ProSimplicity
Instruction Manual

TABLE OF CONTENTS

Introduction 3
Settings Guide 3
Installation 4
Plumbing 4
Electrical 5
Probe Installation 5
Operation 6
Button Functions 6
Programming 7
Wiring Diagrams 10
Declaration of Conformity 11
Warranty Information 12

CAUTION: Wear protective clothing and eyewear when dispensing chemicals or other materials. Observe safety handling instructions (MSDS) of chemical mfrs.

CAUTION: To avoid severe or fatal shock, always disconnect main power when servicing the unit.

CAUTION: When installing any equipment, ensure that all national and local safety, electrical, and plumbing codes are met.

SETTINGS GUIDE

	PROBE MODE		PROBELESS MODE		AUTOSENSE MODE	
	DOOR	CONVEYOR	DOOR	CONVEYOR	DOOR	CONVEYOR
RINSE SPEED	0 -100%	0 -100%	0 -100%	0 -100%	0 -100%	0 -100%
RINSE LIMIT	0 - 30s	NO	0 - 30s	NO	0 - 30s	NO
RINSE DELAY	0 - 14s	NO	0 - 14s	NO	0 - 14s	NO
INITIAL CHARGE	NO	NO	0 - 150s	0 - 128s	NO	NO
RECHARGE	NO	NO	0 - 30s	0 - 10s	NO	NO
RECHARGE AFTER N RACKS	NO	NO	1 - 20	1 - 20	NO	NO
CONCENTRATION	0 - 100K	0 - 100K	NO	NO	0 - 100K	0 - 100K
AUTOSENSE CONC.	NO	NO	NO	NO	0 - 20	0 - 20
ALARM DELAY	0 - 512s	0 - 512s	0 - 512s	0 - 512s	0 - 512s	0 - 512s
PASSWORD	YES	YES	YES	YES	YES	YES
LANGUAGE	YES	YES	YES	YES	YES	YES
RESET RACK COUNT	YES	YES	YES	YES	YES	YES
LOW LEVEL ALARM	YES	YES	YES	YES	YES	YES
CONCENTRATION ALARM	YES	YES	NO	NO	YES	YES
PRIME FUNCTION	OUTPUT 1+2	OUTPUT 1+2	OUTPUT 1+2	OUTPUT 1+2	OUTPUT 1+2	OUTPUT 1+2
MUTE FUNCTION	YES	YES	YES	YES	YES	YES

Equipment Ratings:

This includes equipment supply, description of I/O connections, duty cycle and operating environmental conditions.

- Pollution degree 2;
- Installation category 2;
- Altitude 2000 m;
- Humidity 50% to 80%
- Electrical supply 120, 208, or 240 Vac, 50/60 Hz;
- Indoor use statement;
- Temperature 5°C to 40°C;
- Statement advising that mains supply voltage fluctuations are not to exceed 10 percent of the nominal supply voltage.

INSTALLATION

Mount the unit (using suitable hardware) with the provided bracket in the accessory kit. Try to keep the unit within three feet from the final rinse line to avoid long tubing runs.

CAUTION: Do not mount the unit in the direct path of steam. This can short circuit and permanently damage the unit. Mounting the unit on the side, on the back, or on the vents of the dishwasher may cause thermal overload and damage or hinder the performance of the unit.

Check all applicable plumbing and electrical codes before proceeding with the installation. This will help to ensure that the system is installed in safe and suitable manner. A wiring schematic of the dishwasher should be used as reference for making electrical connections — this is typically provided by the dishwasher manufacturer if one cannot be located on the machine itself.

Rinse Plumbing

(1) Install the provided 1/4" tube x 1/8" NPT injection fitting into the side or bottom of the dishwasher rinse line between the rinse solenoid valves and the rinse jets. If necessary, drill a 11/32" hole and tap to 1/8" NPT. Use of a saddle clamp may be desired on copper rinse line for better support.

(2) Cut a suitable length of 1/4" OD poly tubing and connect between the discharge (right) side of the rinse pump's squeeze tube and the injection fitting.

(3) Cut a suitable length of 1/4" OD poly tubing and connect between the suction (left) side of the rinse pump's squeeze tube and the pickup tube provided. Be sure to draw tubing through the end of the pickup tube.

(4) Hand-tighten the compression nuts on both the rinse fitting and pickup tube. Plastic ties can be used to cinch around the connections where the poly tubing is inserted into the pump's squeeze tube.

Liquid Detergent Plumbing

(1) Install the provided bulkhead fitting through a wall of the wash tank (above water level). If an existing mounting hole cannot be located, use of a 7/8" hole saw or punch may be desired.

(2) Cut a suitable length of 1/4" OD poly tubing and connect between the discharge (right) side of the detergent pump's squeeze tube and the bulkhead fitting.

(3) Cut a suitable length of 1/4" OD poly tubing and connect between the suction (left) side of the detergent pump's squeeze tube and the pickup tube provided. Be sure to draw tubing through the end of the pickup tube.

(4) Hand-tighten the compression nuts on both the bulkhead fitting and pickup tube. Plastic ties can be used to cinch around the connections where the poly tubing is inserted into the pump's squeeze tube.

Dry Detergent Plumbing

(1) A powder or solid type feeder (not provided) should be used for dispensing dry detergent products. Follow the instructions included with the detergent feeder for installation, and recommended water temperature/pressure.

(2) Cut a suitable length of 1/4" OD copper tubing (not provided) and connect between the input side of the water solenoid and the water source. Maximum recommended water temperature is 140°F (60°C).

(3) Cut a suitable length of 1/4" OD copper tubing (not provided) and connect between the output of water solenoid to a powder or solid detergent feeder.

(4) Carefully tighten the compression nuts on the water solenoid — over tightening may cause solenoid to leak. Tighten connections to the water source and detergent feeder as needed.

ELECTRICAL

⚠ Turn off all power before wiring the control. Check with a voltmeter to ensure power is off.

Main Power Connection

One step-down transformer is provided with the control. Connect the high voltage side, through a switch or circuit breaker in close proximity to the equipment and marked ProSimplicity, to any 115/208/230 VAC power source that is “on” when the dishmachine is “on” (e.g. mains switch on dishmachine).

NOTE: The transformer provides power to both the detergent and rinse circuits. The unit will only operate detergent or rinse when electrically signaled.

To wire main power connection:

(1) Check the voltage of the main power source and make sure that it matches one of the three available input voltages (115/208/230 VAC) of the transformer inside the unit.

(2) Remove all power from the dishwasher.

(3) Connect leads from the main power source to the appropriate wires on the transformer.

* CAUTION: The unit has high voltage connected to the transformer. Always disconnect main power when servicing the unit.

Remote Alarm

A remote 3 - 28 VDC alarm may be wired to the “alarm” terminals on the circuit board. See wiring diagram on page 10.

Pressure Switch Kit

For applications that do not have a dedicated rinse signal from the dishwasher, the pressure switch can be used to create a rinse signal using the transformer in the unit (see wiring diagram for further details).

(1) Remove power from the dishmachine. Ensure that power is removed from the dispenser.

(2) Locate the rinse injection fitting presently installed on the dishmachine (if applicable). Near the injection point, drill a hole for the pressure switch. Drill the hole using a 11/32" bit and tap to 1/8" NPT.

(3) Wrap the threads of the pressure switch with 3 - 4 turns of plumbing tape, then install the pressure switch into the drilled/tapped hole.

(4) Wire the pressure switch per the appropriate wiring diagram on page 10.

Detergent Power Signal

A detergent power signal is required to activate the detergent probe sensing or probeless initial charge. Detergent power can be jumpered from main power.

NOTE: A detergent power signal is not required for autosense operation. In this mode, the system will monitor the probe anytime there is water in the tank.

(1) Check the dishwasher for a power source that is active during the washcycle only (example: the magnetic contactor that controls the washpump motor) and verify voltage. The circuit board will accept a detergent power signal of 14 - 240 VAC.

(2) Remove all power from the dishwasher.

(3) Connect leads from the detergent signal power source to the detergent signal terminals on the circuit board.

Rinse Power Signal

In addition to running the rinse pump, the rinse power signal also triggers the detergent “recharge” injection if probeless mode is selected

(1) Check the dishwasher for a power source that is active during the rinse cycle only (example: the rinse solenoid or rinse cycle light) and verify voltage. The circuit board will accept a signal of 14 - 240 VAC.

(2) Remove all power from the dishwasher.

(3) Connect leads from the rinse signal source to the rinse signal terminals on the circuit board.

Probe Installation (if required)

(1) Install the probe in the wash tank below the water level. It should be away from incoming water supplies, near the recirculating pump intake, and 3 to 4 inches from corners, heating elements, or the bottom of the tank. If an existing mounting hole cannot be located, use of a 7/8" hole saw or punch may be desired.

(2) Connect leads from the terminals on the probe to the “probe” terminals on the circuit board.

(3) For best results, use 18 AWG multi-stranded copper wire for the probe connection. Avoid running the wire near high voltage AC lines.

OPERATION

Detergent — Probe Mode

With the detergent signal “on”, the conductivity probe senses detergent concentration. When concentration drops below the setpoint, the control automatically turns on detergent feed. As the detergent feeds, the control senses the rate at which the detergent concentration is approaching the setpoint. The control then begins to pulse feeds to prevent over-use of chemical. The pulse feed rate will depend on how fast the setpoint is being approached.

The detergent alarm will sound if the setpoint is not reached within the alarm delay time period. The alarm can be temporarily silenced. A “feed limit” feature allows you to set the unit to automatically shut off the detergent feed when the alarm has been activated.

Detergent—Autosense Mode

Autosense works exactly like probe mode. Except it does not require a detergent signal. Detergent feed is activated by the probe when it detects water. When water is detected, the unit will dispense detergent until the set point is reached.

There is also a sensitivity adjustment for Autosense mode to fine tune the ability of the probe to correctly sense varying water conditions.

When using Autosense, the detergent feed will be halted if the pump has run for the following time:

- 30 seconds for door machines.
- 45 seconds for conveyor machines.

Detergent — Probeless Mode

Controls detergent concentration without a probe, based on timed detergent feed modes. Initial charge time feeds detergent to bring the dishmachine to working concentration when initially filled with water. The initial charge can be activated by a detergent signal, or by the rinse signal (of 30 seconds duration, or longer) when using door mode. The initial charge counter will increment for each activation.

Recharge time feeds detergent to maintain detergent concentration as rinse water dilutes the dishmachine. The recharge is triggered after a specified number of racks passes through the machine.

Rinse Pump

The rinse pump will operate whenever the rinse signal is energized, or if the rinse pressure switch (optional) has been activated. The rinse delay feature will postpone the activation of the rinse pump until the delay time has expired. The rinse limit shuts down the rinse pump after the signal has been present for a selected time. Rinse delay and rinse limit are functional with door machines only.

BUTTON FUNCTIONS

- ENTER: Holding the enter button for 3 seconds (approx.) switches between run and program modes. Enter also advances through programming menus.
- SCROLL: The scroll button moves the position of the cursor where number changes are done. Pressing the scroll button repeatedly will move the dot that shows which digit you wish to change. The scroll button toggles between choices in menus that have selectable settings. The scroll button also shows the rack count during normal operation.
- UP (⇧): Increases numeric values during programming The UP button also acts as rinse prime during normal operation. To prime the rinse pump, hold down the scroll button and up arrow button at the same time.
- DOWN (⇩): Decreases numeric values during programming. The DOWN button also acts as detergent prime during normal operation. To prime the detergent pump, hold down the scroll button and down arrow button at the same time.

Alarm Mute

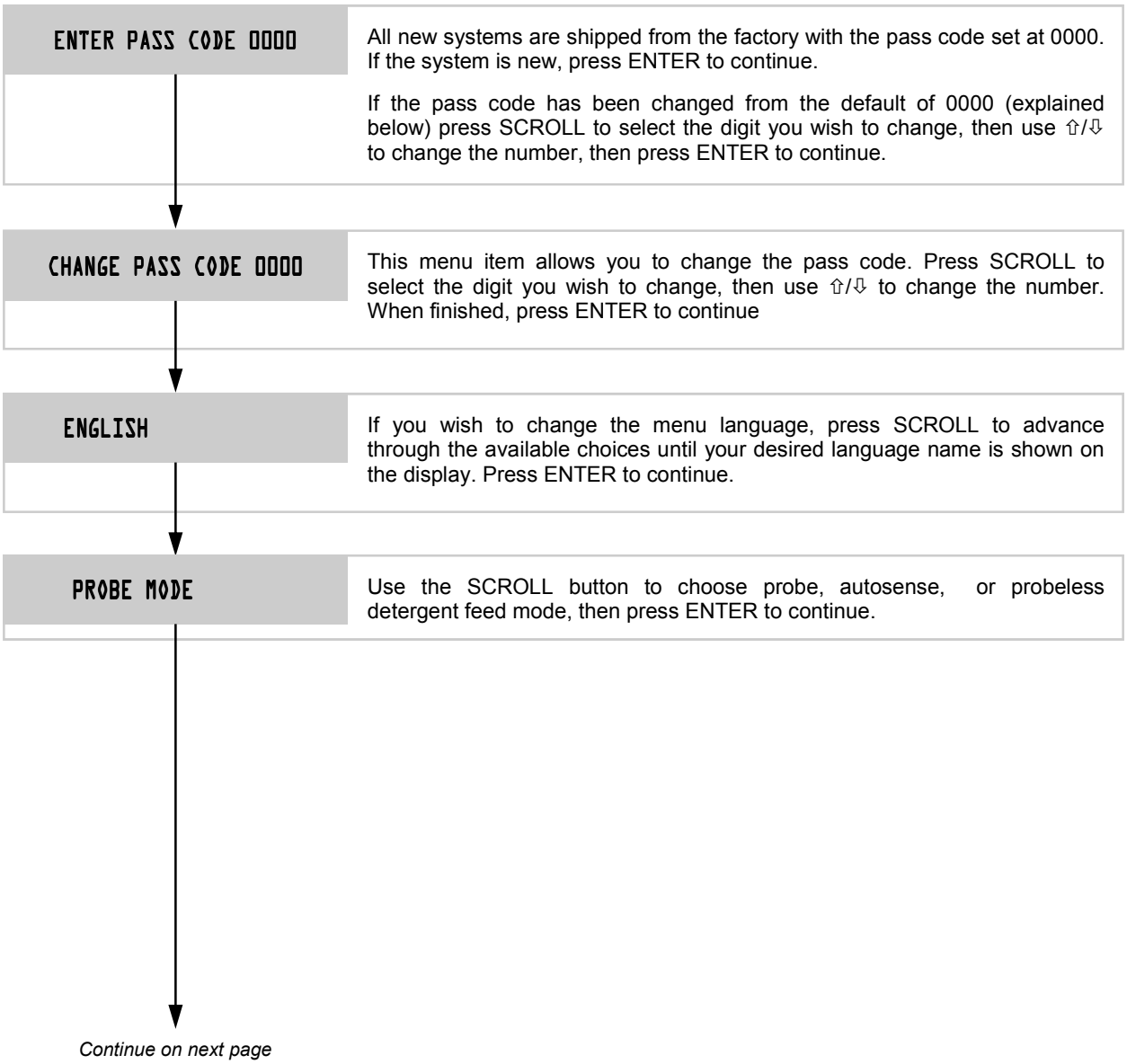
During normal operation, the low detergent alarm (probe mode) can be silenced by pressing the UP button. The audio alarm will turn off for the alarm delay period of time to allow the chemical container to be checked and changed if necessary.

PROGRAMMING

You may find it helpful to read through the programming instructions before getting started. This will better familiarize you with the operation of the unit, and the menu structure layout. The following tips may be helpful to know.

- If you wish to exit the programming mode and return to normal operation at any point during programming, hold down the ENTER button for about 3 seconds (until you see the scrolling marquee display).
- While programming, if no buttons are pressed for approximately 2 minutes, the unit will automatically return to normal operating mode.
- To change the value of any numeric setting (i.e. concentration setpoint) press SCROLL to select the digit you wish to change, then use ⇧/⇩ to change the number. The dot to the right of the digit shows you which one you selected. You can only change one digit at a time, so be sure to use SCROLL and ⇧/⇩ to change all digits necessary.

When you're ready to get started, hold down the ENTER button for about 3 seconds to go into the programming mode. Release the button when you see the following display...



Continue on next page

- If you chose to use PROBE or AUTOSENSE mode, you will see the following menu...

DETERGENT CONCEN 025

Detergent concentration is set in numeric units. Press SCROLL to select the digit you wish to change, then use ⇧/⇩ to change the number (the range is from 0 to 100 units). Press ENTER to continue.

↓

AUTOSENSE CONCEN 00

You will only see this display if using autosense operation. This setting allows you to adjust the sensitivity of the probe to detect the presence of water in the tank. This does not affect concentration sensing for chemical control. For soft water applications, lowering the setting will allow the probe to recognize the presence of water in the tank more consistently.

Press SCROLL to select the digit you wish to change, then use ⇧/⇩ to change the number (the range is from 0 to 20). Press ENTER to continue.

↓

DOOR MODE

Use SCROLL to choose door mode or conveyor mode for the type of dishmachine in use, then press ENTER to continue.

↓

ALARM DELAY 000

Alarm delay is a time frame that the detergent setpoint is expected to be reached within. If the detergent setpoint is not achieved within the set time, the alarm will sound intermittently until the problem is resolved or power is cycled.

For door machines, this setting should be calibrated to 5 – 10 seconds shorter than the washcycle. For conveyor machines, should be slightly longer than the time it takes for the unit to achieve the setpoint with a fresh tank of water.

Press SCROLL to select the digit you wish to change, then use ⇧/⇩ (range is 0 to 512 seconds). Press ENTER to continue.

→

- If you chose to use PROBELESS mode, you will see the following menu...

DOOR MODE

Use SCROLL to choose door mode or conveyor mode for the type of dishmachine in use, then press ENTER to continue.

↓

INITIAL DET CHAR 000

The initial charge feeds detergent to achieve working concentration when the dishmachine is initially filled with a fresh tank of water. The available timing ranges are...

DOOR: 0 to 150 seconds
CONVEYOR: 0 to 128 seconds

Press SCROLL to select the digit you wish to change, then use ⇧/⇩ to change the number. Press ENTER to continue.

↓

DET RECHARG TIME 00

The recharge feeds detergent to maintain the working concentration as rinse water dilutes the dishmachine. The available timing ranges are...

DOOR: 0 to 30 seconds
CONVEYOR: 0 to 10 seconds

Press SCROLL to select the digit you wish to change, then use ⇧/⇩ to change the number. Press ENTER to continue.

↓

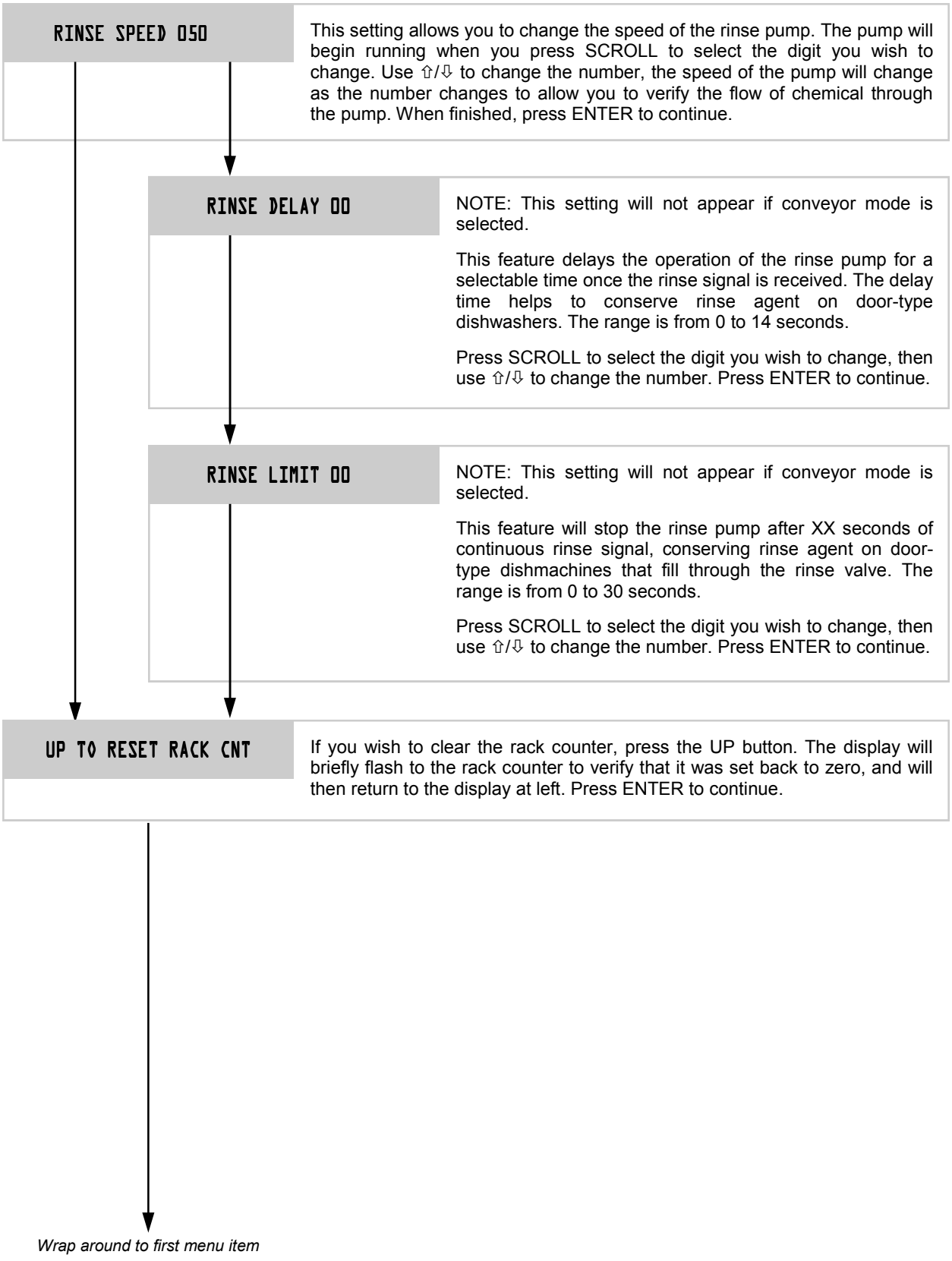
RECH AFTER RACKS 00

This setting allows you to choose how many racks will be counted before triggering the recharge feed. The range is 0 to 20 racks.

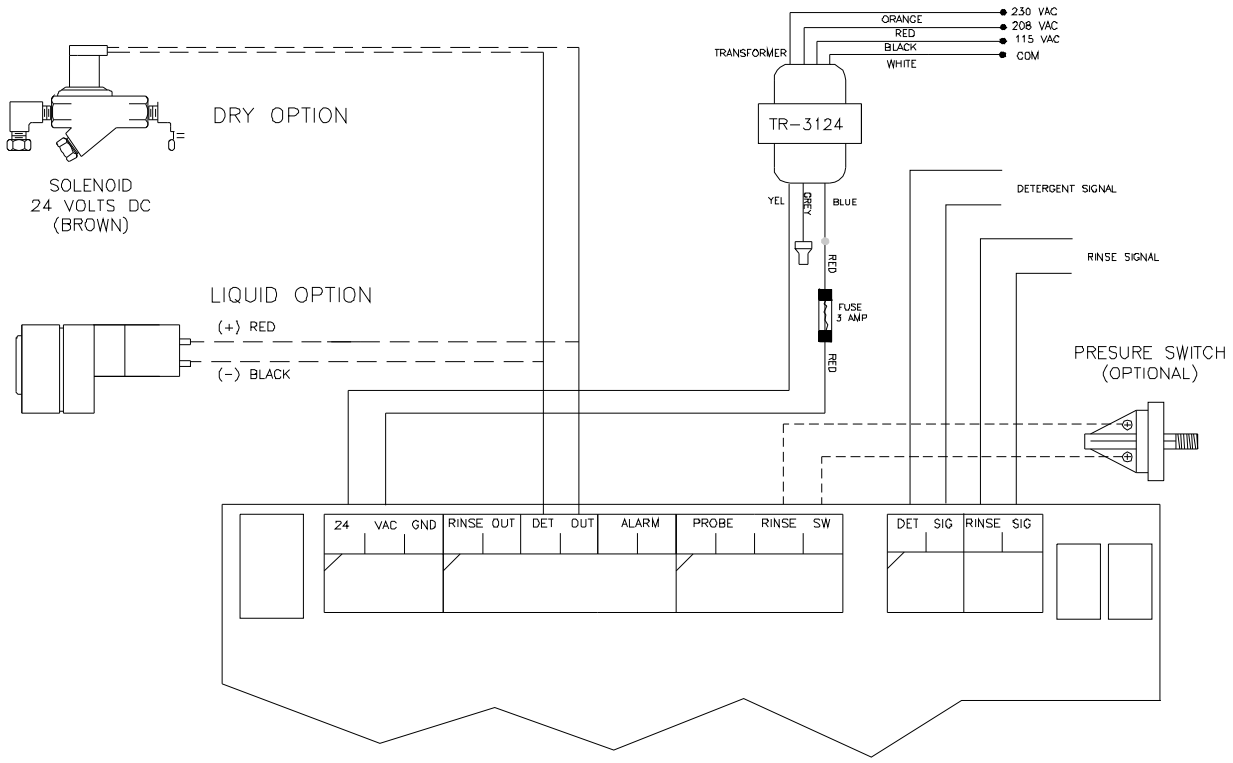
Press SCROLL to select the digit you wish to change, then use ⇧/⇩ to change the number. Press ENTER to continue.

↓

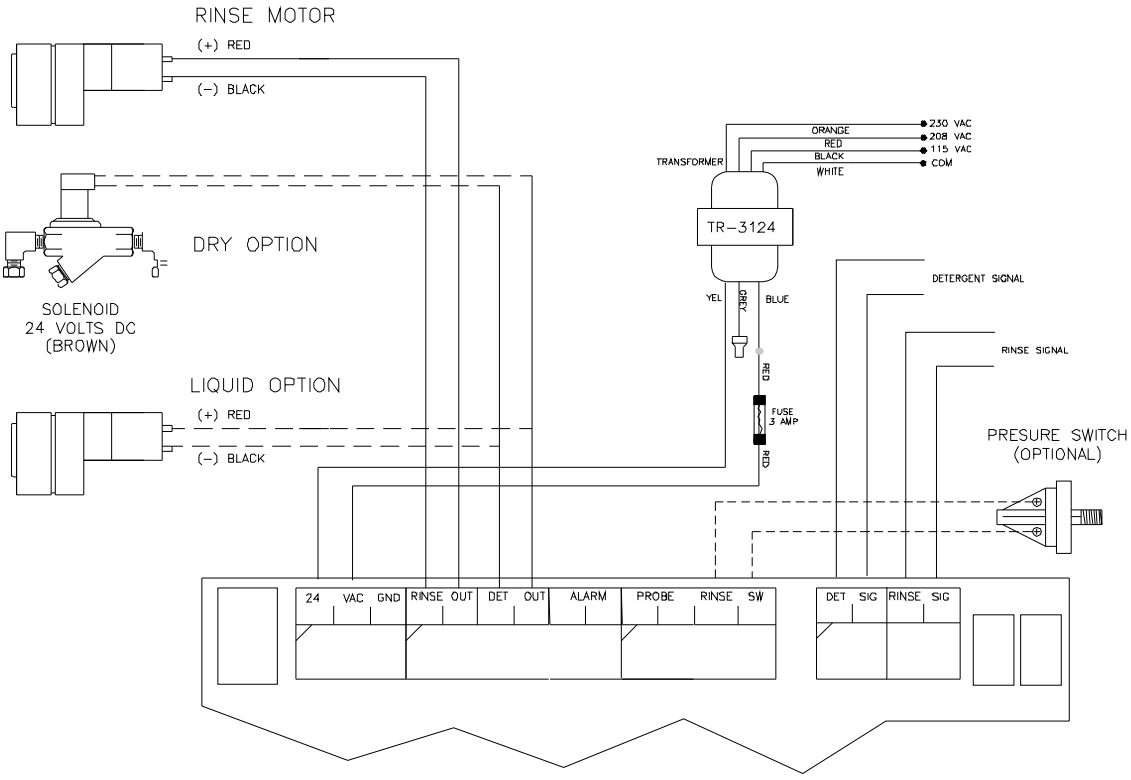
Continue on next page


RINSE SPEED 050
This setting allows you to change the speed of the rinse pump. The pump will begin running when you press SCROLL to select the digit you wish to change. Use ⇧/⇩ to change the number, the speed of the pump will change as the number changes to allow you to verify the flow of chemical through the pump. When finished, press ENTER to continue.
RINSE DELAY 00
NOTE: This setting will not appear if conveyor mode is selected.
This feature delays the operation of the rinse pump for a selectable time once the rinse signal is received. The delay time helps to conserve rinse agent on door-type dishwashers. The range is from 0 to 14 seconds.
Press SCROLL to select the digit you wish to change, then use ⇧/⇩ to change the number. Press ENTER to continue.
RINSE LIMIT 00
NOTE: This setting will not appear if conveyor mode is selected.
This feature will stop the rinse pump after XX seconds of continuous rinse signal, conserving rinse agent on door-type dishmachines that fill through the rinse valve. The range is from 0 to 30 seconds.
Press SCROLL to select the digit you wish to change, then use ⇧/⇩ to change the number. Press ENTER to continue.
UP TO RESET RACK CNT
If you wish to clear the rack counter, press the UP button. The display will briefly flash to the rack counter to verify that it was set back to zero, and will then return to the display at left. Press ENTER to continue.
Wrap around to first menu item

1 PRODUCT WIRING



2 PRODUCT WIRING



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EC – DECLARATION OF CONFORMITY

Equipment Description: **Chemical Dispenser Equipment**

Type/Model Number: **UMP Digital**

The signing legal authorities state that the above mentioned equipment meets the requirements for emission, immunity and safety according to.

Application of Council Directives:

Electromagnetic compatibility
(EMC) Directive 2004/108/EC (and former Directive 89/336/EEC as amended by 92/31/EEC and 93/68/EEC)

Standards to Which Conformity Is Declared: **EN 61326-1: 2006** Electrical Equipment Measurement, Control & Laboratory Use (Normal Environment)

For Information: The "Electromagnetic Test" took place at the DNB Engineering, Riverside, CA, U.S.A

Electrical Safety
Low Voltage Directive (LVD) 2006/95/EC (and former Directive 73/23/EEC)

Standards to Which Conformity Is Declared: **EN 61010-1** (2nd Edition) - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements

For Information: The "Electrical Safety Test" took place at the CSA International, Irvine, CA, U.S.A

Signature of representative of manufacturer:

Name: Comiskey, Brian

Position: Vice President, Engineering

Date: August 28, 2008

LIMITED EQUIPMENT WARRANTY

Zep (“Zep”), warrants to the original purchaser that all equipment furnished by Zep will be free from defects in material and workmanship under normal use and proper maintenance. Zep’s obligation under this Warranty is limited to:

A. 90 days from date of purchase for parts and/or labor to repair defective equipment.

B. 91st day until one year from date of purchase, Zep will provide replacement of defective parts at no charge.

AUTHORITY FOR ALL WARRANTY REPAIR SERVICES MUST BE COORDINATED BY THE ZEP BRANCH FROM WHICH THE EQUIPMENT WAS PURCHASED.

Equipment of sub-assemblies are subject to return to the Zep Branch office or to:

Zep Service Center
1340 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
(404) 350-6287

Shipping charges to and from the Branch office or Service Center must be paid by the Purchaser.

Failures resulting Purchaser’s misuse, sabotage, abuse, neglect, unauthorized alteration or repair, lack of or proper maintenance, or by factors beyond Zep’s control, are the responsibility of the Purchaser.

Warranty does not apply to expendable items, (lamps, belts, filters, etc.) or to components subject to normal wear, (hoses, brushes, electrical cords, etc.).

Zep reserves the right to make alterations in design and/or product improvements without obligation to include these revisions in product previously manufactured. Correction of defects by repair or replacement shall constitute fulfillment of all warranty obligations on behalf of Zep.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSES OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND IS THE SOLE AND EXCLUSIVE REMEDY FOR ANY CLAIM OR DAMAGES ARISING FROM ANY DEFECT IN EQUIPMENT FURNISHED BY ZEP. ZEP SHALL HAVE NO LIABILITY FOR DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES, PERSONAL INJURY, LOSS OR EXPENSE ARISING FROM THE USE OF IT’S PRODUCTS. NO AGENT, DISTRIBUTOR, OR OTHER PARTY IS AUTHORIZED TO MAKE ANY WARRANTY ON BEHALF OF ZEP, OR TO ASSUME FOR ZEP ANY OTHER LIABILITY WITH RESPECT TO IT’S PRODUCTS.