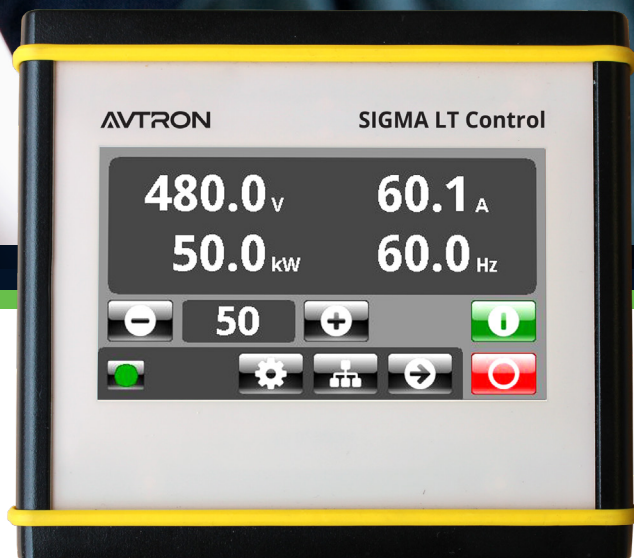




## SIGMA LT Load Control



[avtronpower.com](http://avtronpower.com)

**AVTRON**  
POWER SOLUTIONS

# SIGMA LT Load Control


SIGMA LT Load Control is the Avtron platform for monitoring, controlling, and recording load tests using select Avtron 2000 SERIES, 3000 SERIES, and 5000 SERIES resistive load banks.

SIGMA LT provides unrivalled features including digital toggle switches with LED metering and an optional hand-held control to enable networking and data collection. Easy setup, configuration flexibility, and intuitive operation make SIGMA LT the leading solution for a range of applications, including equipment rental and testing services. SIGMA LT is a modular system and can be utilized both locally and remotely up to 820 ft from the load bank.

SIGMA LT not only offers best-in-class features, but is also a cost effective solution. SIGMA LT load banks of varying sizes can provide a fleet with an extensive range of load.


Product Knowledge

 Benefits of Networking Load Banks




**FLEXIBLE**

Standard Digital Toggle Switches or Optional Enhanced Hand-Held Remote Control for Networking



**FEATURE-RICH**

Touchscreen Hand-Held Remote with Fast CAN Bus Communication for Control up to 25 Load Banks



**COST EFFECTIVE**

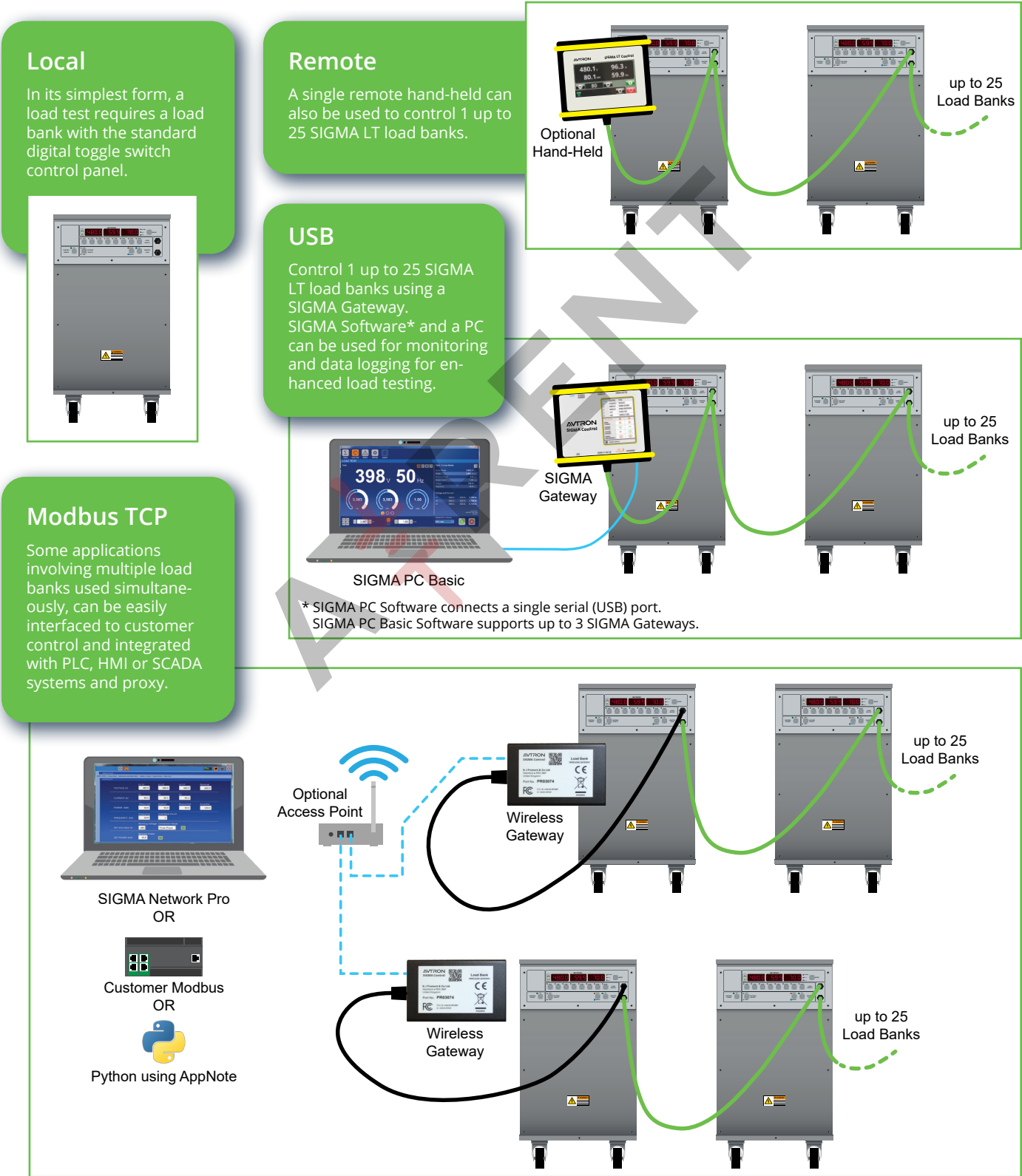
Best-In-Class Features and Capabilities without Premium Costs

## SIGMA LT Availability

2000 SERIES	3000 SERIES	5000 SERIES
Standard on:	Standard on:	Optional on:
Model 2705	Model 3010	Model 5505
Model 2755	Model 3020	Model 5605
Model 2775	Model 3040	Model 5905
Model 2805	Model 3010LTR	
Model 2905	Model 3020LTR	
	Model 3040LTR	
	Model 3066LTR	
	Model 3110LTR	

# Load Bank Monitoring and Control

SIGMA LT is Avtron Power Solutions' most streamlined load bank control system, and offers solutions for a range of configurations. It provides essential load test capabilities for a single resistive load bank or a network of up to 100 resistive units.





# SIGMA LT Load Bank User Interface

## Standard Digital Toggle Switches

The SIGMA LT digital toggle switch control panel is fitted as standard to all SIGMA LT load banks and provides simple, direct, local control of individual load banks. Digital load step changes are synchronized by a short delay providing "clean" load changes that would not otherwise be possible with traditional toggle switches. They are perfect for simple load tests and provide redundancy and convenience when used together with the SIGMA LT Hand-Held control.

### Features and Benefits

- Digital LED instrumentation for single-phase and three-phase systems
- Applies load changes simultaneously across multiple load banks
- Applies correct load whether in single or three-phase mode
- Limits load to avoid overloading the power source
- 10X operational life when compared to mechanical toggle switches
- Connects a SIGMA LT Hand-Held Unit at any point to switch between control methods

### Applications

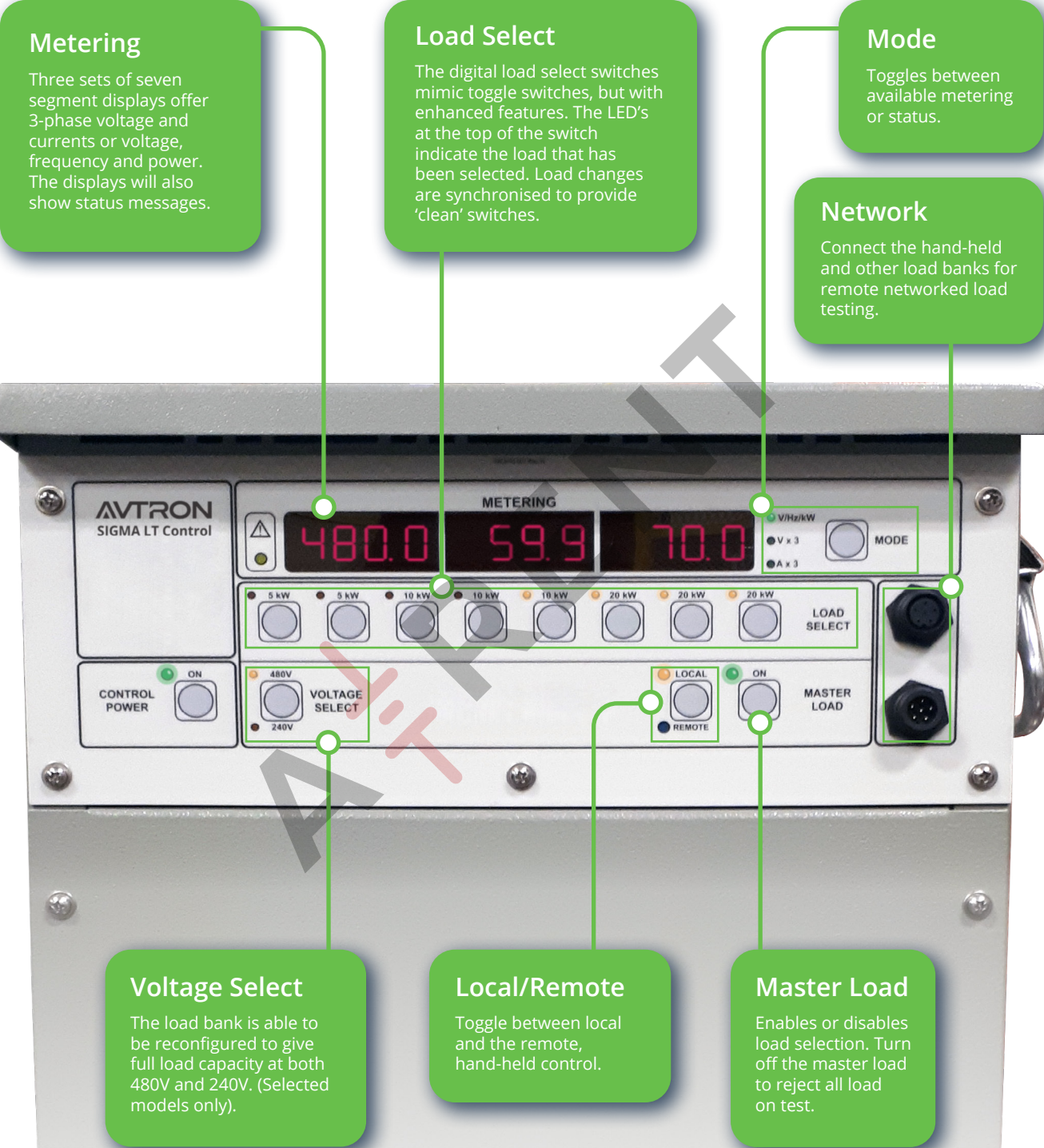
- Generator AVR and governor testing
- Rental and testing service applications requiring quick local control

### Product Knowledge

▶ [SIGMA LT Digital Toggle Switch Tutorial](#)



# Standard Digital Toggle Switches





# SIGMA LT Load Bank User Interface

## Optional SIGMA LT Hand-Held Remote Control

The SIGMA LT hand-held is an optional accessory to any SIGMA LT load bank. The rugged SIGMA LT hand-held touchscreen interface is encased in a robust aluminum enclosure. It enables users to optimize and maximize all SIGMA LT control, monitoring, and data collection capabilities.

Only a single hand-held display with multi-language options is required to control 1 to 25 load banks in a network. Load can be either shared proportionally across the network, or individually set (useful for generating heat in HVAC testing and verification). Using the hand-held also gives true derated loading as expected when the working voltage is less than load bank nominal voltage. The SIGMA LT hand-held gives the operator the ability to apply load synchronously to all load banks, giving "clean" load switches.

### Features and Benefits

- Controls up to 25 load banks individually or together from distance up to 820 feet (250 meters)
- 4.3" color touchscreen interface for easy viewing
- USB port enables export of test data for further analysis
- Uses CAN Bus protocol for speed and reliability
- Uses firmware to control load banks and record data
- Automatically detects and connects load banks and provides status overview
- Enables users to add or remove units quickly
- Provides firmware updates to load banks

### Applications

- Limited-access spaces (rooftops, basements) requiring multiple small load banks
- Distributed load banks for testing data center cooling systems

### Network up to 25 Load Banks

Networked load banks give a better overall load resolution, for example: 1x100kW load banks and a 1x400kW load bank can be put on one network giving a capacity of up to 500kW, and a resolution of the smallest load step in the 100kW unit. This is particularly beneficial if the supply on test is on a roof or basement where a singular 500kW load bank could not access.

### Product Knowledge

- ▶ [SIGMA LT Hand-Held Tutorials](#)
- ▶ [SIGMA LT Streamlining Data Center Power and Cooling Tests](#)



# Optional Hand-Held Remote Control

### Load Selection

Load selection can be changed using the - or + keys. It will step at the load resolution of the minimum load step of all of the load banks connected, thus giving a jog action.

Load selection can also be edited by using the number pad, opened by tapping the number.

### Color Touch Screen

The high quality, 4.3" color touch screen with graphical interface provides instrumentation and control on just two screens. Information and status of the full network is also available.

### Durability

The hand-held is enclosed in robust aluminium to protect it from the general wear and tear of operation.

### Control Each Load Bank Individually

The SIGMA LT hand-held provides individual load bank status and control within a network. This feature is completely unique in the load bank control industry and provides versatility for any application.

### Network Cable Connection

Up to 25 SIGMA LT load banks can be networked for load tests using the industry-standard CAN bus.

Networking smaller load banks for a 24 hour commissioning tests provides the benefits of redundancy and finer load step resolution.

### Data Logging & Statistical Data

Connect a USB flash drive to the hand-held and export load bank events and statistical data. The data can then be imported into Microsoft® Excel™ (or similar program) for further analysis or reports.

Also used for firmware updates of the hand-held and networked load banks.

### Bottom view of hand-held





# Expand SIGMA LT Load Bank Capabilities with

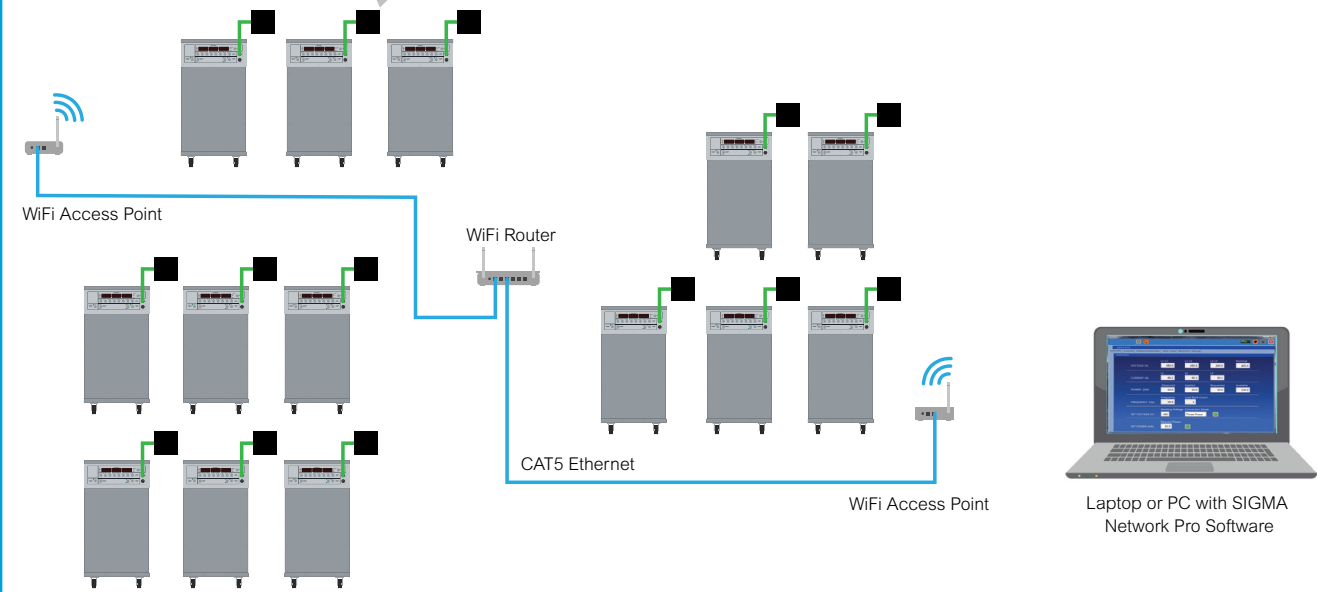
## Optional SIGMA Gateways

Avtron offers both wired and wireless Gateways for use with the SIGMA LT platform. Both Gateways can also connect load banks controlled by the Avtron SIGMA 2 load bank platform. Their features are compared below.



Wired Gateway	Wireless Gateway
Communicates through USB cable for SIGMA PC and SIGMA PC Basic. Ethernet cable for SIGMA Network Pro	Communicates via Wireless TCP/IP or Wired Ethernet Cable, Modbus TCP for PLCs, or SIGMA Network Pro
Connects with up to 25 SIGMA LT compatible resistive load banks	Connects with up to 25 SIGMA LT compatible resistive load banks
Can also connect load banks controlled by Avtron's SIGMA 2 control system	Can also connect load banks controlled by Avtron's SIGMA 2 control system

Sample of SIGMA LT Load Banks Networked using Wireless Gateway and SIGMA Network Pro Software



### Product Knowledge

- [SIGMA Gateway](#)
- [SIGMA Wireless Gateway](#)

# Optional Accessories and Software

## Optional SIGMA Software

Additional SIGMA software expands SIGMA LT's capabilities

Characteristics	SIGMA PC	SIGMA PC Basic	SIGMA Network Pro
Installs in a Windows® PC	Yes	Yes	Yes
TCP/IP Communication	No	No	Yes
SIGMA Gateway (Wired)	Yes	Yes	Yes
SIGMA Gateway (Wireless)	No	No	Yes
Maximum Number of Load Banks	25	Up to 3 groups of 25 - each group controlled by a gateway	Control up to 75 - dependant on network configuration
Controls Multiple Load Banks in Unison	Yes	Yes	Yes
Controls Load Banks Individually	No	No	Yes
ISO 8528 Test Scripts and Automatic Pass/Fail Reports	Yes	No	No
Interface for Windows® Tablet Devices	No	Yes	No

### Product Knowledge

- [SIGMA PC](#)
- [SIGMA PC Basic](#)
- [SIGMA Network Pro](#)

## SIGMA LT Platform Possibilities

Control multiple load banks using optional SIGMA Gateways and SIGMA Software



