

## HIGHLIGHTS

- Eight (8) channel technology
- Microprocessor based
- Immediate start up time
- High reliability
- In case of loss of signal, a temperature controlled time base is implemented allowing calibration of the time during variants in temperature
- Synchronized to UTC within 500 nanoseconds
- Interfaces directly with Sapling analog and digital clock systems
- Capable of working as a master for Sapling RS485 systems as well as two (2) wire digital communication systems
- Operation of auxiliary circuit for once-a-day relay closure with precise second resolution
- Field programmable via two (2) switches
- Two (2) levels of programming for technicians and end users
- Ten (10) year battery backup for timekeeping
- One (1) programmable signal duration per circuit (1—99 seconds), allowing the user to interface with other systems
- Diagnostic mode allows the user to maintain and troubleshoot the clock system from the master clock
- Converter option allows the master clock to transmit the two (2) wire signal to the secondary clocks
- LED Display
- RS232 and RS485 inputs and outputs
- Rack mountable
- FCC approved
- Made in the U.S.A.

## DESCRIPTION

The GPS is a highly accurate, microprocessor based multi-functional clock controller. The GPS has a Converter option which allows the two (2) wire digital communication output to be integrated into the GPS which will output 5.5 amps of current to the clock system. The GPS is equipped with a programmable auxiliary relay that can be programmed anywhere from 1—99 seconds. In case the signal is not present, the GPS will utilize a temperature controlled time base allowing calibration of the time base during variants of temperature. The GPS is easily programmable via two (2) switches. The GPS incorporates diagnostic testing which allows the user to view the current and temperature of the Converter (Converter option only), as well as a comprehensive test of the GPS. The GPS also has a RS485 output utilized for interfacing with other Sapling products. The GPS receiver comes with a RS232 input and output for serial interface in the computer. The GPS can be powered with 110 volts AC / 60 Hz or 220 volts AC / 50 Hz. It shall be FCC approved.



# GPS Master Clock (V 3.0)

## SPECIFICATIONS

- Time base: Crystal
- Frequency aging: 5 ppm/year
- Frequency stability: 5 ppm/year
- Voltage input: 85 - 265 VAC, 50/60 Hz
- Power input: 35 watts
- Display: Seven (7) segment LED display
- Color: Standard gray
- Housing: Smooth surface, rack mount metal case
- Programmable operation: Via two (2) switches
- Temperature range:
  - Operating: 0°C - 45°C
  - Shelf: -15° - 75°C
- Output relay closure
  - Duration: 1 - 99 seconds
  - Programmable time: HH : MM : SS format
  - Contact Rating: 8 amps, 0 - 220 volts
- Signal Outputs: RS485 and two (2) wire digital communication (with converter option only)
- Antenna: Thread mount bullet on 3/4" conduit
- Antenna dimensions: Diameter: 3.04" Height: 2.94"
- Mounting: Rack mount
- Standby time keeping: Ten (10) years
- Housing dimensions: (LxWxD) 5.25" x 19" x 6.25"
- Shipping Weight: Rack - 9 lbs.
- Shipping Box dimensions: (LxWxD) 11.75" x 23.75" x 10.75"
- Includes:
  - 1 - 6 foot power cord
  - 1 - dome antenna
  - 4 - 75 foot cable
- Compliance: FCC Approved

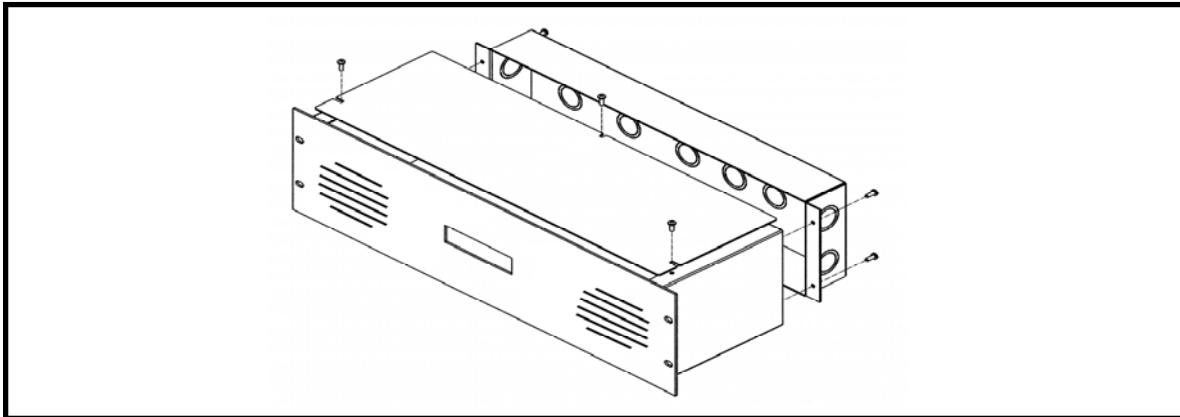
### CONVERTER OPTION SPECIFICATION

- Output current: 5.5 amps
- Output voltage: ± 24 Volts DC
- Diagnostic LEDs:
  - Load tolerance LED: 80% of 5.5 Amps
  - Temperature tolerance LED: 80% of 53°C
- Fans: DC brushless 60x60x25 mm 22.1 CFM 34.3 dB(A)

## ARCHITECTURAL AND ENGINEERING SPECIFICATIONS

The receiver shall be a Sapling GPS Receiver. The receiver shall offer a Converter option that will allow the user to send out the two (2) wire digital communication signal. The receiver shall have a programmable auxiliary relay that can be programmed anywhere from 1— 99 seconds. In case the signal is lost, the receiver shall utilize a temperature controlled time base allowing calibration of the time base during variants of temperature. The receiver shall be programmable via two (2) switches. The receiver shall have diagnostic capabilities that will allow the user to view the current and temperature of the Converter (Converter option only), as well as a comprehensive test of the receiver. The receiver shall have a RS485 output for integration with Sapling products. The receiver will have a RS232 input and output for serial interfacing to a PC. The voltage input shall be 110 volts AC/60 Hz or 220 volts AC/50 Hz. The receiver shall be FCC approved.

## MECHANICAL DRAWING



## ORDERING INFORMATION:

**GPS-400-000-1** GPS\*

**GPS-410-000-1** GPS with Converter option\*\*

\* Indiana and Arizona customers use the following part number: GPS-400-100-1

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