



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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TDK-Lambda HWS600/1000L BAT Series

36V & 60V Battery Charger Power Supplies

Features

- ◆ Low Profile
- ◆ Active Power Factor Correction
- ◆ Universal Input (85 - 265VAC)
- ◆ Low acoustical noise
- ◆ Medical certifications (HWS1000L)
- ◆ Adjustable current limit
- ◆ Constant current style limit



Key Market Segments & Applications



| Specifications | | HWS600L | HWS1000L |
|--------------------------------|-----|--|--|
| Input Voltage range | V | 85 - 265VAC (47 - 63Hz) or 120 - 350VDC | |
| Inrush Current (115 / 230VAC) | A | 20 / 40 | |
| Power Factor | - | Meets EN61000-3-2 Class A | |
| Input Current (100/200VAC) | A | 7.1 / 3.6 | 12 / 6 |
| Temperature Coefficient | - | <0.02%/°C | |
| Constant Current Set Accuracy | - | ±10% | |
| Overvoltage Protection | V | 36V: 45 - 52.2V; 60V: 69 - 81V | |
| Overtemperature Protection | - | Yes, cycle AC or Remote On/Off to reset | |
| Hold Up Time (Typ) | ms | 20ms at 115/230VAC | |
| Leakage Current (max) | mA | <0.75mA | 100uA at 115VAC 60Hz ⁽¹⁾ |
| Remote Sense | - | Yes | |
| Parallel Connection | - | Yes | |
| Remote On/Off (CNT) | - | Yes | |
| Voltage Programming | - | Yes, 1-6V adjusts output (see manual for limits) | |
| DC Good & Fan Fail Signal | - | Yes, open collector output | |
| Auxiliary Output | - | 12V 0.1A | |
| LED Indicator | - | Green LED = On | |
| Operating Temperature | °C | -40°C start up. -20 to 74°C, derating linearly to 50% load above 50°C | |
| Storage Temperature | °C | -40 to +85°C | |
| Humidity (non condensing) | RH | 20 - 90% RH operating, 10 - 95%RH non operating | |
| Cooling | - | Variable speed internal fan | |
| Withstand Voltage (One minute) | - | Input to Ground 2kVAC, Input to Output 3kVAC, Output to Ground 500VAC, Output to CNT 100VA | Input to Ground 2kVAC, Input to Output 4kVAC, Output to Ground, 500VAC, Output to CNT 100VAC |
| Isolation Resistance | - | >50M at 25°C & 70%RH, Output to Ground 500VDC | |
| Vibration (non operating) | - | MIL-STD-810F 514.5 Cat. 4, 10 | |
| Shock | - | MIL-STD-810F 516.5 Procedure I, VI | |
| Immunity | - | EN61000-4-2 (Iv2, 3), -3 (Iv1 3), -4 Iv1 (3), -5 (Iv1 3, 4), -6 (Iv1 3), -8 (Iv1 4), -11 | |
| Safety Agency Certifications | - | UL, CSA, EN60950-1, UL, CSA, EN60601-1 (1000W only), EN50178, CE Mark | |
| Conducted & Radiated EMI | - | EN55011 / EN55022-B, FCC Class B | |
| Weight (Typ) | g | 1600 | 2300 |
| Size (WxHxD) | In | 2.4 x 4.72 x 7.48" | 2.4 x 5.91 x 9.45" |
| Warranty | yrs | Five Years | |

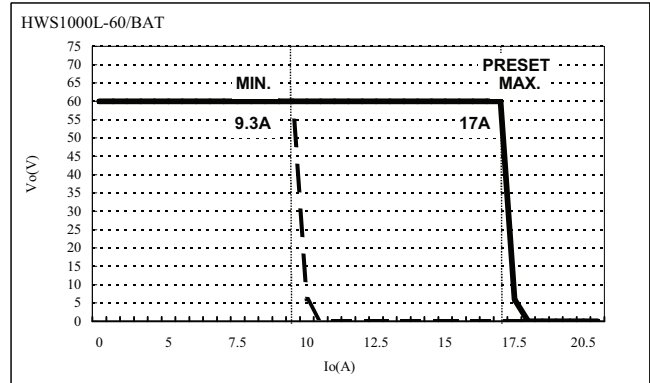
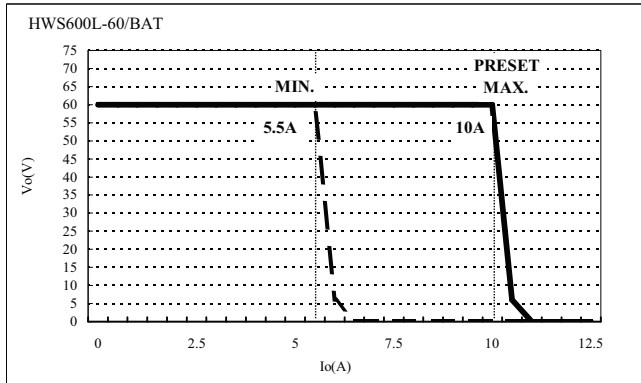
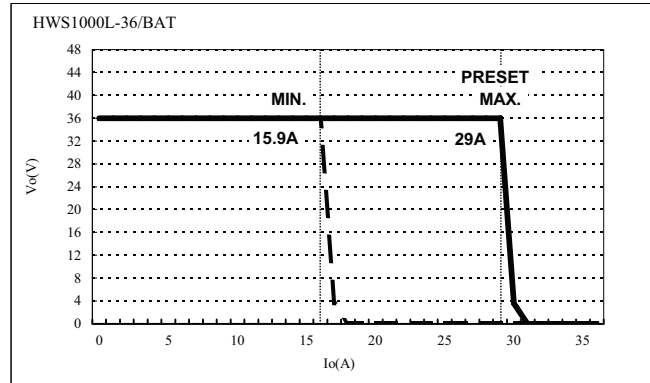
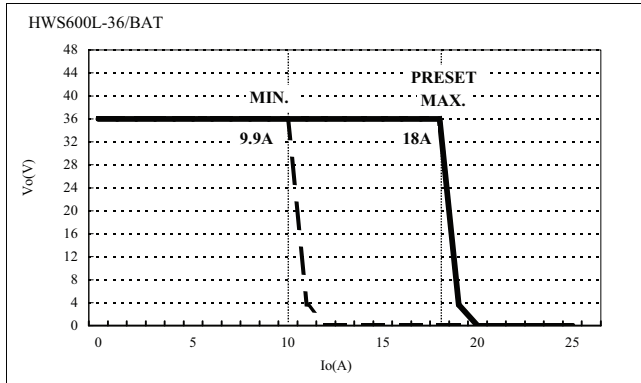
(1) 300uA worse case, 265VAC 63Hz

Model Selector

| Model | Voltage | Voltage Adjust Range | Current Limit Adjust Range | Load Reg (mV) | Line Reg (mV) | Ripple Noise (mV) | Efficiency Typical (%) ⁽²⁾ |
|-----------------|---------|----------------------|----------------------------|---------------|---------------|-------------------|---------------------------------------|
| HWS600L-36/BAT | 36V | 28 - 36V | 9.9 - 18A | 216 | 144 | 200 | 82 / 84 |
| HWS1000L-36/BAT | 36V | 28 - 36V | 15.9 - 29A | 216 | 144 | 200 | 84 / 86 |
| HWS600L-60/BAT | 60V | 48 - 60V | 5.5 - 10A | 360 | 240 | 200 | 82 / 84 |
| HWS1000L-60/BAT | 60V | 48 - 60V | 9.3 - 17A | 360 | 240 | 200 | 84 / 86 |

Notes: (2) 115 / 230VAC

Output Current Limit Curves



Other Industrial Products

| | |
|---------------|--|
| SWS | 50 - 1000W Single output |
| HWS | 15 - 1800W Single output, high reliability |
| ZWS | 5 - 240W pcb style single output |
| DLP, DPP, DSP | 10 - 480W DIN Rail mount |
| LS | 25 - 200W Single output, low cost |

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

