

EPM15

15 WATT MEDICAL/INDUSTRIAL GRADE POWER SUPPLY

The Astrodyne TDI EPM15 series of Switching Power Supplies, suitable for medical and industrial sectors, operate at 80-275 VAC and 50/60Hz, providing up to 15 Watts of regulated DC power. They are ideal for various medical applications and are compliant with safety standards like IEC 60601-1-1, 3rd Edition, Amendment 1, and IEC 60601-1-2, 4th Edition. With certifications like IEC 62638 and IEC 60950, these power supplies offer versatile installation options and minimal No no-load power Consumption of <100 mW for efficiency.

HOW TO ORDER

EPM15-033-BC-0F0

FORM FACTOR: BP = OPEN FRAME PCB MOUNT
BC = ENCAPSULATED CHASSIS MOUNT
BE = ENCAPSULATED PCB MOUNT
BD = ENCAPSULATED DIN RAIL MOUNT

VOLTAGE: 033 = 3.3 VDC
050 = 05 VDC
090 = 09 VDC
120 = 12 VDC
150 = 15 VDC
180 = 18 VDC
240 = 24 VDC

OUTPUT POWER: 15W

FAMILY: EPM SERIES



FEATURES & BENEFITS

UNIVERSAL AC INPUT

80-275 VAC Input, 50/60 Hz

PROTECTIONS

Over Voltage Protection*: 112-132% Vout, hiccup mode
Overload Protection*: 110 to 150% x Rated Power, Auto Recovery
Short Circuit Protection: Auto Recovery

SAFETY APPROVALS

IEC 60601-1 3rd Ed, Amend 1; IEC 62368-1; IEC 60950-1; CSA C22.2; CB Scheme

EMI/EMC

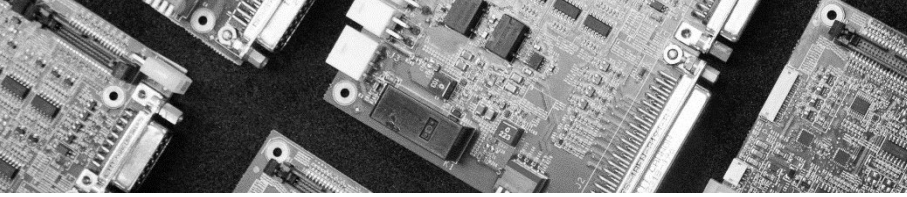
Conducted & Radiated Emission: EN55011/A1 Class B
Harmonic Current: EN 61000-3-2
ESD Susceptibility: EN 61000-4-2, Level 4
RF Field Immunity: EN 61000-4-3, Level 3
Conducted Immunity: EN 61000-4-6, Level 3

4000 VAC Isolation, 2 MOPP

Size: 2.46" x 1.66" x 0.91"

62.5 x 42.2 x 23 mm

Weight: 38g / 1.34oz, 125g/4.4oz, 233g/8.12oz



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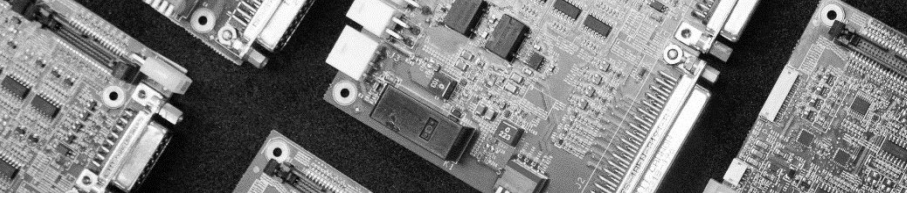
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PARAMETERS

EPM15 SERIES

INPUT SPECIFICATIONS	
Input Voltage Range	100-250VAC rated 80-275VAC tested
Input Frequency	47-63 Hz (50/60 Hz nom.)
Input Current (rated)	0.5A max at 100VAC 0.25A max at 240VAC
Leakage Current	100uA max at 240VAC 50Hz
No Load Power	100mW max
MAIN OUTPUT SPECIFICATIONS	
Output Voltage	See selection chart
Output Power	15W max
Load Regulation	±1% max, see selection chart
Line Regulation	±0.2% max
Efficiency	> 70% typ
Over Voltage Protection*	112-132% Vout, hiccup mode
Overload Protection*	110 to 150% x Rated Power, Auto Recovery
Short Circuit Protection	Auto Recovery
Temperature Coefficient	±0.04%/°C
Hold-up Time, full load	100ms typ, 230VAC 20ms typ, 115VAC
Ripple/Noise	100mV Pk-Pk max, 3.3V-12V 150mV Pk-Pk max, 15V-24V
ISOLATION SPECIFICATIONS	
Input to Output	4000 VAC, 2 MOPP
Isolation Resistance	50 MW
MECHANICAL SPECIFICATIONS **	
Size	2.46" x 1.66" x 0.91" 62.5 x 42.2 x 23 mm
Weight	38g / 1.34oz, 125g/4.4oz, 233g/8.12oz
Package Types	Open Frame, Encapsulated, Chassis

•** 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.



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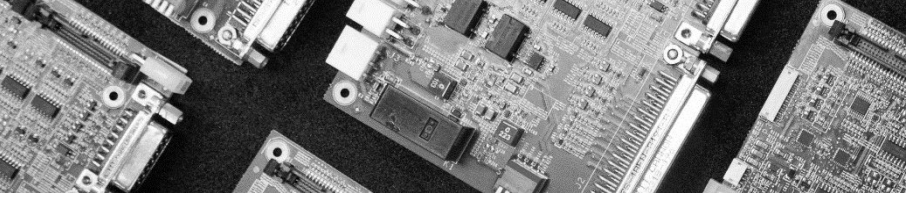
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PARAMETERS

EPM15 SERIES

SAFETY AND COMPLIANCE CERTIFICATIONS	
Safety Approvals	IEC 60601-1 3 rd Ed, Amend 1; IEC 62368-1; IEC 60950-1; CSA C22.2; CB Scheme
EMC Overall	EN60601-1-2, 4 th 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	-20 to +40°C at Full Load, -40 to -20°C and +40 to +70°C with Derating (see charts)
Cooling	Free Air Convection
Storage Temperature*	-40 to +85°C
Operating Humidity*	0% to 95%, non-condensing
Operating Altitude	5000m 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.

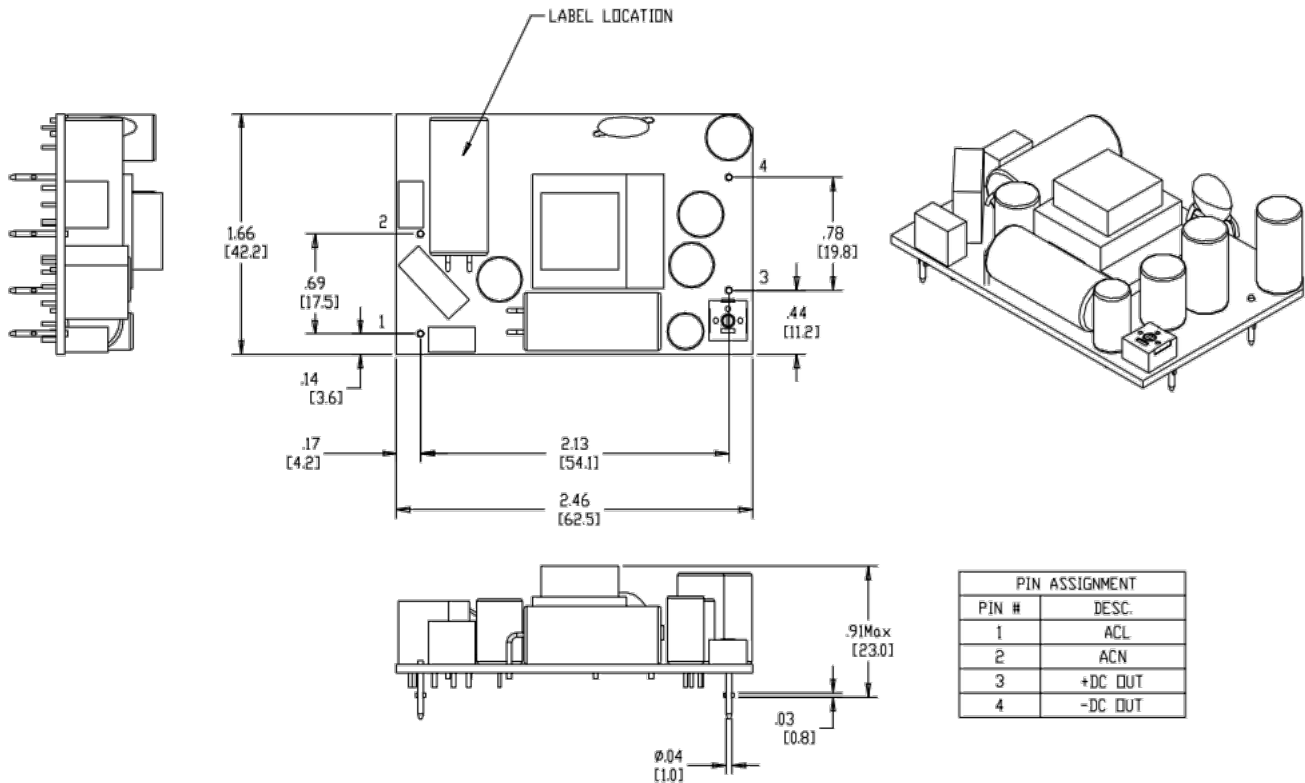


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MECHANICAL DIMENSIONS

Open Frame PCB Mount – EPM15-xxx-BP-0F0



MODEL

OUTPUT POWER *
Natural Convection/Forced
Open Frame or Encapsulated

OUTPUT VOLTAGE

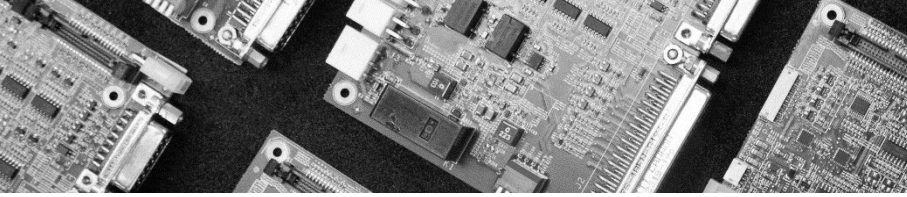
OUTPUT CURRENT *
Natural Convection/Forced Open
Frame or Encapsulated

LOAD REGULATION

Open Frame PCB Mount Models

EPM15-033-BP-0F0	7.5W/10W	3.3VDC	2.3A/3.0A	±1.0%
EPM15-050-BP-0F0	12W/15W	5VDC	2.4A/3.0A	±1.0%
EPM15-090-BP-0F0	12W/15W	9VDC	1.33/1.67A	±0.5%
EPM15-120-BP-0F0	12W/15W	12VDC	1.0A/1.25A	±0.5%
EPM15-150-BP-0F0	12W/15W	15VDC	0.8A/1.0A	±0.5%
EPM15-180-BP-0F0	12W/15W	18VDC	0.67A/0.83A	±0.5%
EPM15-240-BP-0F0	12W/15W	24VDC	0.5A/0.63A	±0.5%

* The maximum output power for an Open Frame model is limited to 7.5 Watts at 3.3V or 12W at $\geq 5V$ if it runs in a non-ventilated environment or 10 Watts at 3.3V or 15 Watts at $\geq 5V$ if it runs in a minimally ventilated environment (airflow ≥ 6 CFM with 100mm distance to the unit.)

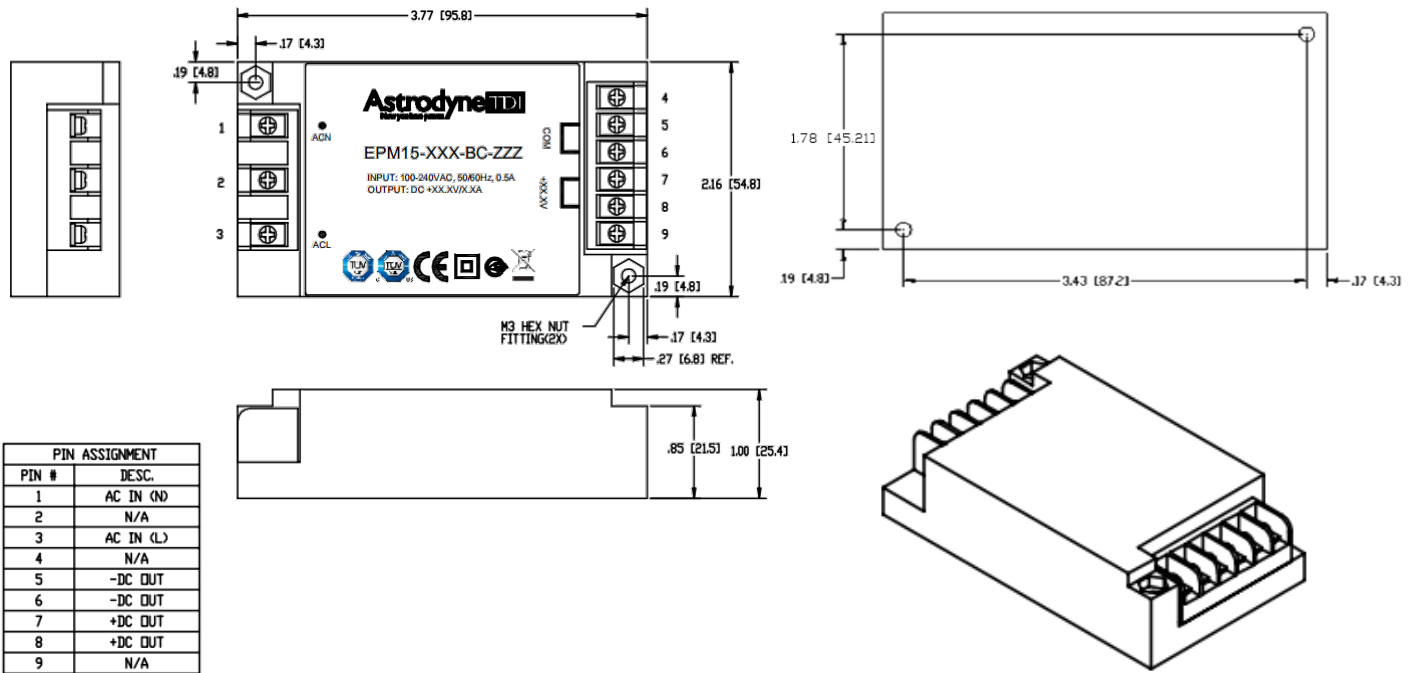


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MECHANICAL DIMENSIONS

Encapsulated Chassis Mount – EPM15-xxx-BC-0F0



MODEL

OUTPUT POWER

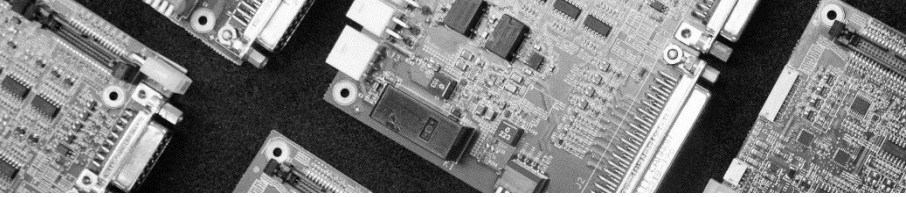
OUTPUT VOLTAGE

OUTPUT CURRENT

LOAD REGULATION

Encapsulated Chassis Mount Models

EPM15-033-BC-0F0	10W	3.3VDC	3.0A	±1.0%
EPM15-050-BC-0F0	15W	5VDC	3.0A	±1.0%
EPM15-090-BC-0F0	15W	9VDC	31.67A	±0.5%
EPM15-120-BC-0F0	15W	12VDC	1.25A	±0.5%
EPM15-150-BC-0F0	15W	15VDC	1.0A	±0.5%
EPM15-180-BC-0F0	15W	18VDC	0.83A	±0.5%
EPM15-240-BC-0F0	15W	24VDC	0.63A	±0.5%

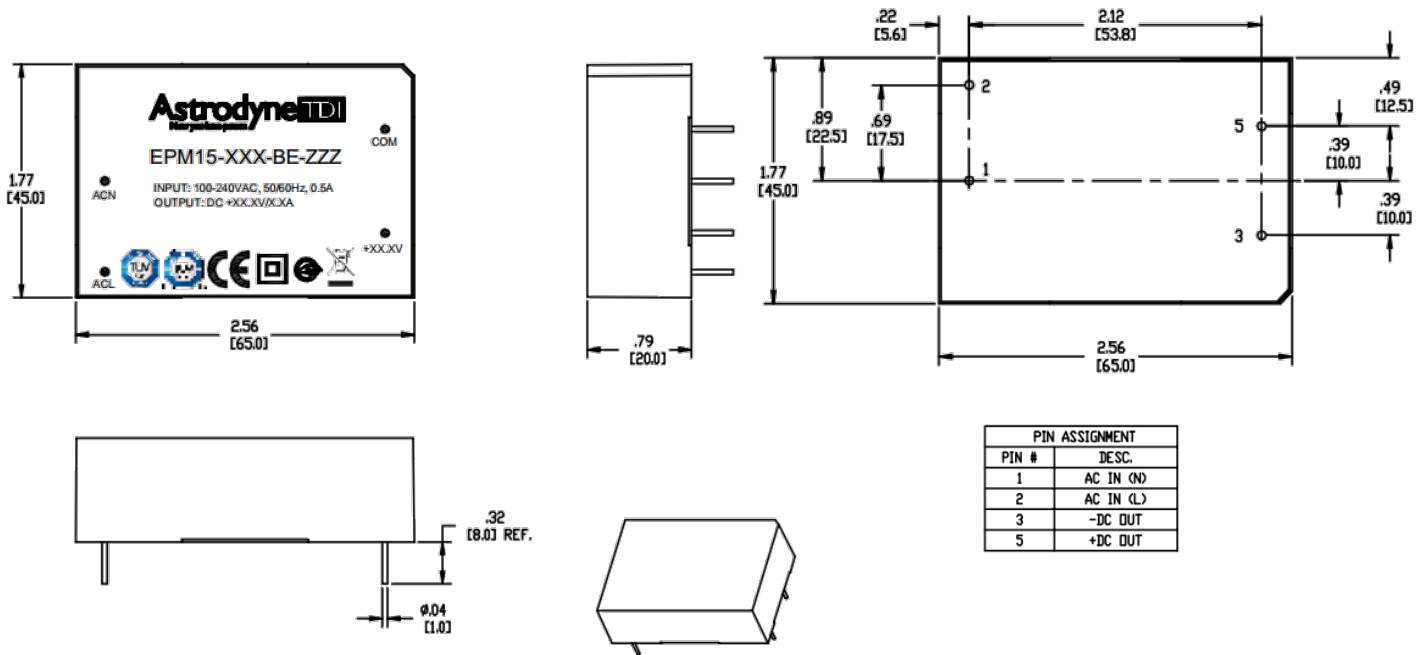


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MECHANICAL DIMENSIONS

Encapsulated PCB Mount – EPM15-xxx-BE-0F0



MODEL

OUTPUT POWER

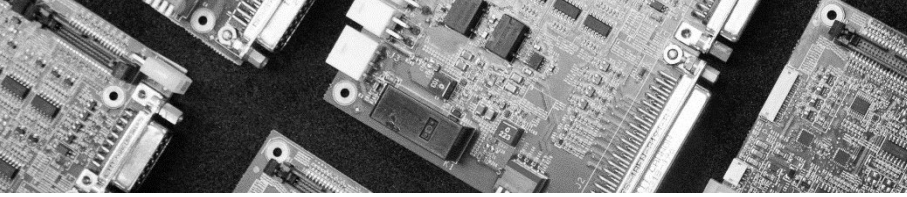
OUTPUT VOLTAGE

OUTPUT CURRENT

LOAD REGULATION

Encapsulated PCB Mount Models

EPM15-033-BE-0F0	10W	3.3VDC	3.0A	±1.0%
EPM15-050-BE-0F0	15W	5VDC	3.0A	±1.0%
EPM15-090-BE-0F0	15W	9VDC	31.67A	±0.5%
EPM15-120-BE-0F0	15W	12VDC	1.25A	±0.5%
EPM15-150-BE-0F0	15W	15VDC	1.0A	±0.5%
EPM15-180-BE-0F0	15W	18VDC	0.83A	±0.5%
EPM15-240-BE-0F0	15W	24VDC	0.63A	±0.5%

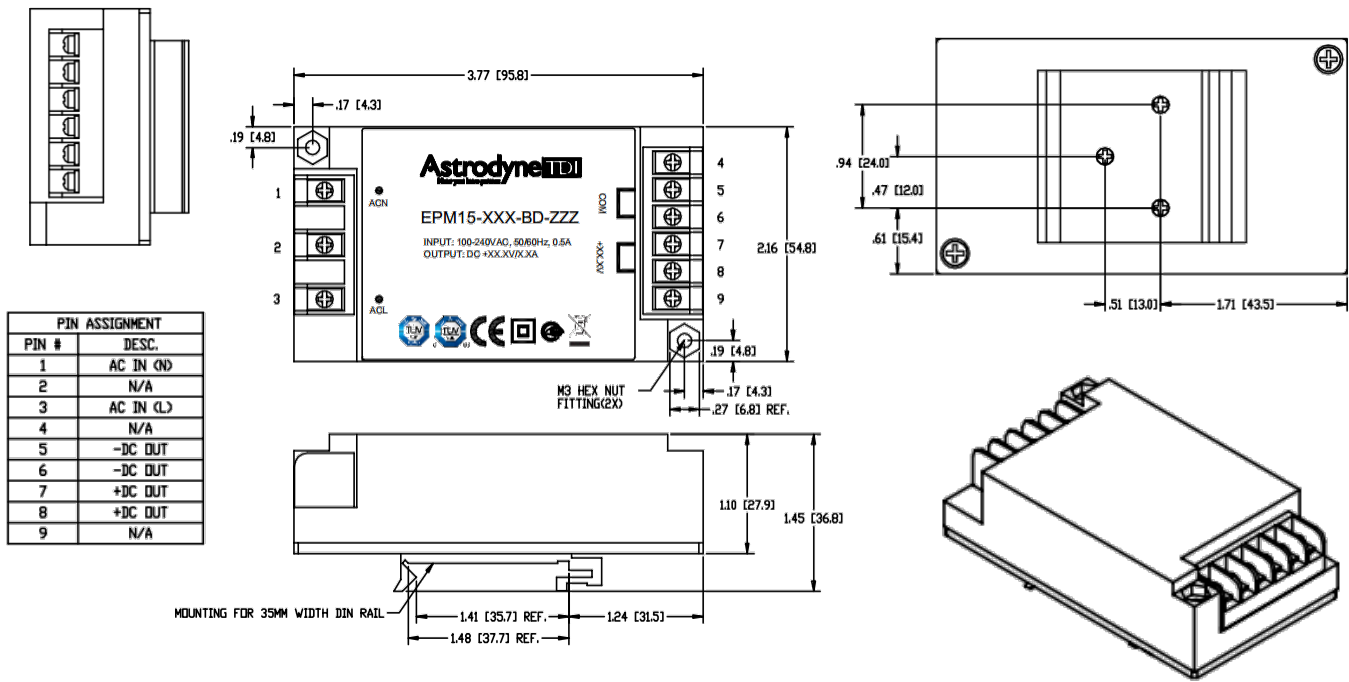


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MECHANICAL DIMENSIONS

Encapsulated DIN Rail Mount – EPM15-xxx-BD-0F0



MODEL

OUTPUT POWER

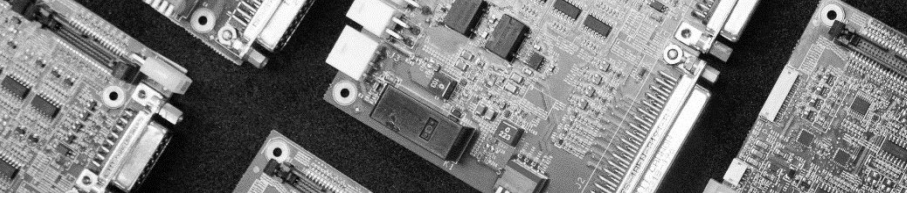
OUTPUT VOLTAGE

OUTPUT CURRENT

LOAD REGULATION

Encapsulated DIN Rail Mount Models

EPM15-033-BD-0F0	10W	3.3VDC	3.0A	±1.0%
EPM15-050-BD-0F0	15W	5VDC	3.0A	±1.0%
EPM15-090-BD-0F0	15W	9VDC	31.67A	±0.5%
EPM15-120-BD-0F0	15W	12VDC	1.25A	±0.5%
EPM15-150-BD-0F0	15W	15VDC	1.0A	±0.5%
EPM15-180-BD-0F0	15W	18VDC	0.83A	±0.5%
EPM15-240-BD-0F0	15W	24VDC	0.63A	±0.5%

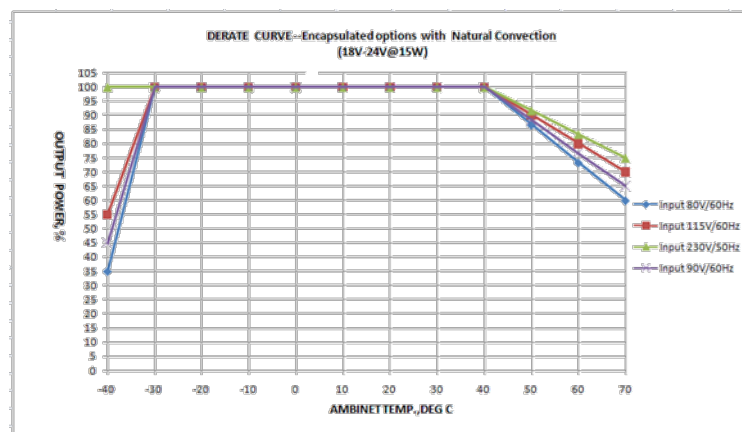
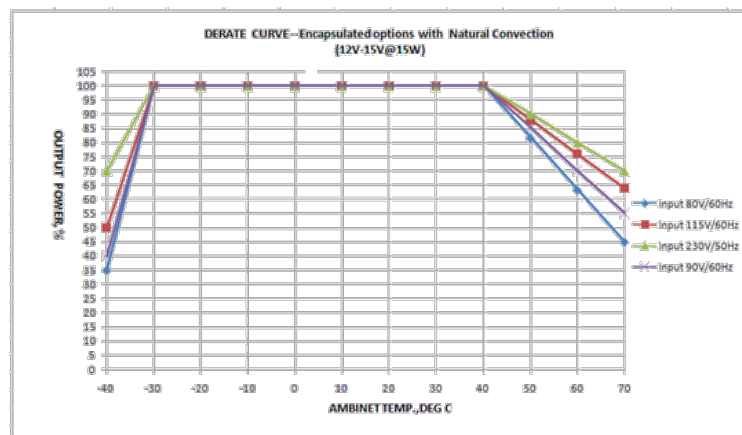
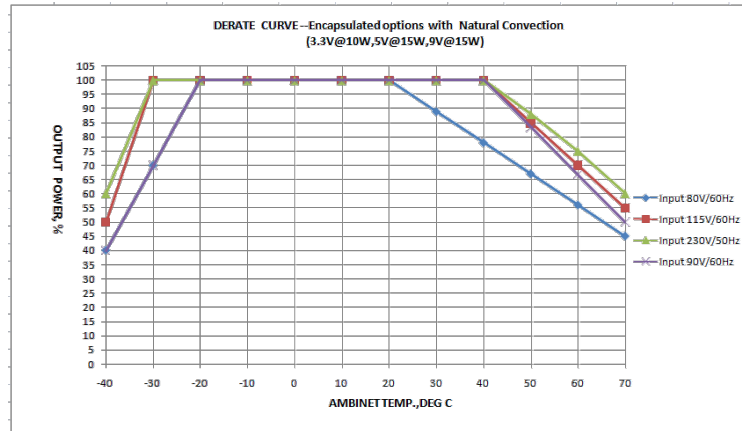


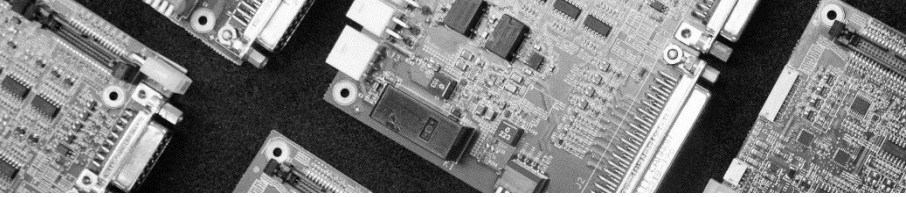
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TEMPERATURE DERATING

Encapsulated Models with Natural Convection



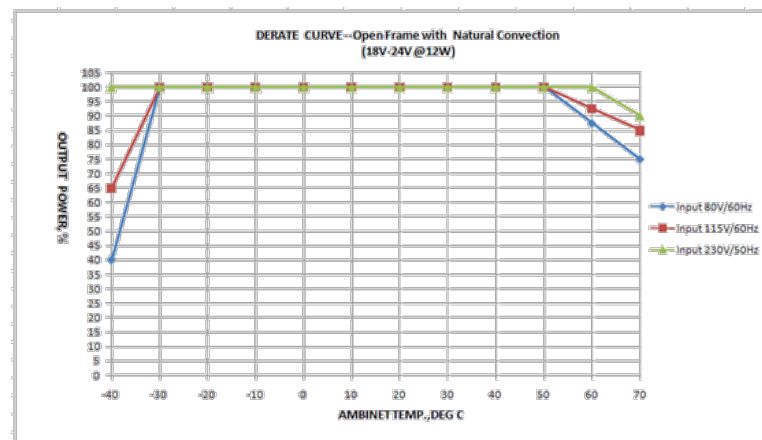
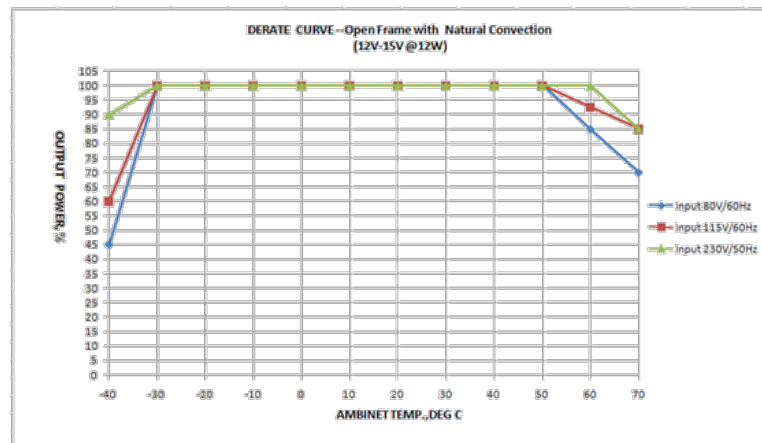
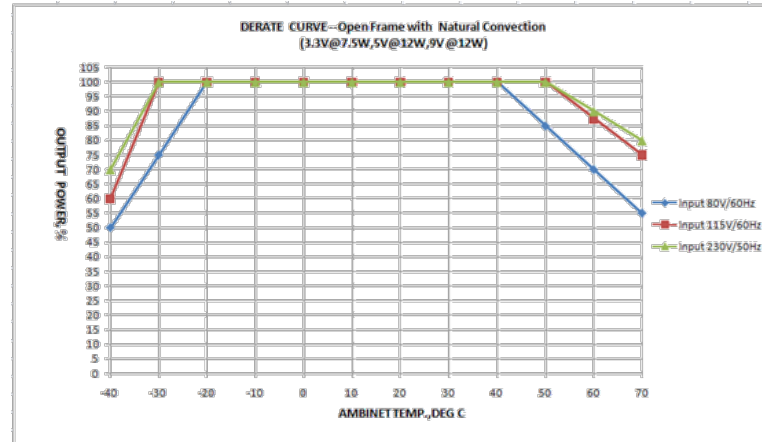


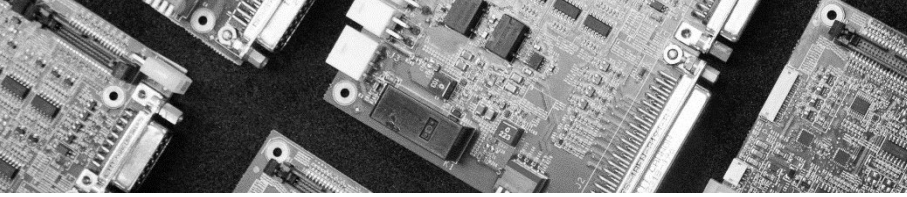
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TEMPERATURE DERATING

Open Frame Models with Natural Convection



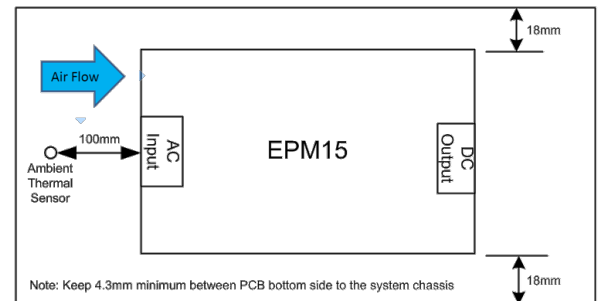
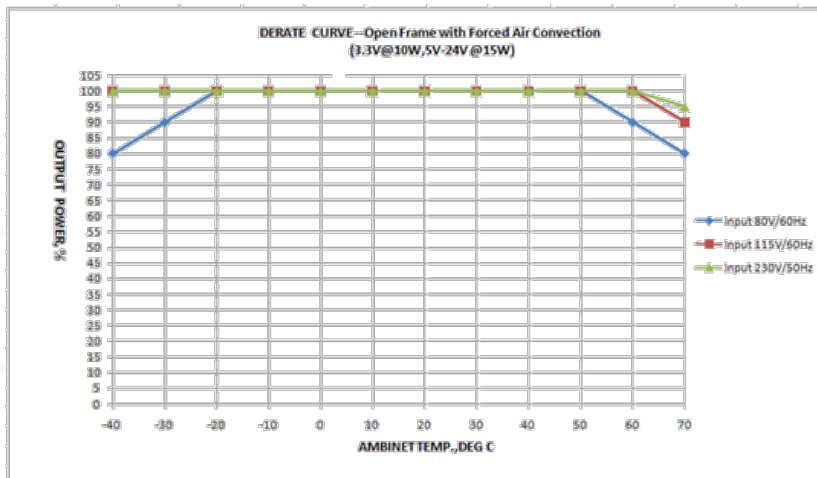


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TEMPERATURE DERATING

Open Frame Models with Forced Air Convection
(airflow ≥ 6 CFM with 100mm distance to unit)



Note: For all temperature derate curves, the output power at low temperature is just for cold start.