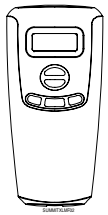
L5000Plus Quick Programming Guide

Firmware v3.10

For detailed instructions on L5000 Plus programming, visit the JohnsonDiversey Equipment internet site at: http://www.beta-technology.com.

Symbol	Meaning
⚠	*Caution - Refer to accompanying documents.*
⚠	*Caution - Risk of electrical shock.*
⚠	*Electrical installation of this equipment should only be performed by trained personnel in accordance with local electrical wiring regulations (in North America, refer to NEC and CSA C22.2 CEC Part 1). Before working with this equipment, isolate it from any electrical source and lock out/tag out.*

Programming Keys



L5000 Plus Programmer

+ OR –	+ or – keys change the value of the blinking number or letter. Pressing + and – simultaneously will change any alphanumeric character to "M", and will change any numeric field to its minimum value.
▷	CURSOR key: Moves the cursor around the screen, changing which field is selected.
⏎	ACTION key: Initiates an action such as priming. This button does not change settings.
↻	MENU key: Advances to the next menu screen.

Programming Screens

Operator Access Screens

These screens allow you to view alarms and diagnostic information and select formulas. No password is required.

Alarm Messages

F1 Low Chem	With a low-level sensor installed, "Low Chem" message appears when chemical is low. If you clear the alarm without correcting the condition, the alarm will reactivate in 15 minutes. The dispenser will continue pumping despite the alarm.
F1 No Flow	A No Flow alarm occurs when an electrical or mechanical problem is causing the pump to malfunction, if the is insufficient water flow in a flushed system, if a trigger is active for more than 5 minutes in Smart Relay mode, or the pump has been running continuously for 5 minutes (at which point the pump turns off and the No Flow alarm is issued.
F1 Hygiene	A Hygiene alarm occurs when wash water temperature fails to maintain the programmed minimum temperature for the programmed time duration required for a specific formula. A Hygiene alarm will also issue if a Low Chem alarm occurs during the formula run.
F1 System	A System Alarm indicates that system components (trigger board, pump box or programmer) cannot communicate. A System Alarm cannot be cancelled. It will clear automatically when the problem is corrected.

Diagnostic Information

Press and hold the CURSOR key to view diagnostic information.

-8------ 12 5 8	Diagnostic information for Formula, Latched, TAFS and Smart Relay modes. The top line shows which pumps are running (with spinning pump icon). The dashes indicate inactive pumps; flashing dashes indicate active pumps that are delayed. The bottom line displays active triggers. Flashing trigger numbers are present but not qualified.
-8------ T1 S1 I	Diagnostic information for Sequence mode. The top line shows which pumps are running (with spinning pump icon). The dashes indicate inactive pumps; flashing dashes indicate active pumps that are delayed. The bottom line displays trigger number (T), step number (S) and sequence status ("I" for ignore, "E" for end or a pump icon for pump action)
NONE	When AFS is used, the programmer's "+" and "—" keys cannot be used to manually select the formula. When AFS is in use and END formula "F0" is active, (either at power-up after a formula has ended or when the T8 trigger has qualified but has not yet deactivated) the programmer's Operator-Level Access screen will display "NONE" as the current formula selection until AFS selects a new formula. See **Programmer Access—Mode Programming/Formula Mode** for more information about "F0".

Passwords

Password ???	Pressing and holding the MENU key for 5 seconds brings up this screen. Technician-level password is 123. Programmer level password is 890 until changed.

Technician-Level Screens (technician or programmer-level password required)

Prime 1	Use this screen to select and prime pumps.
F1 Q000 A000H000	Formula Count screen. The top two lines show formula number (F), number of times that formula has run. The bottom line shows total number of alarms (A) for that formula, and total number of hygiene alarms (H) for the formula. To view total runs for all formulas, as well as alarms for all formulas, scroll to "FAll".
FAllQ000 A000H000	
01000000 01000000	Trigger Status screen. Top line displays active triggers. The bottom line displays the number of times each of the triggers has executed.
Pump 1 1.0	Pump Runtimes screen. The top line shows the pump number. The bottom line shows the number of minutes the displayed pump has run in its lifetime.
Hyg071°F	Temperature probe reading. If at least one formula is set with hygiene verification, this screen shows current water temperature in real time.

Programmer Access-Setup Screens (programmer-level password required)

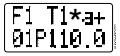
PumpBox E/Plus	This screen allows you to change the PCB to either an "E/Plus" unit or an "XL" unit. You must select "E/Plus" for L5000Plus. Note: To toggle between "E" and "XL" you will need to press ***and hold*** the +/- keys.
Mode oz Formula	Modes and units of measure screen. Use the top line to set desired units ("oz" or "ml"). Use bottom line to select run mode (Formula, Latched, Smart Relay, Sequence or TAFS). Press ***and hold*** the + or – key for 2-3 seconds to scroll through the different formula modes.
Mode oz FormulaA	The Modes and units of measure screen is also used to select Automatic Formula Selection (AFS) on the far-right position of the second line. By default, AFS is **not** selected (position is just blank). To select AFS, CURSOR to the selection spot on the screen and press and hold the + or – key for 5 seconds for each value until you reach the desired value (A-F). The A-F values correspond to different timing schemes used for selecting formulas automatically. For more information and a chart of the timing schemes, see the L5000Plus Programming Guide.
P1 @600 Speed100	Speed control and pump size screen. Use top line to select pump number (P) and pump size (100 or 6000). On bottom line, set pump speed by percentage.
P1 4oz Cal 16.9	Pump calibration screen. Use the top line to select the pump number (P) and volume of chemical upon which calibration will be based (4 oz/100 ml for 600 Series, 1 oz/30 ml for 100 Series pumps). The calibration value appears automatically on the bottom line after you perform calibration procedure (see Installation and Setup Guide).
F1 Line1 F1	Formula names screen. This screen lets you create 2-line formula names. The top line lets you select which line of the formula name you are naming (Line 1 or Line 2) and the bottom line lets you choose the actual words. Example: To create the name "HEAVY SOIL", select "Line1" and write "HEAVY" on the bottom line, then go back up and select "Line2" and write "SOIL" on the bottom line.

Programmer Access-Mode Programming

Note: To scroll through the different formula modes, you will need to press ***and hold*** the +/- keys.

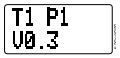
Formula mode programming. Use the top line to select the formula (F), the trigger associated with it (T) and the pump action letter (a, b or c). A "+" displayed after the "a" indicates that a "b" and/or "c" pump action exists. On the bottom line, select the pump action delay (10-990 seconds in 10-second units), the pump number (P) and the volume to be pumped (0.0-220 oz/0-6500 ml). Note that T8 is not available for programming pump actions because it is used exclusively for AFS trigger monitoring.

You can also run a Dose Verification procedure from this screen. See **L5000Plus Programming Guide** for details and important safety information.

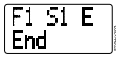


Latched mode programming (requires "End" trigger be programmed. See "End pump assignment screen"). Use top line to select the formula (F), the trigger associated with it (T) and the pump action letter (a, b or c). A "+" displayed after the "a" indicates that a "b" and/or "c" pump action exists. On the bottom line, select pump action delay (10-990 seconds in 10-second units), the pump number (P) and desired pump volume (0.0-220 oz/0-6500 ml).

To add prewash feeds to the main wash, make sure asterisk (*) between the "T" and pump action is on (default is off). Please note that this option cannot be used if AFS is selected.

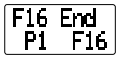


Smart relay mode programming. On the top line, select the trigger (T) and the pump (P). On the bottom line, select the call rate per second of trigger on-time. (0.0 to 8.5 oz/000-250 ml). Default call rate is 10 ml or 0.3 oz.



Sequence mode programming. On the top line select the formula (F), the step number (S, 1-16) and the step action ("E" for end, "I" for ignore or pump icon for pump action). If you select a pump action, you will then select a pump delay time (in 10-second increments), the pump number to perform the action and the pump volume (0.0-220 oz/0-6500 ml).The bottom line displays the step action ("End", "Ignore" or if a pump action, pump action data).

Tunnel Automatic Formula Select (TAFS) mode programming. For use with tunnel systems. Assign pump volumes per pump (P) per formula (F). D=delay time prior to pumping after batch transfer signal is validated. V=pump volume.

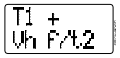


End pump assignment screen. Use this screen to assign which pump action will log the formula as complete. Use the top line to select the formula (F) and the bottom line to select the pump that will perform the end action
(P, 1-8).

New formula assignment screen. Use the same screen to assign a formula to be automatically chosen when a certain formula is complete. This is useful for preventing the addition of bleach if the operator forgets to select a new formula for the next load. Use the top line to select the formula (F) and the bottom line to select the pump that will perform the end action (P, 1-8). By default, the new formula selected will be the current formula. If AFS is selected, the default new formula is "F0".

Formula copy (for Formula, Latched and Sequence modes) lets you copy an existing formula and all of its properties to another formula. Select the formula you want to copy on the first line, and the formula number you want to copy it to on the second line. To copy a formula to all other formulas, select "fAll".

This screen allows you to change passwords. Default technician password is 123 and default programmer password is 890.

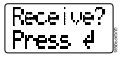


This screen let you set voltage and filter time parameters to protect against false or intermittent trigger signals. On the top line, select the trigger number (T) and either "+" or "-" to indicate whether trigger is "rising" or "falling". On the bottom line, select trigger voltage level; either "high" (h, 65-240VAC) or "low" (L, 24-240 VAC) and filter time in seconds (either 2 or 15 seconds).

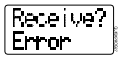
If Smart Relay mode is selected, the rising/falling and filter time selections are unavailable.

If TAFS mode is selected, the filter time selection is unavailable.

Programmer Access-Receiving Cloned Setups

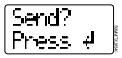


Press ACTION from this screen to "clone" all setups from the main pump box to the programmer.

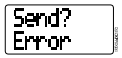


If an error occurs during cloning, this screen appears.

Programmer Access-Sending Cloned Setups



Press ACTION from this screen to copy all setup data from the programmer to the main pump box.



If an error occurs during cloning, this screen appears.

Programmer Access-Language Selection

Select your language: English, Portuguese, French-Canadian, Finnish, Turkish, French, German, Spanish or Japanese.

Programmer Access-Hygiene Verification

This screen lets you set three different hygiene criteria for formulas. If a formula fails to meet ALL hygiene criteria, an alarm is issued. On the top line, "H" is for hygiene. Select the formula number (F), the criteria (a, b, or c) and a temperature offset value for the probe reading (00-40° Celsius or 00-72° Fahrenheit). On the bottom line, set the temperature setpoint (0-099°C or 032-210°F) and the number of continuous minutes wash bath is to maintain that temperature.

Programmer Access-Flush Transport Time

This screen is only visible when a flush manifold is connected (flush manifold wire harness is plugged into main PCB). This screen lets you tell the system how long the water must flush after pumping chemical. On the bottom line, select the flush time (t) in seconds (01-99). The pump icon spins while a flush is in progress.

Notes:

- You can manually flush the system by pressing the ACTION key.
- In Smart Relay mode, you can select the "Tunl" option if you have a tunnel system but do not want to use TAFS mode.

Beta Technology
2841 Mission Street
Santa Cruz, CA
U.S.A 95060-2142

Customer Service
TEL: 831 • 426 • 0882
TEL: 800 • 858 • 2382 (toll-free in U.S.A.)
FAX: 831 • 423 • 4573
FAX: 800 • 221 • 8416
http://www.beta-technology.com

Global Technical Customer Service
North America:
TEL: 800 • 468 • 4893 (toll-free in U.S.A)
TEL: 262 • 631 • 4461 (international)
Europe, Middle East & Africa:
TEL: +1 630 • 513 • 9799

Asia Pacific:
TEL +1 86 21-50509900 x 2520
Japan:
TEL: +1 090-6506-5140
Latin America
TEL: +1 - 541148428270