## Low Cost Linear Power Supplies

### Features

- Low Output Ripple
- Single and Multiple Outputs
- Excellent Line & Load Regulation
- Worldwide Voltage Taps
- Industry standard footprint
- Operation up to 70C Ambients



**Key Market Segments & Applications**

- Test & Measurement — Burn-in & Test, Automated Test, Instrumentation, Measurement, Detection
- Low noise applications
- Light Industrial

RoHS

## Specifications

| Model | | |
|---|---|---|
| AC Input | - | 100/120/220/230/240VAC, 47-63Hz (derate by 10% for 50Hz operation) |
| Efficiency | - | 5V: 45%, 12/15V: 55%, 24V: 60% |
| Transient Response | - | 50us for 50% load change |
| EMI | - | FCC Class B, VDE0871 Level B |
| Output Adjustment | - | ±5% for all outputs (except outputs 2 & 3 on triple output models) |
| Remote Sense | - | On all single output models, HDC12 & HDC15, and output 1 of triple output models |
| Line Regulation | - | ±0.05% for 10% line change |
| Load Regulation | - | ±0.05% for 50% load change |
| Ripple and Noise | - | <3mV peak to peak |
| Overcurrent Protection | - | Foldback with automatic recovery (Contact factory before adjusting) |
| Overvoltage Protection | - | Standard on 5V outputs set at 6.2V ±0.4V OVP12 module sold separately for other outputs (see model selector) |
| Cooling | - | Convection or forced air |
| Operating Temp. Range | - | 0 to +70°C, derate 3%/°C above 50°C |
| Storage Temperature | °C | -55 to +85°C |
| Temperature coefficient | - | ±0.01% per °C |
| Humidity | - | 5 - 95% RH (non condensing) |
| Leakage Current | uA | <50uA |
| Vibration | - | MIL-STD-810C, Method 514 |
| Shock | - | MIL-STD-810C, Method 516 |
| Safety Agency Approval | - | UL60950-1, EN60950-1, CE Mark |
| Size | - | Please see outline drawings |
| Warranty | - | Two years |

Note: See Installation Manual for full details, test methods of parameters and application notes

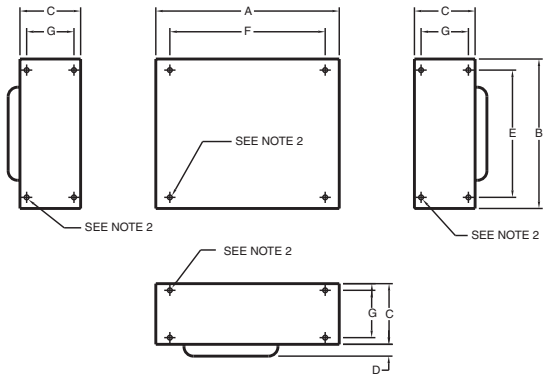
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## 2 Output Module Codes

| | Model | Output | Output (V) | Max Current (A) | Power (W) |
|---|---|---|---|---|---|
| Single Output | HSB5-3-OVP | V1 | 5 | 3.0 | 15.0 |
| | HSC5-6-OVP | V1 | 5 | 6.0 | 30.0 |
| | HSN5-9-OVP | V1 | 5 | 9.0 | 45.0 |
| | HSD5-12-OVP | V1 | 5 | 12.0 | 60.0 |
| | HSB12-1.7 | V1 | 12 | 1.7 | 20.4 |
| | HSC12-3.4 | V1 | 12 | 3.4 | 40.8 |
| | HSN12-5.1 | V1 | 12 | 5.1 | 61.2 |
| | HSB15-1.5 | V1 | 15 | 1.5 | 22.5 |
| | HSC15-3 | V1 | 15 | 3.0 | 45.0 |
| | HSN15-4.5 | V1 | 15 | 4.5 | 67.5 |
| | HSB24-1.2 | V1 | 24 | 1.2 | 28.8 |
| | HSC24-2.4 | V1 | 24 | 2.4 | 57.6 |
| | HSN24-3.6 | V1 | 24 | 3.6 | 86.4 |
| | HSD24-4.8 | V1 | 24 | 4.8 | 115.2 |
| | HSB28-1.0 | V1 | 28 | 1.0 | 28.0 |
| | HSC28-2.0 | V1 | 28 | 2.0 | 56.0 |
| | HSN28-3.0 | V1 | 28 | 3.0 | 84.0 |
| | HSD28-4.0 | V1 | 28 | 4.0 | 112.0 |
| Dual Output | HDA12-15 | V1 | +12/15 | 1.0/0.8 | 24.0 |
| | | V2 | -12/15 | 1.0/0.8 | |
| | HDB12-15 | V1 | +12/15 | 1.8/1.5 | 40.0 |
| | | V2 | -12/15 | 1.8/1.5 | |
| | HDC12 | V1 | 12* | 3.4 | 80.0 |
| | | V2 | 12* | 3.4 | |
| | HDC15 | V1 | 15* | 3.0 | 80.0 |
| | | V2 | 15* | 3.0 | |
| Triple Output | HTC1 | V1 | 5* | 3.0 | 40.0 |
| | | V2 | +12/15 | 1.0/0.8 | |
| | | V3 | -12/15 | 1.0/0.8 | |
| | HTD1 | V1 | 5* | 6.0 | 70.0 |
| | | V2 | +12/15 | 1.7/1.5 | |
| | | V3 | -12/15 | 1.7/1.5 | |
| Accessories | OVP12 Adjustable 6.2-34V, 8A continuous, 12A peak | | | | |

* Isolated Outputs

## H Outline Drawing




**DIMENSIONS:**

| MODEL | | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|---|
| HSB | A | 4.881 (124.0) | 3.976 (101.0) | 1.614 (41.0) | .314 (8.0) | 3.385 (86.0) | 4.13 (105.0) | - |
| HSC | B | 4.881 (124.0) | 5.629 (143.0) | 2.480 (63.0) | .472 (12.0) | 4.881 (124.0) | 4.13 (105.0) | 1.28 (32.5) |
| HSN | C | 4.881 (124.0) | 7.007 (178.0) | 2.755 (70.0) | .472 (12.0) | 6.259 (159.0) | 4.13 (105.0) | 1.259 (32.0) |
| HSD | I | 4.881 (124.0) | 8.818 (224.0) | 2.755 (70.0) | .590 (15.0) | 7.992 (203.0) | 4.13 (105.0) | 1.259 (32.0) |
| HDA | H | 4.015 (102.0) | 6.496 (165.0) | 1.653 (42.0) | .314 (8.0) | 5.748 (146.0) | 3.38 (86.0) | - |
| HDB | D | 4.881 (124.0) | 7.007 (178.0) | 2.755 (70.0) | .472 (12.0) | 6.259 (159.0) | 4.13 (105.0) | 1.259 (32.0) |
| HDC | I | 4.881 (124.0) | 8.818 (224.0) | 2.755 (70.0) | .590 (15.0) | 7.992 (203.0) | 4.13 (105.0) | 1.259 (32.0) |
| HTC | F | 4.015 (102.0) | 10.236 (260.0) | 2.519 (64.0) | .314 (8.0) | 9.251 (235.0) | 3.38 (86.0) | 1.259 (32.0) |
| HTD | G | 4.881 (124.0) | 11.023 (280.0) | 2.755 (70.0) | .590 (15.0) | 7.480 (190.0) | 4.13 (105.0) | 1.259 (32.0) |

**WEIGHT:**

| MODEL | LBS |
|---|---|
| HSB | 1.98 |
| HSC | 3.96 |
| HSN | 5.94 |
| HSD | 7.48 |
| HDA | 1.98 |
| HDB | 3.96 |
| HDC | 7.48 |
| HTC | 5.06 |
| HTD | 7.92 |

NOTE:
1. DIMENSIONS ARE IN INCHES EXCEPT DIMENSIONS ( ) ARE IN MM.
2. .188 (4.8) HOLES FOR CUSTOMER MTG.

## Other Industrial Products

| | |
|---|---|
| HWS | 15 to 1800W single output (switching) |
| NNS | 15 to 90W high reliability (linear) |
| ZWS | 5 to 150W single output, universal input (switching) |
| VSB & VSC | 10 to 150W single output, 115VAC input (switching) |

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

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