

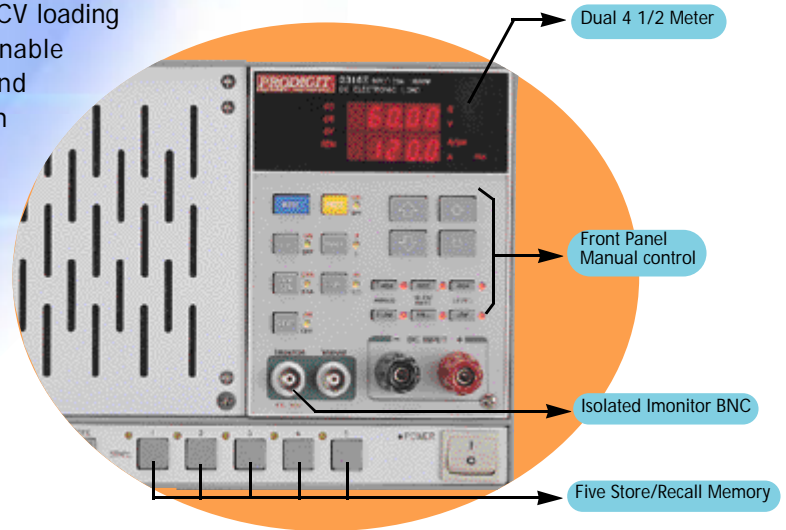
# Programmable High Power DC Electronic Load

**GPIB**

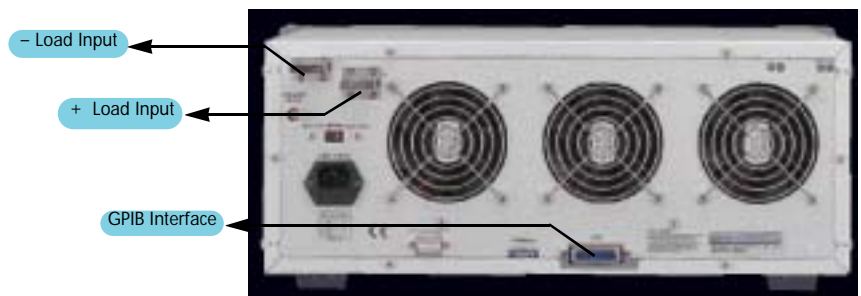


# Descriptions:

The 3316 and 3500 series programmable high power electronic load is designed for engineering evaluation and production testing of high power source such as power supply, batteries, and generators for a volt to 100 volts, 0 to 360 amps, and up to 10KW. High reliability is achieved by using Master/Slave paralleling configuration and Active Power Dissipation Balance technology where each load unit sink same amount of power. The state-of-the-art Master/Slave paralleling configuration features your static and dynamic applications, GPIB and manual programming, CC/CR/CV loading modes, engineered for high performance with reasonable budget. For the Master and Slave load unit is a stand alone unit, the advantage of Master/Slave configuration includes quick delivery schedule, easy configuration, shipping delivery, installation, and cost effective, etc. The dynamic pulse loading includes wide range variable frequency, width, current level and Rise/Fall slew rates controls, it can be programmed from 0-10V analog BNC input as well. This features enable to simulate the real world loading activities. Custom or modification are available and it should be specify V/A/W ratings; please contact Prodigit sale office or distributor for more detailed information.



# Key Features:

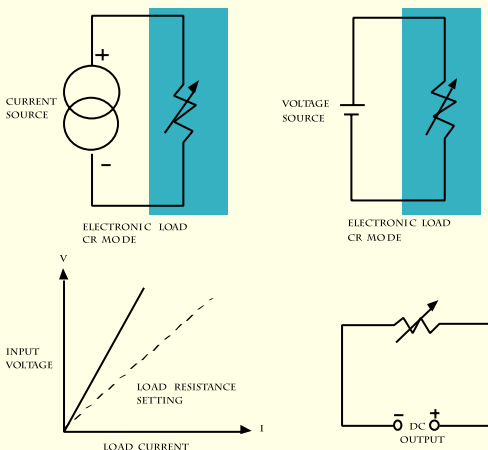


- Master/Slave paralleling configuration
- Rear Panel Heavy Duty Bus Bar Load Input
- Active Power dissipation balance technique
- Local, Analog and GPIB Programming
- Protections against V, I, W, and °C
- High Speed Adjustable Pulse Load With Rise and Fall Slew Rate control
- Air cooled design
- GPIB Setting/Read back capability
- CC, CR, CV, Short mode
- Voltage up 100V, current up to 360A, space power up to 10kw
- 5 sets Store/Recall memory
- Front and Rear panel load input connector
- Dual 4 1/2 V/A Meter
- Custom/Modification available
- Isolated Current Monitor output

## Constant Resistance Application

Major application:

- Voltage source or Current source testing
- Power resistor simulation

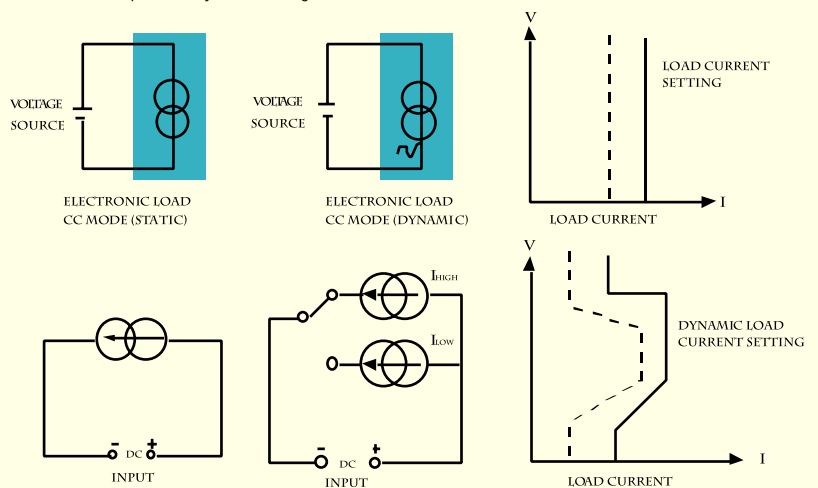


CONSTANT RESISTANCE MODE APPLICATION

## Constant Current Mode Application

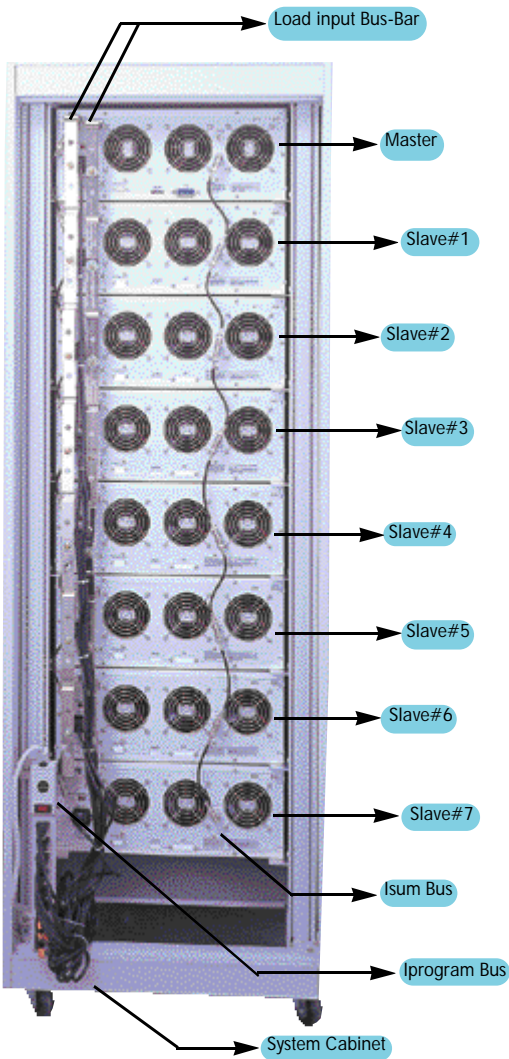
Major application:

- Load Regulation testing
- Transient Response of Dynamic loading



CONSTANT CURRENT MODE APPLICATION

## Rear Panel of 3510 10KW Load



# Master and Slave system connection for 3500 Series

### 1. System Cabinet:

- The industrial standard 19" wide system cabinet can be used for the high power electronic load, a recommend dimension is in figure.
- The model - name plate is designed to adhere on the top of the system cabinet. The AC power switch is mount on the right hand side of the model-name plate.

### 2. Installation into Cabinet:

- Allocate 4U high (177mm) for each load unit in the system cabinet, no space is required for inter-load unit, for the direction of cooling flow is from front to back panel of the system.
- Mount master load unit into the system cabinet with screws on the right and left hand side of load unit, please do the same way to mount slave unit respectively.

### 3. AC Power cord connection and AC power switch:

- The high power load system needs an AC power switch to control all load units ON or OFF, there is no AC power switch in each load unit, therefore, each load unit should connect to a power strip, then install one system power switch in series with the power strip.
- The system AC power switch is located on the right side of model - name plate.

### 4. Load input Bus - Bar parallel:

- The load input terminal (+ and -) on the rear panel should be paralleled together by L type Bus - Bar.
- The system Positive and Negative load input (+ and -) can be wired from any point of the Bus - Bar respectively, the screw holes on the Bus - Bar are designed for system load input wiring connection.

### 5. I - program and I - sum parallel connection:

- The I - program and I - sum are the analog control bus for the high power load system.
- I - program signal is used to control the load current of slave unit, it provides equal current sharing for all load units. The I - program BNC output of Master load unit connects to the I - program BNC input of each Slave load unit by BNC - BNC cable in parallel.
- The I - sum signal is used to add the load current of each load unit, this enable the current meter in master unit can display total system load current. The I - sum BNC input of Master load unit connects to the I - sum BNC output of each Slave load unit by BNC - BNC cable in parallel.

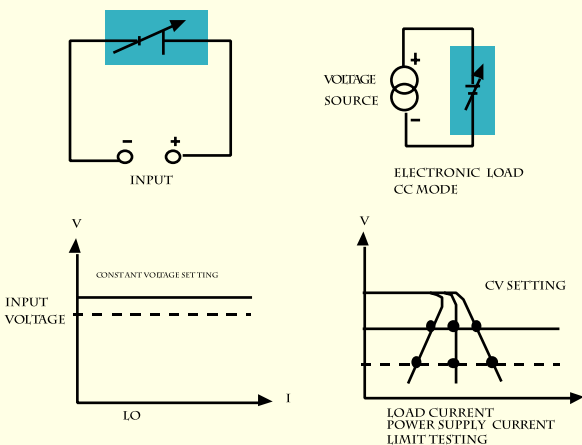
Figure shows the BNC - BNC cable connection for the I-program and I-sum analog bus.

The L type BNC adapter should be used for the I-sum and I-program BNC connector on Master and Slave #7 load unit; the others (Slave #2 - #6) unit should use T type BNC adapter to the I-sum and I-program BNC connector on the rear panel of each load unit

## Constant Voltage Mode Application

### Major application:

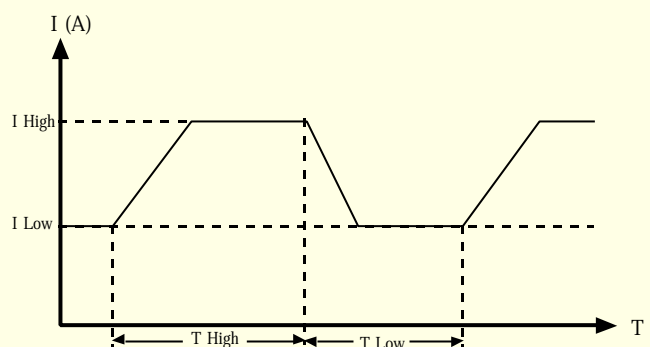
- Current source testing.
- Power supply current limit characteristic testing

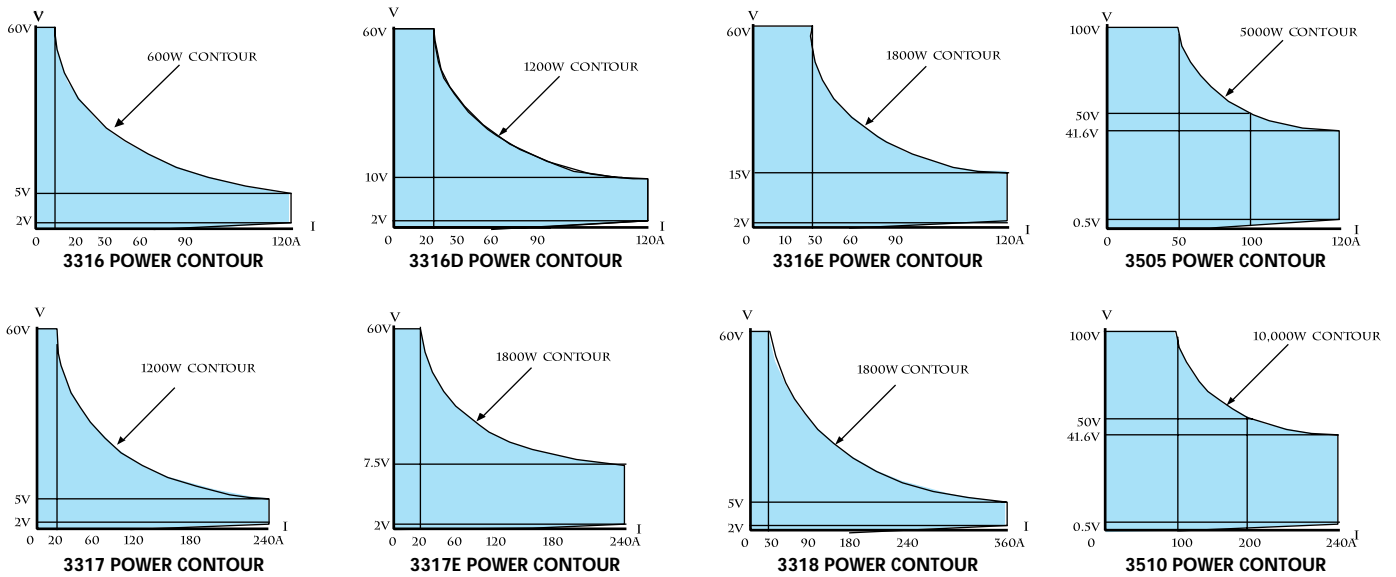


CONSTANT VOLTAGE MODE APPLICATION

## Dynamic Loading Current Waveform:

I<sub>High</sub>, I<sub>Low</sub>, T<sub>High</sub>, T<sub>Low</sub>, Rise and Fall Slew Rate Six parameters can be programmed via front panel or GPIB





## Specifications:

| Model                      |                        | 3316/16D/16E                | 3317/17E        | 3318               | 3505                       | 3510             |              |       |        |
|----------------------------|------------------------|-----------------------------|-----------------|--------------------|----------------------------|------------------|--------------|-------|--------|
| INPUT RATINGS              |                        |                             |                 |                    |                            |                  |              |       |        |
| Power(Watt)                |                        | 600/1.2K/1.8K               | 1.2K/1.8K       | 1.8K               | 5,000 W                    | 10,000 W         |              |       |        |
| Current(Ampere)            |                        | 120 A                       | 240 A           | 360 A              | 120 A                      | 240 A            |              |       |        |
| Voltage(Volt)              |                        | 60 V                        | 60 V            | 60 V               | 100 V                      | 100 V            |              |       |        |
| CC MODE                    | RANGE                  | 0~12/120 A                  | 0~24/240 A      | 0~36/360 A         | 0~12/120 A                 | 0~24/240 A       |              |       |        |
|                            | RESOLUTION<br>ACCURACY | 3/30 mA                     | 6/60 mA         | 9/90 mA            | 3/30 mA                    | 6/60 mA          |              |       |        |
| ±0.5% OF (SETTING + RANGE) |                        |                             |                 |                    |                            |                  |              |       |        |
| CR MODE                    | RANGE                  | 0.025~                      | 0.0125~0.25~1KΩ | 0.0083~0.167       | 0.05~1~4KΩ                 | 0.025            |              |       |        |
|                            | RESOLUTION             | 0.5~2KΩ                     |                 | ~667Ω              |                            | ~0.5~2KΩ         |              |       |        |
|                            | ACCURACY               | 0.125mΩ<br>/0.5mS           | 0.0625mΩ/1mS    | 0.0416mΩ<br>/1.5mS | 0.25mΩ/0.25mS              | 0.125m<br>/0.5mS |              |       |        |
| ±0.5% OF (SETTING + RANGE) |                        |                             |                 |                    |                            |                  |              |       |        |
| CV MODE                    | RANGE                  | 0~60V                       |                 |                    | 0~100V                     |                  |              |       |        |
|                            | RESOLUTION             | 0.015V                      |                 |                    | 0.03V                      |                  |              |       |        |
|                            | ACCURACY               | ±0.25% OF (SETTING + RANGE) |                 |                    | ±0.5% OF (SETTING + RANGE) |                  |              |       |        |
| 4 1/2 DVM                  | RANGE                  | 0~20.00/60.00V              |                 |                    | 0~20.00/100.00V            |                  |              |       |        |
|                            | RESOLUTION             | 0.001/0.01V                 |                 |                    | 0.001/0.01V                |                  |              |       |        |
|                            | ACCURACY               | ±0.05% OF (READING + RANGE) |                 |                    |                            |                  |              |       |        |
| 4 1/2 DAM                  | RANGE                  | 0~120 A                     | 0~200/240 A     | 0~200/360 A        | 0~120 A                    | 0~200/240 A      |              |       |        |
|                            | RESOLUTION             | 0.01A                       | 0.01/0.1A       | 0.01/0.1A          | 0.01A                      | 0.01/0.1A        |              |       |        |
|                            | ACCURACY               | ±0.5% OF (READING + RANGE)  |                 |                    |                            |                  |              |       |        |
| Dynamic Operation          | THIGH/TLOW             | 50uS to 9.999 Sec           |                 |                    |                            |                  |              |       |        |
|                            | SLEW-RATE              | 8mA~500mA/uS                | 80mA~5A/uS      | 16mA~1A/uS         | 160mA~10A/uS               | 24mA~1.5A/uS     | 240mA~15A/uS | 5A/uS | 10A/uS |
|                            | ACCURACY               | ±10% OF SETTING             |                 |                    |                            |                  |              |       |        |
| Imonitor (Isolated)        |                        | 12 A/V                      | 24 A/V          | 36 A/V             | 12 A/V                     | 24 A/V           |              |       |        |
| Operation Temp.            |                        | 0 ~ 40°C*3                  |                 |                    | 0~40°C                     |                  |              |       |        |
| Dimension WxHxD (unit:mm)  |                        | 483x177x445                 | 483x177x445     | 483x177x445        | 596x1556x600*1             | 596x1778x600*2   |              |       |        |

\*1 : One Master Unit And Three Slave Units.

\*2 : One Master Unit And Seven Slave Units.

\*3 : Input Power (watts) Rating to 77% at 40°C.

### General:

- AC Power : 115/230V(10%, 50/60Hz)
- Cooling : Force Fan Cooled
- GPIB : Listen/Talk

### Accessories:

- AC Power Cord 1 pc
- BNC-Clip Cable 1 pc
- BNC-BNC Cable 1 pc
- Operation Manual 1 pc

### Options:

- 1M GPIB Cable
- 2M GPIB Cable
- Cabinet

**PRODIGIT**  
INSTRUMENT PROFESSIONAL

**Prodigit Electronics**

4F., No. 10, Alley 59, Lane 42, Min-chuan Rd.,  
Hsin-tien, Taipei, Taiwan, R.O.C.

TEL: +886-2-29182620

FAX: +886-2-29129870

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