# **SERIES:** SWM12-N | **DESCRIPTION:** AC-DC POWER SUPPLY

## FEATURES

- up to 12 W power
- certified to UL 60601 4th edition
- compact vertical or horizontal mount
- universal input (90~264 Vac)
- single regulated output from 5~24 Vdc
- over voltage and short circuit protections
- DOE Level VI efficiency*
- 2 MOPP compliant

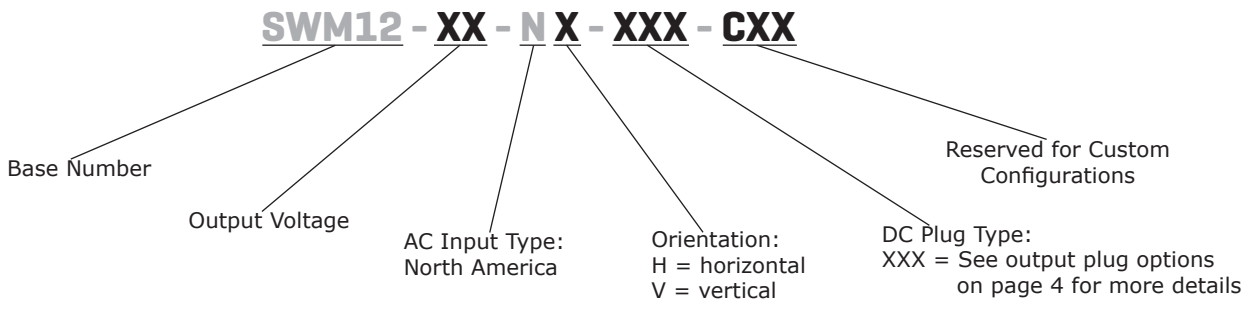


## MODEL

| MODEL | output voltage (Vdc) | output current max (A) | output power max (W) | ripple and noise[1] max (mVp-p) | efficiency level |
|---|---|---|---|---|---|
| SWM12-5-N | 5 | 2.4 | 12 | 100 | VI |
| SWM12-6-N | 6 | 2.0 | 12 | 120 | - |
| SWM12-9-N | 9 | 1.33 | 12 | 180 | VI |
| SWM12-12-N | 12 | 1.0 | 12 | 250 | VI |
| SWM12-15-N | 15 | 0.8 | 12 | 250 | VI |
| SWM12-18-N | 18 | 0.66 | 12 | 350 | VI |
| SWM12-24-N | 24 | 0.50 | 12 | 350 | VI |

Notes: 1. At full load, 100 ~ 240 Vac input, 20 MHz bandwidth oscilloscope, output terminated with a low ESR 47 µF electrolytic and 0.1 µF multilayer capacitor.
* 6V unit does not meet DoE Level VI

## PART NUMBER KEY






Please read our datasheet & drawing disclaimer here.

## INPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| voltage | | 90 | 100~240 | 264 | Vac |
| frequency | | 47 | 50~60 | 63 | Hz |
| current | at 115 Vac, full load<br>at 230 Vac, full load | | | 1.0<br>0.5 | A<br>A |
| inrush current | at 115 Vac, full load, cold start<br>at 230 Vac, full load, cold start | | | 30<br>60 | A<br>A |
| leakage current | at 240 Vac, 50 Hz | | | 0.1 | mA |
| no load power consumption | at 115/230 Vac, 60/50 Hz | | | 0.1 | W |

## OUTPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| line regulation | | | ±1 | | % |
| load regulation | | | ±5 | | % |
| start-up time | at 100 Vac, to 90% of rated output voltage | | | 3 | s |
| rise time | at nominal input voltage, full load, from 10% to 90% of output voltage | | | 50 | ms |
| hold-up time | at nominal input voltage, full load | 8.3 | | | ms |

## PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| over voltage protection | output shutdown, auto recovery | | | | |
| over current protection | output shutdown, auto recovery | | | 200 | % |
| short circuit protection | output shut down, auto recovery | | | | |

## SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| isolation voltage | input to output | | 4,000 | | Vac |
| isolation resistance | input to output at 500 Vdc for 3 seconds | 50 | | | MΩ |
| safety approvals | certified to 60601: UL/cUL (medical)<br>ITE: PSE | | | | |
| EMI/EMC | FCC Part 15B Class B | | | | |
| MTBF | as per MIL-HDBK-217F | 100,000 | | | hours |
| RoHS | yes | | | | |

## ENVIRONMENTAL

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| operating temperature | | 0 | | 40 | °C |
| storage temperature | | -20 | | 85 | °C |
| operating humidity | non-condensing | 10 | | 90 | % |
| storage humidity | non-condensing | 5 | | 90 | % |
| altitude | | | 5,000 | | m |

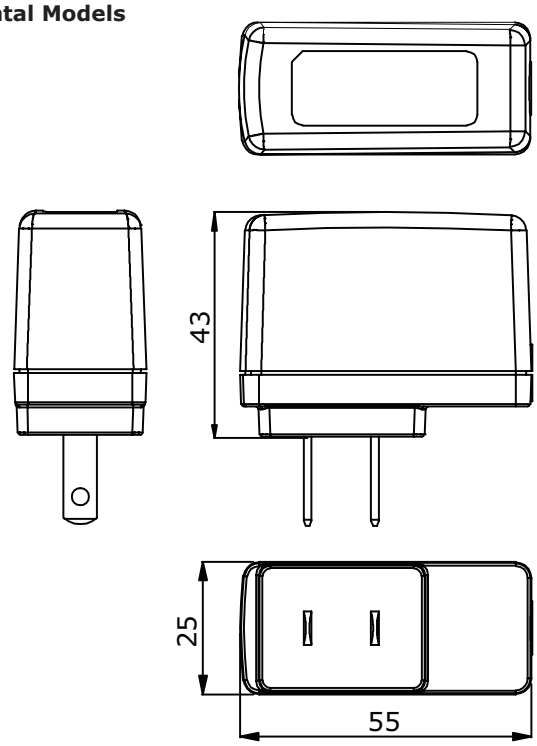
## MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| dimensions | horizontal models: 55 x 25 x 43<br>vertical models: 53 x 41 x 30 | | | | mm<br>mm |
| inlet plug | North America, 2-pin | | | | |
| weight | horizontal models<br>vertical models | | 55<br>60 | | g<br>g |
| color | black | | | | |

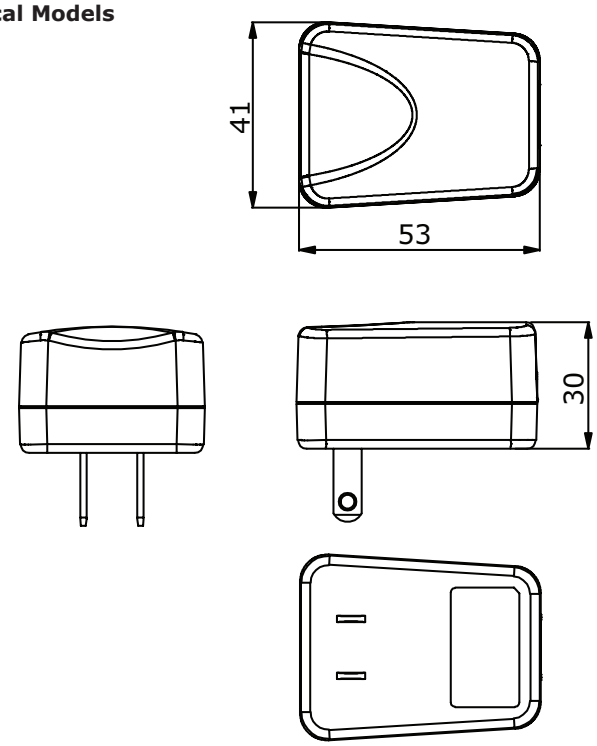
## MECHANICAL DRAWINGS

units: mm
tolerance: ±1 mm

**Horizontal Models**




**Vertical Models**




## DC CORD

units: mm




**Table 1**

| MODEL NO. | CABLE | CORD LENGTH |
|---|---|---|
| SWM12-5-N | UL2468, 20 AWG | 1,500 mm ±50 |
| SWM12-6-N | UL2468, 20 AWG | 1,500 mm ±50 |
| SWM12-9-N | UL2468, 20 AWG | 1,500 mm ±50 |
| SWM12-12-N | UL2468, 22 AWG | 1,500 mm ±50 |
| SWM12-15-N | UL2468, 22 AWG | 1,500 mm ±50 |
| SWM12-18-N | UL2468, 24 AWG | 1,500 mm ±50 |
| SWM12-24-N | UL2468, 24 AWG | 1,500 mm ±50 |

## DC PLUG TYPE PART NUMBER KEY

**X X X**

**Plug Polarity:**
P = Center Positive



N = Center Negative



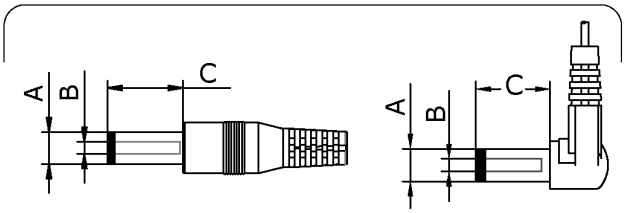
**Plug Code:**
X = Choose a code from the options below

**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 | • | • |
| • | • | 8 | Standard | 3.8 | 1.35 | 9.5 | • | • |
| • | • | 9 | Standard | 3.8 | 1.05 | 9.5 | • | • |
| • | • | 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 |
| N/A | N/A | MUB | USB | Micro USB Type B | | | • | N/A |
| N/A | N/A | CUB | USB | USB Type C | | | • | N/A |

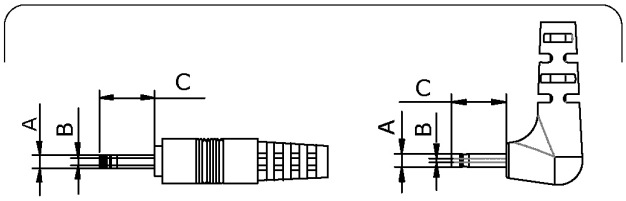
Note: 1. Contact CUI for additional plug options

### Standard



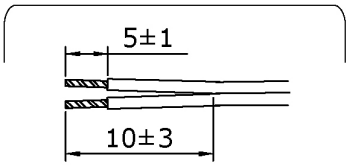

Straight Right Angle (R)

### EIAJ

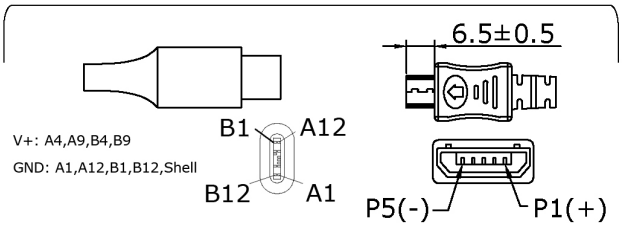



Straight Right Angle (R)

### Stripped & Tinned




### USB




USB Type C Micro USB Type B

## REVISION HISTORY

| rev. | description | date |
|---|---|---|
| 1.0 | initial release | 06/27/2017 |
| 1.01 | added PSE certification | 01/24/2018 |
| 1.02 | USB-C added to dc plug type number key | 08/18/2020 |
| 1.03 | features updated | 02/18/2021 |
| 1.04 | safety marks updated | 04/26/2021 |
| 1.05 | datasheet updated | 12/09/2024 |

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

CUI INC
a bel group

**Headquarters**
15575 SW Sequoia Pkwy #100
Portland, OR 97224
**800.275.4899**

Fax 503.612.2383
**cui**.com
techsupport@cui.com

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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