# TDK·Lambda HWS/ME Series

## Single Output Medical Power Supplies

### Features

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

### Key Market Segments & Applications

Medical

RoHS

## Specifications

| Model | | HWS30A<br>HWS50A | HWS100A<br>HWS150A | HWS300 | HWS600 | HWS1000<br>HWS1500 |
|---|---|---|---|---|---|---|
| Input Voltage range (47-63Hz) | - | 85 - 265VAC (47 - 63Hz)<br>or 120 - 370VDC* | | 85 - 265VAC (47 - 63Hz)<br>or 120 - 330VDC* | | 85 - 265VAC<br>(47 - 63Hz) |
| Input Current (Typ) (1) | A | 0.65 / 0.4<br>0.65 / 0.35 | 1.3 / 0.65<br>1.9 / 0.95 | 4.1 / 2.1 | 8.1 / 3.9 | 13.5 / 7.0<br>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 and Derating | °C | HWS30A-150A: -10°C to +70°C, (See website for derating above 50°C)<br>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) | - | Input to Ground 2kVAC, Input to Output 3kVAC, Output to Ground 500VAC,<br>Output to Remote On/Off 100VAC for 1 min. | | | | |
| Isolation Resistance | - | >100M at 25°C & 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 Certifications (2) | - | ES60601-1, 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 / EN55032-B, FCC-B, VCCI-B (HWS600, 1000 & 1500 Class A) | | | | |
| Immunity | - | IEC61000-4-2, -3, -4, -5, -6, -8, -11, IEC61000-6-2, IEC60601-1-2 Ed.4*** | | | | |
| Weight (Typ) | g | 200<br>260 | 420<br>470 | 1000 | 1600 | 3200<br>3800 |
| Size (WxHxD) | in | 1.04x3.23x3.74<br>1.04x3.23x4.72 | 1.1x3.23x6.3<br>1.46x3.23x6.3 | 2.4x3.23x6.5 | 3.94x3.23x6.5 | 4.98x3.23x9.45<br>4.98x3.23x11.02 |
| MTBF - Telcordia SR-332 issue 3** | hours | 8,169,868<br>3,726,622 | 2,963,512<br>2,676,081 | 2,145,809 | 1,998,996 | 1,087,031<br>1,152,309 |
| Warranty | yrs | Limited lifetime warranty (See website for terms & conditions) | | | | |

(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

* Safety certified for AC input only
** 24V output model, 25°C ambient, full load, 230VAC input
*** HWS30A-150A/ME only (See immunity data on website)

## Output Ratings

| Model | Voltage | Adjust Range | Max Current (A) | Max Power (W) | Load Reg(mV) | Line Reg(mV) | Ripple Noise(mV) | Overvoltage (V) | Efficiency (typ) % (1) |
|---|---|---|---|---|---|---|---|---|---|
| HWS30A-5/ME | 5V | 4.0 - 6.0 | 6 | 30 | 40 | 20 | 120 | 6.25-7.25 | 80/82 |
| 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 | 84/86 |
| HWS150A-5/ME | 5V | 4.0 - 6.0 | 30 | 150 | 40 | 20 | 120 | 6.25-7.25 | 85/87 |
| 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 | 84/86 |
| HWS50A-12/ME | 12V | 9.6 - 14.4 | 4.3 | 51.6 | 96 | 48 | 150 | 15-17.4 | 83/85 |
| HWS100A-12/ME | 12V | 9.6 - 14.4 | 8.5 | 102 | 96 | 48 | 150 | 15-17.4 | 86/88 |
| HWS150A-12/ME | 12V | 9.6 - 14.4 | 13 | 156 | 96 | 48 | 150 | 15-17.4 | 85/88 |
| 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 | 85/87 |
| HWS50A-15/ME | 15V | 12.0 - 18.0 | 3.5 | 52.5 | 120 | 60 | 150 | 18.8-21.8 | 83/86 |
| HWS100A-15/ME | 15V | 12.0 - 18.0 | 7 | 105 | 120 | 60 | 150 | 18.8-21.8 | 86/88 |
| HWS150A-15/ME | 15V | 12.0 - 18.0 | 10 | 150 | 120 | 60 | 150 | 18.8-21.8 | 86/89 |
| HWS300-15/ME | 15V | 12.0 - 18.0 | 22 | 330 | 90 | 60 | 150 | 18.8-21.8 | 80/83 |
| 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 | 150 | 96 | 150 | 30-34.8 | 86/88 |
| HWS50A-24/ME | 24V | 19.2 - 28.8 | 2.2 | 52.8 | 150 | 96 | 150 | 30-34.8 | 84/87 |
| HWS100A-24/ME | 24V | 19.2 - 28.8 | 4.5 | 108 | 150 | 96 | 150 | 30-34.8 | 87/89 |
| HWS150A-24/ME | 24V | 19.2 - 28.8 | 6.5 | 156 | 150 | 96 | 150 | 30-34.8 | 88/90 |
| HWS300-24/ME | 24V | 19.2 - 28.8 | 14 (16.5 pk)(4) | 336, (396 pk(4)) | 144 | 96 | 150 | 30-34.8 | 82/85 |
| HWS600-24/ME | 24V | 19.2 - 28.8 | 27 (31 pk)(4) | 648, (744 pk(4)) | 144 | 96 | 150 | 30-34.8 | 82/85 |
| HWS1000-24/ME | 24V | 19.2 - 28.8<br>4.8 - 28.8 (5) | 46 (58.5 pk)(4) | 1104, (1404 pk(4)) | 150 | 96 | 150 | 30-34.8 | 85/87 |
| HWS1500-24/ME | 24V | 19.2 - 28.8<br>4.8 - 28.8 (5) | 65/70(1) (105 pk)(4) | 1560/1680(1), (2520 pk(4)) | 144 | 96 | 200 | 30-34.8 | 84/88 |
| HWS1000-36/ME | 36V | 28.8 - 43.2<br>7.2 - 43.2(5) | 30.7 (39 pk)(4) | 1104, (1404 pk(4)) | 150 | 144 | 200 | 45-49.7 | 85/88 |
| HWS1500-36/ME | 36V | 28.8 - 43.2<br>7.2 - 43.2(5) | 42/46.5(1) (70 pk)(4) | 1512/1674(1), (2520 pk(4)) | 150 | 144 | 200 | 45-49.7 | 84/88 |
| HWS30A-48/ME | 48V | 38.4 - 52.8 | 0.65 | 31.2 | 240 | 192 | 200 | 55.2-64.8 | 86/87 |
| HWS50A-48/ME | 48V | 38.4 - 52.8 | 1.1 | 52.8 | 240 | 192 | 200 | 55.2-64.8 | 84/86 |
| HWS100A-48/ME | 48V | 38.4 - 52.8 | 2.1 | 100.8 | 240 | 192 | 200 | 55.2-64.8 | 88/90 |
| HWS150A-48/ME | 48V | 38.4 - 52.8 | 3.3 | 158.4 | 240 | 192 | 200 | 55.2-64.8 | 89/91 |
| 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<br>9.6 - 52.8(5) | 23 (29.2 pk)(4) | 1104, (1404 pk(4)) | 300 | 192 | 200 | 55.2-60.8 | 86/88 |
| HWS1500-48/ME | 48V | 38.4 - 52.8<br>9.6 - 52.8(5) | 32 | 1536 | 288 | 192 | 200 | 55.2-64.8 | 86/90 |

(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) Peak load at 200VAC input for 10s maximum on time, 35% duty cycle
(5) Using voltage programming input - see installation manual for details

## Options

| Suffix | Description |
|---|---|
| /ME | No Cover (HWS30A-150A/ME Only)<br>HWS300-1500/ME the cover is always fitted |
| /MEA | With Cover (HWS30A-150A/ME only) |

## Other Medical Products

| | |
|---|---|
| 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
https://product.tdk.com/info/en/products/power/index.html

Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.

**Как с нами связаться**

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