



### FEATURES AND BENEFITS

3.3" x 6.2" x 1.62" Package	Inhibit, Power Fail, DC OK Signals, Remote Sense
Up to 425W of Air-Cooled Power, 300W Convection	Meets EN61000-4-2, EN61000-4-3 & EN61000-4-6 Requirements for Home Healthcare Applications
Universal Input 90-264VAC Input Range	3 Years Warranty
5V at 2A Standby Output	Efficiency 88% Typical
Approved to CSA/EN/IEC/UL60601-1, 3 <sup>rd</sup> Edition 2 MOPP Isolation	RoHS Compliant
12V Fan Output	Cover and Fan Cover Options



### MODEL SELECTION

Model Number	Volts	Output Current		Ripple & Noise (mV pk-pk)	Regulation (% of Vout)	OCP Threshold (% Full load)	OVP Threshold (% Vout)	Construction
		(Convection)	(200LFM air)					
MU425S12E	12V	22.0A	32.2A	120	3%	130%-170%	110%-130%	U channel
MU425S18E	18V	14.6A	21.5A	180	3%	130%-170%	110%-130%	
MU425S24E	24V	11.9A	16.8A	240	3%	130%-170%	110%-130%	
MU425S48E	48V	5.9A	8.4A	480	3%	130%-170%	110%-130%	
MU425S12EF	12V	32.2A	N/A	120	3%	130%-170%	110%-130%	Enclosure with Fan
MU425S18EF	18V	21.4A	N/A	180	3%	130%-170%	110%-130%	
MU425S24EF	24V	16.8A	N/A	240	3%	130%-170%	110%-130%	
MU425S48EF	48V	8.4A	N/A	480	3%	130%-170%	110%-130%	
MU425S12EC	12V	14.2A	26.0A	120	3%	130%-170%	110%-130%	Enclosure
MU425S18EC	18V	9.4A	17.4A	180	3%	130%-170%	110%-130%	
MU425S24EC	24V	7.6A	13.0A	240	3%	130%-170%	110%-130%	
MU425S48EC	48V	3.8A	6.5A	480	3%	130%-170%	110%-130%	
Standby Output	5V	2.0A	2.0A	100	5%	130%-200%	110%-130%	All Models
Fan Output	12V	0.5A	1.0A	360	10%	150%-200%	N/A	

- Note:**
1. Total power with 200 LFM of forced air cooling is 425W (408W for 18V, 385W for 12V) including 12V/1A for fan output and 5V/2A standby.
  2. Total convection power is 300W (280W for 12V model). Total power includes 5VSB and fan outputs.
  3. Measured at 25°C ambient with noise probe directly at end of 6" twisted pair terminated with 0.1µF ceramic and 10µF low ESR capacitors. Values will be higher at ambient temperatures below 0°C.
  4. Efficiency values listed are typical and are measured at 115VAC input, full load output current, at an ambient temperature of 25°C.
  5. Fan output regulation is with 1A min load on main output.
  6. Fan output: If the load on the output is other than a fan, a short circuit condition on the output can only be remedied by removing both the cause of the short circuit and the load. This will allow the output to resume normal operation.



### INPUT

AC Input	100-240VAC, $\pm 10\%$ , 47-63Hz, 1 $\emptyset$ 120-300VDC (external fuse required for DC input)
Input Current	115VAC: 5.2A, 230VAC: 2.5A
Inrush Current	264VAC, cold start: will not exceed 40Arms within $\frac{1}{2}$ cycle. I <sup>2</sup> T = 25A <sup>2</sup> /sec maximum
Input Fuses	F1, F2: 6.3A, 250VAC
Leakage Current	Earth: <750 $\mu$ A @ 264VAC, 60Hz, NC <1.5mA @ 264VAC, SFC Touch: <100 $\mu$ A @ 264VAC, NC <500 $\mu$ A @ 264VAC, SFC
Efficiency	See chart above
Power Factor	>0.99 @ 115VAC, Full load >0.95 @ 230VAC, Full load

### PROTECTION

Overtemperature Protection	Sensing transformer temperature, 135°C (55°C ambient temperature at full load), Auto-recovery
Overload Protection	130% to 170% of rating, Hiccup mode, Auto-recovery
Short Circuit Protection	Main output & 5VSB: Cycling type, Auto-recovery Fan output: Recovery only after removal of short and load. See note 5 above
Overvoltage Protection	OVP latch, See chart for trip ranges 5V standby output (latch), See chart for trip range

### ENVIRONMENT

Operating Temperature	-10°C to 70°C. Starts up- 40°C. The unit will meet all published specifications after a warm-up period
Temperature Derating	Derate output power linearly above 50°C to 50% at 70°C
Storage Temperature	-40°C to +85°C
Altitude	Operating: Up to 5,000m (derating may be required above 3,000m, consult factory) Non-operating: -500 to 40,000 ft
Relative Humidity	5% to 95%, Non-condensing
Vibration	Operating: 0.003g/Hz, 1.5grms overall, 3 axes, 10 min/axis Non-operating: 0.026g <sup>2</sup> /Hz, 5.0grms overall, 3 axes, 1 hr/axis
Dimensions	W: 3.3" x L: 6.2" x H: 1.62" W: 84mm x L: 157.5mm x H: 41mm
Weight	670g

### OUTPUT

Hold-Up Time	Main output: >20ms for 300W @ 120VAC/60 Hz, >16ms for 367W (90% of 408W)@ 120VAC/60Hz 5VSB output: >500ms
Turn On Time (Main Output)	Main output: <1 sec. max @115VAC, rise time 30ms max 5VSB: Turn-on time is 500ms max, Rise time 50ms max Output voltage rise is monotonic
Switching Frequency	75KHz, Typical
Output Power	425W continuous (24V model), with 200 LFM airflow. 408W for 18V, 385W for 12V models 300W convection cooled (280W for 12V model)
Output Voltage	See chart on page 1. Initial setpoint within 0.5% of nominal. Adjustable +/-5% from nominal
Ripple and Noise	0.5%rms, 1% pk-pk, see chart on page 1
Transient Response	50% load step, $\Delta i/\Delta t$ : <0.2A/ $\mu$ S Max voltage deviation = 5% Recover to within 1% of nominal within 500 $\mu$ S
Minimum Load	Not required for main output or 5VSB. 12V fan output requires minimum load of 0.5A on main output in order to be within its regulation band
Common Mode Noise	Line frequency: <2.5Vrms @115VAC, <5Vrms@ 230VAC, 50/60Hz. For high frequency noise and/or test set-up information, consult SL Power
Total Regulation	See chart on page 1

### SAFETY

Safety Standards	EN/CSA/UL/IEC 60601-1, 3 <sup>rd</sup> Edition
Shock	Operating: Half-sine, 20gpk, 10ms, 3 axes, 6 shocks total Non-operating: Half-sine, 40 gpk, 10ms, 3 axes, 6 shocks total

### RELIABILITY

MTBF	3,56,330 hours, per Telcordia 332, Issue 6, 25°C Full rated load (w/airflow) at 110VAC input
E-Cap Life	7 years, based on typical operation of 12 hours/day, 261days/year at 40°C ambient temp

### ISOLATION SPECIFICATIONS

Isolation	Input-Output: 2 MOPP Input-Ground: 1 MOPP Output-Ground: 1,500VDC
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### AUXILIARY SIGNALS

Power Good/Power Fail	Signal is HIGH within 500ms after the main output is within regulation band upon AC turn on. Goes LOW within 4ms before the main DC output drops to <90% of nominal when AC turns off
5V Standby Output	5V @ 2A, +/-5% regulation over all changes in main output load current
Remote Sense	Compensates for up to 0.16V voltage drop. Max deviation of 5% (main output) any 50% step above 5% load
DC OK	Goes HIGH when main DC output is above 90% of nominal voltage and goes LOW when the output is below 90% of rated main output DC voltage
Fan Output	12V@1A (air cooled) or 0.5A (convection), +/-10% regulation for load change of 0.5A to FL on the main output
Inhibit	Logic HIGH or open = ON Logic LOW or short to ground = OFF

### CONNECTOR INFORMATION

Input Connector J101		Main DC Output J302, J303	Fan Output J301	Signal Connector J401
PIN 1) FG PIN 2) NC PIN 3) AC Neutral	PIN 4) NC PIN 5) AC Line	Term 1 – J302: (+V) Term 2 – J303: (-V)	PIN 1) 12V Fan (+) PIN 2) 12V Fan (-)	PIN 1) Remote Sense (+) PIN 2) Common PIN 3) Remote Sense (-) PIN 4) NC PIN 5) Remote Inhibit PIN 6) Power Good PIN 7) +5Vsb Output PIN 8) +5Vsb Output PIN 9) DC OK PIN 10) Common
Mating Connector: Tyco/AMP 640250-5 Pins: 770476-1	Mating Connector: Molex 19141-0058 19141-0063 19141-0083	Mating Connector: Tyco AMP 1375820-2 Pins: 1375819	Mating Connector: Molex 90142-0010 Pins: 90119-2110	

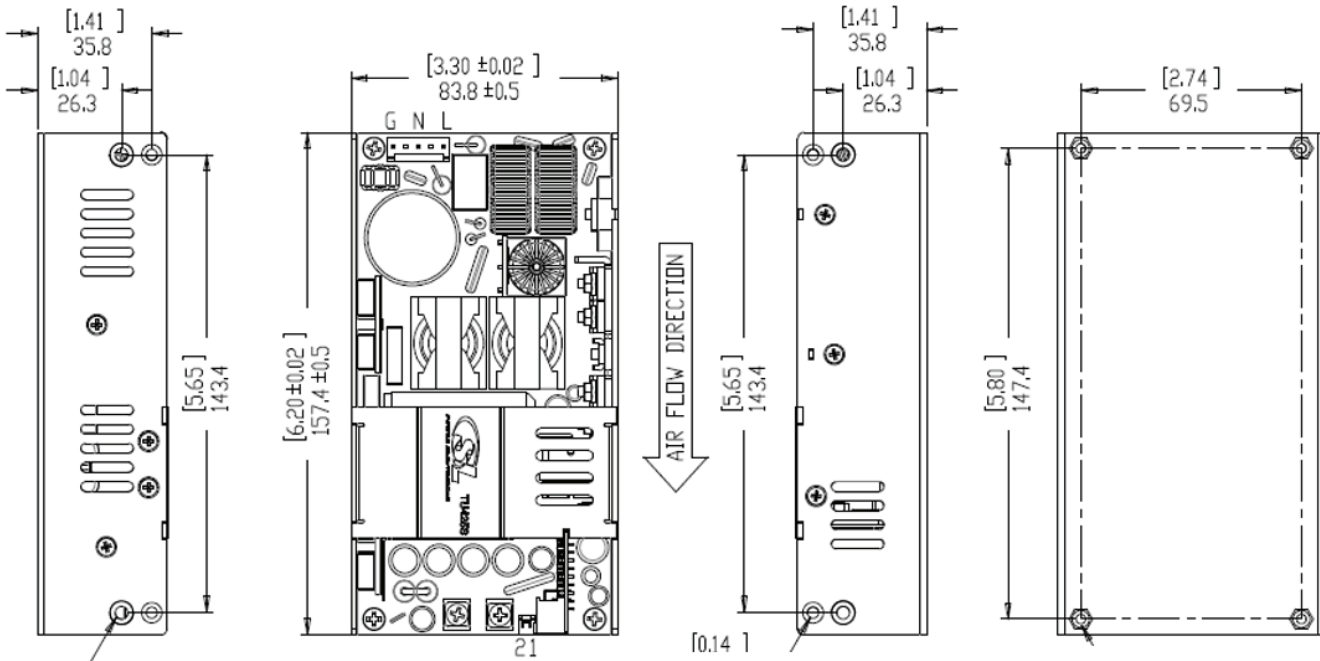
### EMI/EMC COMPLIANCE

Conducted Emissions	EN55011/CISPR22 Class B, FCC Part 15.107, Class B, 6db margin, Typical
Radiated Emissions	EN55022/CISPR22 Class A, FCC Part 15.109, Class A, 3db margin, Typical
Static Discharge Immunity	EN55024/IEC61000-4-2, Level 4, 8kV contact discharge, 15kV air discharge, Criteria A
Radiated RF Immunity	EN55022/IEC61000-4-3, Level 2, 10V/m, 80-2,700 MHz Criteria A
REFT/Burst Immunity	EN55024/IEC61000-4-4, Level 3, 2kV (PS output), 1kV (signal output), Criteria A 100KHz
Line Surge Immunity	EN55024/IEC61000-4-5, Level 3, 1kV diff, 2kV common-mode, Criteria A
Conducted RF Immunity	EN55022/IEC61000-4-6, Level 3, 3Vrms, 0.15-80MHz and 6V@ISM frequency, Criteria A
Power Frequency Magnetic Field Immunity	EN55024/IEC61000-4-8, Level 3, 30A/m, Criteria A
Voltage Dip Immunity	EN55024/IEC61000-4-11, Dips: 100%, 10ms, 8 phase angles ; 100%, 20ms; 30%, 500ms Interruptions: 100%, 5000ms; Performance criteria A, A (300W), A & B
Line Harmonic Emissions	EN55024/IEC61000-3-2, Class A & D at full load
Flicker Test	EN55024/IEC61000-3-3, Section 5; 50Hz



### MECHANICAL DRAWING

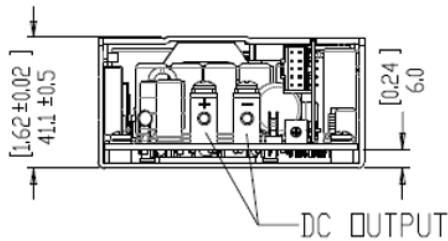
Base Model: MU425SxxE



Screw(M4x0.7) penetration 6.0mm Max  
(two fixed hole on both sides)  
Screw torque 10lbf.in Max

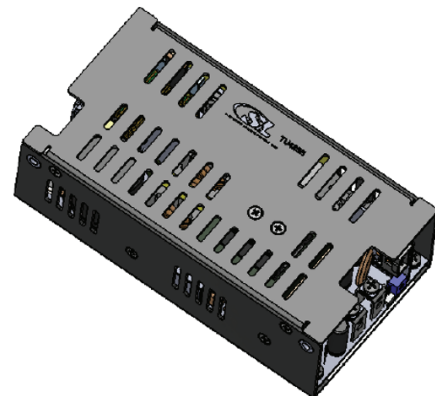
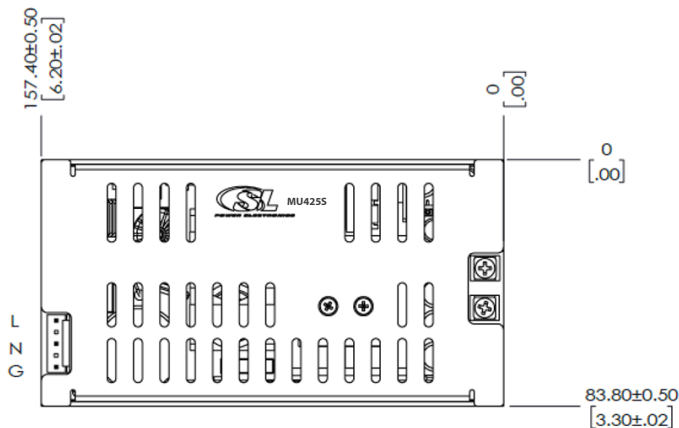
THRU 3.5mm dia., Screw penetration 6.0mm Max  
(two fixed hole on both sides)

Screw(M3x0.5) penetration 2.6mm Max.  
(Bottom four fixed hole)  
Screw torque 5 lbf.in Max



Cover Option: MU425SxxEC

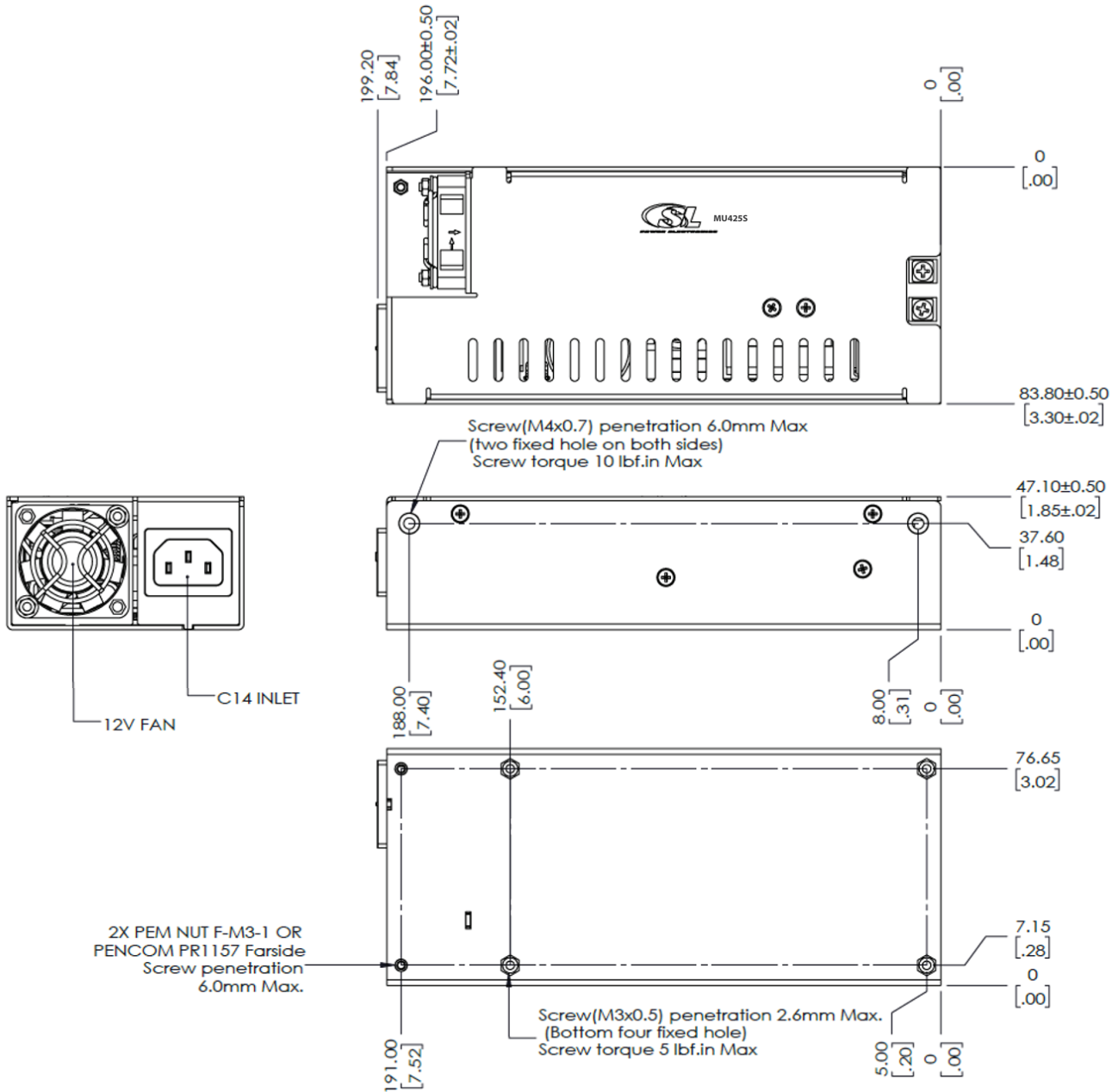
(Top view shown only, other views same as base model above)





### MECHANICAL DRAWING

Fan Cover Option: MU425SxxEF



- Note:**
1. Specifications subject to change without notice.
  2. All dimensions in inches (mm), tolerance is  $\pm 0.02"$  ( $\pm 0.5$ ).
  3. FG is safety ground connection.
  4. Specifications are for convection rating at factory settings at 115 VAC input 25°C unless otherwise stated.
  5. Warranty: 3 years.