Linear	Desktop
Enclosed or L Bracket	Open Frame
PCB Mount	Rack Mount Hot Swap

AC-DC Selector

Applications	# of Outputs	Output Power (W)
		5 · 10 · 15 · 30 · 50 · 100 · 300 · 500 · 1000 · 1500 · 2500
High Reliability Industrial (Five Year Warranty)	Single	NNS; HWS; JWS; LZSA
	Dual	NND
	Triple	JWT
Industrial (Three Year Warranty)	Single & Multiple	HK-A (Single Output, 115VAC input); NV; MTW; Vega; Alpha; LS
Datacom Commercial (One - Two Year Warranty)	Single	KW, KPS, KM; ZWS, ZWSAF, ZWSPAF; DT; H; SC, SC120, ZP; SWS; PFE; FPS (1U); TH (1U)
	Multiple	KW, KM; LWD, LWT; H; DT; SC, ZP; ZWD, ZWQ
Programmable	Single	ZUP
DIN Rail Mount	Single	DSP, DPP, DLP-PU*; DLP

* See website

TDK·Lambda

HWS30-1500/ME

Single Output Medical Power Supplies

- Limited Lifetime Warranty
- Medical Approvals[2]
- Universal Input (85 - 265VAC)
- High Efficiency
- Broad 30W to 1500W product range

RoHS

HWS Features and Benefits

Feature	Benefit
◆ Limited Lifetime Warranty	◆ Lower Cost of Ownership
◆ Medical Approvals	◆ Reduces system approval times
◆ Wide range AC Input	◆ Supports global use

Specifications

ITEMS / MODELS			HWS30 HWS50	HWS100 HWS150	HWS300	HWS600	HWS1500
Input Voltage range (47-63Hz) (2)		-	85 - 265VAC or 120 - 370VDC		85 - 265VAC or 120 - 330VDC		85 - 265VAC
Input Current (Typ)	(1)	A	0.8 / 0.4 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 / Flicker		-	Meets EN61000-3-2, EN61000-3-3				
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				
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		
Voltage Programming		-	No				Yes
Operating Temperature & Derating		-	HWS30-150: -10°C to +70°C, (-10 - +50°C: 100%, +60°C: 60%, +70°C: 20%) HWS300-1500: -10°C to +70°C, (-10 - +50°C: 100%, derate linearly to 50% load from +50 to +70°C)				
Storage Temperature		-	-30 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	(3)	-	I/P to Grnd 2kVAC, I/P to O/P 3kVAC, O/P to Grnd 500VAC, O/P to Remote On/Off 100VAC for 1 min.				
Isolation Resistance		-	>100M at 25C & 70%RH, Output to Ground 500VDC, >10M Output to remote on/off 100VDC				
Vibration (non operating)		-	10 - 55Hz (1 min sweep), 19.6m/s² constant, X, Y, Z axis, one hour each				
Shock (in packaging)		-	< 196.1m/s²				
Safety Agency Approvals	(2)	-	UL60601-1, EN60601, CSA-C22.2 No601.1-M90 (C-UL) (basic insulation), CE Mark				
Line Dip		-	Complies with SEMI F47 (200VAC line only)				
Conducted & Radiated EMI		-	EN55011 / EN55022-B, FCC-B, VCCI-B (HWS600 & 1500 Class A)				
Immunity		-	IEC61000-4-2 (Level 2,3), -3, -4, -6, (Level 3), -5 (Level 3,4), -8 (Level 4), -11				
Weight (Typ)		g	220 280	450 500	1000	1600	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	4.98x3.23x11.02
Warranty		yrs	Limited lifetime warranty (See Lambda's terms & conditions)				

(1) 100/200VAC input

(2) See conditions of accep[tability and clause 19.5DV.2 of UL60601 for equipment in proximity of patient

(3) HWS300-600 2.5kVAC Input to ground

TDK·Lambda

HWS30-1500/ME

Output Ratings

Model	Voltage	Adjust Range	Max Curr(A)[4]	Max Power(W)	Load Reg(mV)	Line Reg(mV)	Ripple Noise(mV)	Overvoltage (V)	Efficiency (typ)%[1]
HWS30-5/ME	5V	4.0 - 6.0	6	30	40	20	120	6.25-7.25	77/80
HWS50-5/ME	5V	4.0 - 6.0	10	50	40	20	120	6.25-7.25	82/84
HWS100-5/ME	5V	4.0 - 6.0	20	100	40	20	120	6.25-7.25	83/86
HWS150-5/ME	5V	4.0 - 6.0	30	150	40	20	120	6.25-7.25	83/86
HWS30-12/ME	12V	9.6 - 14.4	2.5	30	96	48	150	15-17.4	81/83
HWS50-12/ME	12V	9.6 - 14.4	4.3	51.6	96	48	150	15-17.4	81/83
HWS100-12/ME	12V	9.6 - 14.4	8.5	102	96	48	150	15-17.4	83/86
HWS150-12/ME	12V	9.6 - 14.4	13	156	96	48	150	15-17.4	83/86
HWS300-12/ME	12V	9.6 - 14.4	27	324	72	48	150	15-17.4	80/83
HWS30-15/ME	15V	12.0 - 18.0	2	30	120	60	150	18.8-21.8	81/83
HWS50-15/ME	15V	12.0 - 18.0	3.5	52.5	120	60	150	18.8-21.8	81/83
HWS100-15/ME	15V	12.0 - 18.0	7	105	120	60	150	18.8-21.8	83/86
HWS150-15/ME	15V	12.0 - 18.0	10	150	120	60	150	18.8-21.8	83/86
HWS300-15/ME[5]	15V	12.0 - 18.0	22	330	90	60	150	18.8-21.8	82/85
HWS30-24/ME	24V	19.2 - 28.8	1.3	31.2	192	96	200	30-34.8	83/86
HWS50-24/ME	24V	19.2 - 28.8	2.2	52.8	192	96	150	30-34.8	82/84
HWS100-24/ME	24V	19.2 - 28.8	4.5	108	192	96	150	30-34.8	84/87
HWS150-24/ME	24V	19.2 - 28.8	6.5	156	192	96	150	30-34.8	85/88
HWS300-24/ME	24V	19.2 - 28.8	14 (16.5 pk)	336	144	96	150	30-34.8	82/85
HWS600-24/ME	24V	19.2 - 28.8	27 (31 pk)	648	144	96	150	30-34.8	82/85
HWS1500-24/ME	24V	19.2 - 28.8, 4.8 - 28.8[7]	65 (105 pk)[6]	1560(2520 pk)[6]	144	96	200	30-34.8	84/88
HWS1500-36/ME	36V	28.8 - 43.2, 7.2 - 43.2[7]	42 (70 pk)[6]	1512(2520 pk)[6]	150	144	200	34-49.7	84/88
HWS30-48/ME	48V	38.4 - 52.8	0.65	31.2	384	192	200	55.2-64.8	82/83
HWS50-48/ME	48V	38.4 - 52.8	1.1	52.8	384	192	200	55.2-64.8	83/85
HWS100-48/ME	48V	38.4 - 52.8	2.1	100.8	384	192	200	55.2-64.8	84/87
HWS150-48/ME	48V	38.4 - 52.8	3.3	158.4	384	192	200	55.2-64.8	85/88
HWS300-48/ME[5]	48V	38.4 - 52.8	7	336	288	192	350	55.2-64.8	82/85
HWS1500-48/ME	48V	38.4 - 52.8, 9.6 - 52.8[7]	32	1536	288	192	200	55.2-64.8	86/90

Options

Suffix	Description
Blank	No Cover (HWS30-150/ME Only) HWS300-1500/ME the cover is always fitted
/A	Not applicable. The cover option for the HWS30-150/ME is NOT available. HWS300-1500/ME the cover is always fitted

(4) Peak load for 10s maximum on time, 35% duty cycle
(5) Safety agency in progress - contact factory for status.
(6) 200-265AC Input
(7) Using voltage programming input - see installation manual for details

Other Lambda Medical Products

KM Series	15 to 40W, PCB mount
CS Series	40 to 65W, 2 x 4"
NV Series	175 to 700W single & multiple output
Vega Series	450 to 900W single & multiple output
Alpha Series	1000W single and multiple output