

## 1. INTRODUCTION

The Dynaload is a precision instrument which simulates electrical loads to test power supplies, generators, servo systems, batteries, and similar electrical power sources. It simulates, at the option of the user, resistive loads (amps/volt) or may be switched to a constant current load characteristic (current regulated at a pre-selected value). Provisions are also made for external programming in automated test setups. The external programming voltage is from 0-10V, with an input impedance of 10K minimum. Load current is directly proportional to the programming voltage.

The meter normally reads average pulse current, so for accuracy when loading in the pulse mode it is recommended to monitor the current sample output.

The circuit breaker used to connect the source to the power devices in the load is electronically controlled and senses overvoltage.

In the event of an overvoltage condition protection circuits open the electronic circuit breaker. In the event of an overcurrent or overpower condition, circuitry is activated to limit the load current.

## 2. SPECIFICATIONS

The following specifications apply:

Load Voltage:	0-100V
Load Current:	0-200A
Average Power Dissipation:	0-1500W
Self-Protection:	Overvoltage--less than 120V Overcurrent--less than 120A Over-power --less than 1800W

Front Panel Switches - Refer to front panel layout

- S101 AC, Power ON/OFF Switch
- S1 Voltmeter Range Select Switch
- S2 Ammeter Range Select Switch
- S3 DC Load ON/OFF Switch

### MODE SELECTION

- S4 20A DC LOAD - 0 to 20A constant current mode which is controlled by the front panel DC Load adjust.
- S5 200A DC LOAD - 0 to 200A constant current mode which is controlled by the front panel DC Load adjust.
- S6 12A/V DC LOAD - 0 to 12A/V constant resistance mode which is adjusted by the front panel DC Load adjust.
- S7 120A/V DC LOAD - 0 to 120A/V constant resistance mode which is adjusted by the front panel DC Load adjust.
- S8 20A PULSE LOAD - 0 to 20A pulse mode. The amplitude, frequency, duty cycle and DC baseline are adjustable by the front panel controls.
- S9 200A PULSE LOAD - 0 to 200A pulse mode. The amplitude, frequency, duty cycle and DC baseline are adjustable by the front panel controls.
- S10 REMOTE PROGRAM - In this mode the user can program the current level with a 0 to 10V programming voltage applied to J101 on the rear panel. The front panel controls are locked out.

S11 SHORT CIRCUIT - Drives load to saturation. Effective resistance is less than .015 ohms.

#### FRONT PANEL ADJUSTMENTS

Refer to Front Panel Layout.

DC Load Adjust - Coarse and fine adjust controls with a 10 to 1 ratio for precise setting of load current for the constant resistance and constant current functions. This control is also functional in the pulse mode to adjust the DC load component.

Pulse Amplitude - Coarse and fine adjust controls with a 10 to 1 ratio for setting the peak current in the pulse mode, the maximum setting is 200 Amps peak.

Freq. Adj. - Coarse and fine controls adjust the frequency of the pulse generator.

Width - Adjusts the percentage of the on time to off time ratio of the pulse generator a minimum of 10% on time, to maximum of 90% on time can be achieved.

#### FRONT PANEL STATUS INDICATORS

DC This indicator is on when the DC circuit breaker is engaged.

OV When an overvoltage condition exists alarm will light and the DC breaker will disengage.

OC This alarm will light when the Dynaload is in current limit.

OP This alarm will light when the Dynaload has reached power limit.

OT If the Dynaload reaches overtemperature this alarm will light and the load will stop drawing current.

LOC This indicator will be on when one of the local modes are selected.

REM This indicator will light when the Dynaload is in the remote programming mode.

#### REAR PANEL CONNECTIONS

E+ Positive Load Input  
E- Negative Load Input

J103 AC, Input Connector

J101 Program Input Connector