CUI INC®

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

RoHS c UL us FC CE IEC 60601-1 EN 60601-1

MODEL

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 µF aluminum electrolytic and 0.1 µF ceramic capacitors.

PART NUMBER KEY

EMMA120250 X - XX - IC - CXX

- Base Number (example of 12 Vdc, 2.5 A)
- Blades:
  - "blank" = North American, European, United Kingdom, Australian
  - N = North American blade included
  - E = European blade included
  - B = United Kingdom blade included
  - A = Australian blade included
  - K = No blades included
- DC Plug Type: See output plug options on page 3 for more details
- Factory Designation
- Reserved for Custom Configurations

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 9 Vdc output all other outputs		±6 ±3 ±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

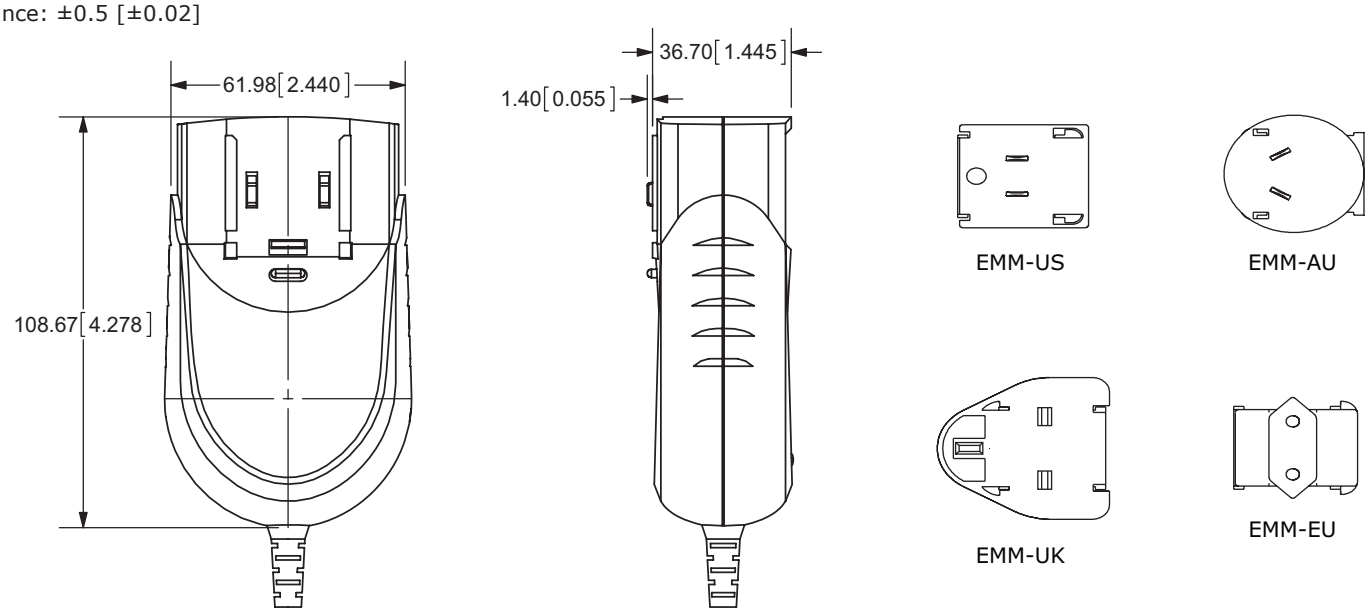
parameter	conditions/description	min	typ	max	units
operating temperature		0		40	°C
storage temperature		-20		85	°C
humidity	non-condensing			93	%

MECHANICAL

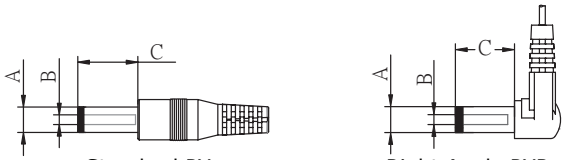
parameter	conditions/description	min	typ	max	units
dimensions	108.67 x 61.98 x 36.70 (4.278 x 2.440 x 1.445 inch)				mm
input plug	interchangeable blades (US, Europe, UK, Australia)				
weight			300		g

MECHANICAL DRAWING

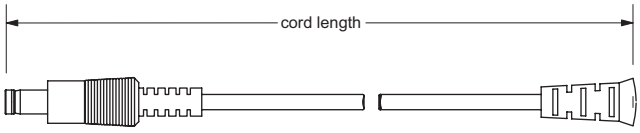
units: mm [inches]
tolerance: ±0.5 [±0.02]



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

PXX X X

Plug Type

Plug Angle:
"Blank" = Standard
R = Right Angle

Plug Polarity:
"Blank" = N/A
P = Center Positive
N = Center Negative

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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