

Features

80–264V AC / 113–370V DC
 Wide Input
 Efficiency Up To 95%
 Built-In Active PFC
 12V Auxiliary Fan Output
 Remote Voltage Compensation
 -40°C to +80°C Operation
 UVP, SCP, OVP, OCP, OTP
 3 Year Warranty

64CLB-600x-yP Series

600W Industrial AC/DC Power Supply (PSU)



Image for illustration purposes only.



Description

The 64CLB-600x-yP is a 600W industrial AC/DC power supply supplied as an open frame, baseplate or fully cased assembly under one series number. Active power factor correction is built in, and a 12V auxiliary output allows an external fan to be fitted, so the same unit covers convection-cooled and forced-air installations. Remote sensing compensates for load line voltage drop, and the output voltage is adjustable across a defined range.

Built to IEC/EN 62368-1, IEC/EN 60335-1, IEC/EN 61558-1 and -2-16 and IEC/EN 60601-1, with EMC to EN 55032 and the EN 61000 immunity series, and RoHS compliant. These are primarily used in industrial control systems, mechanical and electrical equipment, electronic instruments, automation machinery, semiconductor equipment and ageing equipment, and customised solutions are available upon request.

Part Number Breakdown

64CLB	600	x	y	P
Series Name	Output Power	Appearance Style: (blank): Open Frame B: Baseplate C: Case	Output Voltage	Power Factor Correction

Models

Part Number	Output Voltage (V DC)	Adjustment Range (V DC)	Output Power (W) Conv. / 23CFM		Output Current (A) Conv. / 23CFM		Ripple & Noise (mV)	Efficiency (Typ. %)	Max. Capacitive Load (µF)
64CLB-600x-12P	12	11.4–12.6	360.0	600.0	0–30.0	0–50.0	120	93.0	6000
64CLB-600x-15P	15	14.3–15.8	360.0	600.0	0–24.0	0–40.0	150	93.5	6000
64CLB-600x-18P	18	17.1–18.9	360.0	599.4	0–20.0	0–33.3	180	94.0	6000
64CLB-600x-24P	24	22.8–25.2	400.8	600.0	0–16.7	0–25.0	200	94.0	6000
64CLB-600x-27P	27	25.6–28.4	399.6	602.1	0–14.8	0–22.3	200	95.0	4000
64CLB-600x-36P	36	34.2–37.8	399.6	601.2	0–11.1	0–16.7	250	95.0	3000
64CLB-600x-48P	48	45.6–50.4	398.4	600.0	0–8.30	0–12.5	250	95.0	2000
64CLB-600x-54P	54	52.0–58.0	399.6	604.8	0–7.40	0–11.2	250	95.0	1500

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	-	-	6.4A	115V AC, full load
	-	-	3.2A	230V AC, full load
Power Factor	-	0.98	-	115V AC, full load
	-	0.95	-	230V AC, full load
Leakage Current	-	-	500µA	240V AC / 50Hz (Earth)
	-	-	70µA	240V AC / 50Hz (Touch)
Inrush Current	-	40A	-	115V AC, cold start
	-	70A	-	230V AC, cold start
No-Load Power Consumption	-	-	0.5W	

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Voltage Tolerance	-2%	-	+2%	12V DC, 15V DC, 18V DC and 24V DC models
	-1%	-	+1%	27V DC, 36V DC, 48V DC and 54V DC models
Line Regulation	-0.5%	-	+0.5%	All models
Load Regulation	-1%	-	+1%	All models
Peak Power			3S	900W, 150%
Turn-on Delay Time	-	-	1500mS	115V AC / 230V AC, full load
Rise Time	-	-	30mS	115V AC / 230V AC, full load
Hold-up Time	12mS	20mS	-	Natural convection, 115V AC / 230V AC, full load
	10mS	16mS	-	23CFM forced air, 115V AC / 230V AC, full load
Cooling Method		12V / 0.2A		Natural convection environment
		12V / 0.5A		23CFM forced-air environment
Temperature Coefficient	-0.03%/°C	-	0.03%/°C	0 to 50°C

Protection

Parameter	Min.	Typ.	Max.	Notes
Undervoltage Protection, Threshold	70V AC	80V AC	90V AC	The output shuts down when the input voltage reaches the protection voltage
Undervoltage Protection, Recovery	75V AC	85V AC	95V AC	The supply recovers and restarts automatically when the input reaches the recovery voltage
Overcurrent Protection	105% Io	-	150% Io	Hiccup mode after 3 seconds of overload. The output recovers automatically once fault is removed
Overvoltage Protection	110% Vo	-	140% Vo	Hiccup mode or latching protection. The output recovers automatically when the fault is removed
Over-Temperature Protection	-	85°C	-	The output shuts down and restarts automatically when the temperature returns to normal
Short Circuit Protection	-	-	-	Hiccup mode protection. The supply resumes normal output automatically when the short circuit is cleared

Environmental Characteristics

Parameter	Min.	Typ.	Max.	Notes
Working Temperature	-40°C	-	+80°C	Refer to the Derating Curve graph
Working Humidity	20%RH	-	95%RH	Non-condensing
Storage Temperature	-40°C	-	+85°C	
Storage Humidity	10%RH	-	95%RH	Non-condensing
Altitude	-	-	5000m	Above 2000m the ambient temperature decreases by 0.5°C for every 100m increase in altitude
Vibration	-	-	-	10 to 500Hz frequency range, 2G acceleration, 10 minutes per sweep cycle, 6 sweep cycles along each of the X, Y and Z axes
Shock	-	-	-	20G acceleration, 11mS duration, 3 shocks along each of the X, Y and Z axes

Safety Standards

Parameter	Specification
Safety Standards	UL 62368-1, CAN/CSA C22.2 No. 62368-1:19, EN 62368-1, EN 60335-1, EN 61558-1/-2-16, IEC 62368-1, IEC 60335-1, IEC 61558-1, IEC 61558-2-16, GB 4943.1
Certifications (Per Unit Label)	RoHS, REACH
Overvoltage Category	III
Application Class	Suitable for Class I (with protective earth) and Class II (without protective earth) products. See the Electromagnetic Compatibility section for the radiated emission class in each case
Dielectric Strength (Hi-pot)	Input to Output: 4000V AC Input to PE: 2000V AC Output to PE: 1500V AC 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	EN 55032 Class B, FCC Part 15 (ANSI C63.4) Class B, GB/T 9254.1 Class B.
Radiated Emission	EN 55032 Class B @ Class I & Class A @ Class II, FCC Part 15 (ANSI C63.4) 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 Immunity	EN 61000-4-2, air 15kV / contact 10kV, criteria A
Radio Frequency Electromagnetic Field Immunity	EN 61000-4-3, 80MHz to 1GHz, 10V/m, criteria A
Electrical Fast Transient / Burst Immunity	EN 61000-4-4, ± 4 kV, criteria A
Surge Immunity	EN 61000-4-5, common mode ± 4 kV / differential mode ± 2 kV, criteria A
Injected Currents Susceptibility	EN 61000-4-6, 10V RMS, criteria A
Power Frequency Magnetic Field Immunity	EN 61000-4-8, 30A/m continuous, criteria A
Voltage Dips and Short Interruptions Immunity	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	Min.	Typ.	Max.	Notes
Remote Sense Compensation	-	-	0.5V	Maximum load line voltage drop compensation. S+ and S- connect separately to the positive and negative load terminals
Power Good Signal	10mS	-	500mS	Optional. A TTL signal is output after a delay of 10mS to 500mS following power-on. Before the output falls to 90% of the rated value the PF signal turns the TTL signal off at least 1mS in advance. TTL 0 to 1V, TTH 2 to 5V

Weight & Dimensions

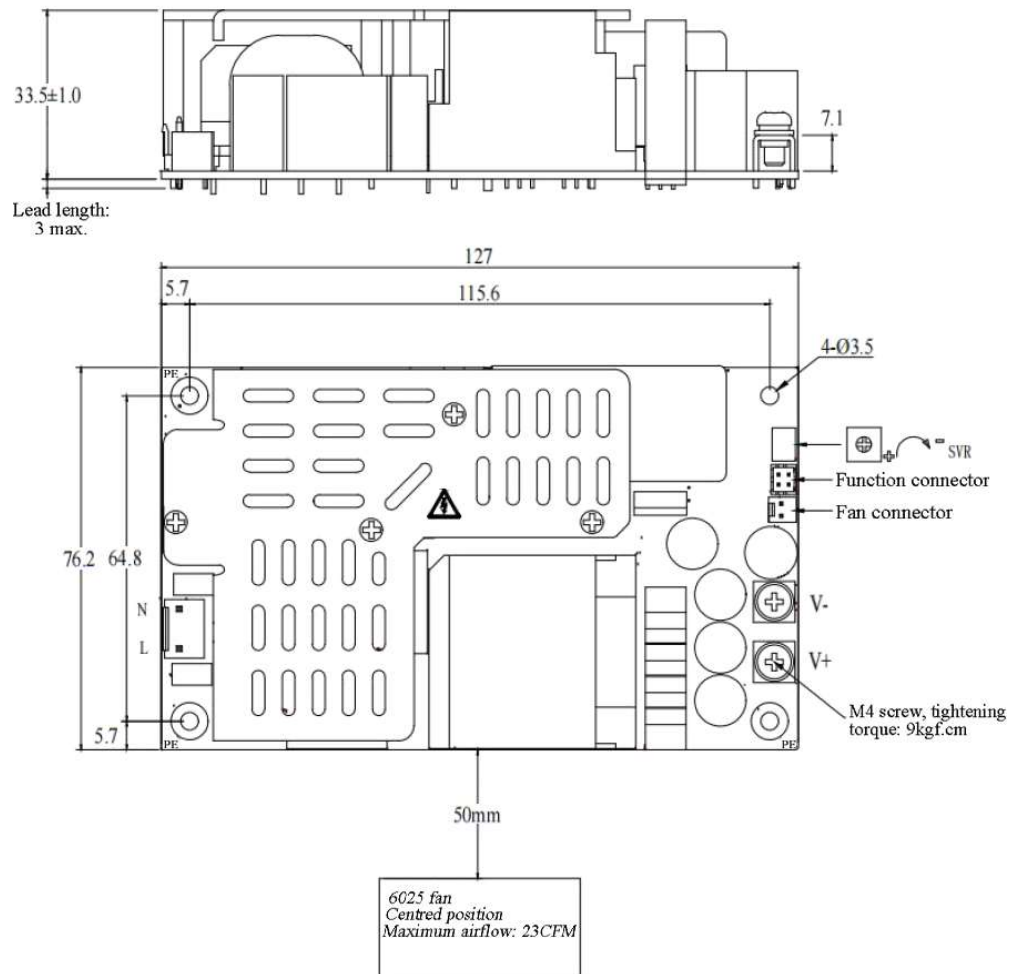
Parameter	Min.	Typ.	Max.	Notes
Dimensions, Open Frame	-	-	-	127 x 76.2 x 36.5mm (L x W x H)
Dimensions, Baseplate	-	-	-	127 x 76.2 x 38.5mm (L x W x H)
Dimensions, Case	-	-	-	130 x 86.6 x 43mm (L x W x H)
Net Weight, Open Frame	-	-	-	TBC
Net Weight, Baseplate	-	-	-	TBC
Net Weight, Case	-	440g	-	

Packaging

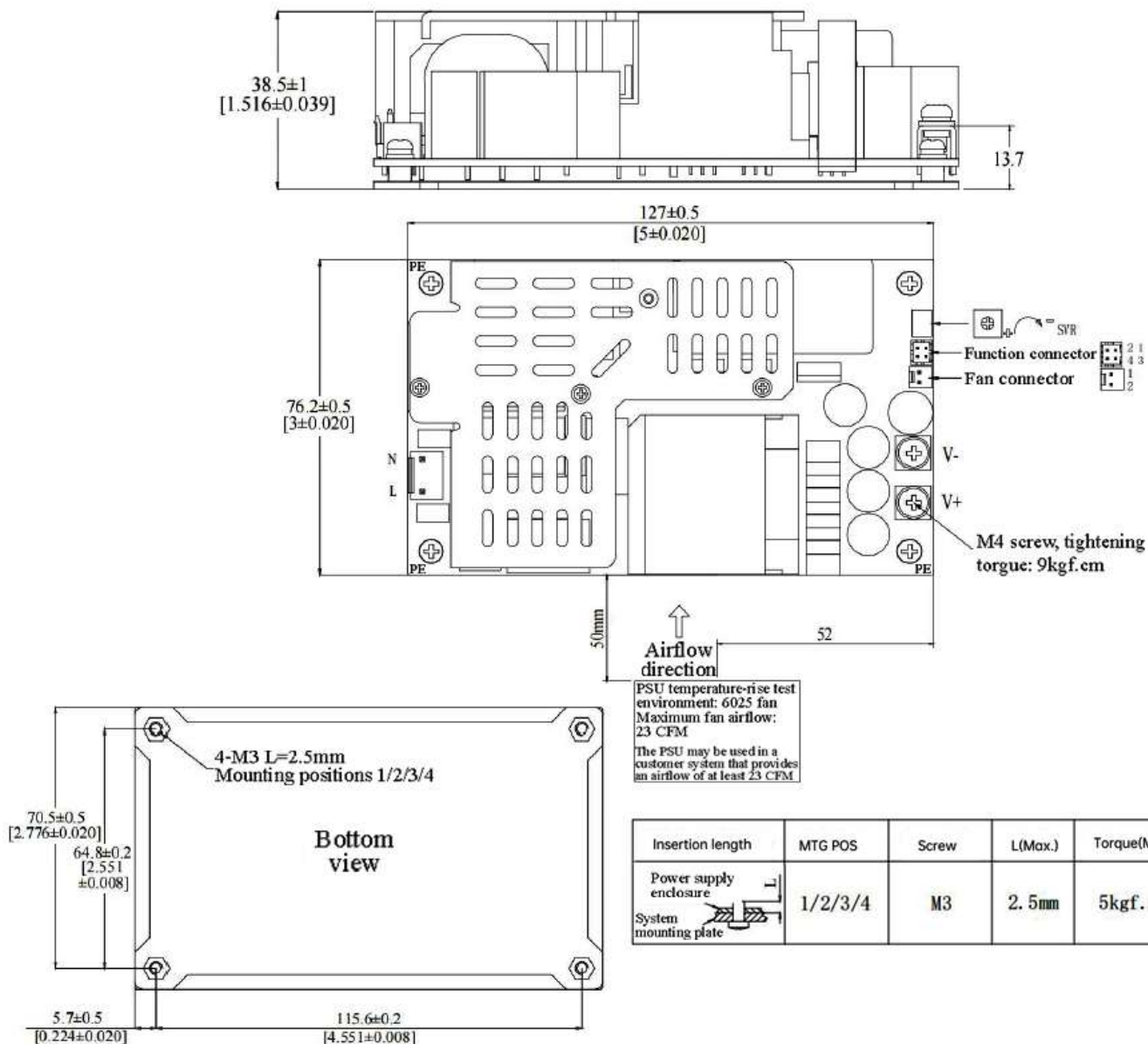
Parameter	Min.	Typ.	Max.	Notes
Quantity Per Carton, Open Frame	-	25pcs	-	Carton dimensions: 490 x 280 x 185mm
Quantity Per Carton, Baseplate	-	25pcs	-	Carton dimensions: 490 x 280 x 185mm
Quantity Per Carton, Case	-	20pcs	-	Carton dimensions: 325 x 255 x 200mm

Mechanical Drawing

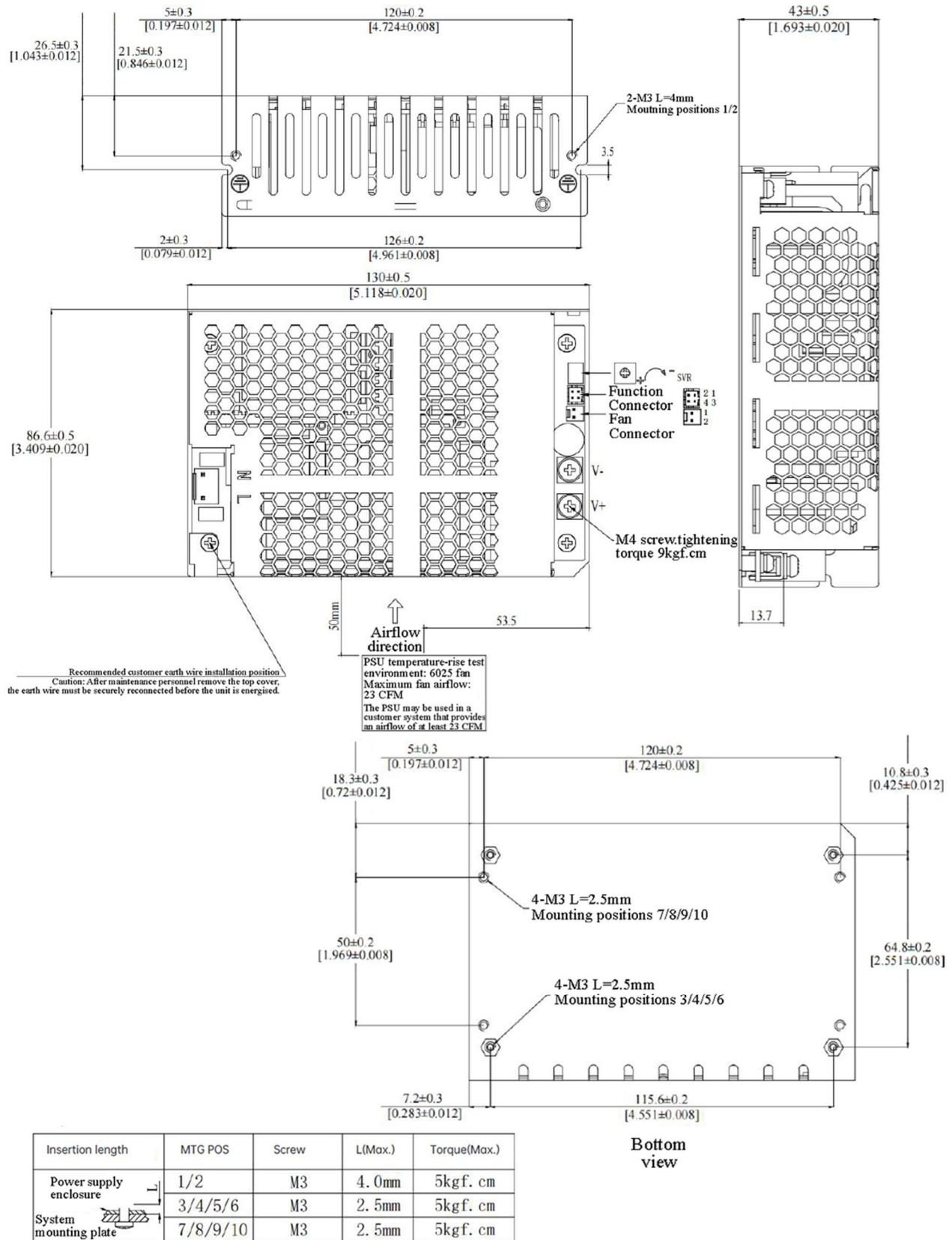
64CLB-600-yP:



64CLB-600B-yP:



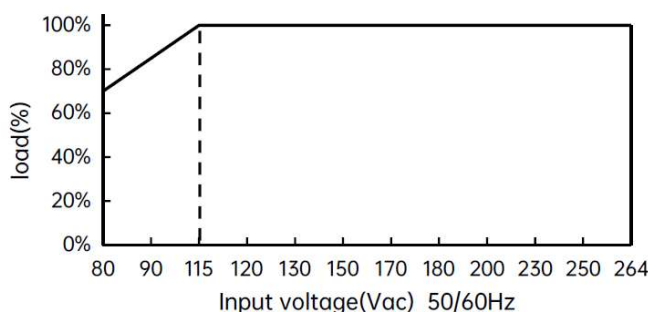
64CLB-600C-yP:



Temperature-rise testing used a 6025 fan at 23 CFM maximum airflow. The supply may be used where the customer system provides no less than 23 CFM. Allow 50mm clearance for the fan, centred on the position shown.

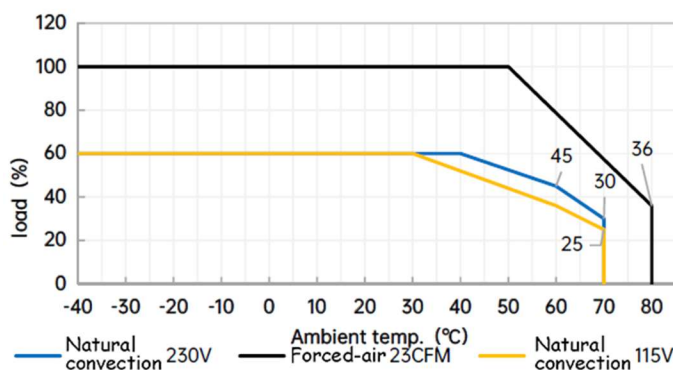
Performance Graphs

Input Voltage vs. Output Load

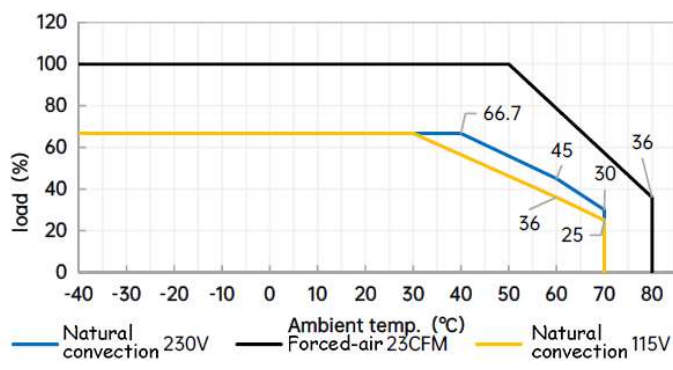


Ambient Temp. vs. Output Load(12-18V)

Ambient Temp. vs. Output Load(12-18V)



Ambient Temp. vs. Output Load(24-54V)



Notes

1. Unless otherwise stated all parameters are measured at rated input voltage, full load and 25°C ambient temperature, and all dimensions are in millimetres. Efficiency figures in the Models table are typical at 230V AC input.
2. Ripple and noise are measured at the output terminals with a 47µF electrolytic capacitor in parallel with a 0.1µF high frequency capacitor at the end of the test leads, using 20±2 cm twisted pair test leads, an oscilloscope bandwidth of 20MHz and the probe cap and ground clip removed. Under light load, at or below 8% of the rated output current, the ripple and noise figure increases to 1.8 times the value shown.
3. Under any steady state operating condition, the total output power must not exceed the rated output power. When the output voltage is increased the total output power must not exceed the rated output power; when the output voltage is decreased the output current must not exceed the rated output current.
4. The power supply is a component within the end system. All EMC testing is carried out with the sample installed on a metal plate 400mm long, 400mm wide and 3mm thick. Electromagnetic compatibility should be verified together with the end equipment.
5. The dielectric strength values are minimum values.
6. Conducted emissions: Both Class I (with PE) and Class II (without PE) products comply with Class B.
Radiated emissions: Class I (with PE) product complies with Class B; Class II (without PE) product complies with Class A.