

LC80/VCS Control System

CRESTCHIC



Smarter. Faster. Scalable. Compliant Loadbank Control

The LC80 loadbank controller with VCS software provides flexible control of individual, multiple, or clustered loadbanks. With sub-millisecond data exchange for real-time management, operators can use the software to scan for loadbanks on a network, apply load, and remove load while monitoring their performance and statistics. The VCS is scalable, enabling precise testing of individual loadbanks or testing and management of up to 240 loadbanks. Clustered loadbank control enables high-volume, synchronised testing across large systems - ideal for data centres and large-scale operations.

Supporting resistive, reactive, resistive-reactive, capacitive and liquid-cooled loadbanks it offers advanced compliance reporting and cloud ready architecture with VCS 2.0.0 setting a new benchmark in scalability, reliability, and operational efficiency.

- **Intuitive, modern user Interface:** Intuitive layout offers straightforward navigation for engineers and non-technical users, allowing operators to run complex tests at the touch of a button.
- **Scalable to 240 Devices:** Supports up to 240 devices, including clustered loadbank control for synchronised testing across large systems.
- **Hybrid Loadbank Clustering:** Supports connecting Air Cooled and Liquid Cooled loadbanks into a single test.
- **Real-time communications:** Custom UDP interface enables sub-millisecond data exchange at 4Hz (250ms cycle) for real-time responsiveness.
- **Liquid Cooled Loadbank Support:** Full Delta-T control with flow monitoring, coolant quality, pressure sensing, and thermal efficiency reporting.
- **Advanced diagnostics and logging:** Built-in tools provide real-time insights, system statistics, service internal advisor, and increased reliability in the field.
- **Compliance Reporting:** Automated reports against NEMA MG1, EN 50160, ISO 22514, ISO 8528-5, IEEE 141, ASHRAE G22 and e-NTU method via Crestchic Portal.
- **Future-ready:** Cloud-ready software built on .NET 10 (WPF) framework. Compatible with STM32 and next-gen boards; positioned for cross-platform development.
- **Review and export:** Standard, graphical and individual control views with real-time graphical updates at ~250ms. Export test results and loadbank data as CSV.

Key Features	
Automatic Fault Detection	Yes
Loadbank Daisy Chaining	Yes
Maximum Ethernet Connection Distance	100 meters (LB to LB / LB to Controller)
Fault Tolerance	Configurable
Instrumentation Support	INS550/ACI500
Instrumentation Accuracy	±0.1%
Instrumentation Frequency	~250 (4Hz) ±10%
Automatic Data Capture	Yes
Test Report Export	CSV (via PC Application/LC80/Modbus)
Compliance Report (incl. Graphs/Statistics/Finding/Actions)	Yes (via Crestchic Portal)
NEMA MG1	Yes
EN 50160	Yes
ISO 22514	Yes
ISO 8528-5	Yes
IEEE 141	Yes
ASHRAE G22	Yes
e-NTU method	Yes
Gradual Load Ramping	Yes
Overload Protection	Yes
Real Time Graphical Updates	~250 (4Hz) ±10%
Hybrid Loads	Yes
Overload Protection	Yes
Reactive Loads	Yes
Resistive Loads	Yes
Liquid Cooled Loadbank Support	Yes
Manual kW Control	Yes
DeltaΔT Control (±0.5°C)	Yes
Flow Monitoring	Yes
Coolant Quality Indicator (Conductivity)	Yes
Redundant Inlet/Outlet Temperature	Yes
Pressure Sensor	Yes
Full Thermal Efficiency Reporting	Yes (via Crestchic Portal)
Percentage Load Support	Yes
Ampere Load Support	Yes
kVA Load Support	Yes
kW Load Support	Yes
kVAR Load Support	Yes
Adjustable Leading Power Factors	Yes
Adjustable Lagging Power Factors	Yes
Star Topology	Yes
Delta Topology	Yes
Single Phase Topology	Yes
Multi Loadbank Network	≤ 240
Overflow Distribution	Yes
Follow Distribution	Yes
Proportional Distribution	Yes
Shed Load (-25%)	Yes
Dump Load (-25%)	Yes
Preset Load Block Application	Yes
Automatic Load Sequences (Ramp/Block)	Yes
Modbus/TCP	Yes
Clusters	≤ 240
Service Configuration Protection	Yes
System Statistics	Yes
Service Internal Advisor	Yes
Import Configuration	Yes
Export Configuration	Yes
Manual Relay Test Screen	Yes
Automatic Firmware Upgrades	Yes
Automatic Network Configuration Wizard	Yes
Minimum System Requirements	
CPU	2 Cores, 1.8GHz
RAM	4GB DDR3 RAM
STORAGE	64GB
NETWORK	Ethernet (10/100)
WINDOWS	Windows 10 or Later
ARCHITECTURE	64bit
RESOLUTION	1200(w) x 800(h)
Fully Responsive Application	Re-scales to any display size (Fixed Aspect Ratio)

CDN000002 - Issue A JA - Feb 26 (Changes to specification may vary without notice)

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