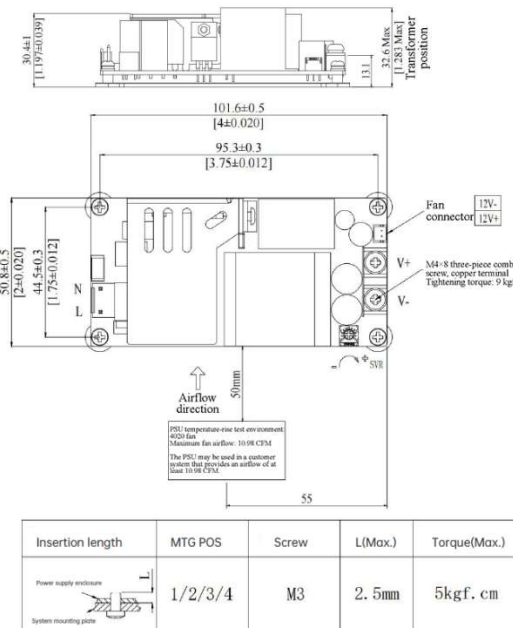


CLB-300-YP-P

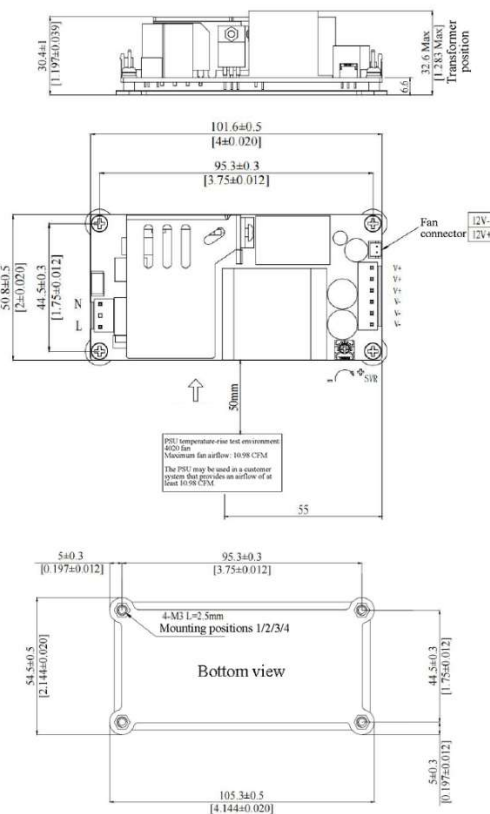


64CLB-300B-yP:

CLB-300B-YP-ZZ

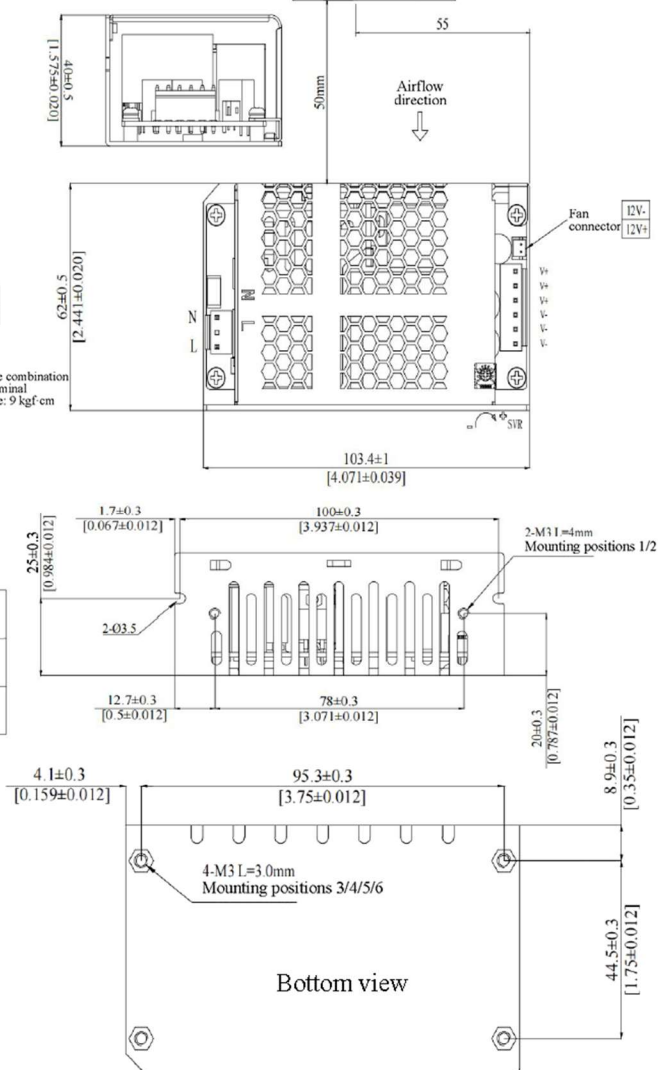


CLB-300B-YP-P



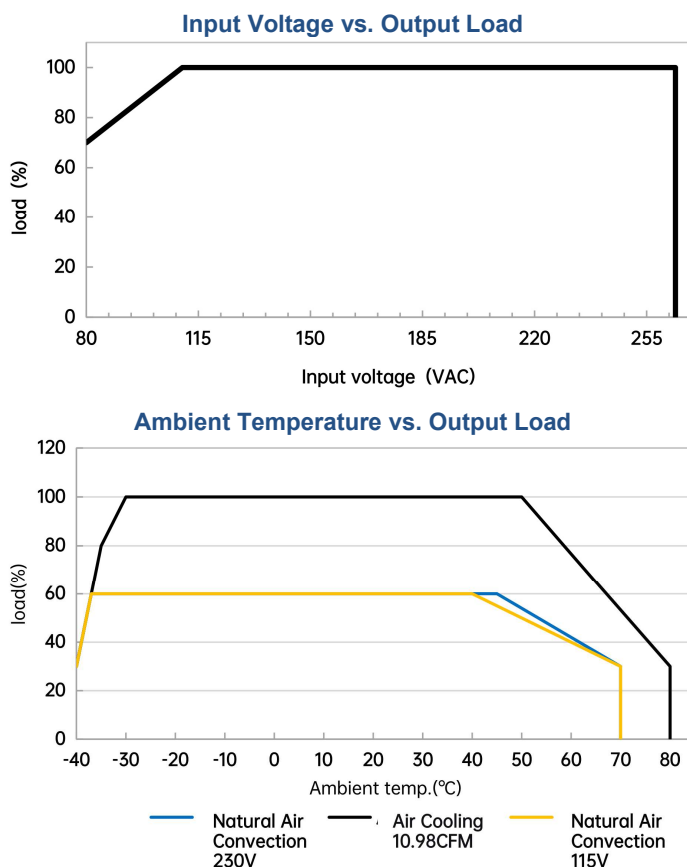
CLB-300C-YP-P

CLB-300C-YP-ZZ



Pin	Definition	Product Connector	Client Connector
1	AC Line (L)	VH-3.96-3P connector	Connector: JST VHR Connector terminal: JST SVH-21T-P1.1 or equivalent
2	No Connection (NC)		
3	AC Neutral (N)		
4	DC Output Positive (V+)	40A copper terminal	Cased version uses a VH-3.96-4P connector
5	DC Output Negative (V-)	VH-3.96-6P connector	Connector:JST VHR Connector terminal: JSTSVH-21 T-5 DC output - P1.1 or equivalent

Performance Graphs



If more detailed test data is needed during application, please contact Ideal Power.

Notes

1. Unless otherwise stated all parameters are measured at rated input voltage, full load and 25°C ambient temperature.
2. Ripple and noise are measured at the output terminals with a 0.1μF ceramic capacitor and a 10μF electrolytic capacitor connected in parallel at the end of the test leads, using twisted-pair leads of 20 ±2cm, an oscilloscope bandwidth of 20MHz, and the probe cap and ground clip removed.
3. EMC is tested with the power supply mounted on a 400 x 400 x 3mm metal plate. Electromagnetic compatibility must also be verified with the end equipment
4. Under any steady-state operating condition the total output power must not exceed the rated output power. Where the output voltage is increased the total output power must not exceed the rated output power; where the output voltage is decreased the output current must not exceed the rated output current.
7. Dielectric strength figures are minimum test values. Contact Ideal Power if a higher test standard is required.
8. Output power and output current depend on cooling. The 300W ratings apply with 10.98CFM of forced air; around 180W is available under free air convection.
9. Models under development are not listed. Contact Ideal Power for the current development status of any model not shown.