



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Single Output Industrial Power Supplies

Features

- ◆ Limited Lifetime Warranty
- ◆ Medical Approvals²
- ◆ Universal Input (85 - 265VAC)
- ◆ High Efficiency
- ◆ Broad 30W to 1500W product range
- ◆ Wide range AC Input



Key Market Segments & Applications



Medical



RoHS

Specifications

Model		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	°C	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	°C	-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/s ² constant, X, Y, Z axis, one hour each				
Shock (in packaging)	-	< 196.1m/s ²				
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 TDK-Lambda's terms & conditions)				

(1) 100/200VAC input

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

(3) HWS300-600 2.5kVAC Input to ground

HWS30-150/ME Not recommended for new designs, see HWS-A webpage

Output Ratings

Model	Voltage	Adjust Range	Max Curr(A) ⁴	Max Power(W)	Load Reg(mV)	Line Reg(mV)	Ripple Noise(mV)	Oversvoltage (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) ⁽⁶⁾	336	144	96	150	30-34.8	82/85
HWS600-24/ME	24V	19.2 - 28.8	27 (31 pk) ⁽⁶⁾	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

(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

Options	
Suffix	Description
Blank	No Cover (HWS30-150/ME Only) HWS300-1500/ME the cover is always fitted
/MEA	The cover option for the HWS30-150/ME is special order only. HWS300-1500/ME the cover is always fitted

Other Medical Products	
KM Series	15 to 40W, PCB mount
CS Series	40 to 500W
EFE-M	300 to 400M
CFE	400W
MWS65	55 to 67W
NV Series	175 to 700W single & multiple output
Vega Series	450 to 900W single & multiple output
Alpha Series	1000W single and multiple output

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



HWS30-150/ME Not recommended for new designs, see HWS-A webpage