CUI INC
a bel group



# **SERIES:** SMI12 | **DESCRIPTION:** EXTERNAL AC-DC POWER SUPPLY

## FEATURES

- up to 12 W continuous power
- DoE Level VI, CoC Tier 2 efficiency
- universal input voltage range
- interchangeable Ac blades for global use
- over voltage, over current, and short circuit protections
- UL/cUL, CE, PSE, RCM & FCC safety approvals
- IEC 62368 certified
- white and black case options

## MODEL

| MODEL | output voltage (Vdc) | output current max (A) | output power max (W) | ripple and noise max (mVp-p) | efficiency level[2] |
|---|---|---|---|---|---|
| SMI12-5 | 5 | 2 | 10 | 200 | VI |
| SMI12-9 | 9 | 1.33 | 11.97 | 300 | VI |
| SMI12-12 | 12 | 1 | 12 | 300 | VI |

## PART NUMBER KEY

**SMI12 - XX - X X - XXX - CXX**

- Base Number
- Output Voltage
- Blades:
  V = North America, Europe, United Kingdom, Australia, and China blade included
  4 = North America, Europe, United Kingdom and Australia blade included
  N = North America blade included
  E = Europe blade included
  B = United Kingdom blade included
  A = Australia blade included
  C = China blade included
  K = No blades included
- Case Color:
  B = black
  W = white
- See output plug options on page 5
- Reserved for Custom Configurations

## INPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| voltage | | 90 | | 264 | Vac |
| frequency | | 47 | | 63 | Hz |
| current | | | | 0.5 | A |
| leakage current | at nominal ac input voltage and frequency | | | 0.25 | mA |
| no load power consumption | | | | 0.075 | W |

## OUTPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| load regulation | | | 5 | | % |
| start-up time | at nominal ac input voltage | | | 3 | s |
| rise time | at nominal input voltage | | | 100 | ms |
| hold-up time | at nominal input voltage | 5 | | | ms |

## PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| short-circuit protection | auto recovery | | | | |
| over-voltage protection | | | | 12 | V |
| over-current protection | auto recovery | | | 3 | A |

## SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| isolation voltage | 10mA for 1 minute | 3,000 | | | Vac |
| safety approvals | UL/cUL, CE, RCM & PSE, UKCA | | | | |
| EMI/EMC | EN 55032:2015, EN 55034:2010+A1:2015, FCC | | | | |
| MTBF | as per Telcordia SR-332, Issue 2 at 115/230 Vac, full load, 0~40°C | 50,000 | | | hours |
| RoHS | yes | | | | |

## ENVIRONMENTAL

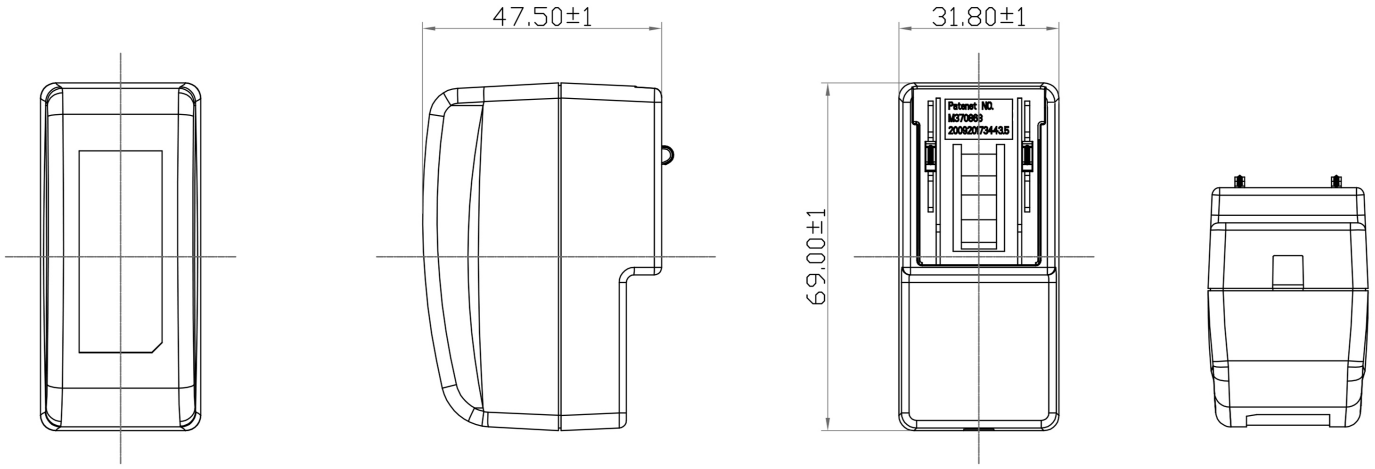
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| operating temperature | | 0 | | 40 | °C |
| storage temperature | | -20 | | 60 | °C |
| operating humidity | | 20 | | 85 | % |
| storage humidity | | 5 | | 95 | % |

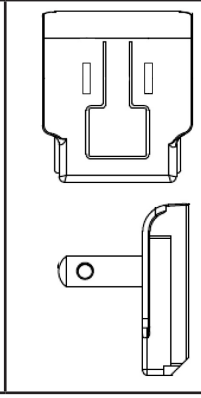
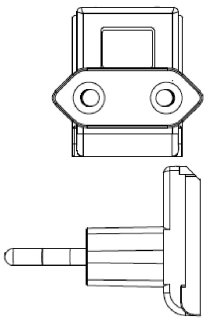
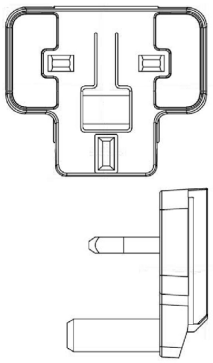
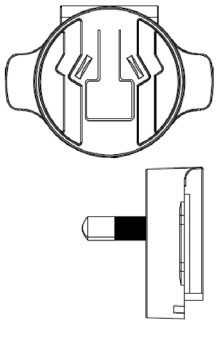
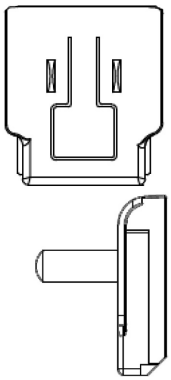
## MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| dimensions | 70 x 32.8 x 48.5 | | | | mm |
| inlet plug | multi-blade wall mount | | | | |
| ac blade clip type | hidden clip | | | | |
| weight | | | 89 | | g |

## MECHANICAL DRAWING

units: mm
tolerance: ±1




| INTERCHANGEABLE BLADES | | | | | |
|---|---|---|---|---|---|
| BLADE DESIGNATOR | N | E | B | A | C |
| REGION | North America | Europe | UK | Australia | China |
| BLADE ACCESSORY BLACK CASE | SMI-US-3L | SMI-EU-3L | SMI-UK-3L | SMI-AU-3L | SMI-CN-3L |
| BLADE ACCESSORY WHITE CASE | SMI-US-3L-W | SMI-EU-3L-W | SMI-UK-3L-W | SMI-AU-3L-W | SMI-CN-3L-W |
| BLADE |  |  |  |  |  |

## DC CORD

units: mm

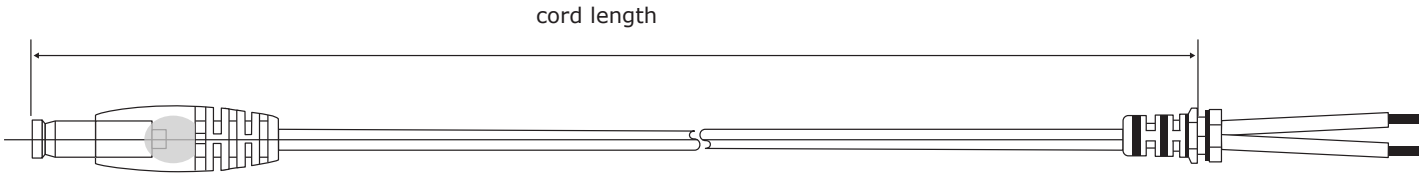



**Table 1**

| MODEL NO. | CABLE | CORD LENGTH |
|---|---|---|
| SMI12-5 | 20 AWG/2C 2468 | 1,500 mm ±50 |
| SMI12-9 | 22 AWG/2C 2468 | 1,500 mm ±50 |
| SMI12-12 | 24 AWG/2C 2468 | 1,500 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

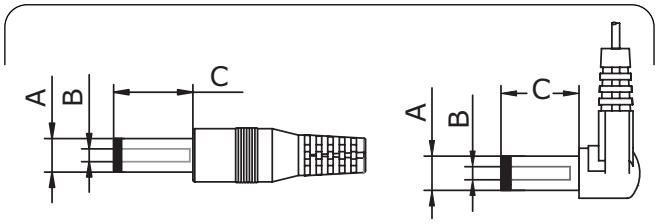
**Plug Angle:**
"blank" = Straight
R = Right Angle

| 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 | • | • |
| • | • | 10 | Locking[2] | 5.5 | 2.1 | 9.5 | • | N/A |
| • | • | 11 | Locking[2] | 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 | CUB | USB | USB Type C | | | • | N/A |
| N/A | N/A | MUB | USB | Micro USB Type B | | | • | N/A |

Note: 1. Contact CUI for additional plug options
2. Maximum insertion depth is 10mm

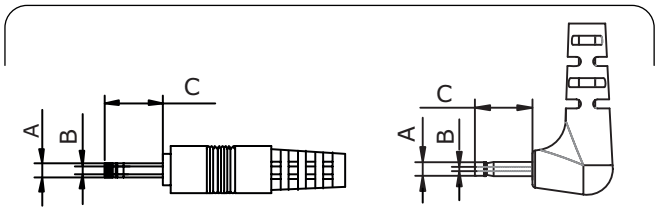
## DC PLUG TYPE

### Standard



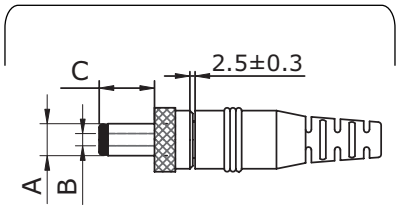

Straight Right Angle (R)

### EIAJ

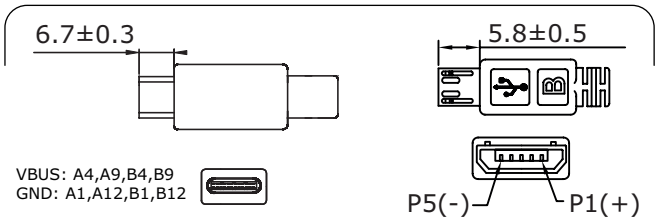



Straight Right Angle (R)

### Locking




### USB




USB Type C Micro USB Type B

## REVISION HISTORY

| rev. | description | date |
|---|---|---|
| 1.0 | initial release | 07/09/2020 |
| 1.01 | tolerance updated | 01/12/2021 |
| 1.02 | ac blades updated | 08/10/2021 |
| 1.03 | UKCA added to specification | 08/12/2021 |
| 1.04 | dc plugs updated | 04/25/2022 |
| 1.05 | operating and storage temperature updated | 06/06/2022 |
| 1.06 | ac blade clip type added | 06/23/2022 |

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

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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.