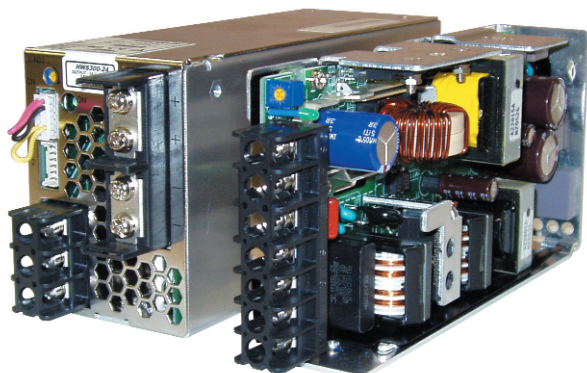


HWS50-1500/HD

Single Output Industrial Power Supplies



- ◆ Limited Lifetime Warranty
- ◆ -10 to +71°C Operation (-40°C start up)
- ◆ Universal Input (85 - 265VAC)
- ◆ Conformally coated pcbs
- ◆ RoHS Compliant design

RoHS

Key Market Segments & Applications

Factory Automation Test & Measurement
LED Displays

Features and Benefits

Feature	Benefit
◆ Limited Lifetime Warranty	◆ Lower Cost of Ownership
◆ Conformally coated pcbs	◆ Operation in harsh environments
◆ Wide range AC Input	◆ Supports global use

Specifications

MODELS		HWS50	HWS100	HWS150	HWS300	HWS600	HWS1500	
ITEMS								
Input Voltage range (47-63Hz)	-	85 - 265VAC or 120 - 370VDC			85 - 265VAC or 120 - 330VDC		85 - 265VAC	
Input Current (Typ)	(1) A	0.7 / 0.35	1.3 / 0.65	1.9 / 0.95	4.1 / 2.1	8.1 / 3.9	19 / 10	
Inrush Current	(1) A	14 / 28			20 / 40			
Power Factor	-	Meets EN61000-3-2						
Temperature Coefficient	-	<0.02%/°C						
Overcurrent Protection	-	>104%						
Overvoltage Protection	V	Yes (See table on page 2)						
Hold Up Time (Typ)	ms	20						
Leakage Current (60Hz)	mA	<0.5mA			<0.75mA		≤1.5mA	
Remote Sense	-	No	Yes					
Indicator	-	Green LED = ON						
Remote On/Off	-	No			Yes (Isolated from output)			
Parallel operation	-	No			Single wire connection (5 units max)			
DC Good	-	No			Yes			
Remote Adjust (PV)	-	No					Yes (3)	
Operating Temperature and Derating (operation to +74°C - contact factory)	-	HWS50-150: -10°C to +71°C, (-10 ~+50°C: 100%, +60°C: 60%, +71°C: 20%) HWS300-1500: -10°C to +71°C, (-10 ~+50°C: 100%, derate linearly to 50% load from +50 to +71°C) Guaranteed start up at -40°C (see specification sheets on website for details and derating)						
Storage Temperature	°C	-40 to +85°C						
Humidity (non condensing)	-	Operating: 30 - 90%RH (10 - 90% on HWS300-1500), Non operating 10 - 95%RH						
Cooling	-	Convection			Internal fan			
Withstand Voltage (2)	-	Input to Ground 2kVAC, Input to Output 3kVAC, Output to Ground 500VAC for 1 min.						
Isolation Resistance	-	>100MΩ at 25°C & 70%RH, Output to Ground 500VDC, >10M Output to remote on/off 100VDC						
Vibration (non operating)	-	MIL-STD-810F 514.5 Category 4, 10 (HWS1500 Cat 4, figure 514.5C-1)						
Shock (in packaging)	-	MIL-STD-810F 516.5 Category I, VI (HWS1500 <196.1m/s ²)						
Safety Agency Approvals	-	UL60950-1, CSA60950-1, EN60950-1, EN50178, CE Mark						
Line Dip	-	Complies with SEMI F47 (200VAC line only)						
Conducted & Radiated EMI	-	EN55011 / EN55022-B, FCC-B, VCCI-B (HWS1500 Class A)						
Immunity	-	IEC61000-4-2 (Level 2,3), -3, -4, -6, (Level 3), -5, -8 (Level 4), -11						
Weight (Typ)	g	280	450	500	1000	1600	3800	
Size (WxHxD)	in	1.04x3.23x4.72	1.1x3.23x6.3	1.46x3.23x6.3	2.4x3.23x6.5	3.94x3.23x6.5	5x3.25x11	
Warranty	yr	Limited lifetime warranty (See Lambda's terms & conditions)						

(1) 100/200VAC input

(2) HWS300-600 2.5kVAC Input to ground

(3) 1-6V program voltage input to adjust output 20-120% of nominal (20-110% for 48V) (12V-48V models only)

Output Ratings

Model	Voltage	Adjust Range	Min Curr(A) ³	Max Curr(A) ⁴	Max Power(W)	Load Reg(mV)	Line Reg(mV)	Ripple Noise(mV)	Overshoot (V)	Efficiency (typ)% ¹
HWS50-3/HD	3.3V	2.97 - 3.96	0.1	10	33	40	20	120	4.13-4.95	76/78
HWS100-3/HD	3.3V	2.97 - 3.96	0.2	20	66	40	20	120	4.13-4.95	78/81
HWS150-3/HD	3.3V	2.97 - 3.96	0.3	30	99	40	20	120	4.13-4.95	78/81
HWS300-3/HD	3.3V	2.64 - 3.96	0.0	60	198	30	20	120	4.13-4.95	74/77
HWS600-3/HD	3.3V	2.64 - 3.96	0.0	120	396	30	20	120	4.13-4.95	75/78
HWS50-5/HD	5V	4.0 - 6.0	0.1	10	50	40	20	120	6.25-7.25	82/84
HWS100-5/HD	5V	4.0 - 6.0	0.2	20	100	40	20	120	6.25-7.25	83/86
HWS150-5/HD	5V	4.0 - 6.0	0.3	30	150	40	20	120	6.25-7.25	83/86
HWS300-5/HD	5V	4.0 - 6.0	0.0	60	300	30	20	120	6.25-7.25	79/82
HWS600-5/HD	5V	4.0 - 6.0	0.0	120	600	30	20	120	6.25-7.25	80/83
HWS50-12/HD	12V	9.6 - 14.4	0.04	4.3	51.6	96	48	150	15-17.4	81/83
HWS100-12/HD	12V	9.6 - 14.4	0.09	8.5	102	96	48	150	15-17.4	83/86
HWS150-12/HD	12V	9.6 - 14.4	0.1	13	156	96	48	150	15-17.4	83/86
HWS300-12/HD	12V	9.6 - 14.4	0.0	27	324	72	48	150	15-17.4	80/83
HWS600-12/HD	12V	9.6 - 14.4	0.0	53	636	72	48	150	15-17.4	80/83
HWS1500-12/HD	12V	9.6 - 14.4	0.0	125	1500	72	48	150	15-17.4	82/85
HWS50-15/HD	15V	12.0 - 18.0	0.04	3.5	52.5	120	60	150	18.8-21.8	81/83
HWS100-15/HD	15V	12.0 - 18.0	0.07	7	105	120	60	150	18.8-21.8	83/86
HWS150-15/HD	15V	12.0 - 18.0	0.1	10	150	120	60	150	18.8-21.8	83/86
HWS300-15/HD	15V	12.0 - 18.0	0.0	22	330	90	60	150	18.8-21.8	80/83
HWS600-15/HD	15V	12.0 - 18.0	0.0	43	645	90	60	150	18.8-21.8	81/84
HWS1500-15/HD	15V	12.0 - 18.0	0.0	100	1500	90	60	150	18.7-21.8	83/87
HWS50-24/HD	24V	19.2 - 28.8	0.02	2.2	52.8	192	96	150	30-34.8	82/84
HWS100-24/HD	24V	19.2 - 28.8	0.05	4.5	108	192	96	150	30-34.8	84/87
HWS150-24/HD	24V	19.2 - 28.8	0.07	6.5	156	192	96	150	30-34.8	85/88
HWS300-24/HD	24V	19.2 - 28.8	0.0	14 (16.5 pk)	336	144	96	150	30-34.8	82/85
HWS600-24/HD	24V	19.2 - 28.8	0.0	27 (31 pk)	648	144	96	150	30-34.8	82/85
HWS1500-24/HD	24V	19.2 - 28.8	0.0	65/70 (-/105pk) ¹	1560/1680 ¹	144	96	200	30-34.8	84/88
HWS1500-36/HD	36V	28.8 - 43.2	0.0	42/46.5 (-/70pk) ¹	1512/1674 ¹	150	144	200	45-49.7	84/88
HWS50-48/HD	48V	38.4 - 52.8	0.01	1.1	52.8	384	192	200	55.2-64.8	83/85
HWS100-48/HD	48V	38.4 - 52.8	0.02	2.1	100.8	384	192	200	55.2-64.8	84/87
HWS150-48/HD	48V	38.4 - 52.8	0.03	3.3	158.4	384	192	200	55.2-64.8	85/88
HWS300-48/HD	48V	38.4 - 52.8	0.0	7	336	288	192	350	55.2-64.8	82/85
HWS600-48/HD	48V	38.4 - 52.8	0.0	13	624	288	192	350	55.2-64.8	83/86
HWS1500-48/HD	48V	38.4 - 52.8	0.0	32	1536	288	192	200	55.2-64.8	86/90

(3) Minimum load for maximum stability at -40°C start up
 (4) Peak load for 10s maximum on time, 35% duty cycle

Options

Suffix	Description
Blank	No Cover (HWS50-150 Only) HWS300-1500 the cover is fitted as standard
/A	The cover option for HWS50-150 is NOT available on /HD series HWS300-1500 the cover is fitted as standard

Other Lambda Industrial Products

LZSA 250W to 1500W Single output
 DPP, DLP, DSP 10W to 480W DIN Rail Mount

For Additional Information, please visit
us.tdk-lambda.com/lp/products/hws-series.htm