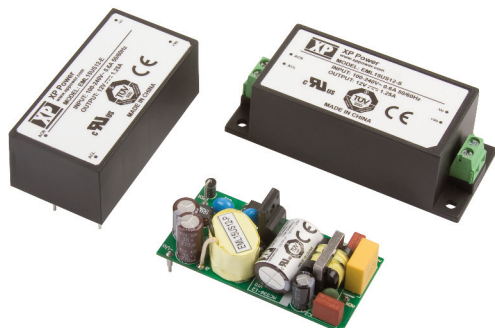


## EML15 Series



- Ultra Compact Size
- Medical Approvals
- Single Outputs from 3.3 to 48 V
- PCB Mount, Open Frame & Chassis Mount
- Encapsulated PCB & Chassis Mount
- Class II
- Peak Load Capability

## Specification

## Input

Input Voltage	• 85-264 VAC (120-370 VDC)
Input Frequency	• 47-63 Hz
Input Current	• 0.3 A rms at 230 VAC
Inrush Current	• 20 A at 115 VAC, 40 A at 230 VAC,
Earth Leakage Current	• Class II construction no earth
Input Protection	• Internal 2 A fuse

## Output

Output Voltage	• See tables
Output Voltage Trim	• $\pm 5\%$ (not encapsulated units)
Initial Set Accuracy	• $\pm 1\%$
Minimum Load	• No minimum load required
Start Up Delay	• 2 s max
Start Up Rise Time	• 14 ms max
Hold Up Time	• 12 ms min at full load & 115 VAC
Line Regulation	• $\pm 0.5\%$ max
Load Regulation	• $\pm 1\%$ max
Transient Response	• 4% max deviation, recovery to within 1% in 500 $\mu$ s for a 25% load change
Ripple & Noise	• 3.3-5 V versions: 50 mV pk-pk, 12-15 V versions: 120 mV pk-pk, 24-48 V versions: 200 mV pk-pk, 20 MHz BW
Overvoltage Protection	• 115-135% Vnom, recycle input to reset
Overload Protection	• 120-150%
Short Circuit Protection	• Trip and restart (Hiccup mode)
Temperature Coefficient	• 0.05%/ $^{\circ}$ C

## General

Efficiency	• See tables
Isolation	• 4000 VAC Input to Output
Protection Level	• Primary to Secondary 2 MOPP
Switching Frequency	• 70 kHz typical
Power Density	• 4.8 W/In <sup>3</sup> (PCB Mount version)
MTBF	• >400 kHrs per MIL-HDBK-217F

## Environmental

Operating Temperature	• -20 $^{\circ}$ C to +70 $^{\circ}$ C, derate linearly from 100% at +50 $^{\circ}$ C to 50% at +70 $^{\circ}$ C
Cooling	• Convection-cooled
Operating Humidity	• 95% RH, non-condensing
Storage Temperature	• -40 $^{\circ}$ C to +85 $^{\circ}$ C
Operating Altitude	• 3048 m
Vibration	• IEC68-2-6, 2 g, 10 Hz to 500 kHz, 10 mins/cycle, 60 mins each cycle
Shock	• IEC68-2-27, 30 g, 11 ms half sine, 3 times in each of 6 axes

## EMC &amp; Safety

Emissions	• EN55022, level B conducted & radiated
Harmonic Currents	• EN61000-3-2, EN61000-3-3
ESD Immunity	• EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	• EN61000-4-3, 10 V/m 80% mod Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, level 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, 10 Vrms Perf Criteria A
Magnetic Fields	• EN61000-4-8, 10 A/m Perf Criteria A
Dips & Interruptions	• EN60601-1-2, 70% $U_T$ for 500 ms, 40% $U_T$ for 100 ms, <5% $U_T$ for 10 ms, <5% $U_T$ for 5000 ms, Perf Criteria A, A, A, B (see Note 4)
Safety Approvals	• EN60601-1, AN51/AAIMT ES60601-1, IEC60601-1

## Models and Ratings

**EML15 XP**

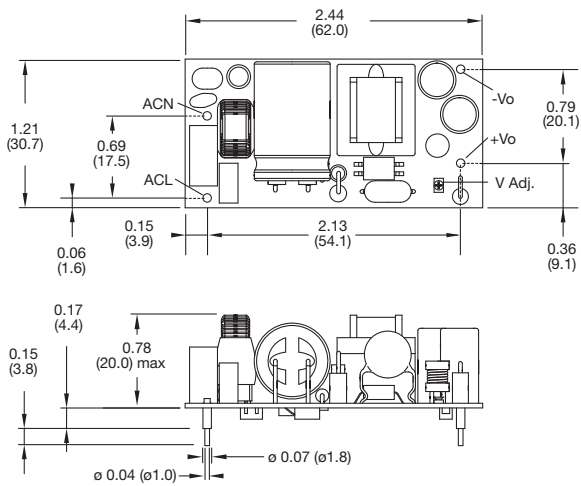
Output Power	Output Voltage	Output Current		Efficiency	Model Number <sup>(2)</sup>
		Nominal	Peak <sup>(1)</sup>		
10 W	3.3 VDC	3.00 A	3.90 A	75%	EML15US03
15 W	5.0 VDC	3.00 A	3.90 A	78%	EML15US05
15 W	9.0 VDC	1.67 A	2.17 A	80%	EML15US09
15 W	12.0 VDC	1.25 A	1.62 A	80%	EML15US12
15 W	15.0 VDC	1.00 A	1.30 A	80%	EML15US15
15 W	24.0 VDC	0.63 A	0.82 A	82%	EML15US24
15 W	36.0 VDC	0.42 A	0.54 A	82%	EML15US36
15 W	48.0 VDC	0.32 A	0.41 A	82%	EML15US48

### Notes

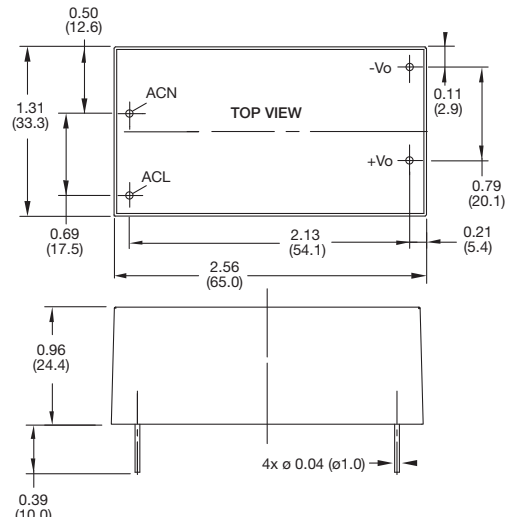
- Peak load lasting <30 s with a maximum duty cycle of 10%, average output power not to exceed nominal.
- Add suffix to model number to define type: add '-P' for PCB mount, add '-T' for chassis mount, add '-E' for encapsulated, add '-S' for screw terminals.
- A Screw terminal version (-S) is available with DIN clip attached, add suffix 'D', e.g. EML15US24-SD, DIN rail mounting kit is available as a separate item, order code ECL15 DIN CLIP.
- 40% of  $U_T$  dip is performance criteria A if load is reduced 45% based on 100VAC.

## Mechanical Details

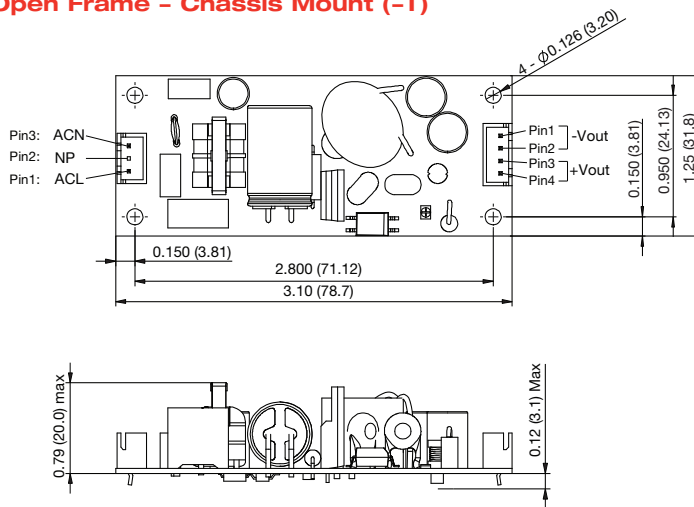
### Open Frame - PCB Mount (-P)



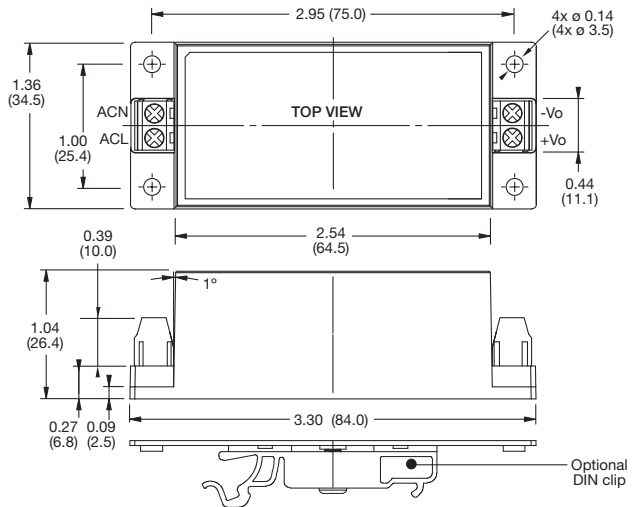
### Encapsulated (-E)



### Open Frame - Chassis Mount (-T)



### Screw Terminal (-S)



### Notes

- Dimensions in inches (mm).
- Weight: EML15 P Version: 0.07 lbs (35 g)  
T Version: 0.07 lbs (35 g)  
E Version: 0.20 lbs (90 g)  
S Version: 0.24 lbs (110 g)
- Tolerances: x.xx = ± 0.02 (x.x = ± 0.5)  
x.xxx = ± 0.01 (x.xx = ± 0.25)

### Mating Connectors (-T version only)

Input Connector: JST XHP-3  
Output Connector: JST XHP-4  
Crimps: SPH-002T-P0.5S  
Cable harness with 300 mm wire available, order part no. ECL15 LOOM KIT