

COTEK



ME/MP Series 5~1200W Medical Power Supply



- Compact design (smaller, lighter)
- High quality, reliable and safe products
- Isolation class II
- Medical safety 3rd edition approval
- 2 x MOPP / BF
- Low leakage current

User Benefits



Wide AC input range

Global use

Wide output power range (5~1200W)

To cover various applications



Safe and reliable design

- Input & output isolation : Product safety
- Output protection : Protect customer devices
- Medical safety 3rd edition approval
- 2 x MOPP
- Isolation I/II*



Compact design

Reduce total system dimension



Single / dual outputs*

Cover wide applications



Low leakage current

- Suitable for patient contact devices
- Body floating devices



Programmable output*

Voltage setting range(0~105%)
Current setting range(0~105%)

*Depends on the different model

Always Power Ready



COTEK Medical Power Applications



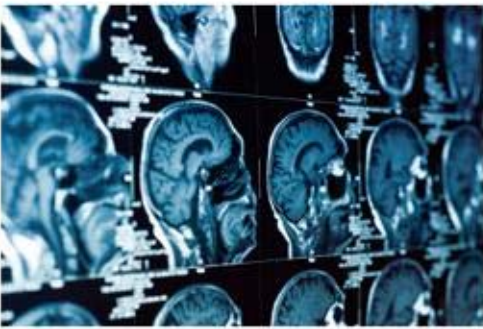
Medical Monitoring

- Surgical equipment
- Patient monitoring system
- Patient therapy system
- Patient bed
- Infusion pump
- Ventilator



Laboratory

- Blood analysis machine
- Mass spectrometer
- Chemical laboratory equipment
- Refractometer
- Cytocentrifuge
- Incubator
- Thermometer
- Mass analyzer



Medical Imaging

- Ultrasound scanner
- Computed tomography scanner (CT)
- Position emission tomography system (PET)
- Magnetic resonance imaging system (MRI)
- Nuclear medicine equipment
- X-ray machines
- Gamma cameras



Dental

- Infusion pump control
- Gamma imaging system
- CAD/CAM system
- Oral care equipment
- Digital radiography
- X-ray machines



Bio Life Science

- Immunoassay system
- In-vitro diagnostic system
- Blood analysis machine
- Microbiology diagnostic system
- Chemical laboratory equipment
- Electron microscopy
- Clinical chemistry analyzer
- Osmometer
- PCR (polymerase chain reaction) thermal cycler

Specification



MP Series 5W Open Frame Medical Power Supply

		Model	MP05-05	MP05-12	MP05-15	MP05-24
Output	DC Voltage		5V	12V	15V	24V
	Rated Current		1A	0.42A	0.33A	0.21A
	Leakage Current	For patient < 100 μ A / 264VAC				
	Ripple & Noise (Max.)		100mVp-p	150mVp-p	150mVp-p	240mVp-p
	Voltage Adj. Range		$\pm 10\%$			
Input	Voltage Range	85 ~ 264VAC, 125 ~ 373VDC				
	Efficiency (Typ.) at 230VAC		71%	75%	75%	77%

MP Series 10W Open Frame Medical Power Supply

		Model	MP10-05	MP10-12	MP10-15	MP10-24
Output	DC Voltage		5V	12V	15V	24V
	Rated Current		2A	0.83A	0.66A	0.42A
	Leakage Current	For patient < 100 μ A / 264VAC				
	Ripple & Noise (Max.)		80mVp-p	150mVp-p	150mVp-p	240mVp-p
	Voltage Adj. Range		$\pm 10\%$			
Input	Voltage Range	85 ~ 264VAC, 125 ~ 373VDC				
	Efficiency (Typ.) at 230VAC		77%	79%	80%	82%

MP Series 15W Open Frame Medical Power Supply

		Model	MP15-05	MP15-12	MP15-15	MP15-24
Output	DC Voltage		5V	12V	15V	24V
	Rated Current		3A	1.25A	1A	0.63A
	Leakage Current	For patient < 100 μ A / 264VAC				
	Ripple & Noise (Max.)		80mVp-p	150mVp-p	150mVp-p	240mVp-p
	Voltage Adj. Range		$\pm 10\%$			
Input	Voltage Range	85 ~ 264VAC, 125 ~ 373VDC				
	Efficiency (Typ.) at 230VAC		79%	82%	84%	85%

MP Series 20W Open Frame Medical Power Supply

		Model	MP20-05	MP20-12	MP20-15	MP20-24
Output	DC Voltage		5V	12V	15V	24V
	Rated Current		4A	1.66A	1.33A	0.84A
	Leakage Current	For patient < 100 μ A / 264VAC				
	Ripple & Noise (Max.)		80mVp-p	150mVp-p	150mVp-p	240mVp-p
	Voltage Adj. Range		$\pm 10\%$			
Input	Voltage Range	85 ~ 264VAC, 125 ~ 373VDC				
	Efficiency (Typ.) at 230VAC		77%	82%	84%	85%

		Model	MP05	MP10	MP15	MP20
Protection	Over Load	Above 110% rated output power Protection type: Hiccup mode, recovers automatically after fault condition is removed				
	Over Voltage	115 ~ 145% rated output voltage Protection type: latch-off mode				115 ~ 150% rated output voltage
Environment	Working Temperature	-20 $^{\circ}$ C ~ +70 $^{\circ}$ C (Refer to output load de-rating curve)				
	Working Humidity	20 ~ 90% RH non-condensing				
	Storage Temp. & Humidity	-40 $^{\circ}$ C ~ +85 $^{\circ}$ C, 10 ~ 95% RH				
	Temperature Coefficient	$\pm 0.03\%$ / $^{\circ}$ C (0 $^{\circ}$ C ~ 50 $^{\circ}$ C)				
	Vibration	10 ~ 500Hz, 2G 10min. / 1cycle, period for 60min. each along X, Y, Z axes				
Safety & EMC	Safety Standards	Certified UL / cUL (ANSI / AAMI ES 60601-1; CAN / CSA-C22.2 No.60601-1); NFPA 99 Certified TUV (EN 60601-1; IEC 60601-1); 2 x MOPP / BF				
	Withstand Voltage	I/P-O/P: 4KVAC				
	Isolation Resistance	I/P-O/P: 100M Ohms / 500VDC				
	EMI Conduction & Radiation	Certified EN 55011 class B				
	Power Harmonic & Voltage Fluctuation and Flicker	Certified EN 61000-3-2; EN 61000-3-3				
	EMS Immunity	Certified EN 60601-1-2; IEC 61000-4-2, 3, 4, 5, 6, 8, 11				
Other Information	Dimension (WxHxD)	45.0x19.1x57.9 mm	45.0x22.0x65.0 mm	48.0x22.0x69.9 mm	50.8x19.3x88.9 mm	
	Packing	0.033kg; 144pcs / 5.75kg / 1.43CUFT	0.045kg; 108pcs / 5.86kg / 1.43CUFT	0.062kg; 108pcs / 8.12kg / 1.43CUFT	0.076kg; 96pcs / 8.3kg / 1.43CUFT	

• Subject to change without prior notice

Specification



MP Series

45W Single Outputs Open Frame Medical Power Supply

Model		MP45-12	MP45-15	MP45-24	MP45-48
Output	DC Voltage	12V	15V	24V	48V
	Rated Current	3.75A	3A	1.875A	0.94A
	Leakage Current	For earth < 200 μ A / 264VAC, for patient < 100 μ A / 264VAC			
	Ripple & Noise (Max.)	120mVp-p	150mVp-p	240mVp-p	300mVp-p
	Voltage Adj. Range	\pm 10%			
Input	Voltage Range	90 ~ 264VAC, 127 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage)			
	Efficiency (Typ.) at 230VAC	85%	85%	86%	87%

MP Series

60W Single Outputs Open Frame Medical Power Supply

Model		MP60-12	MP60-15	MP60-24	MP60-48
Output	DC Voltage	12V	15V	24V	48V
	Rated Current	5A	4A	2.5A	1.25A
	Leakage Current	For earth < 200 μ A / 264VAC, for patient < 100 μ A / 264VAC			
	Ripple & Noise (Max.)	120mVp-p	150mVp-p	240mVp-p	300mVp-p
	Voltage Adj. Range	\pm 10%			
Input	Voltage Range	90 ~ 264VAC, 127 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage)			
	Efficiency (Typ.) at 230VAC	85%	85%	86%	87%

MP Series

45W Dual Outputs Open Frame Medical Power Supply

Model		MP45-05F		MP45-05K	
Output	Output Number	CH1	CH2	CH1	CH2
	DC Voltage Range	5V	12V	5V	24V
	Rated Current	4.2A	1.6A	3.5A	1.1A
	Leakage Current	For earth < 200 μ A, for patient < 100 μ A			
	Ripple & Noise (Max.)	80mVp-p	80mVp-p	80mVp-p	100mVp-p
Input	Voltage Range	90 ~ 264VAC, 127 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage)			
	Efficiency (Typ.) at 230VAC	80%		82%	

MP Series

60W Dual Outputs Open Frame Medical Power Supply

Model		MP60-05F		MP60-05K	
Output	Output Number	CH1	CH2	CH1	CH2
	DC Voltage Range	5V	12V	5V	24V
	Rated Current	5A	2A	3.5A	1.5A
	Leakage Current	For earth < 200 μ A, for patient < 100 μ A			
	Ripple & Noise (Max.)	80mVp-p	80mVp-p	80mVp-p	100mVp-p
Input	Voltage Range	90 ~ 264VAC, 127 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage)			
	Efficiency (Typ.) at 230VAC	80%		82%	

Model		MP45 (Single outputs)	MP60 (Single outputs)	MP45 (Dual outputs)	MP60 (Dual outputs)
Protection	Over Load	Above 110% rated output power Protection type: Hiccup mode, recovers automatically after fault condition is removed			
	Over Voltage	115 ~ 140% rated output voltage Protection type: latch-off mode			
Environment	Working Temperature	-20°C ~ +70°C (Refer to output load de-rating curve)			
	Working Humidity	20 ~ 90% RH non-condensing			
	Storage Temp. & Humidity	-40°C ~ +85°C, 10 ~ 95% RH			
	Temperature Coefficient	\pm 0.03% / °C (0°C ~ 50°C)			
	Vibration	10 ~ 500Hz, 2G 10min. / 1cycle, period for 60min. each along X, Y, Z axes			
Safety & EMC	Safety Standards	Certified UL / cUL (ANSI / AAMI ES 60601-1; CAN / CSA-C22.2 No.60601-1); NFPA 99 Certified TUV (EN 60601-1; IEC 60601-1); 2 x MOPP / BF			
	Withstand Voltage	I/P-O/P: 4KVAC, I/P-FG: 1.8KVAC, O/P-FG: 1.5KVAC			
	Isolation Resistance	I/P-O/P: 100M Ohms / 500VDC			
	EMI Conduction & Radiation	Certified EN 55011 class B			
	Power Harmonic & Voltage Fluctuation and Flicker	Certified EN 61000-3-2; EN 61000-3-3			
Other Information	EMS Immunity	Certified EN 60601-1-2; IEC 61000-4-2, 3, 4, 5, 6, 8, 11			
	Dimension (WxHxD)	51x29x102 mm			
	Footprint	2"x4"			
	Packing	0.151kg; 80pcs / 13.08kg / 1.43CUFT			

• Subject to change without prior notice



MP Series

150W 4x2" Open Frame Medical Power Supply

Model		MP-150-12	MP-150-15	MP-150-24	MP-150-48
Output	DC Voltage	12V	15V	24V	48V
	Rated Current	12.5A	10A	6.25A	3.13A
	Leakage Current	For earth < 275 μ A / 264VAC, for patient < 100 μ A/264VAC			
	Ripple & Noise (Max.)	120mVp-p	150mVp-p	240mVp-p	480mVp-p
	Voltage Adj. Range	\pm 10%			
Input	Voltage Range	90 ~ 264VAC, 127 ~ 373VDC			
	Efficiency (Typ.) at 230VAC	90%	91%	90%	91%

MP Series

250W 5x3" Open Frame Medical Power Supply

Model		MP-250-12	MP-250-15	MP-250-24	MP-250-48
Output	DC Voltage	12V	15V	24V	48V
	Rated Current	20.85A	16.67A	10.45A	5.25A
	Leakage Current	For earth < 300 μ A / 264VAC, for patient < 100 μ A/264VAC			
	Ripple & Noise (Max.)	120mVp-p	150mVp-p	240mVp-p	480mVp-p
	Voltage Adj. Range	\pm 10%			
Input	Voltage Range	90 ~ 264VAC, 127 ~ 373VDC			
	Efficiency (Typ.) at 230VAC	90%	90%	91%	91%

MP Series

350W 5x3" Open Frame Medical Power Supply

Model		MP-350-12	MP-350-15	MP-350-24	MP-350-48
Output	DC Voltage	12V	15V	24V	48V
	Rated Current	29.17A	23.34A	14.6A	7.3A
	Leakage Current	For earth < 300 μ A / 264VAC, for patient < 100 μ A/264VAC			
	Ripple & Noise (Max.)	150mVp-p	150mVp-p	240mVp-p	480mVp-p
	Voltage Adj. Range	\pm 5%			
Input	Voltage Range	90 ~ 264VAC, 127 ~ 373VDC			
	Efficiency (Typ.) at 230VAC	90%	90%	90%	91%

MP Series

450W 7x4" Open Frame Medical Power Supply

Model		MP-450-12	MP-450-15	MP-450-24	MP-450-48
Output	DC Voltage	12V	15V	24V	48V
	Rated Current	37.5A	30A	18.75A	9.38A
	Leakage Current	For earth < 275 μ A / 264VAC, for patient < 100 μ A/264VAC			
	Ripple & Noise (Max.)	150mVp-p	150mVp-p	240mVp-p	480mVp-p
	Voltage Adj. Range	\pm 5%			
Input	Voltage Range	90 ~ 264VAC, 127 ~ 373VDC			
	Efficiency (Typ.) at 230VAC	90%	90%	90%	91%

Model		MP-150	MP-250	MP-350	MP-450
Protection	Over Load	Above 110% rated output power		---	
	Over Current / Short Circuit	Protection type: latch-style (Recovery after reset AC power ON)		---	
		---		Constant current limit: >105% rated power	
Over Voltage	115 ~ 140% rated output voltage		---		
	Protection type: latch-style (Recovery after reset AC power ON)		Protection type: latch-off mode		
Environment	Working Temperature	-20°C ~ +70°C (Refer to output load de-rating curve)			
	Working Humidity	20 ~ 90% RH non-condensing			
	Storage Temp. & Humidity	-40°C ~ +85°C, 10 ~ 95% RH			
	Temperature Coefficient	\pm 0.03% / °C (0°C ~ 50°C)			
	Vibration	10 ~ 500Hz, 2G 10min. / 1cycle, period for 60min. each along X, Y, Z axes			
Safety & EMC	Safety Standards	Certified UL / cUL (ANSI / AAMI ES 60601-1; CAN / CSA-C22.2 No.60601-1); NFPA 99			
	Withstand Voltage	I/P-O/P: 4KVAC, I/P-FG: 1.8KVAC, O/P-FG: 1.5KVAC			
	Isolation Resistance	I/P-O/P: 100M Ohms / 500VDC			
	EMI Conduction & Radiation	Certified EN 55011 class B			
	Power Harmonic & Voltage Fluctuation and Flicker	Certified EN 61000-3-2; EN 61000-3-3			
	EMS Immunity	Certified EN 60601-1-2; IEC 61000-4-2, 3, 4, 5, 6, 8, 11			
Other Information	Dimension (WxHxD)	51x30x102 mm	76x36x127 mm	76x38x127 mm	102x40x178 mm
	Footprint	2"x4"	3"x5"	3"x5"	4"x7"
	Packing	0.204kg; 60pcs / 13.24kg / 0.79CUFT	0.32kg; 54pcs / 18.28kg / 1.41CUFT	0.42kg; 54pcs / 23.68kg / 1.41CUFT	0.7kg; 30pcs / 22kg / 1.41CUFT

• Subject to change without prior notice

Specification



ME Series 5W Modular Medical Power Supply

Model		ME05-05	ME05-12	ME05-15	ME05-24
Output	DC Voltage	5V	12V	15V	24V
	Rated Current	1A	0.42A	0.33A	0.21A
	Leakage Current	For patient < 100 µA / 264VAC			
	Ripple & Noise (Max.)	100mVp-p	150mVp-p	150mVp-p	240mVp-p
Input	Voltage Range	85 ~ 264VAC, 125 ~ 373VDC			
	Efficiency (Typ.) at 230VAC	71%	75%	75%	77%

ME Series 10W Modular Medical Power Supply

Model		ME10-05	ME10-12	ME10-15	ME10-24
Output	DC Voltage	5V	12V	15V	24V
	Rated Current	2A	0.83A	0.66A	0.42A
	Leakage Current	For patient < 100 µA / 264VAC			
	Ripple & Noise (Max.)	80mVp-p	150mVp-p	150mVp-p	240mVp-p
Input	Voltage Range	85 ~ 264VAC, 125 ~ 373VDC			
	Efficiency (Typ.) at 230VAC	77%	79%	80%	82%

ME Series 15W Modular Medical Power Supply

Model		ME15-05	ME15-12	ME15-15	ME15-24
Output	DC Voltage	5V	12V	15V	24V
	Rated Current	3A	1.25A	1A	0.63A
	Leakage Current	For patient < 100 µA / 264VAC			
	Ripple & Noise (Max.)	80mVp-p	150mVp-p	150mVp-p	240mVp-p
Input	Voltage Range	85 ~ 264VAC, 125 ~ 373VDC			
	Efficiency (Typ.) at 230VAC	79%	82%	84%	85%

ME Series 20W Modular Medical Power Supply

Model		ME20-05	ME20-12	ME20-15	ME20-24
Output	DC Voltage	5V	12V	15V	24V
	Rated Current	4A	1.66A	1.33A	0.84A
	Leakage Current	For patient < 100 µA / 264VAC			
	Ripple & Noise (Max.)	80mVp-p	150mVp-p	150mVp-p	240mVp-p
Input	Voltage Range	85 ~ 264VAC, 125 ~ 373VDC			
	Efficiency (Typ.) at 230VAC	77%	82%	84%	85%

Model		ME05	ME10	ME15	ME20
Protection	Over Load	Above 110% rated output power Protection type: Hiccup mode, recovers automatically after fault condition is removed			
	Over Voltage	115 ~ 145% rated output voltage Protection type: latch-off mode		115 ~ 150% rated output voltage	
Environment	Working Temperature	-20°C ~ +70°C (Refer to output load de-rating curve)			
	Working Humidity	20 ~ 90% RH non-condensing			
	Storage Temp. & Humidity	-45°C ~ +85°C, 10 ~ 95% RH			
	Temperature Coefficient	± 0.03% / °C (0°C ~ 50°C)			
	Vibration	10 ~ 500Hz, 2G 10min. / 1cycle, period for 60min. each along X, Y, Z axes			
Safety & EMC	Safety Standards	Certified UL / cUL (ANSI / AAMI ES 60601-1; CAN / CSA-C22.2 No.60601-1); NFPA 99 Certified TUV (EN 60601-1; IEC 60601-1); 2 x MOPP / BF			
	Withstand Voltage	I/P-O/P: 4KVAC			
	Isolation Resistance	I/P-O/P: 100M Ohms / 500VDC			
	EMI Conduction & Radiation	Certified EN 55011 class B			
	Power Harmonic & Voltage Fluctuation and Flicker	Certified EN 61000-3-2; EN 61000-3-3			
	EMS Immunity	Certified EN 60601-1-2; IEC 61000-4-2, 3, 4, 5, 6, 8, 11			
Other Information	Dimension (WxHxD)	50.0x19.7x62.9 mm	50.0x22.7x70.0 mm	53.0x22.7x75.0 mm	56.0x22.7x94.0 mm
	Packing	0.08kg; 144pcs / 12.52kg / 1.43CUFT	0.105kg; 108pcs / 12.34kg / 1.43CUFT	0.14kg; 108pcs / 16.12kg / 1.43CUFT	0.18kg; 96pcs / 18.28kg / 1.43CUFT

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ME-1200W

1200W Programmable Medical Power Supply



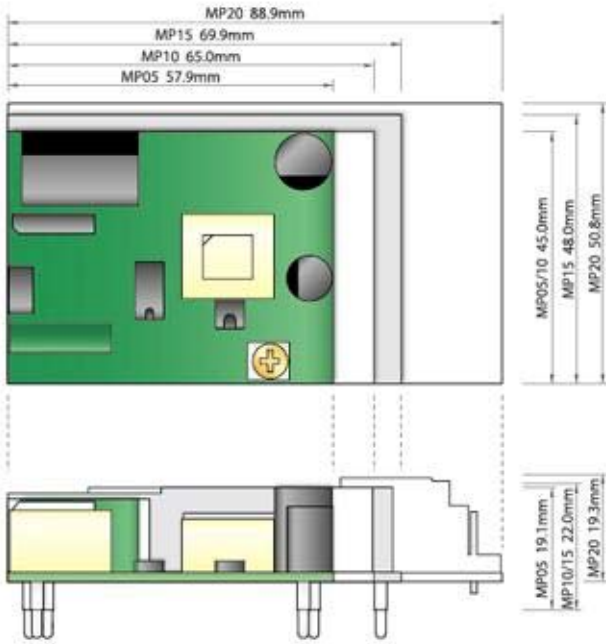
Model		ME-1200-12	ME-1200-15	ME-1200-24	ME-1200-30	ME-1200-36	ME-1200-48	ME-1200-60
Output	DC Voltage	12V	15V	24V	30V	36V	48V	60V
	Rated Current	100A	80A	50A	40A	33.4A	25A	20A
	Ripple & Noise (Max.)	120mVp-p	150mVp-p	240mVp-p	300mVp-p	360mVp-p	480mVp-p	600mVp-p
Input	Voltage Range	90 ~ 264VAC, 127 ~ 370VDC						
	Frequency	47~63 Hz						
	Efficiency (Typ.)	89%	90%	91%	92%	92%	93%	93%
	Inrush Current (Typ.)	30A / 115VAC, 45A / 230VAC						
	Power Factor	0.95 / 230VAC, 0.99 / 115VAC full load						
	Leakage Current	For earth < 300 μA / 264VAC, for patient < 100 μA / 264VAC						
Protection	Over Load	105 % rated output power, Protection type: Constant current limit						
	Over Voltage	Variable OVP, 120 ± 7% Vout. Refer to VCI v.s. OVP curve						
		Protection type: latch-style (Recovery after reset AC power ON or inhibit)						
Over Temperature	85 ± 5°C detect on NTC. Protection type: Auto recovery after temperature goes down							
	Protection type: Shutdown O/P voltage (Recovers automatically after temperature goes down)							
Function	Auxiliary Power	Selectable +5V / 0.5A or +9V / 0.3A auxiliary output						
	Remote ON / OFF Control	Yes (Isolated from output)						
	Power OK Signal	Open drain signal low when PSU turns on, Max. sink current: 20mA, Max. drain voltage: 40V.						
	Output Voltage	Adjustment of output voltage is between 0 ~ 105% of rated output						
	Output Current	Adjustment of output current is between 0 ~ 105% of rated output						
	Parallel (Current Sharing)	Single wire connect (8 units Max.)						
Environment	Working Temperature	-20°C ~ +60°C (Refer to output load de-rating curve)						
	Working Humidity	20 ~90% RH non-condensing						
	Storage Temp. & Humidity	-40°C ~ +85°C, 10 ~ 95% RH						
	Temp. Coefficient	± 0.02% / °C (0°C ~50°C)						
	Vibration	10 ~ 500Hz, 2G 10min. / 1cycle, period for 60min. each along X, Y, Z axes						
Certified IEC60068-2-6-2007; IEC 60068-2-64-2008								
Safety & EMC	Safety Standards	Certified UL / cUL (ANSI / AAMI ES 60601-1; CAN / CSA-C22.2 No.60601-1); NFPA 99						
		Certified TUV (EN 60601-1; IEC 60601-1); 2 x MOPP / BF						
	Withstand Voltage	I/P-O/P: 4KVAC, I/P-FG: 1.8KVAC, O/P-FG: 0.5KVAC						
	Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC						
	EMI Conduction & Radiation	Certified EN 55011 class B						
	Power Harmonic & Voltage Fluctuation and Flicker	Certified EN 61000-3-2; EN 61000-3-3: 2008						
EMS Immunity	Certified EN 60601-1-2; IEC 61000-4-2, 3, 4, 5, 6, 8, 11							
Other Information	Cooling	Load and temperature control fan						
	Dimension (WxHxD)	127x64x261 mm						
	Packing	2.6 kg; 6pcs / 16.6kg / 1.86CUFT						

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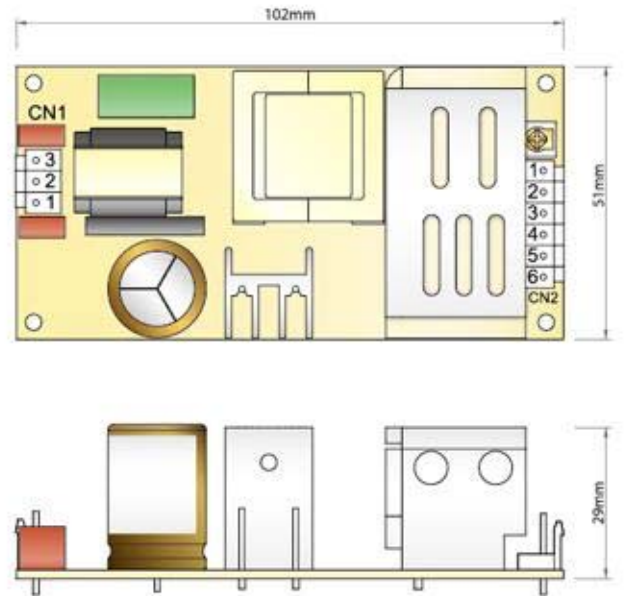


Dimension

MP05~20



MP45~60



MP-150~450



About COTEK



COTEK is committed to providing proactive service, innovative technology and total quality assurance since we were established in 1986. With Corporate Offices in Tao-yuan, Taiwan, COTEK is a technology-oriented company focusing on developing, designing and manufacturing products including:

- AC/DC Switching Mode Power Supply-5 Watts ~ 3,000 Watts
- LED Driver
- DC/AC Pure Sine Wave inverter-150 Watts ~ 4,000 Watts
- Inverter/Charger
- Battery Charger

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