



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

### FEATURES

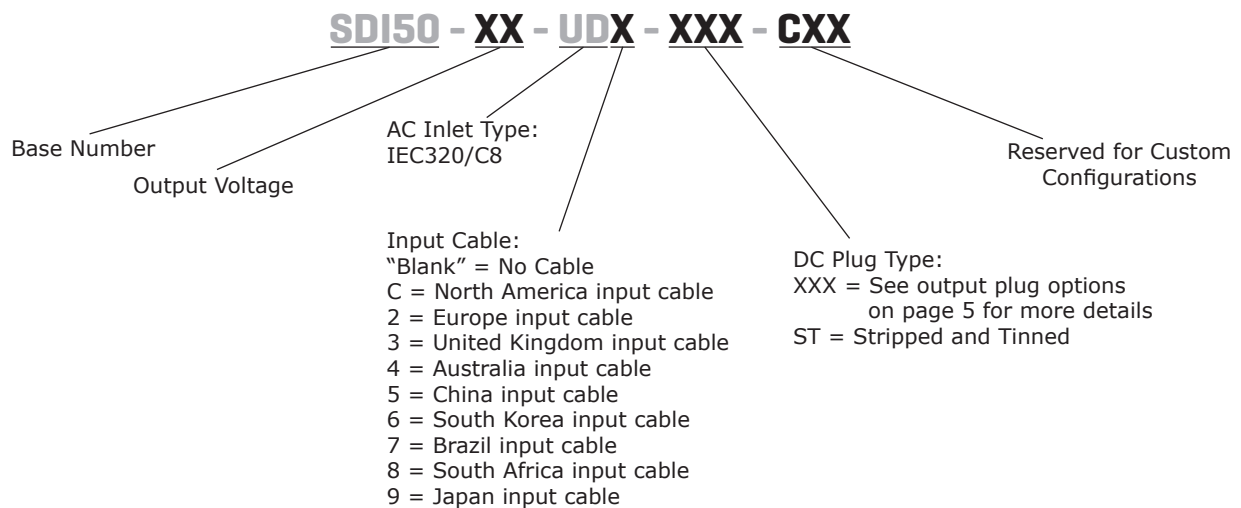
- level VI efficiency
- 50 W power
- universal input (90~264 Vac)
- compact size
- single regulated output from 9~48 Vdc
- over voltage and short circuit protections
- UL/cUL, GS, and PSE safety approvals
- custom designs available



| MODEL       | output voltage<br>(Vdc) | output current max<br>(A) | output power max<br>(W) | ripple and noise <sup>1</sup> max<br>(mVp-p) | efficiency level |
|-------------|-------------------------|---------------------------|-------------------------|----------------------------------------------|------------------|
| SDI50-9-UD  | 9                       | 4                         | 36                      | 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  $\mu$ F multilayer ceramic and 10  $\mu$ F low ESR electrolytic capacitors.

### PART NUMBER KEY



## 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, 9 Vdc model                 |     |     | 0.10 | W     |
|                           | at 230 Vac, all other models            |     |     | 0.21 | 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, GS, PSE, LPS                  |         |       |     |       |
| EMI/EMC              | FCC Part 15B Class B, CE              |         |       |     |       |
| MTBF                 | as per Telcordia SR-332, 25°C         | 300,000 |       |     | hours |
| RoHS                 | 2011/65/EU                            |         |       |     |       |

## ENVIRONMENTAL

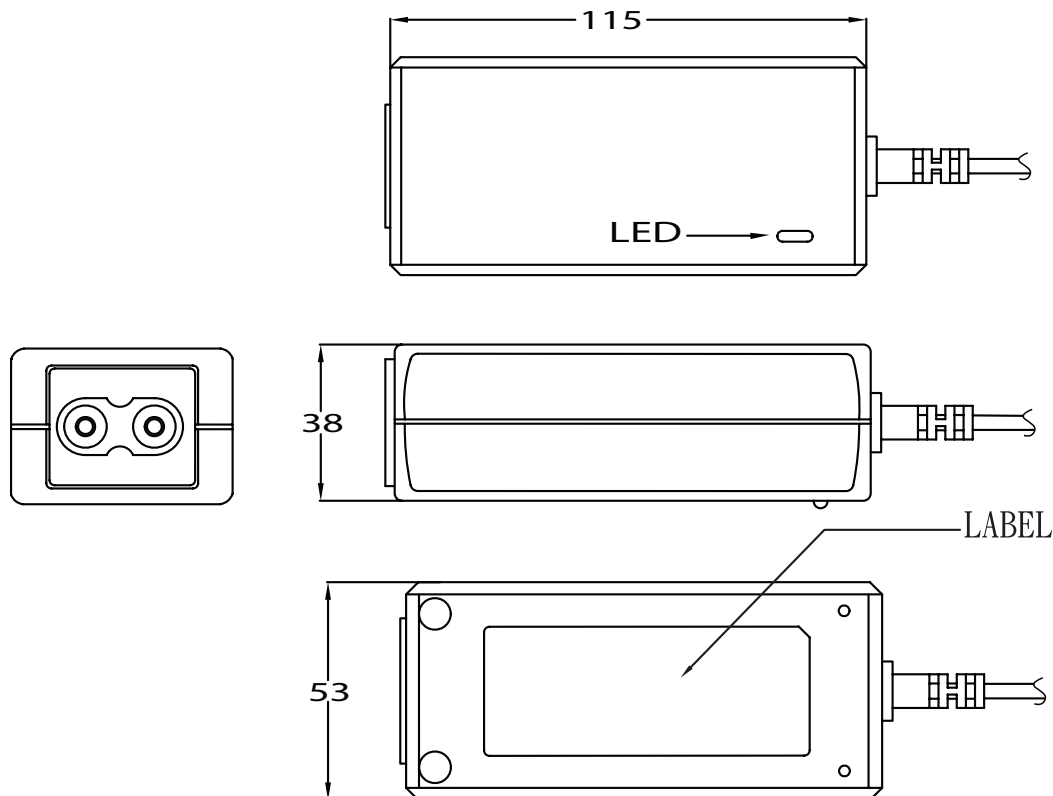
| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature |                        | 0   |     | 40  | °C    |
| storage temperature   |                        | -20 |     | 80  | °C    |
| 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     |

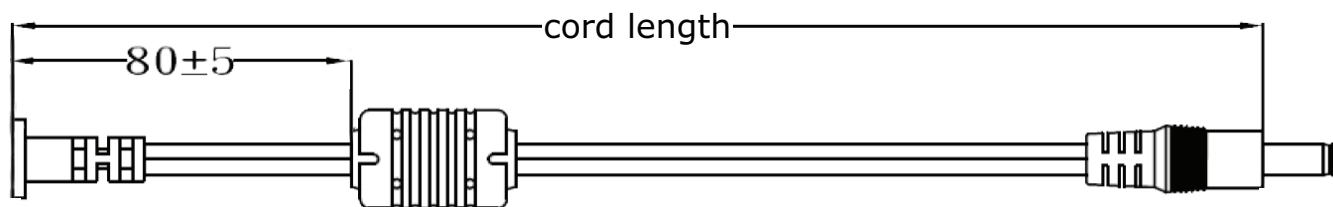
## MECHANICAL DRAWING

units: mm



## DC CORD

units: mm

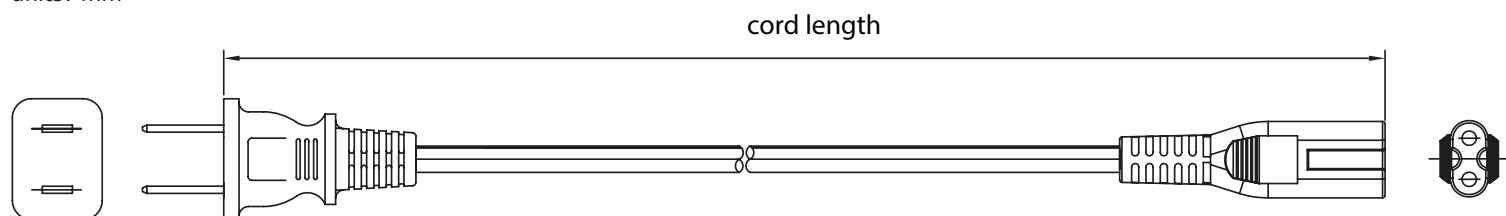


**Table 1**

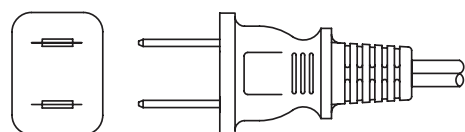
| MODEL NO.   | CABLE          | CORD LENGTH  |
|-------------|----------------|--------------|
| SDI50-9-UD  | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-12-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-15-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-18-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-19-UD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

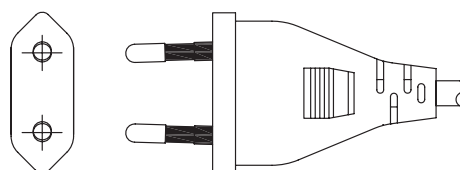
units: mm



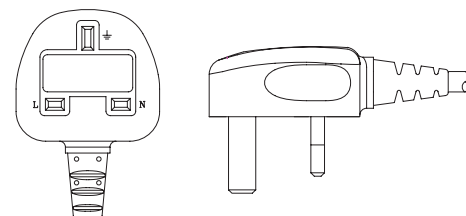
### NORTH AMERICA



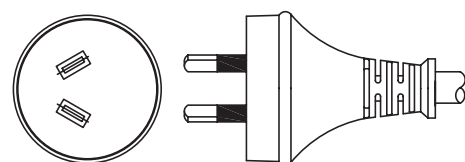
### EUROPE



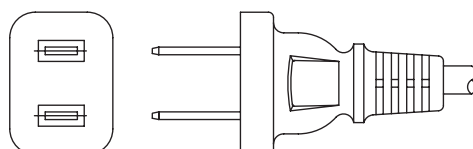
### UNITED KINGDOM



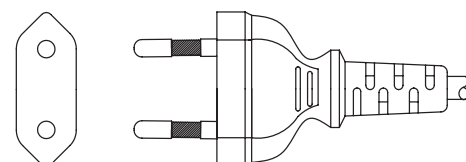
### AUSTRALIA



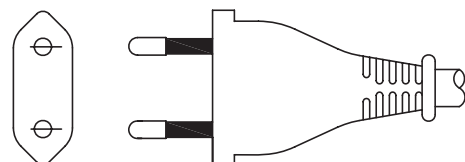
### CHINA



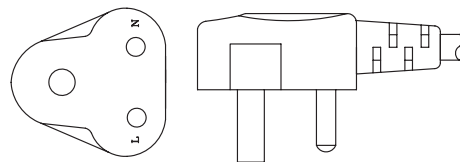
### SOUTH KOREA



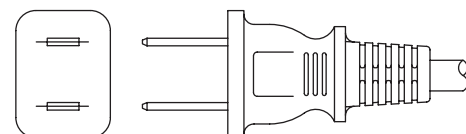
### BRAZIL



### SOUTH AFRICA



### JAPAN

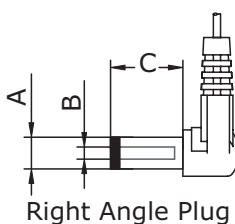
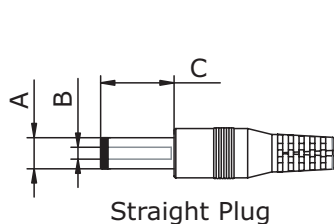


**Table 2**

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

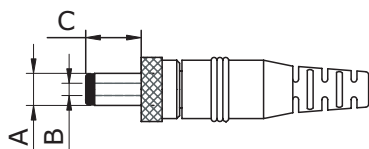
## OUTPUT PLUG OPTIONS

### Standard DC Plug



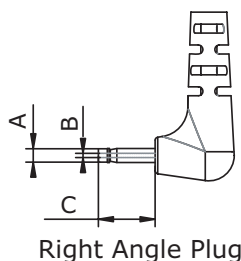
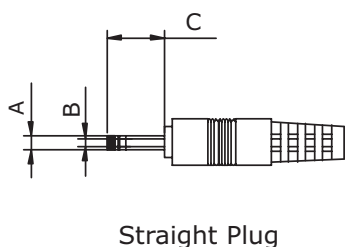
| Size | A   | B    | C   | Unit |
|------|-----|------|-----|------|
| 5    | 5.5 | 2.1  | 9.5 | mm   |
| 6    | 5.5 | 2.5  | 9.5 | mm   |
| 7    | 3.5 | 1.35 | 9.5 | mm   |
| 8    | 3.8 | 1.35 | 9.5 | mm   |
| 9    | 3.8 | 1.05 | 9.5 | mm   |

### Locking DC Plug



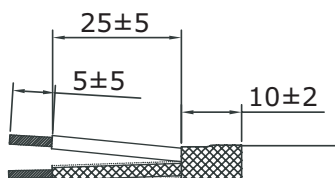
| Size | A   | B   | C   | Unit |
|------|-----|-----|-----|------|
| 10   | 5.5 | 2.1 | 9.5 | mm   |
| 11   | 5.5 | 2.5 | 9.5 | mm   |

### EIAJ DC Plug

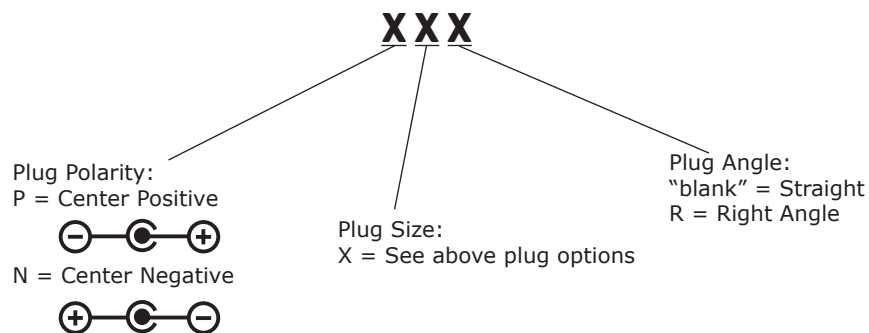


| Size | EIAJ   | A    | B   | C   | Unit |
|------|--------|------|-----|-----|------|
| 12   | EIAJ-1 | 2.35 | 0.7 | 9.5 | mm   |
| 13   | EIAJ-2 | 4.0  | 1.7 | 9.5 | mm   |
| 14   | EIAJ-3 | 4.75 | 1.7 | 9.5 | mm   |

### Stripped and Tinned



### DC Plug Type



\*Contact CUI for additional plug options

## REVISION HISTORY

| rev. | description     | date       |
|------|-----------------|------------|
| 1.0  | initial release | 05/13/2015 |

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



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This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

CUI offers a one (1) 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.

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