https://product.tdk.com/en/power/hws-g
www.emea.lambda.tdk.com/hws-gt4

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

Industrial Test LED Broadcast COMM Semi-Fab

The compact HWS3000GT4 AC-DC power supplies can deliver 3,000W with a 3-three phase input voltage of 340 - 528Vac. The nominal output voltages (24V, 48V, 60V, 80V, 130V and 250V) 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 HWS3000GT4 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 seven years(1).

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
• Seven Year Warranty(1)	• Low Cost of Ownership

Model Selector

Model	Nominal Output Voltage (V)	Output Adjustment (Potentiometer) (V)	Output Adustment (Programming) (V)	Output Current (A) (3-phase 340 - 528Vac Input) (Programming)	Max Power (W) (3-phase 360 - 528Vac Input)*	Efficiency (%) 400 / 480Vac
HWS3000GT4-24	24	19.2 - 28.8	0 - 28.8	0 - 125	3000	91
HWS3000GT4-48	48	38.4 - 52.8	0 - 52.8	0 - 62.6	3004.8	92
HWS3000GT4-60	60	48.0 - 66.0	0 - 66.0	0 - 50	3000	92
HWS3000GT4-80	80	64.0 - 96.0	0 - 96.0	0 - 37.5	3000	92
HWS3000GT4-130	130	104.0 - 156.0	0 - 156.0	0 - 23.2	3016	93
HWS3000GT4-250	250	200.0 - 300.0	0 - 300.0	0 - 12.0	3000	93

*Derate output linearly below 360Vac input from 100% to 70% load
Ambient temperature 25°C, nominal output voltage, maximum output power

HWS3000GT4	-	24
Series		Output voltage 24, 48, 60, 80, 130, 250

Related Products

Type	Part Number(s)	Description
3kW Programmable Power Supplies	HWS3000G	Single phase 85 - 265Vac input
3kW Programmable Power Supplies	HWS3000GT	Three phase 170 - 265Vac input
Wiring harness	HA-15-C	See instruction manual for details
Wiring harness	HA-16-C	
Wiring harness	HA-17-C	
Wiring harness	HA-18-C	

Specifications

Model		HWS3000GT4
Input		
Input Voltage Range (Operating)	Vac	3-phase 340 - 528. For 3-phase 4 wire systems, do not connect the neutral wire. See instruction manual
Nominal Input Voltage Range	Vac	Safety certified for 3-phase 380 - 480.
Input Frequency	Hz	47 - 63 (Note: Safety certified for 50-60Hz)
Input Current at 400 / 480Vac	A	5
Inrush Current	A	See evaluation data on website
Leakage Current	mA	≤3 at 480Vac 60Hz
Power Factor (400Vac)	-	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, 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 (TBD)

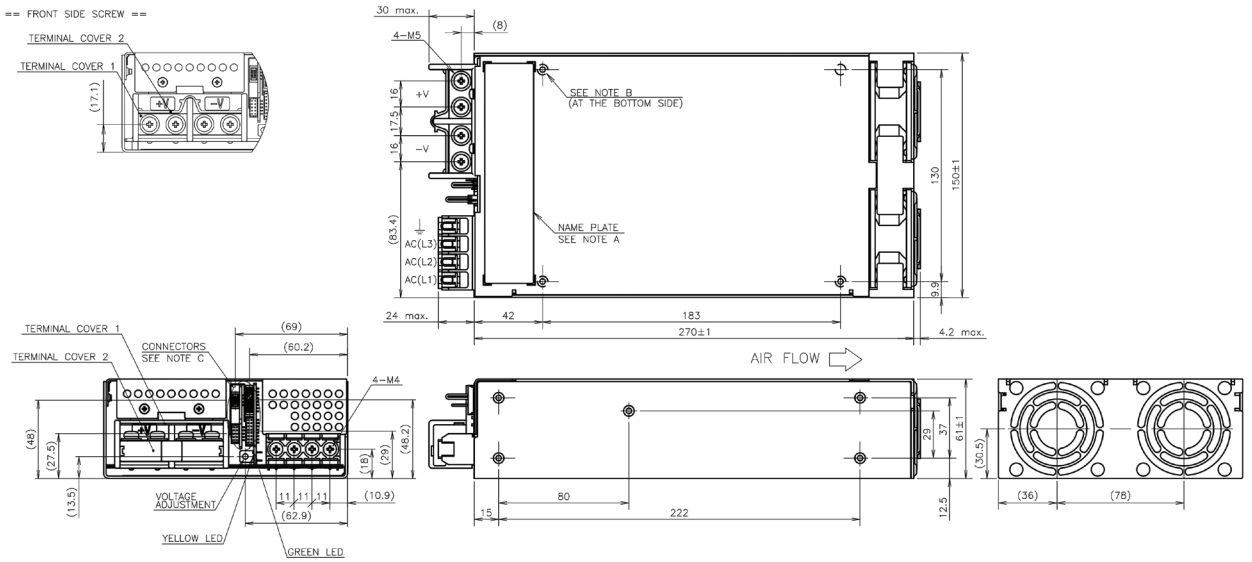
Test	Standard	Test Level	Criteria	Notes
ESD	EN61000-4-2	Contact Discharge: 1, 2	B	-
		Air Discharge: 1, 2, 3	B	-
Radiated Susceptibility	EN61000-4-3	2	A	1.4 - 6.0GHz
		3	A	80 - 1000MHz
Electrical Fast Transient Burst	EN61000-4-4	1, 2, 3	B	-
Surge	EN61000-4-5	1, 2, 3	B	Common mode
		1, 2	B	Normal mode
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		HWS3000GT4
Output		
Switching Frequency	kHz	Primary: 120, secondary: 240
Line Regulation	mV	24V: 500, 48V: 250.4, 60V: 200, 80V: 150, 130V: 92.8, 250V: 48
Load Regulation	mV	24V: 96, 48V: 192, 60V: 240, 80V: 320, 130V: 520, 250: 1000
Ripple & Noise	mV	24V: 300, 48V: 400, 60V: 500, 80V: 600, 130V: 866, 250V: 1250
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(2)	A	24V: 131.2<, 48V: 65.7<, 60V: 52.5<, 80: 39.3<,130V: 24.3<, 250: 12.6 <
Overvoltage Protection	V	24V: 30.4 - 31.5, 48V: 56.1 - 58.1, 60V: 70.2 - 72.6, 80V: 101.6 - 104.8, 130V: 165.1 - 170.3, 250V: 317.5 - 327.5
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, 250V: 48
Load Regulation	mA	24V: 1000, 48V: 500.8, 60V: 400, 80V: 300, 130V: 185.6, 250V: 96
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	2.3
Size (LxWxH)	mm	270 x 150 x 61
Size (LxWxH)	Inches	10.63 x 5.91 x 2.4
Connectors	-	Input/Output: Screw terminals, Output connector is user configurable for vertical or horizontal orientation
MTBF - Telcordia SR-332	Hours	25°C: 825,678, 40°C: 475,329
Warranty	yrs	7(1)

Notes:
See website for detailed specifications, test methods and Instruction Manual
Specification parameters apply at 25°C ambient temperature unless otherwise stated.
(1) The Americas and EMEA regions: 7 years. Other regions: 5 years. See applicable regional terms of sale.
(2) Constant current with automatic recovery. If the overload lasts more than 30s, the output will shutdown
*24V 125A, 230Vac input
Link to GUI
Link to Communication manual

Outline Drawing

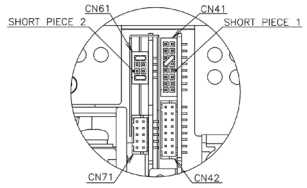


== NOTES ==

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 :



D : GENERAL TOLERANCE : ±0.5

== 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)

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