Astrodyne

200W 1~4 Output for Medical Type

MPS/D/T/Q200 series

- Universal AC input
- Low leakage current ≤ 0.18mA
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fixed switching frequency at 100KHz
- Free air convection for 140W and forced air convection for 200W
- UL60601-1 medical safety approved
- With power good and fail signal output
- Built-in remote ON-OFF control
- Built-in remote sens function

Model Number	Output Volts	Output Amps(25CFM)	Ripple & Noise	Convection	Line Reg	Load Reg	Volt Tolerance
SINGLE OUTPUT							
MPS200-3.3	3.3 Volts(DC)	40 Amps	80mV pk-pk	28 Amps	±0.5%	±1.0%	±2.0%
MPS200-5	5 Volts(DC)	40 Amps	80mV pk-pk	28 Amps	±0.5%	±1.0%	±2.0%
MPS200-12	12 Volts(DC)	16.7 Amps	100mV pk-pk	11.7 Amps	±0.5%	±1.0%	±2.0%
MPS200-15	15 Volts(DC)	13.4 Amps	100mV pk-pk	9.4 Amps	±0.5%	±1.0%	±2.0%
MPS200-24	24 Volts(DC)	8.4 Amps	150mV pk-pk	5.9 Amps	±0.5%	±1.0%	±1.0%
MPS200-48	48 Volts(DC)	4.2 Amps	2000mV pk-pk	3.0 Amps	±0.5%	±1.0%	±1.0%
DUAL OUTPUT							
MPD-200A	5 Volts(DC)	20 Amps	80mV pk-pk	15 Amps	±0.5%	±1.0%	±2.0%
	12 Volts(DC)	8 Amps	120mV pk-pk	5.4 Amps	±2.0%	±4.0%	+8,-5%
MPD-200B	5 Volts(DC)	20 Amps	80mV pk-pk	15 Amps	±0.5%	±1.0%	±2.0%
	24 Volts(DC)	4 Amps	180mV pk-pk	2.7 Amps	±2.0%	+4,-6%	±6.5%

Astrodyne

200W 1~4 Output for Medical Type

MPS/D/T/Q200 series

Model Number	Output Volts	Output Amps(25CFM)	Ripple & Noise	Convection	Line Reg	Load Reg	Volt Tolerance
TRIPLE OUTPUT							
MPT-120A	5 Volts(DC)	20 Amps	80mV pk-pk	15 Amps	±0.5%	±1.0%	±2.0%
	12 Volts(DC)	7.5 Amps	120mV pk-pk	5.0 Amps	±1.0%	±5.0%	±8.0%
	-5 Volts(DC)	2.0 Amps	80mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%
MPT-120B	5 Volts(DC)	20 Amps	80mV pk-pk	15 Amps	±0.5%	±1.0%	±2.0%
	12 Volts(DC)	6.0 Amps	120mV pk-pk	4.4 Amps	±1.0%	±5.0%	±8.0%
	-12Volts(DC)	2.0 Amps	80mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%
MPT-120C	5 Volts(DC)	20 Amps	80mV pk-pk	15 Amps	±0.5%	±1.0%	±2.0%
	15 Volts(DC)	4.7 Amps	150mV pk-pk	3.3 Amps	±1.0%	±5.0%	±8.0%
	-15 Volts(DC)	2.0 Amps	80mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%
MPT-120D	5 Volts(DC)	20 Amps	80mV pk-pk	15 Amps	±0.5%	±1.0%	±2.0%
	24 Volts(DC)	3.0 Amps	180mV pk-pk	2.2 Amps	±1.0%	±5.0%	±8.0%
	12 Volts(DC)	2.0 Amps	80mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%
QUAD OUTPUT							
MPQ-200B	5 Volts(DC)	15 Amps	80mV pk-pk	12 Amps	±0.5%	±1.0%	±2.0%
	12 Volts(DC)	7.0 Amps	120mV pk-pk	5.3 Amps	±1.0%	±5.0%	±8.0%
	-5 Volts(DC)	2.0 Amps	80mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%
	-12 Volts(DC)	2.0 Amps	80mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%
MPQ-200C	5 Volts(DC)	15 Amps	80mV pk-pk	12 Amps	±0.5%	±1.0%	±2.0%
	15 Volts(DC)	5.0 Amps	150mV pk-pk	4.0 Amps	±1.0%	±5.0%	±6.0%
	-5 Volts(DC)	2.0 Amps	80mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%
	-15 Volts(DC)	2.0 Amps	80mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%
MPQ-200D	5 Volts(DC)	15 Amps	80mV pk-pk	12 Amps	±0.5%	±1.0%	±2.0%
	24Volts(DC)	3.0 Amps	180mV pk-pk	2.3 Amps	±1.0%	±5.0%	±8.0%
	12 Volts(DC)	2.0 Amps	300mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%
	-12 Volts(DC)	2.0 Amps	80mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%
MPQ-200E	5 Volts(DC)	15 Amps	80mV pk-pk	12 Amps	±0.5%	±1.0%	±2.0%
	24 Volts(DC)	2.7 Amps	180mV pk-pk	2.1 Amps	±1.0%	±5.0%	±8.0%
	15 Volts(DC)	2.0 Amps	80mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%
	-15 Volts(DC)	2.0 Amps	80mV pk-pk	1.0 Amps	±0.5%	±1.0%	±5.0%

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

Astrodyne

200W 1~4 Output for Medical Type

MPS/D/T/Q200 series

INPUT SPECIFICATIONS

Input Voltage Range	90-264VAC / 127-370 Volts(DC)
Frequency Range	47-440 Hz
Inrush Current, typ:	cold start <25 Amps @ 115VAC Input
	40 Amps @ 230VAC
Input Current	3.5 Amps max @ 115VAC
	1.6 Amps max @ 230VAC
Power Factor @ FL	PF>0.95/230VAC
	PF>0.98/115VAC
Leakage current	
heart leakage	< 0.18mA / 264VAC
patient leakage	< 0.1mA / 264VAC

OUTPUT SPECIFICATIONS

Voltage and Current	See Selection Chart
Line Regulation	See Selection Chart
Load Regulation	See Selection Chart
Voltage Tolerance (Note 2)	See Selection Chart
Ripple/Noise (Note 1)	See Selection Chart
Hold Up Time @ FL	16mS @ 230VAC
	16mS @ 115VAC
Setup, Rise Time @ FL:	
	1000mS, 20mS / 230VAC
	3000mS, 20ms / 115VAC
Over Temperature Protection	TSW1 Temp ≥ 95°C, shutdown
	auto recover
Over Voltage Protection	5Volts only:115~135%, shutdown
Over Current Protection	Hiccup type 120~160% auto recover
Peak Load (Note 3)	120% of output min.
Min load	
Single O/P	0%
Multi O/P	20%
DC Volt Adj	-5%~10% rated output volt
	by potential meter

GENERAL SPECIFICATIONS

Safety	UL60601-1 / UL60950-1
	TUV EN60601-1 / TUV EN60950-1
	IEC60601-1 approved
Insulation Resistance	≥ 100MΩ

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

EMI	Compliance to EN55011, EN55022
	Class B
Harmonic Current	Compliance to EN61000-3-2,-3
Efficiency	81% typ.
Isolation	
	4000VAC Input - Output
	1500VAC Input - Ground
	1500VAC Output- Ground
EMS	Compliance to
	EN61000-4-2,3,4,5,6,8,11;
	ENV50204
Remote Control	RC+/RC-: 0~0.8Vots(DC) = Power On
	4~10Volts(DC) = Power Off
Power Good/Fail	500ms/1ms

ENVIRONMENTAL SPECIFICATIONS

Oper. Temperature	-20°C to +70°C (See Derate Curve)
Storage Temperature	-40°C to +85°C, 10~90% RH
Relative Humidity	20 to +90% RH
Temperature Coefficient	0.04% / °C (0-50°C)
MTBF	262.1KHrs min, MIL-HDBK-217F(25°C)
Vibration	10~500Hz, 2G10min./1cycle, period for
	60min. each along X, Y, Z axes

PHYSICAL SPECIFICATIONS

Size		
	Millimeters	177.8 x 107.2 x 35.5
	Inches	7" x 4.22" x 1.4"
Weight		23.28 oz (660g)

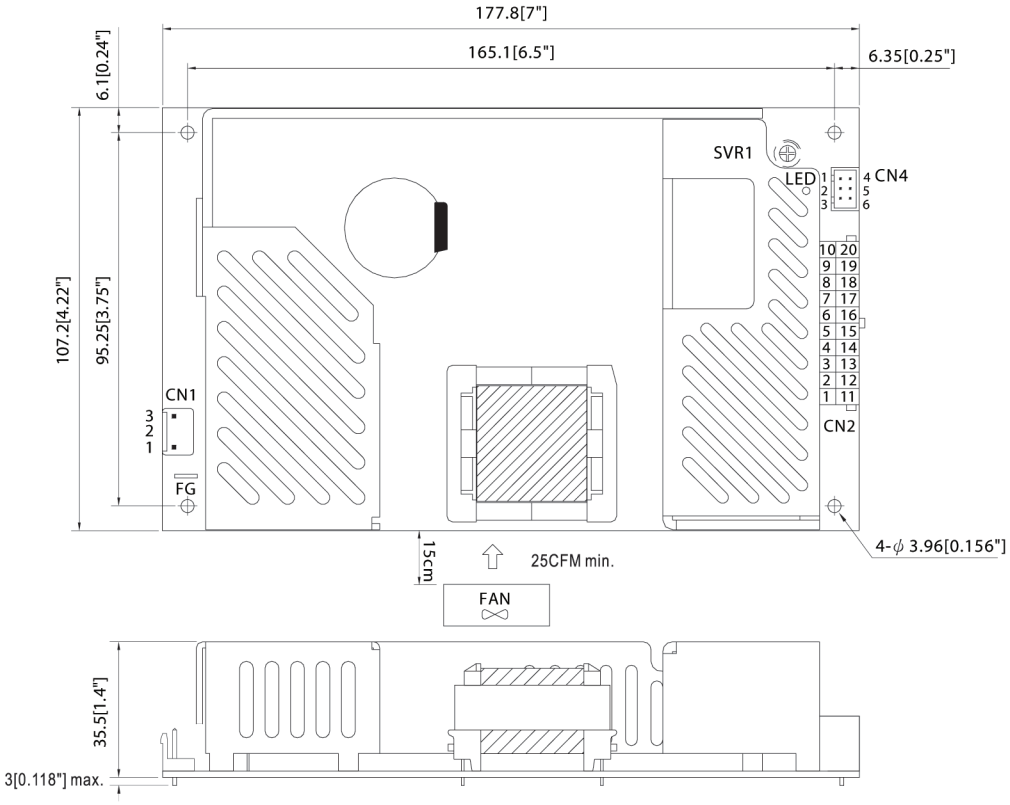
NOTE

1. Ripple and Noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47 uf parallel capacitor.
2. Tolerance: includes set up tolerance, line regulation and load regulation.
3. 33% Duty cycle max within every 30S. Average output power should not exceed the rated power.
4. Derating may be needed under low inpt voltages. Please check the derating curve for more details.

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

■ Mechanical Specification(MPS-200)

Unit:mm



AC Input Connector (CN1) : JST B3P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	AC/N	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/L		

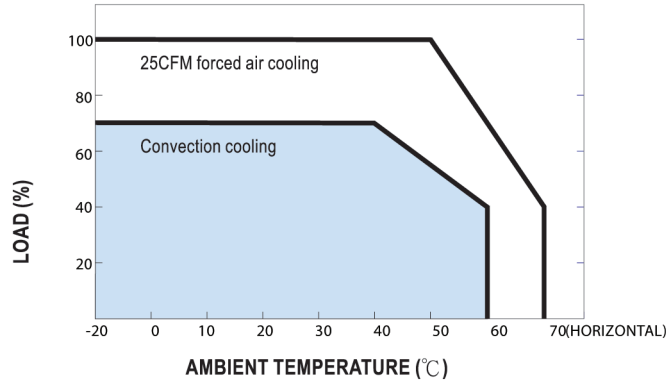
DC Output Connector (CN2) : MOLEX 5566-20 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1~5,11~15	DC OUTPUT -V	MOLEX 5557 or equivalent	MOLEX 5556 or equivalent
6~10,16~20	DC OUTPUT +V		

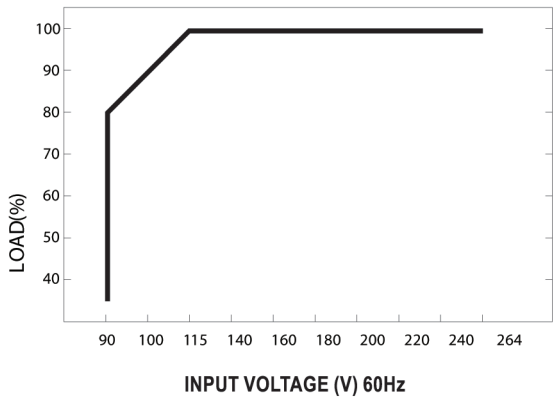
DC Output Connector (CN4) : TKP DH2I-2*3 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	PG	TKP DH2-2*3 or equivalent	TKP DHT or equivalent
2	RS-		
3	GND		
4	RC+		
5	RS+		
6	RC-		

■ Derating Curve (MPS-200)

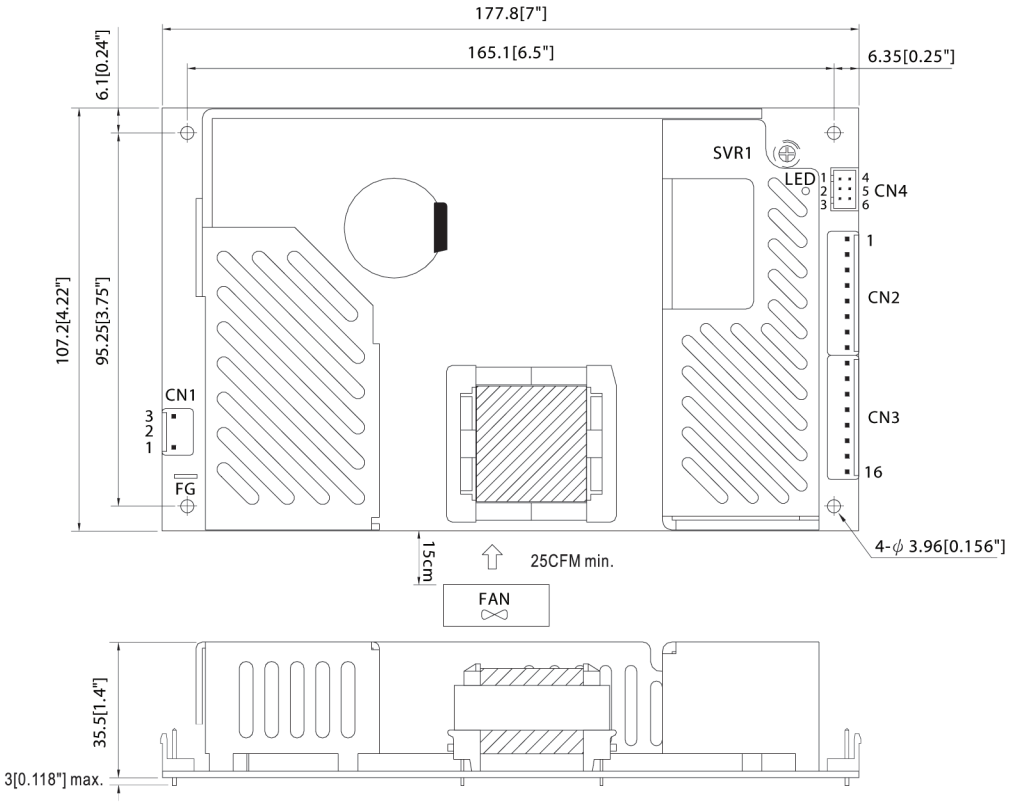


■ Static Characteristics (MPS-200)



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

■ Mechanical Specification(MPD/T/Q-200)



AC Input Connector (CN1) : JST B3P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	AC/N	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/L		

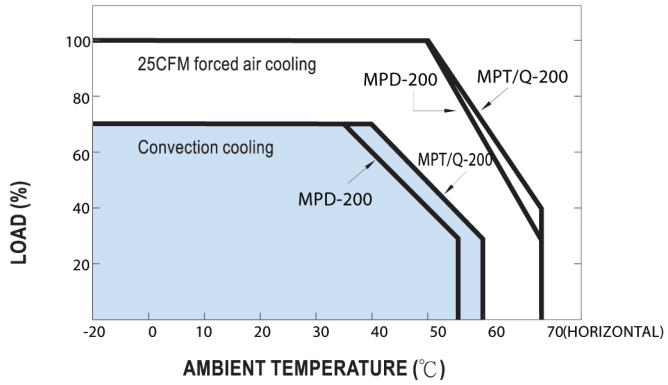
DC Output Connector (CN2,3) : JST B8P-VH*2 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2,3,4	V1	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
5~11	COM		
12,13	V2		
14	V3		
15	No pin		
16	V4		

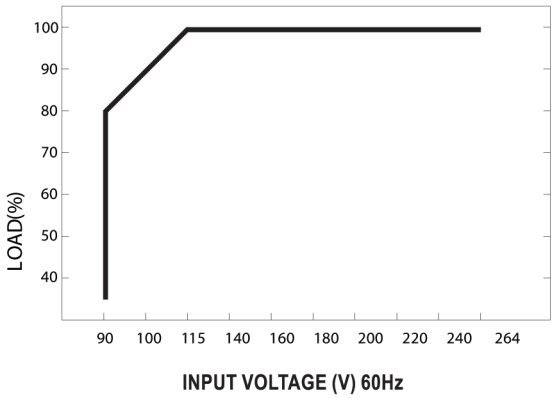
DC Output Connector (CN4) : TKP DH2I-2*3 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	PG	TKP DH2-2*3 or equivalent	TKP DHT or equivalent
2	RS-		
3	GND		
4	RC+		
5	RS+		
6	RC-		

■ Derating Curve (MPD/T/Q-200)



■ Static Characteristics (MPD,T,Q-200)



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