


**SERIES:** SDI24-U | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

- up to 24 W continuous power
- DoE Level VI, CoC Tier 2 efficiency
- universal input voltage range
- compact size
- no load power consumption < 0.075 W
- 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 | output current | output power | ripple and noise <sup>1</sup> | efficiency level <sup>2</sup> |
|------------|----------------|----------------|--------------|-------------------------------|-------------------------------|
|            | (Vdc)          | max (A)        | max (W)      | max (mVp-p)                   |                               |
| SDI24-5-U  | 5              | 4.0            | 20           | 100                           | VI                            |
| SDI24-9-U  | 9              | 2.5            | 22.5         | 100                           | VI                            |
| SDI24-12-U | 12             | 2.0            | 24           | 120                           | VI                            |
| SDI24-15-U | 15             | 1.6            | 24           | 150                           | VI                            |
| SDI24-24-U | 24             | 1.0            | 24           | 240                           | VI                            |
| SDI24-48-U | 48             | 0.5            | 24           | 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                   |  |     |     | 0.58     | A      |
| inrush current            | at 100 Vac, full load, 25°C, cold start<br>at 230 Vac, full load, 25°C, cold start |     |     | 50<br>60 | A<br>A |
| leakage current           |  |     |     | 3.5      | mA     |
| no load power consumption | at 230 Vac   |     |     | 0.075    | W      |

## OUTPUT

| parameter  | conditions/description                  | min | typ      | max | units  |
|------------|---|-----|----------|-----|--------|
| regulation | 5 Vdc output models<br>all other models |     | ±6<br>±5 |     | %<br>% |

## PROTECTIONS

| parameter                | conditions/description          | min | typ | max | units |
|--------------------------|---------------------------------|-----|-----|-----|-------|
| over voltage protection  | output shut down                |     |     |     |       |
|                          | 5 Vdc output models             |     |     | 12  | Vdc   |
|                          | 9 Vdc output models             |     |     | 16  | Vdc   |
|                          | 12 Vdc output models            |     |     | 22  | Vdc   |
|                          | 15 Vdc output models            |     |     | 32  | Vdc   |
|                          | 24 Vdc output models            |     |     | 45  | Vdc   |
| over current protection  | 48 Vdc output models            |     |     | 75  | Vdc   |
|                          | output shut down, auto recovery |     |     |     |       |
|                          | 5 Vdc output models             |     |     | 8   | A     |
|                          | 9, 12 Vdc output models         |     |     | 5   | A     |
|                          | 15 Vdc output models            |     |     | 4   | A     |
| short circuit protection | 24 Vdc output models            |     |     | 2.5 | A     |
|                          | 48 Vdc output models            |     |     | 1.2 | A     |
|                          | 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   |
|                      | input to frame ground at 10 mA for 1 minute       |         | 1,500 |     | Vac   |
| isolation resistance | input to output at 500 Vdc                        | 10      |       |     | MΩ    |
|                      | input to frame ground at 500 Vdc                  | 10      |       |     | MΩ    |
| safety approvals     | UL/cUL (60950-1, 62368-1), PSE <sup>3</sup> , LPS |         |       |     |       |
| EMI/EMC              | FCC Part 15B Class B, CE                          |         |       |     |       |
| MTBF                 | as per Telcordia SR-332, 25°C                     | 300,000 |       |     | hours |
| RoHS                 | yes   |         |       |     |       |

Notes: 3. PSE not present on 48 Vdc output models

## ENVIRONMENTAL

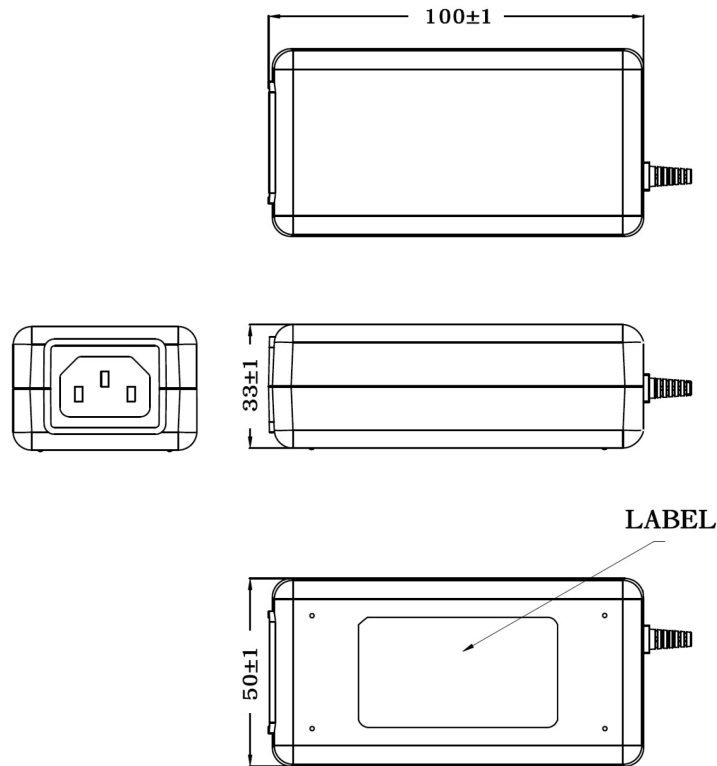
| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature |                        | 0   |     | 40  | °C    |
| storage temperature   |                        | -20 |     | 80  | °C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

## MECHANICAL

| parameter  | conditions/description | min | typ | max | units |
|------------|------------------------|-----|-----|-----|-------|
| dimensions | 100 x 50 x 33          |     |     |     | mm    |
| inlet plug | IEC320/C14             |     |     |     |       |
| weight     | without ac cord        |     | 170 |     | g     |

## MECHANICAL DRAWING

units: mm  
tolerance:  $\pm 1.0$  mm



## DC CORD

units: mm



**Table 1**

| MODEL NO.  | CABLE          | CORD LENGTH       |
|------------|----------------|-------------------|
| SDI24-5-U  | UL2468, 18 AWG | 1,000 mm $\pm 30$ |
| SDI24-9-U  | UL2468, 18 AWG | 1,500 mm $\pm 30$ |
| SDI24-12-U | UL2468, 20 AWG | 1,500 mm $\pm 30$ |
| SDI24-15-U | UL2468, 20 AWG | 1,500 mm $\pm 30$ |
| SDI24-24-U | UL2468, 22 AWG | 1,500 mm $\pm 30$ |
| SDI24-48-U | UL2468, 22 AWG | 1,500 mm $\pm 30$ |

## AC CORD

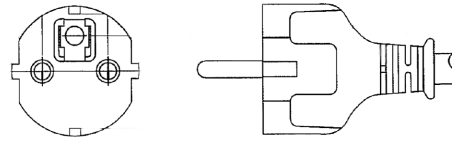
units: mm



### NORTH AMERICA



### EUROPE



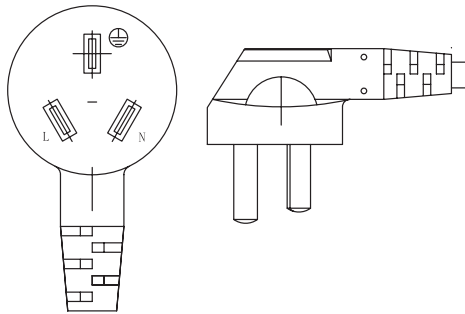
### UNITED KINGDOM



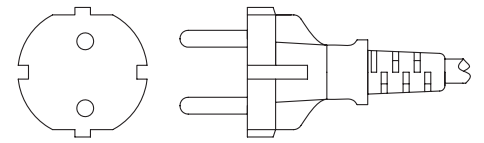
### AUSTRALIA



### CHINA



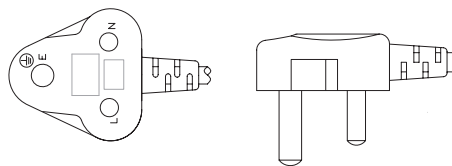
### SOUTH KOREA



### BRAZIL



### SOUTH AFRICA



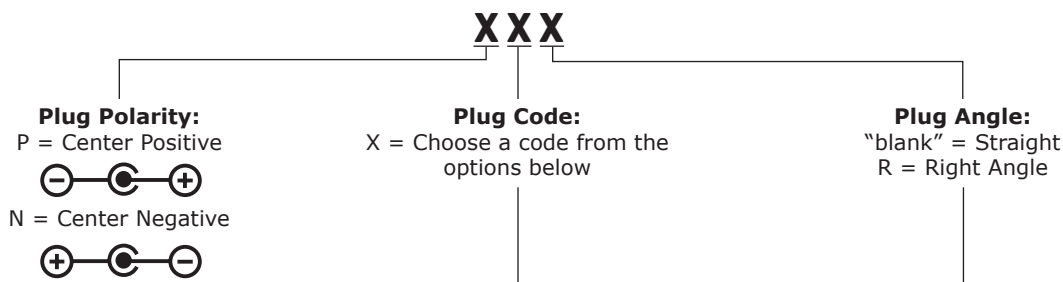
### JAPAN



**Table 2**

| AC INPUT       | CORD LENGTH  |
|----------------|--------------|
| North America  | 1,830 mm ±30 |
| Europe         | 1,830 mm ±30 |
| 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 ±30 |

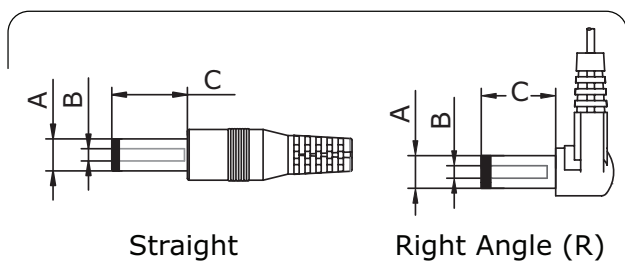
## DC PLUG TYPE PART NUMBER KEY



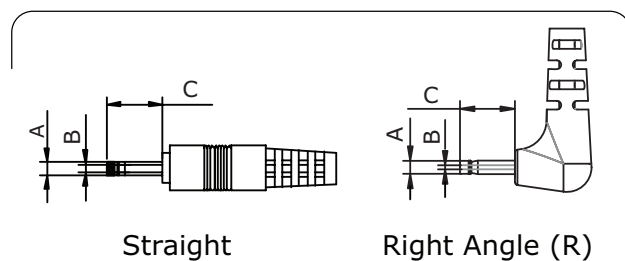
| Plug Polarity |             | Code   |                   | Dimensions (mm) |      |     | Plug Angle |       |
|---------------|-------------|--------|-------------------|-----------------|------|-----|------------|-------|
| Center Pos.   | Center Neg. | Option | Type              | A            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

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| rev. | description     | date       |
|------|-----------------|------------|
| 1.0  | initial release | 10/26/2018 |

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.

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- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
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