



Medical Grade 450 Watt Enclosed and U-Channel Power Supplies with PFC **PMMK450S series**



- 450 Watts Output Power
- Single Outputs
- Universal 90-264VAC Input
- 5VDC to 48VDC Output Isolation
- 5656VDC Input to Output Isolation
- Active Power Factor Correction



Model Number	Output V	Output I	Line Reg(nom/max)	Load Reg(nom/max)	Ripple & Noise	Efficiency(min/nom)
SINGLE OUTPUT						
PMMK450S-05	5VDC	60 Amps	0.4% / ±1.0%	0.5% / 3%	50mV pk-pk	76% / 80%
PMMK450S-12	12 VDC	37.5 Amps	0.3% / ±1.0%	0.3% / 1%	120mV pk-pk	77% / 85%
PMMK450S-24	24 VDC	18.75 Amps	0.2% / ±0.5%	0.2% / 0.5%	240mV pk-pk	78% / 86%
PMMK450S-36	36 VDC	12.5 Amps	0.1% / ±0.5%	0.1% / 0.5%	360mV pk-pk	79% / 86%
PMMK450S-48	48 VDC	9.375 Amps	0.1% / ±0.5%	0.1% / 0.5%	480mV pk-pk	81% / 88%



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INPUT SPECIFICATIONS

Input Voltage Range	100 - 240VAC Nominal 90-264VAC Maximal
Frequency Range	50 - 60 Hz
Inrush Current, typ: (cold start)	30A at FL, 115VAC 60A at FL, 230VAC
Input Current	7A max at 90VAC 2.5A max at 264VAC
Power Factor	0.95min / IEC61000-3-2
Leakage current	Less than 0.3mA @ 240VAC, 50Hz
Remote Shutdown (Note 1)	

OUTPUT SPECIFICATIONS

Voltage and Current	See Selection Chart
Line Regulation	See Selection Chart
Load Regulation	See Selection Chart
DC Output Power	450W, Max
Ripple/Noise	See Selection Chart
Hold Up Time	16mS at nominal input voltage range
Turn On Delay Time	< 4S
Short Curcuit Protection	Auto-recovery
Over Voltage Protection	130% (max) Auto-recovery
Over Current Protection	150% (max) Auto-recovery

GENERAL SPECIFICATIONS

Safety	
UL/C-UL	UL60601-1
TUV	EN60601-1
CE	EN60601-1 EN60601-1-2 : 2001
CB	IEC 60601-1
Over-Shoot and under shoot	Less than 10% of nominal output volt
Remote sens E	0.5V drop. max
Hi-pot test (60S max)	5656VDC I/P - O/P 2121 VDC I/P - GND 707VDC O/P - GND
Insulation Resistance	≥ 20MΩ

All specifications are typical at nominal input, full load, and 25°C unless otherwise noted

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

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EMI	CISPR EN55022 class B
Efficiency	See Selection Chart

ENVIRONMENTAL SPECIFICATIONS

Oper. Temperature	0°C to 70°C (See Derate Curve)
Storage Temperature	-40°C to 85°C
Oper. Humidity	10 - 90% for nominal input voltage range
Storage Humidity	5 - 95%
MTBF	100,000 Hrs min. @25°C
Vibration	4G'S peak, 50~500Hz, 3 AXES

PHYSICAL SPECIFICATIONS

Size (PMMK450S-xx-U/UD)	
Millimeters	203.2x 127x 38
Inches	8"x 5"x 1.5"

Size (PMMK450S-xx-E/ED)	
Millimeters	224.9x 127x 40
Inches	8.85"x 5"x 1.57"

Weight	
U-Bracket (PMMK450S-xx-U)	33.91 oz (963g)
U-Bracket with Din clip (PMMK450S-xx-UD)	34.85 oz (982g)
Enclosed with Fan (PMMK450S-xx-E)	37.25 oz (1058g)
Din-rail with Fan (PMMK450-xx-ED)	37.92 oz (1077g)

EMS	
Harmonics	61000-3-2
Fluctuations	61000-3-3
ESD	Contact 6KV 61000-4-2 Air 8KV 61000-4-2
RS	FR: 80MHz-2.5GHz 61000-4-3 Field Strength: 3V / M 61000-4-3
EFT	2KV on AC power line 61000-4-4
Surge	1KV (L-L) & 2KV (L-PE) 61000-4-5
CS	3V (EMF) 61000-4-6
DIPS	95% 250Cy , 70% 25 Cy 61000-4-11 40% 5Cy , 5% 0.5Cy 61000-4-11

NOTE

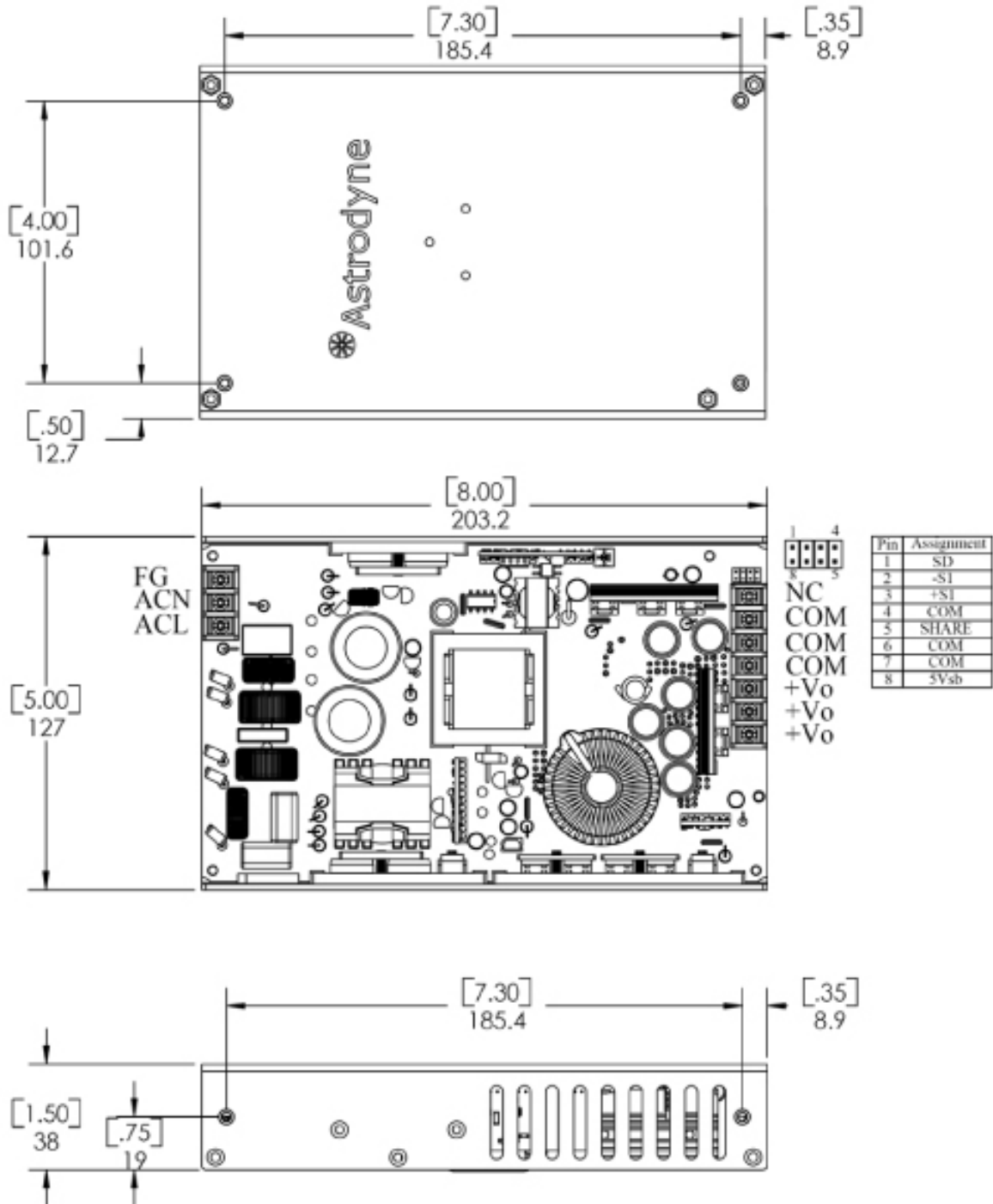
1. Open Collector, Logic "1"=On, "0"=Off. No termination with S/D pin to maintain constant "On" operation.

Astrodyne products are not authorized or warranted for use as critical components in life support systems, equipment used in hazardous environments, nuclear controls systems, or other mission-critical applications.

**ASTRODYNE USA: 1-800-823-8082
ASTRODYNE PACIFIC: 886-2-26983458**

MECHANICAL DIMENSIONS

• U-Bracket (PMMK450S-xx-U)



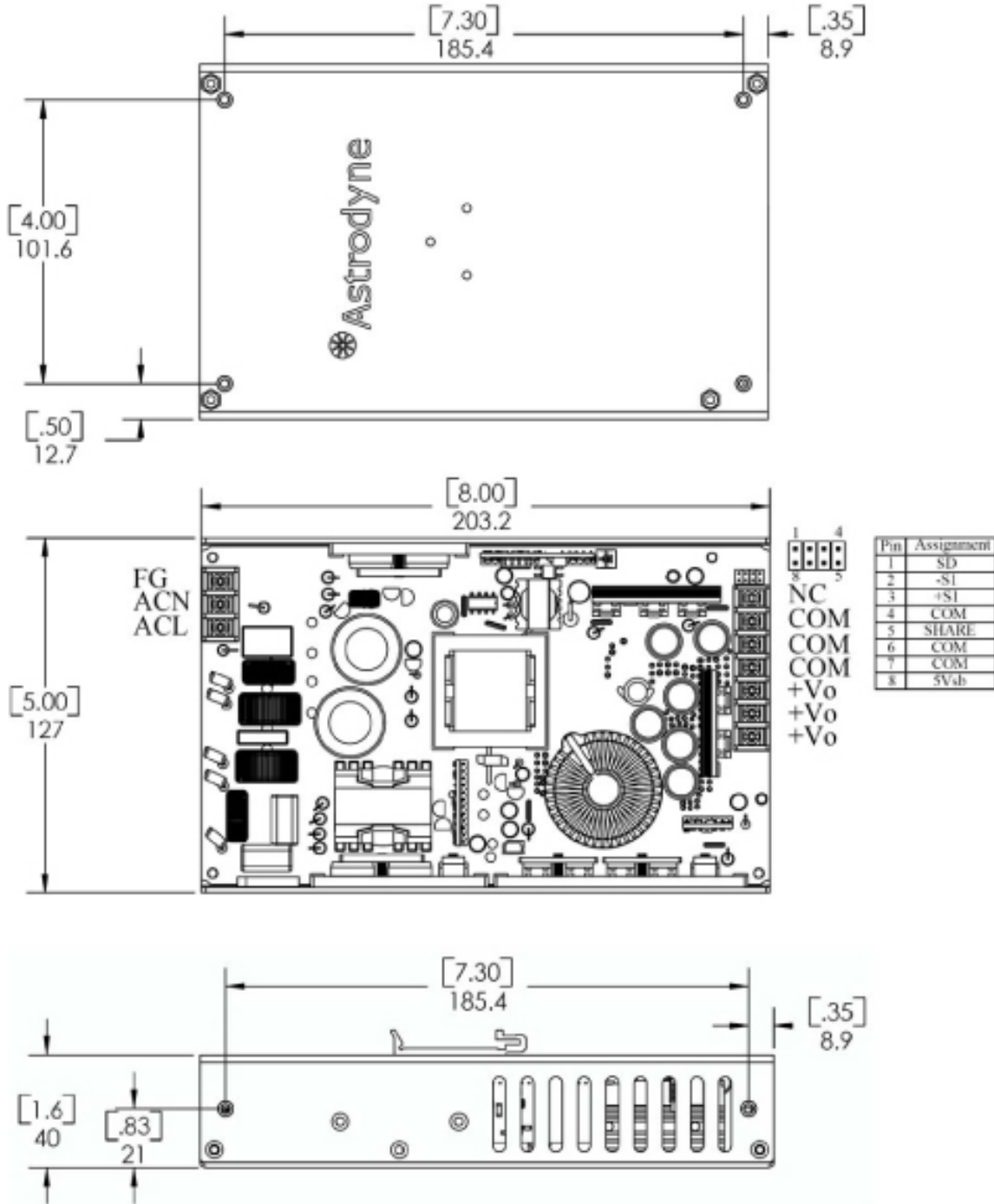
Input connector : 3P / 8.25 mm pitch terminal block
 Output connector : 7P / 8.25 mm pitch terminal block

Unit : mm



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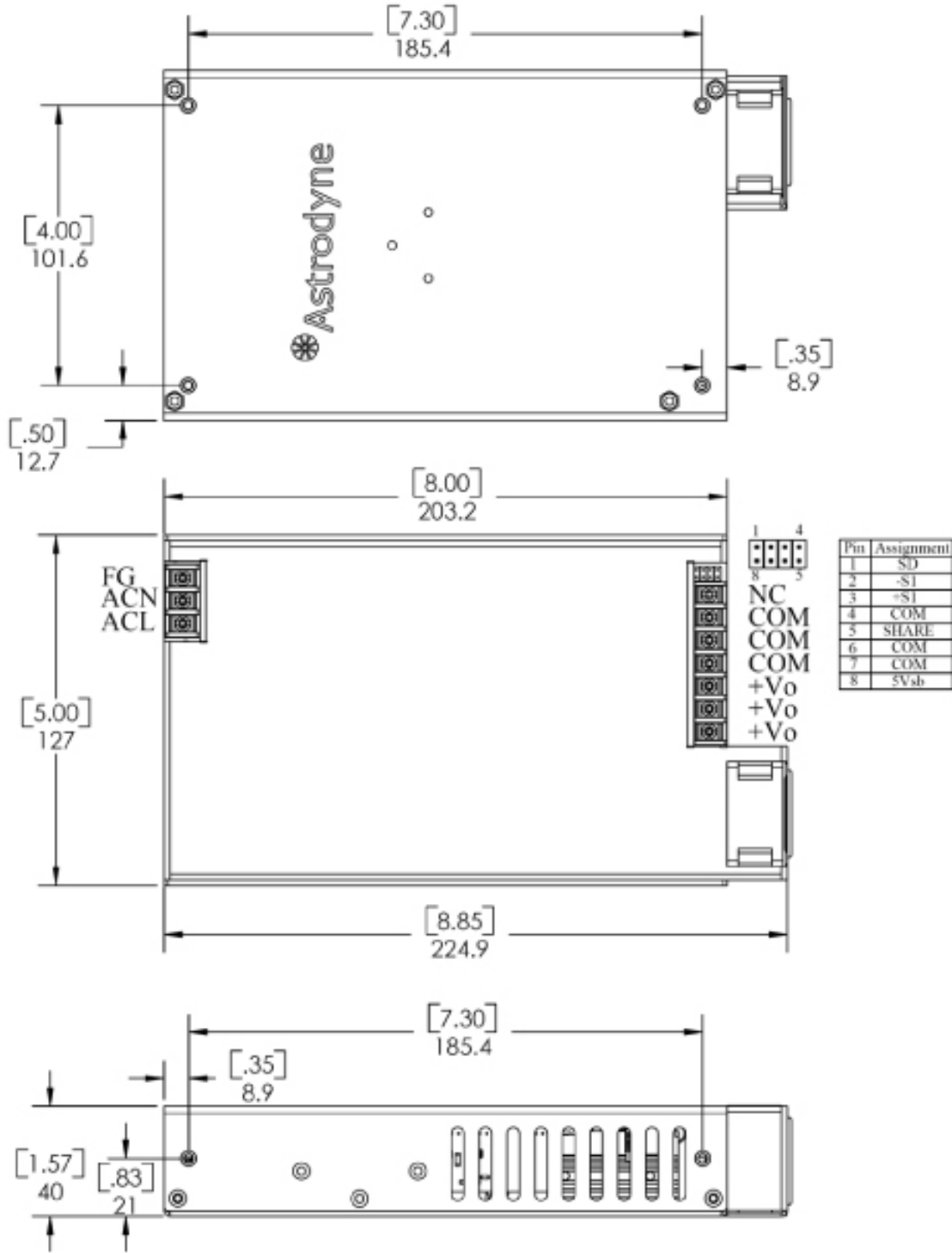
- U-Bracket with Din clip (PMMK450S-xx-UD)



Input connector : 3P / 8.25 mm pitch terminal block
 Output connector : 7P / 8.25 mm pitch terminal block

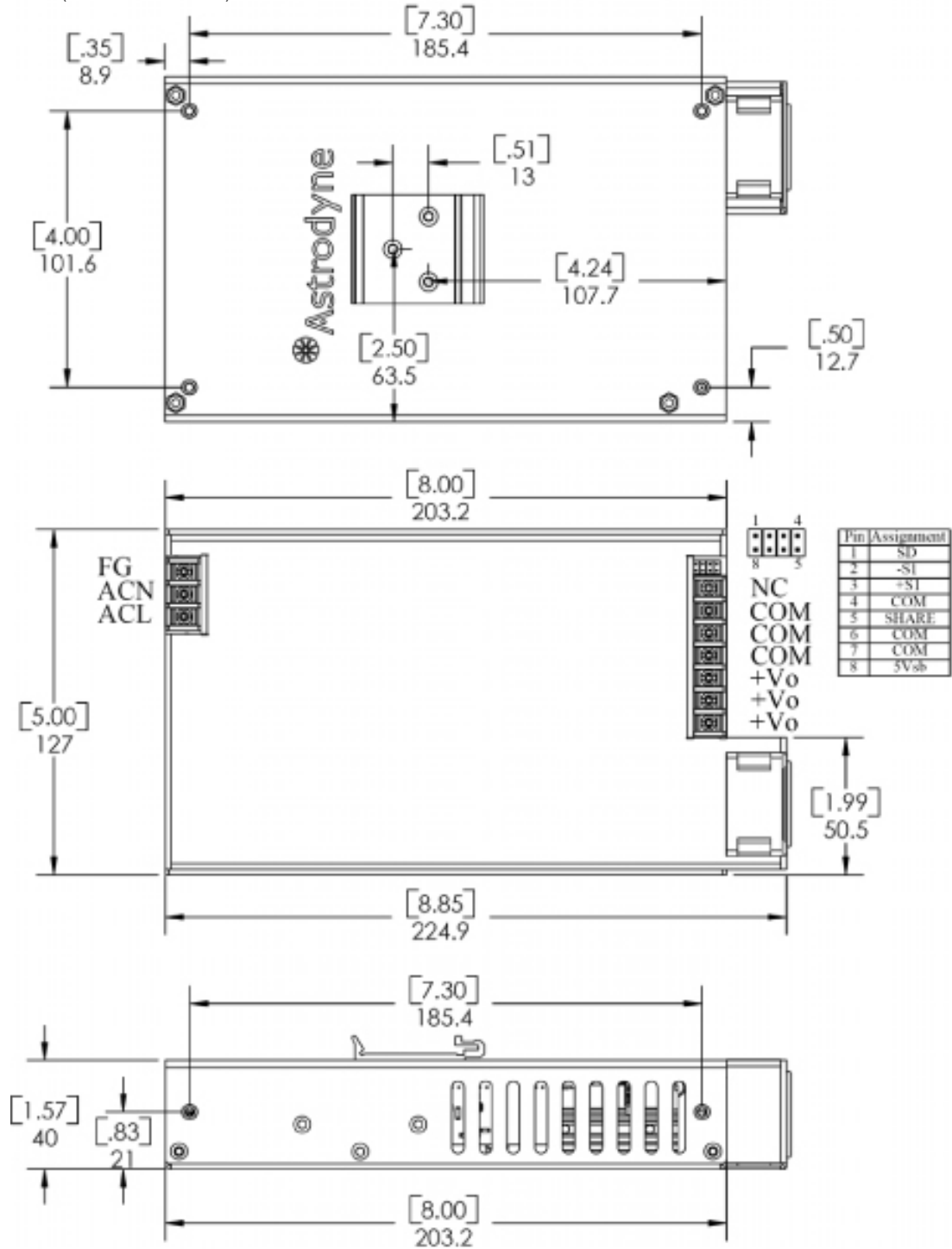
Unit : mm

- Enclosed with Fan (PMMK450S-xx-E)



Input connector : 3P / 8.25 mm pitch terminal block
 Output connector : 7P / 8.25 mm pitch terminal block

• Din-rail with Fan (PMMK450S-xx-ED)



Input connector : 3P / 8.25 mm pitch terminal block
 Output connector : 7P / 8.25 mm pitch terminal block

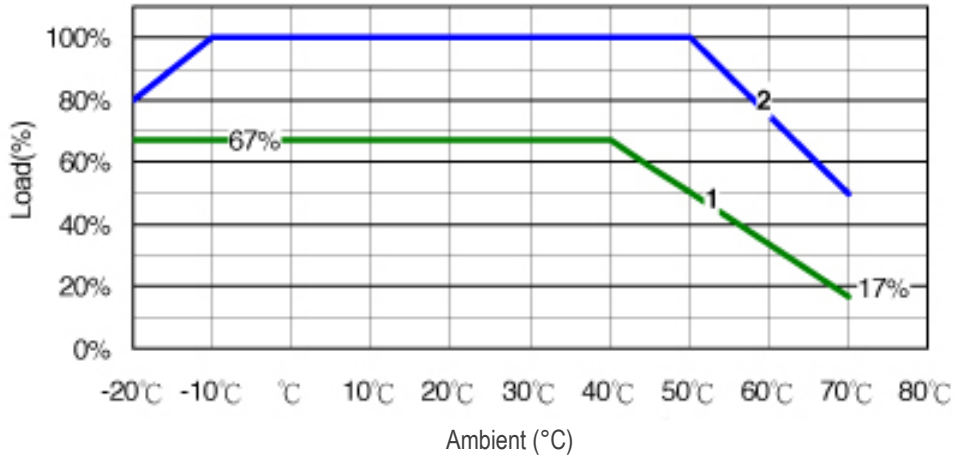
Unit : mm



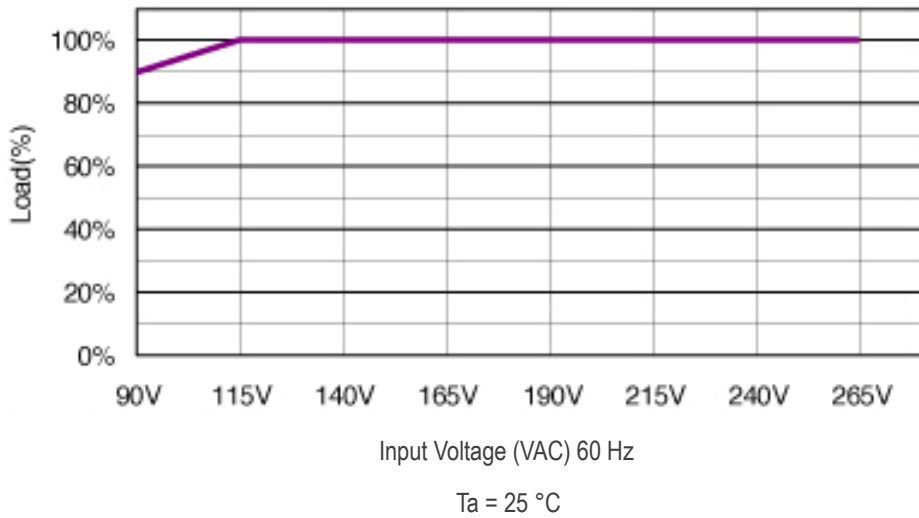
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Derating Curve

- U-Bracket (PMMK450S-xx-U/UD)



1. Convection
2. Forced air cooling 30CFM



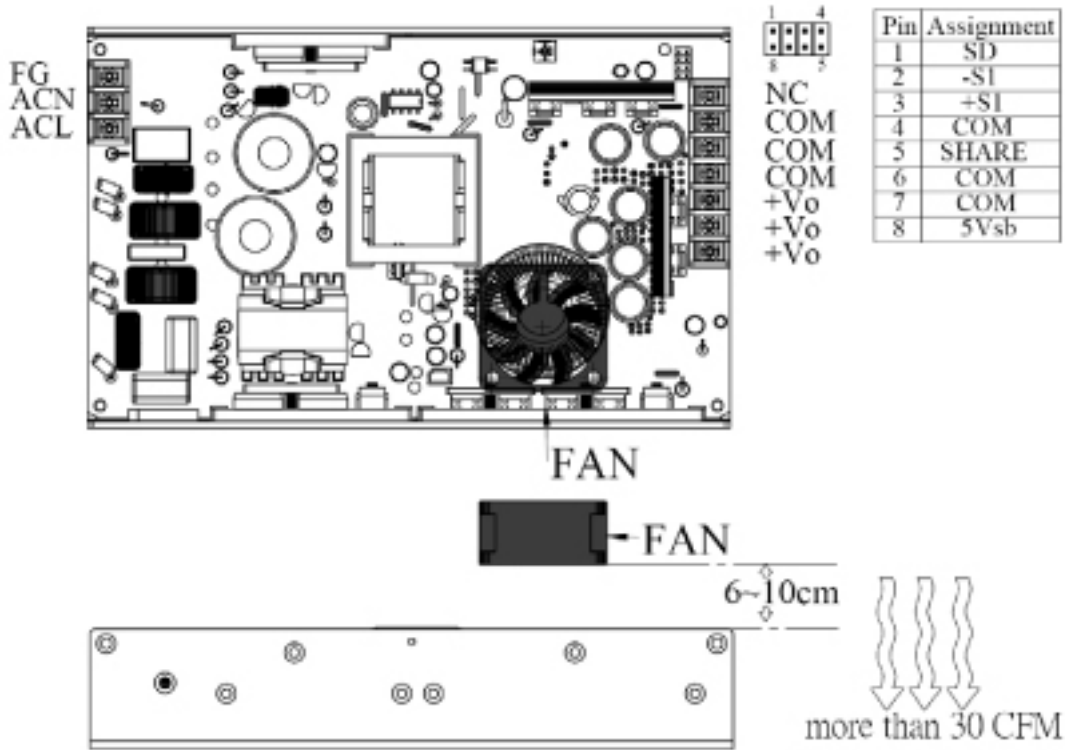


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PMMK450S series

The Diagram of Fan Position

- U-Bracket (PMMK450S-xx-U/UD)





Medical Grade 450 Watt Enclosed and U-Channel Power Supplies with PFC **PMMK450S** series

- Enclosed & Din-rail (PMMK450S-xx-E/ED)

