

1.0 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) or a constant voltage type of load (similar to a battery or a zener diode). Provisions are also made for external programming in automated test set ups. The external programming voltage is from 0-6V with an input impedance of 10K minimum. Load current is directly proportional to programming voltage, and the sensitivity is adjustable with the front panel current adjustments.

2.0 SPECIFICATIONS

THE FOLLOWING RATINGS APPLY:

LOAD VOLTAGE:	5 TO 130V
LOAD CURRENT:	0 TO 50A
POWER DISSIPATION:	0 TO 2500W
OVERLOAD RATING:	10%
SELF-PROTECTION --	OVERVOLTAGE: <150V
	OVERCURRENT: <60A
	OVERPOWER: <3000W

2.1 MODE SELECTOR SWITCH POSITION (From left to right)

- POSITION 1: Constant resistance 0-1 A/V as determined by the front panel DC load adjust
- POSITION 2: Constant resistance 0-10 A/V as determined by the front panel DC load adjust
- POSITION 3: Constant current 0-10A as determined by the front panel DC load adjust
- POSITION 4: Constant current 0-50A as determined by the front panel load adjust
- POSITION 5: Constant voltage load. In this position, the load is similar to a battery being charged or a constant voltage zener diode; no current is drawn until the source voltage reaches the regulating voltage. The voltage at which the Dynaload regulates is adjustable by the front panel volts control.
- POSITION 6: External modulation -- will program from 0-50A with 0-6V applied to the external modulation terminals (TB1). Modulation sensitivity is directly adjustable by the front panel DC load adjust control.
- POSITION 7: A square wave pulse load which may be varied from 0-50A and 500-5000 Hz as desired by the front panel pulse controls.
- POSITION 8: A short circuit which is applied in series with the ammeter across the input allowing short circuit current tests.

2.2 FRONT PANEL CONTROLS

- S115: AC ON/OFF switch and indicator lamp
- M1: Load voltage range as selected by the voltmeter range selector switch, 0-18V, 0-60V, or 0-180V.
- M2: Load current range as selected by front panel current range selector switch, 0-6A, 0-18A, or 0-60A.

C A U T I O N

THE METER RANGE SELECTOR SWITCH SHOULD ALWAYS BE MAINTAINED IN THE HIGHEST VOLTAGE OR HIGHEST CURRENT POSITION EXCEPT WHEN READINGS ARE BEING TAKEN. ALTHOUGH THE METERS HAVE HIGH OVERLOAD CAPABILITY, THEY MAY BE DAMAGED BY OVERLOADS IN THE LOWER RANGE POSITIONS.

- CB1: Load ON/OFF circuit breaker. For absolute no-load tests, this circuit breaker should be opened; the circuit breaker will automatically open in the event of an overvoltage, over-current condition. The circuit breaker is rated at 60A and will open up if more than 60A is sustained through the Dynaload. In the event that an overvoltage condition is applied, an overvoltage SCR will fire, protecting the Dynaload, and if the source has more than a 60A capability, the circuit breaker will open.

N O T E

WHEN TESTING LOW CURRENT SOURCES, IT MAY BE ADVISABLE TO USE AN EXTERNAL FUSE OR CIRCUIT BREAKER TO PROTECT THE SOURCE.

CURRENT SAMPLE: This is provided for measuring the pulse current amplitude when operating in the pulse mode. There will be .01 volts for each amp of current.

PULSE: Sync Out. This is a pulse output which is the same frequency as the pulse load, and may be used to trigger an oscilloscope.

2.3 REAR PANEL CONNECTIONS:

- E+: PLUS LOAD -- CONNECT TO POSITIVE TERMINAL OF SOURCE TO BE TESTED
- E-: MINUS LOAD -- CONNECT TO MINUS TERMINAL OF SOURCE TO BE TESTED
- TB1-1: 0 TO +6V PROGRAMMING VOLTAGE INPUT
- TB1-2: PROGRAMMING VOLTAGE RETURN INTERNALLY CONNECTED TO THE MINUS TERMINAL OF THE DYNALOAD.
- TB1-3: +6V WHICH MAY BE USED AS A SOURCE FOR PROGRAMMING
- F101: AC LINE FUSE 1A, SB