#### SMC 2000 Series Master Clock Description

The 2000 Series master clock is a highly accurate, microprocessor based multifunctional clock controller. This state-of-the-art timebase is capable of providing automatic and manual operation of auxiliary control circuits. The 2000 Series also provides field-enabled daylight savings time adjustment (when used as a primary master clock) for automatic bi-annual correction of all auxiliary circuits. The master clock is powered by external 110VAC/60 Hz or 220 VAC/50 Hz. However, in the event of a power failure, a lithium battery will provide ten (10) years of battery backup for time keeping functions. Non-volatile EEPROM memory is utilized enabling the SMC 2000 to retain all program information for an unlimited period of time even with all power removed. Individual events can be programmed to occur on any or all days of the week. This allows a total of 800 programmable events to be stored in memory. There are 255 schedules that can be programmed into the SMC 2000, and the customer can set up to 50 scheduling changes in advance. Operation of the auxiliary circuits/relays feature second resolution so that programs are set precisely to the second. The programming is easily accomplished by using the 16 point waterproof membrane keypad and the LCD display.









Ordering Info: Page 54



## Highlights

- Microprocessor based
- Easy to program via 16 point waterproof membrane keypad and LCD display
- "BELL" messaging functions
- Automatic bi–annual daylight savings time changes (when used as a primary master clock)
- Operation of auxiliary circuits for programming with precise second resolution
- 800 event capability
- Contains up to 255 schedules
- Field programmable
- Two (2) levels of programming menus for technicians and end users
- Program up to 50 scheduling changes in advance
- Ten (10) year battery backup for timekeeping
- Non-volatile program memory
- Capable of correcting most clocks in the field
- Two (2) programmable signal durations per circuit (1—3600 seconds) or signal on/off
- Four (4) auxiliary relays for programming is standard (up to 12 optional)
- Two (2) auxiliary relays for simultaneous correction of two clock systems as standard
- RS485 input and output for time correction and synchronization
- Digital communication output
- Two (2) line LCD display with 20 characters per line
- Surface semi-flush and rack mountable
- UL and cUL listed
- ► Made in the U.S.A.



# Architectural & Engineering Specifications

The master clock shall be a Sapling 2000 Series. It will be microprocessor based and programmable via a 16 key waterproof membrane keypad and a 20 character x 2 row LCD display. The master clock shall provide field enable/disable daylight savings time (when used as a primarymaster clock). The programmable master clock shall be capable of storing, in a non-volatile memory, and controlling up to 800 events, each set with precise second resolution. Special programs can be readily programmed for up to 255 different schedules and holidays, and 50 scheduling changes can be set in advance. The master clock will be capable of controlling two (2) different clock systems simultaneously. In addition, the RS485 input and output will be capable of controlling Sapling RS485 analog and digital clocks. The master clock shall have an output for two (2) and three (3) wire digital communication (50 watt, 24 volt DC power supply required). The master clock shall have a ten (10) year battery backup for timekeeping.





### **Ordering Information**

#### Master Clock



**SMC—200—00S—1** → Surface Mount

Options: Auxiliary Relays: SMC-00K-100-0 (Rack) or SMC-00S-100-0 (Surface) 50 Watt, 24 Volt Power Supply: SMC-000-010-1 (for 2 or 3 wire digital communication)

#### **Specifications**

Time Base:	Crystal
Voltage Input:	85—265 VAC, 50/60 Hz
Power Input:	35 watts
Display:	Vibrant 20 character x two (2) row LCD display
Color:	Standard gray
Housing:	Smooth surface metal case
Keypad:	16 key waterproof membrane
Temperature Range Operating: Shelf:	0°C−45°C −15°C−75°C
Auxiliary Circuits:	Four (4) circuits standard, up to 12 maximum
Contact Rating:	8 amps, 0—220 volts
Secondary Clock:	Two (2) circuits, selectable clock system and RS485 Sapling communication output
Mounting:	Surface/semi-flush or rack mount
Signal Duration:	Two (2) programmable signals per circuit, 1—3,600 seconds or on/off
Input:	RS485 digital communication
Standby Time Keeping:	Ten (10) years
Memory:	Non-volatile EEPROM
Outputs:	RS485, +5 VDC, Dig Out, Four (4) programmable relays and 2 clock circuits
Optional Outputs:	Two (2) wire or three (3) wire digital communication (with auxiliary power supply)
Housing Dimensions: (L x W x D)	Rack–5.25" × 19" 6.25" Surface–11.25" × 13.44" × 3.69"
Shipping Weight:	Rack—9 lbs. Surface—7 lbs.
Kit Includes:	1—6 foot power cord (rack mount only) 2—keys (surface mount only)
Compliance:	UL and cUL listed