Astrodyne TDI
Now you have power.

30 Watt Medical/Industrial Grade Power Supply

EPM30

- ☑ IEC 62638 and IEC 60950 I.T.E. Safety
- ☑ IEC 60601-1 3rd Edition Medical Safety
- ☑ EN 60601-1-2 4th Edition EMC
- ☑ BF Leakage, 2 MOPP
- ☑ EN 55011 (CISPR11) Class B Emissions
- ☑ Universal 80-275 VAC Input, 50/60 Hz
- ☑ Open Frame PCB Mount, Encapsulated PCB Mount and Encapsulated Chassis Mount Options
- ☑ High Power Density, up to 8.4 W/in^3 in Miniature 2.42” x 1.6” x 0.93” Footprint
- ☑ DoE Efficiency Level VI, RoHS-compliant

PRODUCT DESCRIPTION

The Astrodyne TDI EPM30 series of Open frame or Encapsulated Switching Power Supplies are designed for medical and industrial applications. These products operate over the input voltage range of 80 to 275 VAC and 50/60Hz frequency and produce up to 30 Watts of regulated DC output.

These products are certified to the IEC 60601-1 3rd Edition international medical safety standard and the collateral standard EN 60601-1-2 4th Edition for electromagnetic compatibility, for use across a wide variety of medical applications, including those within the home. They are also certified to the IEC 62368-1 and IEC 60950-1 I.T.E. safety standards, and are compliant with the latest DoE Efficiency Level VI and EN 55011 (CISPR11) Class B EMC standards.

PRODUCT MODELS

Model	Output Power	Output Voltage	Output Current
Open Frame PCB Mount Models			
EPM30-033-BP-0F0	20W	3.3VDC	6.0A
EPM30-050-BP-0F0	30W	5VDC	6.0A
EPM30-090-BP-0F0	30W	9VDC	3.3A
EPM30-120-BP-0F0	30W	12VDC	2.5A
EPM30-150-BP-0F0	30W	15VDC	2.0A
EPM30-180-BP-0F0	30W	18VDC	1.67A
EPM30-240-BP-0F0	30W	24VDC	1.25A

©2020 Astrodyne Corporation

30 Watt Medical/Industrial Grade Power Supply

EPM30

Model	Output Power	Output Voltage	Output Current
Encapsulated Chassis Mount Models			
EPM30-033-BC-0F0	20W	3.3VDC	6.0A
EPM30-050-BC-0F0	30W	5VDC	6.0A
EPM30-090-BC-0F0	30W	9VDC	3.3A
EPM30-120-BC-0F0	30W	12VDC	2.5A
EPM30-150-BC-0F0	30W	15VDC	2.0A
EPM30-180-BC-0F0	30W	18VDC	1.67A
EPM30-240-BC-0F0	30W	24VDC	1.25A
Encapsulated PCB Mount Models			
EPM30-033-BE-0F0	20W	3.3VDC	6.0A
EPM30-050-BE-0F0	30W	5VDC	6.0A
EPM30-090-BE-0F0	30W	9VDC	3.3A
EPM30-120-BE-0F0	30W	12VDC	2.5A
EPM30-150-BE-0F0	30W	15VDC	2.0A
EPM30-180-BE-0F0	30W	18VDC	1.67A
EPM30-240-BE-0F0	30W	24VDC	1.25A

©2020 Astrodyne Corporation

30 Watt Medical/Industrial Grade Power Supply

EPM30

INPUT SPECIFICATIONS

Input Voltage Range	100-240VAC rated 80-275VAC tested
Input Frequency	47-63 Hz (50/60 Hz nom.)
Input Current (rated)	0.8A max at 100VAC 0.4A max at 240VAC
Leakage Current	100uA max at 275VAC 50Hz

MAIN OUTPUT SPECIFICATIONS

Output Voltage	See selection chart
Output Power	30W max
No Load Power	100mW max
Load Regulation	±3% max
Line Regulation	±0.5% max
Efficiency	> 87.5% typ
Over Voltage Protection*	112-132% Vout, hiccup mode
Over Load Protection*	100 to 200% x Rated Power, Auto Recovery
Short Circuit Protection	Auto Recovery
Temperature Coefficient	±0.04%/°C
Hold-up Time, full load	80ms typ, 230VAC 15ms typ, 115VAC
Ripple/Noise	100mV Pk-Pk max

ISOLATION SPECIFICATIONS

Input to Output	4000 VAC, 2 MOPP
Isolation Resistance	50 MΩ

MECHANICAL SPECIFICATIONS **

Size	2.42" x 1.6" x 0.93" 61.5 x 40.6 x 23.6 mm
Weight	55g / 1.94oz
Package Type	Open Frame

*** Mechanical specifications are for Open Frame package type. Refer to Outline Drawings for other package types.*

All Specifications are typical at nominal input, full load, 25°C unless specified otherwise.

SAFETY AND COMPLIANCE CERTIFICATIONS

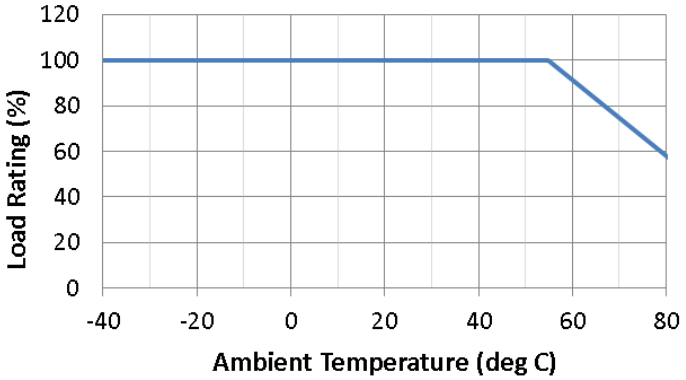
Safety Approvals	IEC 60601-1 3rd Ed, Amend 1; IEC 62368-1; IEC 60950-1; CSA C22.2; CB Scheme
EMC Overall	EN 60601-1-2, 4th Ed, Class B
Conducted and Radiated Emissions	EN 55011 (CISPR11), Class B
Harmonic Current	EN 61000-3-2
Voltage Fluctuations	EN 61000-3-3
ESD Immunity	EN 61000-4-2, Level 4
RF Field Immunity	EN 61000-4-3, Level 3
EFT Burst Immunity	EN 61000-4-4, Level 3
Surge Immunity	EN 61000-4-5, Level 3
Conducted Immunity	EN 61000-4-6, Level 3
Magnet Field Immunity	EN 61000-4-8, Level 4
Voltage Dips and Interruptions	EN 61000-4-11

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 to +55°C at Full Load, +55 to +85°C with Derating See derating charts
Cooling	Free Air Convection
Storage Temperature*	-40 to +85°C
Operating Humidity*	0% to 95%, non-condensing
Operating Altitude	3000m max

** These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Operation under conditions other than the standard operating conditions is neither warranted nor implied.*

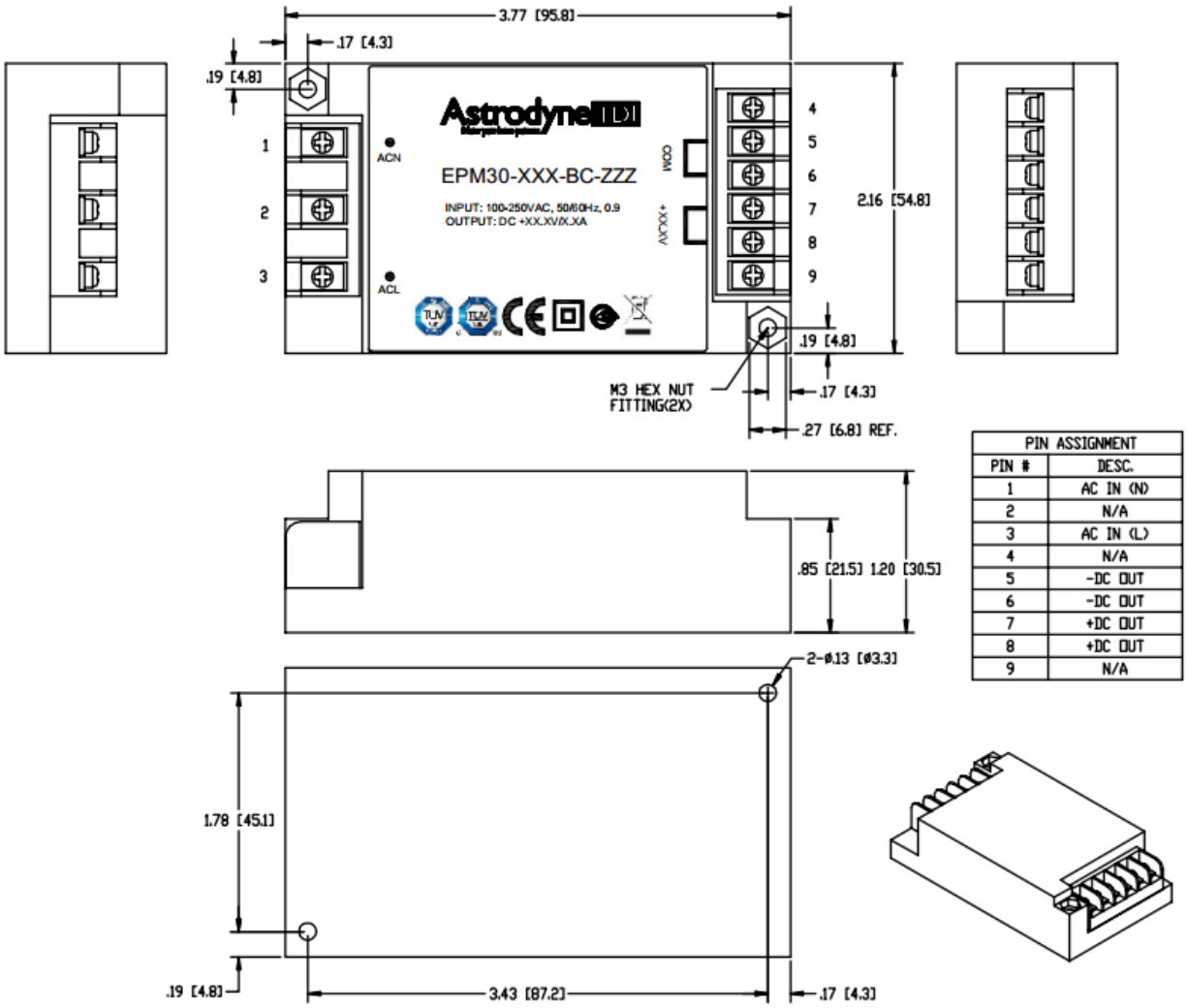
TEMPERATURE DERATING



©2020 Astrodyne Corporation

OUTLINE DRAWINGS

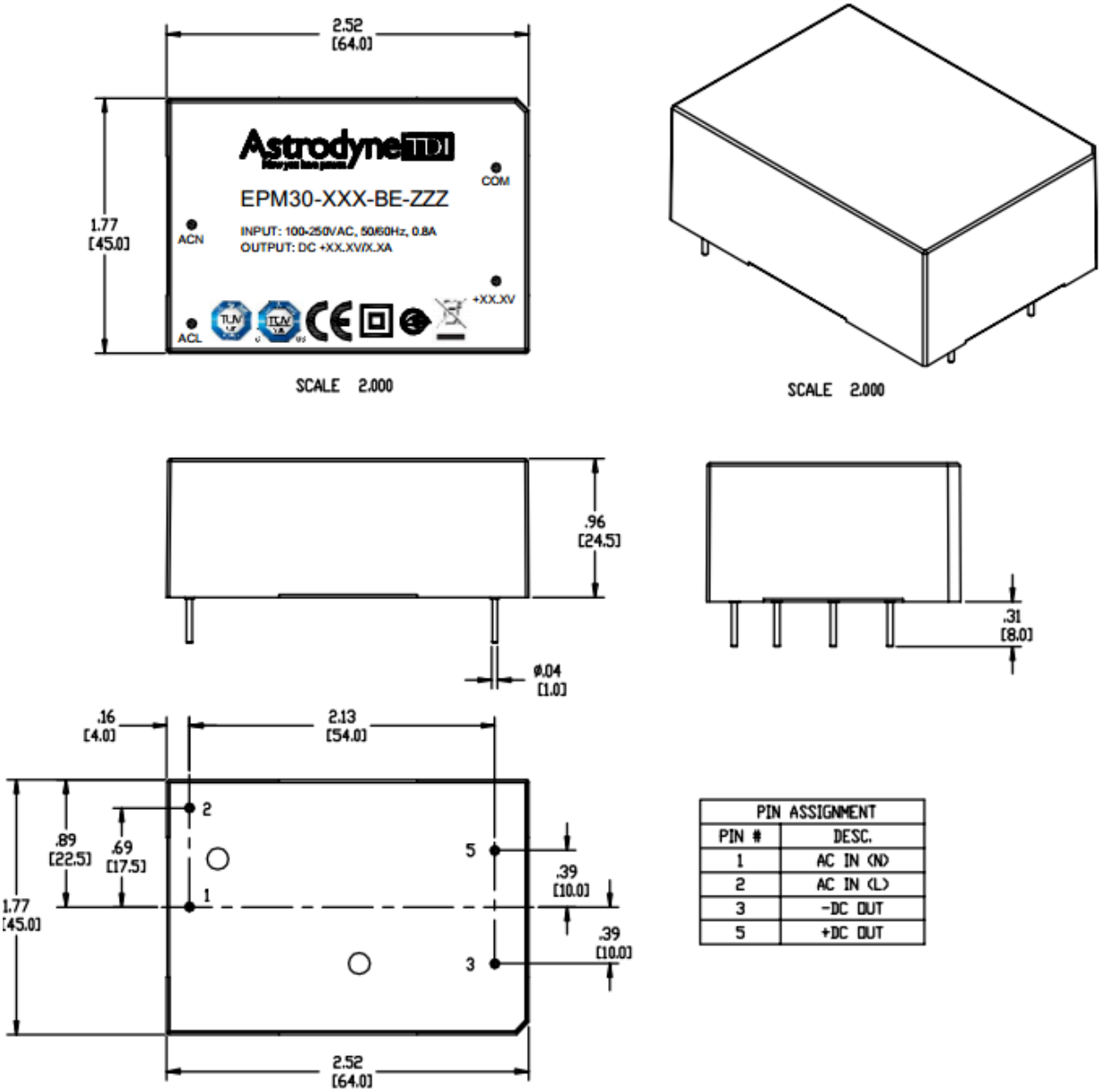
Encapsulated Chassis Mount – EPM30-xxx-BC-zzz



PIN ASSIGNMENT	
PIN #	DESC.
1	AC IN (N)
2	N/A
3	AC IN (L)
4	N/A
5	-DC OUT
6	-DC OUT
7	+DC OUT
8	+DC OUT
9	N/A

©2020 Astrodyne Corporation

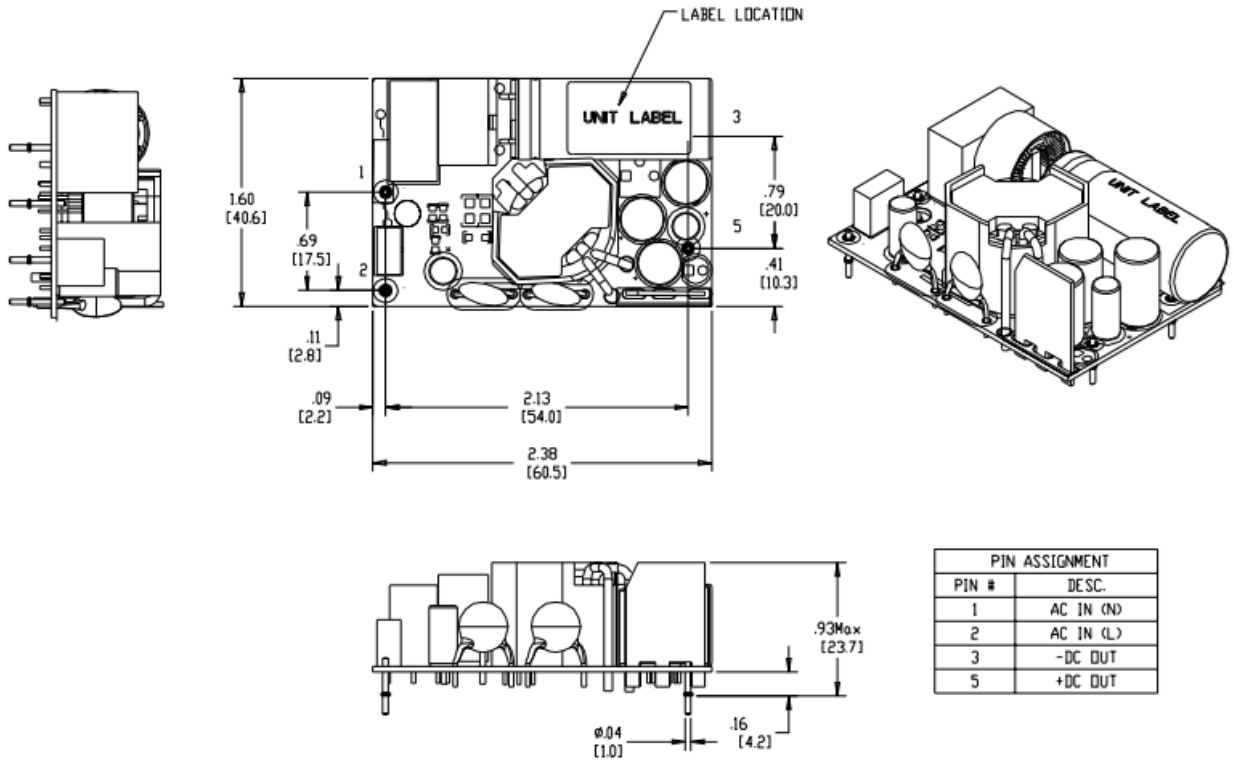
Encapsulated PCB Mount – EPM30-xxx-BE-zzz



PIN ASSIGNMENT	
PIN #	DESC.
1	AC IN (N)
2	AC IN (L)
3	-DC OUT
5	+DC OUT

©2020 Astrodyne Corporation

Open Frame PCB Mount – EPM30-xxx-BP-zzz



PIN ASSIGNMENT	
PIN #	DESC.
1	AC IN (N)
2	AC IN (L)
3	-DC OUT
5	+DC OUT

©2020 Astrodyne Corporation