

## Overview

- High capacity, 400kw
- Dual voltage: 208-240/416-480vAC
- Digital load control, 5 kw resolution
- Touchscreen operator interface
- Data acquisition and recording
- Network units to form large systems

## Description

The Simplex dynaMITE is a large capacity, high performance Portable Load Bank designed to provide the manufacturers, distributors and users of large AC generators and UPS systems with sophisticated testing capability. dynaMITE Load Banks feature digital controllers with network control and data acquisition capability. Operator interface is via touchscreen. Load control is via screen keypad. All electrical values display on the screen and are recorded by the system for future data retrieval. Any number of dynaMITE and Electra Load Banks can be combined for large system capacities and networked for central control and data acquisition.

The dynaMITE is rated 400kw of resistive load at both 240V and 480V, 3-phase. It can be applied at any AC voltage to 480V AC, 50-60 Hertz standard, single or 3-phase. Load step resolution is 5KW.

## Features

### UL/CUL Listed

**Digital Control:** PLC based control with 8-inch color TFT touchscreen interface. MODBUS over RS-485 network communication. See page 3.

**Instrumentation:** Digital power transducer with Ethernet communication to digital controller. Data display on touchscreen. Data acquisition and recording. See page 3.

**Load Elements:** Simplex "Powr-Web" chromium alloy, open wire, continuously supported, power resistor.

**Load Control:** 3-Pole contactors.



**Load Element Circuit Protection:** Branch circuit fuses. One set of fuses each 50KW branch. Fuses are current limiting type, 200KAIC, 600V.

**Cooling System:** 3-phase, direct-drive fan, 10,500 CFM.

**Malfunction Detection System:** Protection against fan failure, high exhaust air temperature, high intake air temperature, overvoltage and fan reversal. Exhaust air temperature displays on screen.

**Control Power Supply:** Dual voltage control power transformer with supply power switchable to internal (generator) or external.

**Touch Screen:** Easily removable from panel.

**Connection:** Cam-Type power connections.



## Options

- Network control cables, 25-foot basic length
- 400Hz modification
- Remote control cable extensions
- Simplex AUTO-TEST software for full automation of testing with data acquisition and report generation
- 12' connection cable set including 3-phase power cables, ground cable, stored in rear compartment
- Weather resistant enclosure
- Auxiliary inductive load banks with network control and data capability

## Capacity Detail

| Model         | KW (1.0pf) | FLA  |      | KW DETAIL |          |      |            |
|---------------|------------|------|------|-----------|----------|------|------------|
|               |            | 240V | 480V | 240V/480V | 208/416V | 380V | 240V, 1-ph |
| dynaMITE 400R | 400        | 961  | 481  | 400       | 300      | 251  | 267        |

## Cooling System

| Model         | HP  | CFM    | $\Delta T$ , Nom. | $\Delta T$ , Max. |
|---------------|-----|--------|-------------------|-------------------|
| dynaMITE 400R | 3.0 | 10,500 | 115°F             | 300°F             |

**Voltage:** Dual Voltage: 240/480V AC, 3-phase Operational at any voltage to 480V AC maximum, single or 3-phase

**Frequency:** 50, 60 Hertz standard

**Connection:** Cam-Type

**Time Rating:** Continuous

**Ambient Air Temperature:** 120°F max

**Fault Rating:** 200KAIC

**Insulation Rating:** 600V, 302°F

**Net Weight:**

1,000 lbs.

**Control/Fan Power:**

- Internal 208-240/416-480V, 3-phase, 60hz
- Internal 220/380-416V, 3-phase, 50Hz
- External 208-230/460V, 3-phase, 60Hz, 11/5.5A
- External 220/380-416V, 3-phase, 50Hz

## Digital Load Step Control

Nominal 5.0 kw resolution: direct enter any load value and controller will apply load within nominal 5kw resolution

## Digital Load Calibration Versus Voltage

Controller automatically calibrates loads for reduced voltage operation.

## Digital Control and Data Acquisition System

PLC based digital control with 8-inch color TFT touchscreen operator interface.

### Functions

- Control power source and voltage level detection
- Malfunction detection and protection
- Direct access (keypad) load control
- Alternate mimic panel load control
- Basic automation of load control
- Field adjustable exhaust temperature limits with temperature display
- Built-in control from customer supplied computer

### Instrumentation

Digital power transducer to digital controller and meter displays on touchscreen:

- 3-phase voltage (each, L-L)
- 3-phase current (each line)
- Frequency
- KW

### Data Acquisition

- Captures and records all electrical values
- Start recording/stop recording screen buttons
- One second sample rate
- Exports text file to detachable flash drive which plugs into USB port

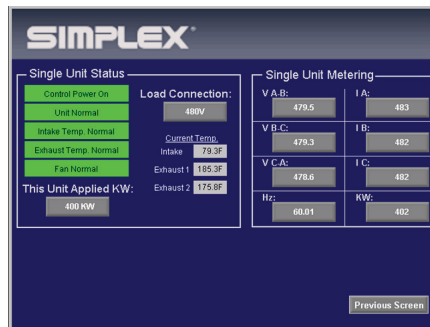
### Outputs

MODBUS (standard) or BacNet (optional):

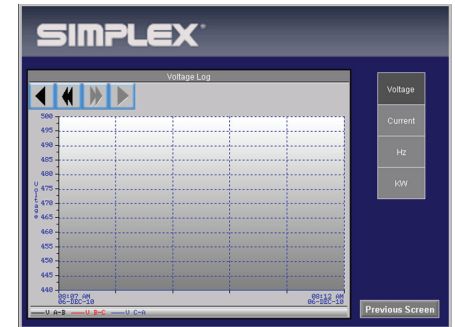
- Load applied
- Each electrical value as above



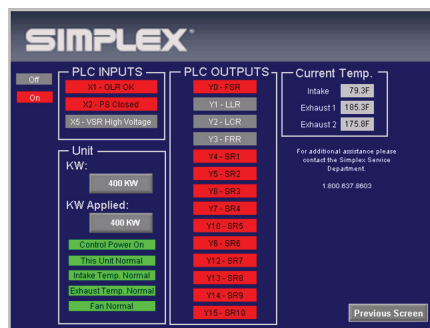
Main Screen



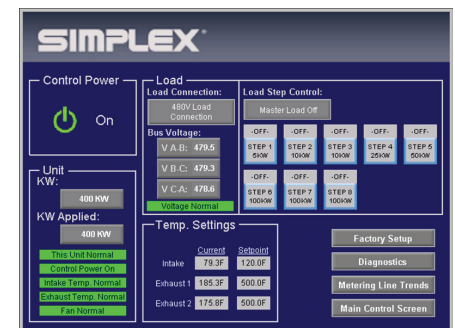
Monitoring Screen



Metering Trends Screen



Diagnostics Screen



Maintenance Screen

## Dimensions and Key Features

- |   |  |  |
|---|--|--|
| 1. Screened Hot Air Exhaust   | 4. Cam-Lok Type Power Connections        | 8. Fork Lift Channels  |
| 2. Removable 8-inch Color TFT Touchscreen Controller  | 5. Ventilation Louver (one on each side) | 9. Rubber Tired Casters, 6" (two front swivel, two rear fixed) |
| 3. Behind Connections Compartment: Removable Access Panel to Rear Distribution Bus, Fuses, Contactors | 6. Lifting Eyes (four)                   | 10. Control Panel Door   |
|   | 7. Pull Handle                           |  |

