

## DESCRIPTION

The PUB200/250/300/400 series of AC-DC switching power supplies are capable of delivering 200-400 watts of continuous power at convection cooling. The units are constructed on a printed circuit board with a metal enclosed format for mechanical support and heat sinking. They are specially designed for industrial applications or scrolling LED marquee display.

## FEATURES

- Single output industrial power supplies
- High efficiency
- 200-400W output at convection cooling
- Compliant with EN55022 and FCC Class B
- Active PFC to meet IEC61000-3-2 Class A and D
- Protection against overvoltage, overcurrent and overtemperature
- RoHS Compliant

## INPUT SPECIFICATIONS

Input voltage:	90-264 VAC
Input frequency:	47-63 Hz
Input current(typ.):	PUB200: 2.7 A/ 115 VAC, 1.35 A/ 230 VAC PUB250: 3.3 A/ 115 VAC, 1.65 A/ 230 VAC PUB300: 3.9 A/ 115 VAC, 1.95 A/ 230 VAC PUB400: 4.9 A/ 115 VAC, 2.45 A/ 230 VAC
Earth leakage current:	0.5 mA max. @ 264 VAC, 63 Hz

## OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart.
Total output power:	See rating chart
Ripple and noise:	See rating chart
Overvoltage protection:	set at 115-145% of its nominal output voltage
Overcurrent protection:	Protected to short-circuit conditions
Temperature coefficient:	All outputs $\pm 0.04\%$ / $^{\circ}\text{C}$ maximum
Transient response:	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 $\mu\text{s}$ after a 25% step load change

## ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-20 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$
Storage temperature:	-20 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
Relative humidity:	5% to 95% non-condensing

## PUB200/250/300/400



CE  
RoHS

## SAFETY STANDARD APPROVAL



UL ES 60950-1, CSA C22.2 No. 60950-1  
File No. E190414



TÜV EN 60950-1

## GENERAL SPECIFICATIONS

Turn-on delay time:	1 second maximum at 100 VAC
Hold-up time:	10 ms minimum at 110 VAC and full load
Line regulation:	$\pm 0.5\%$ maximum at full load
Inrush current:	80 A @ 115 VAC or 160 A @ 230 VAC, at 25 $^{\circ}\text{C}$ cold start
Withstand voltage:	3000 VAC from input to output, 1500 VAC from input to ground, 500 VAC from output to ground
MTBF:	100,000 hours minimum at full load and 25 $^{\circ}\text{C}$ ambient, calculated per MIL-HDBK-217F

## EMC Performance

EN55022:	Class B conducted, class B radiated
FCC:	Class B conducted, class B radiated
VCCI:	Class B conducted, class B radiated
EN61000-3-2:	Harmonic distortion, class A and D
EN61000-3-3:	Line flicker
EN55024	
EN61000-4-2:	ESD, $\pm 8$ KV air and $\pm 4$ KV contact
EN61000-4-3:	Radiated immunity, 3 V/m
EN61000-4-4:	Fast transient/burst, $\pm 1$ KV
EN61000-4-5:	Surge, $\pm 1$ KV diff., $\pm 2$ KV com
EN61000-4-6:	Conducted immunity, 3 Vrms
EN61000-4-8:	Magnetic field immunity, 1 A/m
EN61000-4-11:	Voltage dip immunity, 30% reduction for 500 ms, >95% reduction for 10 ms

## OUTPUT VOLTAGE/CURRENT RATING CHART

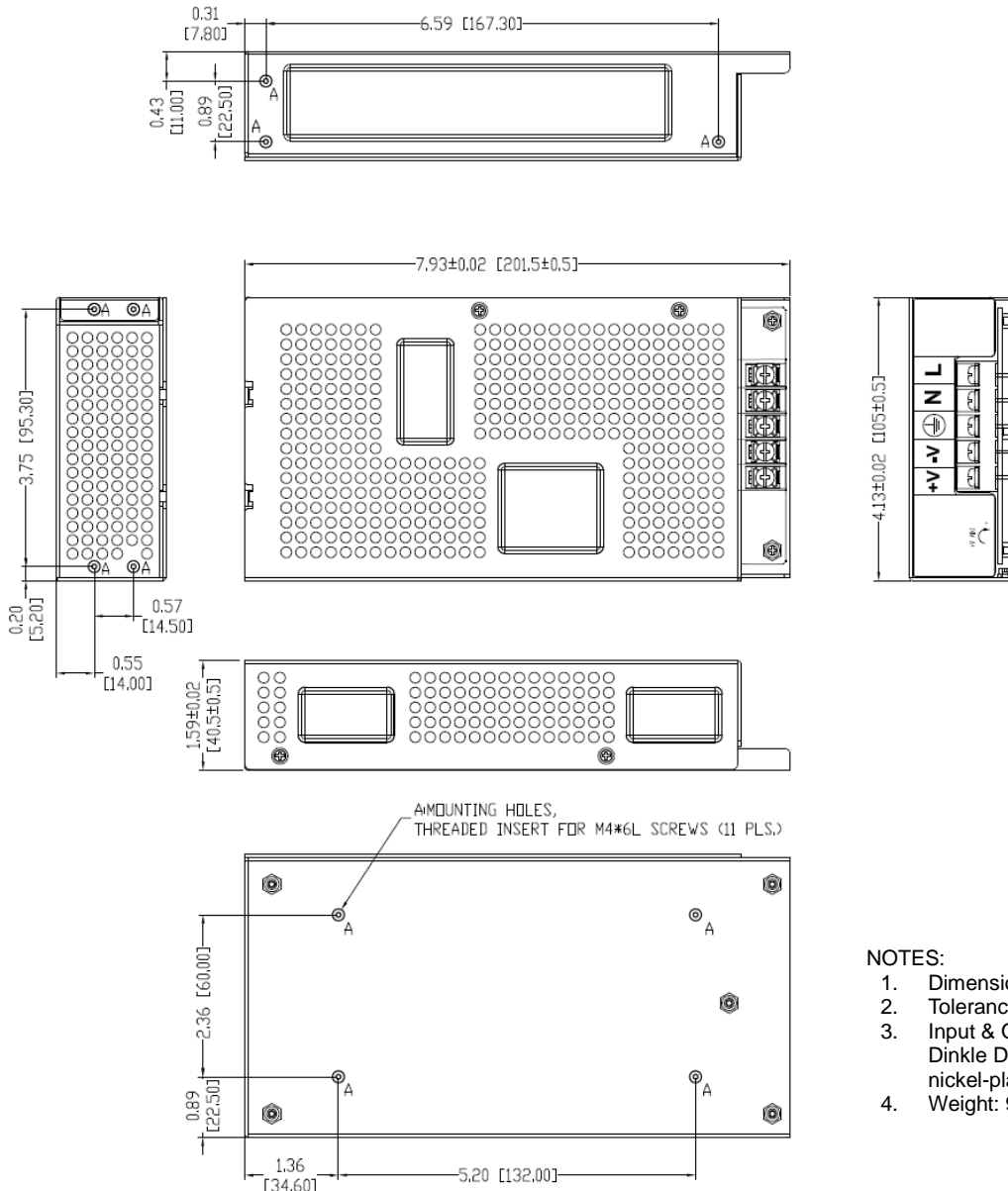
Model	Output						Efficiency (typical) @ 115/230 Vac	Mechanical Specifications (Figure)
	V1	Min. Current	Max. Current	Tol.	Ripple & Noise <sup>(1)</sup>	Max. Power		
PUB200-12	12 V	0 A	16.67 A	±5%	200 mV	200 W	88 /90%	B
PUB200-14	24 V	0 A	8.34 A	±5%	240 mV	200 W	91 /93%	A
PUB200-17	36 V	0 A	5.56 A	±5%	360 mV	200 W	91 /93%	A
PUB200-18	48 V	0 A	4.17 A	±5%	480 mV	200 W	91 /93%	A
PUB250-12	12 V	0 A	20.84 A	±5%	200 mV	250 W	88 /90%	B
PUB250-14	24 V	0 A	10.42 A	±5%	240 mV	250 W	91 /93%	B
PUB300-14	24 V	0 A	12.50 A	±5%	240 mV	300 W	91 /93%	B
PUB400-14	24 V	0 A	16.67 A	±5%	240 mV	400 W	91 /93%	C
PUB400-17	36 V	0 A	11.12 A	±5%	360 mV	400 W	92 /94%	C
PUB400-18	48 V	0 A	8.34 A	±5%	480 mV	400 W	93 /94%	C

### NOTES:

1. Ripple and noise is maximum peak-to-peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 47 µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

## MECHANICAL SPECIFICATIONS

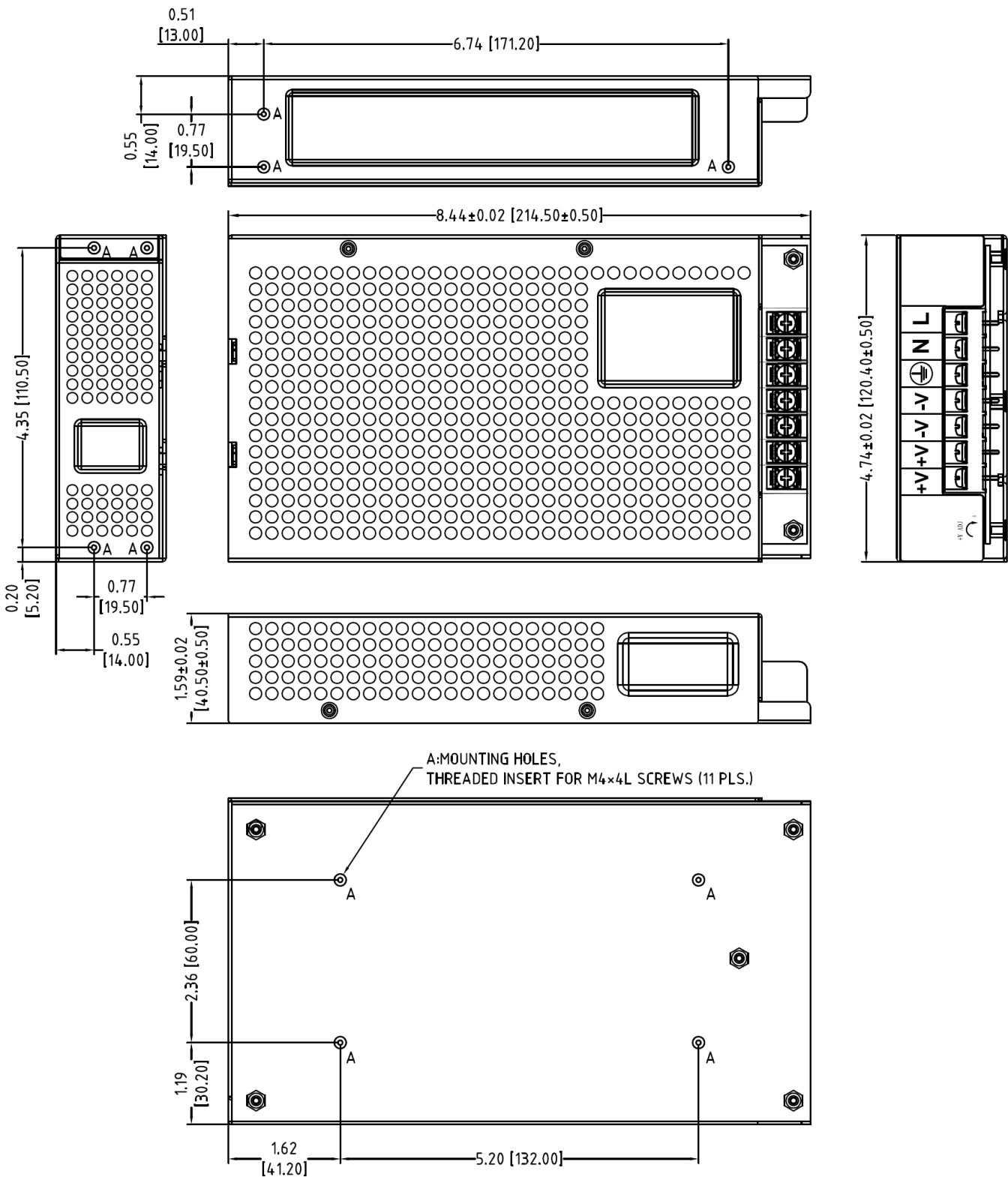
Figure A



### NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input & Output connector (TB101): Dinkle DT-49-B01W-05 with #6-32, nickel-plated screws.
4. Weight: 906 grams (2.0 lbs.) approx.

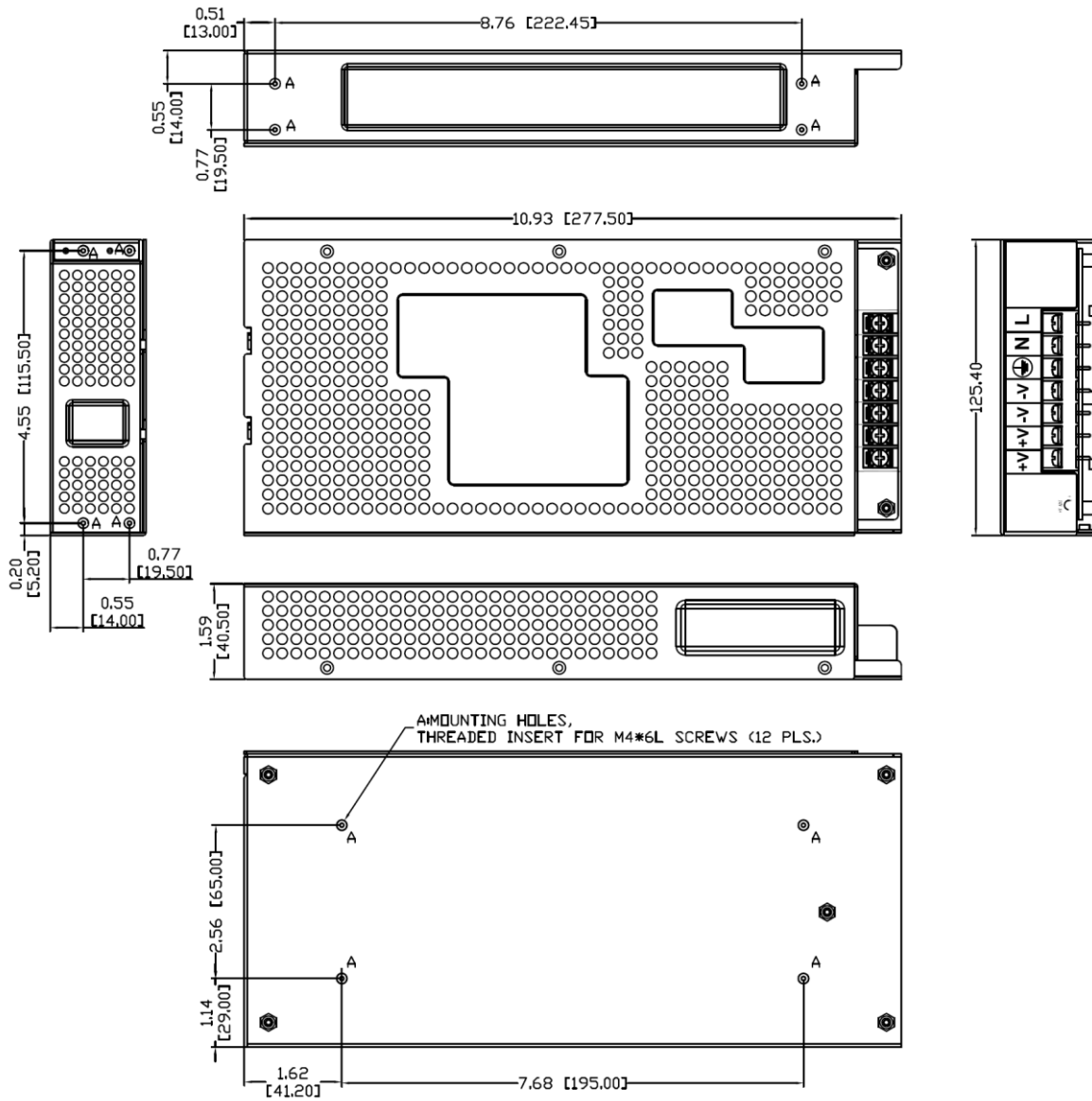
Figure B



NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input & Output connector (TB101): Dinkle DT-49-B01W-07 with #6-32, nickel-plated screws.
4. Weight: 920 grams (2.02 lbs.) approx.

Figure C



**NOTES:**

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input & Output connector (TB101): Dinkle DT-49-B01W-07 with #6-32, nickel-plated screws.
4. Weight: 1.32 Kg (2.9 lbs.) approx.

**PIN CHART**

PIN		1	2	3	4	5	6	7
<b>MODEL</b>								
PUB200-14 PUB200-17 PUB200-18		Live	Neutral	Ground	V1 Return	+V1	N.A.	N.A.
PUB200-12 PUB250-12 PUB250-14 PUB300-14	PUB400-14 PUB400-17 PUB400-18	Live	Neutral	Ground	V1 Return	V1 Return	+V1	+V1