https://product.tdk.com/en/power/hws-g
www.emea.lambda.tdk.com/hws3000g

Three phase input 3,000W Programmable CVCC AC-DC Power Supplies

Industrial Test LED Broadcast COMM

The compact HWS3000GT AC-DC power supplies can deliver 3,000W with a 3-three phase input voltage of 170- 265Vac. The nominal output voltages (24V, 48V, 60V or 130V) and output current are fully programmable from zero up to their maximum rating. This can be achieved using a serial RS485 interface (MODBus protocol) or analog 1-5V or 4-20mA signal. Up to three units can be connected in series and / or ten units in parallel. The HWS3000GT is packaged in a compact 270 x 150 x 61mm (10.6 x 5.9 x 2.4") footprint and has conservatively rated electrolytic capacitor temperatures for long field life. The warranty period is five years.

Features	Benefits
• Serial or Analog Programming (CV/CC)	• Choice of Programming Interfaces
• Series and/or Parallel Operation	• Scalable Voltage and Current
• Compact 270 x 150 x 61mm (10.6 x 5.9 x 2.4") Footprint	• Space Saving in End Equipment
• Single and Three Phase Models (See Related Products)	• Global Use

Model Selector

Model	Nominal Output Voltage (V)	Output Adjustment (Potentiometer) (V)	Output Adustment (Programming) (V)	Output Current (A) (3-phase 170 - 265Vac Input) (Programming)	Max Power (3-phase 170 - 265Vac Input) (W)	Efficiency (220 / 230Vac) (%)
HWS3000GT-24	24	19.2 - 28.8	0 - 28.8	0 - 125	3000	91
HWS3000GT-48	48	38.4 - 52.8	0 - 52.8	0 - 62.6	3004.8	92
HWS3000GT-60	60	48.0 - 66.0	0 - 66.0	0 - 50	3000	92
HWS3000GT-130	130	104.0 - 156.0	0 - 156.0	0 - 23.2	3016	93

HWS3000GT	-	24
Series		Output voltage 24, 48, 60, 130

Related Products

Type	Part Number(s)	Description
3kW Programmable Power Supplies	HWS3000G	Single phase 85 - 132 / 170- 265Vac input
100-800W Programmable Power Supplies	Z+ Low Voltage	Z+ 10V to 100V Programmable Power Supplies
100-800W Programmable Power Supplies	Z+ High Voltage	Z+ 160V to 650V Programmable Power Supplies

Specifications

Model		HWS3000GT-24	HWS3000GT-48	HWS3000GT-60	HWS3000GT-130
Input					
Input Voltage Range (Operating)	Vac	3-phase 170- 265			
Nominal Input Voltage Range	Vac	3-phase 200 - 240 (Note: Safety certified for 180 - 264Vac only)			
Input Frequency	Hz	47 - 63 (Note: Safety certified for 50-60Hz)			
Input Current at 200 / 230Vac	A	10	9.9	9.9	9.9
Inrush Current at 200Vac (Cold Start)	A	80 (at 2nd Inrush)			
Leakage Current	mA	<3 at 240Vac 60Hz			
Power Factor (200Vac)	-	0.95			
Harmonic Compliance	-	Meets IEC61000-3-2			
No Load Power Consumption	W	See evaluation data on website			
Hold Up Time (typ	ms	20 at 1500W load, 10 at 3000W			
Efficiency	-	See model selector			
Conducted & Radiated EMI	-	EN55032A, EN55011-A, FCC-A			
Immunity	-	IEC61000-6-2, IEC61000-4.2, -3, -4, -5, -6, -8, -11			
Insulation Class	-	Class I			
Safety Certifications and Markings	-	IEC/EN/UL/CSA62368-1, IEC/EN62477-1 (OVC III, 2,000m altitude). CE Mark and UKCA Mark			

Immunity

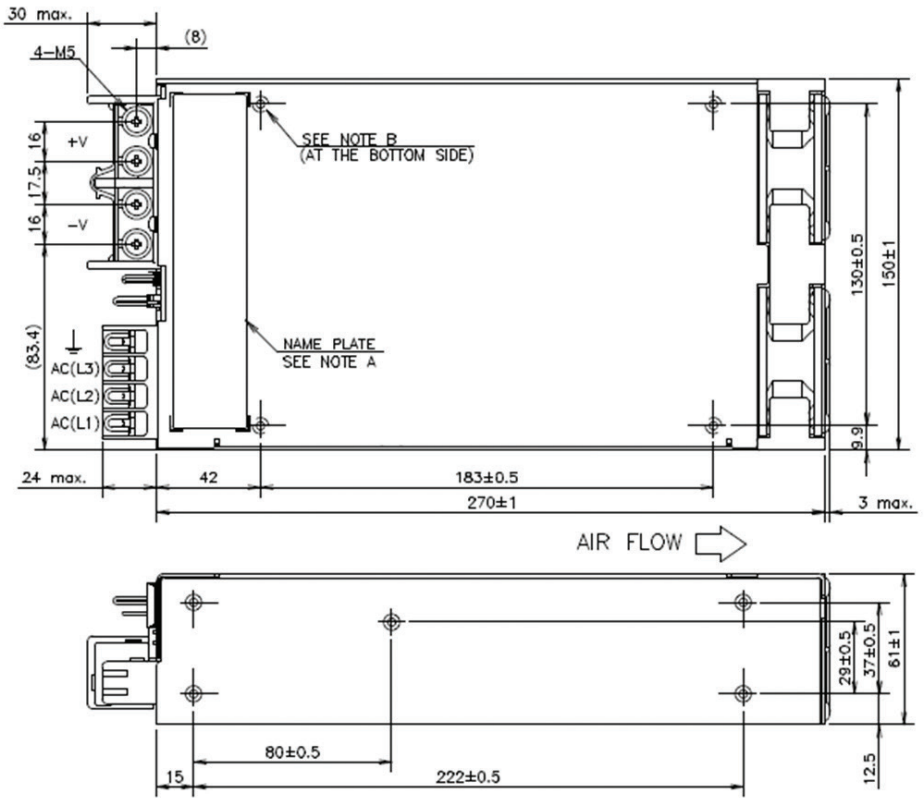
Test	Standard	Test Level	Criteria	Notes
ESD	EN61000-4-2	Contact Discharge: 1, 2	B	-
		Air Discharge: 1, 2, 3	B	-
Radiated Susceptibility	EN61000-4-3	2	A	1.4 - 6.0GHz
		3	A	80 - 1000MHz
Electrical Fast Transient Burst	EN61000-4-4	1, 2, 3	B	-
Surge	EN61000-4-5	1, 2, 3	B	Common mode
		1, 2	B	Normal mode
Conducted Susceptibility	EN61000-4-6	1, 2, 3	A	
Magnetic fields	EN61000-4-8	1, 2, 3, 4	A	
Voltage Dips and Input Interruptions	EN61000-4-11	30% 500ms	A	L1 - L2, L2 - L3, L3 - L1
		60% 200ms	A	L1 - L2, L2 - L3, L3 - L1
		100% 20ms	A	L1 - L2, L2 - L3, L3 - L1
		100% 5000ms	C	L1 - L2
			C	L2 - L3
			A	L3 - L1
SEMI F47 Line Dip	SEMI F47	-	-	At input voltages > 200Vac

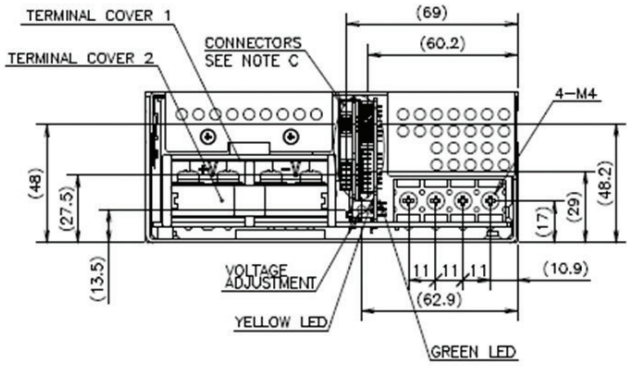
Specifications

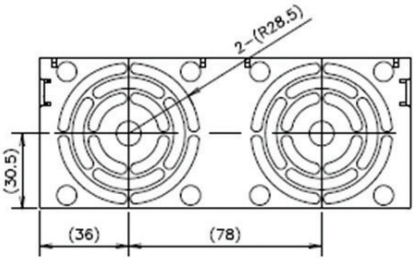
Model		HWS3000GT-24	HWS3000GT-48	HWS3000GT-60	HWS3000GT-130
Output					
Switching Frequency	kHz	Primary: 120, secondary: 240			
Line Regulation	mV	24V: 96, 48V: 192, 60V: 240, 130V: 520			
Load Regulation	mV	24V: 192, 48V: 384, 60V: 480, 130V: 1040			
Ripple & Noise	mV	24V: 300, 48V: 400, 60V: 500, 130V: 866			
Standby Voltage	-	5V 2A			
Series Operation	-	See Instruction Manual			
Parallel Operation	-	Up to ten units, see the Instruction Manual			
External Load Capacitance	uF	Not applicable			
Temperature Coefficient	%/°C	±0.02			
Minimum Load	-	No minimum load required			
Overcurrent Protection	A	24V: 131.2<, 48V: 65.7<, 60V: 52.5<, 130V: 24.3<			
Overvoltage Protection	V	24V: 30.4 - 31.5, 48V: 56.1 - 58.1, 60V: 70.2 - 72.6, 130V: 165.1 - 170.3			
Remote Sense	-	0.3V compensation			
Remote On/Off	-	Yes, see Instruction Manual			
Signals	-	AC Fail, Voltage and Current Good, Fan Fail (Open collector)			
Output (Constant Current Mode)					
Line Regulation	mA	24V: 500, 48V: 250.4, 60V: 200, 130V: 92.8			
Load Regulation	mA	24V: 1000, 48V: 500.8, 60V: 400, 130V: 185.6			
Programing and monitoring					
Communication Interface	-	Modbus RTU (RS-485): Controls output voltage and current, product status (including product life) Operational history - OCP, OVP, AC Fail, etc.			
Output Voltage Monitor using VB terminal	-	Output Voltage : 0% - Nominal output voltage, VB terminal voltage : 1 - 5V			
Output Current Monitor using CB terminal	-	Output Current : 0% - Maximum, CB terminal voltage : 1 - 5V			
Output Current Ext. Control Using CC Terminal	-	Apply external voltage or current (1 - 5V or 4 - 12mA). Output Current: 0% - Max.			
Output Current Ext. Control Using Modbus RTU	-	0 - 4,000. Output Current: 0% - Max.			
Environmental					
Operating Temperature (-40°C start-up)	°C	-20 to +70, derate output current linearly to 50% load from 50 to 70			
Storage Temperature	°C	-40 to +85			
Humidity (non condensing)	%RH	Operating: 20 - 90, Storage: 10 - 95			
Cooling	-	Variable speed fan, air exits across rear. Fan noise is 45dB (typ) at 25°C and 70% load			
Altitude	m	5,000. Operating, transportation and storage. IEC/EN62477-1 (OVC III, 2,000m altitude)			
Withstand Voltage (For 1 minute)	Vac	Input to Ground 2,000, Input to Output 3,000, Output to Ground 1,500			
Isolation Resistance	MΩ	>100 at 25°C, 70%RH & 500Vdc			
Vibration (Non Operating)	-	10-55Hz (1 min sweep). Maximum 19.6m/s^2, 1 hour each			
Shock	-	<196m/s^2			
Other					
Weight (Typ)	g	2,800			
Size (LxWxH)	mm	270 x 150 x 61			
Size (LxWxH)	Inches	10.63 x 5.91 x 2.4			
Connectors	-	Input/Output: Screw terminals, user configurable for vertical or horizontal orientation			
MTBF	-	25°C: 825,678, 40°C: 527,785			
Warranty	yrs	5			

Notes:
See website for detailed specifications, test methods and Instruction Manual
Specification parameters apply at 25°C ambient temperature unless otherwise stated.
(1) Constant current with automatic recovery. If the overload lasts more than 30s, the output will shutdown
(2) 24V 125A, 230Vac input
Link to GUI
Link to Communication manual

Outline Drawing





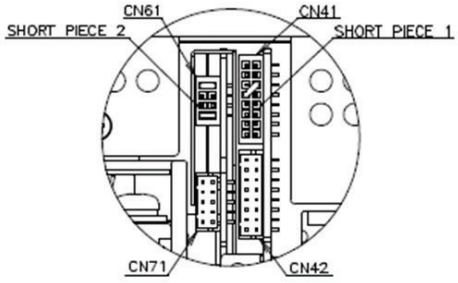


== NOTES ==

A : MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE, MAXIMUM OUTPUT CURRENT, COUNTRY OF MANUFACTURE AND SAFETY MARKING (FOR ONLY APPROVED PRODUCTS) ARE SHOWN HERE IN ACCORDANCE WITH THE SPECIFICATIONS.

B : 9–M4 BR & COUNTERSINK ARE FOR CUSTOMER'S CHASSIS MOUNTING. (SCREW PENETRATION DEPTH 6mm MAX.)

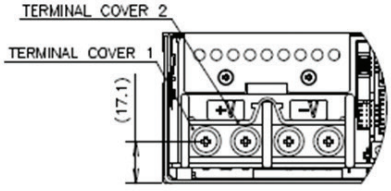
C :



== ACCESSORIES ==

* TERMINAL COVER 1 ---------- (NET 1)
(ATTACHED ON TERMINAL AT SHIPMENT)
* TERMINAL COVER 2 ---------- (NET 1)
(ATTACHED ON TERMINAL AT SHIPMENT)
* SHORT PIECE 1 ---------- (NET 1)
SHORTING –R — AG
(ATTACHED ON CN41 AT SHIPMENT)
* SHORT PIECE 2 ---------- (NET 1)
SHORTING +L — +S, –L — –S
(ATTACHED ON CN61 AT SHIPMENT)

== FRONT SIDE SCREW ==



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