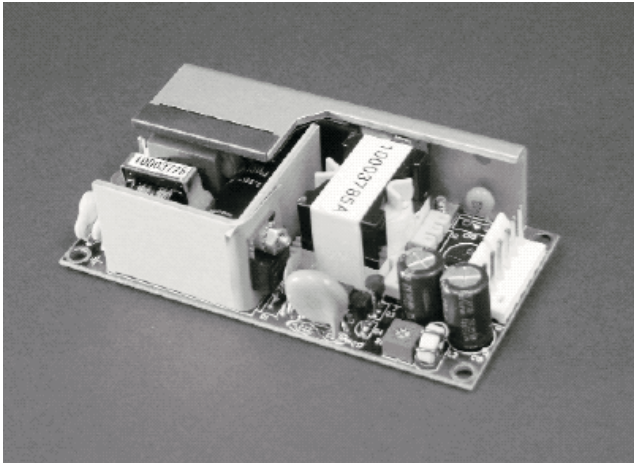


ECM 40&60 Series

40 / 60 W AC/DC Power Supplies - Medical & Industrial

CoolPower
Solutions



- Small Size 2.0" x 4.0" x 1.2"
- Low Leakage Current
- Industrial & Medical Approvals
- Level B Conducted Emissions
- EN61000-3-2,-3 Compliant
- Multi Output Models Available Q2

Specification

Input		General	
Input Voltage	• 90-264 VAC (170-370 VDC)	Efficiency	• 80-85% dependant on model
Input Frequency	• 47-63 Hz, 440 Hz	Isolation	• 4000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground
Input Current	• 0.6 A max at 230 VAC,	Switching Frequency	• Typically 70 kHz
Inrush Current	• 40 A max at 230 VAC	Power Density	• 6.25 W /In ³
Earth Leakage Current	• <100 µA at 115 VAC, <200 µA at 230 VAC	MTBF	• 250,000 hours per MIL-HDBK-217F
Input Protection	• 3.15 A internal fuse in line & neutral	Size	• 101.6 x 50.8 x 30.48 mm
Output		Weight	• 150g
Output Voltage	• See Tables	Connection	• See Notes 1 & 2
Output Voltage Adjustment	• ±10%	Environmental	
Minimum Load	• 0 A	Operating Temperature	• 0 °C to +80 °C refer to derating curves for specific operating limitations
Start Up Delay	• 2 s max	Storage Temperature	• -20 °C to +85 °C
Start Up Rise Time	• 50 ms	Cooling	• Convection cooled
Hold Up Time	• 16 ms min at 115 VAC, 75 ms min at 230 VAC	Humidity	• 95% RH, non condensing
Initial Set Accuracy	• ±1.0% V1, ±5% V2 & V3	Operating Altitude	• 3000 m
Drift	• ±0.2%	Shock	• 30 G pk, half sine, 6 axis
Line Regulation	• ±0.5%	Vibration	• 2 G rms, 5 Hz to 500 Hz, 3 axis
Load Regulation	• ±1.0% single output models, ±3% V1, ±5% V2 & V3 multi output models	EMC & Safety	
Over/Undershoot	• None at turn on/off	EMC Standards	• EN61000-3-2, -3, EN60601-1-2, FCC 20780 & EN55022 Level B
Transient Response	• 4% max. deviation, recovery to within 1% in 500 µs for a 25% load change	ESD Susceptibility	• EN61000-4-2 Level 2 Perf Criteria A
Ripple & Noise	• 1% pk-pk, 20 MHz BW	Radiated Susceptibility	• EN61000-4-3 10 V/m Perf Criteria A
Overvoltage Protection	• 115-135% Vnom, recycle input to reset	EFT/Burst	• EN61000-4-4 Level 2 Perf Criteria A
Overload Protection	• 110-150% typical, auto recovery	Surge	• EN61000-4-5 Level 3 Perf Criteria A
Short Circuit Protection	• Trip and restart	Conducted Susceptibility	• EN61000-4-6 10 V Perf Criteria A
Temperature Coefficient	• 0.05%/°C	Safety Approvals	• EN60601-1, UL2601-1, CSA 22.2 601.1, EN60950, UL60950

OUTPUT VOLTAGE & CURRENT RATINGS - 40 WATT MODELS						ECM40/60	
Max Power	Outputs						Model Number
	V1	Imin/lmax	V2	Imin/lmax	V3	Imin/lmax	
40 W	+5.0 V	0.0 A/8.0 A					ECM40US05
	+7.0 V	0.0 A/5.7 A					ECM40US07
	+9.0 V	0.0 A/4.4 A					ECM40US09
	+12.0 V	0.0 A/3.5 A					ECM40US12
	+15.0 V	0.0 A/2.7 A					ECM40US15
	+18.0 V	0.0 A/2.2 A					ECM40US18
	+24.0 V	0.0 A/1.7 A					ECM40US24
	+33.0 V	0.0 A/1.2 A					ECM40US33
	+48.0 V	0.0 A/0.9 A					ECM40US48
	+5.0 V	0.5 A/6.0 A	+12.0 V	0.1 A/2.0 A			ECM40PD21
	+5.0 V	0.5 A/6.0 A	+15.0 V	0.1 A/1.5 A			ECM40PD22
	+5.0 V	0.5 A/6.0 A	+12.0 V	0.1 A/2.0 A	-12.0 V	0.0 A/0.5 A	ECM40PT31
	+5.0 V	0.5 A/6.0 A	+24.0 V	0.1 A/1.0 A	-12.0 V	0.0 A/0.5 A	ECM40PT32
	+5.0 V	0.5 A/6.0 A	+15.0 V	0.1 A/1.5 A	-15.0 V	0.0 A/0.5 A	ECM40PT33
+3.3 V	0.5 A/6.0 A	+5.0 V	0.1 A/3.0 A	-12.0 V	0.0 A/0.5 A	ECM40PT34	

OUTPUT VOLTAGE & CURRENT RATINGS - 60 WATT MODELS						ECM40/60	
Max Power	Outputs						Model Number
	V1	Imin/lmax	V2	Imin/lmax	V3	Imin/lmax	
60 W	+5.0 V	0.0 A/12.00 A					ECM60US05
	+7.0 V	0.0 A/8.60 A					ECM60US07
	+9.0 V	0.0 A/6.70 A					ECM60US09
	+12.0 V	0.0 A/5.00 A					ECM60US12
	+15.0 V	0.0 A/4.00 A					ECM60US15
	+18.0 V	0.0 A/3.30 A					ECM60US18
	+24.0 V	0.0 A/2.50 A					ECM60US24
	+33.0 V	0.0 A/1.80 A					ECM60US33
	+48.0 V	0.0 A/1.25 A					ECM60US48
	+5.0 V	0.5 A/8.00 A	+12.0 V	0.1 A/3.0 A			ECM60PD21
	+5.0 V	0.5 A/8.00 A	+15.0 V	0.1 A/2.5 A			ECM60PD22
	+5.0 V	0.5 A/8.00 A	+12.0 V	0.1 A/3.0 A	-12.0 V	0.0 A/0.5 A	ECM60PT31
	+5.0 V	0.5 A/8.00 A	+24.0 V	0.1 A/1.5 A	-12.0 V	0.0 A/0.5 A	ECM60PT32
	+5.0 V	0.5 A/8.00 A	+15.0 V	0.1 A/2.5 A	-15.0 V	0.0 A/0.5 A	ECM60PT33
+3.3 V	0.5 A/8.00 A	+5.0 V	0.1 A/3.0 A	-12.0 V	0.0 A/0.5 A	ECM60PT34	

Notes

- Loom kits with 300 mm wire available, order part number ECM40/60 LOOM
- Mating connector kit available order part number ECM40/60 CON KIT.
- Covers available order part number ECM40/60 COVER. To receive unit with cover fitted, add suffix -C to model number.

Mechanical Details

Dimensions in inches (mm)
Tolerance:
.xx = ±0.02 (0.50)
.xxx = ±0.01 (0.25)

Input Connector J1		
Pin 1	Line	
Pin 2	Neutral	

Output Connector J2		
Pin No.	Single	Multi
1	+V1	+V1
2	+V1	+V1
3	RTN	RTN
4	RTN	RTN
5	NC	-V3
6	NC	+V2

J1 mates with Molex housing 09-50-3031 & Molex series 2878 crimp terminals.
J2 mates with Molex housing 09-50-3061 & Molex series 2878 crimp terminals.

Mechanical Details

