



100~200W Open Frame type Medical power supply > EPM1200U

Medical Open frame



Features

- 100-240VAC Universal Input
- 2 x MOPP Compliance, IEC60601-1 Approval
- Active PFC Function
- Protections:
 - Short circuit / Over voltage / Over current
 - Over temperature (optional)
- MTBF >50,000 hours

EPM V WWW XX Y Z U

- V:** Numbers of outputs
- WWW:** Output power
- XX:** Output voltage of main power
- Y:** Output voltage except for main power
- Z:** Output current except for main power
- U:** U-bracket

MODEL NO.	OUTPUT POWER (W)	OUTPUT NO.	OUTPUT VOLTAGE (Vdc)	OUTPUT LOAD (A)	LOAD REGULATION	RIPPLE & NOISE
Single output	EPM1WWWXXYZU	100~200W	Main Power	5~56V	2.59~20A	± 5% Max. 2% Max.
Dual output	EPM2WWWXXYZU	100~180W	Main Power/DC-DC	5~56V	2.48~18.0A	± 5% Max. 2% Max.
			Stand-by or -12V	5Vsb or -12V	0~2A or 0~0.5A	± 5 or 10% Max. 2% Max.
Triple output	EPM4WWWXXYZU	100~175W	Main Power	10~56V	2.63~13.3A	± 5% Max. 2% Max.
			Stand-by Power	5Vsb	0~2A	± 5% Max. 2% Max.
			DC-DC or -12V	5/12V or -12V	0~5A or 0~0.5A	± 5 or 10% Max. 2% Max.
Quad output	EPM4WWWXXYZ	100~175W	Main Power	10~24V	3.0~11.16A	± 5% Max. 2% Max.
			DC - DC Power	5,12V	0~5A or 0~0.5A	± 5% Max. 2% Max.
			-12V Power	-12V	0~0.5A	± 10% Max. 2% Max.
			Stand-by Power	5Vsb	0~2A	± 5% Max. 2% Max.

NOTE:

- 1 : Ripple & Noise is measured by using 20MHz bandwidth limited oscilloscope and terminated each output with a 0.1uF ceramic capacitor & parallel with 47uF aluminum capacitor at full load and nominal line.
- 2 : Line regulation is defined by changing ±10% of input voltage from nominal line at rated load.
- 3 : Max. Power (W) ≥ Vo x Io

Electrical Specification

INPUT

- Input Range: 100 to 240 VAC
- Frequency: 50 to 60Hz
- Input Current: ≤3.0A
- Inrush Current: ≤60A/110VAC 120A/230VAC
- Hold Up Time: ≥10ms
- Turn On Time: ≤3s

OUTPUT

- Short Circuit Protection: Latch-off or Auto Recovery
- Over Voltage Protection: Latch-off or Auto Recovery
- Over Current Protection: Latch-off or Auto Recovery
- Over Temperature Protection (optional): Latch-off

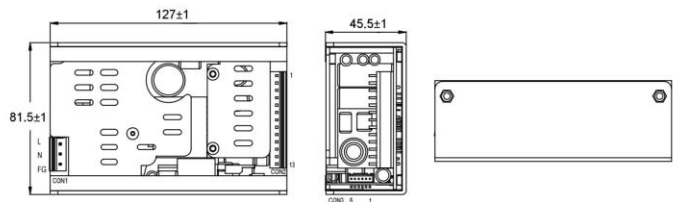
ENVIRONMENT

- Operating Temperature: 0 to 50°C
- Storage Temperature: -20 to 85°C
- Operating Humidity: 10% to 90%
- Storage Humidity: 5% to 95%

SAFETY

- Complied with UL/cUL 60601-1, TUV EN 60601-1, CB IEC 60601-1, FCC, CE

Mechanical Specification



- Mechanical Size: 127 x 81.5 x 45.5 (mm)
- AC Input Connector CON1 : JST/B5P-VH Series or equivalent
- DC Output Connector CON2 : JST/B13P-VH Series or equivalent
- DC Output Connector CON3 : CKM/20010203-6 or equivalent
- Pin Assignment:

CON2 :

P1	P2-5	P6-9	P10-11	P12-13
Vout3	GND	Vout1	GND	Vout4

CON3 :

P1	P2	P3-4	P5-6
P.G/P.F	PS/ON	Vout2	GND

- Weight: 450g



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E PM V WWW XX Y Z U

PM	V	WWW	XX	Y	Z	U
TYPE	NUMBER OF OUTPUTS	OUTPUT POWER	OUTPUT VOLTAGE OF MAIN POWER	OUTPUT VOLTAGE EXCEPT FOR MAIN POWER	OUTPUT CURRENT EXCEPT FOR MAIN POWER	--
Medical Open Frame	1= Single output 2= Dual output 3= Triple output 4= quad output	100~200	05=5V 24=24V 12=12V 36=36V 18=18V 48=48V 19=19V 56=56V	0=NA A= Stand by B = - 12V C=Standby+(- 12V) D=D/D Board	0=NA A=5V/5A B=12V/5A	U-Bracket

MODEL NAME	MAIN- POWER			STAND BY- POWER			-12V POWER			DC TO DC POWER			TOTAL POWER
	Vo1(V)	Io1(I)	Wo1(W)	Vo2(V)	Io2(I)	Wo2(W)	Vo3(V)	Io3(I)	Wo3(W)	Vo4(V)	Io4(I)	Wo4(W)	
EPM11000500U	5	20.00	100										100
EPM11100900U	9	12.22	110										110
EPM11350900U	9	15.00	135										135
EPM11251000U	10	12.50	125										125
EPM11501000U	10	15.00	150										150
EPM11251100U	11	11.36	125										125
EPM11651100U	11	15.00	165										165
EPM11501200U	12	12.50	150										150
EPM115012E0U	12	12.50	150										150
EPM11801200U	12	15.00	180										180
EPM11251500U	15	8.33	125										125
EPM11501500U	15	10.00	150										150
EPM11251600U	16	7.81	125										125
EPM11501600U	16	9.37	150										150
EPM11501700U	17	8.23	150										150
EPM11751700U	17	10.00	175										175
EPM11351800U	18	7.50	135										135
EPM11501800U	18	8.33	150										150
EPM11801800U	18	10.00	180										180
EPM11501900U	19	7.89	150										150
EPM11801900U	19	9.47	180										180
EPM12001900U	19	10.52	200										200
EPM11352200U	22	6.13	135										135
EPM11502200U	22	6.81	150										150
EPM11802200U	22	8.18	180										180
EPM11402300U	23	6.08	140										140
EPM11502300U	23	6.52	150										150
EPM11802300U	23	7.82	180										180
Single output EPM11502400U	24	6.25	150										150
EPM11802400U	24	7.50	180										180
EPM12002400U	24	8.33	200										200
EPM11403400U	34	4.11	140										140
EPM11503400U	34	4.41	150										150
EPM11803400U	34	5.29	180										180
EPM11403500U	35	4.00	140										140
EPM11503500U	35	4.28	150										150
EPM11953500U	35	5.57	180										195
EPM11503600U	36	4.16	150										150
EPM11803600U	36	5.00	180										180
EPM12003600U	36	5.56	200										200
EPM11404600U	46	3.04	140										140
EPM11504600U	46	3.26	150										150
EPM11804600U	46	3.91	180										180
EPM11404700U	47	2.97	140										140
EPM11504700U	47	3.19	150										150
EPM11804700U	47	3.83	180										180
EPM11504800U	48	3.12	150										150
EPM11804800U	48	3.75	180										180
EPM12004800U	48	4.16	200										200
EPM11405400U	54	2.59	140										140
EPM11505400U	54	2.77	150										150
EPM11805400U	54	3.33	180										180
EPM11455500U	55	2.63	145										145
EPM11505500U	55	2.72	150										150
EPM11805500U	55	3.27	180										180
EPM11505600U	56	2.67	150										150
EPM11805600U	56	3.21	180										180
EPM12005600U	56	3.57	200										200



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MODEL NAME	MAIN- POWER			STAND BY- POWER			-12V POWER			DC TO DC POWER			TOTAL POWER
	Vo1(V)	Io1(I)	Wo1(W)	Vo2(V)	Io2(I)	Wo2(W)	Vo3(V)	Io3(I)	Wo3(W)	Vo4(V)	Io4(I)	Wo4(W)	
EPM210005A0U	56	3.57	200										200
EPM211509A0U	5	18.00	90	5	2	10							100
EPM213809A0U	9	11.67	115	5	2	10							115
EPM212610A0U	9	14.17	128	5	2	10							138
EPM215210A0U	10	11.60	126	5	2	10							126
EPM213811A0U	10	14.17	142	5	2	10							152
EPM216611A0U	11	11.63	128	5	2	10							138
EPM215012A0U	11	14.17	156	5	2	10							166
EPM218012A0U	12	11.67	140	5	2	10							150
EPM212015A0U	12	14.16	170	5	2	10							180
EPM214415A0U	15	7.33	110	5	2	10							120
EPM212716A0U	15	8.95	134	5	2	10							144
EPM215316A0U	16	7.31	117	5	2	10							127
EPM213517A0U	16	8.95	143	5	2	10							153
EPM216317A0U	17	7.35	125	5	2	10							135
EPM214218A0U	17	8.95	152	5	2	10							162
EPM217118A0U	18	7.33	132	5	2	10							142
EPM215019A0U	18	8.95	161	5	2	10							171
EPM218019A0U	19	7.36	140	5	2	10							150
EPM213822A0U	19	8.94	170	5	2	10							180
EPM216622A0U	22	5.81	128	5	2	10							138
EPM214423A0U	22	7.08	156	5	2	10							166
EPM217323A0U	23	5.82	134	5	2	10							144
EPM215024A0U	23	7.08	163	5	2	10							173
EPM218024A0U	24	5.83	140	5	2	10							150
EPM214234A0U	24	7.08	170	5	2	10							180
EPM217034A0U	34	3.88	132	5	2	10							142
EPM214535A0U	34	4.72	160	5	2	10							170
EPM217535A0U	35	3.85	135	5	2	10							145
EPM215036A0U	35	4.72	165	5	2	10							175
EPM218036A0U	36	3.88	140	5	2	10							150
EPM214346A0U	36	4.72	170	5	2	10							180
EPM217346A0U	46	2.89	133	5	2	10							143
EPM214547A0U	46	3.54	163	5	2	10							173
EPM217647A0U	47	2.87	135	5	2	10							145
EPM215048A0U	47	3.54	166	5	2	10							176
EPM218048A0U	48	2.91	140	5	2	10							150
EPM214454A0U	48	3.54	170	5	2	10							180
EPM217454A0U	54	2.48	134	5	2	10							144
EPM214755A0U	54	3.04	164	5	2	10							174
EPM217755A0U	55	2.49	137	5	2	10							147
EPM215056A0U	55	3.03	167	5	2	10							177
EPM218056A0U	56	2.50	140	5	2	10							150
EPM215012B0U	56	3.03	170	5	2	10							180
EPM218012B0U	12	12.00	144				-12	0.5	6				150
EPM215019B0U	12	14.50	174				-12	0.5	6				180
EPM218019B0U	19	7.57	144				-12	0.5	6				150
EPM215024B0U	19	9.15	174				-12	0.5	6				180
EPM218024B0U	24	6.00	144				-12	0.5	6				150
EPM218024DBU	24	7.25	174				-12	0.5	6				180
EPM215036B0U	24	6.00	144							12	3	36	180
EPM218036B0U	36	4.00	144				-12	0.5	6				150
EPM215048B0U	36	4.83	174				-12	0.5	6				180
EPM218048B0U	48	3.00	144				-12	0.5	6				150
EPM215056B0U	48	3.62	174				-12	0.5	6				180
EPM218056B0U	56	2.57	144				-12	0.5	6				150
EPM313010AAU	56	3.10	174				-12	0.5	6				180
EPM315010AAU	10	9.50	95	5	2	10				5	5	25	130
EPM315011AAU	10	11.50	115	5	2	10				5	5	25	150
EPM315011AAU	11	9.54	105	5	2	10				5	5	25	140
EPM315012AAU	11	10.45	115	5	2	10				5	5	25	150
EPM317512AAU	12	9.58	115	5	2	10				5	5	25	150
EPM312215AAU	12	11.66	140	5	2	10				5	5	25	175
EPM314615AAU	15	5.80	87	5	2	10				5	5	25	122
EPM312816AAU	15	7.40	111	5	2	10				5	5	25	146
EPM315316AAU	16	5.81	93	5	2	10				5	5	25	128
EPM313517AAU	16	7.37	118	5	2	10				5	5	25	153
EPM316017AAU	17	5.88	100	5	2	10				5	5	25	135



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MODEL NAME	MAIN- POWER			STAND BY- POWER			-12V POWER			DC TO DC POWER			TOTAL POWER
	Vo1(V)	Io1(I)	Wo1(W)	Vo2(V)	Io2(I)	Wo2(W)	Vo3(V)	Io3(I)	Wo3(W)	Vo4(V)	Io4(I)	Wo4(W)	
EPM314218AAU	17	7.37	125	5	2	10				5	5	25	160
EPM316818AAU	18	5.94	107	5	2	10				5	5	25	142
EPM314518ABU	18	7.38	133	5	2	10				5	5	25	168
EPM316818ABU	18	4.16	75	5	2	10				12	5	60	145
EPM315019AAU	18	5.44	98	5	2	10				12	5	60	168
EPM317519AAU	19	6.05	115	5	2	10				5	5	25	150
EPM315019ABU	19	7.36	140	5	2	10				5	5	25	175
EPM317519ABU	19	4.21	80	5	2	10				12	5	60	150
EPM314022AAU	19	5.52	105	5	2	10				12	5	60	175
EPM315022AAU	22	4.77	105	5	2	10				5	5	25	140
EPM314122ABU	22	5.22	115	5	2	10				5	5	25	150
EPM316522ABU	22	3.22	71	5	2	10				12	5	60	141
EPM314523AAU	22	4.31	95	5	2	10				12	5	60	165
EPM316823AAU	23	4.78	110	5	2	10				5	5	25	145
EPM314523ABU	23	5.78	133	5	2	10				5	5	25	168
EPM317023ABU	23	3.26	75	5	2	10				12	5	60	145
EPM315024AAU	23	4.34	100	5	2	10				12	5	60	170
EPM317524AAU	24	4.79	115	5	2	10				5	5	25	150
EPM315024ABU	24	5.83	140	5	2	10				5	5	25	175
EPM317524ABU	24	3.33	80	5	2	10				12	5	60	150
EPM312510C0U	24	4.37	105	5	2	10				12	5	60	175
EPM314910C0U	10	10.90	109	5	2	10	-12	0.5	6				125
EPM313511C0U	10	13.30	133	5	2	10	-12	0.5	6				149
EPM316211C0U	11	10.81	119	5	2	10	-12	0.5	6				135
EPM315012C0U	11	13.27	146	5	2	10	-12	0.5	6				162
EPM317512C0U	12	11.16	134	5	2	10	-12	0.5	6				150
EPM312015C0U	12	13.25	159	5	2	10	-12	0.5	6				175
EPM314215C0U	15	6.93	104	5	2	10	-12	0.5	6				120
EPM312516C0U	15	8.40	126	5	2	10	-12	0.5	6				142
EPM315016C0U	16	6.81	109	5	2	10	-12	0.5	6				125
EPM313517C0U	16	8.37	134	5	2	10	-12	0.5	6				150
EPM315817C0U	17	7.00	119	5	2	10	-12	0.5	6				135
EPM314218C0U	17	8.37	142	5	2	10	-12	0.5	6				158
EPM316718C0U	18	7.00	126	5	2	10	-12	0.5	6				142
EPM315019C0U	18	8.38	151	5	2	10	-12	0.5	6				167
EPM317519C0U	19	7.05	134	5	2	10	-12	0.5	6				150
EPM313522C0U	19	8.36	159	5	2	10	-12	0.5	6				175
EPM316222C0U	22	5.40	119	5	2	10	-12	0.5	6				135
EPM314023C0U	22	6.63	146	5	2	10	-12	0.5	6				162
EPM316823C0U	23	5.39	124	5	2	10	-12	0.5	6				140
EPM315024C0U	23	6.63	152	5	2	10	-12	0.5	6				168
EPM317524C0U	24	5.58	134	5	2	10	-12	0.5	6				150
EPM314034C0U	24	6.62	159	5	2	10	-12	0.5	6				175
EPM315034C0U	34	3.64	124	5	2	10	-12	0.5	6				140
EPM314035C0U	34	3.94	134	5	2	10	-12	0.5	6				150
EPM315035C0U	35	3.54	124	5	2	10	-12	0.5	6				140
EPM315036C0U	35	3.82	134	5	2	10	-12	0.5	6				150
EPM317536C0U	36	3.72	134	5	2	10	-12	0.5	6				150
EPM314046C0U	36	4.41	159	5	2	10	-12	0.5	6				175
EPM315046C0U	46	2.69	124	5	2	10	-12	0.5	6				140
EPM314047C0U	46	2.91	134	5	2	10	-12	0.5	6				150
EPM315047C0U	47	2.63	124	5	2	10	-12	0.5	6				140
EPM315048C0U	47	2.85	134	5	2	10	-12	0.5	6				150
EPM317548C0U	48	2.79	134	5	2	10	-12	0.5	6				150
EPM314054C0U	48	3.54	170	5	2	10	-12	0.5	6				175
EPM316954C0U	54	3.82	124	5	2	10	-12	0.5	6				140
EPM314555C0U	54	3.72	201	5	2	10	-12	0.5	6				169
EPM317255C0U	55	4.41	129	5	2	10	-12	0.5	6				145
EPM315056C0U	55	2.69	148	5	2	10	-12	0.5	6				172
EPM317556C0U	56	2.91	163	5	2	10	-12	0.5	6				150

Triple output



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EPM413010CAU	56	2.63	147	5	2	10	-12	0.5	6				175
EPM415010CAU	10	8.90	89	5	2	10	-12	0.5	6	5	5	25	130
EPM414011CAU	10	10.90	109	5	2	10	-12	0.5	6	5	5	25	150
EPM415011CAU	11	9.00	99	5	2	10	-12	0.5	6	5	5	25	140
EPM415012CAU	11	9.90	109	5	2	10	-12	0.5	6	5	5	25	150
EPM417512CAU	12	9.08	109	5	2	10	-12	0.5	6	5	5	25	150
EPM412715CAU	12	11.60	134	5	2	10	-12	0.5	6	5	5	25	175
EPM414615CAU	15	5.73	86	5	2	10	-12	0.5	6	5	5	25	127
EPM413216CAU	15	7.00	105	5	2	10	-12	0.5	6	5	5	25	146
EPM415316CAU	16	5.68	91	5	2	10	-12	0.5	6	5	5	25	132
EPM415017CAU	16	7.00	112	5	2	10	-12	0.5	6	5	5	25	153
EPM416017CAU	17	6.41	109	5	2	10	-12	0.5	6	5	5	25	150
EPM414418CAU	17	7.00	119	5	2	10	-12	0.5	6	5	5	25	160
EPM416718CAU	18	5.72	103	5	2	10	-12	0.5	6	5	5	25	144
EPM414618CAU	18	7.00	126	5	2	10	-12	0.5	6	5	5	25	167
Quad output EPM416818CAU	18	3.88	70	5	2	10	-12	0.5	6	12	5	60	146
EPM415019CAU	18	5.11	92	5	2	10	-12	0.5	6	12	5	60	168
EPM417519CAU	19	5.73	109	5	2	10	-12	0.5	6	5	5	25	150
EPM415019CBU	19	7.05	134	5	2	10	-12	0.5	6	5	5	25	175
EPM417519CBU	19	4.36	74	5	2	10	-12	0.5	6	12	5	60	150
EPM414022CAU	19	5.21	99	5	2	10	-12	0.5	6	12	5	60	175
EPM416222CAU	22	4.50	99	5	2	10	-12	0.5	6	5	5	25	140
EPM414322CAU	22	5.50	121	5	2	10	-12	0.5	6	5	5	25	162
EPM416622CAU	22	3.04	67	5	2	10	-12	0.5	6	12	5	60	143
EPM414523CAU	22	4.09	90	5	2	10	-12	0.5	6	12	5	60	166
EPM416823CAU	23	4.52	104	5	2	10	-12	0.5	6	5	5	25	145
EPM414523CAU	23	5.52	127	5	2	10	-12	0.5	6	5	5	25	168
EPM417123CAU	23	3.00	69	5	2	10	-12	0.5	6	12	5	60	145
EPM415024CAU	23	4.13	95	5	2	10	-12	0.5	6	12	5	60	171
EPM417524CAU	24	4.54	109	5	2	10	-12	0.5	6	5	5	25	150
EPM415024CBU	24	5.58	134	5	2	10	-12	0.5	6	5	5	25	175
EPM417524CBU	24	3.08	74	5	2	10	-12	0.5	6	12	5	60	150