

Single Output 30 to 60W Medical & ITE Power Supplies



Medical



Industrial



Test



COMM



Broadcast



The CUS30M and CUS60M are 2" x 3" footprint AC/DC power supplies with outputs ranging from 5V to 48V. They are certified to IEC60601-1 3rd edition (medical), IEC60950-1 and IEC60335-1 with compliance to EN60601-1-2:2015 Edition 4 immunity requirements. Rated at 30W and 60W, these compact products meet class B conducted and radiated EMI in either a Class I or Class II (double insulated) construction, without the need for external filtering.

Features

- 30 to 60W Convection Cooled
- Medical Certification (2 x MoPP)
- Class B Conducted and Radiated EMI
- Suitable for Class I and II Installations
- Compact 2" x 3" Footprint
- Enclosure, Mounting and Connection Options

Benefits

- Quiet Operation
- Suitable for B and BF Rated Equipment
- Easier System Compliance
- Flexible Utilisation
- Space Saving in End Equipment
- Versatile Application

Model Selector

Model	Output Voltage (V)	Maximum Current (A)	Maximum Power (A)	Load Reg (mV)	Line Reg (mV)	Ripple Noise (mV) ⁽¹⁾	Efficiency (typ) % ⁽²⁾	Average Active Efficiency (typ) % ⁽²⁾
CUS60M-5	5	6	30	100	20	120	81 / 81	81 / 79.5
CUS30M-12	12	2.5	30	120	48	120	87 / 88	87 / 87
CUS60M-12	12	5	60	120	48	120	87 / 88	87 / 86
CUS30M-15	15	2	30	120	60	150	87 / 88	87 / 87
CUS60M-15	15	4	60	120	60	150	87.5 / 87	87 / 86.5
CUS30M-18	18	1.7	30.6	144	72	150	87 / 88	87 / 87
CUS60M-18	18	3.25	60.3	144	72	150	88 / 88	87 / 87
CUS30M-24	24	1.25	30	192	96	150	88 / 90	87 / 87
CUS60M-24	24	2.5	60	192	96	150	89 / 90	88 / 87
CUS30M-36	36	0.84	30.24	288	144	200	88 / 90	88 / 89
CUS30M-48	48	0.63	30.24	384	192	200	88 / 90	88 / 89
CUS60M-48	48	1.25	60	384	192	200	89 / 91	90 / 89

Options

Suffix	Description
Blank	Open frame, JST connectors
/A	Cover, JST connectors. See website for derating
/CO2	Open frame, JST connectors, pcb coating
/M	Open frame, Molex 5195-03 & -04 mating connectors
/P	Open frame, JST connectors, Pcb mount
/S	Open frame, JST connectors, single fuse, (Line only)

Specifications

Model		CUS30M	CUS60M
Input			
Input Voltage range	V	85 - 264VAC (3)	
Input Frequency	Hz	47 - 63Hz	
Input Current (110/230VAC)	A	0.6 / 0.4	5V: 0.7 / 0.5, 12-48V: 1.2 / 0.8
Inrush Current at 230VAC (typ) (Cold Start)	A	30A at 115VAC, 60A at 230VAC	
Leakage Current	µA	<0.25mA at 265VAC, 60Hz	<0.2mA at 265VAC, 60Hz
Touch Current	µA	100µA at 265VAC, 60Hz	60µA at 265VAC, 60Hz
Harmonic Compliance	-	Meets EN61000-3-2	
No Load Power Consumption	W	<0.3W at 265VAC	<0.5W at 265VAC
Hold Up Time (typ) at 115VAC Input	ms	20 / 100	
Efficiency	-	See model selector	
Average Efficiency	-	See model selector. Measured at 25%, 50%, 75% and 100% load conditions	
Conducted & Radiated EMI	-	EN55011-B, EN55032-B, FCC Class B	
Immunity	-	IEC61000-4-2, IEC60601-1-2 Ed4. See immunity table	
Insulation Class	-	Construction suitable for Class I or Class II installation	
Safety Agency Certifications	-	EN/IEC/UL/ES/CSA60601-1, EN/IEC/UL/CSA60950-1, IEC60335-1, CE Mark	

Immunity

Test	Standard	Test Level	Criteria	Notes
ESD	EN61000-4-2	3 & 4	A	Level 4 contact discharge only
Radiated Susceptibility	EN61000-4-3	3	A	-
Electrical Fast Transient Burst	EN61000-4-4	3	A	-
Surge	EN61000-4-5	3 & 4	A	Level 4 common mode only
Conducted Susceptibility	EN61000-4-6	3	A	-
Magnetic fields	EN61000-4-8	4	A	-
Voltage Dips	EN61000-4-11	Class 3	B	100 - 120VAC
			A	200 - 240VAC
Short Interruptions	EN61000-4-11	Class 3	B	-
Voltage Dips	EN60601-1-2:2015	Class 2	B	100 - 120VAC
			A	200 - 240VAC
Short Interruptions	EN60601-1-2:2015	Class 2	B	-
SEMI F47 Line Dip	SEMI F47	-	-	At input voltages > 200VAC

Specifications				
Model		CUS30M		CUS60M
Output				
Line Regulation	mV	See model selector		
Load Regulation	mV	See model selector		
Ripple & Noise	mV	See model selector		
Temperature Coefficient	%/°C	<0.02%/°C		
Minimum Load	-	No minimum load required		
Overcurrent Protection	-	>105% of rated current. Class 2 Limited Power Source (4)		
Overvoltage Protection (5)	V	> 115% of nominal output	>120% of nominal output	
Remote Sense		No		
Indicators	-	None		
Parallel Operation	-	Not possible		
Series Operation	-	Possible, see installation manual		
Environmental				
Operating Temperature (-30°C start-up)		-20 to +70°C. Derate linearly to 50% load from +50 to +70°C (6)		
Storage Temperature	°C	-40° to +85°C		
Humidity (non condensing)	%RH	10 - 95%RH (Operating & Storage)		
Cooling	-	Convection		
Altitude	m	5,000m, derate operating ambient by 5°C/1000m above 3,000m		
Withstand Voltage (For 1 minute)	VAC	Input to Ground 2kVAC (1xMOPP), Input to Output 4kVAC (2xMOPPs), Output to Ground 1.5kVAC (1xMOPP) suitable for B & BF rated equipment		
Isolation Resistance	MΩ	>100MΩ at 25°C, 70%RH & 500VDC		
Vibration (Non Operating)	-	10 - 55Hz: 19.6m/s² constant sweep 1 min X, Y, Z for 1 hour		
Shock	-	< 196.1 m/s², MIL-STD-810F		
Other				
Size (WxLxH)	mm	50.8 x 76.2 x 24.2	50.8 x 76.2 x 26.7	
Size (WxLxH)	Inches	2 x 3 x 0.95	2 x 3 x 1.05	
Connectors (JST)		Input (CN1): B2P3-VH(LF)(SN) (Mates with VHR-3N housing).		
Option code /M for Molex	-	Output (CN-51): B4P-VH(LF)(SN) (Mates with VHR-4N)		
MTBF - Telcordia SR-332 issue 3 (7)	Hours	8,008,742	6,324,138	
Warranty	yrs	3 years		

Notes

See website for detailed specifications, test methods and installation manual

See installation manual for terminal pin and hand tool information

(1) Ripple level increases at light loading to meet new efficiency standards

(2) 115/230VAC. Average efficiency measured at 25, 50, 75 and 100% load

(3) CUS30M: Derate linearly to 80% load from 115VAC to 85VAC. CUS60M-12, 18 & 48: Derate linearly to 80% load from 100VAC to 85VAC. CUS60M-15 derate linearly to 60% load from 100Vac

(4) All models except CUS60M-5

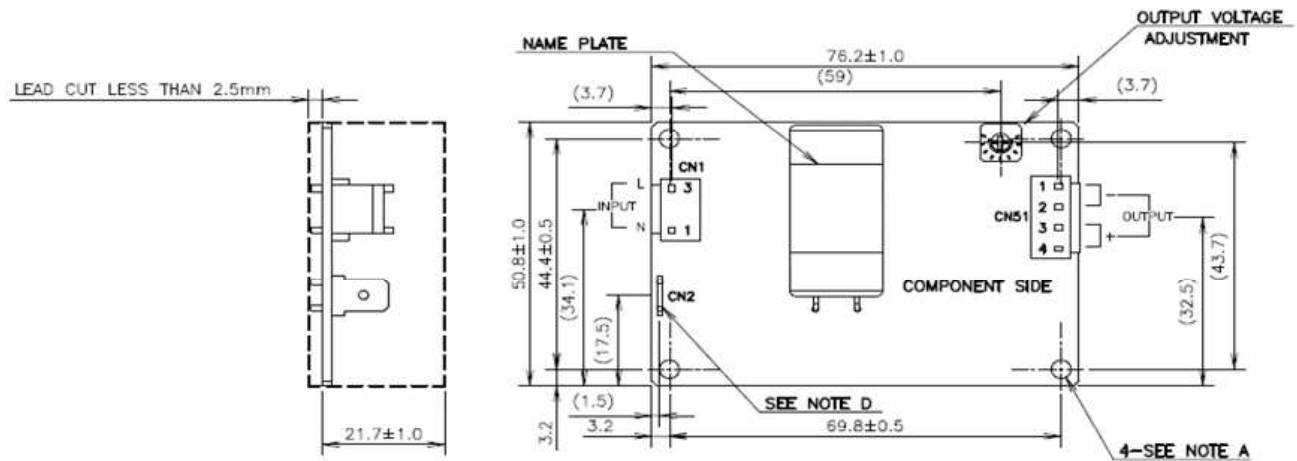
(5) Cycle AC input to reset

(6) CUS30M-48 and CUS60M-12: Derate linearly to 50% load from +45 to +70°C. CUS60M-15: 50% load from +40 to +70°C. Models with /A cover have additional derating, see website.

(7) 24V output model, 25°C ambient, full load, 230VAC input

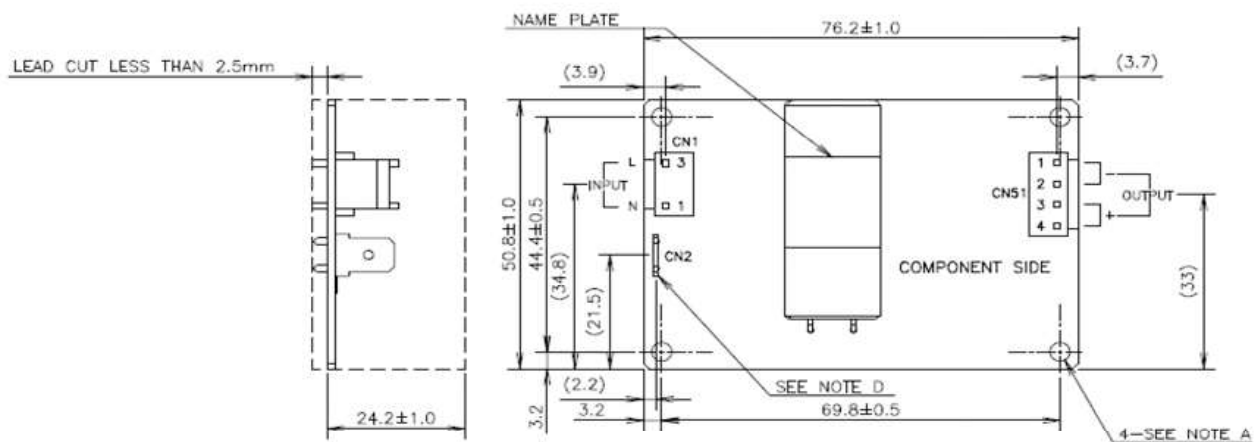
Mechanical Specification

Outline Drawing CUS30M Series (Open Frame)



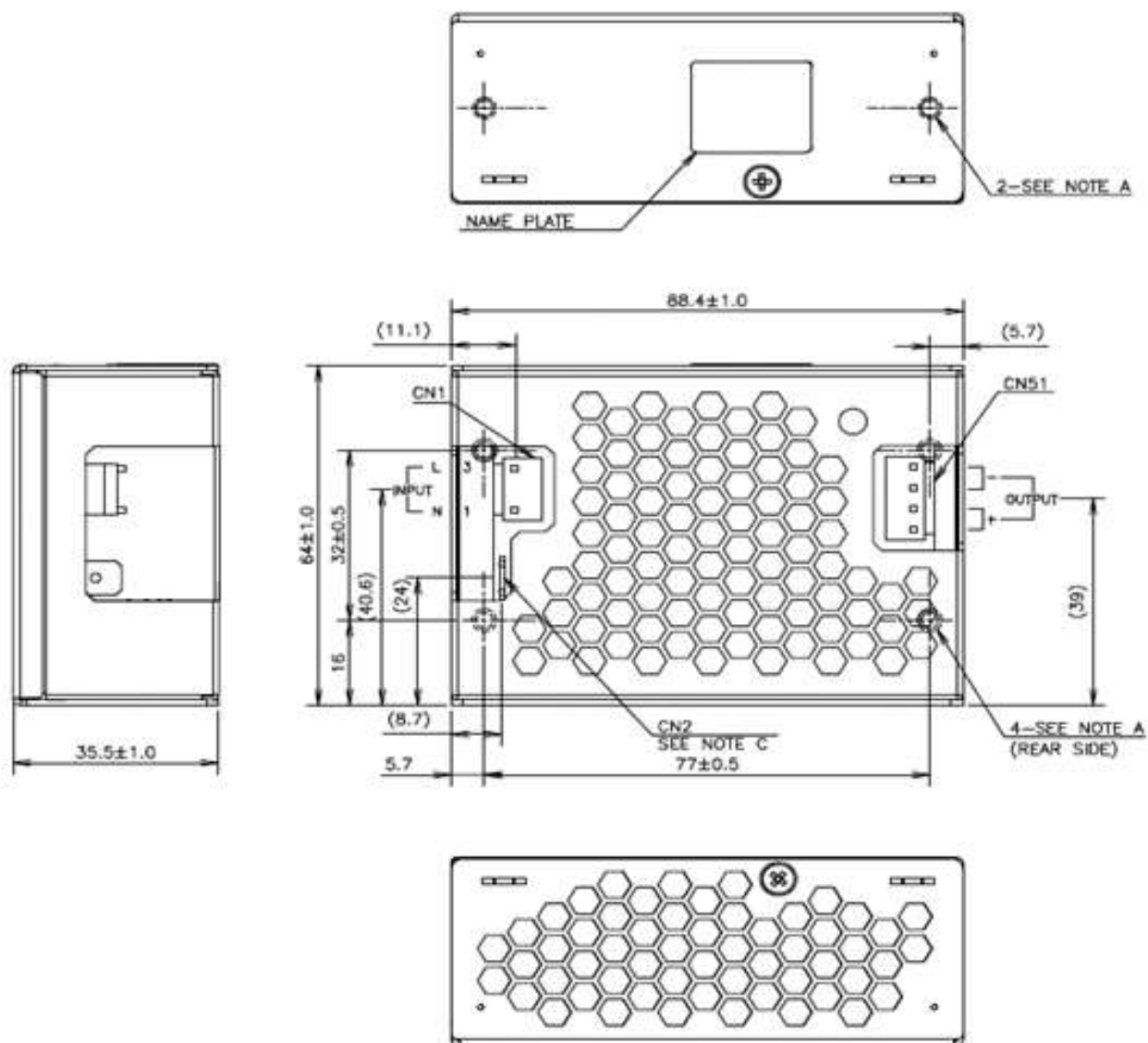
Mechanical Specification

Outline Drawing CUS60M Series (Open Frame)



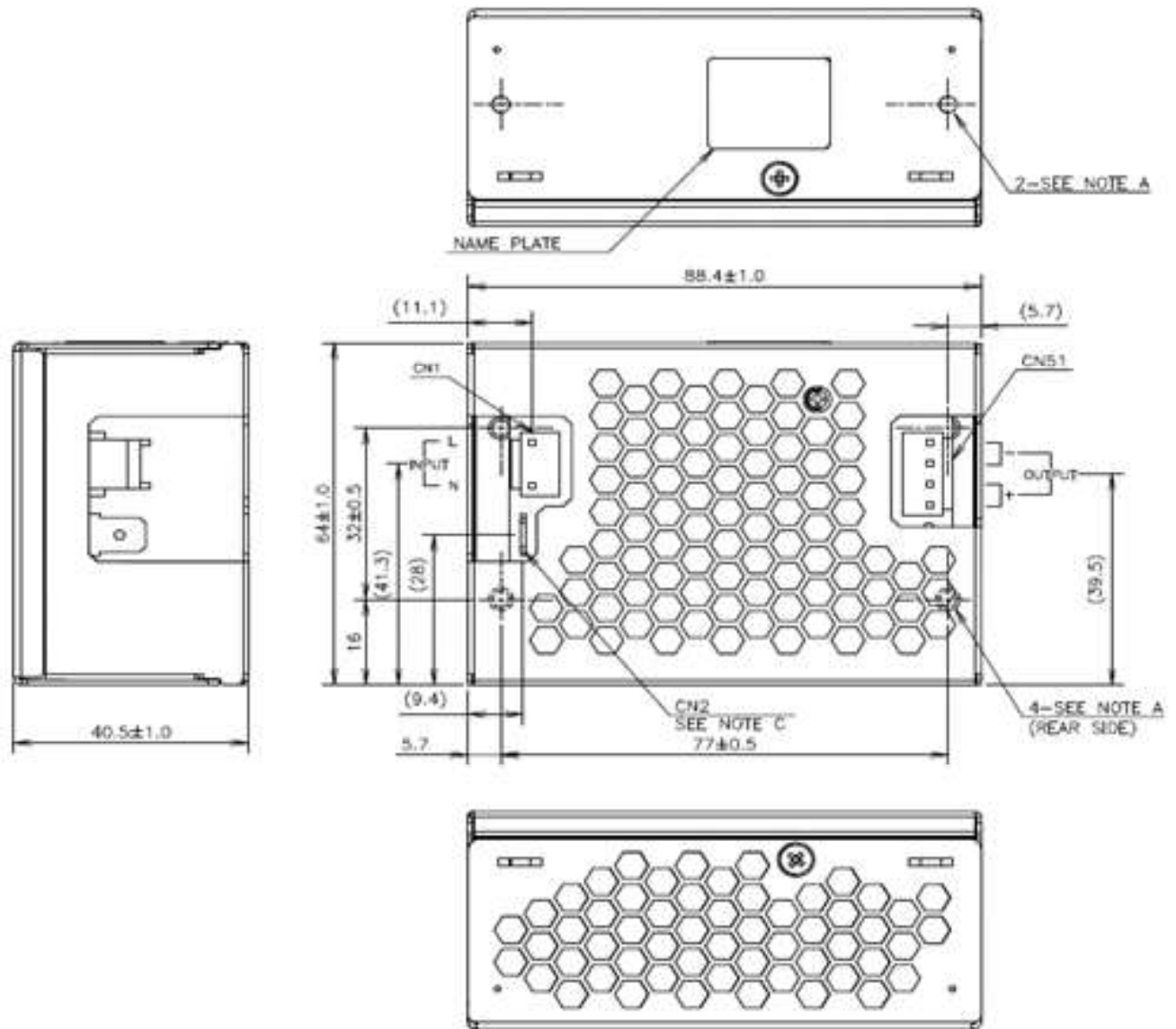
Mechanical Specification

Outline Drawing CUS30M Series (Enclosed /A)



Mechanical Specification

Outline Drawing CUS60M Series (Enclosed /A)



Outline Drawing CUS30M Series (PCB Mount /P)



Outline Drawing CUS60M Series (PCB Mount /P)

The drawing shows the front and side views of the CUS60M Series (PCB Mount /P) component. Key dimensions and labels include:

- Front View Dimensions:**
 - Overall width: 76.2 ± 1.0
 - Overall height: 50.8 ± 1.0
 - Mounting hole spacing: 44.4 ± 0.5
 - Terminal pin spacing: 24.2 ± 1.0
 - Terminal pin diameter: $2 - \phi 1 \times 3.8$ (SEE NOTE H)
 - Mounting hole diameter: $\phi 3.2$
 - Mounting hole offset: 3.2
 - Mounting hole spacing: 21.5
 - Mounting hole offset: 3.9
 - Mounting hole offset: 7.62 ± 1.0
 - Mounting hole offset: 3.7
 - Mounting hole offset: 3.8
 - Mounting hole offset: 7.62 ± 1.0
 - Mounting hole offset: 3.8
- Side View Dimensions:**
 - Overall width: 24.2 ± 1.0
 - Overall height: 50.8 ± 1.0
 - Mounting hole spacing: 44.4 ± 0.5
 - Terminal pin spacing: 24.2 ± 1.0
 - Terminal pin diameter: $2 - \phi 1 \times 3.8$ (SEE NOTE H)
 - Mounting hole diameter: $\phi 3.2$
 - Mounting hole offset: 3.2
 - Mounting hole spacing: 21.5
 - Mounting hole offset: 3.9
 - Mounting hole offset: 7.62 ± 1.0
 - Mounting hole offset: 3.7
 - Mounting hole offset: 3.8
 - Mounting hole offset: 7.62 ± 1.0
 - Mounting hole offset: 3.8
- Labels:**
 - NAME PLATE
 - INPUT
 - OUTPUT
 - COMPONENT SIDE
 - SEE NOTE D
 - 4-SEE NOTE A
 - 4- $\phi 1 \times 3.8$ TERMINAL PINS (SEE NOTE H)



Outline Drawing CUS30M Series (Molex /M)





