In traditional basic teaching labs, connecting instruments to a network is challenging. Building an internal network through cables is tedious, and most of the instruments do not have a LAN port. Tektronix TekSmartLab™ is different from other solutions because it connects instruments to a network by converting USB ports to Wi-Fi ports. An industry first wireless lab instrument management solution, TekSmartLab supports up to 120 instruments (30 benches) on a single platform.

**Key features**

- Wi-Fi networking
- Single software controls up to 120 instruments
- Intuitive laboratory layout emulation
- Instant remote configuration of large fleets of instruments

**Applications**

- Basic teaching laboratory
- Electronic engineering laboratory

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**Intuitive setup and operation**

The TekSmartLab platform can be easily set up without any LAN cables or instrument configuration. The graphical interface of TekSmartLab is easy to learn. The application lets you emulate the layout of benches in a laboratory, making it easy for professors to find and control the instruments associated with bench numbers.

**Centralized configuration**

Professors can load instrument configurations based on different courses and then distribute them to over 100 instruments with a single click before a lab exercise. Instrument configuration changes can be made and delivered anytime; for example, the Autoset function can be disabled to encourage students to learn how to manually adjust an oscilloscope to display the correct waveform.
Centralized monitoring and remote assistance

With TekSmartLab, professors can easily monitor the status of all instruments during the experiment: Green signifies "working," gray signifies "no connection," and red signifies "error." A professor can check or help a specific bench by clicking on the corresponding bench icon.

Clicking a bench icon displays the readouts and key configuration settings for the instruments on that bench.

After an experiment, professors can remotely check the test results for each student and view snapshots of their oscilloscope screens.

Asset management

In conventional teaching labs, the asset manager must manually check and record information such as instrument model numbers, serial numbers, and locations. Detailed information like the length of usage can only be estimated by experience or by keeping usage logs.

The TekSmartLab solution automatically records and displays asset information every 30 seconds, including usage time. Just one click archives the asset and usage information. TekSmartLab dramatically increases asset management accuracy compared to previous methods while reducing the workload.
# Specifications

## General

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum benches supported</td>
<td>30</td>
</tr>
<tr>
<td>Maximum instruments supported</td>
<td>120 (four instruments per bench: one oscilloscope, one arbitrary function generator, one digital multimeter, one power supply)</td>
</tr>
<tr>
<td>Laboratory layout emulation</td>
<td>Add, Delete, Bench Number</td>
</tr>
<tr>
<td>Large fleet configuration</td>
<td>By course, By instrument type</td>
</tr>
</tbody>
</table>

## Instruments

### Supported instruments

<table>
<thead>
<tr>
<th>Category</th>
<th>Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oscilloscopes</td>
<td>Tektronix TBS1000B-EDU series, Tektronix DPO/MSO2000B series, Tektronix MDO3000 series (oscilloscope function only)</td>
</tr>
<tr>
<td>Arbitrary function generators</td>
<td>Tektronix AFG2021, Tektronix AFG3000C series</td>
</tr>
<tr>
<td>Digital multimeters</td>
<td>Tektronix DMM4020, Keithley DMM2110, Keithley DMM2100</td>
</tr>
<tr>
<td>Power supplies</td>
<td>Keithley 2230-30-1, Keithley 2231A-30-3</td>
</tr>
</tbody>
</table>

### General functions

- Check status, preset, record model number, S/N, time of use and location

### Oscilloscope functions

- Set/Check horizontal/vertical resolution and scale
- Set/Check trigger level (support Edge trigger only)
- Set/Check measurement
- Waveform update
- Check/save snapshot
- Autoset Enable/Disable
- Autoset

### Arbitrary Function Generator (AFG) functions

- Set/Check carrier waveform (support Sine, Pulse, Ramp, Square waveforms)
- Set/Check carrier frequency, amplitude, pulse width (for Pulse only)
- Set/Check modulating type: AM, FM, PM, Sweep (for carrier waveform as Sine only)
- Output ON/OFF

### Digital Multimeter functions

- Set/Check measurement function: DCI, DCV, ACI, ACV, Ohm (2-wires)
- Set/Check Auto/Manual range
- Check measurement result
Datasheet

**Power supply functions**
- Set/Check setting voltage/current
- Check output voltage/current
- Output ON/OFF

**System requirements**
- Microsoft Windows 7, 32-bit or 64-bit
- CPU 2 GHz or above
- RAM 2 GB or above
- Microsoft Office 2010
- Screen resolution 1366*768 or above

**Ordering information**

**TSL3000A**
TekSmartLab™ software

Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.

For Further Information, Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit [www.tektronix.com](http://www.tektronix.com).

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