

ASM40

40W ULTRAMINIATURE MEDICAL OPEN FRAME SWITCHING POWER SUPPLIES

The Astrodyne TDI ASM40 series of Switching Power Supplies are designed for medical and industrial applications. These products operate over the input voltage range of 90 to 264 VAC and 50/60Hz frequency, producing up to 40 Watts of regulated DC output. They have safety certification to IEC60601 for use across a wide variety of medical applications, including those within the home. They comply with IEC 60601-1-1, 3rd Edition, Amendment 1, and EMI EN55011 Class B.



HOW TO ORDER

ASM40D-15(A)*

*NOTE = THE SINGLE OUTPUTS CAN BE ORDERED WITH MOLEX 09-65-20XX, 5273 SERIES I/O CONNECTORS. SIMPLY ADD THE SUFFIX "A" TO THE END OF THE MODEL NUMBER. FOR EXAMPLE, ASM40-5A

VOLTAGE = 0 = 5VDC
9 = 9VDC
12 = 12VDC
15 = 15VDC
24 = 24VDC
36 = 36VDC
48 = 48VDC
1 = 5/12VDC
2 = 5/15VDC
3 = 5/24VDC
5 = 5/48VDC

SINGLE OUTPUT: [BLANK]

DUAL OUTPUT: D

OUTPUT POWER: 40W

FAMILY: ASM SERIES

FEATURES & BENEFITS

UNIVERSAL AC INPUT

90-264VAC, 50/60Hz

PROTECTIONS

Over Voltage Protection: Latching, 130% typ, re-power
Overpower Protection: 210% +20/-10% nom. I/P range; self-recovering *

Short Circuit Protection: Continuous, self-recovering *

SAFETY APPROVALS

UL/cUL: ANSI/AAMI ES60601-1 3rd ed., CSA C22.2 No. 60601-1 3rd ed.

UL-EU: EN60601-1 3rd ed.

CB: IEC60601-1 3rd ed.

CE: EN60601-1-2

EMI/EMC

EN55011 Class B

Single and Dual Outputs from 5VDC to 48VDC

High Efficiency up to 86%

4000VAC Isolation

1U Compatible Height

ASM40

40W ULTRAMINIATURE MEDICAL OPEN FRAME SWITCHING POWER SUPPLIES

PARAMETERS

ASM40

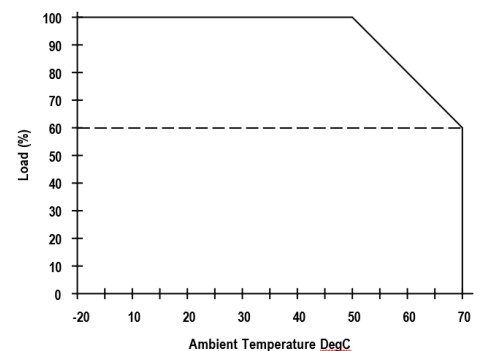
Input Voltage Range	90-264 VAC (115-240VAC nom.)
Frequency Range	47-63 Hz
Inrush Current, typ:	30A @ 115VAC Input * 60A @ 230VAC Input *
Leakage Current	BF <100uA @ 240VAC, 50Hz
Voltage and Current	See Selection Chart
Load Regulation (20%-FL)	Single O/P: $\pm 1\%$ Dual O/P (V1/V2): $\pm 3/5\%$ max
Line Regulation (LL-HL)	Single O/P: $\pm 1\%$ max Dual O/P (V1/V2): $\pm 1/2\%$ max
Cross Regulation (Dual Outputs)	(100-20% L w. other O/P at 60%) $\pm 5/7\%$ max
Preset Accuracy	Single Output: 1% max. Dual Outputs (V1/V2): +7/-9% max.
DC Voltage Adjust (typ)	$\pm 6\%$ of FS (Primary)
Temperature Coefficient	$\pm 0.05\%/^{\circ}\text{C}$
Ripple/Noise, 20Mhz BW	See Selection. Chart Measured by paralleling 47uF/EC and 0.1uF ceramic capacitors on the output at a 20MHz bandwidth.
Over Voltage Protection	Latching, 130% typ, re-power
Overpower Protection	210% +20/-10% nom. I/P range; self-recovering *
Short Circuit Protection	Continuous, self-recovering *
Hold Up Time (115V / 60Hz)	10 mS, min.

All specifications are typical at nominal input, full load, and 25°C unless other- wise 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 standard operating conditions is neither warranted nor implied.*

Isolation	Input-Output: 4000VAC Input-GND: 1500VAC Output-GND: 500VAC
Efficiency , typ	See Selection Chart
Switching Frequency	65Khz, (fixed, typical)
Safety	UL/cUL: ANSI/AAMI ES60601-1 3rd ed. CSA C22.2 No. 60601-1 3rd ed.
UL-EU:	EN60601-1 3rd ed.
CB:	IEC60601-1 3rd ed.
CE:	EN60601-1-2
Size	2" x 4" x 1.244" 50.8 x 101.6 x 31.6mm
Construction	Open Frame
Weight	5.61oz (159g)
Oper. Temperature	-20 to +50°C(FL) , See Derate
Storage Temperature	-40 to +85°C *
Relative Humidity	0 to + 95%, non-cond *
EMI	EN55011 Class B
MTBF (Mil Std 217, 25°C)	185,000 Hrs

TEMPERATURE DERATING



ASM40

40W ULTRAMINIATURE MEDICAL OPEN FRAME SWITCHING POWER SUPPLIES

MECHANICAL DIMENSIONS WITH JST CONNECTORS - STANDARD

Connectors and Mating Connectors

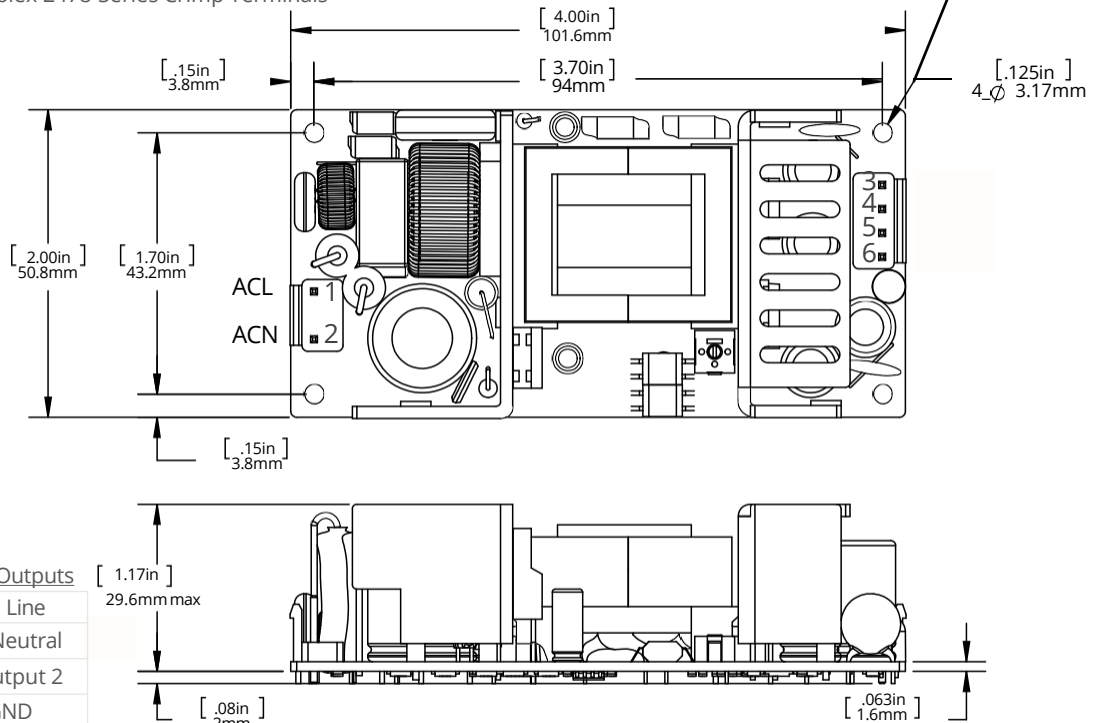
Input Connector: JST B3P-VH or Molex 41791 Series (3 Position)

Input Mating Connector: JST VHR-3N or Molex 41695 Series (3 Position)

Output Connector: JST B4P-VH or Molex 41791 Series (4 Position)

Output Mating Connector: JST VHR-4N or Molex 41695 Series (4 Position) Use with JST # SVH-21T-P1.1 or Molex 2478 Series Crimp Terminals

All 4 corner holes need to be bonded according to the end product PE (Protective Earth) path.



Pin#1	Single Outputs	Dual Outputs
1	AC Line	AC Line
2	AC Neutral	AC Neutral
3	+ Output	+ Output 2
4	GND	GND
5	GND	GND
6	+ Output	+ Output 1

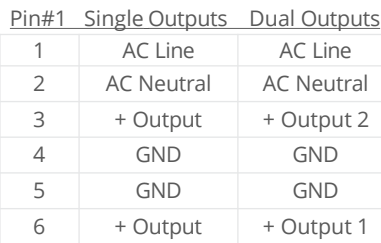
Length, Width tolerance: $\pm 0.1\text{mm}$ (0.004in)

Input connector: JST/VH series or equivalent
Output connector: JST/VH series or equivalent

MODEL	OUTPUT VOLTAGE	MAX. O/P AMPS	MIN. O/P AMPS	EFFICIENCY @ 230VAC	R&N P-P
Single Output					
ASM40-5	5VDC	8	0	77%	300mV
ASM40-9	9VDC	4.44	0	82%	250mV
ASM40-12	12VDC	3.33	0	84%	250mV
ASM40-15	15VDC	2.66	0	84%	250mV
ASM40-24	24VDC	1.66	0	86%	250mV
ASM40-36	36VDC	1.11	0	85%	250mV
ASM40-48	48VDC	0.83	0	86%	250mV

40W ULTRAMINIATURE MEDICAL OPEN FRAME SWITCHING POWER SUPPLIES

All 4 corner holes need to be bonded according to the end product PE (Protective Earth) path.



Input connector: JST/VH series or equivalent
Output connector: JST/VH series or equivalent

4 WWW.ASTRODYNETDI.COM • (908) 850-5088

ASM40

40W ULTRAMINIATURE MEDICAL OPEN FRAME SWITCHING POWER SUPPLIES

MECHANICAL DIMENSIONS WITH MOLEX CONNECTORS ("A" VERSIONS SINGLE OUTPUTS ONLY)

Connectors and Mating Connectors

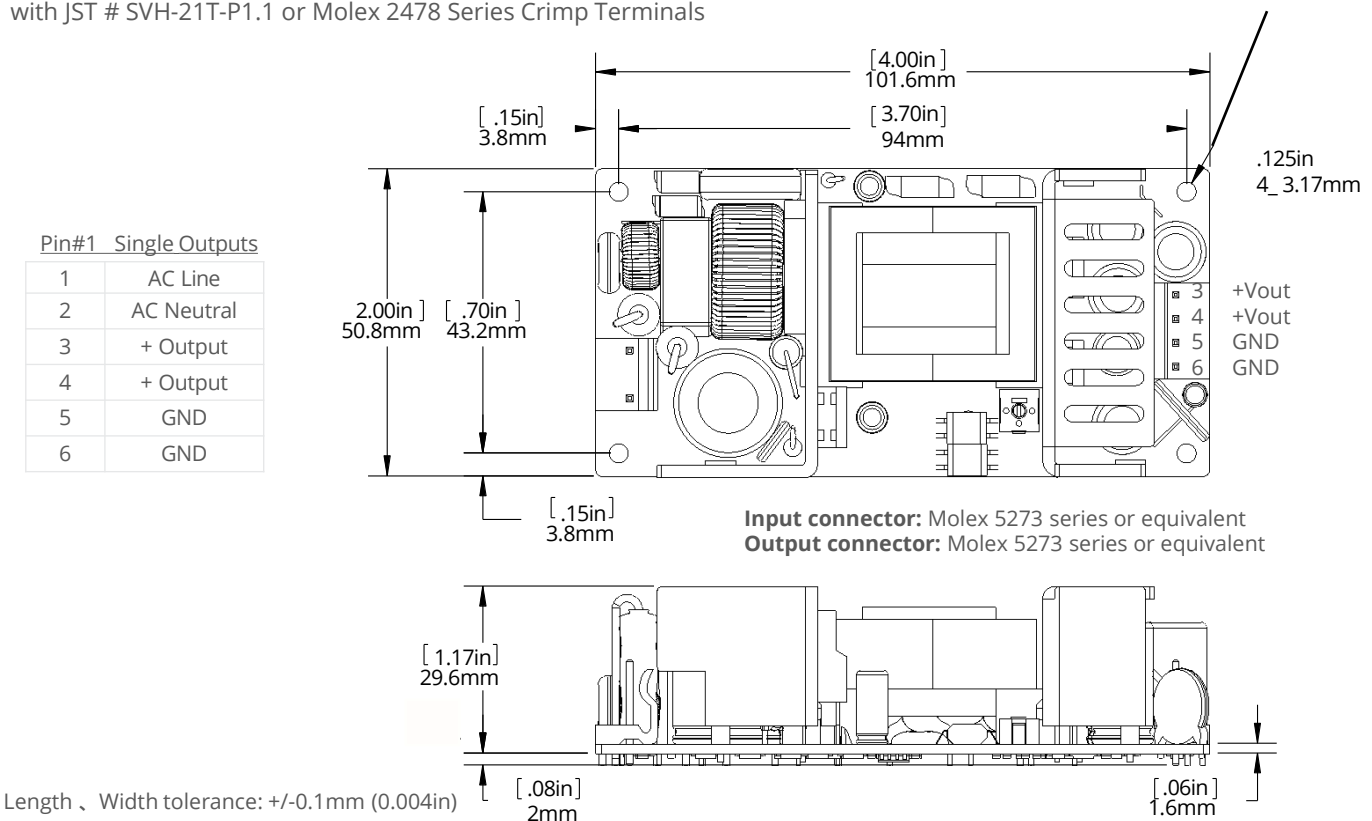
Input Connector: JST B3P-VH or Molex 5273 Series (3 Position)

Input Mating Connector: JST VHR-3N or Molex 3069 Series (3 Position)

Output Connector: JST B4P-VH or Molex 5273 Series (4 Position)

Output Mating Connector: JST VHR-4N or Molex 3069 Series (4 Position) Use with JST # SVH-21T-P1.1 or Molex 2478 Series Crimp Terminals

All 4 corner holes need to be bonded according to the product PE (Protective Earth) path.



MODEL	OUTPUT VOLTAGE	MAX. O/P AMPS	MIN. O/P AMPS	EFFICIENCY @ 230VAC	R&N P-P
-------	----------------	---------------	---------------	---------------------	---------

Single Output

ASM40-5(A)*	5VDC	8	0	77%	300mV
ASM40-9(A)*	9VDC	4.44	0	82%	250mV
ASM40-12(A)*	12VDC	3.33	0	84%	250mV
ASM40-15(A)*	15VDC	2.66	0	84%	250mV
ASM40-24(A)*	24VDC	1.66	0	86%	250mV
ASM40-36(A)*	36VDC	1.11	0	85%	250mV
ASM40-48(A)*	48VDC	0.83	0	86%	250mV