

Overview

- Rental Duty Portable Load Bank
- 750kva, 0.8 Power Factor
- 600kw Resistive
- 450kvar Inductive
- Adjustable Power Factor
- Internally re-connectable dual voltage, 240/480Vac, 3-phase
- Digital Load Control
- Capable of Parallel Operation and Control to Form Large Systems

Description

The Simplex Titan-600 R is a large capacity, fully portable, resistive/reactive Load Bank System intended for field use in testing, maintenance and performance proving of large generating systems. The Titan-600 R is rated 600kw, 450kvar and is user configurable for operation at 240/480v. The Titan-600R is typically used to test large diesel generators, turbines, paralleled generators and shipboard generators.

The Titan-600R is an extremely rugged, compact portable design featuring 4-sided hinged door access, monolithic welded frame, heavy duty skid base with forklift channels. Air intakes are via louvered inlets with hinged storage/transport covers and motorized top mounted exhaust louver.

Airflow is vertical. The Titan-600R is suitable for all-weather operation, transport and storage. The enclosure is equipped with forklift channel, lifting eyes and tie-down D rings.

The Titan digital controller allows for local or remote operation and includes a digital power transducer for display of volts-amps-hertz-kw-kvar-power factor. Data acquisition and recording capability is included. The Titan can be networked to any number of other Titan load banks, or to any other large Simplex Load Bank, including the Load Cube, Load Ranger, Solar-5 or Vulcan. Networking allows the formation of very large load bank systems with centralized, single-point operator control and data acquisition.

All power connections are to Cam-Lock style connectors.



CAPACITY:	240/480v, 3-phase, 60 hertz: 750kva, 0.8 power factor 600kw resistive, 450kvar inductive, 1803/901A
	208/416v, 3-phase, 60 hertz: 562.5kva, 0.8 power factor 450kw resistive, 337.5kvar inductive, 1563/781A

VOLTAGE:	240/480v, 3-phase, 60 Hertz
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FREQUENCY:	60 Hertz, 50 Hertz at reduced voltage
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LOAD STEPS:	Digital load control, 5 kw, 3.75 kvar resolution
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DUTY CYCLE:	Continuous
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AMBIENT TEMP.:	125°F
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EXHAUST RISE:	220°F
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AIRFLOW:	Approx 25,000 cfm divided between two cooling fans
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CONTROL	Internal, derived from power source under load, 240/480v, 3-phase, 60 Hertz. Control circuits at 120v via internal isolation transformer. Fan motor load: 2 x 5hp, 26/13A. Control power load: 3.0 kva, 6.25A.
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Principle Systems

The Load Bank is a completely self-contained, freestanding unit which includes all load elements, load control devices, load element branch circuit fuse protection, main load bus and terminals, cooling system, control power supply, digital controller with data acquisition and malfunction detection system and weatherproof enclosure.

Resistive Load Elements: Simplex Powr Web: Open wire, helically wound, chromium alloy, load element thermally derated to 60%. 5% tolerance, 2% balance. .995 p.f. Element wire mechanically supported over entire length such that if a wire should break, the broken wire segments will not short to adjacent conductors or to ground. UL Recognized

Inductive Load Elements: Iron-core, non-saturable air-gap type, with aluminum windings, varnish/epoxy coated. 150C rise. 220C insulation

Load Control: Branch circuit contactors, each 50 KW resistive circuit max, each 75 KVAR inductive circuit max. Contactors have enclosed silver surfaced contacts, 120V coils; electrically operated and electrically held.

Element Circuit Protection: Branch circuit fuses, each 50KW resistive branch circuit max, 75KVAR inductive circuit max. , 600v, 200kAIC, current limiting type.

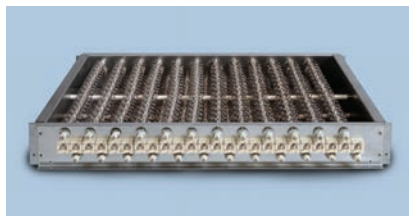
Power Wiring: 150°C insulated; color-coded and numbered.

Control Wiring: 105°C numbered

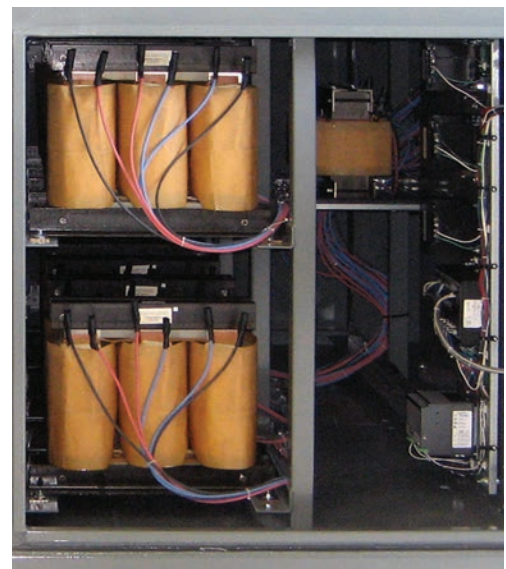
Power Connection: Cam-Lock style plug-in connectors, bulkhead mounted behind hinged door. 400A, 4/0 connectors.

Cooling: Forced air, vertical airflow, top exhaust. 2 x 5HP, 3-phase, TEFC motor direct driving cast aluminum fan blades. Circuit breaker combination motor starters. Electrically powered exhaust louvers, via linear actuator, with position indicating output. Manual air intake doors with door limit switches

System Protection: Sensors, alarms, lock-outs as appropriate, for the following: Fan Failure, High Exhaust Temperature, High Intake Temperature, Exhaust Louver Open/Closed, Intake Door Open/Closed



Resistive Elements



Inductive Elements

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
- KVAR
- Power-factor

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

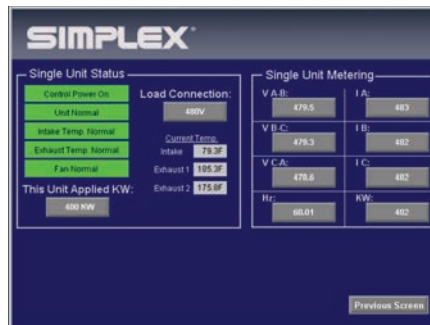
Outputs

MODBUS (standard) or BacNet (optional):

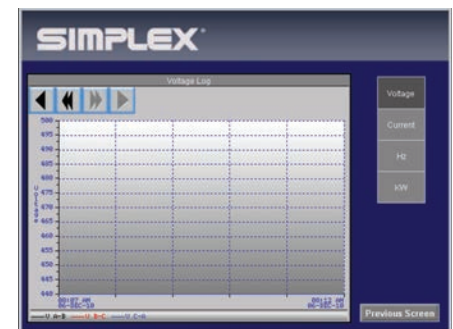
- Load applied
- Each electrical value as above



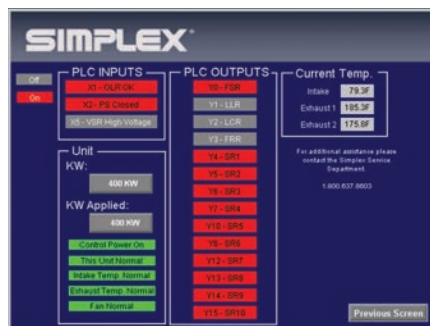
Main Screen



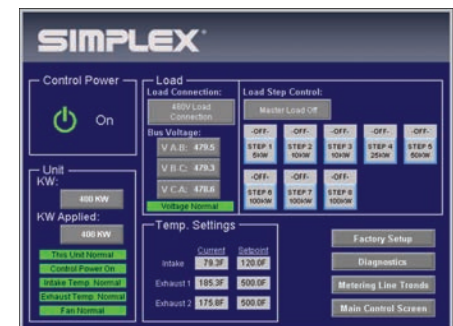
Monitoring Screen



Metering Trends Screen



Diagnostics Screen



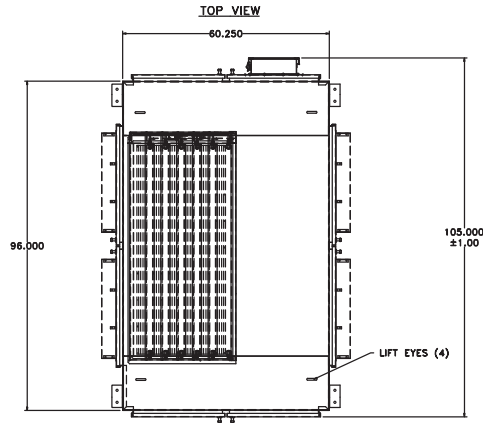
Maintenance Screen

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SIMPLEX®

Dimensions and Key Features



NOTE:
APPROXIMATE WEIGHT: 7,500 LBS.

