



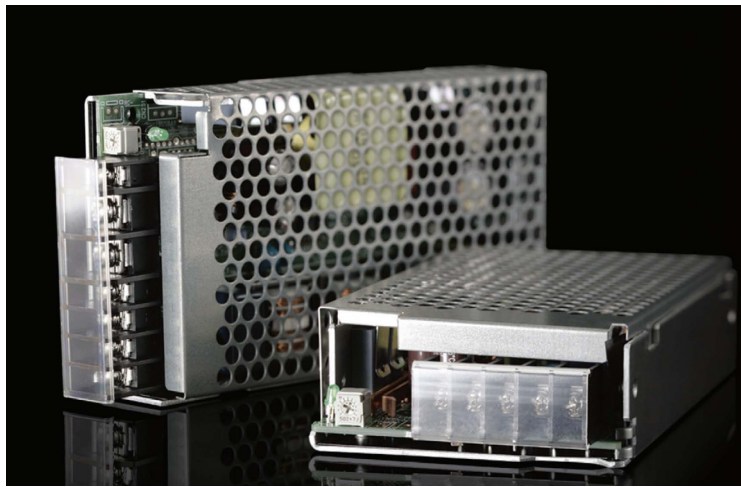
# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

AC/DC SWITCHING POWER SUPPLY  
SINGLE CHANNEL OUTPUT  
100 WATTS  
UNIVERSAL INPUT

### ESS100 SERIES

#### General Description



#### Features

1. Smaller than competitors by 15-20%
2. Operating temp shows full load at 50° C (122° F), can operate at temperatures up to 71°C
3. Five-year guarantee
4. Over-current protection
5. Over-voltage protection
6. Remote Sensing (sense line) available
7. Can meet medical and appliance standards
8. Low leakage < 500µA

#### Options

- Remote Control optional
- Remote sensing available
- DIN Rail available
- “-J” Molex connector option (except 3.3V/5V )

#### Application

Broad needs

#### Input

**Input Voltage:** AC100~240V  
**Input Voltage Range:** AC85~264V (DC110~350V)

**Frequency:** 50/60Hz  
**Frequency Range:** 47~440Hz  
**Phase:** Single  
**Inrush Current: \*1** 14A at 100V; 28A at 200V



ETA USA  
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Output Characteristic	Unit	Models						
		ESS100-3.3	ESS100-05	ESS100-12	ESS100-15	ESS100-24	ESS100-36	ESS100-48
Output Voltage	vdc	3.3	5.0	12	15	24	36	48
Output Current	A	20	20	8.5	7	4.5	2.8	2.1
Ripple & Noise(max)	mVpp	120	120	150	150	150	250	250
Voltage adjust range	v	2.97~3.63	4.50~5.50	10.8~13.2	13.5~16.5	21.6~26.4	32.4~39.6	43.2~52.8
Rise time	mS	30 mS Typ.						
Hold up time	mS	30mS max						
<b>Regulation</b>								
a. Line Regulation [max]	mV	20	20	48	60	96	144	192
b. Load Regulation	mV	40	40	100	120	150	240	240
c. Temperature Coefficient	0 to 50°C	50	50	120	150	240	360	480
	-10 to 0°C	60	60	150	180	290	450	600
d. Drift(maximum)	mV	20	20	48	60	96	144	192
<b>Efficiency *1</b>	<b>%</b>	<b>At AC100V 79%-87%</b> <b>At AC 200V 82%-89%</b>						
<b>Power Factor *1</b>		<b>0.89-0.99</b>						

Note: If you would like to buy a wire harness with this power supply, you may either order the wire harness through Molex or directly through ETA-USA. Please observe the following table:

ETA POWER SUPPLY	INPUT HOUSING -MOLEX	OUTPUT HOUSING -MOLEX	TERMINAL	ETA WIRE HARNESS # ; input/output
ESS100-3.3J				
ESS100-05J				
ESS100-12J				
ESS100-15J	0010-63-3044- (5199-0)	0009-50-1063-(5196-06)	5194PBT(L)	WH-ESS100-J; 40cm WIRE HARNESS
ESS100-24J				
ESS100-36J				
ESS100-48J				



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Environmental Specification	
Operating Temperature*3	-10 to +71 °C
Operating Humidity	20~90% RH
Storage Temperature	-30 to +85 °C
Storage Humidity	10~95% RH [non-condensing]
Withstanding Voltage	Primary-Secondary AC3,000V for 1minute Primary-Frame Ground AC2,500V for 1minute Secondary-Frame Ground AC1,000V for 1minute *Sensory Current: Secondary Frame Ground (20 [mA])/Others (10 [mA])
Isolation Resistance	Primary-Secondary-Frame Ground 100MΩ(minimum) by DC500V insulation tester
Vibration	5~10Hz:10mm double amplitude,10-55Hz:19.6m/s <sup>2</sup> ,30 minute cycle each along X,Y,Z axes(non-operating)
Shock	196 m/s <sup>2</sup> on x,y,z axis
Cooling	Convection
Leakage current	500μA
MTBF	>190,000 hours
Environmental Agencies	
Line Conducted Noise [EMI]	Built to meet FCC part 15 class B, VCCI-B, CISPR22-B, EN55022-B
Line Harmonic Distortion/Current	IEC61000-3-2 Compliant
Safety	UL60950-1 1st ed., CAN/CSA C22.2 No.60950-1-03 Approved UL508 17th ed. , CAN/CSA C22.2 No.107.1-01 Approved EN60950-1:2001+A11:2004 Approved CE Marking : EN60950-1:2001+A11:2004 (LVD) Declared
Function/Protection	
Over current Protection	Operate at 105% min of rated current, automatic return
Over voltage Protection	Input reentry at shutdown
Remote Sense	Available
Remote Control	Applicable by Option(External signal input is required)
Series Operation	Available
Parallel Operation	Not Available (N+1 Operation is Applicable by Diode-OR)
Driving Indicator	Power Source on LED indication; Green
Mechanical	
Dimension [mm]	33 W × 146.5 L × 81.5H
Weight [g] (typical)	420

Conditions:

\*1 Rated input and Rated output

\*2 at Output current quick change 25% to 75%

\*3 At 100% load (convection cooling)



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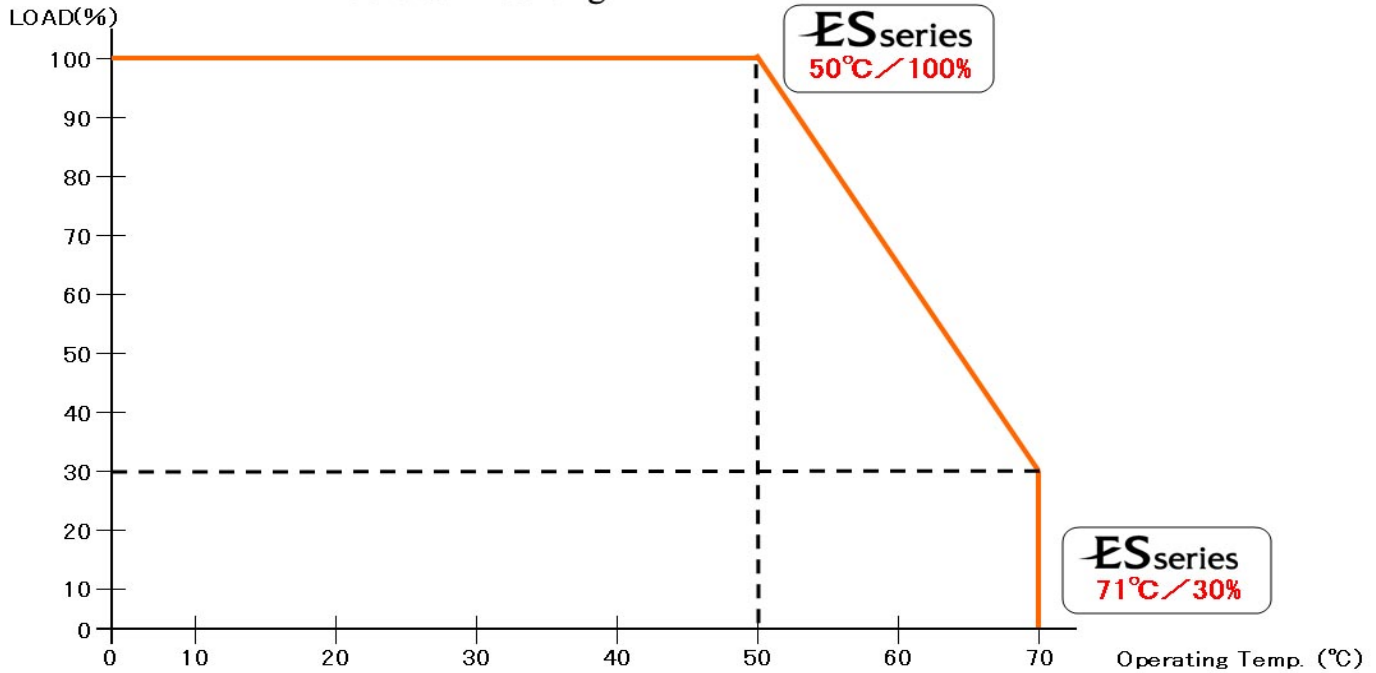


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HIGH QUALITY SWITCHING POWER SUPPLIES

## Derating Curves

Vertical Mounting



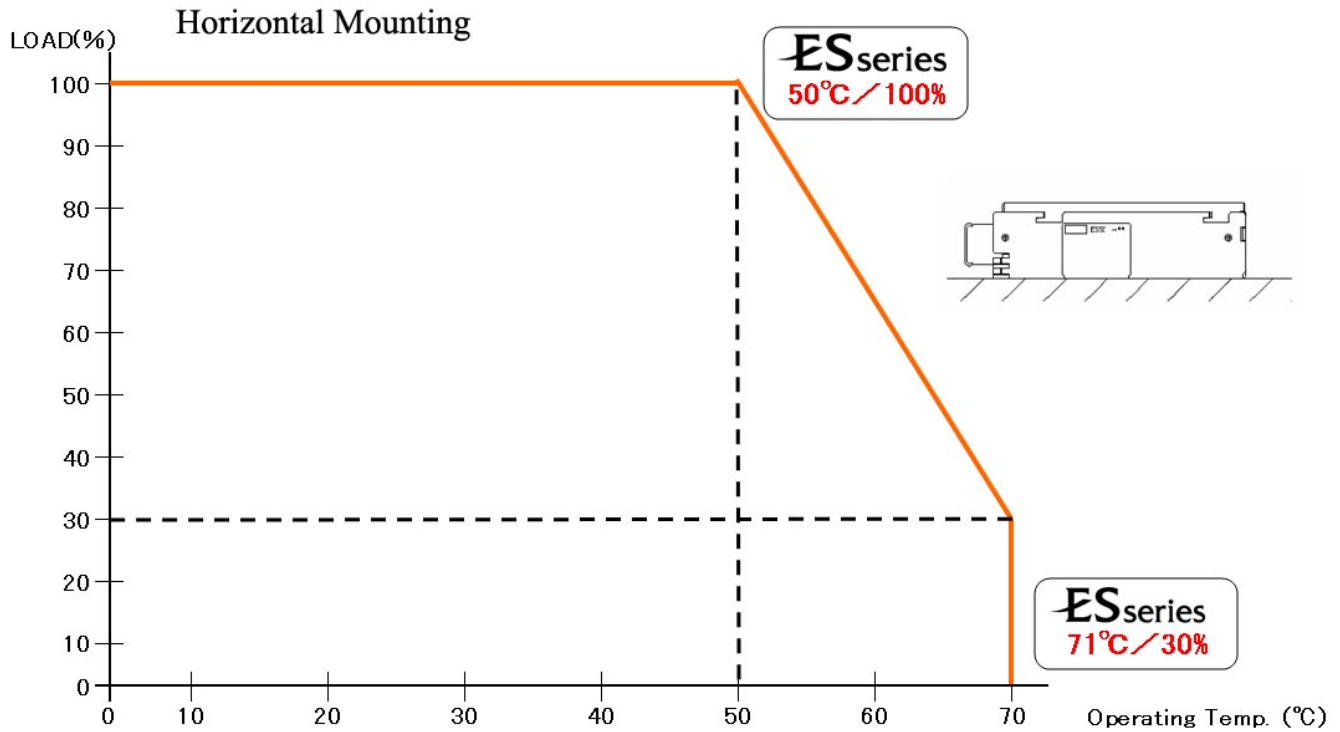
Horizontal Mounting 3.3 and 5V



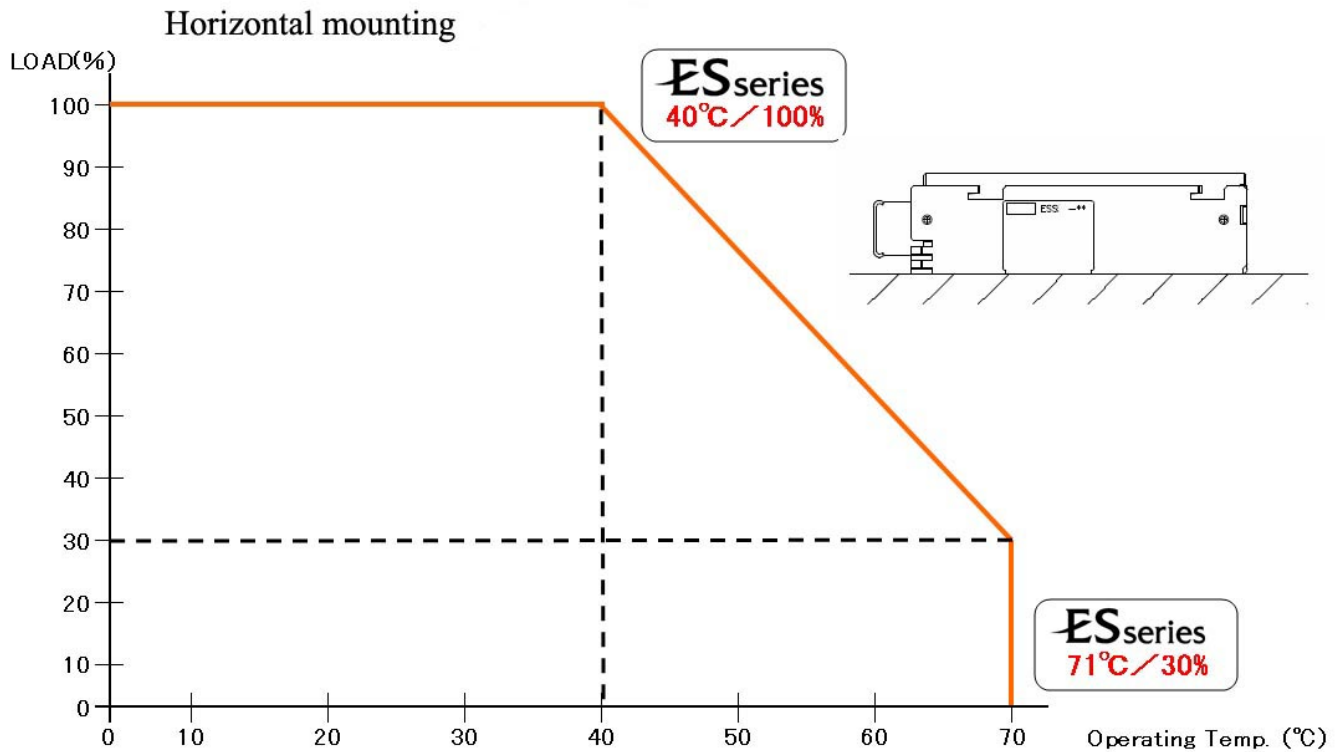


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## HIGH QUALITY SWITCHING POWER SUPPLIES



### Horizontal Mounting 12 to 48V



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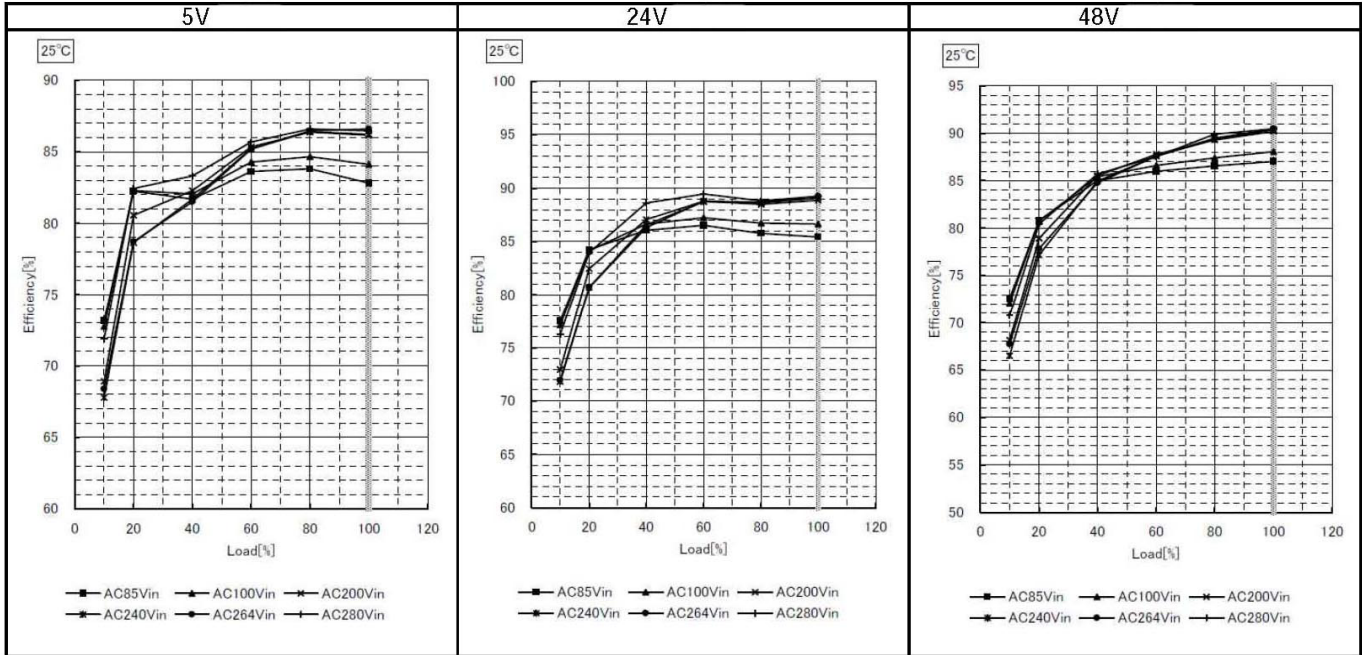


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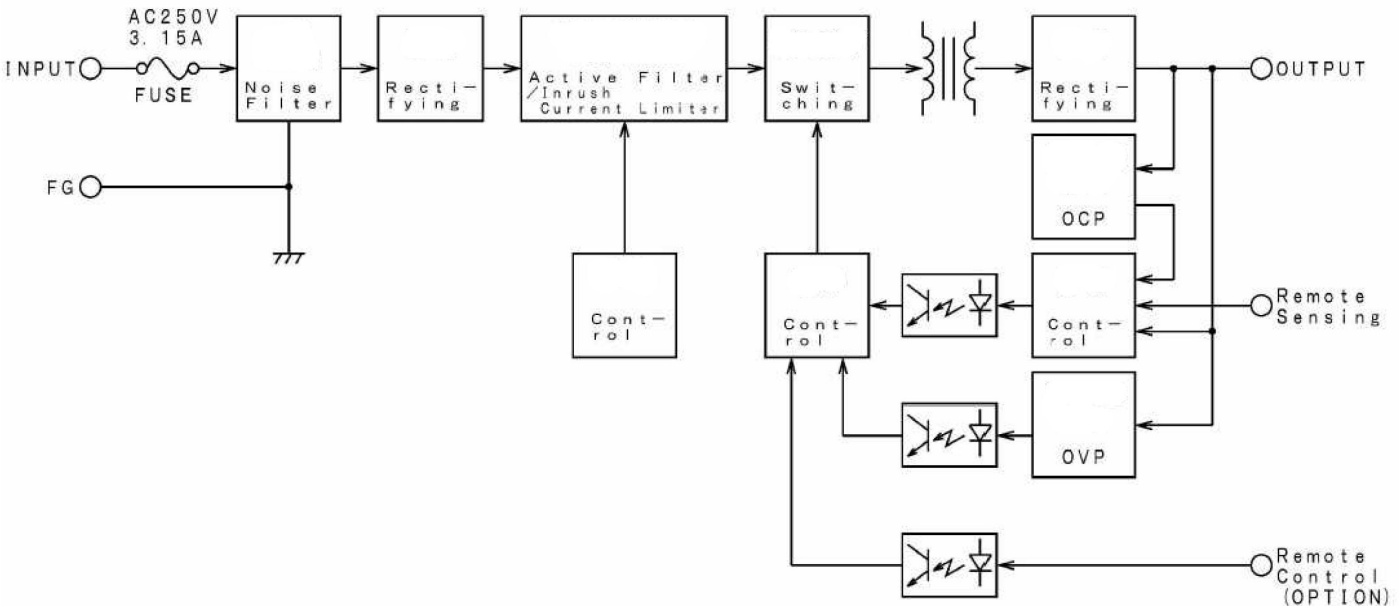
## HIGH QUALITY SWITCHING POWER SUPPLIES

### Efficiency Curves

■ ESS100-\*\*



### Block Diagram



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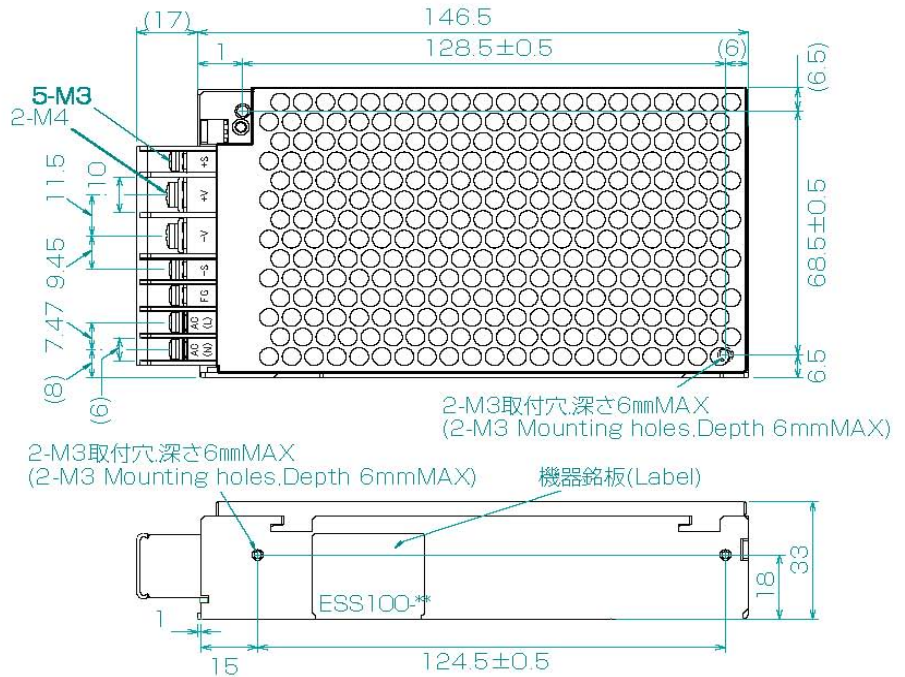
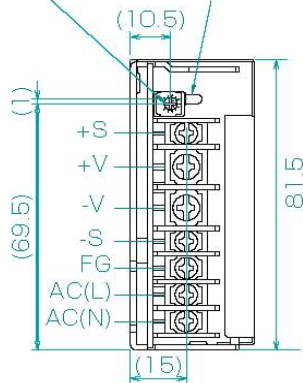
HIGH QUALITY SWITCHING POWER SUPPLIES

## Mechanical Drawings

ESS100

出力電圧設定VR  
(Output voltage trimmer)

出力電圧確認LED  
(Output voltage confirmation LED)



## Mechanical Drawing with “-J” connector



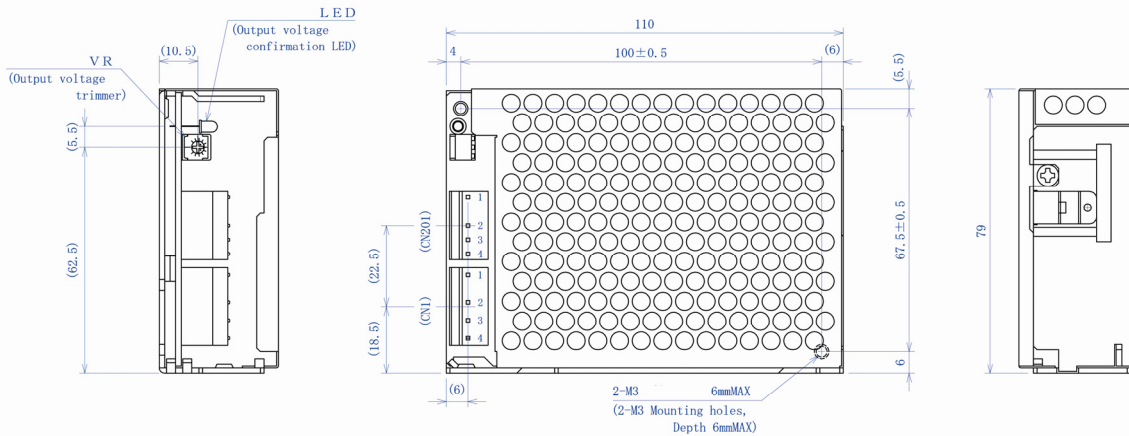
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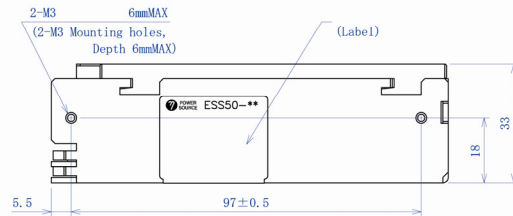


(Acceptable connector)

	(Socket housing)	(Terminal pins)	(Manufacturer)
CN1	5199-04	5194	MOLEX
CN201	5196-04	5194	MOLEX

(Function)

No.	CN1	No.	CN201
1	F G	1	+Vout
2	ACin(L)	2	+Vout
3	N. C	3	-Vout
4	ACin(N)	4	-Vout



- Unit:mm
- General tolerance
- Mass 260g max.
- (Chassis tightening torque)<math>0.49N\cdot m</math><math><5kgf\cdot cm>

