

300-1500W Single Output Industrial Power Supplies

Features

- ◆ Limited Lifetime Warranty
- ◆ UL508 approved
- ◆ SEMI F47 Compliant (high line AC)
- ◆ Universal Input (85 - 265VAC)
- ◆ High Efficiency
- ◆ Class 1 Div 2 option (/RY suffix)
- ◆ Wide Range AC Input



Key Market Segments & Applications



| Specifications | | | HWS300 | HWS600 | HWS1000 | HWS1500 |
|----------------------------------|-----|--|--|---------------------------------|-----------------------------------|-------------------------------------|
| Input Voltage range (47-63Hz) | - | | 85 - 265VAC or 120 - 330VDC (6)** | | | |
| Input Current (Typ) (1) | A | | 5V: 3.8/1.9; 12-48V: 4.2/2.1 | 5V: 7.5/3.6; 12-48V: 8.1/3.9 | 3.3V: 9.6/5.0; 5-60V: 13.5/7.0 | 3.3V: 15.0/8.0; 5-60V: 19.5/10.0 |
| Inrush Current (1) | A | | 20 / 40 | | | |
| Power Factor | - | | Meets EN61000-3-2 | | | |
| Temperature Coefficient | - | | <0.02%/°C | | | |
| Overcurrent Protection | - | | >105% (>101% of peak current for peak current capable models) | | | |
| Overvoltage Protection | V | | See table on page 2 (Recycle AC or remote on/off to reset) | | | |
| Hold Up Time (Typ) | ms | | 20 | | | |
| Leakage Curr. (at 240VAC, 60Hz) | mA | | <0.75mA | | <1.2mA | <1.5mA |
| Remote Sense | - | | Yes | | | |
| Indicator | - | | Green LED = ON | | | |
| Remote on/off | - | | Yes (Isolated from output) | | | |
| Parallel operation | - | | Single wire connection (up to 5 units) | | | |
| DC Good | - | | Yes | | | |
| Remote Adjust (PV) | - | | External voltage adjusts output, see options table | | | |
| Operating Temperature | - | | -10°C to +70°C, derate linearly to 50% load from 50C to 70C (2, 3) | | | |
| Storage Temperature | °C | | -30 to +85°C | | | |
| Humidity (non condensing) | - | | Operating: 10 - 90%RH, Non operating 10 - 95%RH | | | |
| Cooling | - | | Internal fan | | | |
| Withstand Voltage (4) | - | | Input to Ground 2.5kVAC, Input to Output 3kVAC, Output to Ground 500VAC for 1 min. | | | |
| Isolation Resistance | - | | >100M at 25°C & 70%RH, Output to Ground 500VDC | | | |
| Vibration (non operating) | - | | 10 - 55Hz (1 minute sweep), 19.6m/s ² constant X, Y, Z 1 hour | | | |
| Shock | - | | < 196.1 m/s ² | | | |
| Safety Agency Certifications (5) | - | | UL60950-1, CSA60950-1, EN60950-1, EN50178, UL508, CE Mark | | | |
| Line Dip | - | | Complies with SEMI F47 (200VAC line only) | | | |
| Conducted & Radiated EMI | - | | EN55011 / EN55022, FCC VCCI (HWS300, 600 & 1000: Class B, HWS1500: Class A) | | | |
| Immunity | - | | IEC61000-4-2, -3, -4, -6 (Level 3), -5, -8 (Level 4), -11 | | | |
| Weight (Typ) | g | | 1,000 | 1,600 | 3,200 | 3.3-7.5V: 4000; 12V+: 3800 |
| Size (WxHxD) | in | | 2.4 x 3.23 x 6.5" | 3.94 x 3.23 x 6.5" | 5 x 3.25 x 9.45" | 5 x 3.25 x 11" |
| Warranty | yrs | | Limited lifetime warranty (See TDK-Lambda's terms and conditions) | | | |

(1) 100/200VAC

(2) HWS start up -20°C. (-40°C see options table)

(3) HWS1000/1500 with 85VAC input: See installation manual

(4) 2kVAC HWS1000/1500 Input to ground

HWS1000: -10 to +71°C. HWS1000-5, HWS1500-3, -5 derate linearly above 40°C

(5) UL60601-1, EN60601-1, see options.

UL508; HWS300/600 5V, 12V, 24V & 48V models

(6) Not on HWS1500/ME, /HD or /RY versions

(*) Class 1 Div 2 option (/RY suffix)

(**) Safety certified for AC input only

| Output Ratings | | | | | | | | | | |
|----------------|--------------|-------------------------|-------------------|-----------------------|-------------------|-------------------|-------------------|-----------------------|-----------------------|----------------------|
| Model | Voltage V | Adjust Range V(3) | Max Curr. A | Peak Curr. A(2) | Max. Pwr. W | Load Reg mV | Line Reg mV | Ripple Noise mV | Over- voltage V | Eff. typ % (1) |
| HWS300-3 | 3.3V | 2.64 - 3.96 | 60 | - | 198 | 30 | 20 | 120 | 4.13 - 4.95 | 74/77 |
| HWS600-3 | 3.3V | 2.64 - 3.96 | 120 | - | 396 | 30 | 20 | 120 | 4.13 - 4.95 | 75/78 |
| HWS1000-3 | 3.3V | 2.64 - 3.96 | 200 | - | 660 | 40 | 20 | 120 | 4.13 - 4.62 | 71/73 |
| HWS1500-3 | 3.3V | 2.64 - 3.96 | 300 | - | 990 | 60 | 36 | 150 | 4.12 - 4.62 | 72/75 |
| HWS300-5 | 5V | 4 - 6 | 60 | - | 300 | 30 | 20 | 120 | 6.25 - 7.25 | 79/82 |
| HWS600-5 | 5V | 4 - 6 | 120 | - | 600 | 30 | 20 | 120 | 6.25 - 7.25 | 80/83 |
| HWS1000-5 | 5V | 4 - 6 | 200 | - | 1000 | 40 | 20 | 120 | 6.25 - 7.0 | 76/78 |
| HWS1500-5 | 5V | 4 - 6 | 300 | - | 1500 | 60 | 36 | 150 | 6.25 - 7.0 | 77/81 |
| HWS1000-6 | 6V | 4.8 - 7.2 | 167 | - | 1002 | 60 | 36 | 150 | 7.5 - 8.4 | 79/81 |
| HWS1500-6 | 6V | 4.8 - 7.2 | 250 | 300 | 1500 | 60 | 36 | 150 | 7.5 - 8.4 | 79/82 |
| HWS1000-7 | 7.5V | 6 - 9V | 134 | 160 | 1005 | 60 | 36 | 150 | 9.38 - 10.5 | 80/82 |
| HWS1500-7 | 7.5V | 6 - 9V | 200 | 240 | 1500 | 60 | 40 | 150 | 9.37 - 10.5 | 81/83 |
| HWS300-12 | 12V | 9.6 - 14.4 | 27 | - | 324 | 96 | 48 | 120 | 15 - 17.4 | 80/83 |
| HWS600-12 | 12V | 9.6 - 14.4 | 53 | - | 648 | 96 | 48 | 120 | 15 - 17.4 | 80/83 |
| HWS1000-12 | 12V | 9.6 - 14.4 | 88 | 100 | 1056 | 100 | 48 | 150 | 15 - 17.4 | 83/85 |
| HWS1500-12 | 12V | 9.6 - 14.4 | 125 | - | 1500 | 72 | 48 | 150 | 15 - 17.4 | 82/85 |
| HWS300-15 | 15V | 12 - 18 | 22 | - | 330 | 120 | 60 | 150 | 18.8 - 21.8 | 82/85 |
| HWS600-15 | 15V | 12 - 18 | 43 | - | 645 | 120 | 60 | 150 | 18.8 - 21.8 | 82/85 |
| HWS1000-15 | 15V | 12 - 18 | 70 | 80 | 1050 | 120 | 60 | 150 | 18.8 - 21.8 | 83/85 |
| HWS1500-15 | 15V | 12 - 18 | 100 | - | 1500 | 90 | 60 | 150 | 18.7 - 21.8 | 83/87 |
| HWS300-24 | 24V | 19.2 - 28.8 | 14 | 16.5 | 336 | 192 | 96 | 150 | 30 - 34.8 | 82/85 |
| HWS600-24 | 24V | 19.2 - 28.8 | 27 | 31 | 648 | 192 | 96 | 150 | 30 - 34.8 | 82/85 |
| HWS1000-24 | 24V | 19.2 - 28.8 | 44 | 50 | 1056 | 150 | 96 | 150 | 30 - 34.8 | 85/87 |
| HWS1500-24 | 24V | 19.2 - 28.8 | 65/70 (1) | 105 | 1560 | 144 | 96 | 200 | 30 - 34.8 | 84/88 |
| HWS1000-36 | 36V | 28.8 - 43.2 | 29.3 | 33.3 | 1055 | 150 | 144 | 200 | 45 - 49.7 | 85/88 |
| HWS1500-36 | 36V | 28.8 - 43.2 | 42/46.5 (1) | 70 | 1512 | 150 | 144 | 200 | 45 - 49.7 | 84/88 |
| HWS300-48 | 48V | 38.4 - 52.8 | 7 | - | 336 | 384 | 192 | 200 | 55.2 - 64.8 | 82/85 |
| HWS600-48 | 48V | 38.4 - 52.8 | 13 | - | 624 | 384 | 192 | 200 | 55.2 - 64.8 | 82/85 |
| HWS1000-48 | 48V | 38.4 - 52.8 | 22 | 25 | 1056 | 300 | 192 | 200 | 55.2 - 64.8 | 86/88 |
| HWS1500-48 | 48V | 38.4 - 52.8 | 32 | - | 1536 | 288 | 192 | 200 | 55.2 - 64.8 | 86/90 |
| HWS1000-60 | 60V | 48 - 66 | 17.6 | 20 | 1056 | 360 | 240 | 400 | 69 - 75 | 85/88 |
| HWS1500-60 | 60V | 48 - 66 | 25.6/28 (1) | 42 | 1536 | 360 | 240 | 400 | 69 - 75 | 86/90 |

Notes
 (1) 100/200VAC
 (2) 200-265VAC Input, 10s maximum on time with 35% duty cycle
 (3) Use program input (PV) to adjust from 20-120% of nominal (20-110% for 48V & 60V models)

| Options | |
|---------|---|
| Suffix | Description |
| Blank | HWS300-1500 the cover is fitted as standard |
| /A | Not Applicable |
| | HWS300-1500 the cover is fitted as standard |
| /PV | HWS300, 600 (Standard on HWS1000 & 1500): 1-6V program voltage input to adjust output 20-120% of nominal (20-110% for 48V) (12V-48V models only) |
| /HD | See HWS50-1500/HD Datasheet for details. -40 to +71(74)°C operation, conformally coated PCBs |
| /ME | See HWS30-1500/ME Datasheet for details. UL60601-1, EN60950-1 medical certification |
| /RY | 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 UL508 certification, no remote on/off function.) |

| Other Industrial Products | |
|---------------------------|-----------------------------|
| HWS | 15W to 150W single output |
| LZSA | 500W to 1500W Single output |
| SWS | 50W to 1000W, low cost |
| DPP, DLP & DSP | 10W to 480W DIN Rail Mount |

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

