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CARRYING THE LOAD OUTDOORS

Testek launches new 1000 kW capacity resistive load bank for generator set testing

Testek, a supplier of custom test equipment for industrial, agricultural, military, marine and aerospace applications, has developed a new high-capacity resistive load bank for testing and routine maintenance of standby generators sets, uninterruptible power systems (UPS) or other ac power sources. The TLB-R1000 load bank system is rated 1000 kW at 480 Vac and is the largest stationary load bank to date from the Wixom, Mich., manufacturer.

“We came up with the most popular industry standard sizes and have focused our efforts in stocking these standard sizes versus offering many slightly different sizes with long lead times,” said John Bertram, vice president of the

company’s Load Banks Division. “Our standard portable load bank sizes are 110, 200, 400 and 650 kW. Our standard stationary load bank sizes are 500, 750 and 1000 kW.

“For higher capacity testing, we simply daisy-chain multiple units together with a common digital controller. This modular approach simplifies the design and keeps lead times short.”

The TLB-R1000 load bank is UL Listed and incorporates a modular design with common subassemblies designed to improve quality and shorten lead times. Testek said it inventories several high-capacity load bank models in factory stock to ensure faster shipping.



The TLB-R1000 load bank is UL Listed and utilizes Testek's proprietary resistor load elements constructed from precision nickel-chromium resistance alloy, which are fully supported within the air stream by stainless-steel rods that are insulated with high-temperature refractory ceramics.

"We have designed our load banks to include many standard features, such as digital load controls, metering and control power transformers, etc.," Bertram said. "These features are often extra-cost options on many load banks. By including these options as standard product features, the Testek load bank typically offers a better value solution with a shorter lead time."

The control power for the TLB-R1000 load bank is provided from a standard internal control power transformer that utilizes power from the input load bus voltage. This, Testek said, eliminates the need to run a separate 120 Vac utility feed to the load bank, which can save significant time and cost.

Testek's proprietary resistor load elements provide the necessary power loading for each individual load step. The resistors are constructed from precision nickel-chromium resistance alloy and are fully supported within the air stream by stainless-steel rods that are insulated with high-temperature refractory ceramics, the company said. Heavy-duty, programmable logic controller (PLC)-controlled magnetic contactors provide load application of each load step, Testek said.

The load bank resistor elements are forced-air-cooled with a heavy-duty, three-phase, totally enclosed fan-cooled (TEFC) electric blower motor with cast aluminum, high-performance, direct-drive fan blades. The blower motor can be powered from the main input load bus — the test source — or optionally from an external three-phase supply source, Testek said. The motor starter circuit is fuse protected and includes an overload relay.

The load bank is digitally controlled via an onboard PLC with color touchscreen display. The control system includes standard data monitoring, such as voltage, current, kW and frequency, with test data able to be captured to a USB drive. The load bank can be operated in manual, automatic or multistation mode, with multiple load banks



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daisy-chained together and operated from a single controller for higher-capacity testing.

The digital controller also includes a wide range of safety circuits, including cooling-air loss, over-temperature, over-voltage, under-voltage and load dump. All loads are automatically removed and locked out in the event of a safety circuit trip, and a hard-wired emergency stop (e-stop) switch is also included.

Designed for outdoor installation, the TLB-R1000 load bank incorporates vertical hot-air discharge in an effort to keep the installation footprint to a minimum. Cooling air is drawn in from the screened intake sides and the hot air exhaust is directed upward through a stainless-steel gravity louver.

The load bank enclosure is rated NEMA-3R and is suitable for permanent outdoor installation, Testek said. The cabinet is constructed of heavy-gauge steel with a polyester powder coat finish. The cabinet has hinged access doors with lockable latches. Dimensions of the TLB-R1000 load bank are 42 in. wide, 85 in. tall and 58 in. deep.

Forklift channels are included in the base for easy positioning and placement. The load bank incoming power connections are made inside the main cabinet directly to copper bus bars. **dp**

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