

- Limited Lifetime Warranty
- Medical Approvals
- Universal Input (85 - 265VAC)
- High Efficiency
- Broad 30W to 1500W product range
- RoHS Compliant Design

## HWS-/ME Series

Single Output  
Medical Power Supplies

### Key Market Segments & Applications



### HWS-/ME Features and Benefits

#### Features

- Limited Lifetime Warranty
- Medical Approvals
- Wide Range AC Input

#### Benefits

- Lower Cost of Ownership
- Reduces System Approval Times
- Supports Global Use

### Specifications

ITEM	MODELS		HWS30A	HWS100A	HWS300	HWS600	HWS1000	HWS1500
			HWS50A	HWS150A				
Input Voltage	(4)		85-265VAC (47-63Hz) or 120-370VDC		85-265VAC (47-63Hz) or 120-330VDC			85-265VAC (47-63Hz)
Input Current (Typ)	(1)	A	0.65 / 0.4	1.3 / 0.65	4.1 / 2.1	8.1 / 3.9	13.5/7.0	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	-		Yes (See table on page 2)					
Hold Up Time (Typ)		ms	20					
Leakage Current (60Hz)	(2)	mA	<0.5mA					
Remote Sense			No		Yes			
Indicator	-		Green LED = ON					
Remote On/Off	-		No		Yes (Isolated from output)			
Parallel operation	-		No		Single wire conn. (5 units max)			
DC Good	-		No		Yes			
Voltage Programming			No					Yes
Operating Temperature and Derating	-		HWS30A-150A: -10°C to +70°C, (derating applies above 50°C please refer to individual model specification for derating graph) HWS300-1500: -10°C to +70°C, (-10 to +50°C: 100%, derate linearly to 50% load from +50°C to +70°C)					
Storage Temperature	°C		-30°C 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)	-	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, >10MΩ 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)	-	ES60601-1, EN60601-1, CSA-C22.2 No6011-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, -3, -4, -5, -6, -8, -11, IEC61000-6-2					
Weight (Typ)		g	220	450				
			280	500	1000	1600	3200	3800
Size (WxHxD)		mm	26 x 82 x 95	33 x 82 x 160				
(with cover except 30 & 50W)			26 x 82 x 120	42 x 82 x 160	61 x 82 x 165	100 x 82 x 165	126.5 x 82 x 240	280 x 82 x 126.5
MTBF (5)		hrs	8,169,868	2,963,512	2,145,809	1,998,996	1,087,031	1,152,309
			3,726,622	2,676,081				
Warranty			Limited Lifetime Warranty (See TDK-Lambda terms & conditions)					

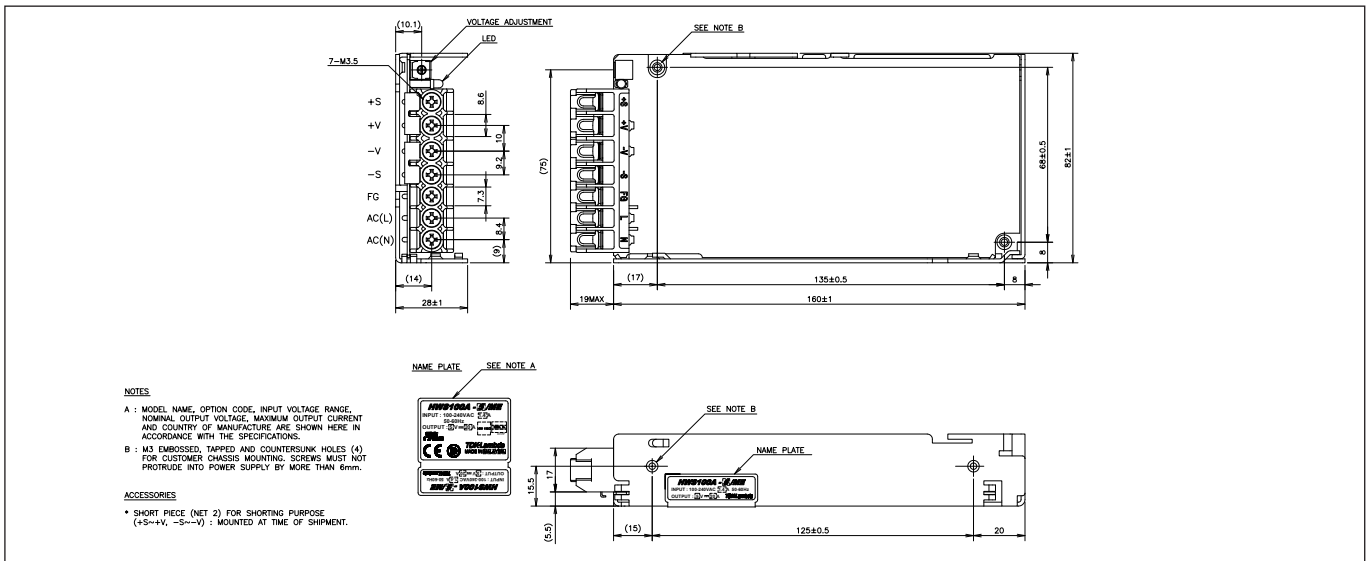
Notes from page 1: (1) 100/200VAC input. (2) See clause 19.5DV.2 of UL60601 for equipment in proximity of patient.  
 (3) HWS300-600 2.5kVAC Input to ground. (4) Consult Sales Office for use under DC Input conditions  
 (5) According to Telcordia document SR-332, issue 3 "Reliability Prediction Procedure for Electronic Equipment"  
 Conditions: ambient temp. 25°C, 230Vac input, full load (figures shown for 24V models)

Model Selector									
Model	Voltage	Adjust Range	Max Curr(A) <sup>4</sup>	Max Power(W)	Load Reg(mV)	Line Reg(mV)	Ripple Noise(mV)	Oversvoltage (V)	Efficiency (typ)% <sup>1</sup>
HWS30A-5/ME	5V	4.0 - 6.0	6	30	40	20	120	6.25-7.25	77/80
HWS50A-5/ME	5V	4.0 - 6.0	10	50	40	20	120	6.25-7.25	82/84
HWS100A-5/ME	5V	4.0 - 6.0	20	100	40	20	120	6.25-7.25	83/86
HWS150A-5/ME	5V	4.0 - 6.0	30	150	40	20	120	6.25-7.25	83/86
HWS600-5/ME	5V	4.0 - 6.0	120	600	30	20	120	6.25-7.25	80/83
HWS30A-12/ME	12V	9.6 - 14.4	2.5	30	96	48	150	15-17.4	81/83
HWS50A-12/ME	12V	9.6 - 14.4	4.3	51.6	96	48	150	15-17.4	81/83
HWS100A-12/ME	12V	9.6 - 14.4	8.5	102	96	48	150	15-17.4	83/86
HWS150A-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
HWS600-12/ME	12V	9.6 - 14.4	53	636	72	48	150	15-17.4	80/83
HWS30A-15/ME	15V	12.0 - 18.0	2	30	120	60	150	18.8-21.8	81/83
HWS50A-15/ME	15V	12.0 - 18.0	3.5	52.5	120	60	150	18.8-21.8	81/83
HWS100A-15/ME	15V	12.0 - 18.0	7	105	120	60	150	18.8-21.8	83/86
HWS150A-15/ME	15V	12.0 - 18.0	10	150	120	60	150	18.8-21.8	83/86
HWS300-15/ME	15V	12.0 - 18.0	22	330	90	60	150	18.8-21.8	82/85
HWS600-15/ME	15V	12.0 - 18.0	43	645	90	60	150	18.8-21.8	81/84
HWS30A-24/ME	24V	19.2 - 28.8	1.3	31.2	192	96	200	30-34.8	83/86
HWS50A-24/ME	24V	19.2 - 28.8	2.2	52.8	192	96	150	30-34.8	82/84
HWS100A-24/ME	24V	19.2 - 28.8	4.5	108	192	96	150	30-34.8	84/87
HWS150A-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
HWS1000-24/ME	24V	19.2 - 28.8	46 (58.5 pk)	1104	150	96	150	30-34.8	85/87
HWS1500-24/ME	24V	4.8 - 28.8 <sup>(7)</sup>	65/70 <sup>(1)</sup> (105pk <sup>(5)</sup> )	1560/1680 <sup>(1)</sup> (2520 pk <sup>(5)</sup> )	144	96	200	30-34.8	84/88
HWS1000-36/ME	36V	28.8 - 43.2	30.7 (39 pk)	1104	150	144	200	45-49.7	85/88
HWS1500-36/ME	36V	7.2 - 43.2 <sup>(6)</sup>	42/46.5 <sup>(1)</sup> (70 pk) <sup>(5)</sup>	1512/1674 <sup>(1)</sup> (2520 pk <sup>(5)</sup> )	150	144	200	34-49.7	84/88
HWS30A-48/ME	48V	38.4 - 52.8	0.65	31.2	384	192	200	55.2-64.8	82/83
HWS50A-48/ME	48V	38.4 - 52.8	1.1	52.8	384	192	200	55.2-64.8	83/85
HWS100A-48/ME	48V	38.4 - 52.8	2.1	100.8	384	192	200	55.2-64.8	84/87
HWS150A-48/ME	48V	38.4 - 52.8	3.3	158.4	384	192	200	55.2-64.8	85/88
HWS300-48/ME	48V	38.4 - 52.8	7	336	288	192	350	55.2-64.8	82/85
HWS600-48/ME	48V	38.4 - 52.8	13	624	288	192	350	55.2-64.8	83/86
HWS1000-48/ME	48V	38.4 - 52.8	23	1104	300	192	200	55.2-60	86/88
HWS1500-48/ME	48V	9.6 - 52.8 <sup>(6)</sup>	32	1536	288	192	200	55.2-64.8	86/90

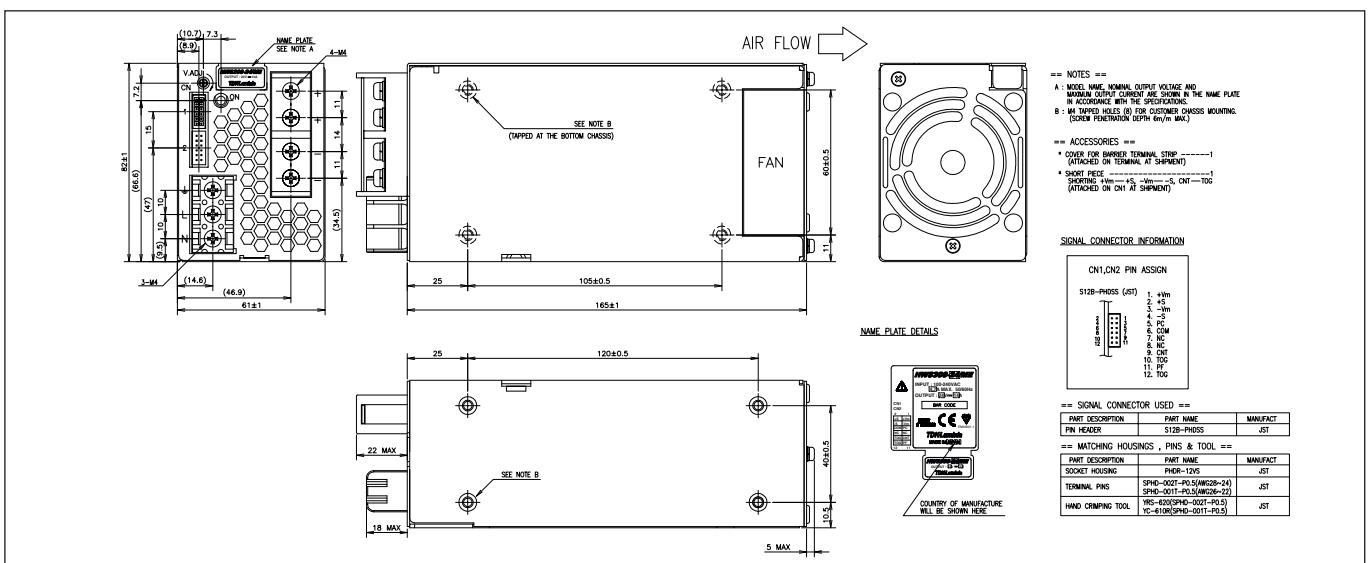
(4) Peak load for 10s maximum on time, 35% duty cycle (5) 200-265AC Input  
 (6) Using voltage programming input - see installation manual for details

Options	
Suffix	Description
Blank	No cover (except HWS300-1500 cover fitted) as standard
/A	Cover fitted (egHWSA100-24/MEA)

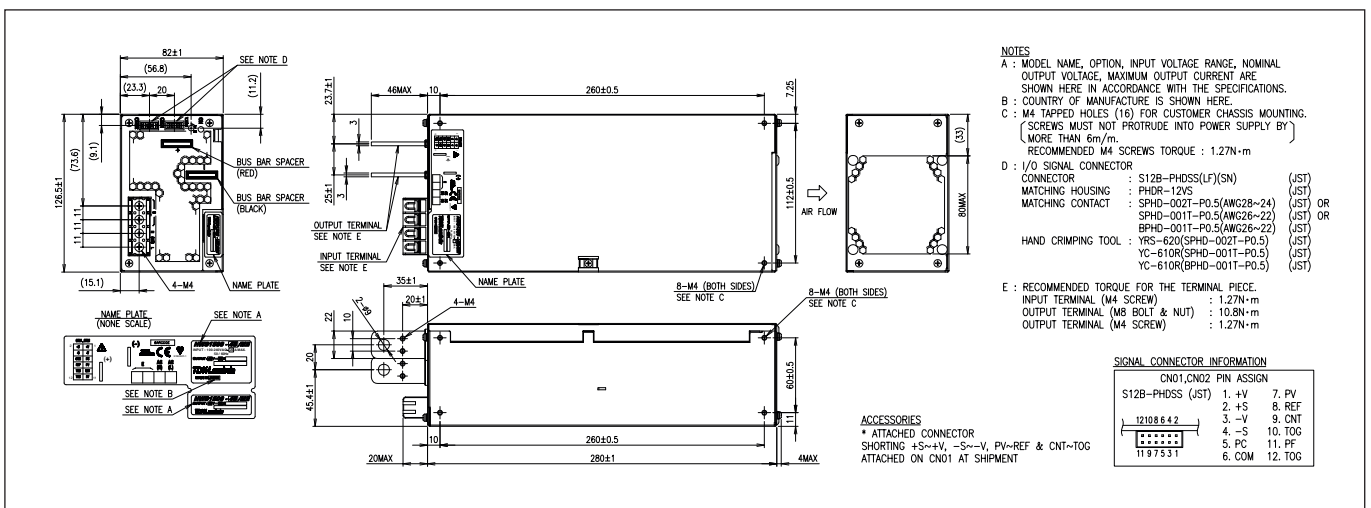
## Outline Drawing HWS100A/MEA Series



## Outline Drawing HWS300 Series



## Outline Drawing HWS1500 Series





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