

SERIES: EMMA 30W | **DESCRIPTION:** MEDICAL AC-DC POWER SUPPLY

FEATURES

- up to 30 W power
- universal input (90~264 Vac)
- interchangeable AC blades
- single regulated output from 5~24 Vdc
- over voltage and short circuit protections
- medical 60601-1 4th edition safety approvals
- designed for 2 x MOPP applications
- level V efficiency



| MODEL | output voltage (Vdc) | output current max (A) | output power max (W) | ripple and noise ¹ max (mVp-p) | efficiency level |
|------------|-------------------------|---------------------------|-------------------------|--|------------------|
| EMMA050400 | 5 | 4 | 20 | 50 | V |
| EMMA090300 | 9 | 3 | 27 | 90 | V |
| EMMA120250 | 12 | 2.5 | 30 | 120 | V |
| EMMA150200 | 15 | 2 | 30 | 150 | V |
| EMMA180167 | 18 | 1.67 | 30 | 180 | V |
| EMMA240125 | 24 | 1.25 | 30 | 240 | V |

1. at full load, 100 ~ 240 Vac input, 20 MHz bandwidth oscilloscope, each output terminated with a 10 μ F aluminum electrolytic and 0.1 μ F ceramic capacitors.

PART NUMBER KEY


INPUT

| parameter | conditions/description | min | typ | max | units |
|---------------------------|-------------------------|-----|-----|-----|-------|
| voltage | | 90 | | 264 | Vac |
| frequency | | 47 | | 63 | Hz |
| input current | | | | 0.8 | A |
| inrush current | at 240 V ac, cold start | | | 100 | A |
| no load power consumption | | | | 0.3 | W |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|------------------------------|------------------------|-----|-------|-----|-------|
| line regulation ¹ | | | ±1 | | % |
| load regulation ² | 5 Vdc output | | ±6 | | % |
| | 9 Vdc output | | ±3 | | % |
| | all other outputs | | ±2 | | % |
| voltage accuracy | | | ±2 | | % |
| hold-up time | at 115 Vac | | 10 | | ms |
| switching frequency | | | 70 | | kHz |
| temperature coefficient | | | ±0.05 | | %/°C |

Note: 1. measured from 100 ~ 240 Vac, full load
2. measured from 60% to full load and from 60 ~ 20% load (60% ±40% load)

PROTECTIONS

| parameter | conditions/description |
|--------------------------|--------------------------|
| over voltage protection | TVS component to clamp |
| short circuit protection | continuous, auto restart |

SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|-------------------|---|---------|-----|-------|-------|
| isolation voltage | input to output | | | 5,656 | Vdc |
| safety approvals | medical IEC 60601-1, EN 60601-1, UL 60601-1 4th edition | | | | |
| EMI/EMC | EN 55011 Class B, FCC CRF47 Part 18 Class B, EN 60601-1-2, EN 61000-3-(2,3), IEC 61000-4-(2,4,5,6,8,11) | | | | |
| leakage current | | | | 0.1 | mA |
| MTBF | as per MIL-HDBK-217F, 115 Vac, 25 °C | 200,000 | | | hours |
| RoHS | 2011/65/EU | | | | |

ENVIRONMENTAL

| parameter | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature | | 0 | | 40 | °C |
| storage temperature | | -20 | | 85 | °C |
| humidity | non-condensing | | | 93 | % |

MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|------------|---|-----|-----|-----|-------|
| dimensions | 108.67 x 61.98 x 36.70 (4.278 x 2.440 x 1.445 inch) | | | | mm |
| input plug | interchangeable blades (US, Europe, UK, Australia) | | | | |
| weight | | | 300 | | g |

MECHANICAL DRAWING

units: mm [inches]
tolerance: ±0.5 [±0.02]



DC OUTPUT PLUG OPTIONS / DC CORD



| | A | B | C | Unit |
|--------|-----|-----|-----|------|
| P5/P5R | 5.5 | 2.1 | 9.5 | mm |
| P6/P6R | 5.5 | 2.5 | 9.5 | mm |



| MODEL NO. | CABLE GAUGE | CORD LENGTH |
|------------|-------------|--------------|
| EMMA050040 | 18 AWG | 1,220 mm ±50 |
| EMMA090300 | 18 AWG | 1,220 mm ±50 |
| EMMA120250 | 18 AWG | 1,800 mm ±50 |
| EMMA150200 | 18 AWG | 1,800 mm ±50 |
| EMMA180167 | 18 AWG | 1,800 mm ±50 |
| EMMA240125 | 18 AWG | 1,800 mm ±50 |



REVISION HISTORY

| rev. | description | date |
|------|--|------------|
| 1.0 | initial release | 12/16/2011 |
| 1.01 | updated P7/P7R B dimension | 03/23/2012 |
| 1.02 | V-Infinity branding removed | 08/21/2012 |
| 1.03 | updated datasheet | 07/10/2015 |
| 1.04 | updated to medical 60601-1 4th edition | 06/20/2017 |

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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