

## SmartPower™

The EZ SmartPower is a DC switching power supply with 24V output Voltage. This user friendly power supply has two 7-segment LED displays for voltage and current monitoring. This DC power supply is ideal for industrial applications.

- Compact, DIN Rail Mount Power Supplies with LED Display
- Instant read-out of: Output Voltages and Current
- Power supplies available in 30W, 60W, 90W, 120W and 240W models
- Voltage adjustable between 23-27V for 30W, 60W, and 90W units or adjustable between 23-24.5V for 120W and 240W units



## Specifications

Model	AC-Input Voltage		Typical Input current at full load		Max. Output Power	Output Volt/Current	Output Voltage Range
	@115VAC	@230VAC	@115VAC	@230VAC			
30 W unit	Universal Input 85 to 264 VAC 47-63 Hz		0.65A	0.35A	30 Watt	24VDC / 1.25A	23-24.5 Volts
60 W unit			1.15A	0.65A	60 Watt	24VDC / 2.5A	
90W unit			1.55A	0.85A	90 Watt	24VDC / 3.75A	
120W unit	Input 90-135VAC 50-60 Hz	Input 180-270VAC 50-60 Hz	1.84A	1.0A	120 Watt	24VDC / 5.0A	23-24.5 Volts
240W unit	Input 100-135VAC 50-60 Hz	Input 200-270VAC 50-60 Hz	3.5A	1.8A	240 Watt	24VDC / 10.0A	

**Output regulation:** 1% with < 100 mV ripple

**Programmable Current Limit:** 20% - 100% of Full Load with automatic recovery upon short-circuit

**CL Output:** Current-within-Limit Output, PNP transistor, 24VDC @100 mA. When output current is within user programed limit, output is on(24VDC @ 100mA); Otherwise output is off (≈0VDC)

**Protection:** Short-circuit, overvoltage and over-temperature protection

**Recommended circuit breaker:** C-Curve /Slo-blo fuse 5A

**Size (30W, 60W, 90W units):** 3.1" H x 2" W x 4.6" Deep

**(120W and 240W units):** 3.1" H x 2" W x 5.5" Deep

**Shock:** 10G for under 12ms in the X,Y, and Z axis

**Vibrations:** 5 to 55Hz 2G's for 2 hours in X,Y, and Z axis

**Operating Temperature (30W, 60W, 90W units):** -25°C to 60°C (-13°F to 140°F). Above 60°C(140°F): 2.5% /°C derating up to 70°C (185°F)

**(120W, 240W units):** -25°C to 50°C (-13°F to 122°F). Above 50°C(122°F): 2.5% /°C derating up to 70°C (185°F)

**Storage Temperature:** -25°C to + 85°C max (-13°F to 185°F)

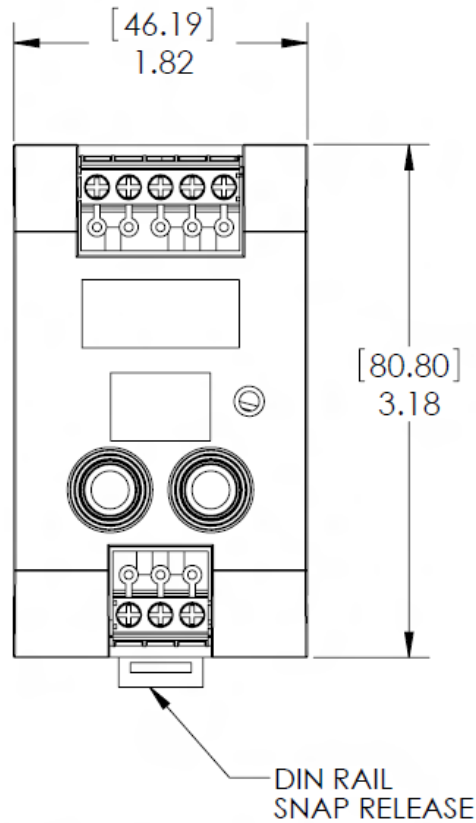
**Regulatory Agency Approvals:** Pending

# Mounting

SmartPower power supplies are mounted on a DIN 3 type of rail (EN 50022-35x7.5 OR EN 50022-35x15). While mounting the supply, please ensure that there is a 3" free space all around the supply for unobstructed flow of air.

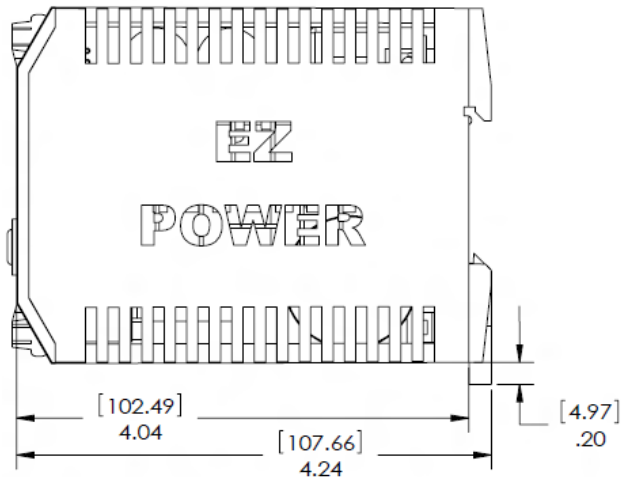
## Mounting Dimensions: 30W, 60W, 90W units

Front View



Units: inches [mm]

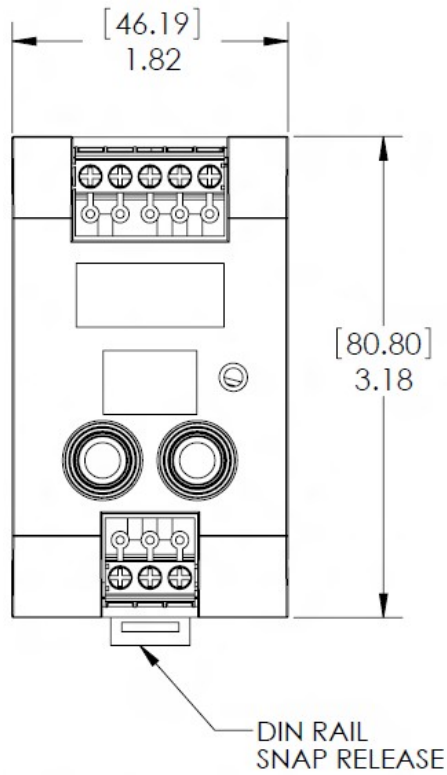
Side View



Units: inches [mm]

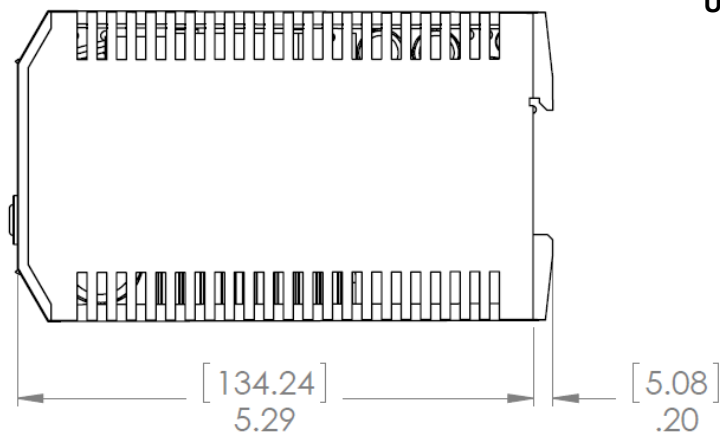
## Mounting Dimensions: 120W and 240W units

### Front View



Units: inches [mm]

### Side View

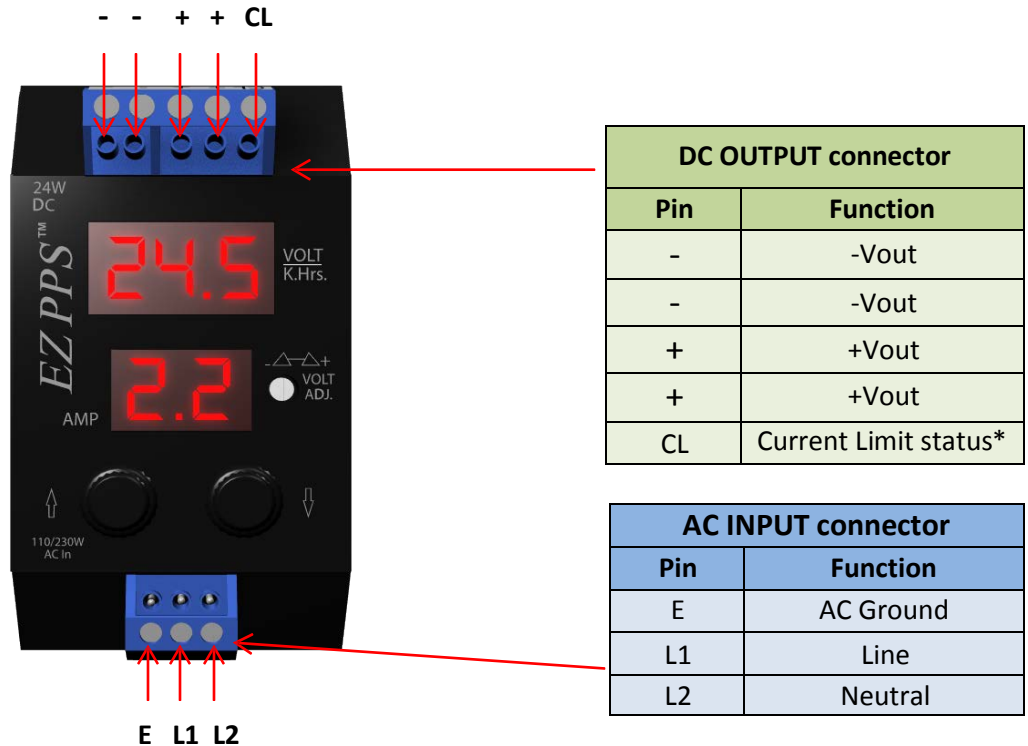


Units: inches [mm]

# Wiring

Take necessary precautions while working with the AC wiring.  
Use local electric code while wiring the power supply.

The Input and Output connectors on the SmartPower should be wired as follows:

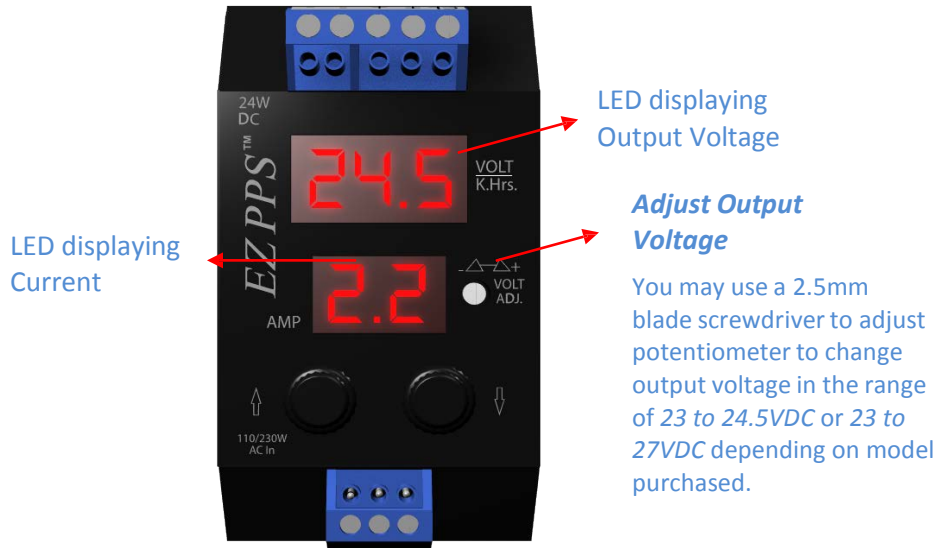


**\*CL Output:** Current-within-Limit output is a PNP transistor output capable of sourcing 100 mA at 24 VDC. The output is ON (24VDC nominal) when output current is less than programmed limit, the output is off otherwise.

# User Interface

## Normal Display

The power supply interface provides two displays and two keys for user interaction. Normally, the upper 3-digit display shows voltage, and the lower 2-digit display shows load current in Amperes, as shown below:



## Output Voltage Adjustment

The unit allows output voltage adjustment from 23 to 24.5VDC or 23 to 27VDC depending on model purchased. Use a 2.5mm screwdriver to change potentiometer to adjust the voltage.

## Displaying SmartPower Information

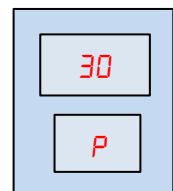
Pressing either of the left or right Push buttons displays SmartPower information. The displays automatically scroll through the parameters and their values and then the unit returns to its normal display of Voltage and Current.

SmartPower information displayed is as follows:

### a. Max Output Power (P)

The first information displayed is the maximum power the unit can provide.

Upper Display	Max Power
30	30W
60	60W
90	90W
120	120W
240	240W

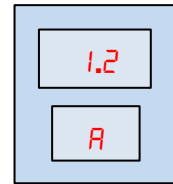


**b. Peak Current Value Recorded (A)**

This is the overall Peak (maximum) Current recorded since the Power Supply unit has been in operation (or since the last reset of this value). The upper LED displays the current value.

**Reset Peak Value**

While the value peak value is being displayed, press right Button to reset the value to 0.



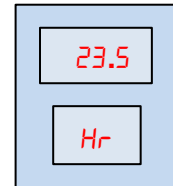
**c. Completed Hours of operation (Hr)**

This parameter represents the total number of operation hours of the unit, i.e. the number of hours the Power Supply has been ON. Please note that time is displayed in thousands of hours. Examples:

03.2 represents  $3.2 * 1000 = 3200$  Hours

00.1 represents  $0.1 * 1000 = 100$  Hours

**Note:** For the initial 99 hours, the unit will display "0.0" on the LED.

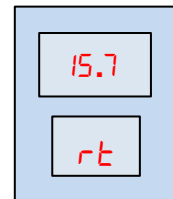


**d. Remaining Hours of operation (rt)**

The display shows the remaining hours of the unit's expected life. The computation is based on estimated 5 years 24x7 operation of the unit. The unit may last longer than the estimated life. Please note that time is displayed in thousands of hours. Eg:

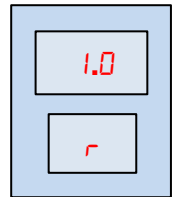
01.5 represents  $1.5 * 1000 = 1500$  Hours

00.1 represents  $0.1 * 1000 = 100$  Hours



**e. Firmware Revision Number (r)**

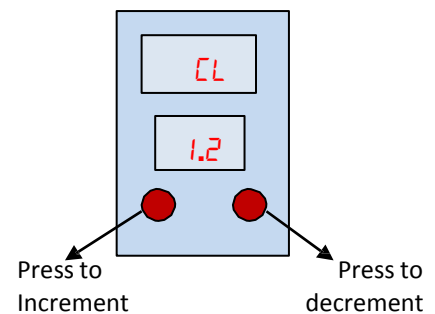
The version number of the firmware installed on the Power Supply is displayed here. Eg: 1.0



## Current Limit Programming mode

Current limit controls the **CL** output on the top connector of the unit. The CL output is a PNP transistor output capable of sourcing **100mA** at **24VDC**. The transistor is **ON** when the load current is below the Current Limit. Transistor is **OFF** when load current exceeds the programmed current limit.

To program or edit current limit, **press both buttons simultaneously once**. The unit would switch the display from normal to Current Limit Programming mode (the unit continues to provide power output). The upper display would show **CL** and the lower LED display shows existing Current Limit value for the unit. Pressing the left button increases the value while pressing the right button decreases the value of Current Limit.



Press both buttons together to save the changes. The unit returns to its normal display after saving the new current limit.

If no keys are pressed for more than 5 sec., the unit will discard the changes and go back to normal display.

**Note: The Current Limit value would be less than or equal to the max current a model can supply.**

Power Supply Model	Max Current
30W	1.2 A
60W	2.5A
90W	3.75A
120W	5.0 A
240W	10.0 A

## How to Order:

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<b>EZPPS-30W</b>	30 Watt Model	
<b>EZPPS-60W</b>	60 Watt Model	
<b>EZPPS-90W</b>	90 Watt Model	
<b>EZPPS-110-120W</b>	120 Watt Model	115VAC
<b>EZPPS-230-120W</b>	120 Watt Model	230VAC
<b>EZPPS-110-240W</b>	240 Watt Model	115VAC
<b>EZPPS-230-240W</b>	240 Watt Model	230VAC