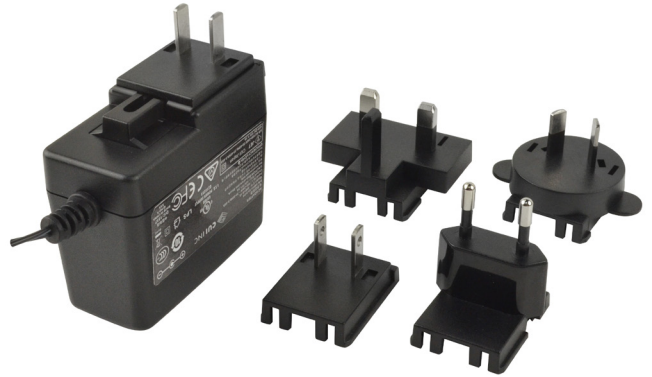




## SERIES: SMI18 | DESCRIPTION: AC-DC POWER SUPPLY

### FEATURES

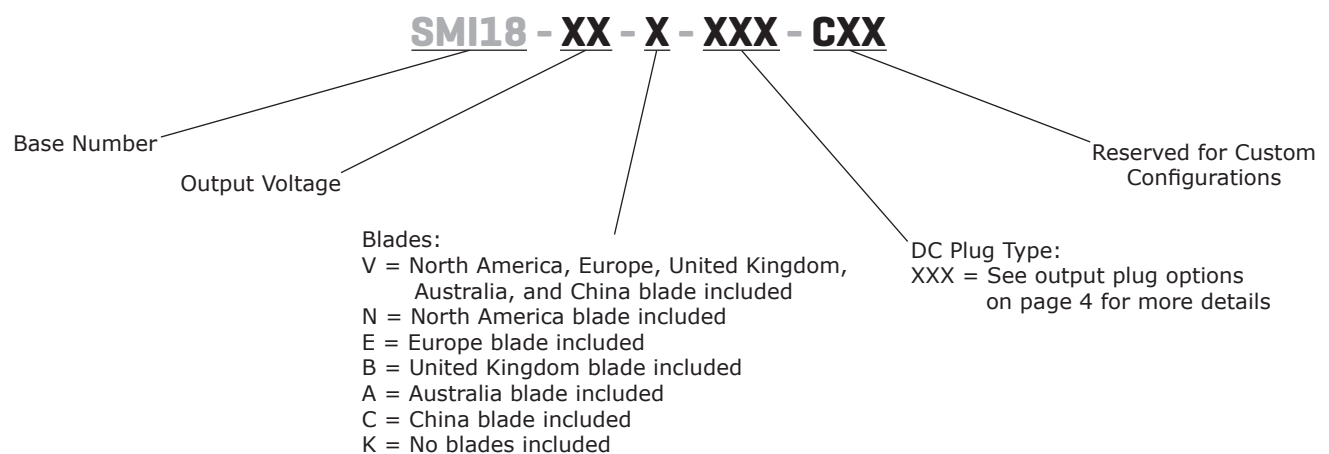
- up to 18 W continuous power
- DoE Level VI, CoC Tier 2 efficiency
- no load power consumption < 0.075 W
- universal input voltage range
- interchangeable Ac blades for global use
- over voltage, over current, and short circuit protections
- UL/cUL, RCM, CCC, and PSE safety approvals
- certified to 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> |
|-----------|-------------------------|------------------------------|----------------------------|-------------------------------------------------|-------------------------------|
| SMI18-5   | 5                       | 3                            | 15                         | 100                                             | VI                            |
| SMI18-5.9 | 5.9                     | 3                            | 17.7                       | 100                                             | VI                            |
| SMI18-9   | 9                       | 2.2                          | 19.8                       | 100                                             | VI                            |
| SMI18-12  | 12                      | 1.6                          | 19.2                       | 120                                             | VI                            |
| SMI18-15  | 15                      | 1.3                          | 19.5                       | 150                                             | VI                            |
| SMI18-18  | 18                      | 1.1                          | 19.8                       | 180                                             | VI                            |
| SMI18-24  | 24                      | 0.8                          | 19.2                       | 240                                             | 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                   |                                                                                    |     |     | 0.48     | 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           |                                                                                    |     |     | 0.25     | mA     |
| no load power consumption | at 230 Vac                                                                         |     |     | 0.075    | W      |

## OUTPUT

| parameter    | conditions/description                 | min | typ      | max | units  |
|--------------|----------------------------------------|-----|----------|-----|--------|
| regulation   | 5 Vdc output model<br>all other models |     | ±6<br>±5 |     | %<br>% |
| hold-up time | at full load                           | 10  |          |     | ms     |

## PROTECTIONS

| parameter                | conditions/description          | min | typ | max | units |
|--------------------------|---------------------------------|-----|-----|-----|-------|
| over voltage protection  | output shut down                |     |     |     |       |
|                          | 5 Vdc output model              |     |     | 12  | Vdc   |
|                          | 5.9 Vdc output model            |     |     | 12  | Vdc   |
|                          | 9 Vdc output model              |     |     | 16  | Vdc   |
|                          | 12 Vdc output model             |     |     | 22  | Vdc   |
|                          | 15 Vdc output model             |     |     | 32  | Vdc   |
|                          | 18 Vdc output model             |     |     | 32  | Vdc   |
| over current protection  | 24 Vdc output model             |     |     | 45  | Vdc   |
|                          | output shut down, auto recovery |     |     |     |       |
|                          | 5 Vdc output model              |     |     | 7   | A     |
|                          | 5.9 Vdc output model            |     |     | 6   | A     |
|                          | 9 Vdc output model              |     |     | 5   | A     |
|                          | 12 Vdc output model             |     |     | 5   | A     |
|                          | 15 Vdc output model             |     |     | 4   | A     |
| short circuit protection | 18 Vdc output model             |     |     | 4   | A     |
|                          | 24 Vdc output model             |     |     | 2.5 | A     |
| 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), RCM, CCC, PSE |         |       |     |       |
| EMI/EMC              | FCC Part 15B Class B, CE                 |         |       |     |       |
| MTBF                 | as per Telcordia SR-332, 25°C            | 300,000 |       |     | hours |
| RoHS                 | yes                                      |         |       |     |       |

## ENVIRONMENTAL

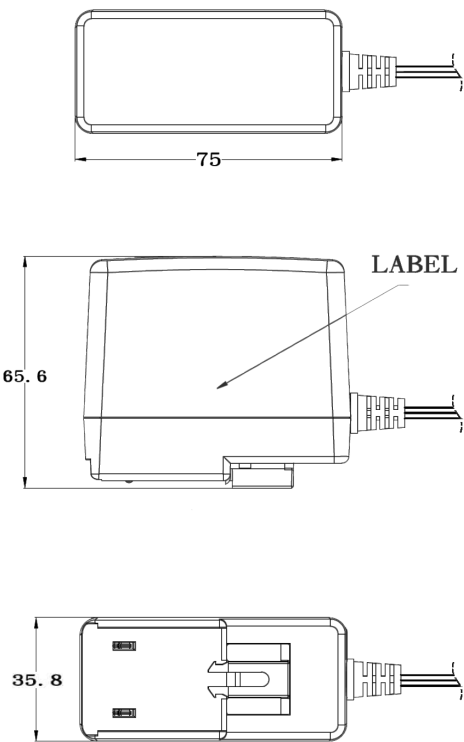
| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature |                        | 0   |     | 40  | °C    |
| storage temperature   |                        | -20 |     | 80  | °C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

MECHANICAL

| parameter  | conditions/description                                               | min | typ | max | units |
|------------|----------------------------------------------------------------------|-----|-----|-----|-------|
| dimensions | 75 x 35.8 x 65.6                                                     |     |     |     | mm    |
| inlet plug | interchangeable blades (North America, Europe, UK, Australia, China) |     |     |     |       |
| weight     | without blades                                                       |     | 170 |     | g     |

MECHANICAL DRAWING

units: mm  
tolerance: ±1.0 mm



| INTERCHANGEABLE BLADES |               |          |          |           |          |
|------------------------|---------------|----------|----------|-----------|----------|
| BLADE DESIGNATOR       | N             | E        | B        | A         | C        |
| REGION                 | North America | Europe   | UK       | Australia | China    |
| BLADE ACCESSORY        | SMI-US-2      | SMI-EU-2 | SMI-UK-2 | SMI-AU-2  | SMI-CN-2 |
| BLADE                  |               |          |          |           |          |

DC CORD

units: mm

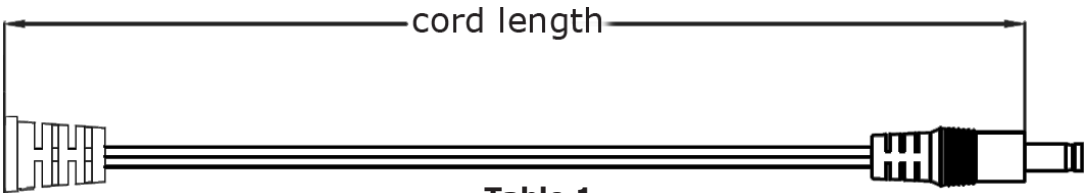
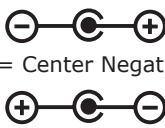


Table 1

| MODEL NO. | CABLE          | CORD LENGTH  |
|-----------|----------------|--------------|
| SMI18-5   | UL2468, 16 AWG | 1,500 mm ±30 |
| SMI18-5.9 | UL2468, 16 AWG | 1,200 mm ±30 |
| SMI18-9   | UL2468, 18 AWG | 1,500 mm ±30 |
| SMI18-12  | UL2468, 20 AWG | 1,500 mm ±30 |
| SMI18-15  | UL2468, 22 AWG | 1,500 mm ±30 |
| SMI18-18  | UL2468, 22 AWG | 1,500 mm ±30 |
| SMI18-24  | UL2468, 22 AWG | 1,500 mm ±30 |

## DC PLUG TYPE PART NUMBER KEY

**XXX**

**Plug Polarity:**  
 P = Center Positive  
  
 N = Center Negative

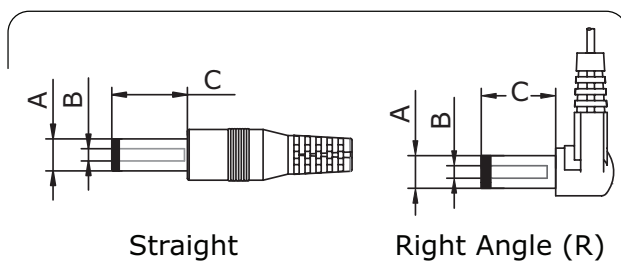
**Plug Code:**  
 X = Choose a code from the options below

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

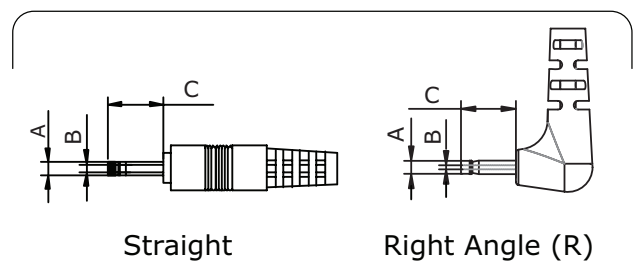
| Plug Polarity |             | Code   |                   | Dimensions (mm) |      |     | Plug Angle |       |
|---------------|-------------|--------|-------------------|-----------------|------|-----|------------|-------|
| Center Pos.   | Center Neg. | Option | Type              | A            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

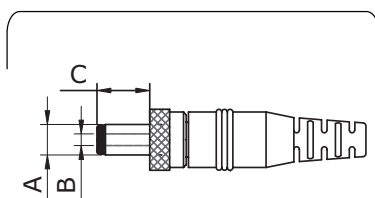
### Standard



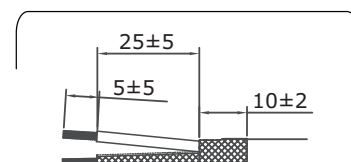
### EIAJ



### Locking



### Stripped & Tinned



## REVISION HISTORY

| rev. | description                                                     | date       |
|------|-----------------------------------------------------------------|------------|
| 1.0  | initial release                                                 | 08/07/2015 |
| 1.01 | added 5.9 Vdc output model                                      | 09/01/2015 |
| 1.02 | updated datasheet                                               | 11/04/2015 |
| 1.03 | housing width changed to 35.8 mm                                | 01/27/2016 |
| 1.04 | changed wire gauge on 5 Vdc & 5.9 Vdc models, updated datasheet | 09/15/2016 |
| 1.05 | added 62368-1 standard                                          | 08/31/2018 |

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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