



Single Output 500W Power Supplies

Features	Benefits
• Compact & Flat 1U Design	• Easier System Integration
• Programmable Output Voltage	• Broad Range of Applications
• Peak Power Capability 120% (24 & 36V models)	• Lower Cost, Smaller Size
• Average Active Efficiency @ 230V: 90.3%	• ErP Compliant ⁽⁴⁾



Specification		
Model	GWS500	
AC Input Voltage	VAC	85 - 264VAC (300VAC for 5s)
Input Frequency	Hz	47 - 63Hz
DC Input Voltage	VDC	120 - 373VDC
Inrush Current (cold start)	A	20A/40A at 115VAC, 40A/40A at 230VAC, Ta=25°C (First Inrush/Second Inrush)
Power Factor (1)	-	Meets EN61000-3-2 (Typical PF 0.98/0.95) Class A, Class C > 35% Load
Input Current (115/230VAC)	A	4.5 / 2.3 (for 5V model) 5.5 / 2.7 (for other models)
Temperature Coefficient	°C	<0.02%/°C (0-50°C)
Overcurrent Protection	-	Hiccup (5V-12V models) Constant Current Limit (24V-48V models) >105% rated output power or >101% of peak output power
Overvoltage Protection (2)	V	5V: 5.75 - 6.75V, 7.5V: 8.6 - 10.1V, 12V: 13.8 - 16.2V, 24V: 30.3 - 35.5V, 36V: 41.4 - 48.6V, 48V: 60 - 69.6V
Overtemperature Protection (2)	-	Yes - Shutdown Output and Manual Reset (CNT or Re-power on)
Hold Up Time (115 / 230V input)	ms	12ms (5V-7.5V) - 16ms (12V-48V)
Leakage Current (230VAC 60Hz)	mA	<0.75mA
Remote Sense	-	Yes
Remote On/Off	-	Possible (Active Low)
Standby Input Power Draw (3)	W	<0.5W
5V Standby (always on)	-	5V 0.3A
DC Good	-	DC Good, open collector signal, High on Fail
LED Indicator	-	Green LED = On
Output Remote Programming	-	By external voltage. See installation manual for details
Operating Temperature	°C	-25°C to +70°C. Derate linearly to 50% load from +50°C to +70°C (-40°C start up)
Storage Temperature	°C	-30°C to +85°C
Operating Humidity	-	30 - 90% RH (non condensing)
Storage Humidity	-	10 - 95% RH (non condensing)
Cooling	-	Forced Air by Blower Fans
Withstand Voltage	-	Input - Output : 4.25kVDC (20mA), Input - FG : 2.25kVDC (20mA) Output - FG : 500VDC (100mA) For 1min.
Isolation Resistance	Ω	>100MΩ (500VDC) at 25°C & 70%RH
Vibration (non operating)	-	10 - 55Hz: 19.6m/s ² constant sweep 1 min X, Y, Z for 1 hour
Shock	-	<196.1 m/s ² (20G)
Immunity	-	Built To Meet EN61000-4-2 (Level 2,3), -3 (Level 3), -4 (Level 3), -5 (Level 3), -6 (Level 3), -8 (Level 4), -11
Safety Agency Approvals	-	Approved by UL60950-1, CSA C22.2 No.60950-1-07 (2nd Edition), EN60950-1, IEC60950-1 (2nd Edition), CE
Conducted & Radiated EMI	-	Built to meet EN55022-B, CISPR22-B
Weight (Typ)	g	1020
Size (L x W x H)	mm	218 x 105 x 41
Warranty	yrs	5

Notes: (1) 115 / 230VAC input (2) Recycle AC, or use remote on/off to reset (3) When remote off and 5V Aux supply @ no load (4) Excludes 5V and 7.5V models.

Model Selector

Model	Voltage (V)	Adjust ² Range (V)	Max Current (A)	Peak Curr. ¹ <10s (A)	Load Reg. (mV)	Line Reg. (mV)	Ripple Noise (mV)	Efficiency (typ) % (230VAC)
GWS500-5	5V	4.5 - 5.5	80	-	50	25	150	84
GWS500-7.5	7.5V	6.75 - 8.25	67.2	-	70	35	150	87
GWS500-12	12V	10.8 - 13.2	42	-	96	48	150	89
GWS500-24	24V	22 - 28.8	21	25.0	192	96	150	90
GWS500-36	36V	32 - 40	14	16.7	288	144	200	90
GWS500-48	48V	42 - 57.6	10.5	-	384	192	300	90

Notes: (1) Peak current 10seconds. 35% duty cycle max. (2) By trim pot provided. Wider adjustment is possible by external voltage control. See instruction manual for details.

Outline Drawing GWS500 Series

SIGNAL CONNECTOR INFORMATION

CN201 PIN ASSIGN
S12B-PHDSS(LF)(SN) (JST)

1.	+Vm
2.	+S
3.	-Vm
4.	-S
5.	DCOK
6.	COM
7.	SVSB
8.	5V COM
9.	CNT+
10.	CNT-
11.	FV
12.	COM

==SIGNAL CONNECTOR USED==

PART DESCRIPTION	PART NAME	MANUFACT
PIN HEADER	S12B-PHDSS(LF)(SN)	JST

==MATCHING HOUSINGS, PIN & TOOL==

PART DESCRIPTION	PART NAME	MANUFACT
SOCKET HOUSING	PHDR-12VS	JST
TERMINAL PINS	SPHD-002T-P0.5(AWG28-24) SPHD-001T-P0.5(AWG26-22)	JST
HAND CRIMPING TOOL	YRS-620(SPHD-002T-P0.5) YC-610R(SPHD-001T-P0.5)	JST

==ACCESSORIES==

- * SHORT PIECE -----1
SHORTING +Vm --- +S, -Vm --- -S, CNT+ --- CNT-
(ATTACHED ON CN201 AT SHIPMENT)
- * COVER FOR BARRIER TERMINAL STRIP -----1
(ATTACHED ON TERMINAL AT SHIPMENT)

NAME PLATE :

SCALE 1 : 1

NOTES:

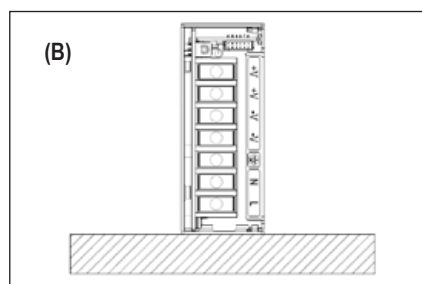
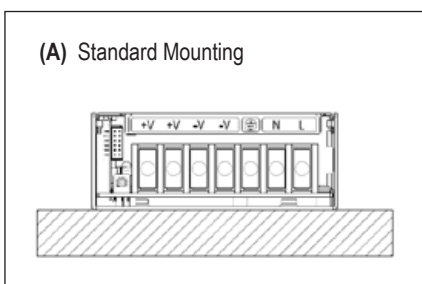
A. Model name, Input voltage range, Nominal output voltage, Maximum output current & country of manufacture are shown in accordance with the specification.

B. M4 tapped, embossed & countersunk holes (B) for customer chassis mounting. Screws must not protrude into power supply by more than 5mm

(unit : mm)

MODEL	GWS500
TDK-Lambda	
PA590-02-01	

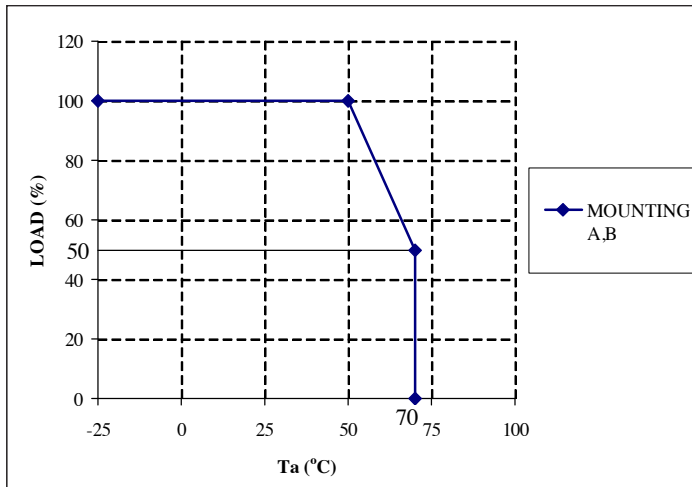
Mounting Options GWS500 Output Derating according to the Mounting Directions



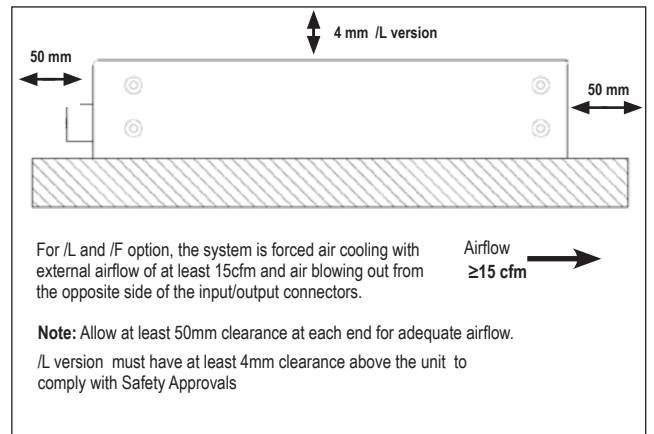
Mounting Method

Output Derating according to the Mounting Directions
Recommended standard mounting is Method (A).
Method (B) is also possible.

Output Derating Curve GWS500



Mounting Options GWS500 /L /F options



Options

Suffix	Description
/ T	OTP auto recovery after unit cools down
/ RL	Remote ON/OFF reverse logic (Active High)
/ BAT	Battery charging for 24V (21~29V/17.6A) & 48V (42~58V/8.8A) only
/ F	Full cover without internal fan but require external forced air cooling
/ L	Without cover but require external forced air cooling
/ CO2	Double side coated pcb

MOQs apply to Option models

Please contact your local TDK-Lambda sales office for details.

GWS500 Output Voltage External Control (PV)

Output voltage external control function is available. Output voltage can be varied by applying an external voltage (3–6V) to "PV" terminal and "COM" terminal.
See instruction manual for details.

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