

SPC1000 Operation Instructions



Setup Instructions

Step 1

Connect the battery positive and negative terminals as indicated (+**POWER**-) on the controller.

Step 2

Connect the pump motor to the positive and negative terminals as indicated (-**MOTOR**+) on the controller.

Step 3 (Optional)

If using a **Temperature Probe**, it may be connected at any time. If a probe is connected temperature control will be active. If no probe is connected, temperature control is not used.

Step 4

Flip the toggle from the **OFF** position to the **RUN** position to begin pumping.

Step 5

OPTIONAL MODE SELECTION – Once you have flipped the toggle to the RUN position, you may hold the rotary knob down until the screen alternates between modes. The available mode options are as follows:

- **Cycles per Minute Mode:** Cycles = 1-10, Duration = 0.5 to 5.5
- **On Time Mode:** 0.5 seconds to 5.5 seconds-half second increments
- **Temperature Mode:** 30°F-90°F
- **Remote Input Mode:** 4-20mA
- **Modbus Mode:** RS-485

NOTE: The default settings are in Cycles per Minute which are half seconds.

*Battery voltage must be above 10 volts for operation. The battery display will show when the battery is too low for pump operation.

If your desired injection rates require a setting that exceeds 4 (Cycles) and 3 (Duration), additional power may be required.

Operation

Step 6 (Setting the Controller for - CpM, ON Time, OFF Time, or Temperature)

When the Power Switch is flipped to RUN, a quick **self-test** is performed and then the battery voltage display will be selected and displayed on the seven segment display.

Pressing down on the Rotary knob will select/cycle through different displays as indicated by the LEDs. The display parameters are Cycles per Minute, Duration (On Time), Temperature ON set point, Temperature OFF set point and Battery Voltage / Temperature probe reading.

To set an operating parameter (Such as Cycles or Duration), **Press** the rotary **Knob Down Quickly** (it will click) to cycle to the parameter you want. Each press takes you to a different parameter that is displayed. When you have selected the parameter you want to change as indicated by the LEDs on the left column of the controller, you rotate the knob clockwise or counter clockwise to **change this parameter setting up or down**. When you have selected the new value you want **Press and Hold** the knob down for approximately **three seconds**, you will see **SAV displayed** indicating the new parameter set point has been saved. If you do not press and hold until SAV is indicated the setting is not saved. If you continue to hold down the knob for two more seconds after SAV display a pump prime cycle will occur (and the parameter will NOT be saved). The display will indicate a prime cycle by displaying **PRI** and then start a 30 second count down.

The above is used to change each setting as desired. If the controller is in Modbus or Remote Input mode, this method will be disabled locally.

Step 7 (Priming)

To enter the **Prime** mode, **Hold** the rotary knob down for **5 seconds**. During Prime the **Pump** will remain on for **30 seconds until timed out**, at this point normal operation will begin. Press the knob again during a prime cycle to extend the prime cycle time another 30 seconds if needed. To **Abort the Prime Cycle**, you must **turn Off** the **Power Switch**.

Modbus/RS-485 & Remote Input/4-20mA

Step 8 (Optional Modbus, Remote Input)

A Plug in Terminal Block is used for connection to on-board **Modbus** and the **Remote** Inhibit input. The Modbus register map is a subset of the current **TXAM Modbus register map**. A dry contact connected to the Input will inhibit pump operation when closed and this is indicated by **INH** being displayed when pump operation is inhibited. The Connections are designated on the controller to the left of the 5-pin connector. The first three pins can be utilized for **Modbus mode (D-, GND, D+)** and the third pin down can be utilized for **Remote Input mode (D+, INPUT, GND)**.

If your desired injection rates require a setting that exceeds 4 (Cycles) and 3 (Duration), additional power may be required.