



ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

AC/DC SWITCHING POWER SUPPLY
AC INPUT 170~264V
SINGLE CHANNEL OUTPUT
150 WATTS



ERE-SB-U SERIES

DIMENSION: 48Wx230Lx115H



General Description

"ER"-Series AC/DC Switching power supplies are open frame, low cost with high efficiency. 65 different models are available from low to medium power. A low power modules use a simple RCC circuit while high power supplies employ a forward converter.

Application

Input

Input Voltage:	AC230
Input Voltage Range:	AC170~264V
Input Current:	1.7 A
Frequency:	50/60Hz
Input Frequency Range:	47-440Hz
Phase:	Single
Inrush Current: *1	20A(max.) at AC230V
Leakage Current:	1mA(maximum)at 25°C (rated input/output and rated input frequency)

Features

1. Open Frame
2. Cost Effective
3. High Efficiency
4. No derating without cover and horizontal mounting
5. Input 170-264Vac
6. EMI : complies with FCC/A, FCC/B for ERD & ERE
7. Over voltage protection

Option

Cover(add suffix "-P")
***-P" model dimension is same as "without cover" model

Output Characteristic		Models				
	Unit	ERE05SB	ERE12SB	ERE15SB	ERE24SB	ERE48SB
Output Voltage	Vdc	5	12	15	24	48
Output Current	A	30	14	11	7	3.5
Voltage Adjust Range	V	+/- 10% of Rated Output Voltage(at no load within the input range)				
Ripple Noise(max)*3	mVpp	150	220	250	340	580
Rise up time	mS	500mS(maximum) at 25°C and rated input/output				
Hold up time	mS	20mS(minimum) at 25°C and rated input/output				
Regulation						
a. Line Regulation	mV	40	96	120	192	384
b. Load Regulation	mV	45	108	135	216	432
c. Temperature Coefficient *4	°C	0.03%/°C				
d. Drift(maximum) *5	mV	40	75	90	135	255
e. Dynamic Load Regulation (typ.) *6	mV	150	360	450	720	1440
f. Recovery Time *6	mS	0.3mS(typical)				
Efficiency *2	%	82	84	85	88	89

Conditions:

*1 at cold start

*2 at DC260V input/rated output

*3 measured by a bayonet probe at output connector at 0 to 100MHz bandwidth

*4 at -10 to +50°C/enclosed type: at -10 to 40°C

*5 for 7hour period after 1hour warm-up at 25°C and rated input/output

*6 when output current changed from 25% to 75% of rated output current rapidly at AC200V input

*7 variable on input voltage and load conditions



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Environmental Specification					
Operating Temperature	0 to +50℃[enclosed type:0 to 50℃ at vertical mount/0 to 40℃ at horizontal mount]				
Operating Humidity	85%RH(non-condensing)				
Storage Temperature	-20 to +85℃				
Storage Humidity	85%RH(non-condensing)				
Withstanding Voltage	Primary-Secondary AC1500V for 1minute Primary-Frame Ground AC1500V for 1minute Secondary-Frame Ground AC500V for 1minute				
Isolation Resistance	Primary-Secondary-Frame Ground 50MΩ(minimum) by DC500V insulation tester				
Vibration	5-10Hz:10mm double amplitude,10-55Hz:19.6m/s2,20minutes' period for 60minutes each along X,Y,Z axes(non-operating)				
Shock	294m/s2				
Cooling	Convection				
Environmental Agencies					
Line Conducted Noise	not specified				
Safety					
MTBF [H]	670000				
Switching Frequency[kHz]	145				
Function/Protection					
Over current Protection (≥105% of Rated Output Current[A])	Current Limiting with automatic recovery				
	31.5	14.7	11.55	7.35	3.68
Over voltage Protection (≥115% of Rated Output Voltage[V])	output shutdown(to reset, leave 30seconds after shut-off))				
	5.75	13.8	17.25	27.6	55.2
Remote Sense	available				
Remote On/Off	not available				
Mechanical					
Dimension [mm]	65Wx177Lx92H				
Weight	890g/enclosed type:930g				



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The drawing shows the TSC1000 module from three perspectives: top, side, and front.

- Top View:** Shows the module's footprint with dimensions 190 ± 1 mm (total width) and 177 ± 1 mm (usable width). It features a "Voltage Adj." potentiometer, a "P=10" pitch for the top pins, and "7-M4" mounting holes. The bottom edge has a 25 mm wide section with a 31 mm pitch.
- Side View:** Shows the module's profile with a total height of 80 mm and a width of 92 ± 1 mm. It includes an "LED" indicator and a "Cover" with a height of 63 mm. The bottom pins are spaced at 25 mm and 31 mm.
- Front View:** Shows the pin headers with dimensions 100 ± 0.5 mm and 56 mm. It includes three "M4 Mounting Holes (3places)" with a maximum penetration of 5mm. The pin pitch is 2.5 ± 0.5 mm, and the total height of the pin area is 56 mm. The distance from the top edge to the first pin is 26 mm, and the distance from the bottom edge to the last pin is 39.5 mm.

Pin assignments:

- +S
- +Vout
- Vout
- S
- FG
- ACin (N)
- ACin (L)