

# Dealer Manual

## Installation Supplement

# **AMERICAN "PERC-RITE"®**

## WASTEWATER DRIP SYSTEMS

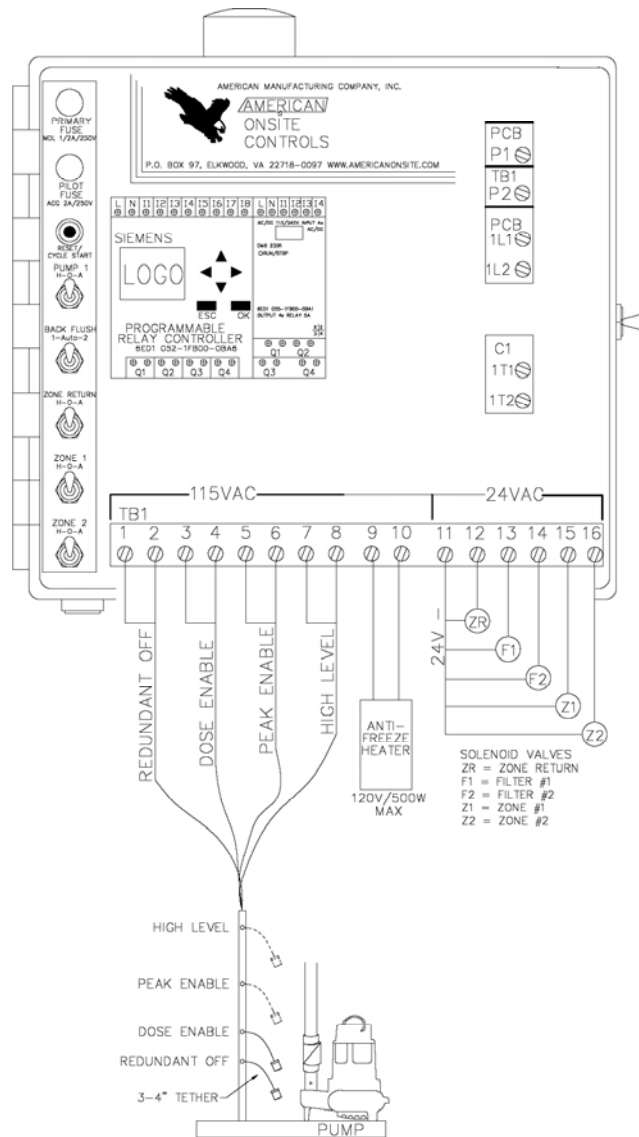
### Two - Four Zone System Controller

PATENT NO. 5,200,065

PATENT NO. 5,984,574B

PATENT NO. 6,261,452B1

# DPO-B9114 2Z-4Z



## Two - Four Zone System Controller Programming instructions for the Siemens LOGO!

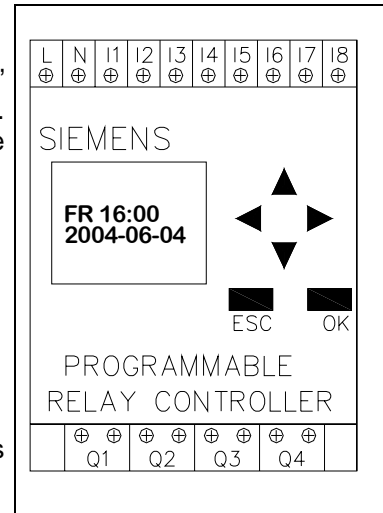
### PLEASE REVIEW "QM" SEQUENCE AND ALL THE FOLLOWING INSTRUCTIONS BEFORE ATTEMPTING TO PROGRAM

Turn the power on to the LOGO microprocessor with all the switches in the "OFF" position. Press the up or down arrow buttons to view available screen information. Ten screens may be viewed by pressing the down arrow button. The last screen time and date can be adjusted if necessary to current conditions (see below).

The image to the right shows the logo unit itself showing the time clock screen. The menu may display the **Default Menu** (Display #1) if so follow the default menu start up instructions page 3.

The **Default Menu** appears whenever escape is hit at the clock screen or a program is stopped or no program exists.

The controller is factory preprogrammed for a repetitive cycle type system which starts with the off period. The preset functions are shown on the screens below on page 2.



### Setting the Clock

**Scroll down** with the **Pointer** button until you reach the Time and Date display pictured and **Press** the "ESC" key. If you cannot reach this screen then you are in parameter mode of (display #1) and must **Press** the "ESC" key twice.

Using the Pointer button select the display 1 "Set Clock" option and press "OK".

Use the "Pointer" button to change the day of the week Diagram #2. Use the pointer buttons < > to select the hour. Using the up/down buttons set the hour to the current time using military (24hr) time.

Do the same for the **Minute** and then the **Date** in the format shown. When you are finished, **Press** the "OK" button (If you press the "ESC" button, no changes will be saved). When you have finished, keep pressing the "ESC" button until you see the system time and date running. You will now be able to use the up button to scroll up through the **Program messages**.

### Program messages

The program messages are displayed when the particular routine of the program has been enabled. For example, when a pump is in the automatic position, the Dosing pump run time screen can be seen. When the back flush occurs it's screen can be seen.

### Setting Parameters

The "Set Parameters" menus **should not be used without factory direction**. The default menu appears whenever escape is hit at the clock screen or a program is stopped or no program exists. Depress esc until back at program messages.

### Edit Conditions

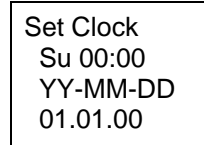
The functions that may be edited are: Dose Target (Run Time), Peak Rest, Standard Rest and quantity of Filters. To adjust these settings, go to the respective screen below and follow programming instruction.

### Pointer



>Stop  
Set Parameter  
Set ..Clock  
Program Name

### Display #1



### Display #2

## Setting Dose Run Time

**NOTE:** This screen is available with the Pump HOA switch in the Auto position and the zone switches in the Off position. The screen also is displayed once a dose has been started.

**Scroll up or down** with the pointer button until you reach the Dose Run Target display. **Press** and **Hold** the "ESC" key until has a line is displayed under the first digit 0:00. **Press** the "OK" button and the target time will start flashing. **Press** the pointer button > to select the location of minutes/seconds (mm:ss) of the dose run target time to be set. **Press** the up or down pointer button to change the number from 0-9. Continue this process until the desired time is entered. Continuing to the far right with the pointer > will allow the time range 00:00 (m) to be changed from minutes (mm:ss) to seconds (s) (ss:ss) of target run time. When entries are complete **Press** the "OK" button. **Press** the "ESC" key twice and the entry will be complete.

**NOTE:** This screen is available with the Pump HOA switch in the Auto position and all zones switches in the Off position. This screen will also appear once a dose has been started. Settings can be changed while the program is running.

## Setting Peak Rest Time

**Scroll up or down** with the pointer button until you reach the Peak Rest display. **Press** and **Hold** the "ESC" key until the 01:30h has a line displayed under the 0. **Press** the "OK" button and the time location will start flashing. **Press** the pointer button > to select the location of hours/minutes (hh:mm) for the peak rest time to be set. **Press** the pointer button up/down to change the number from 0-9. Continue this process until the desired time is entered. Continuing to the far right with > pointer will allow the time range to be changed from hours to minutes (mm:ss) of rest time. When entries are complete **Press** the "OK" button. **Press** the "ESC" key twice and the entry will be complete.

**NOTE:** Settings can be changed while the program is running.

## Setting Standard Rest Time

**Scroll up or down** with the pointer button until you reach the Standard (Std) Rest display. **Press** and **Hold** the "ESC" key until the 03:00h has a line displayed under the 0. **Press** the "OK" button and the time location will start flashing. **Press** the pointer button > to select the location of hours/minutes (hh:mm) for the dose rest time to be set. **Press** the pointer button up/down to change the number from 0-9. Continue this process until the desired time is entered. Continuing to the far right with > pointer will allow the time range to be changed from hours to minutes (mm:ss) of rest time. When entries are complete **Press** the "OK" button. **Press** the "ESC" key twice and the entry will be complete.

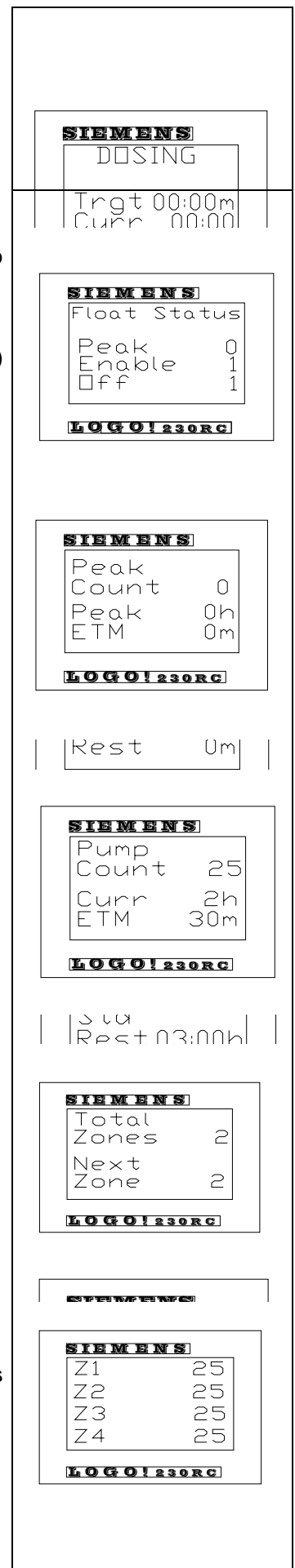
**NOTE:** Settings can be changed while the program is running.

## Setting Quantity of Filters

**Scroll down** with the pointer button until you reach the Settings Filters (Filts) display. **Press** and **Hold** the "ESC" key until the Filts \_ has a line displayed. **Press** the "OK" button and 000001 appears and the underlined location will start flashing. **Press** the pointer button > to select the last location of 000001 for the selection of filters. **Press** the pointer button up/down to change the number from 0-2. When entries are complete **Press** the "OK" button. **Press** the "ESC" key twice and the entry will be complete.

**NOTE:** The zone switches must be in the Off position. Settings can be changed while the program is running.

## Reset/ Cycle Start Button



When the Reset/Cycle Start pushbutton has been depressed and held for 1+ second during a dose, the pump will stop. When the Reset/Cycle Start pushbutton has been depressed and held for 5 (+/-) seconds then released, the pump will start and the elapsed rest times will be set to zero.

### **Setting Parameters**

The **“Set Parameters”** menu should not be used without factory direction.

The **“Set Parameters”** menu needs to be used to set the Backflush Timer and Field Flush Event Clock.

### **Default Menu Start Instruction**

This menu appears whenever a program is stopped or no program exists. **THE PUMP "H-O-A" SWITCH(S) SHOULD BE IN THE OFF POSITION!** Press the button until you reach the **“Start”** option and press the **"OK"** button. If your LOGO! is programmed it will begin its sequences when the pump switch is placed in the **“Auto”** position.

***Warning!!! Programming should only be done by a certified American Manufacturing representative.***

### **Non-editable Display Screens**

#### **Float Operating Conditions**

The controller is configured to monitor three of the four available floats. The monitored float inputs are **“Redundant Off”**, **“Dose Enable”**, and **“Peak Enable”**. The float positions in the tank are indicated by a **“one” (1)** on the screen of the LCD display meaning the float is in the up position, and **“zero” (0)** on the screen meaning the float is in the down position. The lowest float is the **“Redundant Off”** float. When this float is down the rest timer will elapse and no action will take place. Once the **“Redundant Off”** and **“Dose Enable”** float are activated (the second float ) and the rest timer has elapsed, the **“pump request”** is signaled.

#### **Peak Level Counter and ETM**

The Peak Float is counted for the number of cycles that the float goes up and down. The peak function has its own ETM (Elapsed Time Meter) that cumulatively counts the amount of time in hours:minutes that the controller is in the peak mode.

#### **Pump Counter and ETM**

The internal run time is implemented and recorded whenever a pump is called for automatically. The run time is displayed in minutes:seconds. The pump has its own counter that indicates each time the pump is called for in the automatic mode. Each pump has its own ETM (Elapsed Time Meter) that cumulatively counts the amount of time in hours:minutes a pump is called for.

#### **Total Zones Available and Next Zone to Dose**

The display will monitor the Hand-Off-Auto (HOA) switch for each zone. When any zone switch is placed in the Auto position it will be reflected in the display Total Zones X available to dose the field automatically. The Next Zone to Dose will be displayed in this screen to show the next available zone to dose automatically.

#### **Zone Counter**

The display monitors the Auto operation for each zone. When any zone has started an automatic dose the counter will be advanced one count for the start of that dose.