# V-Green®

## VARIABLE SPEED QUICK START GUIDE

### Premium Efficiency Variable Speed Motor

Green Choice®
Eco - Friendly Electric Motors

# Century®

# User Interface Operation
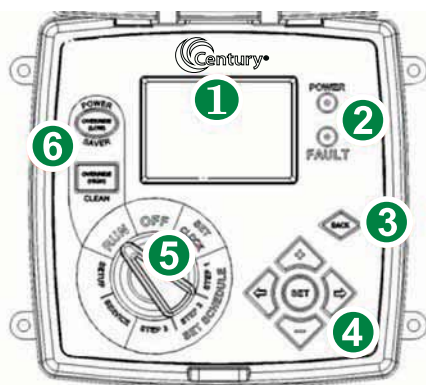


❶ Display Screen

❷ LED Lights
   Power On Light (Green)
   Fault Light (Red)

❸ Back Button

❹ Navigation Buttons

❺ Selector Knob

❻ Override Buttons

## Navigation Overview

1. +, - increases/decreases selected value
2. ←, → navigates to adjustable value (digit)
3. (SET) accepts the current screen values
4. (BACK) returns to previous program setting and does NOT accept current screen values

**NOTE:** The selector knob must be turned to RUN for the motor to operate. When the user presses ← or → the cursor moves to the next or previous position. If the cursor is at the end of a line when the user presses the arrow, the cursor moves to the next line.

## Out of the Box Operations
## Pre-Set Schedule

The V-Green® motor is programmed with a pre-set schedule that complies with California Title 20 requirements. Only the clock setting is required to enable the V-Green motor to operate at three different speeds and durations using the pre-set schedule. The preset speeds and schedule times are detailed in the table below.

❑ Observe all safety warnings and cautions
❑ Verify the user interface is plugged in
❑ Make certain the motor is properly wired
❑ Turn selector knob to SET CLOCK
❑ Set the Time and Date using the +, -, ←, → buttons
❑ Turn the Selector knob to RUN

**NOTE:** Must wait until "PRIME MODE" is complete to make changes to OVERRIDE settings.

| Setup #1 | | | |
|---|---|---|---|
| | **Step 1** | **Step 2** | **Step 3** |
| **Speed** | 3450 RPM | 2600 RPM | 1725 RPM |
| **Start Time** | 8:00 AM | 11:00 AM | 1:00 PM |
| **Stop Time** | 11:00 AM | 1:00 PM | 9:00 PM |

# Menu Structure
# for Selector Knob Positions

1. **SET CLOCK**
   a. Date and Time
2. **STEP 1 (Set Schedule)**
   a. Speed, Start Time, Stop Time
3. **STEP 2 (Set Schedule)**
   a. Speed, Start Time, Stop Time
4. **STEP 3 (Set Schedule)**
   a. Speed, Start Time, Stop Time
5. **SERVICE**

   a. Unit Serial Number

   b. DC Cap Voltage

   c. IGBT Temperature

   d. PCB Temperature

   e. Fault History (1,2,3,4)

   f. Controller Software Version

   g. Interface Software Version

6. **SETUP**
   a. Freeze Protection
      i. Enabled/Disabled
      ii. Turn ON Temperature
   b. Aux Load Setup
      i. Minimum Turn On Speed
      ii. Maximum Run Time
         (in 24 hours)
   c. Prime Configuration
      i. Speed
      ii. Time
   d. Reset Factory Defaults
      i. Yes/No
   e. Set Contrast
7. **RUN**
   a. Manual Override High
      i. Speed and Duration
   b. Manual Override Low
      i. Speed and Duration
8. **OFF**

# Quick Start Guide
*(Using custom schedule)*

- ❑ Observe all safety warnings and cautions

- ❑ Make certain the motor is properly wired (refer to user manual)

- ❑ The green Power On LED illuminates when the unit is powered on (Except when selector knob is in OFF position)

- ❑ Use the ← and → arrow buttons to select menu areas

- ❑ Use the + and – to change menu selection parameters

- ❑ Turn selector knob to SET CLOCK

- ❑ Adjust the Time and Date

- ❑ Turn selector knob to Set Schedule, Step 1.

- ❑ Set the Motor Speed, Start, and Stop times for Step 1. Follow the same procedure for Steps 2 and 3

- ❑ Turn selector knob to SETUP **(Use ← and → to scroll thru SETUP items)**

- ❑ Enable/disable freeze protection

- ❑ Set display screen contrast

- ❑ Set External Relay Speed and Time

- ❑ Set Prime speed and duration

- ❑ Reset factory defaults (Will return settings to factory defaults)

- ❑ Turn selector knob to RUN

# Set the Clock

The first time the user interface is turned ON, the clock must be set to the current time.
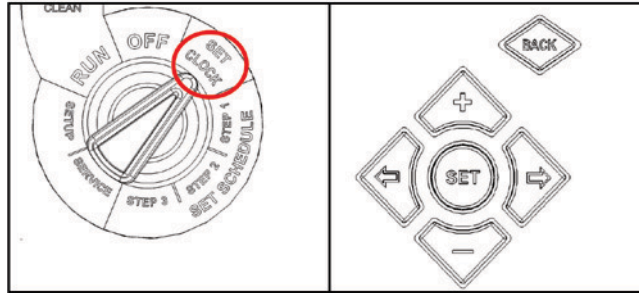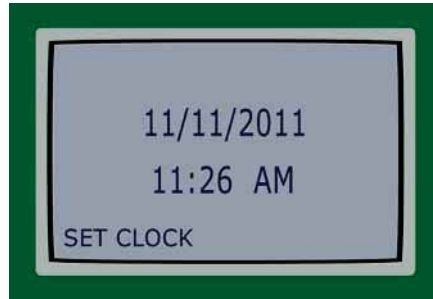




## SET CLOCK Menu Buttons

1.  Turn the selector knob to SET CLOCK.

2.  At any time, the user can press BACK to return to the previous area.

3.  Press + or – to change the Month. Press → to move to the Day setting.

4.  Press the + or – to change the Day. Press → to move to the Year setting.

5.  Press + or – to change the Year. Press → to move to the Hour setting.

6.  Press + or – to change the Hour. Press → to move to the Minute setting.

7.  Press + or – to change the Minute. Press → to move to the AM or PM setting.

8.  Press SET when the time is correct.

9.  Press SET again if the user needs to make additional changes. The cursor returns to the Month setting.

10. If the date and time are correct, move the selector knob to Set Schedule, Step 1.

**NOTE:** Neither of the Override buttons affects this menu. The message "Invalid Key" appears if the user presses an Override button.

# Key Lockout Feature

The Century® User Interface has a key lockout feature to prevent unwanted changes to the settings.  To lock the keys, hold down the "+, -, and SET" buttons for more than 3 Seconds.  The display will then show a symbol of a key indicating the buttons are locked.  The user can unlock the keys by holding down the same buttons for more than 3 seconds.

# Set the Schedule

Set the Speed and Start/Stop times for the motor in the Set Schedule menu. The schedule is based on a 24-hour cycle and will repeat each day of the week. The highest speed rating for the V-Green motor is 3450 RPM and the lowest is 600 RPM.
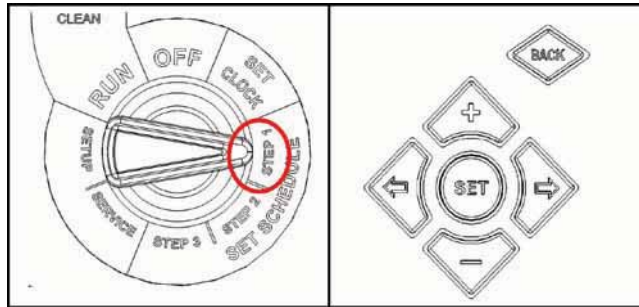
```
ENERGY  USAGE  100%
SPEED      3450RPM
START TIME 08:00AM
STOP TIME  11:00AM
SET   SCHEDULE   STEP1
```

Use the following table to enter a personalized schedule

| Custom Schedule Table | | | |
|---|---|---|---|
| | Step 1 | Step 2 | Step 3 |
| Speed | | | |
| Start Time | | | |
| Stop Time | | | |

## Custom Schedules

1. Make certain the selector knob points to Set Schedule, Step 1.

## Set STEP 1 Menu Buttons

2. Press SET. The Speed setting flashes. Press + or – to change the Speed setting. The number changes 25 RPM at a time.
3. Press → to move to the Start Time setting.
4. Press the + or – to change the Hour. Press → to move to the Minute setting.
5. Press the + or – to change the Minute. Press → to move to the AM or PM setting.
6. Press → to move to the Stop Time setting. Follow steps 4 through 5 to set the Stop Time settings.
7. Press Set to save the settings. If necessary, press Set again to move the cursor back to the first digit.

Unless changes are necessary, move the selector knob to Steps 2 and 3 and repeat procedural steps 2 through 7.

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# Setup

Setup allows the user to configure the following parameters:

- Freeze Protection
- Auxiliary Load Settings
- Reset Factory Defaults
- Set Contrast Level
- Prime Settings
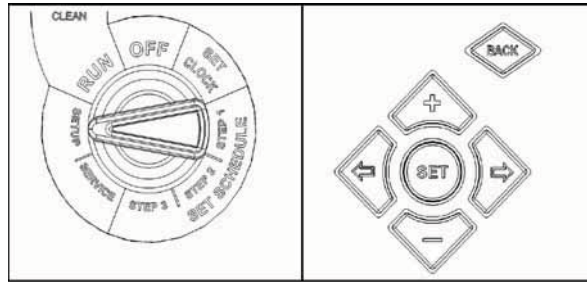
## Freeze Protection

Freeze Protection can be either enabled or disabled when the user turns the User Interface selector knob to Setup. If it is enabled, the user will be able to set the temperature at which the pump will turn on. The control is designed to run the pump for 8 hours at 2600 RPM if the temperature drops below the setpoint.

This cycle will repeat and the pump will continue to run if the outside temperature is below the setpoint.



1. Make certain the selector knob points to Setup.

2. Press either + or – to change the Freeze Protection setting.
   Press Set to save any changes.

**WARNING:** Freeze Protection will ONLY function with the selector knob in the RUN position. Damage may occur to the user's pool system if Freeze Protection is enabled and the switch is not in the RUN position.

## Auxiliary Load Setup

The Auxiliary Load is a relay inside the control designed to provide AC power to a load that should not be energized without adequate water flow from the pump (i.e. heater, booster pump, salt water chlorinator).

The control is designed to turn on the Auxiliary Load relay when the pump speed is above the MINIMUM ON SPEED (default is 2000 RPM). The Auxiliary Load relay will stay closed as long as the pump speed is above the MINIMUM ON SPEED. In addition, the control can be programmed to limit the amount of time the Auxiliary Load relay is closed in a 24-hour period. For example, if the pump runs at 3450 RPM for 12 hours a day, but the auxiliary load only needs to be powered for 6 hours, the user can set the MAXIMUM RUN TIME.
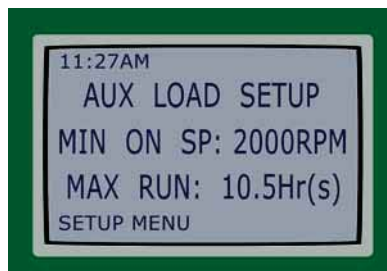


1. Make certain the selector knob points to Setup.

2. Press → one time to change the Auxiliary Load settings. Press SET to enter "change mode." Press + or – to increase or decrease the Minimum Speed. Press → to change the Maximum Run Time. Press the + or – to increase or decrease the Maximum Run Time. Press SET to save changes.

# Prime Configuration

The priming speed and time can be adjusted within this menu. The minimum priming speed is 1500 RPM. The maximum priming time is 10 minutes.

1. Make certain the selector knob points to Setup.

2. Press → two times to change the Prime settings.

3. Press SET to enter "change mode."

4. Press + or – to increase or decrease the Prime Speed.

5. Press → to change the Prime Time. Press the + or – to increase or decrease the Maximum Run Time.

6. Press SET to save changes.

# Reset Factory Defaults

This menu will permit the user to reset all settings in the control to the factory default settings.

1. Make certain the selector knob points to Setup.

2. Press → three times to Reset to Factory Default settings. Press SET two times to verify intent to Reset to the Factory Default settings.

# Set Contrast

This menu will change the contrast of the LCD screen to optimize viewing for various lighting conditions.

1. Make certain the selector knob points to Setup.

2. Press → four times to change the Contrast setting. Use + and – to adjust the contrast level. Press SET to save the setting.

# Override High or Low

The V-Green is equipped with both High and Low Overrides, which can be engaged to temporarily run at higher or lower speeds between 600 and 3450 RPM. Override High is recommended for high flow uses such as a pool heater startup, backflush, filtering, and for cleaner water requirements that exist outside of the daily operating schedule. The Override Low is recommended for low circulation requirements that exist outside of the daily operating schedule. Once an Override (either High or Low) is completed, the motor will automatically return to the programmed schedule.

1. Depending on the Override desired, press the appropriate button.

2. Press SET to change the Override settings.

3. Press + or – to change the override speed. The speed changes in increments of 25 RPM.

4. Press SET to save the speed setting. The Override Duration Time setting flashes.

5. Press + or – to increase or decrease the Override Duration Time. The maximum duration is 24 hours and the minimum is .5 hours (half an hour).

6. Press SET to save the Override Duration Time setting.

**NOTE:** The Override functions will not be activated if the pump is priming. The user must wait for priming to complete before using the Override functions.

# Green Choice®

**Premium Efficiency** means reduced energy consumption and lower utility costs!

**RoHS** Compliant

## Century®

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