

# GWS 500 Series

## Single Output AC/DC Power Supplies: 500W



Standard- GWS500



Alternative case



19in Rack Mount option

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

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) ClassA, Class C> 35% Load
Input Current (115/230VAC)	A	5.5 / 2.7
Temperature Coefficient	°C	<0.02%/°C (0-50°C)
Overcurrent Protection	-	Hiccup (12V model) Constant Current Limit (24V-48V models) >105% rated output power or >101% of peak output power
Overvoltage Protection (2)	V	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	16ms
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 <sup>2</sup> constant sweep 1 min X, Y, Z for 1 hour
Shock	-	<196.1 m/s <sup>2</sup> (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	-	IEC/EN/UL/CSA 60950-1 and IEC/EN/UL/CSA 62368-1, CE Mark
Conducted & Radiated EMI	-	EN55032-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

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Model Selector								
Model	Voltage (V)	Adjust <sup>2</sup> Range (V)	Max Current (A)	Peak Curr. <sup>1</sup> <10s (A)	Load Reg. (mV)	Line Reg. (mV)	Ripple Noise (mV)	Efficiency (typ) % (230VAC)
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:**

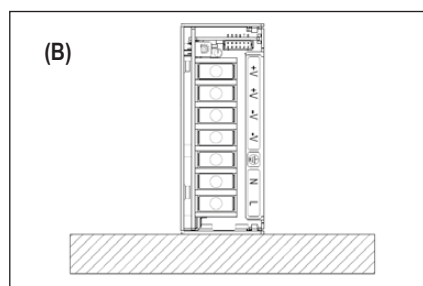
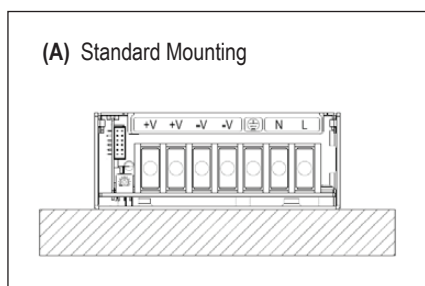
A. Model name, Input voltage range, Nominal output voltage, Maximum output current & country of manufacture are shown in accordance with the specification.

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



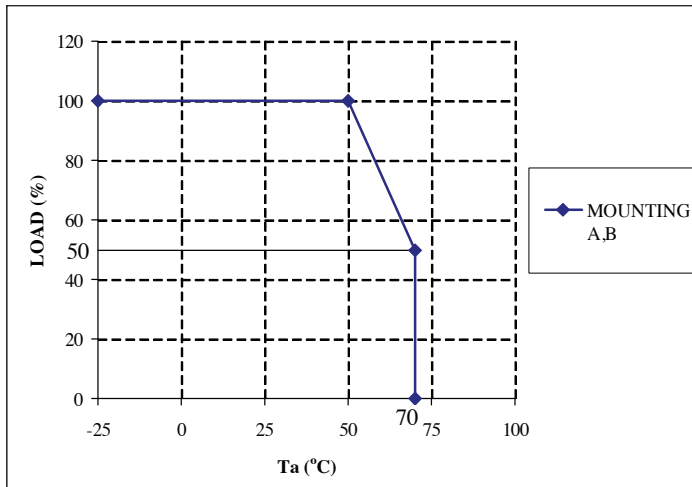
#### Mounting Method

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

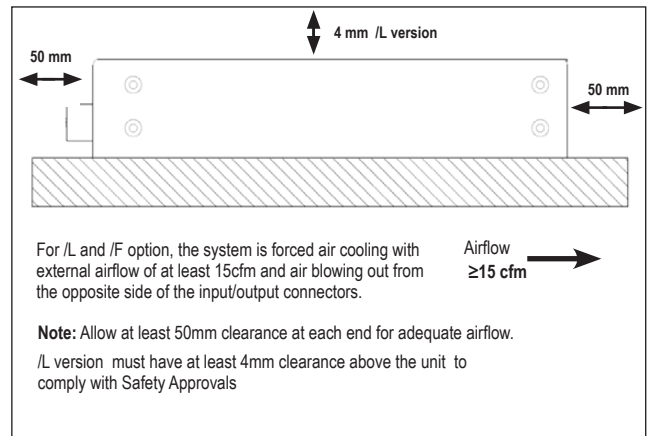
# GWS 500 Series

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**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.