

Electric load "PLZ-W" provides various applications such as variable resistor  $10\text{m}\Omega \sim 1\text{K}\Omega$  or static load, dynamic load or high performance constant current source. (\* 150W, 300W only, 700W is  $100\Omega$  max.)

- Current, resistance, and power pre-set
- Digital and level display for input power
- Switching applications for power supply testing
- Automatic reset type protection circuitry
- Constant Voltage mode is also provided
- Remotely controllable (resistance, voltage, current, load on-off)

**CURRENT MONITOR TERMINAL**  
10mV/A (150W, 300W)  
5mV/A (700W)

**AMMETER (3-1/2 Autorange)**  
Indicates load current and resistance

**POWER INDICATOR**  
Indicates input load power

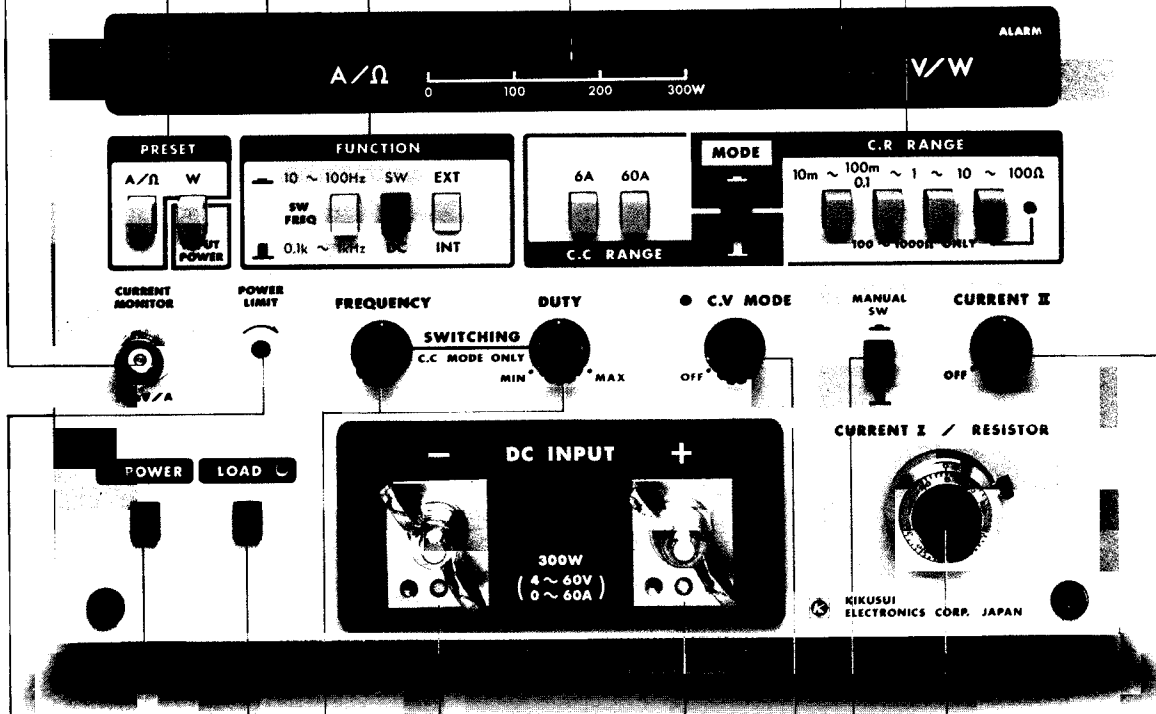
**VOLTMETER (3-1/2 Autorange)**  
Indicates load voltage, input load power

③ **PRE-SET SWITCH**

① **FUNCTION SWITCH**

**MODE AND RANGE SWITCH**

**MODEL PLZ 300W ELECTRONIC LOAD**



**POWER SWITCH**

**INPUT TERMINALS**  
DC4-60V  
0-30A (150W)  
0-60A (300W)  
0-140A (700W)

⑤ **CONSTANT VOLTAGE MODE SWITCH AND VOLTAGE SETTING KNOB**

**CURRENT (II) SETTING KNOB**  
5-turn helical potentiometer

② **POWER LIMITING**

① **LOAD SWITCH**

**MANUAL SWITCH**  
Select the current (I) setting or current (II) setting manually

**CURRENT, RESISTANCE SETTING KNOB**  
10-turn helical potentiometer (lockable)

**FREQUENCY DUTY CYCLE CONTROL**  
Frequency is constant when duty is changed

### 1 LOAD

- A front panel switch allows quick disconnecting of the load without turning the PLZ-W off. This switch may turn off when the protection circuit is tripped, but may turn on automatically after the solution is made.
- Remote control is possible by an external contact signal.

### 2 POWER LIMIT

- Power limit can be set from approx. 10%~100%.
- Power indicator will display the limit value when the pre-set W switch is pressed.

### 3 PRE-SET

- Current setting at Constant Current mode (C.C.) or resistance setting at Constant Resistance mode (C.R.) may be indicated on the Ammeter when A/ $\Omega$  switch is pressed.
- Voltmeter may indicate the input power (W) and

power indicator may indicate the setting of the power limit when W (input power) switch is pressed.

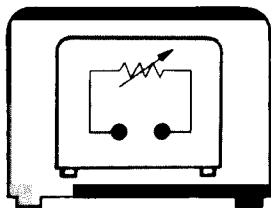
### 4 FUNCTION

- Select the function
  - Constant Current switching mode (SW)
  - DC operation mode (DC)
  - Manual operation mode (INT)
  - External Current Control mode (EXT)

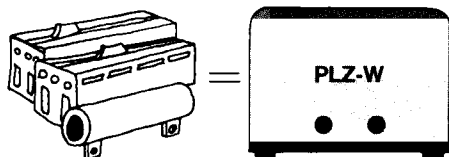
### 5 C.V. MODE

- Constant Voltage level can be set by Constant Voltage mode switch and voltage setting knob (voltage: 4~60V). Refer to 4: Constant Voltage mode.
- Yellow LED may turn on when in Constant Voltage mode.
- Remote sensing is possible.

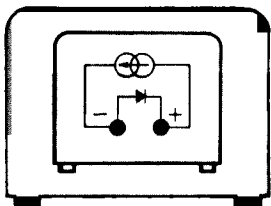
## ELECTRONIC LOAD "PLZ" FUNCTIONAL DESCRIPTION



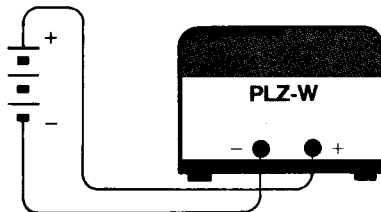
### 1. As a resistor (Resistance mode)



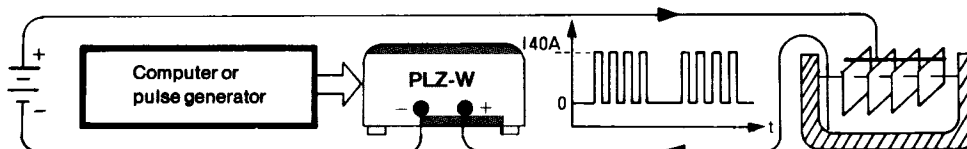
Can be used as a variable power resistor of 150 W, 300 W, or 700 W, depending on the model. Resistance range is 10m $\Omega$  to 1k $\Omega$ . Resistance can be set prior to connecting load. Load switch on the front panel for ease of operation. Remote controllable by external resistance.

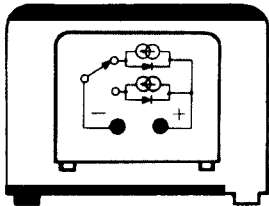


### 2. As a constant current load (Constant Current mode)



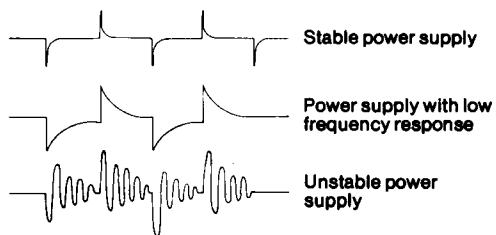
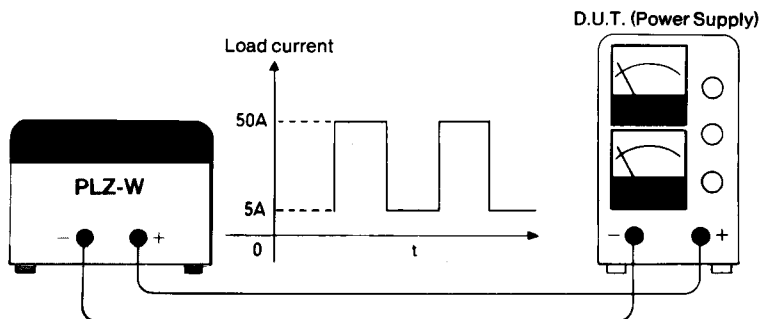
Sinks current up to 140A (depending on model) without regard to voltage (within rated output voltage). Suitable for discharge of batteries or testing power supplies (refer to figure at left). Remotely controllable by external resistor or voltage. One example is shown below. A PLZ combined with a DC power supply comprises a system for electroplating. Rise and fall times of 60A/100  $\mu$ sec are suitable for this application.



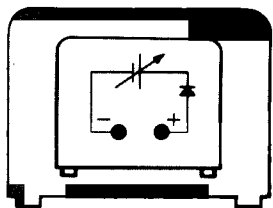


### 3. Dynamic load for power supply testing

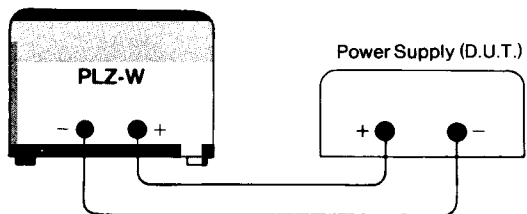
Dynamic tests can be made with the built in oscillator (10 Hz ~ 1 kHz) by switching the two different levels of current. This test may be used to test the transient response of the DC power supplies. An example is shown below.



Power Supply (D.U.T.) Output Terminal Wave form

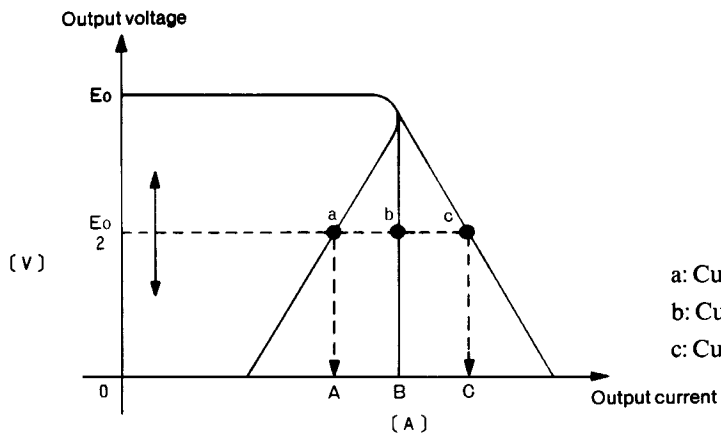


### 4. Testing the current power sources with the Constant Voltage mode



Together with a series resistor this unit can be used as a constant voltage source that is able to sink current. Remote control is available with an external voltage input.

Characteristics of current limit

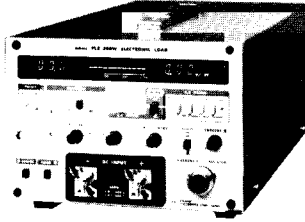


- a: Current limit . . . foldback type
- b: Current limit . . . Constant current type
- c: Current limit . . .

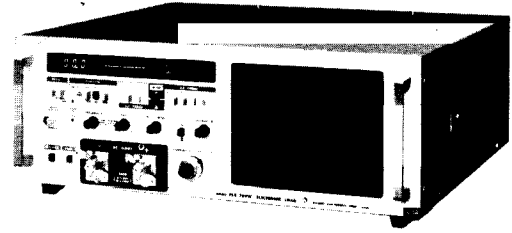
# SPECIFICATIONS



PLZ150W



PLZ300W



PLZ700W

## PLZ-W SERIES

MODEL	INPUT LOAD RANGE			CONSTANT CURRENT MODE				CONSTANT RESISTANCE MODE		CONSTANT VOLTAGE MODE
	VOLTAGE	CURRENT	POWER	RANGE	RIPPLE & NOISE	RISE & FALL TIME	TEMP. CO-EFFICIENT	RANGE	TEMP. COEFFICIENT	VARIABLE RANGE
PLZ150W	DC4~60V	0~30A	150W	3/30A	4mA rms	30A/100μs	0.02%/°C	0.1/1/10/100Ω (1 kΩ)	0.03%/°C	4~60V
PLZ300W		0~60A	300W	6/60A	5mA rms	60A/100μs		0.1/1/10/100Ω (1 kΩ)		
PLZ700W		0~140A	700W	14/140A	10mA rms	140A/200μs		0.1/1/10/100Ω		

MODEL	AC INPUT	POWER CONSUMPTION	WEIGHT	DIMENSIONS
PLZ150W	AC120V±10%	APPROX. 35VA	APPROX. 8 kg	220W × 165H × 415D
PLZ300W			APPROX. 10 kg	220W × 165H × 455D
PLZ700W		APPROX. 65VA	APPROX. 17 kg	450W × 170H × 470D

## Common Specifications

<p><b>Input Terminal Indicator</b></p> <p>On front and rear panel          Display maximum 1999          Current indicator accuracy          ±(0.5% of reading + 0.1% of F.S. + 1 digit)          Voltage indicator accuracy          ±(0.1% of reading + 0.1% of F.S. + 1 digit)          Power indicator accuracy          ±(3% of F.S. + 1 digit) at over 5V, 5A</p> <p><b>Oscillator Frequency</b></p> <p>10~100 Hz/0.1~1 kHz Two ranges</p>	<p><b>Duty Ratio</b></p> <p>20%~80% adjustable</p> <p><b>Ambient Temp. Range</b></p> <p>0~40°C</p> <p><b>Ambient Humdy. Range</b></p> <p>10~90% RH</p> <p><b>Cooling System</b></p> <p>Forced air cooling (fan)</p> <p><b>Isolation Voltage to Ground</b></p> <p>Input terminals-chassis ±250V DC</p> <p><b>Isolation Resistance</b></p> <p>AC input-chassis DC 500V &gt;30MΩ          Input terminal-chassis DC 500V &gt;20MΩ</p>
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## PROTECTION (AUTOMATIC RESET TYPE)

- Over Voltage Protection ..... Opens the load switch when over 65V DC.
- Over Current Protection ..... Current limit is set to 110% of rating.
- Over Power Protection ..... Adjustable from 10% to 100% of maximum rating.
- Reverse Connection Protection... Diode is connected backwards between input terminals.
- Overheating Protection..... Maximum temperature at cooling package is set to 100±5°C.

## REMOTE CONTROL

1. Ext. voltage for current control ..... 0~10V DC (C.C. mode)
- Ext. resistance for current control ..... 0~1 kΩ (C.C. mode)
2. Ext. resistance for resistance control ..... 0~1 kΩ (C.R. mode)
3. Ext. voltage for voltage control ..... 0~10V DC (C.V. mode)
4. Ext. control for load switch..... contact rating (125V 1A)

## Parallel Operation

- One control parallel operation (with same model) is possible. Only the master unit must be controlled.

## DIGITAL CONTROL

The following controls are possible when used with DPO (Digital Programming Option).

1. Current control in Current Control mode
2. Voltage control in Constant Voltage mode

FUNCTION CONTROLLED	INTERFACE		D/A CONVERTER			
			8 BIT	RESOLUTION /OVERALL ACCURACY	12 BIT	RESOLUTION/ OVERALL ACCURACY
VOLTAGE (AT C.V. MODE)	GP-IB	DPO200	DPO208	0.39%/0.2%	DPO212	0.1%/0.1%
	I/O PORT	DPO100	DPO108	0.39%/0.2%	DPO112	0.025%/0.025%
CURRENT (AT C.C. MODE)	GP-IB	DPO200	DPO208	0.39%/0.5~1%*1	DPO212	0.1%/0.5~1%*1
	I/O PORT	DPO100	DPO108	0.39%/0.5~1%*1	DPO112	0.025%/0.5~1%*1

\*1 Setting accuracy may vary with specific conditions. Contact Kikusui International for details.

# OUTLINE DRAWING

MODEL	WIDTH	HEIGHT	DEPTH
PLZ150W	210 (220)	140 (165)	350 (415)
PLZ300W	210 (220)	140 (165)	400 (455)

MODEL	WIDTH	HEIGHT	DEPTH
PLZ700W	430 (450)	149 (170)	400 (470)

(Maximum) mm

# RACK MOUNTING

## RACKMOUNT BRACKET

## RACKMOUNT FRAME

BH4A (For 19 inch EIA rack)

RMF4 (For 19 inch EIA rack)      Bracket

• Specifications and designs are subject to change without notice for improvements.

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