

MODEL 733  
REGULATED DC POWER SUPPLY  
OPERATION MANUAL

印刷表紙使用のこと

KIKUSUI ELECTRONICS CORP.

## MODEL 733

### INSTRUCTION MANUAL

The Model 733 is an all-transistorized, series-regulated DC power supply. Having 7 ranges, DC voltages up to 70 volts are obtained, and voltage is continuously variable in each range. Maximum current rating is 1 ampere. The features of this equipment include compact construction, big size volt-ampere meter, and newly developed electronic overload cutoff provision to eliminate the damage due to accidental short circuit of the output.

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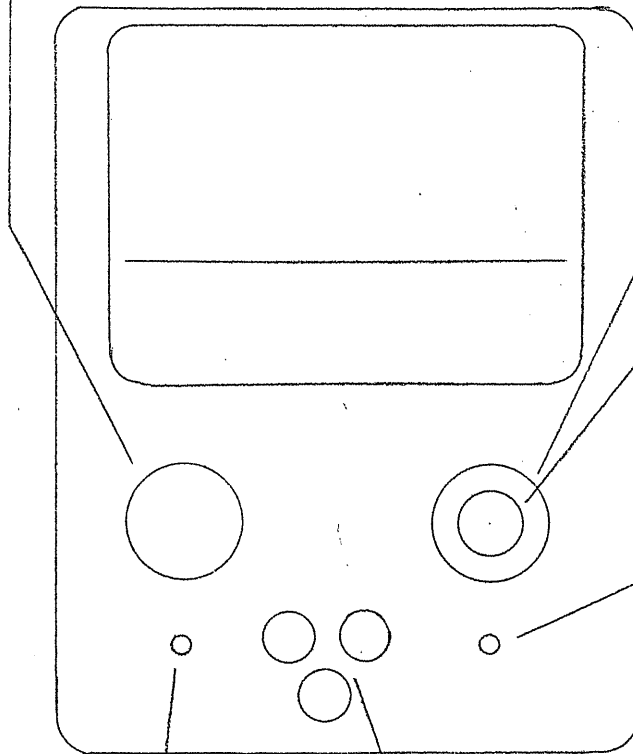
## S P E C I F I C A T I O N

Power Requirement	<input type="checkbox"/> volts, 50 to 60 Hz At no load ( output voltage 5 volts open approx. 20 VA ) At full load ( output voltage 70 volts and current 1 ampere approx. 170 VA )
Ambient Temperature	Maximum 40 C
Size Cabinet	150 W x 200 H x 251 D mm
Maximum	160 W x 215 H x 325 D mm
Weight	Approx. 8.2 kg
Items Supplied with equipment	1 - Short Bar 1 - Operation Manual 1 - Test Data
<u>Output</u>	
Output Terminals	Provided triangularly, 19 mm apart each other.
Polarity	Either positive or negative.
Insulation from Ground	Withstands up to $\pm 100$ volts.
Output Voltage	Divided in 7 ranges and continuously variable in each ranges; 0 - 10, 10 - 20, 20 - 30, 30 - 40, 40 - 50, 50 - 60, 60 - 70
Output Current	Continuous rating When line voltage is <input type="checkbox"/> V $\pm 10\%$ , In all ranges 1 amperes maximum.
Ripple	2 millivolts peak to peak.
Overload Cutoff Circuit	Electronically operates detecting voltage drop When output is short circuited (patent pending)
<u>Stability</u>	
Regulation	For $\pm 10\%$ changes in line voltage 30 millivolts For 1 ampere change in load current 30 millivolts.
Meter	2 ranges, 70 volts and 1 ampere. Voltage drop in the meter is compensated. Accuracy 2.5% of full scale.

## FUNCTIONS OF CONTROLS AND TERMINALS

\* This switch serves to turn power line on or off and output terminals also, and to change the range of the meter, and has 4 positions as follows.

Position	POWER OFF	OUTPUT OFF	OUTPUT ON	
			70V	1.0A
Power	OFF	ON		
Output	Both + and - are open circuited		ON	
Pilot Lamp	OFF	ON		
Meter	70 volts range		1.0 amps. range	



\* External black colored knob is to select output voltage range.  
7 ranges in 10 volt step.  
\* Internal red colored knob is a fine control of output voltage.

\* Overload indicating lamp.

\* Pilot lamp

\* Output terminals. Generally, either plus or minus terminal is connected to ground terminal using short-bar. In special case, however, DC voltage up to  $\pm 100$  volts may be applied to the output.

## P R E C A U T I O N S

### Ambient Temperature

This equipment should not be used where ambient temperature exceeds 40°C. Even ambient temperature may be lower than 40°C, maximum output current should be derated where the equipment may be subjected to the direct sun light, or where other type of heat radiation exist.

### Overload Cutoff Circuit

When the output of the equipment is overloaded or short-circuited, this circuit detects it and operates to reduce the load current. ( The current becomes minimum when short-circuited. ) This operates all electronically ( PAT. PENDING ) and the output voltage recovers automatically when overload is removed. Overload indicating lamp lights when the output is overloaded, but avoid the continuous operation under these condition as well as frequent short-circuit, lest the life of the equipment should be reduced.

### Fuse

Fuse in power line --- A 2A fuse is put in the power line.

Fuse in output circuit --- A 1A fast-blow type fuse is put in the output circuit. This fuse is located at lower left corner of the back-side. When possible, it is recommended to use lower rating fuses than 1A.

### Voltage Drop within the Meter

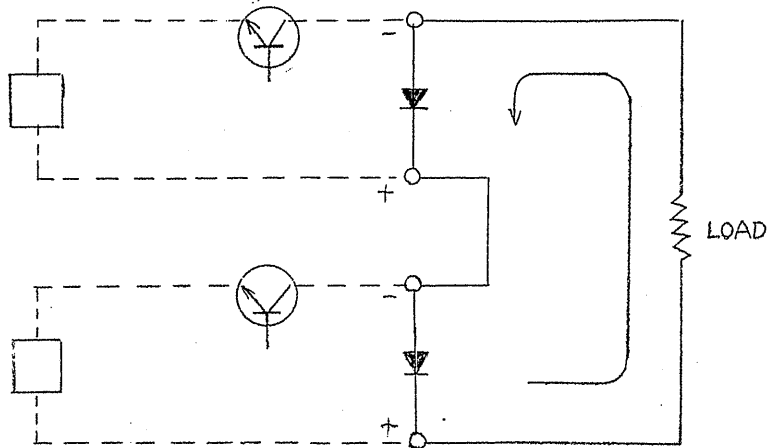
When meter is used as ampere meter, voltage drop across the meter is compensated. ( Voltage drop at full scale is 50 millivolts. )

### Parallel Operation

Parallel operation should not be allowed because slight difference in output voltages may result in significant difference in output currents.

### Series Operation

When more than two equipment are connected in series to give the output voltage over 70 volts, the voltage inverse in polarity to the output may be applied to the output terminal of the equipment, the overload circuit of which operates at first. To avoid the damage of the series transistors, regulated from this voltage, ~~it is recommended~~ <sup>is connected</sup> to connect a diode across the output terminals of each equipment as shown in the figure.



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#### ADJUSTMENT

#### Adjustment of 5 V and 65 V ADJ

Placing range switch in 0 - 10 volt position and fine control in center position, 5 V ADJ screw driver adjustment is adjusted to obtain 5 volts output. Similarly, placing range switch in 60 - 70 volt position, 65 V ADJ screw driver adjustment is adjusted to obtain 65 volts output. This procedure repeated several times. These screw driver adjustments are provided lefthand of the cabinet, and turning clockwise, output voltage increases.