

EDP400 SERIES

400W DESKTOP EXTERNAL POWER ADAPTER FOR MEDICAL APPLICATIONS

- ✓ IEC60601-1 3rd Edition Medical Safety
- ✓ Universal 90-264 VAC Input, 50/60 Hz
- ✓ Class I & II Input with Functional Earth
- ✓ IEC60601-1-2 EMC Class B Emissions
- ✓ BF Leakage
- ✓ 2 MOPP
- ✓ CF Leakage Options Available



PRODUCT DESCRIPTION

The Astrodyne TDI EDP400 Series of External Desktop Power Adapters are designed for medical applications. These products operate over the input voltage range of 90 to 264 VAC at 50-60Hz frequency and produce up to 400 Watts of regulated DC output power. They are safety certified to use across a wide variety of medical applications. They are compliant with IEC 60601-1-1, 3rd Edition, Amendment 1 medical Safety, and IEC 60601-1-2, 4th Edition EMC.

PRODUCT MODELS

Class II with Functional Earth, BF Leakage Models (with IEC C14 AC Inlet)

Model	Output Power	Output Voltage	Output Current
EDP400-120-MB1-000	400W	12 VDC	33.3
EDP400-150-MB1-000	400W	15 VDC	26.7
EDP400-190-MB1-000	400W	19 VDC	21.1
EDP400-240-MB1-000	400W	24 VDC	16.7
EDP400-280-MB1-000	400W	28 VDC	14.3
EDP400-360-MB1-000	400W	36 VDC	11.1
EDP400-480-MB1-000	400W	48 VDC	8.3
EDP400-540-MB1-000	400W	54 VDC	7.4

EDP400 SERIES

400W DESKTOP EXTERNAL POWER ADAPTER FOR MEDICAL APPLICATIONS

Class II with Functional Earth, CF Leakage Models (with IEC C14 AC Inlet)

Model	Output Power	Output Voltage	Output Current
EDP400-120-MC1-000	400W	12 VDC	33.3
EDP400-150-MC1-000	400W	15 VDC	26.7
EDP400-190-MC1-000	400W	19 VDC	21.1
EDP400-240-MC1-000	400W	24 VDC	16.7
EDP400-280-MC1-000	400W	28 VDC	14.3
EDP400-360-MC1-000	400W	36 VDC	11.1
EDP400-480-MC1-000	400W	48 VDC	8.3
EDP400-540-MC1-000	400W	54 VDC	7.4

Class II, BF Leakage Models (with IEC C18 AC Inlet)

Model	Output Power	Output Voltage	Output Current
EDP400-120-MB2-000	400W	12 VDC	33.3
EDP400-150-MB2-000	400W	15 VDC	26.7
EDP400-190-MB2-000	400W	19 VDC	21.1
EDP400-240-MB2-000	400W	24 VDC	16.7
EDP400-280-MB2-000	400W	28 VDC	14.3
EDP400-360-MB2-000	400W	36 VDC	11.1
EDP400-480-MB2-000	400W	48 VDC	8.3
EDP400-540-MB2-000	400W	54 VDC	7.4

EDP400 SERIES

400W DESKTOP EXTERNAL POWER ADAPTER FOR MEDICAL APPLICATIONS

Class II, CF Leakage Models (with IEC C18 AC Inlet)

Model	Output Power	Output Voltage	Output Current
EDP400-120-MC2-000	400W	12 VDC	33.3
EDP400-150-MC2-000	400W	15 VDC	26.7
EDP400-190-MC2-000	400W	19 VDC	21.1
EDP400-240-MC2-000	400W	24 VDC	16.7
EDP400-280-MC2-000	400W	28 VDC	14.3
EDP400-360-MC2-000	400W	36 VDC	11.1
EDP400-480-MC2-000	400W	48 VDC	8.3
EDP400-540-MC2-000	400W	54 VDC	7.4

INPUT SPECIFICATIONS

Input Voltage Range	100-240 VAC nominal 90-264 VAC tested
Input Frequency	47-63 Hz (50/60 Hz Nom.)
Input Current	4.5 A Max at 115VAC 2.5A Max at 230VAC
Inrush Current	30A Max at 115VAC, 60 Hz 60A Max at 230VAC, 50 Hz
Earth Leakage Current	300uA Max at 264VAC, 50Hz
Patient Leakage Current	100uA Max at 264VAC, 50Hz for BF rating 10uA Max at 264VAC, 50Hz for CF rating
Input Fusing	8A fuse in both L and N lines
Power Factor	0.95 min., 230VAC 50Hz

OVERALL SPECIFICATIONS (cont.)

Hold-up Time	16ms typ. Full Load, 115VAC
Power Density	19 W/in ³
Switching Frequency	200 KHz typ.
MTBF	100K hrs. (typ.) per MIL-HDBK-217F

ISOLATION SPECIFICATIONS

Input to Output	4000VAC, 2 MOPP
Input to Earth	1500VAC, 1 MOPP
Output to Earth	500VAC

EDP400 SERIES

400W DESKTOP EXTERNAL POWER ADAPTER FOR MEDICAL APPLICATIONS

MAIN OUTPUT SPECIFICATIONS

Output Voltage	12V, 15V, 19, 24V, 28V, 36V, 48V or 54V nominal
Output Power	400 W Continuous
Minimum Load	No minimum load required
Set Point Accuracy	± 1%
Load Regulation	± 1% Max, 0 to Full Load
Line Regulation	± 0.5% Max, 90 to 264 VAC
Temp. Drift	± 0.025 %/°C
Transient Response Excursion	Less than ± 5% 50 to 100% Load Step 1A/us Slew Rate
Transient Response Recovery Time	2ms Max 50 to 100% Load Step 1A/us Slew Rate
Ripple and Noise	1% pk-pk Max. 20MHz BW Measured with 47uF Alum and 0.1uF Ceramic at output

OVERALL SPECIFICATIONS

Efficiency	Refer to Ordering Information table
Standby Power	<1W 230 VAC
Start-up Delay	2s maximum
Start-up Rise Time	50ms maximum

SAFETY CERTIFICATIONS

UL/cUL	AAMI ES60601-1: 2005 A1 2012/CSA 22.2 60601-1 2014
UL EU	EN60601-1: 2006 3 rd Edition A1 2013 CB Scheme IEC 60601-1: 2005 A1 2012

EMC CERTIFICATIONS

Conducted Emissions	EN60601-1-2 Class B EN55011/A1 Class B
Radiated Emissions	EN60601-1-2 Class B EN55011/A1 Class B

PROTECTION

Over Current Inception	105 to 135% Rated Current
Short Circuit	Hiccup Mode, Automatic recovery
Over Voltage Protection	130% Vo max. Latching, Recycle Input to Reset
Over Temperature Protection	Automatic recovery

MECHANICAL SPECIFICATIONS

Size	See Outline Drawings for mechanical options
Weight	1lbs. (453.6g)

ENVIRONMENTAL SPECIFICATIONS

Operating Temp. Range	-20 to +40°C at Full Load with derating
Storage Temp. Range	-40 to +85°C
Humidity	0 to 95%, non-condensing
Altitude	0 to 10,000 ft. 0 to 3048 m
Shock	30G pk. Half sine, 6 axis
Vibration	2 G RMS, 5 Hz to 500 Hz 3 axis, 30 min

EMC CERTIFICATIONS

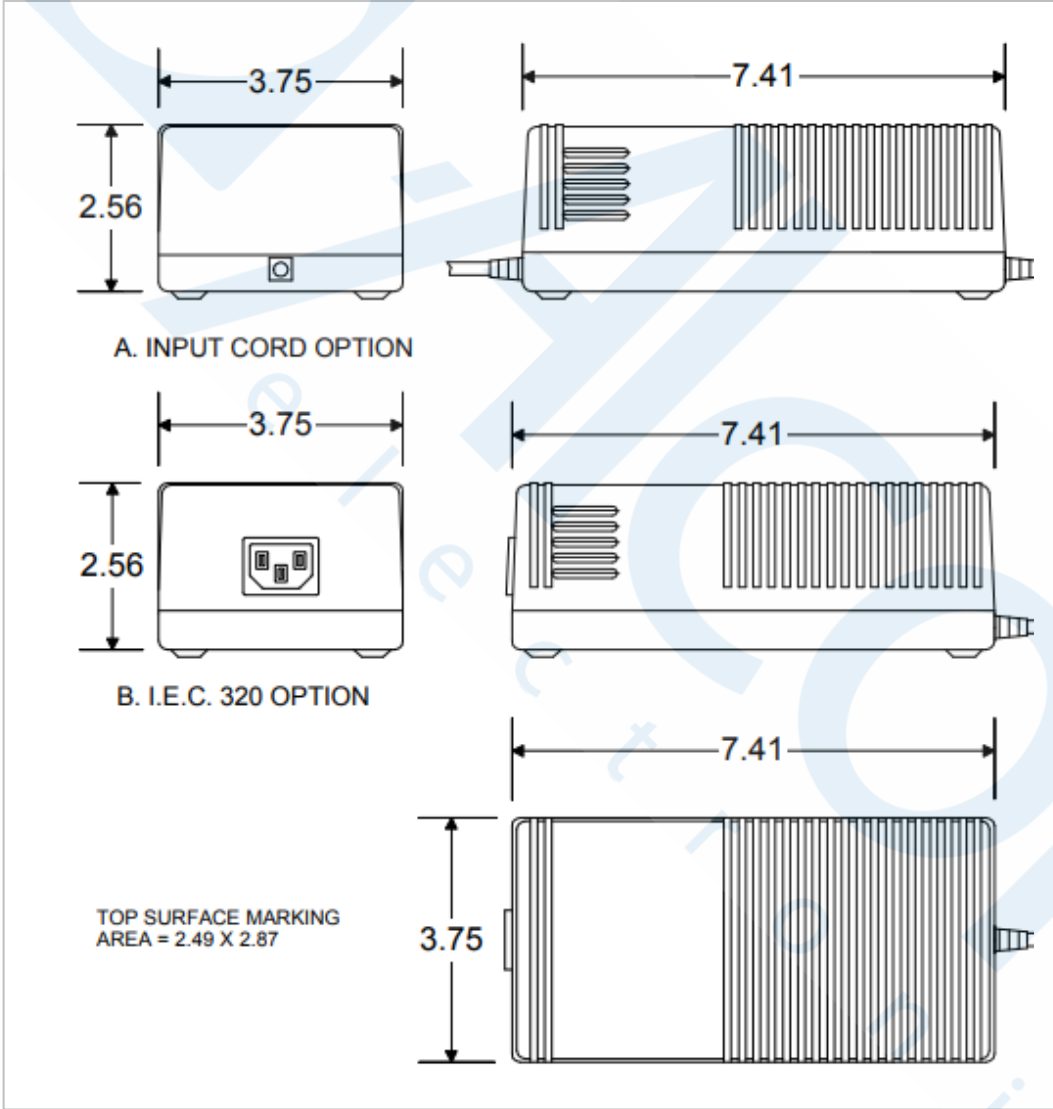
ESD Susceptibility Air Discharge	EN61000-4-2 Criteria A Level 3
ESD Susceptibility Contact Discharge	EN61000-4-2 Criteria A Level 2
Radiated Susceptibility	EN61000-4-3 Criteria A Level 2
EFT/Burst	EN61000-4-4 Criteria A Level 3
Surge	EN61000-4-5 Criteria A Level 2
Conducted Susceptibility	EN61000-4-6 Criteria A Level 2

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

EDP400 SERIES

400W DESKTOP EXTERNAL POWER ADAPTER FOR MEDICAL APPLICATIONS

MECHANICAL DRAWING

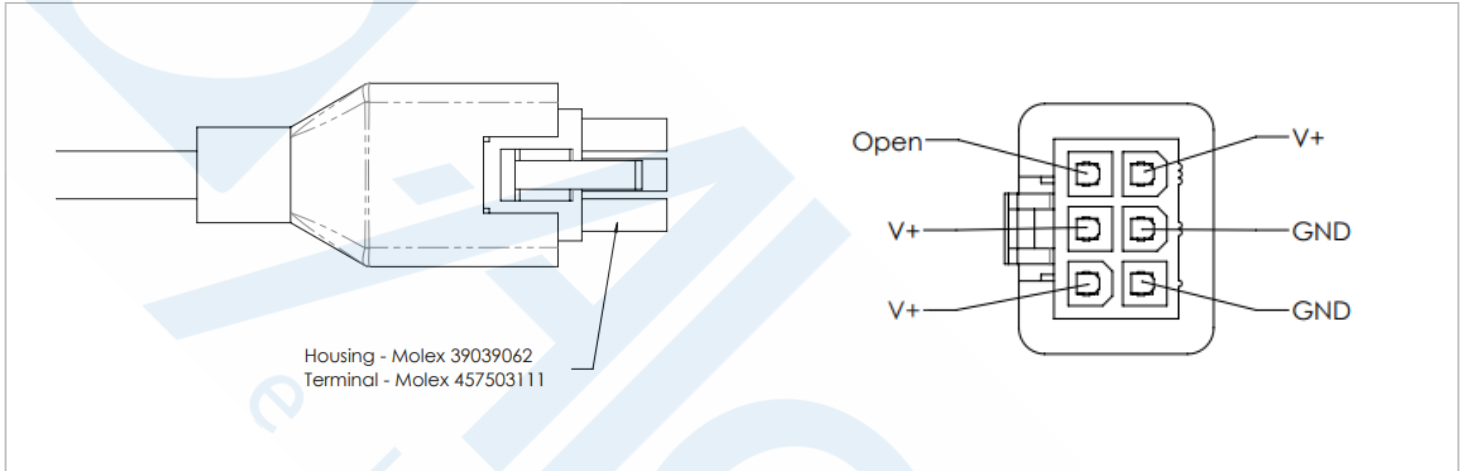


Note: Ingress IPx1 rated only with the top of the Enclosure up and Base facing down.

EDP400 SERIES

400W DESKTOP EXTERNAL POWER ADAPTER FOR MEDICAL APPLICATIONS

CONNECTOR OPTIONS:



SPECIAL CONNECTOR:

