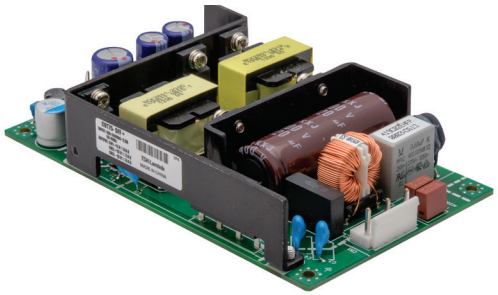
# 75W Dual or Triple Output Low Profile Power Supplies

https://product.tdk.com/en/power/cut
www.emea.lambda.tdk.com/cut



Medical Industrial Test Broadcast

The triple output CUT75 power supplies have two independent, isolated, converters, one for the main 5V output, and one for the auxiliary outputs. This topology provides several benefits - no minimum loading, enhanced load & line regulation and the ability to connect the auxiliary outputs in series to generate either a 24V or 30V output. The series is certified to both the IEC60601-1 and IEC62368-1 safety standards. Several mechanical configurations are available - open frame, an attached baseplate or with a baseplate and cover enclosure. Screw terminal blocks for the input and output connectors can also be selected.

| Features | Benefits |
|---|---|
| • 3 x 5 Footprint With a Low 1.06" (27mm) Height | • Space Saving in End Equipment |
| • Output 1 Isolated From Outputs 2 & 3 | • Flexible Utilization |
| • No Minimum Loading | • Reduced Load Regulation |
| • Open Frame, Baseplate or Enclosed Formats | • Versatile Mounting |
| • Three Year Warranty | • Low Cost of Ownership |

## Model Selector

| Model | | Voltage (V) | Adjustable Range (V) | Max Current (A) | Max Power (W) | Load Reg (mV) | Line Reg (mV) (1) | Ripple Noise (mV)(1) |
|---|---|---|---|---|---|---|---|---|
| CUT75-522 | V1 | 5 | 5 - 5.25 | 8.0 | 40.0 | 100 | 50 | 120 |
| | V2 | +12 | Fixed | 3.0 | 36.0 | 600 | 240 | 150 |
| | V3 | -12 | Fixed | 1.0 | | 600 | 240 | 150 |
| CUT75-522 | V1 | 5 | 5 - 5.25 | 8.0 | 40.0 | 100 | 50 | 120 |
| | V2 | 24 | Fixed | 1.0 | 24.0 | 750 | 300 | 150 |
| | (Leave common terminal unconnected) | | | | | | | |
| CUT75-5FF | V1 | 5 | 5 - 5.25 | 8.0 | 40.0 | 100 | 50 | 120 |
| | V2 | +15 | Fixed | 2.5 | 37.5 | 750 | 300 | 150 |
| | V3 | -15 | Fixed | 1.0 | | 750 | 300 | 150 |
| CUT75-5FF | V1 | 5 | 5 - 5.25 | 8.0 | 40 | 100 | 50 | 120 |
| | V2 | 30 | Fixed | 1.0 | 30 | 750 | 300 | 150 |
| | (Leave common terminal unconnected) | | | | | | | |

| CUT75- | 522 | / | A |
|---|---|---|---|

Output voltage see model selector

| | |
|---|---|
| blank | Open frame with JST connectors |
| /A | Cover with JST connectors |
| /B | Baseplate with JST connectors |
| /T | Open frame with screw connections |
| /TA | Cover with screw connections |
| /TB | Baseplate with screw connections |

Preferred model

## Specifications

| Model | | CUT75-522 | CUT75-5FF |
|---|---|---|---|
| **Input** | | | |
| Input Voltage Range(1) | V | 85 - 265Vac or 120 - 370Vdc* | |
| Input Frequency | Hz | 47 - 63 | |
| Input Current(100/200Vac) | A | 2 / 1 | |
| Inrush Current at 200Vac (typ) (Cold Start) | A | 36 | |
| Leakage Current (265Vac 50Hz) | mA | less than 0.3 | |
| Hold Up Time(typ) at 110/220Vac Input | ms | 20 | |
| Efficiency (200Vac) | % | 85 | 85 |
| Conducted & Radiated EMI | - | EN55011/EN55032-B, FCC Class B | |
| Immunity | - | IEC61000-4-2, -3, -4, -5, -6, -8, -11 | |
| Safety Certifications and Markings | - | IEC/UL/CSA/EN62368-1, IEC/EN/ES/CSA60601-1, CE Mark and UKCA Mark | |

## Immunity

| Test | Standard | Test Level | Criteria | Notes |
|---|---|---|---|---|
| ESD | EN61000-4-2 | Air ±15kV and contact ±8kV | A | See IEC61000 immunity test report on website |
| Radiated Susceptibility | EN61000-4-3 | 80M -1GHz: 10V/m<br>1.4 - 2.0GHz: 3V/m<br>2.0 - 2.7GHz: 1V/m | A | |
| Electrical Fast Transient Burst | EN61000-4-4 | ±4kV | A | |
| Surge | EN61000-4-5 | Normal ±2kV<br>Common ±4kV | A | |
| Conducted Susceptibility | EN61000-4-6 | 10Vrms | A | |
| Magnetic Fields | EN61000-4-8 | 30A/m | A | |
| Voltage Dips | EN61000-4-11 | 30% 500ms<br>60% 10ms<br>100% 20ms<br>100% 5000ms | B<br>B<br>B<br>B | |

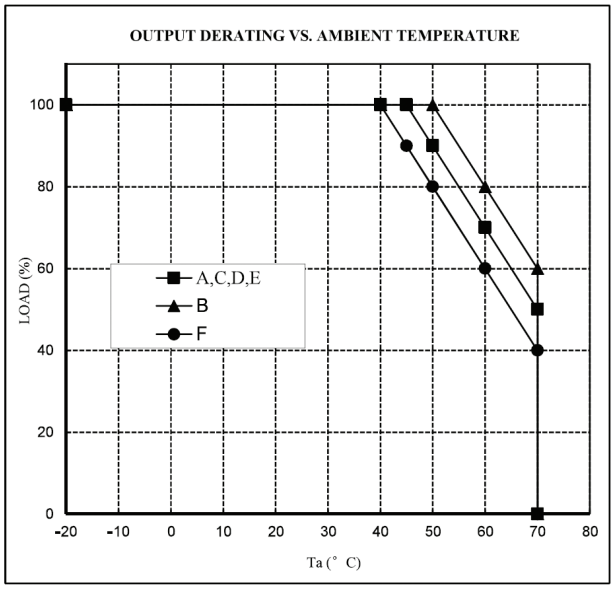
## Specifications

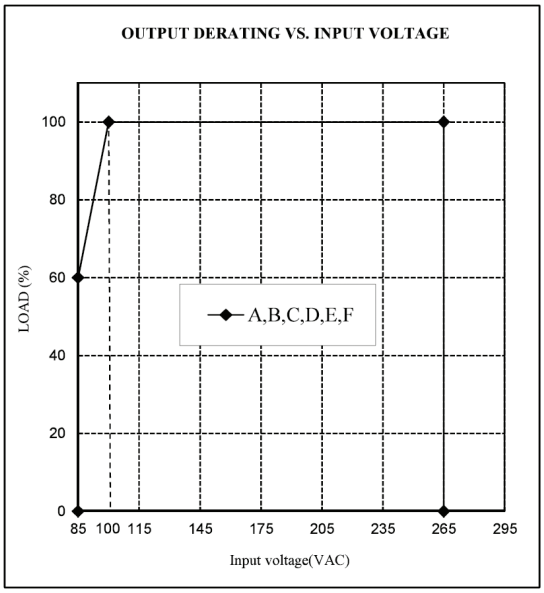
| Model | | CUT75-522 | CUT75-5FF |
|---|---|---|---|
| **Output** | | | |
| Output Voltage Adjustment | - | See model selector table | |
| Switching Frequency | kHz | 100 | |
| Load Regulation | - | See model selector table | |
| Ripple & Noise | - | See model selector table | |
| Temperature Coefficient | %/°C | V1: <0.02, V2 & 3 <0.03 (-20 to +70°C) | |
| Minimum Load | - | No minimum load required | |
| Overcurrent Protection | % | >105. Hiccup with auto recovery | |
| Overvoltage Protection(2) | - | V1: 5.7-7.0, V2: 13.8 - 16.8 | V1: 5.7-7.0, V2: 17.2 - 21.0 |
| Remote Sense | - | - | |
| Remote On/Off | - | - | |
| Parallel Operation | - | Not possible | |
| Series Operation | - | Not possible | |
| **Environmental** | | | |
| Operating Temperature(3) | °C | -20 to +70 (See derating drawing for open frame model)(3) | |
| Operating Humidity | %RH | 5 - 95 (Non Condensing) | |
| Storage Temperature | °C | -30 to +85 | |
| Humidity (non condensing) | %RH | 5 - 95 | |
| Cooling | - | Convection cooling | |
| Altitude | m | 3000 | |
| Withstand Voltage (For 1 minute) | Vac | Input to Ground: 2,000, Input to Output: 3,000, Output to Ground: 500, CH1 - V2/V3: 500 | |
| Vibration (Non operating) | - | 10-55Hz (Sweep for 1min.)<br>19.6m/s$^2$ Constant X,Y,Z 1 hour each | |
| Shock (Non operating, in package) | - | Less than 196.1m/s$^2$, 11ms | |
| **Other** | | | |
| Weight (Typ) | g | Open Frame: 210, Enclosed (/A): 400 | |
| Size (LxWxH) | mm | Open Frame: 127 x 76 x 27<br>Enclosed (/A): 130 x 82 x 38 | |
| Size (LxWxH) | Inches | Open Frame: 5.0 x 3 x 1.06<br>Enclosed (/A): 5.12 x 3.23 x 1.5 | |
| Connectors | - | JST or screw terminal blocks (/T suffix) | |
| MTBF - JEITA RCR-9102B(4) | Hours | 169,333 | |
| Warranty | yrs | 3 | |

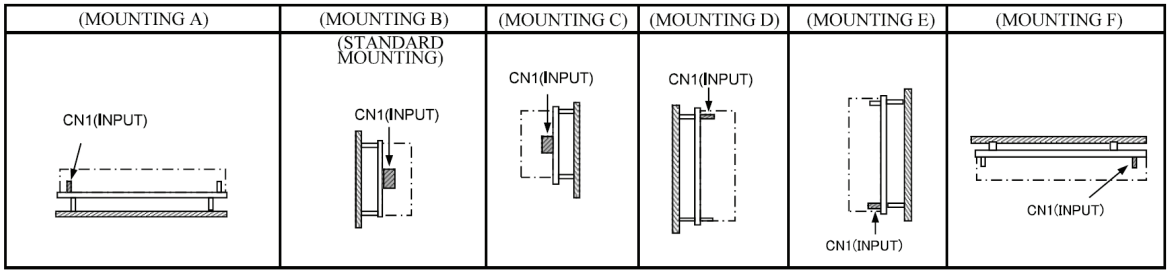
Notes
See website for detailed specifications, test methods and installation manual
* Safety certified for AC input only
(1) Derate linearly to 60% load from 100Vac to 85Vac input
(2) Cycle AC to reset
(3) See derating curves in installation manual for all mounting orientations and models
(4) Part count method, Ground Fixed

## CUT75 Open Frame Derating

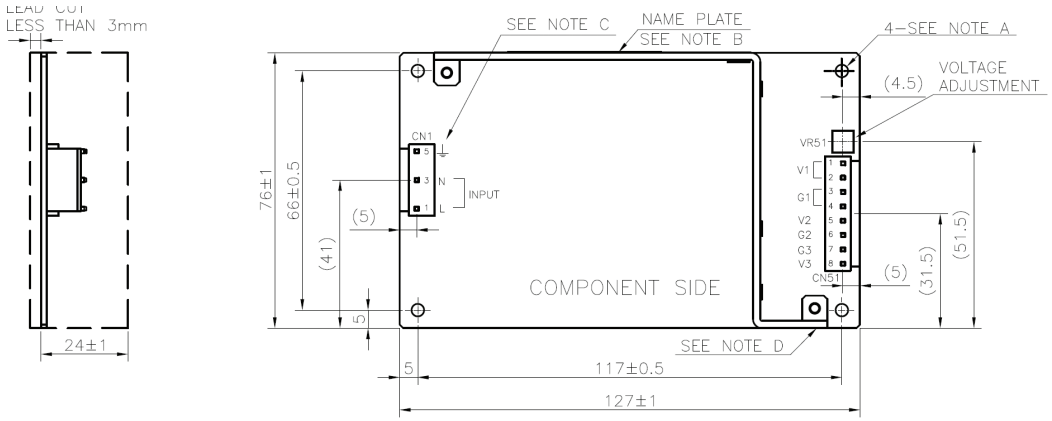
*COOLING: CONVECTION COOLING




## Outline Drawing CUT75 (Open Frame)




CONNECTORS USED:

| PART DESCRIPTION | PART NAME | MANUFACT. | QTY |
|---|---|---|---|
| PIN HEADER (INPUT SIDE CN1) | B3P5-VH | JST | 1 |
| PIN HEADER(OUTPUT SIDE CN51) | B8P-VH | JST | 1 |

*OUTPUT CURRENT OF EACH CONNECTOR PIN MUST BE LESS THAN 5A.

MATCHING HOUSINGS AND PINS(NOT INCLUDED WITH THE PRODUCT):

| | | | |
|---|---|---|---|
| SOCKET HOUSING (CN1) | VHR-5N | JST | 1 |
| SOCKET HOUSING (CN51) | VHR-8N | JST | 1 |
| TERMINAL PINS | SVH-21T-P1.1 | JST | 11 |

HAND CRIMPING TOOL : YC-160R CN1,CN51 MANUFACTURER : JST

NOTES

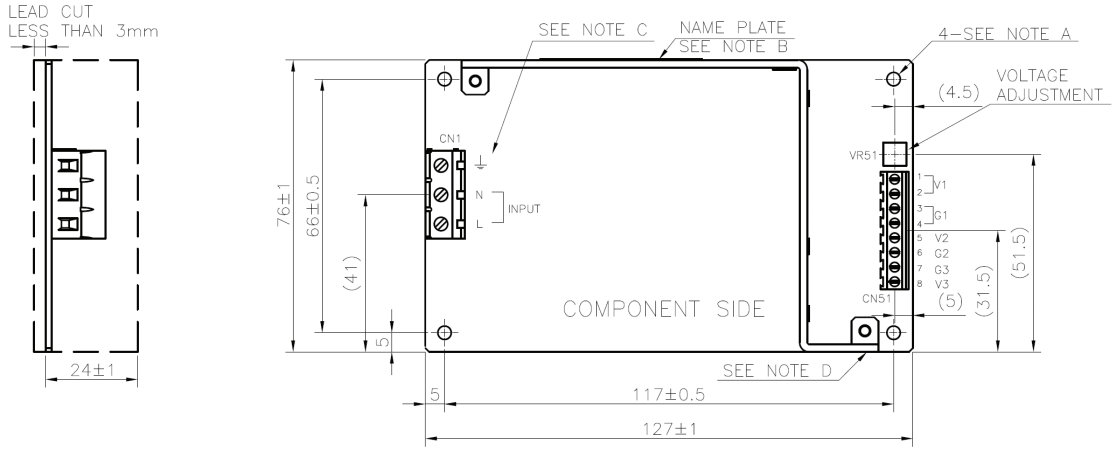
A: THE 4-ø3.5 HOLE ARE CUSTOMER CHASSIS MOUNTING HOLES. ALL MUST BE SCREWED IN ORDER TO CONFORM THE VIBRATION SPEC.

B: MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE, NOMINAL OUTPUT CURRENT, PEAK OUTPUT CURRENT AND SAFETY MARKING(FOR ONLY APPROVED PRODUCTS)ARE SHOWN ON THE NAME PLATE IN ACCORDANCE WITH THE SPECIFICATIONS. COUNTRY OF MANUFACTURE WILL BE SHOWN ON THE NAME PLATE.

C: ⏚ IS FOR SAFETY GROUND CONNECTION.

D: TO KEEP THE DISTANCE MORE THAN 4mm BETWEEN PC-BOARD EDGE AND CUSTOMER'S CHASSIS.

## Outline Drawing CUT75/T (Open Frame, Screw Terminals)




CONNECTORS USED:

| PART DESCRIPTION | PART NAME | MANUFACT. | QTY |
|---|---|---|---|
| PIN HEADER (INPUT SIDE CN1) | TL402V−0754−03P−G12S | TIANLI | 1 |
| PIN HEADER(OUTPUT SIDE CN51) | TL100V−0755−08P−G12S | TIANLI | 1 |

*OUTPUT CURRENT OF EACH CONNECTOR PIN MUST BE LESS THAN 5A.

NOTES

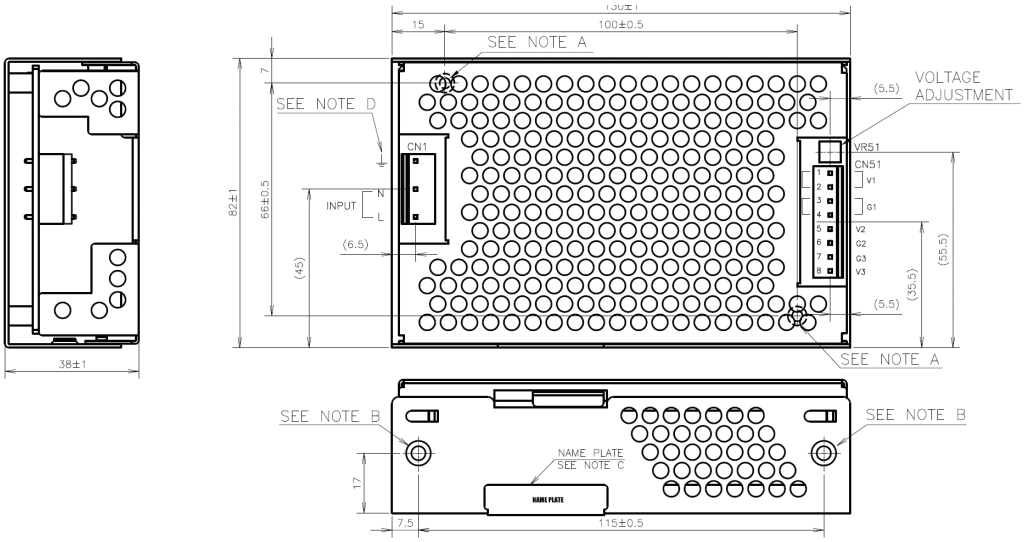
A: THE 4−ø3.5 HOLE ARE CUSTOMER CHASSIS MOUNTING HOLES. ALL MUST BE SCREWED IN ORDER TO CONFORM THE VIBRATION SPEC.

B: MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE, NOMINAL OUTPUT CURRENT, PEAK OUTPUT CURRENT AND SAFETY MARKING(FOR ONLY APPROVED PRODUCTS)ARE SHOWN ON THE NAME PLATE IN ACCORDANCE WITH THE SPECIFICATIONS. COUNTRY OF MANUFACTURE WILL BE SHOWN ON THE NAME PLATE.

C: ⏚ IS FOR SAFETY GROUND CONNECTION.

D: TO KEEP THE DISTANCE MORE THAN 4mm BETWEEN PC−BOARD EDGE AND CUSTOMER'S CHASSIS.

## Outline Drawing CUT75 /A (Enclosed)




CONNECTORS USED:

| PART DESCRIPTION | PART NAME | MANUFACT. | QTY |
|---|---|---|---|
| PIN HEADER (INPUT SIDE CN1) | B3P5−VH | JST | 1 |
| PIN HEADER(OUTPUT SIDE CN51) | B8P−VH | JST | 1 |

*OUTPUT CURRENT OF EACH CONNECTOR PIN MUST BE LESS THAN 5A.

MATCHING HOUSINGS AND PINS(NOT INCLUDED WITH THE PRODUCT):

| | | | |
|---|---|---|---|
| SOCKET HOUSING (CN1) | VHR−5N | JST | 1 |
| SOCKET HOUSING (CN51) | VHR−8N | JST | 1 |
| TERMINAL PINS | SVH−21T−P1.1 | JST | 11 |

HAND CRIMPING TOOL : YC−160R CN1,CN51 MANUFACTURER : JST

NOTES

A: THE 2−M3 TAPPED & STANDOFF FOR CUSTOMER CHASSIS MOUNTING.SCREWS MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 5mm.

B: THE 2−M4 EMBOSSED TAPPED & COUNTER−SUNK HOLES FOR CUSTOMER CHASSIS MOUNTING. SCREWS MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 8mm.

C: MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE, NOMINAL OUTPUT CURRENT, PEAK OUTPUT CURRENT AND SAFETY MARKING(FOR ONLY APPROVED PRODUCTS)ARE SHOWN ON THE NAME PLATE IN ACCORDANCE WITH THE SPECIFICATIONS. COUNTRY OF MANUFACTURE WILL BE SHOWN ON THE NAME PLATE

D: ⏚ IS FOR SAFETY GROUND CONNECTION.

**TDK-Lambda France SAS**
Tel: +33 1 60 12 71 65
france@fr.tdk-lambda.com
www.emea.lambda.tdk.com/fr

**Italy Sales Office**
Tel: +39 02 61 29 38 63
info.italia@it.tdk-lambda.com
www.emea.lambda.tdk.com/it

**Netherlands**
info@nl.tdk-lambda.com
www.emea.lambda.tdk.com/nl

**TDK-Lambda Germany GmbH**
Tel: +49 7841 666 0
info@de.tdk-lambda.com
www.emea.lambda.tdk.com/de

**Austria Sales Office**
Tel: +43 2256 655 84
info@at.tdk-lambda.com
www.emea.lambda.tdk.com/at

**Switzerland Sales Office**
Tel: +41 44 850 53 53
info@ch.tdk-lambda.com
www.emea.lambda.tdk.com/ch

**Nordic Sales Office**
Tel: +45 8853 8086
info@dk.tdk-lambda.com
www.emea.lambda.tdk.com/dk

**TDK-Lambda UK Ltd.**
Tel: +44 (0) 12 71 85 66 66
info@uk.tdk-lambda.com
www.emea.lambda.tdk.com/uk

**TDK-Lambda Ltd.**
Tel: +9 723 902 4333
info@tdk-lambda.co.il
www.emea.lambda.tdk.com/il

**C.I.S.**
**Commercial Support:**
Tel: +7 (495) 665 2627
**Technical Support:**
Tel: +7 (812) 658 0463
info@tdk-lambda.ru
www.emea.lambda.tdk.com/ru

**TDK-Lambda Americas**
Tel: +1 800-LAMBDA-4 or 1-800-526-2324
powersolutions@us.tdk-lambda.com
www.us.lambda.tdk.com

**TDK Electronics do Brasil Ltda**
Tel: +55 11 3289-9599
sales.br@tdk-electronics.tdk.com
www.tdk-electronics.tdk.com/en

**TDK-Lambda Corporation**
Tel: +81-3-6778-1113
www.jp.lambda.tdk.com

**TDK-Lambda (China) Electronics Co. Ltd.**
Tel: +86 21 6485-0777
powersolutions@cn.tdk-lambda.com
www.lambda.tdk.com.cn

**TDK-Lambda Singapore Pte Ltd.**
Tel: +65 6251 7211
tls.mkt@sg.tdk-lambda.com
www.sg.lambda.tdk.com

**TDK India Private Limited, Power Supply Division**
Tel: +91 80 4039-0660
mathew.philip@in.tdk-lambda.com
www.sg.lambda.tdk.com

For Additional Information, please visit
https://product.tdk.com/en/power/

CUT75-260862 February 10th, 2022 V1