CUI INC
a bel group



# SERIES: SDI50-UD | DESCRIPTION: AC-DC POWER SUPPLY

## FEATURES

- DoE Level VI, CoC Tier 2 efficiency
- 50 W power
- universal input (90~264 Vac)
- compact size
- single regulated output from 9~48 Vdc
- over voltage and short circuit protections
- UL/cUL and PSE safety approvals
- custom designs available
- certified to 60950-1 and 62368-1 standards

RoHS c UL us PSE CE FC LPS

## MODEL

| MODEL | output voltage (Vdc) | output current max (A) | output power max (W) | ripple and noise[1] max (mVp-p) | efficiency level[2] |
|---|---|---|---|---|---|
| SDI50-9-UD | 9 | 5 | 45 | 100 | VI |
| SDI50-12-UD | 12 | 4.2 | 50 | 120 | VI |
| SDI50-15-UD | 15 | 3.34 | 50 | 150 | VI |
| SDI50-18-UD | 18 | 2.78 | 50 | 180 | VI |
| SDI50-19-UD | 19 | 2.64 | 50 | 190 | VI |
| SDI50-24-UD | 24 | 2.1 | 50 | 240 | VI |
| SDI50-48-UD | 48 | 1.05 | 50 | 480 | VI |

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope, each output terminated with 0.1 µF multilayer ceramic and 10 µF low ESR electrolytic capacitors.
2. CoC Tier 2 compliant

## PART NUMBER KEY

**SDI50 - XX - UDX - XXX - CXX**

- Base Number
- Output Voltage
- AC Inlet Type: IEC320/C8
- Input Cable:
  "Blank" = No Cable
  C = North America input cable
  2 = Europe input cable
  3 = United Kingdom input cable
  4 = Australia input cable
  5 = China input cable
  6 = South Korea input cable
  7 = Brazil input cable
  8 = South Africa input cable
  9 = Japan input cable
- DC Plug Type:
  XXX = See output plug options on page 5 for more details
- Reserved for Custom Configurations

## INPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| voltage | | 90 | | 264 | Vac |
| frequency | | 47 | | 63 | Hz |
| current | | | | 1.2 | A |
| inrush current | at 230 Vac, full load, 25°C, cold start | | | 70 | A |
| leakage current | | | | 0.25 | mA |
| no load power consumption | at 230 Vac<br>9 Vdc model<br>all other models | | | <br>0.10<br>0.15 | <br>W<br>W |

## OUTPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| regulation | | | ±5 | | % |

## PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| over voltage protection | output latch off | | | 180 | % |
| over current protection | output shut down, auto recovery | | | 180 | % |
| short circuit protection | output shut down, auto recovery | | | | |

## SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| isolation voltage | input to output at 10 mA for 1 minute | | 3,000 | | Vac |
| isolation resistance | input to output at 500 Vdc | 10 | | | MΩ |
| safety approvals | UL/cUL (60950-1, 62368-1), PSE, LPS | | | | |
| EMI/EMC | FCC Part 15B Class B, CE | | | | |
| MTBF | as per Telcordia SR-332, 25°C | 300,000 | | | hours |
| RoHS | yes | | | | |

## ENVIRONMENTAL

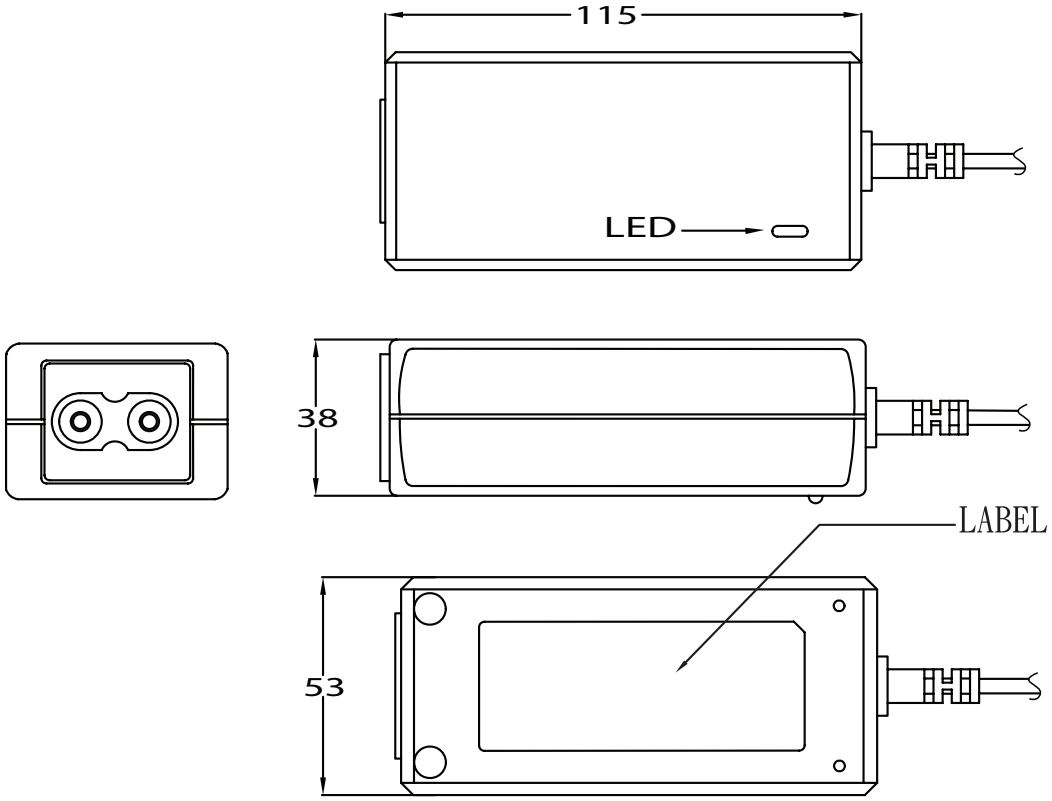
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| operating temperature | | 0 | | 40 | °C |
| storage temperature | | -20 | | 80 | °C |
| operating humidity | non-condensing | 20 | | 80 | % |
| storage humidity | non-condensing | 10 | | 90 | % |

## MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| dimensions | 115 x 53 x 38 | | | | mm |
| inlet plug | IEC320/C8 | | | | |
| weight | without ac cord | | 310 | | g |

## MECHANICAL DRAWING

units: mm
tolerance: ±1.0 mm




## DC CORD

units: mm

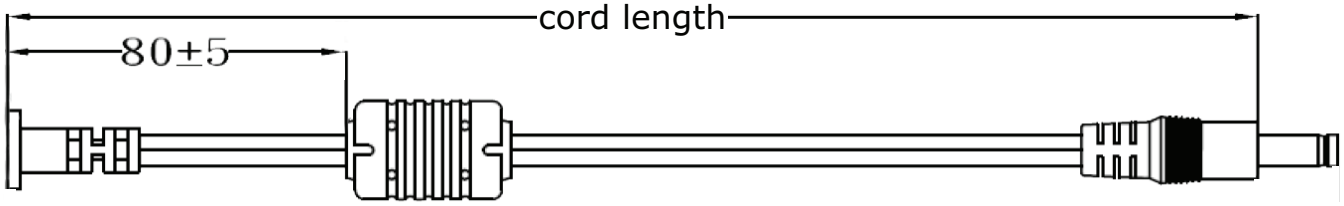
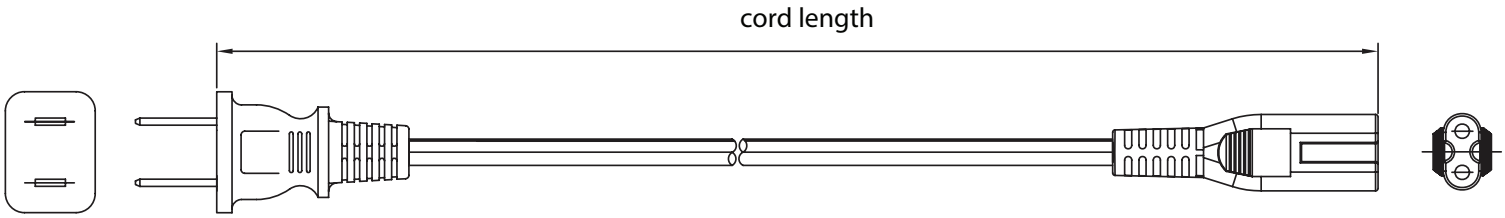



**Table 1**

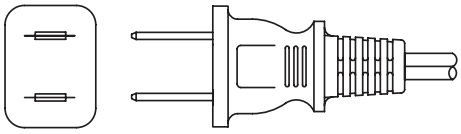
| MODEL NO. | CABLE | CORD LENGTH |
|---|---|---|
| SDI50-9-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-12-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-15-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-18-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-19-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-24-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-48-UD | UL2468, 20 AWG | 1,500 mm ±30 |

## AC CORD

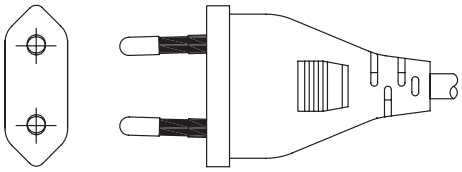
units: mm



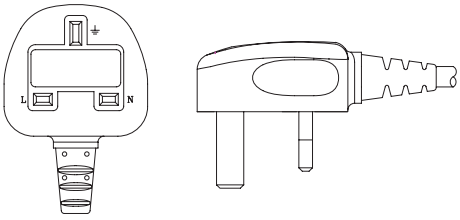

### NORTH AMERICA



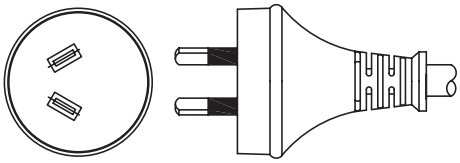
### EUROPE



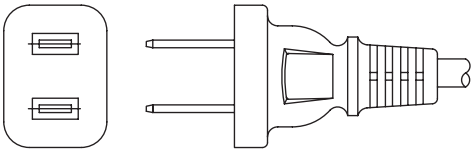
### UNITED KINGDOM



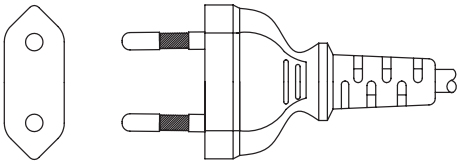

### AUSTRALIA



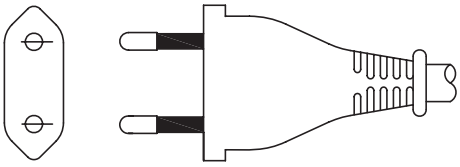
### CHINA



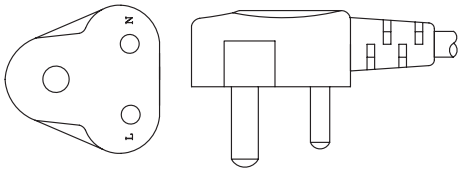
### SOUTH KOREA



### BRAZIL



### SOUTH AFRICA




### JAPAN

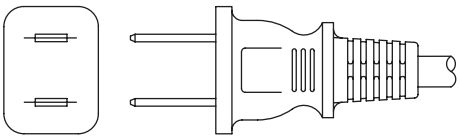


**Table 2**

| AC INPUT | CORD LENGTH |
|---|---|
| North America | 1,830 mm ±50 |
| Europe | 1,830 mm ±50 |
| United Kingdom | 1,830 mm ±30 |
| Australia | 1,830 mm ±30 |
| China | 1,830 mm ±30 |
| South Korea | 1,830 mm ±50 |
| Brazil | 1,830 mm ±30 |
| South Africa | 1,830 mm ±50 |
| Japan | 1,830 mm ±50 |

## DC PLUG TYPE PART NUMBER KEY

**X X X**

**Plug Polarity:**
P = Center Positive

N = Center Negative

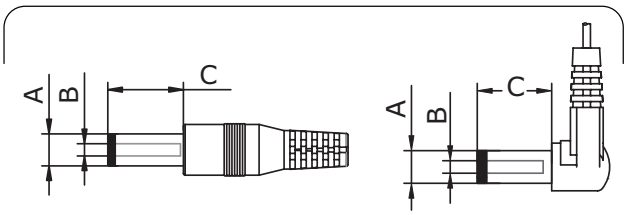
**Plug Code:**
X = Choose a code from the options below

**Plug Angle:**
"blank" = Straight
R = Right Angle

| Plug Polarity | | Code | | Dimensions (mm) | | | Plug Angle | |
|---|---|---|---|---|---|---|---|---|
| Center Pos. | Center Neg. | Option | Type | A | B | C | Straight | Right |
| • | • | 5 | Standard | 5.5 | 2.1 | 9.5 | • | • |
| • | • | 6 | Standard | 5.5 | 2.5 | 9.5 | • | • |
| • | • | 7 | Standard | 3.5 | 1.35 | 9.5 | • | • |
| • | • | 8 | Standard | 3.8 | 1.35 | 9.5 | • | • |
| • | • | 9 | Standard | 3.8 | 1.05 | 9.5 | • | • |
| • | • | 10 | Locking | 5.5 | 2.1 | 9.5 | • | N/A |
| • | • | 11 | Locking | 5.5 | 2.5 | 9.5 | • | N/A |
| • | • | 12 | EIAJ-1 | 2.35 | 0.7 | 9.5 | • | • |
| • | • | 13 | EIAJ-2 | 4.0 | 1.7 | 9.5 | • | • |
| • | • | 14 | EIAJ-3 | 4.75 | 1.7 | 9.5 | • | • |
| N/A | N/A | ST | Stripped & Tinned | | | | N/A | N/A |

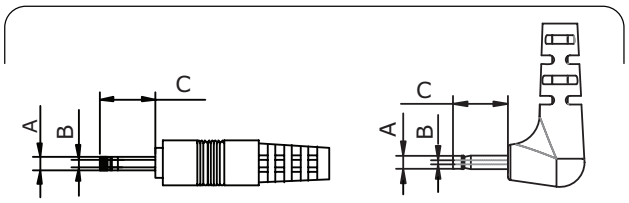
Note: 1. Contact CUI for additional plug options

### Standard



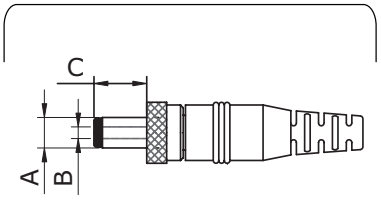

Straight Right Angle (R)

### EIAJ

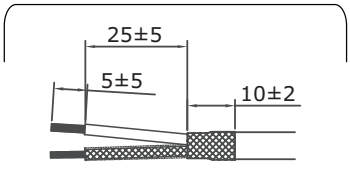



Straight Right Angle (R)

### Locking




### Stripped & Tinned



## REVISION HISTORY

| rev. | description | date |
|---|---|---|
| 1.0 | initial release | 05/13/2015 |
| 1.01 | updated datasheet | 09/15/2016 |
| 1.02 | added 62368-1 standard | 08/31/2018 |
| 1.03 | removed GS safety approval | 03/02/2020 |

The revision history provided is for informational purposes only and is believed to be accurate.

CUI INC
a bel group

**Headquarters**
20050 SW 112th Ave.
Tualatin, OR 97062
**800.275.4899**

Fax 503.612.2383
**cui**.com
techsupport@cui.com

CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.