SAPLING
Wi-Fi
SYSTEM

Sapling Wi-Fi System

DESCRIPTION

Adding a synchronized clock system has never been easier with the Sapling Wi-Fi Clock System. Combining wireless simplicity with total control, Wi-Fi clocks utilize a facility's existing Wi-Fi infrastructure so there is no need to run wires between the clocks. Since each Wi-Fi clock can obtain the accurate time from multiple time servers (NTP) via the internet a master clock is only optional with the Wi-Fi system.

Each Sapling Wi-Fi Clock is equipped with a built-in web interface that allows the user to set and control the clock from any computer or mobile device on the same network. This user-friendly web interface makes setting the clocks quick and easy, and provides the user with diagnostic information, troubleshooting capabilities, and much more.

The Sapling Wi-Fi Monitoring Software comes standard with the Wi-Fi system and detects all Sapling Wi-Fi Clocks on the network. This useful tool allows the user to supervise the clocks, view system information, and configure email alerts.

The Sapling Wi-Fi Clock System is an ideal solution for many applications, from large projects with many clocks to small installations with just a few clocks spread far apart.

Sapling Wi-Fi Clocks utilize a facility's Wi-Fi/internet infrastructure in order to receive the time data.

Sapling Wi-Fi System Advantages

Built-In Web Interface – Each Wi-Fi clock has its own web interface, which allows the user to easily configure features such as 12/24 hour mode (digital clocks only), time zone offset, domestic and international Daylight Saving Time, etc.

Self-Diagnostics – Each clock can perform self-diagnostics to keep the user informed about the clock's status.

Server Synchronization Redundancy – Each Sapling Wi-Fi Clock stores up to 5 NTP server addresses to ensure synchronization even if one or more servers fails to communicate.

Master Clock Optional – As long as internet is reliable or an in-house NTP/SNTP time server is available, a master clock is optional since each clock can receive the time data directly from the NTP/SNTP time source. Otherwise, a master clock with a GPS receiver can be added to the system as an accurate time source.

Wi-Fi Monitoring Software – View, supervise, and configure email alerts with the Sapling Wi-Fi Monitoring Software to keep up to date with your Wi-Fi Clock System. In addition, the Wi-Fi Monitoring Software shows the battery level of each battery-operated analog clock in the system.

Cost Efficiency – Since the clocks receive the time over the facility's existing Wi-Fi infrastructure, there is no need to run wires between the secondary clocks, therefore greatly reducing installation and maintenance cost. Sapling's Analog and Digital Clocks are offered in 24V, 110 VAC, and 230 VAC. To further simplify installation, Sapling also offers a battery-powered analog clock. A battery-powered clock can be installed by simply inserting batteries into the clock and hanging it on the wall. Each battery operated analog clock is powered by two D-Cell alkaline batteries, such as Duracell ProCell or Duracell Ultra, which can last between 5-7 years. Simply power the clocks, connect to your network, set, and go!

Safety Standard Compliance – Sapling Master Clocks and Secondary Clocks are designed to meet strict international safety standards and are (c)UL listed.

SAW Analog

FEATURES

- Receives time correction wirelessly
- Available in Round or Square shape
  - Round clocks are available in: 9" (23 cm), 12" (30 cm), and 16" (40 cm) dial sizes
  - Square clocks are available in: 9" (23 cm) and 12" (30 cm) dial sizes
- Offered in a low-profile SlimLine ABS case
  - Optional Cherry Wood finish or Brushed Aluminum finish for round clocks
- Offered in 24 VAC/VDC, 110 VAC, 230 VAC, and battery-powered models
- Provided with mounting hardware for easy installation
- Hour, minute, and second hands
- Quick correction for time change (max. 5 minutes)
- Microprocessor based movement
- Side molded, polycarbonate crystal
- FCC Compliant

HIGHLIGHTS

- Built-in web interface – Each clock has a built-in web interface allowing the user to set, control, troubleshoot, and monitor the Wi-Fi clock
  - Settings include: Network settings, NTP server selection, UTC/GMT offset selection, automatic Daylight Saving Time adjustments, and much more!
- Receives time data from one of five preprogrammed third party NTP servers (user changeable) for added reliability and redundancy. Alternatively, it can be set to receive the time data from an in-house NTP server or from a Sapling Master Clock.
- Built -in self-diagnostics for:
  - Power resets
  - Hand position errors and corrections
  - Wi-Fi signal strength
  - Battery level (if applicable)
- Direct-connect mode allows users to configure the clock wirelessly before connecting it to a wireless network
- Supports multiple security protocols
- Adjustable synchronization rate:
  - Battery-powered: Every 12 hours default. 2/4/8/24 hours adjustable.
  - Locally powered: Every 5 minutes default. 0.25/0.5/1/4/12/24 hours adjustable.
- Interfaces with Sapling's Wi-Fi Monitoring Software, which will allow the user to view and monitor all Wi-Fi clocks in the system
- Custom Color Cases available (minimum order quantity 25)
- Designed and produced by Sapling Inc. in Pennsylvania, United States of America

SBW Digital

FEATURES

- Receives time correction wirelessly
- Available with 2.5" (6.25 cm) digits or 4.0" (10.16 cm) digits; 4 digit (00:00) display or 6 digit (00:00:00) display round clocks are available in: 9" (23 cm), 12" (30 cm), and 16" (40 cm) dial sizes
- Red display standard; optional white, green, or amber displays
- Adjustable bright LED display (high, medium, low, off)
- 12 or 24 hour display
- Offered in 24 VAC/VDC, 110 VAC, and 230 VAC models
- Provided with mounting hardware for easy installation
- Immediate correction for time changes
- Microprocessor based clock
- Three models (3100, 3200, and 3300) with additional capabilities for higher models
- Automatic Daylight Saving Time change (if applicable)
- FCC Compliant

HIGHLIGHTS

- Built-in web interface – Allows the user to set, control, troubleshoot, and monitor the Wi-Fi clock
  - Settings include: Network settings, NTP server selection, UTC/GMT offset selection, automatic Daylight Saving Time adjustments, and much more!
- Receives time data from one of five preprogrammed third party NTP servers (user changeable) for added reliability and redundancy. Alternatively, it can be set to receive the time data from an in-house NTP server or from a Sapling Master Clock.
- Built-in self-diagnostics for:
  - Power resets
  - Display errors and corrections
  - Wi-Fi signal strength
- Ability to alternate between time and date in U.S. format (MM:DD:YY) and international format (DD:MM:YY) format at user-changeable rates.
- Direct-connect mode allows users to configure the clock wirelessly before connecting it to a wireless network
- Supports multiple security protocols
- Adjustable synchronization rate:
  - Every 5 minutes default. 0.25/0.5/1/4/12/24 hours adjustable.
- Ten year battery backup for internal real time clock and clock settings
- Interfaces with Sapling's Wi-Fi Monitoring Software, which will allow the user to view and monitor all Wi-Fi clocks in the system
- Designed and produced by Sapling Inc. in Pennsylvania, United States of America

ADDITIONAL 3200 MODEL HIGHLIGHTS

- Includes all of the SBP 3100 model's capabilities
- Capable of interfacing with:
  - Elapsed Timer Control Panel (SBD-ELT-001-0)
  - Temperature Sensor (SBD-TEMP-000-0)

ADDITIONAL 3300 MODEL HIGHLIGHTS

- Includes all of the SBP 3100 and 3200 models' capabilities
- Can interface with a third party system via a contact closure such as a nurse call system that can automatically trigger the elapsed timer
- Can interface with a buzzer accessory (A-BUZZ-3300-1) activated when the Sapling Elapsed Timer reaches 00:00:00

Wi-Fi MONITORING SOFTWARE

View and supervise the entire Wi-Fi clock system with Sapling's Wi-Fi Monitoring Software!

The Wi-Fi Monitoring Software allows easy access to clock information, such as the battery level of battery powered analog clocks, each clock's IP address, how long each clock has been powered, and when each clock last synchronized.

The Monitoring Software can also be configured to send an email alert if a clock disappears from the network. The software also offers a simple method to control any specific clock in the system. Need to adjust a specific Wi-Fi Clock's settings? No problem. Just locate the clock in the Wi-Fi Monitoring Software and double click on it to open that clock's web interface.

Wi-Fi Clock Monitor

Groups   Filters   Email Alerts   Save to File   Version

sapling
Synchronized Clock Systems

Wi-Fi Clock Monitor

Name	Serial Number	Type	IP Address	Last Update	Runtime	Version	Status
Digital-1128	1128	WIFI Digital	192.168.4.236	11:19:46	5:18:44:36	1.0.1 (2853)-21403	NTP SYNCH:06-29-17 11:16:00
Analog-163	163	WIFI Analog	192.168.4.7	11:19:51	0:00:09:02	1.0.2 (2852)-20773	NTP SYNCH-06-29-17 11:20:06; Bat=3378;
Digital-1127	1127	WIFI Digital	192.168.4.164	11:19:52	0:18:07:52	1.0.1 (2853)-20772	NTP SYNCH:06-29-17 11:15:24
Digital-1131	1131	WIFI Digital	192.168.4.232	11:19:56	0:01:27:59	1.0.1 (2853)-21404	NTP SYNCH:06-29-17 11:15:09
Digital-1130	1130	WIFI Digital	192.168.4.113	11:20:03	0:18:09:57	1.0.1 (2847)-21404	NTP SYNCH:06-29-17 16:17:30
Digital-1102	1102	WIFI Digital	192.168.4.71	11:20:07	0:18:11:56	1.0.1 (2847)-21404	NTP SYNCH:06-29-17 11:18:44
Digital-1124	1124	WIFI Digital	192.168.4.133	11:19:13	5:18:44:06	1.0.1 (2853)-21404	NTP SYNCH:06-29-17 11:19:25
Digital-1121	1121	WIFI Digital	192.168.4.14	11:19:20	4:21:59:09	1.0.1 (2853)-21404	NTP SYNCH:06-29-17 16:15:32
new master qa1	12542	Master Clock	192.168.0.131	11:19:24	14:20:47:42	4.3.8 (2782)	RTCLOCK SYNCH 04-03-18 23:07:27
Digital-1113	1113	WIFI Digital	192.168.4.17	11:19:32	5:18:41:35	1.0.1 (2853)-20772	NTP SYNCH:06-29-17 11:18:33
Analog-150	150	WIFI Analog	192.168.4.19	11:19:34	0:00:12:43	1.0.2 (2852)-20773	NTP SYNCH:06-29-17 11:16:50; PS;

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Example of the Sapling Wi-Fi Monitoring Software.

Using a Master Clock with a Wi-Fi System

One of the benefits of the Sapling Wi-Fi System is that a master clock is only an optional addition. By default, each Sapling Wi-Fi Clock receives the time data via the internet from multiple NTP servers. As long as reliable internet connection or an in-house NTP server is available, a master clock is not required with the Sapling Wi-Fi System.

There are three primary reasons to use a master clock with the Sapling Wi-Fi System: When a master clock with a GPS receiver is needed, when there is a need to control other systems using programmable relays, or when the facility requires an NTP/SNTP server to provide accurate time data to IP devices in the facility other than the Sapling Wi-Fi Clocks.

Master Clock with a GPS Receiver: For facilities that require an additional layer of redundancy or do not have access to existing in-house or online NTP/SNTP servers, a Sapling Master Clock with a GPS receiver ensures that accurate time is received. In this case, the first accurate time source for the master clock would be the GPS, while NTP servers would act as a backup accurate time source as long as an internet connection is available.

Master Clock with Programmable Relays: Some facilities require a means of controlling other systems through the use of programmable relays. The Sapling SMA 3000 Master Clock is offered with either 4 or 8 relays. These relays can be programmed to control a variety of systems by switching them on and off at predetermined times. A master clock with relays may include school bell systems, lights, heating/cooling, and more.

NTP Master Clock: For facilities that would like to provide synchronized time to IP devices other than the Wi-Fi clocks, Sapling offers an NTP Master Clock. The Sapling NTP Master Clock acts as an NTP server to provide the time to IP devices such as IP security cameras, IP phones, IP intercoms, or any other IP device capable of receiving (S)NTP time via LAN.

SMA Series Master Clock

Sapling Wi-Fi Clocks are capable of taking the accurate time from any Sapling Master Clock model via LAN. The SMA 2000 Series is our standard master clock model with a front LED display and two push buttons for basic system programming. The SMA 3000 Series comes with a front LED and LCD display as well as a keypad to allow for advanced programming. The SMA 3000 model may also be offered with 4 or 8 programmable relays (zones) for controlling third party systems, such as a school bell system, with a contact closure.

All of Sapling's Master Clocks come with a built-in web interface to allow for easy setup and programming from any computer in the facility via LAN. By default, the master clock receives the time data from third party NTP servers over the internet. The master clock is also offered with an optional GPS receiver as an additional source for receiving accurate time. Other features include a built-in real-time clock and the ability to send an email alert when communication with the accurate time source(s) is lost.

STANDARD FEATURES

- Available in rack mount or wall mount
- LED display for a clear, accurate read out
- Backlit LCD display (3000 model only)
- Two buttons for programming (2000 model) or 2 x 8 rubber button keyboard for easy programming (3000 model only)
- Intuitive built-in web interface allows the system administrator to configure all the settings of the SMA Series Master Clock easily from the convenience of any computer on the same network
- RJ45 input for web interface access and synchronization to any SNTP/NTP server
- Ability to store up to 10 different NTP server IP addresses or domain names for continuous accurate time and redundancy

- Automatically switches from one accurate time source to another in case of a communication failure
- Indicating LED on master clock front panel to visually indicate a communication failure with the NTP server or GPS time source
- The master clock can be programmed to send an email alert when communication with the accurate time source has failed, when the master clock has been rebooted, when the fire alarm in the facility has been activated (if applicable), and more
- Can control wired clock systems, wireless clock systems (when equipped with transmitter), and provide the time to IP PoE and Wi-Fi clocks simultaneously
- 12 or 24 hour display

- Automatic, fully customizable Daylight Saving Time updates, if applicable

- Selectable UTC/GMT offset

- Bias seconds option – offsetting the master clock to adjust the time plus or minus a few seconds or minutes to fit the application, while it is still receiving accurate time input

- DHCP Capable

- Proprietary RS485 input and output for time synchronization

- Microprocessor based

- Ten year battery backup for keeping time and master clock settings in the event of a power outage

OPTIONAL FEATURES

- GPS input for accurate time synchronization

- NTP server upgrade

- 4 or 8 configurable auxiliary relays which control other systems by closing a relay at predetermined times (3000 model only)
  - 255 schedule (group of events) and 800 event capabilities (such as triggering bells)
  - Two programmable closure durations per relay

- Transmitter to provide time correction to a Sapling Wireless or Sapling TalkBack Wireless System

Accessories

Sapling offers different accessories to accommodate various project needs. These include:

- Elapsed Timer Control Panel (can interface with 3200 and 3300 digital clock models)
- Buzzer Accessory (can interface with 3300 digital clock model)
- Temperature Sensor (can interface with 3200 and 3300 digital clock models)
- Wire Guards
- Clear Protective Covers
- Flag Mount and Double Mount Housing

Shown above is a Sapling Elapsed Timer Control Panel.

About Us

The Sapling Company is a global leader in engineering and manufacturing advanced synchronized clock systems. We have earned a reputation both in the USA and international markets for our superior technology, quality and reliability. For more information about Sapling Synchronized Clock Systems and the Time Zone Clock, please visit our website: www.sapling-inc.com

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Sapling

*a global leader in engineering & manufacturing
quality synchronized clock systems since 1993*

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