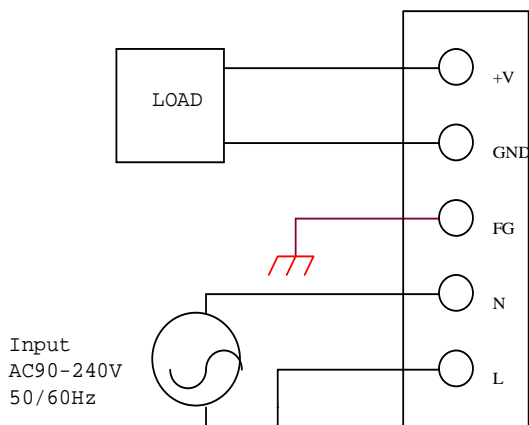


# CS SERIES

## Instruction manual

### Basic connection

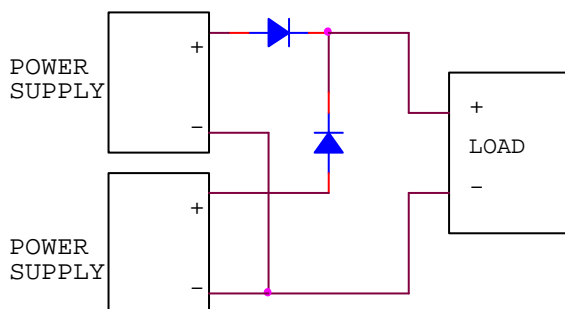


#### NOTE:

- A: To meet safety requirements, the power supply terminal must not be used directly as the external terminations of any equipment.
- B: For safety as well as improved noise, ensure secure connection of the FG terminal to the ground terminal of the equipment.
- C: To avoid excessive voltage drop and for improved noise, short and thick wire should be used to connect the load

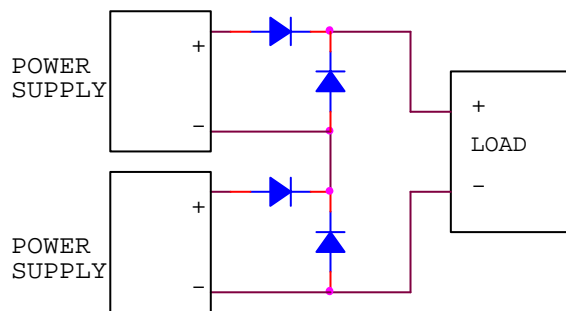
### Parallel Operation

This supply can be operated the following ways.

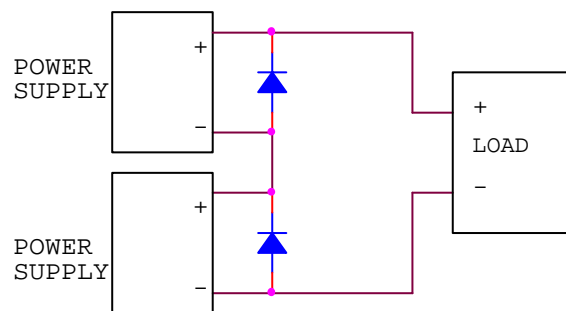


### Series Operation

This supply can be operated the following ways.



(for 3.3V-5V model only)



### Output Voltage Range

By means of VR1. On the front pannel, output voltage can be adjusted within the range of  $\pm 10\%$ . Turning clockwise increses the voltage.

**Caution:** Increase the voltage excessivly, i.e. more than norminal  $+10\%$ , may cause the over-voltage protection(OVP) device to operate.

### Output Ripple & Noise Measurement Method

The standard measurement for output ripple and noise are based on normal probe with 60MHz bandwidth scope. Upon measurement of the ripple voltage, make sure that the oscilloscope probe leads are not too long.

### Over Current Protection

The CS Series is equipped with an over current protection citcuit. When the short or overload condition is removed, the output will automatically recover. This setting is fixed and cannot be varied externally. If the short or overload condition continues, the power module could be damaged due to the heat condition

### Over Voltage Protection

The CS Series is equipped with an OVP(over voltage protection) citcuit. When the OVP trigger, the output will be shut down. The input must be taken out(for at least five seconds), and than reinputted manually. Otherwise, the module will not output.

### Maximum Line Regulation

Maximum line regulation is maximum output voltage change when the input volt is slowly varied within the input voltage range.

### Maximum Load Regulation

Maximum load regulation is maximum output voltage value change when varing the load current slowly within the stadnard output current range.

### Storage Temperature

Please note that sudden temperature changes can cause condensation buildup, and other harmful affects to each terminal solder

### Storage Humidity

High temperature and humidity can cause the terminal on the module to oxidize. The quality of the solder will become worse.

### Fuse rating

Rating : 250V 2.5A(CS15),250V 3.15A(CS30)  
250V 4A(CS50)

Type : Time-Lag

UL/CSA or IEC approved type should be used to meet safety requirements. When changing fuse ensure that the same type and ratings used.

**Avoid using fast-blow fuse.**

---

# CS SERIES

## Instruction manual

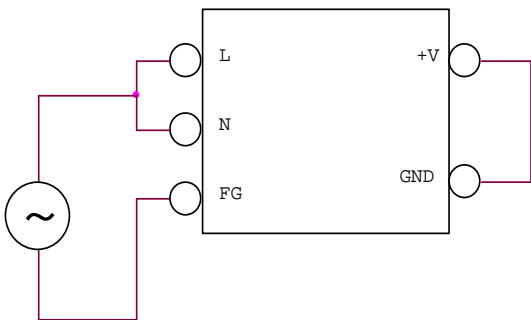
---

### Withstand Voltage

CS series are designed to withstand 3KVAC(20mA) 1 minute between input-output , 2KVAC(20mA) 1 minute between input-FG , and 500VAC(100mA) 1 minute between output-FG.

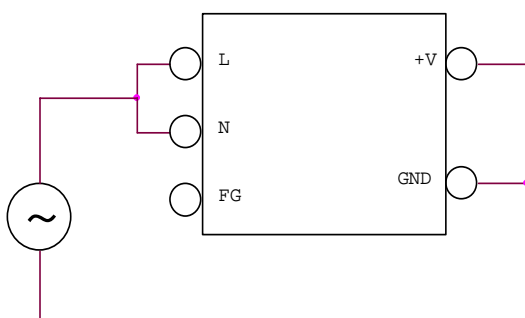
For the withstand voltage test, the applied voltage must be increased gradually from zero to the testing value, and then decreased gradually at shut down . Especially stay away from use of a timer. Where a pulse of several times the applied voltage can be generated

#### Input-FG



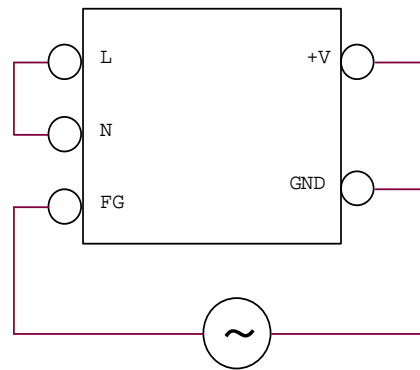
3KVAC, one minute, 20mA

#### Input-Output



3KVAC, one minute, 20mA

#### Output-FG

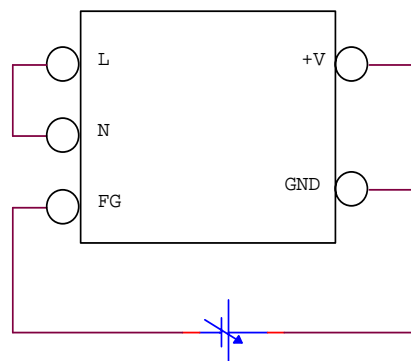


500VAC, one minute, 100mA

### Isolation Resistance

The isolation resistance is more than 70M at 500 VDC when tested with a DC isolation tester between the output and the case. Make sure that during testing, the isolation tester does not produce a high pulse when the applied voltage is varied. Ensure that the tester is fully discharged after the test.

#### Output-FG



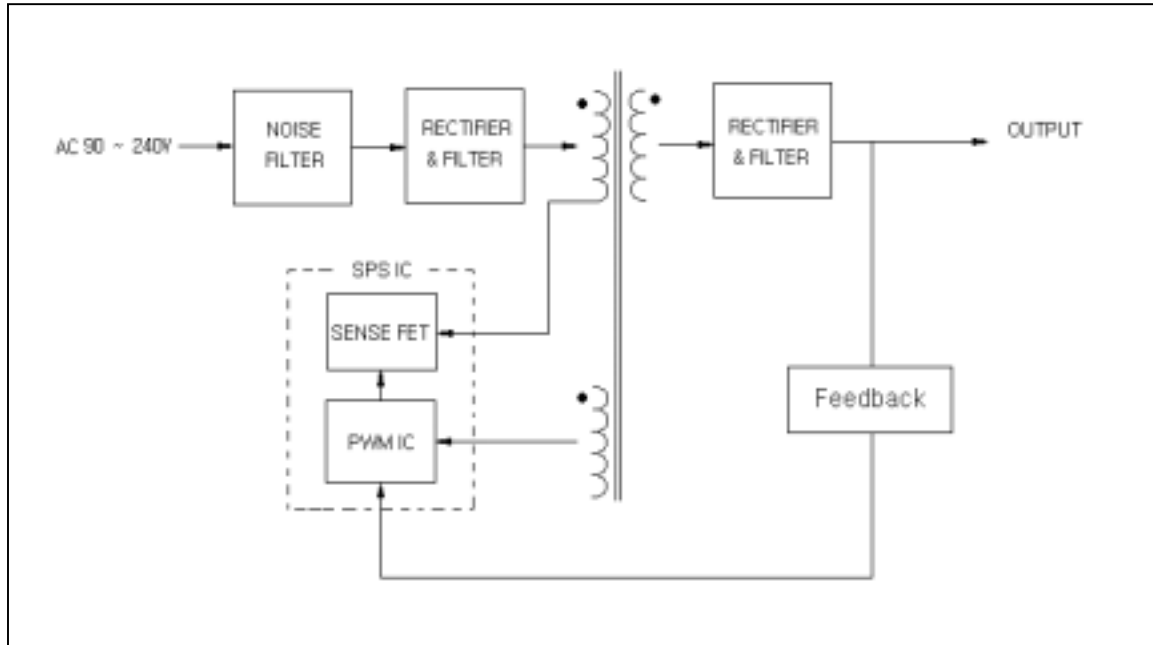
---

# CS SERIES

*Instruction manual*

---

## Block Diagrams



Circuit topology : flyback(CS15), forward(CS30,CS50)  
Switching frequency : 100KHz(fixed)