

500 Watts

- 250 W Convection & 500 W Forced-cooled Ratings
- 5 V Standby Output
- Universal 80 - 264 VAC Input
- IT & Medical Safety Approvals
- -40° C to +70° C Operation
- Power Fail, Remote On/Off & Remote Sense
- Class B Emissions
- 3 Year Warranty



The GCU500 is packaged in a 3.3" x 6.5" x 1.55" package and achieves EN55011/32 Level B conducted emissions compliance whilst maintaining very low earth leakage currents, making it suitable for a wide range of 1U and other industrial, IT and medical applications.

The series has single output versions from 12 V to 48 VDC, dual-fusing for compliance with IEC60601-1 and features minimal waste heat as efficiencies reach 93%. The GCU500 delivers up to 500 W of power over an operating range of -40 °C to +70 °C and offers remote on/off control and power fail signal along with 5 V standby and fan supplies.

Dimensions:

GCU500:

3.30 x 6.50 x 1.55" (83.8 x 165.1 x 39.3 mm)

GCU500-EF:

3.30 x 8.24 x 1.64" (83.8 x 209.3 x 41.7 mm)

Models & Ratings

Output Voltage V1	Output Current V1		V Standby Output	V Fan Output ⁽¹⁾	Max Output Power	Model Number ⁽²⁾
	Convection-cooled	Forced-cooled & End Fan Version ⁽³⁾				
12.0 VDC	20.8 A	41.7 A	5.0 VDC/0.2 A	12.0 VDC/0.5 A	500 W	GCU500PS12
15.0 VDC	16.7 A	33.4 A	5.0 VDC/0.2 A	12.0 VDC/0.5 A	500 W	GCU500PS15
18.0 VDC	12.5 A	27.8 A	5.0 VDC/0.2 A	12.0 VDC/0.5 A	500 W	GCU500PS18
24.0 VDC	10.4 A	20.8 A	5.0 VDC/0.2 A	12.0 VDC/0.5 A	500 W	GCU500PS24
36.0 VDC	6.9 A	13.9 A	5.0 VDC/0.2 A	12.0 VDC/0.5 A	500 W	GCU500PS36
48.0 VDC	5.2 A	10.4 A	5.0 VDC/0.2 A	12.0 VDC/0.5 A	500 W	GCU500PS48

Notes

1. Overall Vfan tolerance 10.8-13.2 V

2. For end fan version add suffix -EF to model number.

3. Forced cooling requires 10CFM.

Summary

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage - Operating	80	115/230	264	VAC	Derate output power <90 VAC. See fig 1, 300 VAC for 5 s
No Load Input Power			1	W	115 VAC (when inhibited)
			6		230 VAC
Efficiency		92		%	230 VAC Full load
Operating Temperature	-40		+70	°C	See derating curve, fig. 9 & 10
EMC	EN55032 Level B Conducted & Radiated				
Safety Approvals	IE60950-1, IEC62638-1, EN62368-1, UL62368-1, CSA 22.2 No.6238-1, IEC60601-1, EN60601-1, ANSI/AAMI ES60601-1, CSA22.2 No.60601-1, LVD & RoHS, Equipment Protection Class I				
Weight		1.35 (612)		lb (g)	U Channel
		1.65 (748)			End Fan

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage - Operating	80	115/230	264	VAC	Derate output power <90 VAC. See fig 1, 300 VAC for 5 s
Input Frequency	47	50/60	63	Hz	
Power Factor		>0.9			230 VAC, 100% load
Input Current - Full Load		5.2/2.7		A	115/230 VAC
Inrush Current			60	A	264 VAC cold start 25 °C
No Load Input Power			1	W	115 VAC (when inhibited)
			6		230 VAC
Earth Leakage Current			270	µA	264 VAC/60 Hz
Input Protection	F8A/250V internal fuse in both lines.				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage - V1	12		48	VDC	See Models and Ratings table
Initial Set Accuracy			$\pm 1^{(V1)}$ & $\pm 3^{(VStby)}$	%	50% load, 115/230 VAC
Output Voltage Adjustment - V1	± 2			%	Via potentiometer. See mech. details, Vfan will track
Minimum Load	0			A	No minimum load required
Start Up Delay		1	2	s	115/230 VAC full load
Hold Up Time	10			ms	115/230 VAC full load
Drift			± 0.2	%	After 20 min warm up
Line Regulation			± 0.5	%	90-264 VAC
Load Regulation			± 0.5	%	0-100% load
Transient Response			4	%	Recovery within 1% in less than 500 µs for a 50-75% and 75-50% load step
Over/Undershoot			5	%	Turn On/Turn Off
Ripple & Noise - V1 & V Standby			1	% pk-pk	20 MHz bandwidth
Overvoltage Protection - V1	110		140	%	Vnom DC. Output 1, recycle input to reset
Overload Protection	110		150	% I nom	V1 - Trip and Restart / Hiccup mode
	0.8		1.2	A	VStandby - Trip and Restart / Hiccup mode VFan - Resetting. Fuse rated at 1.3 A at 25 °C
Short Circuit Protection					Continuous, no damage
Temperature Coefficient			0.02	%/°C	
Overtemperature Protection				°C	Measured internally, auto resetting
Remote Sense	Compensates for 0.25V per lead, 0.5V total.				

Input Voltage Derating Curve

Figure 1

