Smart-Sync Analog Clock Install Guide

OneVue Synchronized Time Solution

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About this Guide

Audience

This guide is intended for users tasked with installing Smart-Sync Analog Clocks for use with the Primex OneVue Synchronized Time solution.

Content messaging

This guide includes notes, cautions, and warnings content that highlights important messages.

Typeface	Indicates
Note	Indicates something important or useful.
Caution	Indicates a command or procedure may have an unwanted or undesirable result.
Warning	Indicates a command or procedure that could be dangerous to system or device.
Example	Provides an example of the topic.

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Regulatory Approvals

FCC Compliance

Pursuant to FCC 15.21 of the FCC rules, changes not expressly approved by Primex might cause harmful interference and void the FCC authorization to operate this product.

FCC Radio Frequency Interference

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiver's antenna.
- Increase the distance between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To assure continued appliance, any changes or modifications not expressly approved by the party responsible for compliance could voice the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions.

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Radio Standards Specification (RSS)

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

(1) This device may not cause interference; and

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage;

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 et la conformité à l'exposition de RSS-102 rf, utilisateurs peut obtenir l'information canadienne sur l'exposition et la conformité de rf.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ou émetteur. Cet équipement devrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.

European Union Declaration of Conformity and Restrictions

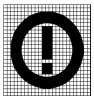
Hereby, Primex Inc. declares that this equipment complies with the essential requirements and other relevant provisions of Directive 1999/5/EC:

- Primex Smart-Sync Analog Clocks.

This equipment is marked with CE 0984 ① and can be used throughout the European community.

This indicated compliance with the R&TTE Directive 1999/5/EC and meets the relevant parts of following technical specifications:

- EN 300 328 – Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission Systems; Data transmission equipment operating in the 2.4GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE directive.
- EN 301 489-17 – Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 17 Specific Conditions for Wideband Data and HIPERLAN Equipment.
- EN 60950 – Low Voltage Directive (Safety)
- EN 50385 – Product standard to demonstrate the compliances of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields.

Marking by the symbol  indicates that usage restrictions apply.

- Indoor use: maximum power (EIRP*) of 100 mW for the entire 2400-2483.5 MHz frequency band.
- Outdoor use: maximum power (EIRP*) of 100 mW for the 2400-2454 MHz band and with maximum power (EIRP*) of 10 mW for the 2454-2483 MHz band.

Exposure to Radio Frequency Radiation To comply with RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all person.

The technical documentation relevant to the above equipment will be held at:

Primex | 965 Wells Street | Lake Geneva, WI 53147 | Phone: 1-800-404-8112

Company Representative: Larry Poglitsch, Director of Operations

Signed:

Specifications - Smart-Sync Analog Clock

Battery-powered models

Typical five (5) year battery life. Battery life is based on operating conditions and may vary due to installed site conditions.

2 D-cell alkaline batteries (not included)

Electric (AC-powered) models

Power Supply 100-240 VAC, 18 in. (45.72 cm) cord with plug

Single-Sided: 67mA @ 120 VAC

Dual-Sided: 134mA @ 120 VAC

Bluetooth® Wireless Communication Protocol

Bluetooth® Low Energy (BLE) Wireless Technology, version 4.1

Bluetooth Range - up to 80 feet (24.3 meters)

Operation

Upon first-power up at installation location, a clock enters self-discovery mode to establish connection to Smart-Sync Bluetooth Wireless Network.

Clock connects to Smart-Sync Bluetooth Wireless Network to synchronize its time and download setting updates.

Automatically adjusts for Daylight Saving Time (DST)

Daily midnight hand verification check; if this check shall fail for three consecutive days, the clock enters a hand position failure status.

If power is interrupted, the clock stops until power resumes. Upon resumption of power, the clock self-corrects to the current time.

Environment

Operating Temperature: 32° F to 95° F (0° C to 35° C); indoor use only

Storage Temperature: 14° F to 140° F (-10 °C to 60 °C)

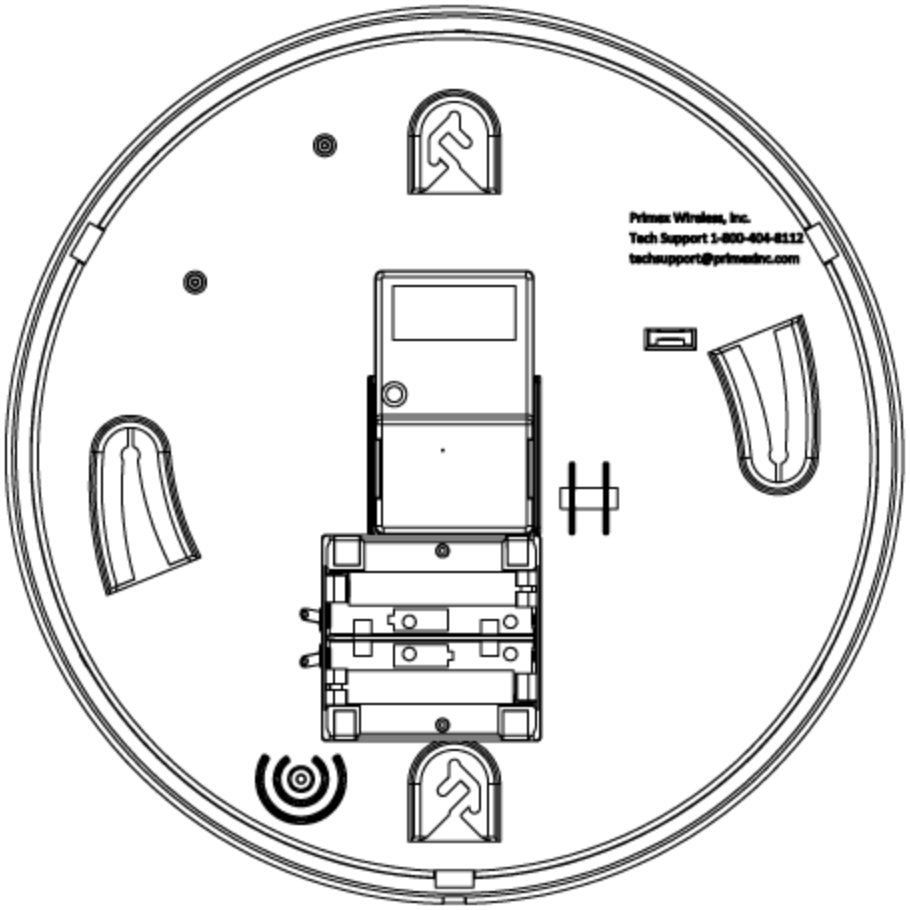
Certifications

FCC, CE, and IC compliant

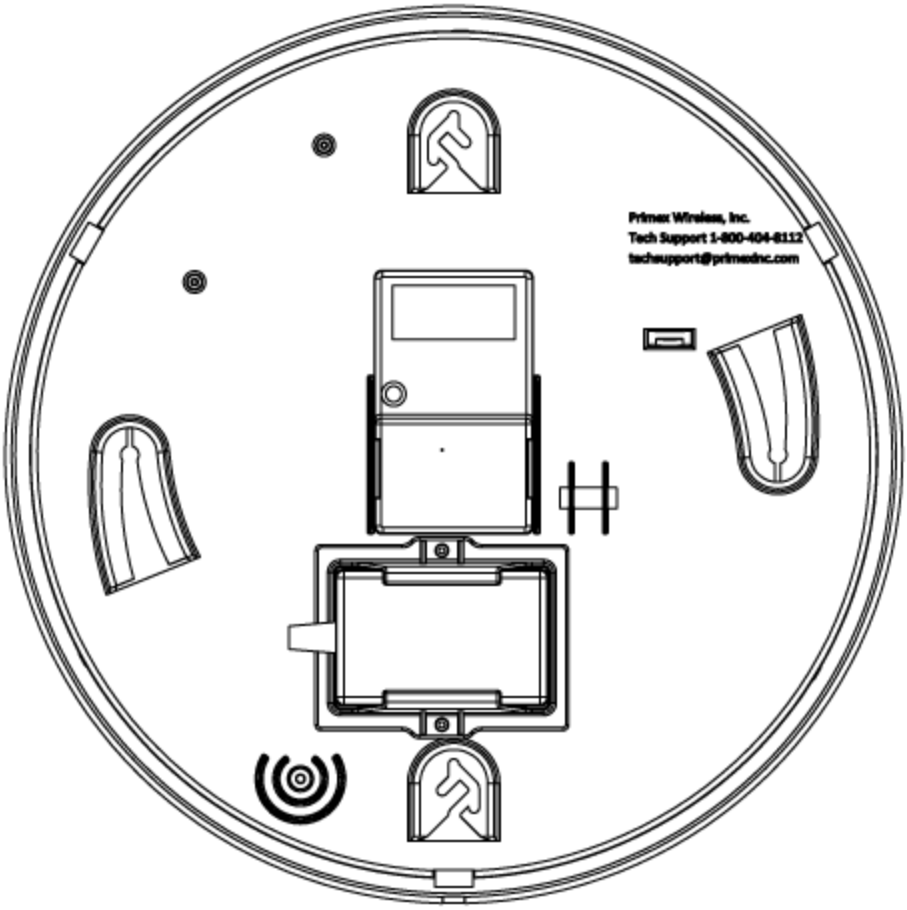
Component Specifications - Smart-Sync Analog Clocks

The following images represent the back view of each clock model.

Analog clock battery-powered model components



Analog clock AC-powered model components



Smart-Sync Analog Clock Install

Learn how to install and operate an Analog Clock.

Installation and Operation Overview

Smart-Sync Clocks are designed to provide ease of installation - requiring no end-user configuration, simply take-out-of the box and install. The only operation dependency is its connection to an available Smart-Sync Bluetooth Wireless Network.

- Smart-Sync Clocks are equipped with a Bluetooth Low Energy (BLE) Wireless Technology radio component, that allows the clock to establish a wireless connection to a Smart-Sync Bluetooth Wireless Network.
- A Smart-Sync Clock is identified by a unique Device ID, allowing each clock to receive its unique Device ID settings managed in OneVue, and also authenticate to a Smart-Sync Bluetooth Wireless Network.
- A Smart-Sync Bridge is the only system device that connects to your facility's network. Upon its network connection, it sends Smart-Sync clock data to OneVue and downloads clock settings, and connects to its NTP time source to receive UTC time. The Smart-Bridge then sends downloaded clock settings and UTC time to Smart-Sync clocks over the Smart-Sync Bluetooth Wireless Network.

The sections below define clock operation at time of installation and post-installation.

Before you begin

Confirm a Smart-Sync Bridge, designated to support the clock installation area, has established a network connection to OneVue. A Smart-Bridge must have connected to OneVue and its NTP Time source to allow Smart-Sync Clocks to receive their time and a daily connection schedule.

Installation - Clock Self-Discovery

Upon first-power up at its installation location, a new clock shall go through a self-discovery process as defined below.

1. Clock continuously searches for an available Smart-Sync Bluetooth Wireless Network.
2. Upon its connection to a Bluetooth Wireless Network, it establishes a communication path either to another Smart-Sync Clock or directly to a Smart-Sync Bridge available within the Bluetooth Wireless Network.
3. Clock receives time from either a Smart-Sync Clock or directly from a Smart-Sync Bridge.
4. Smart-Sync Bridge receives the new clock Device ID and sends the clock Device ID to OneVue over your facility's network within 30 minutes.
5. Upon the Smart-Sync 's connection to OneVue, the new clock Device ID is automatically added to OneVue and the clocks unique Device ID settings are downloaded to the Smart-Sync Bridge.
6. Smart-Sync Bridge automatically sends the Device ID settings to the new clock over its connection to the Bluetooth Wireless Network.

Post-Installation Operation

Upon completion of the self-discovery process, a Smart-Sync Clock operates as described below.

1. Smart-Bridge connects to your facility's network to download Smart-Sync Clocks' setting updates from OneVue, and connects to its NTP time source(s) to receive UTC time.
2. Smart-Sync Clocks automatically connect once a day at its system defined daily schedule to a Smart-Sync Bluetooth Wireless Network. At the time of connection, the clocks' statuses are forwarded to a Smart-Sync Bridge either by its communication path to another Smart-Sync Clock or directly to a Smart-Sync Bridge. The clocks receive setting updates and synchronizes received UTC time to its Time Zone offset and DST rules.
3. Smart-Sync Bridge establishes a network connection to your facility's network to forward clock status data to OneVue.

1. Smart-Bridge connects to your facility's network to download Smart-Sync Clocks' setting updates from OneVue, and connects to its NTP time source to receive the UTC time.
2. Smart-Sync Clocks automatically connect once a day at its system defined daily schedule to a Smart-Sync Bluetooth Wireless Network. At the time of connection, the clocks' statuses are forwarded to a Smart-Sync Bridge either by its communication path to another Smart-Sync Clock or directly to a Smart-Sync Bridge. The clocks receive setting updates and synchronizes received UTC time to its Time Zone offset and DST rules.
3. Smart-Sync Bridge establishes a network connection to your facility's network to forward clock status data to OneVue.

Installation Requirements Smart-Sync Analog Clocks

Refer to the Important Safety Instructions before installing, operating or performing maintenance of clocks.

Installation requirements

A Smart-Sync Bridge or Smart-Sync Clock/Timer is within 80 feet (24.3 m) from the clock installation location.

AC-powered analog clock installation guidelines

A socket-outlet is required to be available within 18 in. (45.72 cm) from the clock installation location and should be easily accessible. Refer to the table below for power specifications.

Model	Input Power	Current Draw
AC-Powered Single-sided	120V~, 47-63Hz	67mA@120V~
AC-Powered Dual-sided	120V~, 47-63Hz	134mA@120V~

AC-Powered clocks are supplied with a power cord with a two-prong plug. The two-prong plug may be removed for a hardwired (pigtail) installation. Hardwired installation requires a 120V~ power line in a junction box installed by a licensed electrician. Leave a minimum of 6 in. (15 cm) of cord inside the junction box.

Warranty

Two Year Limited Warranty

Primex warrants this product to be free from defects in materials and workmanship for a standard of two (2) years from the date of purchase. Primex will at its sole option, repair or replace any components that fail in normal use. Such repairs or replacements will be made at no charge to the customer for replacement parts. The customer will be responsible for any transportation costs. This warranty does not cover failures due to misuse, abuse, accidental or unauthorized alterations or repairs.

The warranties and remedies contained herein are exclusive and in lieu of all other warranties express or implied or statutory, including any liability arising under any warranty or merchantability or fitness for a particular purpose, implied, statutory or otherwise. In no event shall Primex be liable for any incidental, special, indirect or consequential damages, whether resulting from the use, misuse or inability to use this product or from defects in the product. Some states do not allow this exclusion or limitation of incidental or consequential damages so the above limitations or exclusion may not apply to you.

To obtain warranty service: If after following the instructions in the product guide, you are certain the product is defective, please contact Primex Technical Support to assist with troubleshooting the issue. If the issue cannot successfully be resolved and the product is under warranty, an RMA (Return Material Authorization) will be generated. The RMA form will be provided via email with detailed instructions for the return.

Primex retains the exclusive right to repair or replace the unit at its sole discretion. All merchandise returned must be shipped to Primex Attn: Returns Dept., N3211 County Road H, Lake Geneva, WI 53147. Primex retains the exclusive right to repair or replace the unit at its sole discretion. Such shall be your sole exclusive remedy for any breach of warranty.

Technical Support

You may require Technical Support when you have questions about product features, system configuration, or troubleshooting. Support services are delivered in accordance with your organization's support agreement, end user licenses agreements, and warranties, either with a Primex Certified Sales and Service Partner or directly with Primex.

Support through Primex Certified Sales and Service Partners

Ensuring our customers experience excellent service is of utmost importance to Primex. Our network of Certified Sales and Service Partners offer technical support services for Primex products.

If you have purchased Primex products or have a service agreement with a Primex Partner, they are your primary contact for all Technical Support inquires.

When contacting Primex Technical Support

Make sure you have satisfied the system requirements that are listed in your product documentation. Also, you should be at the computer or device on which the problem occurred, in case it's necessary to replicate the problem.

When you contact Primex Technical Support, please have the following information available:

- Customer ID/Account Name
- Problem description/error messages
- Device hardware information
- Troubleshooting performed before contacting Primex
- Recent network changes

Primex Technical Support

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Fax: (262) 248-0061

Web: www.primexwireless.com/support