

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

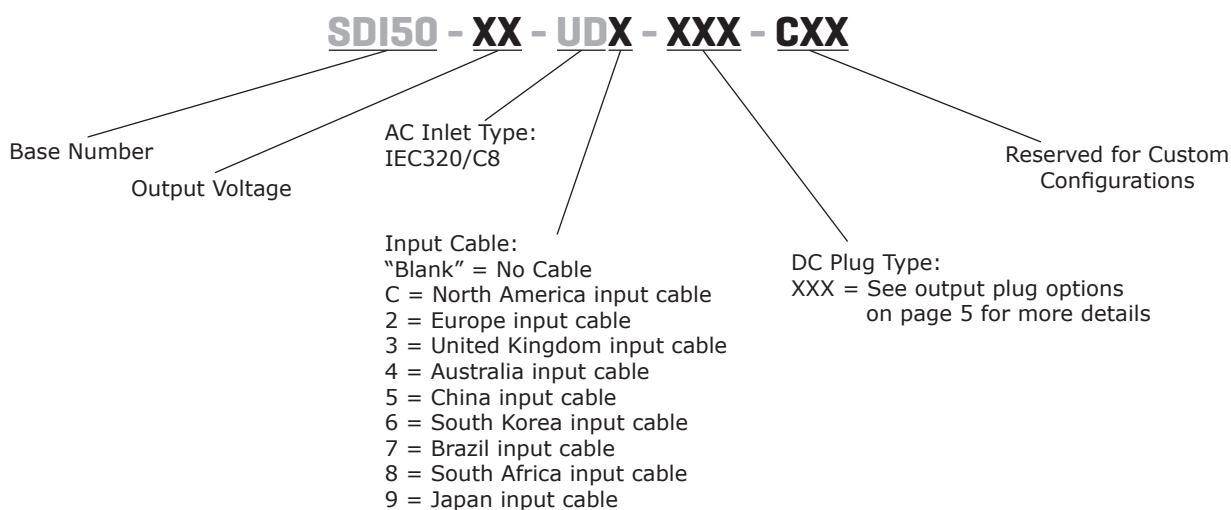
**FEATURES**

- 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



| MODEL       | output voltage<br>(Vdc) | output current<br>max<br>(A) | output power<br>max<br>(W) | ripple and noise <sup>1</sup><br>max<br>(mVp-p) | efficiency level <sup>2</sup> |
|-------------|-------------------------|------------------------------|----------------------------|-------------------------------------------------|-------------------------------|
| 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  $\mu$ F multilayer ceramic and 10  $\mu$ F low ESR electrolytic capacitors.  
 2. CoC Tier 2 compliant

**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                              |     |     | 0.10 | W     |
|                           | 9 Vdc model<br>all other models         |     |     | 0.15 | 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

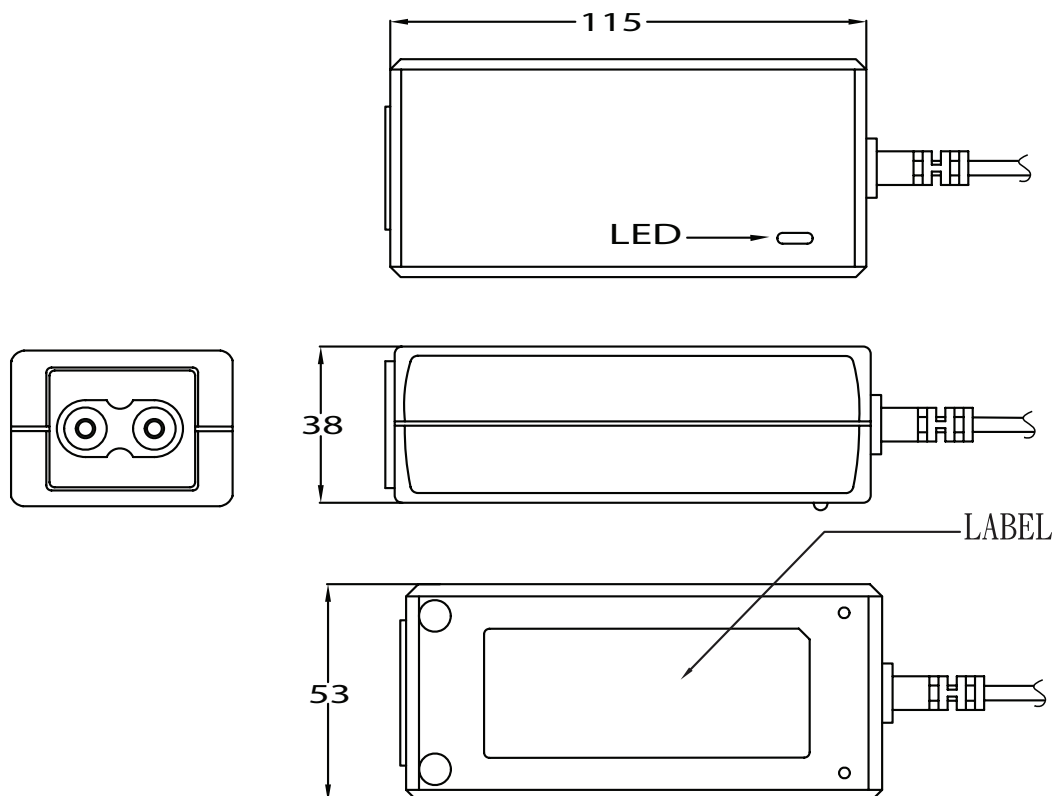
| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature |                        | 0   |     | 40  | °C    |
| storage temperature   |                        | -20 |     | 80  | °C    |
| 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:  $\pm 1.0$  mm



## DC CORD

units: mm

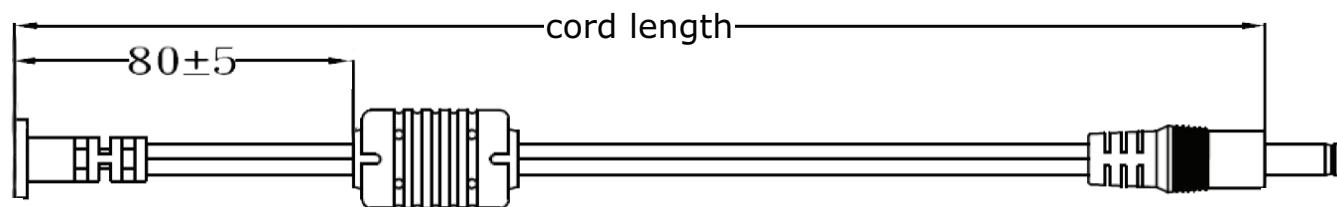


**Table 1**

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

## 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 |

## DC PLUG TYPE PART NUMBER KEY

**XXX**

**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

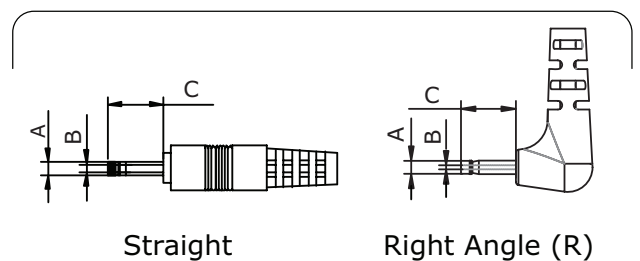
| Plug Polarity |             | Code   |                   | Dimensions (mm) |      |     | Plug Angle |       |
|---------------|-------------|--------|-------------------|-----------------|------|-----|------------|-------|
| Center Pos.   | Center Neg. | Option | Type              | A               | 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



### EIAJ



### 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.



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