chanhvinh.com

TDK·Lambda HWS-/HD Series

Single Output Industrial Power Supplies

Features

- ◆ Limited Lifetime Warranty
- ◆-10 to +71°C Operation (-40°C start up)
- ◆ Universal Input (85 - 265VAC)
- ◆ Conformally coated pcbs
- ◆ Class 1 Div 2 option (/RYHD suffix)



Key Market Segments & Applications

Industrial COTS Test COMM LED Broadcast

RoHS

Specifications

Model		HWS30A	HWS50A	HWS100A	HWS150A	HWS300	HWS600	HWS1000	HWS1500
Input Voltage range (47-63Hz)	-	85 - 265VAC or 120 - 370VDC**				85-265VAC or 120 - 330VDC**			
Input Current (Typ) (1)	A	0.65 / 0.4	0.7 / 0.35	1.3 / 0.65	1.9 / 0.95	4.1 / 2.1	8.1 / 3.9	13.5 / 7	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		<1.2mA	<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	°C	HWS50-150: -10 to +71°C, (Derating applies above 50°C) HWS300-1500: -10°C~+71°C, (Derate linearly to 50% load from +50~+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, 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, -3, -4, -5, -6, -8, -11, IEC61000-6-2							
Weight (Typ)	g	200	260	420	470	1000	1600	3200	3800
Size (WxHxD)	in	1.04x3.23x3.74	1.04x3.23x4.72	1.1x3.23x6.3	1.46x3.23x6.3	2.4x3.23x6.5	3.94x3.23x6.5	5x3.2x9.5	5x3.25x11
Warranty	yrs	Limited lifetime warranty (See TDK-Lambda's terms and conditions)							

(1) 100/200VAC input
(2) HWS300-600 2.5kVAC Input to ground
(3) 1-6V program voltage input to adjust output 20-120% (typical) of nominal. See instruction manual for details & models with this feature

* Class 1 Div 2 option (/RYHD suffix)
** Safety certified for AC input only. DC input not available on HWS1500

chanhvinh.com

Output Ratings

Model	Voltage	Adjust Range	Max Curr(A)	Peak Curr(A)[4]	Max Power(W)	Load Reg(mV)	Line Reg(mV)	Ripple Noise(mV)	Overvoltage (V)	Efficiency (typ)%[1]
HWS30A-3/HD	3.3V	2.97 - 3.96	6	-	20	40	20	120	4.13-4.95	75/77
HWS50A-3/HD	3.3V	2.97 - 3.96	10	-	33	40	20	120	4.13-4.95	82/84
HWS100A-3/HD	3.3V	2.97 - 3.96	20	-	66	40	20	120	4.13-4.95	82/84
HWS150A-3/HD	3.3V	2.97 - 3.96	30	-	99	40	20	120	4.13-4.95	78/81
HWS300-3/HD	3.3V	2.64 - 3.96	60	-	198	30	20	120	4.13-4.95	74/77
HWS600-3/HD	3.3V	2.64 - 3.96	120	-	396	30	20	120	4.13-4.95	75/78
HWS1000-3/HD	3.3V	2.64 - 3.96	200	-	660	40	20	120	4.12-4.62	71/73
HWS1500-3/HD	3.3V	2.64 - 3.96	300	-	990	60	36	150	4.12-4.62	72/75
HWS30A-5/HD	5V	4.0 - 6.0	6	-	30	40	20	120	6.25-7.25	80/82
HWS50A-5/HD	5V	4.0 - 6.0	10	-	50	40	20	120	6.25-7.25	82/84
HWS100A-5/HD	5V	4.0 - 6.0	20	-	100	40	20	120	6.25-7.25	84/86
HWS150A-5/HD	5V	4.0 - 6.0	30	-	150	40	20	120	6.25-7.25	85/87
HWS300-5/HD	5V	4.0 - 6.0	60	-	300	30	20	120	6.25-7.25	79/82
HWS600-5/HD	5V	4.0 - 6.0	120	-	600	30	20	120	6.25-7.25	80/83
HWS1000-5/HD	5V	4.0 - 6.0	200	-	1000	40	20	120	6.25-7	76/78
HWS1500-5/HD	5V	4.0 - 6.0	300	-	1500	60	36	150	6.25-7	77/81
HWS1000-6/HD	6V	4.8 - 7.2	167	-	1002	60	36	150	7.5-8.4	79/81
HWS1000-7/HD	7.5V	6.0 - 9.0	134	160	1005	60	36	150	9.37-10.5	80/82
HWS30A-12/HD	12V	9.6 - 14.4	2.5	-	30	96	48	150	15-17.4	84/86
HWS50A-12/HD	12V	9.6 - 14.4	4.3	-	51.6	96	48	150	15-17.4	83/85
HWS100A-12/HD	12V	9.6 - 14.4	8.5	-	102	96	48	150	15-17.4	86/88
HWS150A-12/HD	12V	9.6 - 14.4	13	-	156	96	48	150	15-17.4	85/88
HWS300-12/HD	12V	9.6 - 14.4	27	-	324	72	48	150	15-17.4	80/83
HWS600-12/HD	12V	9.6 - 14.4	53	-	636	72	48	150	15-17.4	80/83
HWS1000-12/HD	12V	9.6 - 14.4	88	100	1056	100	48	150	15-17.4	82/85
HWS1500-12/HD	12V	9.6 - 14.4	125	-	1500	72	48	150	15-17.4	82/85
HWS30A-15/HD	15V	12.0 - 18.0	2	-	30	120	60	150	18.8-21.8	85/87
HWS50A-15/HD	15V	12.0 - 18.0	3.5	-	52.5	120	60	150	18.8-21.8	83/86
HWS100A-15/HD	15V	12.0 - 18.0	7	-	105	120	60	150	18.8-21.8	86/88
HWS150A-15/HD	15V	12.0 - 18.0	10	-	150	120	60	150	18.8-21.8	86/89
HWS300-15/HD	15V	12.0 - 18.0	22	-	330	90	60	150	18.8-21.8	80/83
HWS600-15/HD	15V	12.0 - 18.0	43	-	645	90	60	150	18.8-21.8	81/84
HWS1000-15/HD	15V	12.0 - 18.0	70	80	1500	120	60	150	18.7-21.8	83/85
HWS1500-15/HD	15V	12.0 - 18.0	100	-	1500	90	60	150	18.7-21.8	83/87
HWS30A-24/HD	24V	19.2 - 28.8	1.3	-	31.2	192	96	150	30-34.8	86/88
HWS50A-24/HD	24V	19.2 - 28.8	2.2	-	52.8	192	96	150	30-34.8	84/87
HWS100A-24/HD	24V	19.2 - 28.8	4.5	-	108	192	96	150	30-34.8	87/89
HWS150A-24/HD	24V	19.2 - 28.8	6.5	-	156	192	96	150	30-34.8	88/90
HWS300-24/HD	24V	19.2 - 28.8	14	16.5	336	144	96	150	30-34.8	82/85
HWS600-24/HD	24V	19.2 - 28.8	27	31	648	144	96	150	30-34.8	82/85
HWS1000-24/HD	24V	19.2 - 28.8	46	58.5	1104	150	96	150	30-34.8	85/87
HWS1500-24/HD	24V	19.2 - 28.8	65/70 (1)	105	1560	144	96	200	30-34.8	84/88
HWS1000-36/HD	36V	28.8 - 43.2	30.7	39	1104	150	144	200	45-49.7	85/88
HWS1500-36/HD	36V	28.8 - 43.2	42/46.5 (2)	70	1512	150	144	200	45-49.7	84/88
HWS30A-48/HD	48V	38.4 - 52.8	0.65	-	31.2	384	192	200	55.2-64.8	86/87
HWS50A-48/HD	48V	38.4 - 52.8	1.1	-	52.8	384	192	200	55.2-64.8	84/86
HWS100A-48/HD	48V	38.4 - 52.8	2.1	-	100.8	384	192	200	55.2-64.8	88/90
HWS150A-48/HD	48V	38.4 - 52.8	3.3	-	158.4	384	192	200	55.2-64.8	89/91
HWS300-48/HD	48V	38.4 - 52.8	7	-	336	288	192	350	55.2-64.8	82/85
HWS600-48/HD	48V	38.4 - 52.8	13	-	624	288	192	350	55.2-64.8	83/86
HWS1000-48/HD	48V	38.4 - 52.8	28	29.2	1104	300	192	200	55.2-60	86/88
HWS1500-48/HD	48V	38.4 - 52.8	32	-	1536	288	192	200	55.2-64.8	86/90
HWS1000-60/HD	60V	48.0 - 66.0	18.4	23.4	1104	360	240	400	69-75	85/88

(4) 200-265VAC Input, 10s maximum on time, 35% duty cycle

Options

Suffix	Description
Blank	No Cover (HWS50-150 Only) HWS300-1500 the cover is fitted as standard
/HDA	The cover option for HWS50-150 is special order only HWS300-1500 the cover is fitted as standard
/RYHD	ISA 12.12.01 (UL1604) - Class 1 Div 2 with dry contact relay DC Good signal (300W, 600W and 1500W 24V output models only, no remote on/off function.)

Other Industrial Products

LZSA	500W to 1500W Single output
DPP, DLP, DSP, DRB, DRF	10W to 480W DIN Rail Mount
PFE	300 to 1000W AC-DC Power Models