

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)
- ◆ Wide range AC Input



Key Market Segments & Applications



| Specifications | | | HWS50 | HWS100 | HWS150 | HWS300 | HWS600 | HWS1000 | HWS1500 | |
|---|-----|--|--|--------------------------------------|---------------|---|---------------|-----------|-----------|--|
| Model | | | | | | | | | | |
| Input Voltage range (47-63Hz) | - | | 85-265VAC or 120-370VDC | | | 85-265VAC or 120-330VDC (No DC input for HWS1500) | | | | |
| Input Current (Typ) (1) | A | | 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 / 2 | | | 20 / 4 | | | | |
| 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 (operation to +74°C - contact factory) | °C | | HWS50-150: -10°C to +71°C, (-10 ~+50°C: 100%, +60°C: 60%, +71°C: 20%) HWS300-1500: -10°C to +71°C, (-10 ~+50°C: 100%, derate linearly to 50% load from +50 to +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, EN50178, CE Mark | | | | | | | |
| Line Dip | - | | Complies with SEMI F47 (200VAC line only) | | | | | | | |
| Conducted & Radiated EMI Immunity | - | | EN55011 / EN55022-B, FCC-B, VCCI-B (HWS1500 Class A) IEC61000-4-2 (Level 2,3), -3, -4, -6, (Level 3), -5, -8 (Level 4), -11 | | | | | | | |
| Weight (Typ) | g | | 280 | 450 | 500 | 1000 | 1600 | 3200 | 3800 | |
| Size (WxHxD) | in | | 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 & 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)

| 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) | Overshoot (V) | Efficiency (typ)% ¹ |
| HWS50-3/HD | 3.3V | 2.97 - 3.96 | 10 | - | 33 | 40 | 20 | 120 | 4.13-4.95 | 76/78 |
| HWS100-3/HD | 3.3V | 2.97 - 3.96 | 20 | - | 66 | 40 | 20 | 120 | 4.13-4.95 | 78/81 |
| HWS150-3/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 |
| HWS50-5/HD | 5V | 4.0 - 6.0 | 10 | - | 50 | 40 | 20 | 120 | 6.25-7.25 | 82/84 |
| HWS100-5/HD | 5V | 4.0 - 6.0 | 20 | - | 100 | 40 | 20 | 120 | 6.25-7.25 | 83/86 |
| HWS150-5/HD | 5V | 4.0 - 6.0 | 30 | - | 150 | 40 | 20 | 120 | 6.25-7.25 | 83/86 |
| 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 |
| HWS50-12/HD | 12V | 9.6 - 14.4 | 4.3 | - | 51.6 | 96 | 48 | 150 | 15-17.4 | 81/83 |
| HWS100-12/HD | 12V | 9.6 - 14.4 | 8.5 | - | 102 | 96 | 48 | 150 | 15-17.4 | 83/86 |
| HWS150-12/HD | 12V | 9.6 - 14.4 | 13 | - | 156 | 96 | 48 | 150 | 15-17.4 | 83/86 |
| 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 |
| HWS50-15/HD | 15V | 12.0 - 18.0 | 3.5 | - | 52.5 | 120 | 60 | 150 | 18.8-21.8 | 81/83 |
| HWS100-15/HD | 15V | 12.0 - 18.0 | 7 | - | 105 | 120 | 60 | 150 | 18.8-21.8 | 83/86 |
| HWS150-15/HD | 15V | 12.0 - 18.0 | 10 | - | 150 | 120 | 60 | 150 | 18.8-21.8 | 83/86 |
| 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 |
| HWS50-24/HD | 24V | 19.2 - 28.8 | 2.2 | - | 52.8 | 192 | 96 | 150 | 30-34.8 | 82/84 |
| HWS100-24/HD | 24V | 19.2 - 28.8 | 4.5 | - | 108 | 192 | 96 | 150 | 30-34.8 | 84/87 |
| HWS150-24/HD | 24V | 19.2 - 28.8 | 6.5 | - | 156 | 192 | 96 | 150 | 30-34.8 | 85/88 |
| 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 |
| HWS50-48/HD | 48V | 38.4 - 52.8 | 1.1 | - | 52.8 | 384 | 192 | 200 | 55.2-64.8 | 83/85 |
| HWS100-48/HD | 48V | 38.4 - 52.8 | 2.1 | - | 100.8 | 384 | 192 | 200 | 55.2-64.8 | 84/87 |
| HWS150-48/HD | 48V | 38.4 - 52.8 | 3.3 | - | 158.4 | 384 | 192 | 200 | 55.2-64.8 | 85/88 |
| 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 | 10W to 960W DIN Rail Mount |
| PFE | 300 to 1000W AC-DC Power Models |

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





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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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