

- 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



Medical

Industrial

Test

Broadcast

Comm

LED

Cots

### 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

| MODELS                             |     | HWS30A<br>HWS50A    | HWS100A<br>HWS150A                                                                                                                                                                                                                 | HWS300                   | HWS600                          | HWS1000             | HWS1500                              |
|------------------------------------|-----|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------|---------------------|--------------------------------------|
| ITEM                               |     |                     |                                                                                                                                                                                                                                    |                          |                                 |                     |                                      |
| Input Voltage range                |     | 85-265VAC (47-63Hz) |                                                                                                                                                                                                                                    | 85-265VAC (47-63Hz)      |                                 | 85-265VAC (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)             | (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)<br>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, -6, -8, -11, IEC61000-6-2                                                                                                                                                                                    |                          |                                 |                     |                                      |
| Weight (Typ)                       |     | g                   | 220<br>280                                                                                                                                                                                                                         | 450<br>500               | 1000                            | 1600                | 3200<br>3800                         |
| Size (WxHxD)                       |     |                     | 26 x 82 x 95                                                                                                                                                                                                                       | 33 x 82 x 160            |                                 |                     |                                      |
| (with cover except 30 & 50W)       |     | mm                  | 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<br>280 x 82 x 126.5 |
| Warranty                           |     |                     | Limited Lifetime Warranty (See TDK-Lambda terms & conditions)                                                                                                                                                                      |                          |                                 |                     |                                      |

Notes: (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

## Model Selector

| Model         | Voltage | Adjust Range              | Max Curr(A) <sup>4</sup>                         | Max Power(W)                                          | Load Reg(mV) | Line Reg(mV) | Ripple Noise(mV) | Overvoltage (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><br>(105pk <sup>(5)</sup> )  | 1560/1680 <sup>(1)</sup><br>(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><br>(70 pk) <sup>(5)</sup> | 1512/1674 <sup>(1)</sup><br>(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                          |

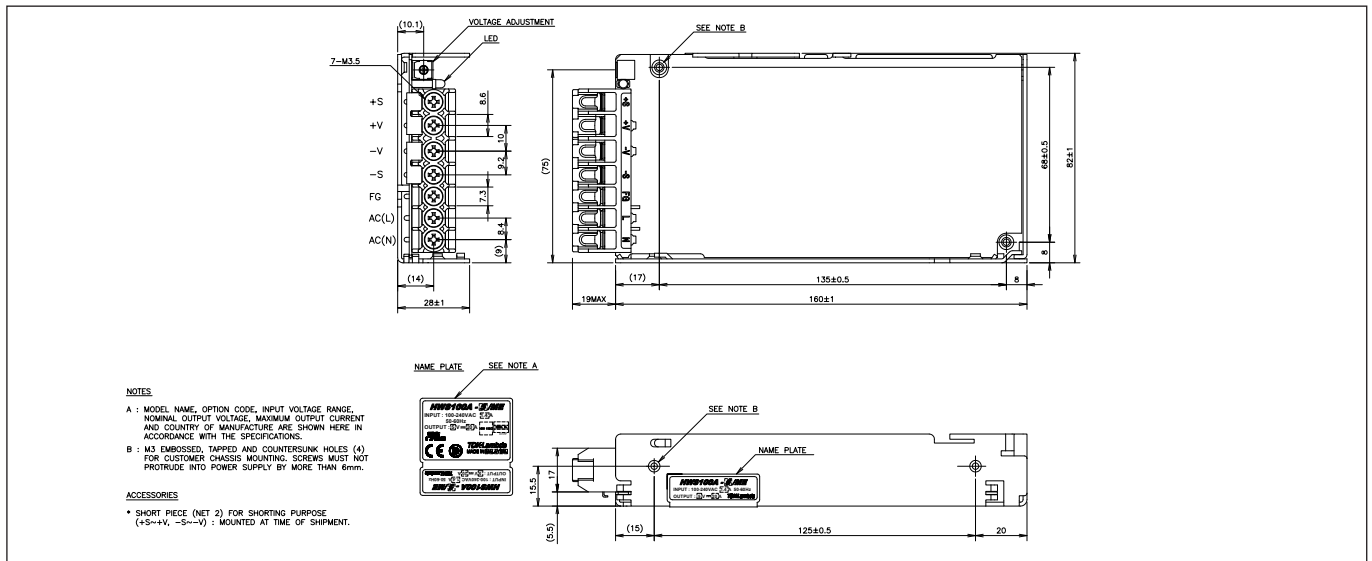
(4) Peak load for 10s maximum on time, 35% duty cycle (5) 200-265AC Input

(6) Using voltage programming input - see installation manual for details

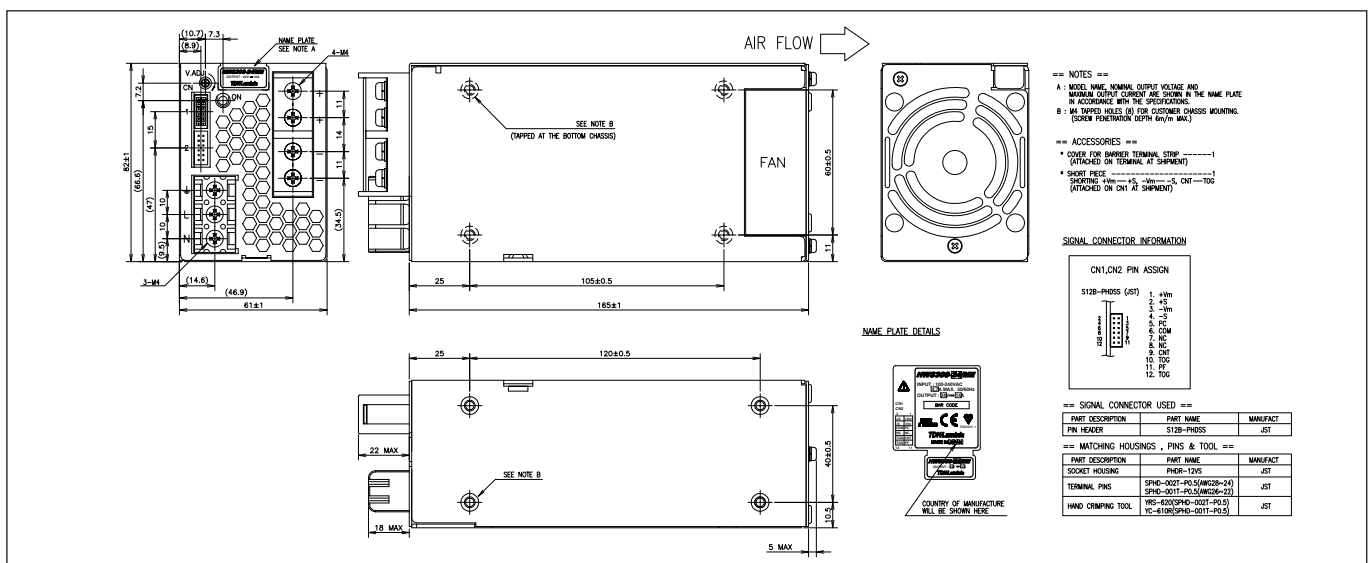
## Options

| Suffix | Description                                                                    |
|--------|--------------------------------------------------------------------------------|
| Blank  | No cover (except HWS300-1500 cover fitted) as standard                         |
| /A     | Cover fitted (egHWSA100-24/MEA)<br>option available for HWSA100 & HWSA150 only |

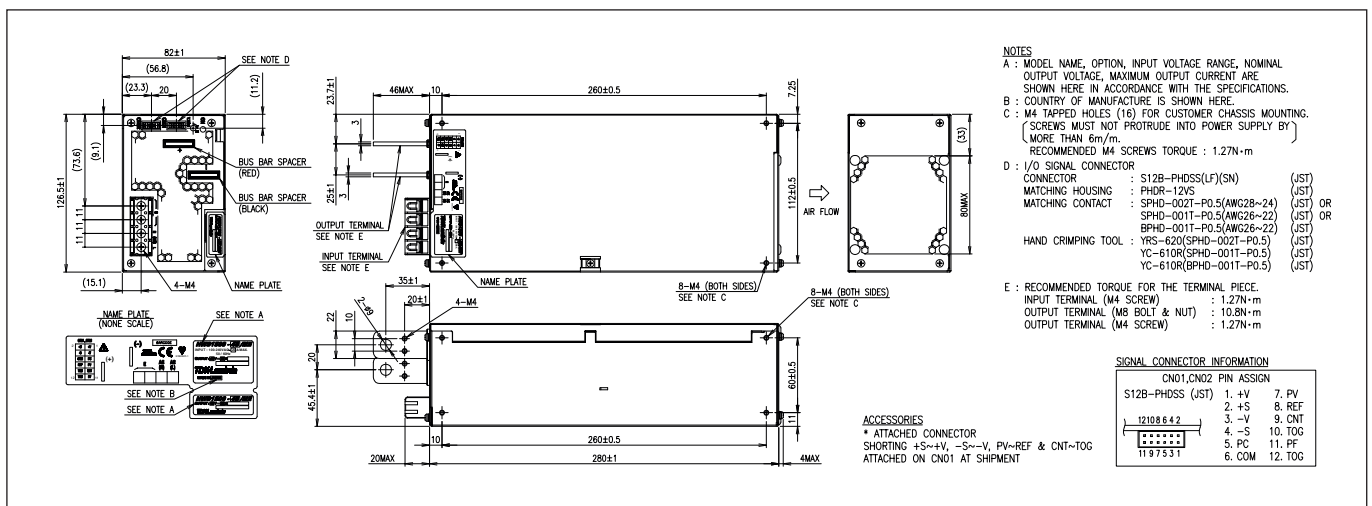
## Outline Drawing HWS100A/MEA Series



## Outline Drawing HWS300 Series



## Outline Drawing HWS1500 Series





**TDK-Lambda France SAS**

ZAC des Delaches  
CS 41077  
9 rue Thuillere  
91978 Villebon Courtaboeuf  
France  
Tel: +33 1 60 12 71 65  
Fax: +33 1 60 12 71 66  
france@fr.tdk-lambda.com  
www.fr.tdk-lambda.com



**Italy Sales Office**

Via dei Lavoratori 128/130  
20092 Cinisello Balsamo (MI)  
Italy  
Tel: +39 02 61 29 38 63  
Fax: +39 02 61 29 09 00  
info.italia@it.tdk-lambda.com  
www.it.tdk-lambda.com



**Netherlands**

info@tdk-lambda.nl  
www.tdk-lambda.nl



**TDK-Lambda Germany GmbH**

Karl-Bold-Strasse 40  
77855 Achern  
Germany  
Tel: +49 7841 666 0  
Fax: +49 7841 5000  
info.germany@de.tdk-lambda.com  
www.de.tdk-lambda.com



**Austria Sales Office**

Aredstrasse 22  
2544 Leobersdorf  
Austria  
Tel: +43 2256 655 84  
Fax: +43 2256 645 12  
info.germany@de.tdk-lambda.com  
www.de.tdk-lambda.com



**Scandinavia Sales Office**

Valdemarsgade 7  
4100 Ringsted  
Denmark  
Tel: +45 24 63 95 65  
Fax: +45 69 80 44 99  
info@de.tdk-lambda.com  
www.emea.tdk-lambda.com



**Switzerland Sales Office**

Bahnhofstrasse 50  
8305 Dietlikon  
Switzerland  
Tel: +41 44 850 53 53  
Fax: +41 44 850 53 50  
info@de.tdk-lambda.com  
www.de.tdk-lambda.com



**TDK-Lambda UK Ltd.**

Kingsley Avenue  
Ilfracombe  
Devon EX34 8ES  
United Kingdom  
Tel: +44 (0) 12 71 85 66 66  
Fax: +44 (0) 12 71 86 48 94  
powersolutions@uk.tdk-lambda.com  
www.uk.tdk-lambda.com



**TDK-Lambda Ltd.**

Kibbutz  
Givat Hashlosa 48800  
Israel  
Tel: +9 723 902 4333  
Fax: +9 723 902 4777  
info@tdk-lambda.co.il  
www.tdk-lambda.co.il



**C.I.S.**

**Commercial Support:**

Tel: +7 (495) 665 2627

**Technical Support:**

Tel: +7 (812) 658 0463  
info@tdk-lambda.ru  
www.tdk-lambda.ru

**Local Distribution**

[www.emea.tdk-lambda.com](http://www.emea.tdk-lambda.com)