

# Installation Instruction

## D3000 Circuit Board

### Reason / Background

The below instructions are to assist in making changeovers of the D range PCB including the D500C/T, D750, D900, NS-500, NS-1000E and D1000 to the new standard D3000 PCB. For any information not clear in this document, you should contact your local Technical Service Customer Service department.

### Converting from D1000, D900, D750 (for NS-500 and NS-1000E, see “Converting from NS-500 and NS-1000” on page 5)

#### A. Replacing a D1000/D750 PCB with the D3000 PCB:

- 1) Note down the mode and setup values of the existing D1000/D750 PCB from Uniview Controller or potentiometer dials.
- 2) Power down the unit and isolate supplies.
- 3) Replace the D1000/D750 PCB with a D3000 PCB.
- 4) Make the appropriate connections as shown in the “D3000 PCB Connections Diagram”.
- 5) Power the unit on via a wash / rinse signal, or on external power.
- 6) Refer to D3000 Installation and Setup Guide and the D3000 Uniview menu for configuration options.

#### \*Copying D1000/D750 PCB Functionality

- 1) Scroll to menu 23 in any mode and change the value to 1. (Uniview Control Source). This locks out the use of the potentiometers.
- 2) Change to mode 4 and scroll to menu 2 and change the value to 1. (D5000 standard 16 Menu Mode.)
- 3) Copy the mode and setup values noted from the D1000/D750 PCB or as required.
- 4) Run the dishwasher for a cycle and confirm that the new board functions correctly.

#### B. Replacing a D500C/D500T/D900 PCB with the D3000 PCB:

- 1) Note down potentiometer positions on D500C/D500T PCB.
- 2) Power down the unit and isolate the supplies.
- 3) Replace the D500C/D500T/D900 PCB with a D3000 PCB.
- 4) Make appropriate connections as shown in the “D3000 PCB Connections Diagram”.
- 5) Power the unit on via a wash / rinse signal, or on external power.
- 6) Refer to D3000 Installation and Setup Guide and the D3000 Uniview menu for configuration options.

#### \*Copying D500C/D500T/D900 PCB Functionality

- 1) Change the POT Mode Switch to “COND” for D500C/D900 conductivity control POT mode or “TIME” for D500T time control POT Mode. See D3000 PCB Connection Diagram below for switch location.
- 2) Copy the POT pointer positions for D500C/D500T/D900 to the D3000. Use the “D3000 POT Control Mode Reference Table” for identifying correct potentiometer.
- 3) Run the dishwasher for a cycle and confirm that the new board functions correctly.

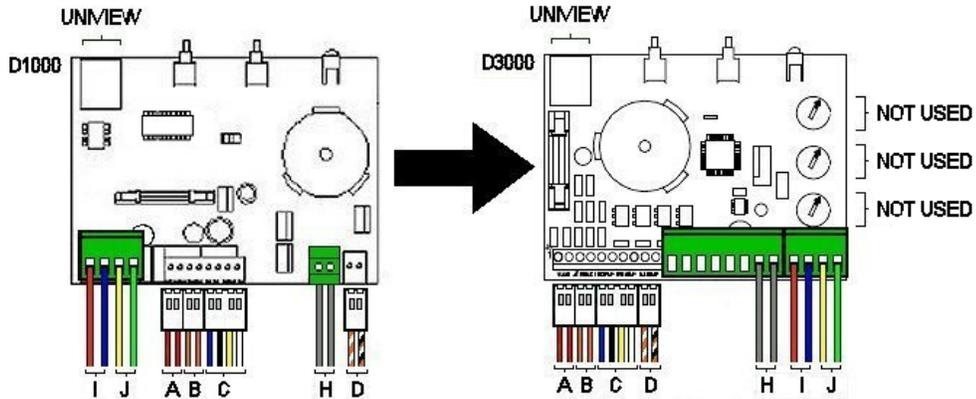
#### \*Optional

The D3000 can be configured in anyway to work best. It is not a requirement to copy the settings of the D-range board replaced. Please see D3000 Installation and Setup guide and the D3000 Uniview menus for more information. The only except is for when connection is required to the Ditelli System. The D3000 must be configured to the standard 16 menus to be compatible with the D5000.

## D1000 TO D3000 CONVERSION

STEP 1. FROM D1000 PCB: RECORD D1000 UNIVIEW SETTINGS (IF AVAILABLE)

STEP 2. CHANGE PCB: SEE D3000 PCB CONNECTIONS REFERENCE TABLE 1



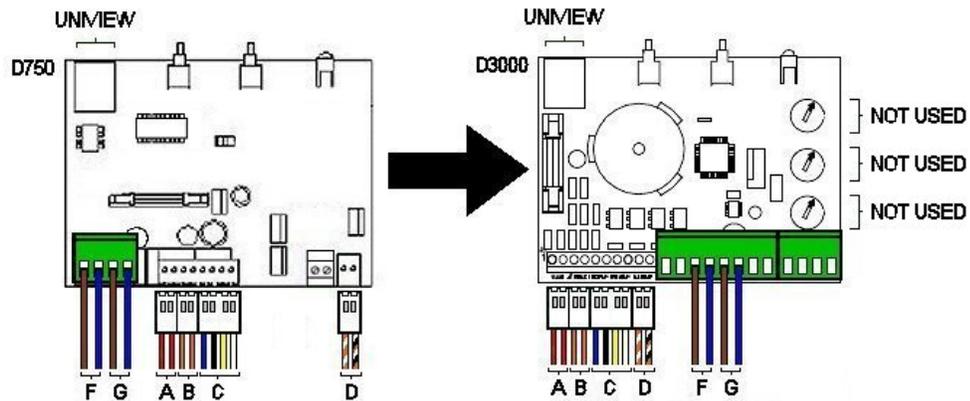
STEP 3. PROGRAM D3000 PCB: IN ANY MODE SET MENU 23 = 1 (UNIVIEW CONTROL MODE)  
 IN MODE 4 SET MENU 2 = 1 (16 MENUS)  
 ENTER RECORDED D1000 SETTINGS



## D750 TO D3000 CONVERSION

STEP 1. FROM D750 PCB: RECORD D750 UNIVIEW SETTINGS (IF AVAILABLE)

STEP 2. CHANGE PCB: SEE D3000 PCB CONNECTIONS REFERENCE TABLE 1



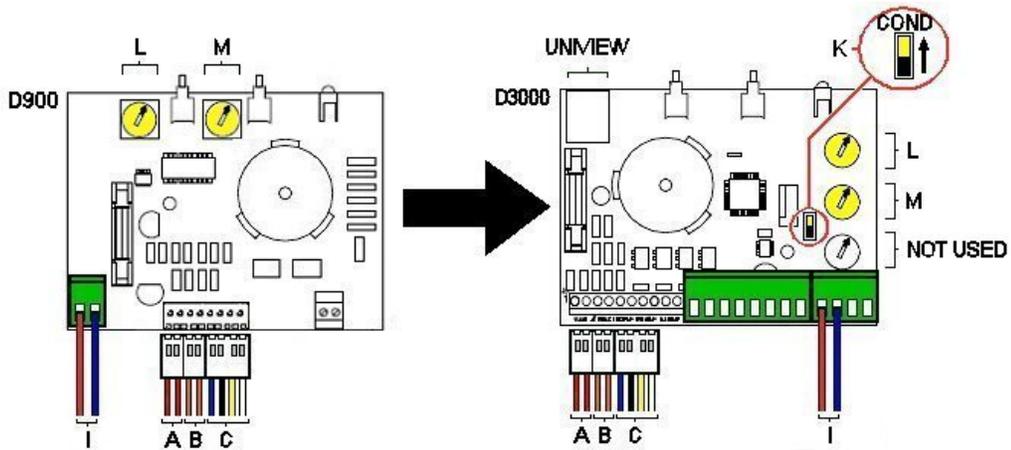
STEP 3. PROGRAM D3000 PCB: IN ANY MODE SET MENU 23 = 1 (UNIVIEW CONTROL MODE)  
 IN MODE 4 SET MENU 2 = 1 (16 MENUS)  
 ENTER RECORDED D750 SETTINGS



## D900 TO D3000 CONVERSION

STEP 1. FROM D900 PCB: RECORD D900 POT SETTINGS

STEP 2. CHANGE PCB: SEE D3000 PCB CONNECTIONS REFERENCE TABLE 1



STEP 3. PROGRAM D3000 PCB: COPY THE D900 POT SETTINGS TO THE D3000 PCB  
SEE D3000 POT CONTROL MODE REFERENCE TABLE

\*OPTIONAL:



A UNVIEW CAN BE USED TO VIEW THE POT SETTINGS (IF AVAILABLE)

SWITCH POT MODE TO



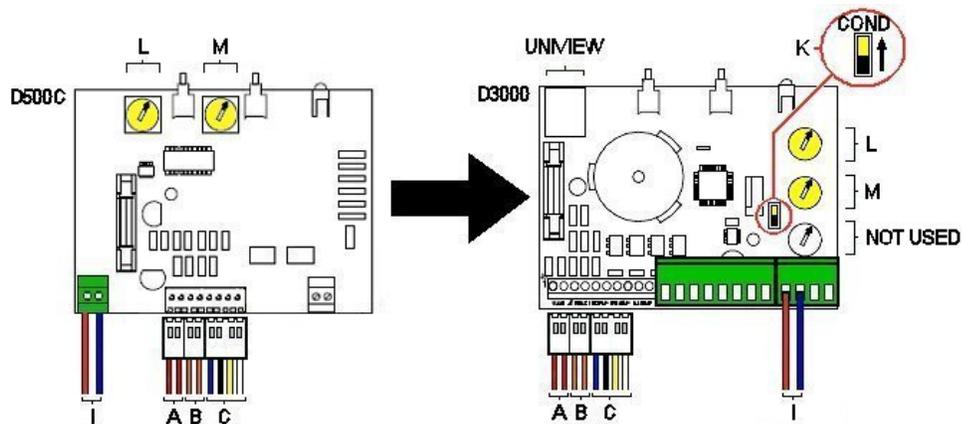
ADJUST POTS L & M



## D500C TO D3000 CONVERSION

STEP 1. FROM D500C PCB: RECORD D500C POT SETTINGS L AND M

STEP 2. CHANGE PCB: SEE D3000 PCB CONNECTIONS REFERENCE TABLE 1



STEP 3. PROGRAM D3000 PCB: COPY THE D500C POT SETTINGS TO THE D3000 PCB  
SEE D3000 POT CONTROL MODE REFERENCE TABLE

\*OPTIONAL:



A UNVIEW CAN BE USED TO VIEW THE POT SETTINGS (IF AVAILABLE)

SWITCH POT MODE TO



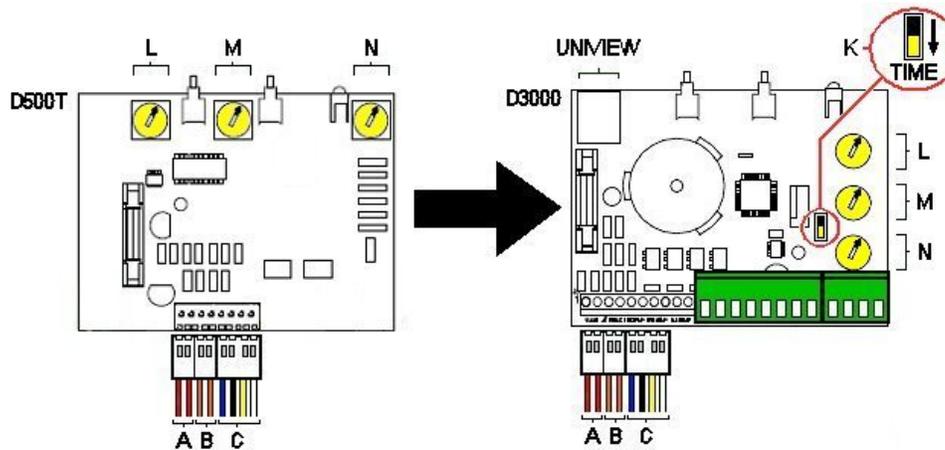
ADJUST POTS L & M



## D500T TO D3000 CONVERSION

STEP 1. FROM D500T PCB: RECORD D500T POT SETTINGS

STEP 2. CHANGE PCB: SEE D3000 PCB CONNECTIONS REFERENCE TABLE 1



STEP 3. PROGRAM D3000 PCB:

COPY THE D500T POT SETTINGS TO THE D3000 PCB  
SEE D3000 POT CONTROL MODE REFERENCE TABLE

\*OPTIONAL

A UNIVIEW CAN BE USED TO VIEW THE POT SETTINGS (IF AVAILABLE)



SWITCH POT MODE TO



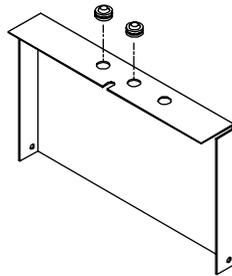
ADJUST L M & N



## Converting from NS-500 and NS-1000E

### A. NS-500 PCB with the D3000 PCB:

- 1) Note down potentiometer positions on NS-500 PCB.
- 2) Power down the unit and isolate the supplies.
- 3) Use a screwdriver to puncture through the NS-500 label where there are holes in the sheet metal. This will allow room for the prime buttons on the D3000 PCB.
- 4) If desired, insert a switch boot (code #039460) into each hole as shown below. Please note that this boot is purely for cosmetic purposes and is sold separately from the D3000 PCB kit.



- 5) Replace NS-500 PCB with a D3000 PCB.
- 6) Make appropriate connections as shown in the “D3000 PCB Connections Diagram”.
- 7) Power the unit on via a wash / rinse signal, or on external power.
- 8) Refer to D3000 Installation and Setup Guide for configuration options.

### \*Copying NS-500 PCB Functionality

- 1) Change the POT Mode Switch to “COND”. See D3000 PCB Connection Diagram below for switch location.
- 2) Copy the POT pointer positions for NS-500 to the D3000. Use the “D3000 POT Control Mode Reference Table” for identifying correct potentiometer.
- 3) Run the dishwasher for a cycle and confirm that the new board functions correctly.

### \*Optional

The D3000 can be configured in anyway to work best. It is not a requirement to copy the settings of the D-range board replaced. Please see D3000 Installation and Setup guide and the D3000 Uniview menus for more information. The only except is for when connection is required to the Ditelli System. The D3000 must be configured to the standard 16 menus to be compatible with the D5000.

### B. Replacing a NS-1000E PCB with the D3000 PCB:

- 1) Note down the mode and setup values of the existing NS-1000E PCB from potentiometer dials.
- 2) Power down the unit and isolate supplies.
- 3) Replace the NS-1000E PCB with a D3000 PCB.
- 4) Make the appropriate connections as shown in the “D3000 PCB Connections Diagram”.
- 5) Power the unit on via a wash / rinse signal, or on external power.
- 6) Refer to D3000 Installation and Setup Guide and the D3000 Uniview menu for configuration options.

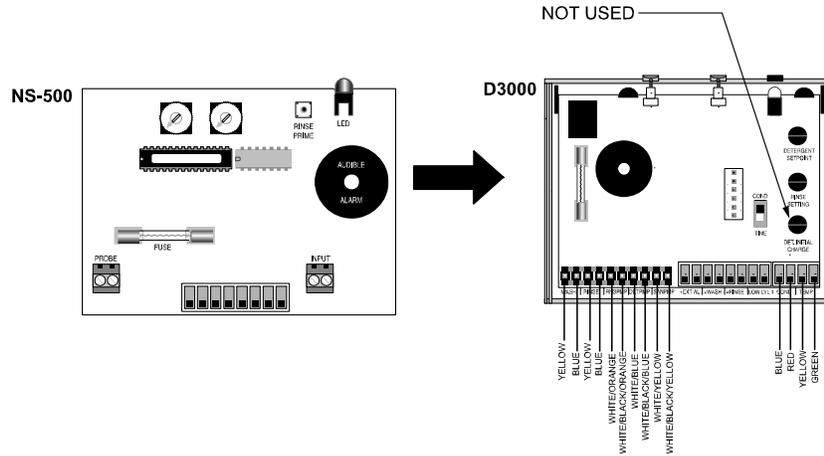
## NS-500 TO D3000 CONVERSION

STEP 1. FROM NS-500 PCB:

RECORD NS-500 POTENTIOMETER SETTINGS (IF AVAILABLE)

STEP 2. CHANGE PCB:

SEE D3000 PCB CONNECTIONS REFERENCE TABLE 2



STEP 3. PROGRAM D3000 PCB WITH UNIVIEW OR POT DIALS:

IN ANY MODE SET MENU 23 = 1 FOR UNIVIEW CONTROL MODE, OR 0 FOR POTENTIOMETER CONTROL MODE)  
IN MODE 4 SET MENU 2 = 1 (16 MENUS)  
APPLY RECORDED POTENTIOMETER SETTINGS

\*OPTIONAL

A UNIVIEW CAN BE USED TO VIEW THE POT SETTINGS (IF AVAILABLE)



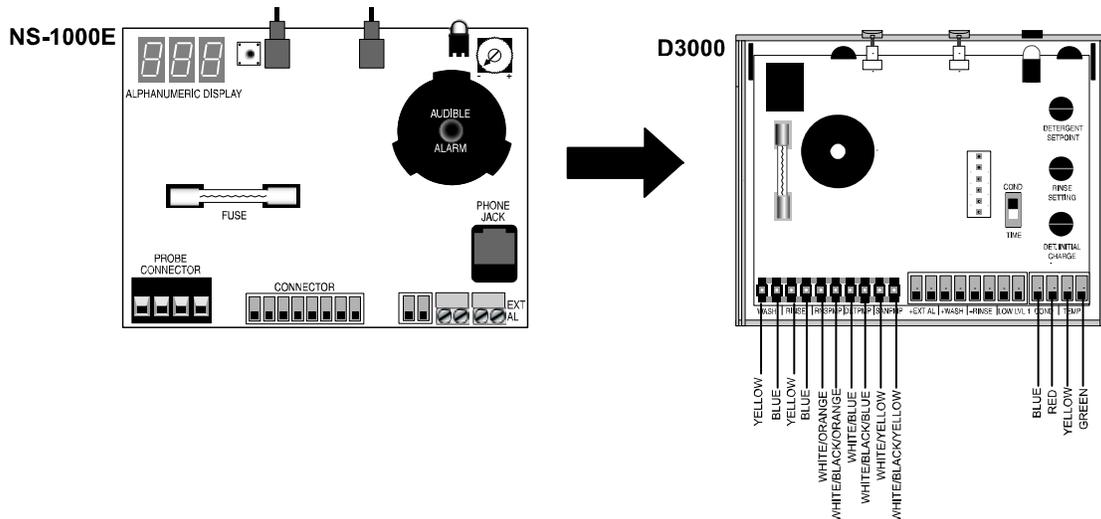
## NS-1000E TO D3000 CONVERSION

STEP 1. FROM NS-1000 PCB:

RECORD NS-1000E POTENTIOMETER SETTINGS (IF AVAILABLE)

STEP 2. CHANGE PCB:

SEE D3000 PCB CONNECTIONS REFERENCE TABLE 2



STEP 3. PROGRAM D3000 PCB WITH UNIVIEW OR POT DIALS:

IN ANY MODE SET MENU 23 = 1 FOR UNIVIEW CONTROL MODE, OR 0 FOR POTENTIOMETER CONTROL MODE)  
IN MODE 4 SET MENU 2 = 1 (16 MENUS)  
APPLY RECORDED POTENTIOMETER SETTINGS

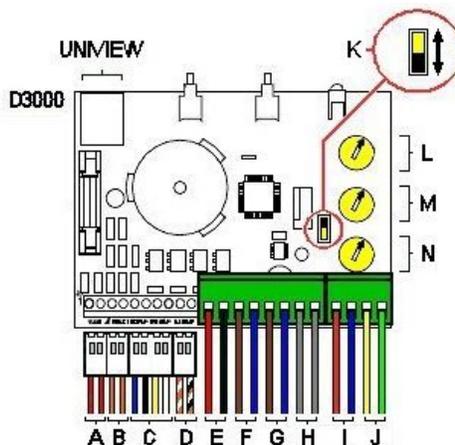
\*OPTIONAL

A UNIVIEW CAN BE USED TO VIEW THE POT SETTINGS (IF AVAILABLE)



## D3000 PCB CONNECTIONS DIAGRAM

SEE D3000 PCB CONNECTIONS REFERENCE TABLE 1 AND D3000 POT CONTROL MODE REFERENCE TABLE



FOR FURTHER DETAILS ON THE D3000 PCB, PLEASE REFER TO THE D3000 INSTALLATION AND SETUP GUIDE. D3000 UNVIEW MENUS FOR UNVIEW CONTROL MODE AND POT CONTROL MODE ARE INCLUDED AT THE END OF THIS DOCUMENT

### D3000 CONNECTIONS REFERENCE TABLE 1

A	Wash Power Input
B	Rinse Power Input
C	Detergent & Rinse Pump Motor Output
D	Sanitizer Pump Motor Output
E	External Alarm Output +24vdc
F	External Wash Trigger Input (Volt Free / Closed Switch / Opto)
G	External Rinse Trigger Input (Volt Free / Closed Switch / Opto)
H	Depletion Input (Volt Free / Closed Switch)
I	Conductivity Probe Input
J	Temperature Probe Input
K	Potentiometer Mode Switch (CONDUCTIVITY/TIME)
L	Detergent Set Point Potentiometer
M	Rinse Setting Potentiometer
N	Detergent Initial Charge Potentiometer

**NOTE:** The J6 TEST pin alarm output for 5v at 4mA found on the D1000 and the D900 is not available on the D3000. This has been replaced with a 24vdc alarm output provided on the D3000 instead.

## D3000 CONNECTIONS REFERENCE TABLE 2

COLOR	
YELLOW	Wash Power
BLUE	Wash Power
YELLOW	Rinse Power
BLUE	Rinse Power
WHITE/BLUE	Rinse Pump Motor
WHITE/BLACK/BLUE	Rinse Pump Motor
WHITE/YELLOW	Detergent Pump
WHITE/BLACK/YELLOW	Detergent Pump
BLUE	Conductivity Probe
RED	Conductivity Probe
YELLOW	Temperature Probe
GREEN	Temperature Probe

## D3000 POT CONTROL MODE REFERENCE TABLE

POT	 POT MODE SWITCH	POT CONTROL DESCRIPTION	 MINIMUM	 MAXIMUM
L  DETERGENT SETPOINT	COND	Set Point (D500C/D900)	0 Beta Units	70 Beta Units
	TIME	Detergent Recharge (D500T)	0 Seconds	30 Seconds
M  RINSE SETTING	COND	Rinse Speed (D500C/D900)	0%	99%
	TIME	Rinse Runtime (D500T)	0 Seconds	30 Seconds
N  DET INITIAL CHARGE	COND	No Function	No Function	No Function
	TIME	Detergent Initial Charge (D500T Only)	0 Seconds	90 Seconds

### D3000 Uniview Menus - When Uniview Controlled

**Note:** For Uniview programming ensure menu 23 = 1

Menu	Conductivity Mode (Probe)	Timed Mode (Probeless)	Speed Mode (Probeless)	Compatibility Mode
1	1	2	3	4
2	1 - Conveyor 2 - Door default = 1	1 - Conveyor 2 - Door 3 - Door with external power default = 1	1 - Conveyor 2 - Door 3 - Door with external power default = 1	D5000 Compatible 0 = No (24 menus) 1 = Yes (16 menus) default = 0
3	Tank Concentration with C3M (0-70 Beta Units, Hi/Lo)	---	---	
4	Concentration Set Point (0-70 Beta Units) default = 5	Detergent Recharge (0-20 seconds) default = 5	Detergent Recharge Speed (0-99%) default = 5	
5	---	Detergent Init Charge (0-240 secs) default = 30	Detergent Initial Speed (0-99%) default = 30	
6	Rinse Delay (0-240 sec) default = 0	Rinse Delay (0-240 sec) default = 0	Rinse Delay (0-240 sec) default = 0	
7	Rinse Speed (0-99%) default = 10%	Rinse Speed (0-99%) default = 10%	Rinse Speed (0-99%) default = 10%	
8	Rinse Run Time (0-240 sec) default = 0	Rinse Run Time (0-240 sec) default = 0	Rinse Run Time (0-240 sec) default = 0	
9	Wash Temp (0-100 degrees C)	---	---	
10	Alarm Volume (0-5, min-max) default = 5	Alarm Volume (0-5, min-max) default = 5	Alarm Volume (0-5, min-max) default = 5	
11	---	---	---	
12	---	---	---	
13	Detergent Speed (0-99%) default = 99%	Detergent Speed (0-99%) default = 99%	---	
14	Sanitizer Feed 0 = on with rinse 1 = on with detergent 2 = on with rinse, low level stops all pumps	Sanitizer Feed 0 = on with rinse 1 = on with detergent 2 = on with rinse, low level stops all pumps	Sanitizer Feed 0 = on with rinse 1 = on with detergent 2 = on with rinse, low level stops all pumps	
15	Sanitizer Speed (0-99%) default = 0%	Sanitizer Speed (0-99%) default = 0%	Sanitizer Speed (0-99%) default = 0%	
16	PCB ID Code default = 5	PCB ID Code default = 5	PCB ID Code default = 5	
17	Rack Count Hi (0-240) digits 7,6,5 Door counts when rinse turns on Conveyor counts after 20 seconds	Rack Count Hi(0-240) digits 7,6,5 Door counts when rinse turns on Conveyor counts after 20 seconds	Rack Count High (0-240) digits 7,6,5 Door counts when rinse turns on Conveyor counts after 20 seconds	
18	Rack Count Middle (0-99) digits 4 & 3 default = 0	Rack Count Middle (0-99) digits 4 & 3 default = 0	Rack Count Middle (0-99) digits 4 & 3 default = 0	
19	Rack Count Low (0-99) digits 2 & 1 default = 0	Rack Count Low (0-99) digits 2 & 1 default = 0	Rack Count Low (0-99) digits 2 & 1 default = 0	
20	Drain Count (0-240) Only works in conductivity mode with conductivity probe default = 0	---	---	
21	Conductivity Range 0 = LO 1 = HI default = 1	---	---	
22	Tank Concentration without C3M or averaging (0-70 Beta Units, Hi/Lo)	---	---	
23	Control Source 0 = POTS 1 = Uniview default = 0	Control Source 0 = POTS 1 = Uniview default = 0	Control Source 0 = POTS 1 = Uniview default = 0	
24	Firmware Version default = 1 or 2	Firmware Version default = 1 or 2	Firmware Version default = 1 or 2	

### D3000 Uniview Menus - When Potentiometer Controlled

**Note: Ensure menu 23 = 0**

**The only menus that you can edit by Uniview are menu 10 & 23**

Menu	POT Controlled Conductivity Mode	POT Controlled Timed Mode
1	Mode Switch Position 1 = Conductivity	Mode Switch Position 2 = Time
2	1 - Conveyor 2 - Door 3 - Door with external power default = 1	1 - Conveyor 2 - Door 3 - Door with external power default = 1
3	Tank Concentration with C3M (0-70 Beta Units, Hi/Lo) Hi Conductivity Range	Tank Concentration with C3M (0-70 Beta Units, Hi/Lo) Hi Conductivity Range
4	Concentration Set Point (0-70 Beta Units) Detergent Setpoint POT	Detergent Recharge (0-30 Seconds) Detergent Setpoint POT
5	---	Detergent Initial Charge (0-90 seconds) Det. Initial Charge POT
6	Rinse Delay = 0	Rinse Delay = 0
7	Rinse Speed (0-99%) Rinse Setting POT	Rinse Speed = 99%
8	Rinse Run Time = 0 On as long as rinse trigger on	Rinse Run Time (0-30 sec) Rinse Setting POT
9	Wash Temperature (0-100 degrees C)	Wash Temperature (0-100 degrees C)
10	Alarm Volume (0-5, min-max) default = 5	Alarm Volume (0-5, min-max) default = 5
11	---	---
12	---	---
13	Detergent Speed Speed = 99%	Detergent Speed Recharge = 80% Recharge & Rinse = 88% Initial Charge = 98%
14	Sanitizer Feed 0 = on with rinse 1 = on with detergent 2 = on with rinse, low level stops all pumps	Sanitizer Feed 0 = on with rinse 1 = on with detergent 2 = on with rinse, low level stops all pumps
15	Sanitizer Speed (0-99%) default = 0%	Sanitizer Speed (0-99%) default = 0%
16	PCB ID Code default = 5	PCB ID Code default = 5
17	Rack Count High (0-240) digits 7,6,5 Door counts when rinse turned on Conveyor counts after 20 second	Rack Count High (0-240) digits 7,6,5 Door counts when rinse turned on Conveyor counts after 20 second
18	Rack Count Middle (0-99) digits 4 & 3 default = 0	Rack Count Middle (0-99) digits 4 & 3 default = 0
19	Rack Count Low (0-99) digits 2 & 1 default = 0	Rack Count Low (0-99) digits 2 & 1 default = 0
20	Drain Count (0-240) Only works in conductivity mode with conductivity probe default = 0	---
21	Hi Conductivity Range = 1	Hi Conductivity Range = 1
22	Tank Concentration without C3M or averaging (0-70 Beta Units, Hi/Lo)	Tank Concentration without C3M or averaging (0-70 Beta Units, Hi/Lo)
23	Control Source 0 = POTS Uniview default = 0	Control Source 0 = POTS 1 = Uniview default = 0
24	Firmware Version default = 1 or 2	Firmware Version default = 1 or 2

Uniview changeable

Uniview changeable