Alpine
Laundry Dosing System
Installation and Operating Manual

SAFETY NOTES

- When servicing Alpine, make sure unit is disconnected from power source and no triggers are live.

- Refer installation and service to qualified personnel only. Installation must comply with all applicable plumbing and electrical codes.

- When removing or installing Alpine pump components, wear adequate protective clothing such as gloves and safety glasses or goggles.

INTRODUCTION

This manual describes how to use the Alpine.

Material in this manual is subject to change without notice. Manual revisions will be made on an as needed basis. Special circumstances involving important design, operation or application information will be released via Equipment Technical Bulletins.

If the equipment is used in a manner not specified by Beta Technology, Inc. or Beta Europe, the protection provided by the equipment may be impaired.

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OVERVIEW

Alpine is a two to three chemical dispenser for applications such as toploading, OPL, and pot and pan. It is not intended to pump into pressurized lines. Up to eight different formulas may be programmed. Programming takes place on Alpine's keypad.

Alpine accepts two signals and three contact closures for automatic activation. It can be manually triggered in Formula mode using the ACTION button on the dispenser, which runs all pumps as though all triggers were received. Alternately, the optional Remote Control selects and runs formula one or formula two.

Alpine has two modes of operation: Formula and Relay. In Formula mode, the Alpine runs user-programmed delay and run times upon receiving trigger signals. In Relay mode, it runs as long as the signal is present. Programmed delay times can also be used to delay the start of the pumps in Relay mode.

Alpine has a Latch Time option. This allows you to program the Alpine to "latch out" a trigger signal after it has been received one time, so that dosing never occurs more than once during the same wash cycle.
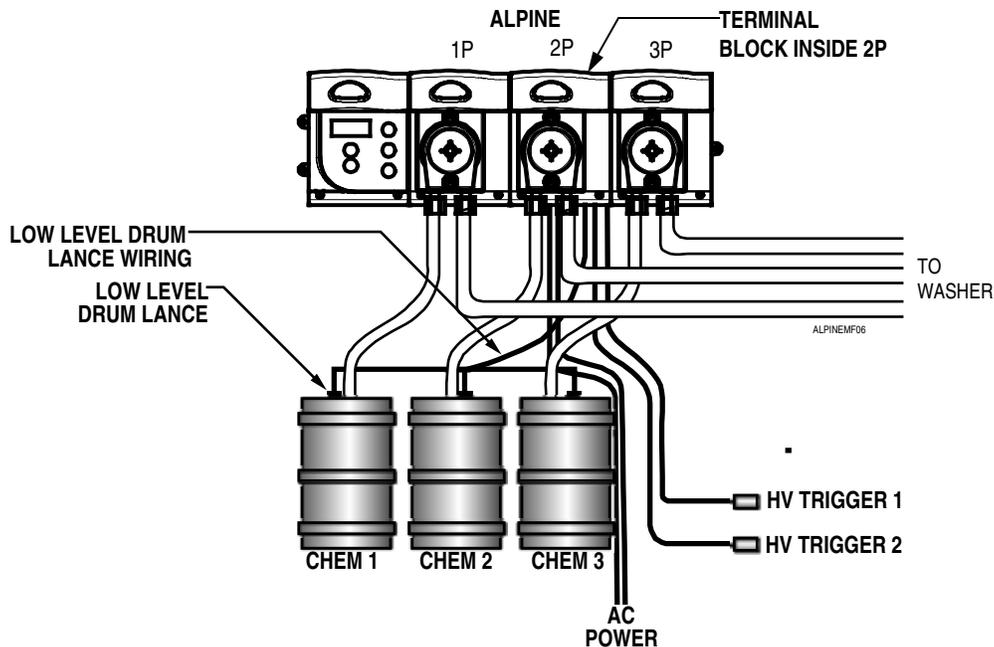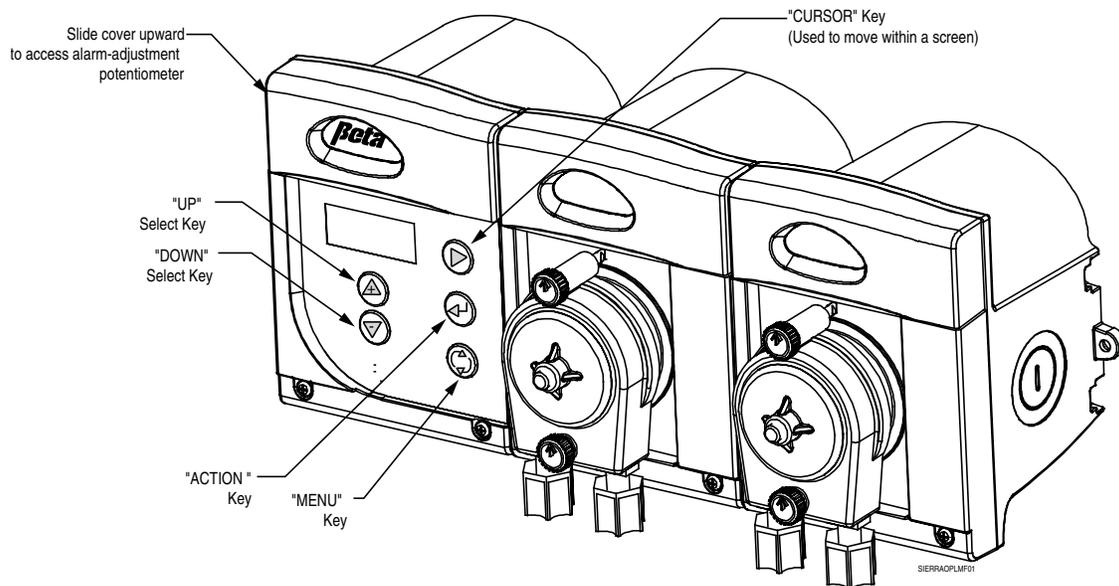

Figure 1. Typical Installation

Labels on figure:
- Slide cover upward to access alarm-adjustment potentiometer
- "CURSOR" Key (Used to move within a screen)
- "UP" Select Key
- "DOWN" Select Key
- "ACTION" Key
- "MENU" Key
- SIERRAOPLMF01

Figure 2. Alpine, Typical Two-Product System

OPERATION

Programming

All programming is done using a five-button keypad and two-line, 16-character display. Please refer to the Installation and Setup section.

Running the Pumps

Alpine accepts two signals and three contact closures for automatic activation. It can be manually triggered using the ACTION button on the dispenser, which runs all pumps as though all triggers were received. Alternately, the optional Remote Control selects and runs formula one or formula two.

Priming

Press the MENU key to reach the prime screen, and select the pump you want to prime with the UP/DOWN keys. Pressing the ACTION button primes the pump number displayed on the screen. If in Relay mode, hold the button down to prime.

If in Formula mode, just press the button once and the pump will run for the programmed length of time. Do not hold the ACTION key down when priming; holding it down will cause the pump to pulse on and off.

Cancel Formula

To cancel a formula, press the ACTION or Remote Control button for two seconds.
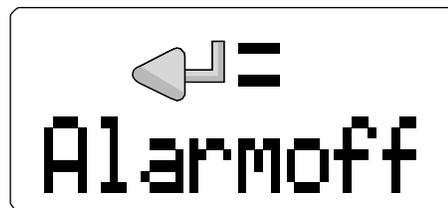
Disable Pumps

To disable the pumps, press the MENU key until you see the word ENABLE, and then press the + button to change it to DISABLE. Selecting disable will cancel any formula that's running, and the pumps will not respond to any triggers while disabled. The pumps will be disabled for five minutes, after which the formula select screen is displayed. This can be useful for canceling pumping after accidentally triggering the unit, or to disable it while changing the pump cartridge.

Low Product Alarm

If you have connected a drum lance to contact closure 4 (see Figure 6) and the system detects a low-chemical condition, the audible alarm turns on and the following screen is displayed:

ALPINEMS02

This screen alternates with the following "ALARMOFF" screen at one second intervals. Pressing the ACTION button will turn the alarm off. If the alarm is turned off with the ACTION button, but the chemical level is still low after five minutes, the alarm will turn back on. The alarm will not be shown while in the Level 2 Programming Screens.

ALPINEMS03

SPECIFICATIONS

PHYSICAL DIMENSIONS, CONSTRUCTION AND MOUNTING

Three-Product Enclosure

Height	Width	Depth	
5.75	15.25	5.5	Inches
14.61	40.96	13.97	Centimeters

Two-Product Enclosure

Height	Width	Depth	
5.75	11.50	5.5	Inches
14.61	31.12	13.97	Centimeters

Weight

4.38 lbs (2 kg) for 3-pump system.

Cabinet Material

ABS – Flame Retardant
IP54 Water-Resistant

Mounting

Wall mounted with stainless steel bracket or mounting tabs.

OPERATING CONDITIONS

Ambient Operating Temperature

36 to 104° Fahrenheit (2 to 40° Celsius)

Electrical Power Configurations

100-240VAC, 50-60 Hz, 0.42 Amp (max)

Fuse

Alpine has no user-serviceable fuse. Protection is provided by the power supply.

COMPONENTS

Pumps

Peristaltic, dual roller, self-priming and self-checking.

Tube

Flex, 8 oz, 230 ml per minute

Trigger Voltage Range

24VAC to 240VAC
30VDC to 100VDC

Current

0.5 mA minimum (at 24 VDC)

Sonic Low Level Alarm

Emits 80db at 4 feet (1.22 meters)

Hydraulic Performance

Maximum Vacuum	8 in (200 mm) of mercury
Maximum Pressure	1.4 bar (20 psi)

APPROVALS

CE approved
CSA

INSTALLATION & SETUP

PHYSICAL INSTALLATION

⚠ **CAUTION!** *Refer installation and service to qualified personnel only. Installation must comply with all applicable plumbing and electrical codes.*

Mounting the Unit

We recommend mounting the unit with the mounting bracket rather than using the end tabs.

Avoid mounting near steam and other sources of moisture, such as from spray or splash. Do not subject the unit to temperatures outside the range 36 °F to 104 °F (2 °C to 40 °C).
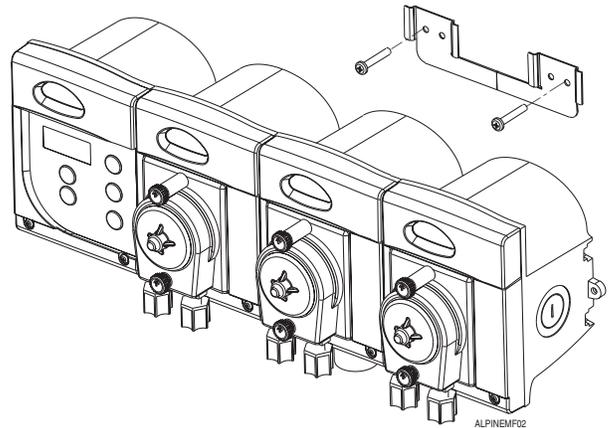

Figure 3. Alpine with Mounting Bracket

Chemical Input Lines

1. Connect the 1/4-inch (6 mm) line to the nut on the left (inlet side) of the pump squeeze tubes. Tighten the nuts on the fittings. Make sure the connection is airtight.

    To ensure an airtight connection between the chemical inlet tube and the fitting, push the tube all the way into the fitting until it stops. The best way to do this is to:

    a) Remove the nut from the fitting.

    b) Put the fitting then end of the chemical line and slide the tube through the nut until 1/2" (13 mm) of tube extends through the nut.

    c) Push the tube into the appropriate tube end.

    d) Push the nut until it meets the fitting.
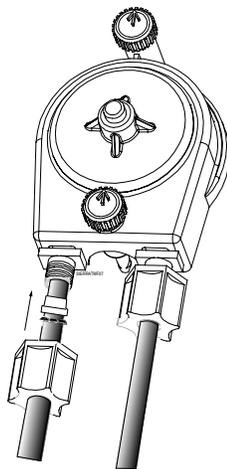
    e) Tighten to a secure fit. See Figure 4.

Figure 4. Installing Chemical Tubing

NOTE *It is very important that the nut components be installed correctly, as shown in Figure 4.*

2. Run the lines to the chemical drums, and secure the end of each supply line into its respective container. To ensure that chemical is properly supplied, we recommend using a standpipe or other securing device to support and hold the chemical uptake tube in place within the chemical drum. A plastic standpipe is in the **Accessories and Spare Parts** section of this manual.

3. Cut the line at a 45° angle.

4. Press the feed end of the line into the open part of the U.

5. Leave the bottom of the standpipe slightly lower than the inlet of the line.

ELECTRICAL CONNECTIONS

WARNING!
- *Dangerous voltages may be present in the enclosure.*
- *Refer installation and service to qualified personnel only.*
- *Installation must comply with all applicable electrical codes.*
- *Wire size for Main Power and all high voltage connections must be a minimum of 20 AWG, rated for 600 volts.*
- *Suitable earth ground must be provided.*
- *A service disconnect must be provided for either this equipment, or the equipment to which it is attached.*
- *All 7/8" knockouts are intended for flexible conduit only.*
- *All wires should be routed through the bottom knockouts, through either strain relief or conduit.*

Opening Unit for Wiring

Slide 2P (see Figure 6) cover up and gently pry off by inserting a screwdriver under the side. Remove screws from four corner of cover to open unit.

Removing Knockouts

Use a flathead screwdriver to puncture the indent in the center of the knockout, and pry/twist to remove it. Do not use excessive force as the plastic enclosure could be damaged.
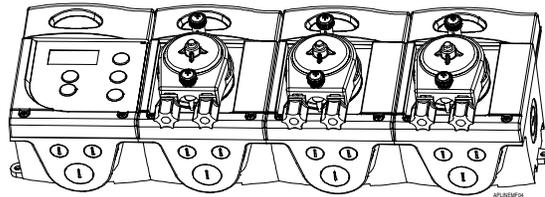

Figure 5. Alpine, Bottom View with Knockouts

A selection of plugs, strain reliefs and conduit fittings are listed in the **Accessories and Spare Parts** section.

Electrical Connections (see Figure 6)

Power:	100-240VAC, 50-60Hz and ground
Trigger 1:	24 VAC-240VAC or 30VDC-100VDC
Trigger 2:	24VAC-240VAC or 30VDC-100VDC
Trigger 3:	Contact closure at Contact 3
Low Level:	Contact closure at Contact 4

Low Level Alarm

The low level alarm is connected to contact closure 4 (see Figure 6); to use this feature with multiple alarm lances, connect them all to contact closure 4.

Alpine's audible alarm is in the same enclosure as the buttons (see Figure 2). To adjust alarm volume, slide up the cover and turn the potentiometer counterclockwise to reduce volume, or clockwise to increase volume.

Remote Button Wiring

If you have purchased the optional Remote Control unit, snip the telephone connector off the push-button assembly, and strip the ends of the red, yellow, and black wires. Put a jumper wire into contact closure 1– & 2 – (see Figure 6), and put the red wire into the contact closure 1 –. Connect the black wire to contact closure 1 +, and the yellow wire to contact closure 2 +.

The Remote button is intended for use in two-formula toploading applications. It does not work with Relay mode. Pressing the Remote's "Start Without Bleach" button will switch the formula to Formula 1 and activate it as though all triggers were turned on.

Pressing the Remote's "Start With Bleach" button will switch the formula to Formula 2 and activate it as though all triggers were turned on.

An example of a two-formula application would be pumping detergent and softener with Formula 1, with 00 runtime for bleach, and pumping detergent, bleach and softener with Formula 2. A delay would be used for the softener pump so that the chemical would be pumped during a rinse.

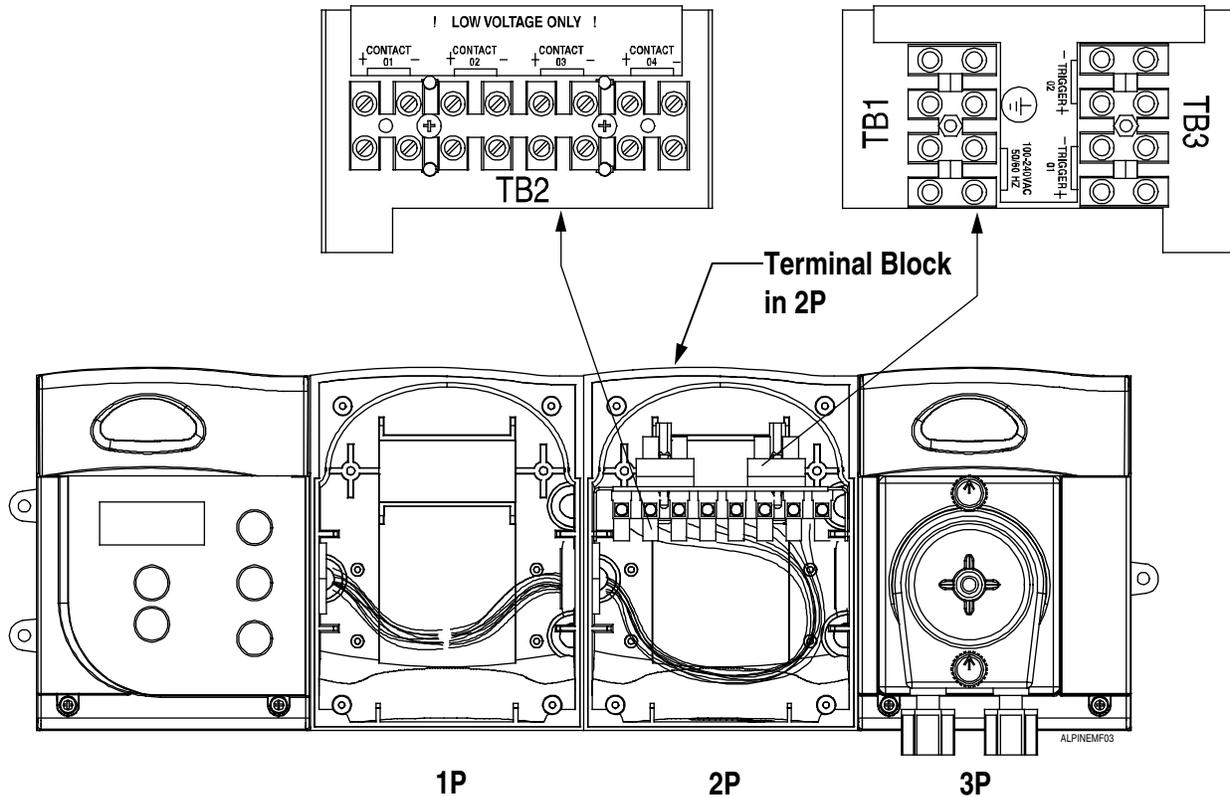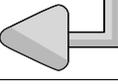To cancel a signal, hold either button down for a minimum of two seconds.

Figure 6. Alpine Wiring/Removable Terminal Block

Figure 6 shows the Alpine terminal block, which slides out so wires can be easily attached. The unit needs constant power supplied to the 100-240 VAC input. Trigger voltages must meet the specifications. In some cases, where a contact closure trigger source may not be available for pump 3, it may be necessary to use one of the high voltage triggers to trigger two pumps.
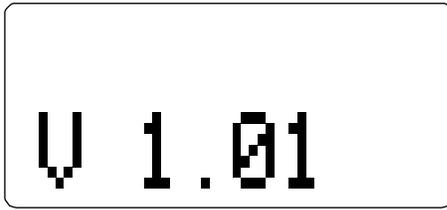
PROGRAMMING PROCEDURES

This section describes Alpine's buttons and the different programming/status screens.

The Alpine screens have two access levels: Level 1, Laundry Worker Screens, and Level 2, Programming Screens. Level 1 screens have no access restrictions, whereas Level 2 screens require a password.

Button	Description and Function
	UP/DOWN buttons, used to change the value of a variable.
	CURSOR button, for navigating with a screen/changing which digit is selected.
	ACTION button, to perform an action such as priming a pump or canceling an alarm.
	MENU button, switches from screen to screen.

Level 0: The Power Up Screen

Screen 0: Power Up Screen

When Alpine is powered up, it displays the firmware version on the screen for about a second, and then shows the formula select screen (Screen 1).

Level 1: Laundry Worker Screens

The formula select screen allows the operator to change the formula selection.[1]

The MENU button can be pressed to cycle through the other Level 1 screens.

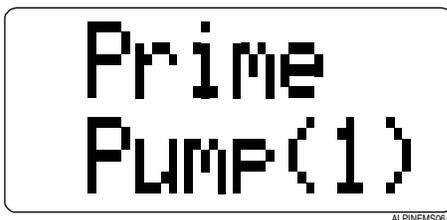### Formula Select Screen

Screen 1. Formula Select Screen

The top line shows which formula has been selected (1-8). The formula number can be changed with the +/- buttons, or with the buttons on the optional Remote (if attached).

The bottom line shows which triggers are present. When no trigger is present, dashes are shown. During a pump action, pump delay, or latch time, a pump icon is displayed on the right side of the bottom line.

In the screen shown, all three triggers are present and one or more pumps are active, delayed, or latched out.

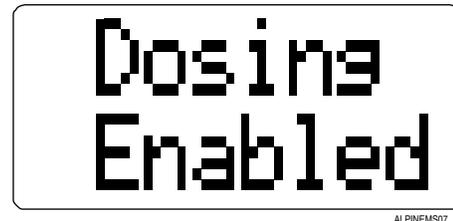Press the MENU key to go to the Prime screen.

Prime Screen

Screen 2. Prime Screen

The UP/DOWN buttons change the pump number. Holding down the ACTION button runs the selected pump.

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[1] Any screen reverts back to this screen if the unit stands idle for 120 seconds.

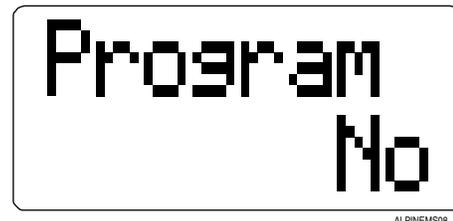Pressing the MENU button again leads to the Dosing Enabled Screen.

Dosing Screen

Screen 3. Dosing Screen, Enabled

Press the UP/DOWN key to toggle the screen between DOSING ENABLED or DISABLED. The purpose of this screen is to allow you to turn off dosing for routine maintenance procedures, such as pump tube replacement.

By default, dosing is ENABLED. This screen will keep the pumps disabled for 5 minutes, after which time it will revert so the formula select screen. During the 5 minute disable time, you can not exit of this screen without changing DOSING to ENABLED.

Press the MENU button to advance to the next screen.

Advance to Level 2 Screen

Screen 4. Advance to Level 2 Screen

The UP/DOWN arrow keys toggle between "YES" and "NO". Selecting "YES" and pressing the MENU button advances to the Password screen. Leaving "NO" selected and pressing the MENU button reverts to the Formula Select screen.

Password Screen

Screen 4. Password Screen

Enter the password using the UP/DOWN keys to select the numbers, and the CURSOR key to navigate between the three digits. The default password is "000".

Press the MENU button to advance to the next screen; if an incorrect password is entered, an error message will display for three seconds.
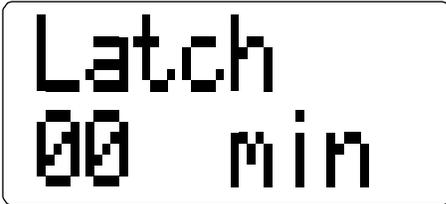
Level 2: Programming Screens

> **NOTE** *Pumps will not run while Screens 5 through 10 are displayed.*

After entering the correct password from Screen 4, you will advance to the first programming screen, Latch:

Latch Screen

Latch
00 min

Screen 5. Latch Screen

The Latch screen lets you define how many minutes (0-99) the dispenser will latch the trigger out after the first trigger. While latched out, the trigger will be ignored if it reoccurs.

"Latch" would typically be used with solenoid triggers that occur repeatedly during the wash cycle, so the pumps run only the first time each trigger is received.

> **NOTE** *Canceling a formula will cancel the latch.*

Mode Select

Mode
Relay

Screen 6. Mode Select Screen

Use the UP/DOWN button to toggle FORMULA and RELAY mode. Pressing the MENU button advances to the next screen.
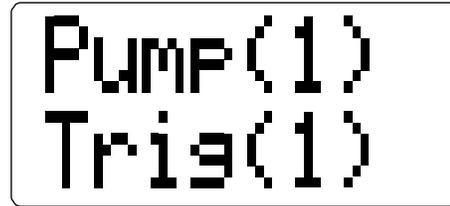
In Relay mode, pumps run as long as the signal is present. If a delay time is programmed for the pump, or a latch time is programmed for the dispenser, the pump will wait until the time period is over prior to pumping.

In Formula mode, pump times are programmed. Pumps can be triggered automatically or manually.

Pump/Trigger Assignments Screen

This screen allows you to assign each pump to a trigger. Use the CURSOR button to navigate between digits, and the UP/DOWN buttons to change the digit's value. When that trigger is on, it will trigger its pumps. Most applications will not require changing the settings of this screen. If, however, you need to trigger both detergent and bleach with Trigger 1 for some formulas (whites, healthcare bedpads etc), you'd set both to

"Trig 1".[2] Never assign 00 trigger to a pump unless you want to completely disable it. Trigger 3 is from contact closure 3.
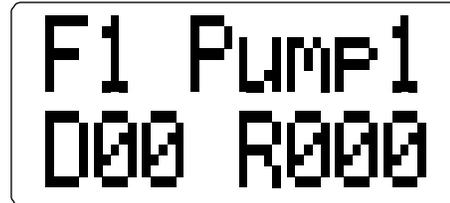
Pump(1)
Trig(1)

Screen 7. Defining Trigger Assignments

Press the MENU button to advance to the next screen.
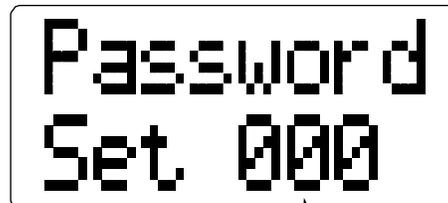
Pump Delay and Run Time

F1 Pump1
D00 R000

Screen 8. Pump Delay & Run Time

For the formula shown, when its trigger is received a pump will run for the time shown after its assigned delay period is over. The delay period, "D00", is in ten-second increments, so 06 is 60 seconds, 60 is 600 seconds. Pump run time is seconds, "R000", so 60 is a 60 second dose.

Use the CURSOR button to switch from digit to digit, and the UP/DOWN buttons to change the digits. Set the delay time and run time for each pump, for each formula. Each pump can have different delay times and run times for each formula.

Change Password

Password
Set 000

Programmer-Level (Level 2) Access password (000-999)

Screen 9. Changing Password

While the dispenser ships with "000" as the default password, this Screen 9 allows you to change it for increased security.

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[2] For example, if pump one is detergent and pump two is bleach, both would be assigned to trigger one. Some formulas would have a pump time for bleach, others wouldn't. Only those formulas with a programmed pump time for bleach would pump bleach when trigger one is received.

Exit Screen

Screen 10. Exit Screen

This screen is used to exit the Level 2 Programming Screens back to the Level 1 Formula Select Screen. Changing the "NO" to a "YES" and pressing the MENU button will exit back to the Formula Select Screen. Pressing the MENU button while the "NO" is displayed will return back to the Latch Screen.

MAINTENANCE

⚠️ **WARNING!** *TURN OFF all power before servicing.*

Servicing Interior Components

To access interior, slide top cover up and gently pry off. It may be necessary to pry the cover off with a flat-head screwdriver. If this is necessary, take care not to damage the unit. Then remove the four screws.

Pump & Squeeze Tube Replacement Schedule

Since every installation is different (chemicals, tube runs, operating frequency, etc), an exact tube replacement schedule cannot be specified. With use, the tube slowly evolves from round to oval and the amount of chemical pumped decreases. By regularly checking the amount of chemical pumped, you can determine general tube life. We recommend that you closely monitor the time it takes the original tube to reach the end of its flex life, and then establish a replacement schedule. Replacing tubes at regularly scheduled intervals ensures more accurate product use and reduces service calls. In general, using short feed lines of a large diameter will improve pump tube life.

ℹ️ **NOTE** *It is very important not to let the tubes become worn to the point where they tear and allow chemicals to saturate the pump housing.*

How to Replace Pump Cartridges and Squeeze Tubes

Only the cartridge replacement should be done in the field. Tube replacement can be accomplished later. Note that each product has different delivery line configurations and squeeze tubes. Refer to the **Specifications** for tubing materials.
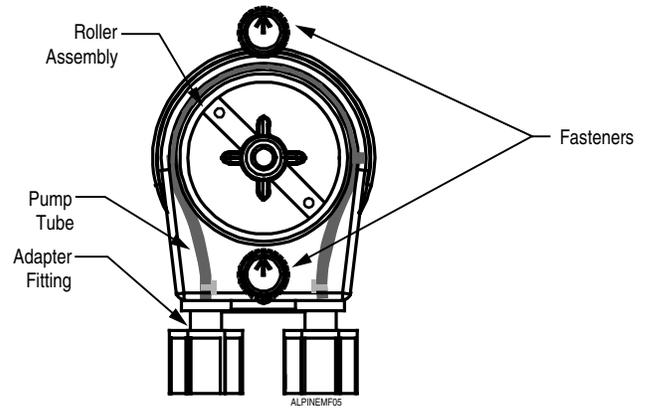

Figure 7. SnapHead Pump

To Remove

1. Disable unit, or turn off main power.

2. Remove the cartridge from the motor housing by twisting the two quarter turn fasteners at top and bottom counterclockwise while gently pressing.

⚠️ **WARNING!** *Wear adequate protective clothing such as gloves and safety goggles.*

3. Remove the supply and feed lines from the old pump squeeze tubing and connect them to the new pump squeeze tubing.

To Install

1. Disable unit, or turn off main power.

2. Align and engage the pump drive spline with the motor gear.

3. Turn the fasteners so that arrows are pointing upward.

4. Hold the cartridge vertically and press the fasteners into the motor housing until you hear a distinct click.

⚠️ **WARNING!** *It is very important that the tabs are vertical and that you press them firmly enough to hear them click. Incorrect installation could damage the pump*

How to Change the Pump Squeeze Tubing

1. Remove the cartridge as described above.

2. Remove the small screw at the bottom of the rear cover and lift the cover from the cartridge.

3. Pull the adapter fittings rearward until they clear the cartridge.

4. Pull the roller assembly rearward to release the pump squeeze tubing.

5. Cut the tie wraps holding the pump squeeze tubing to the adapter fitting and pull the tubing from the fittings.

6. Replace the pump squeeze tubing making certain to use the proper size tube.

7. Push the adapters on to the ends of the tubing and secure with tie wraps. Make certain that the "buckles" of the tie

wraps are both facing the same direction. This will keep the tube from twisting in the cartridge.

8. When using B-Flex tubing, coat the inside of the cartridge with a liberal amount of Silicone 111 lubricant.

9. Press the 2 adapter fittings into the cartridge so that the tie wrap "buckles" face toward the center of the pump.

10. Push the roller assembly onto the cartridge shaft using a twisting motion to engage the rollers properly with the pump squeeze tubing.

11. Return the rear cover and secure with the small screw at the bottom. The flat side of the cover should face inward.

How To Replace Pump Motor Subassemblies

To Remove

1. Ensure power and all triggers are off/disabled.

2. Remove the pump cartridge from the motor assembly, leaving the chemical lines attached. Remove front cover.

3. Remove the electrical connections at the back of the motor.

4. Compress the two flex ears on the back of the motor until the motor slides out through the hole in the cabinet.

5. For detailed information on Alpine subassembly structure, please see **Appendix B**.

To Replace

1. Ensure power and all triggers are off/disabled.

2. Locate the alignment tip of the pump motor housing so it is in the down position.

3. Slide the pump motor housing into the enclosure hole. The holding ears will expand to hold the pump motor/solenoid in place. Verify that both ears popped out and are locked in place.

4. Reinstall the electrical connections at the back of the motor (Refer to **Appendix B** for wiring diagram).

5. Install the pump cartridge.

6. Prime the pump to verify proper pump rotation (clockwise). If the direction is wrong, switch the motor wires.

TROUBLESHOOTING

Refer to the assembly drawings and the complete unit wiring diagram in the **Appendix B**. To order replacement spares, see **Accessories and Spare Parts**. Please order using the item number.

No Power

⚠️ WARNING! *The following procedure is to be performed only by qualified personnel.*

Check the following:

1. Check power supply terminal strip connection (TB1-1,2) and verify that there is appropriate line voltage.

   a) If there isn't appropriate line voltage, check wiring and power supply.

   b) If there is appropriate line voltage, proceed to Step 2.

2. Confirm connection CN1 is firmly seated on the power supply board. If firmly connected and the Alpine is still not functioning remove CN1 and confirm that appropriate line voltage (100-240VAC) is present on the input wire.

   If there isn't appropriate line voltage is present, check wiring between CN1 and TB1. If there is appropriate line voltage, proceed to Step 3.

3. Reconnect CN1. Disconnect J2. Confirm that appropriate input voltage (24VDC) is present.

   a) If there isn't appropriate line voltage, replace Alpine power supply PCB.

   b) If there is appropriate line voltage, replace Alpine controller PCB.

Chemical Feeds Too Often/Too Much Chemical Used

Check the chemical control setup and harness. (Refer to the original setup records.) If wrong, correct. If OK, replace the PCB.

Chemical Does Not Feed at All (Pump Doesn't Turn)

1. Check the chemical control setup, including setup menus and input triggers. (Refer to the original setup records.) If wrong, correct.

2. Use voltmeter to verify 24 VDC is present on pump driver wires while priming. If 24 VDC is present, replace pump motor. If 24 VDC is not present, disconnect harness and test at PCB output. If 24 VDC is not present at PCB output, replace PCB; if present, replace harness.

Chemical Pump Feeds Continuously

Check the preset run time of the pump and the operation of the prime button. If the pump continues to run beyond that run time, check the wiring harness. If pump still feeds continuously, replace the Alpine Main PCB.

Pump Will Not Pull the Chemical Out of the Drum

1. Too much vacuum created. The supply line in the chemical drum may be up against either the side or bottom, the supply lines may be too long for a viscous product, or there may be a crimp in the intake supply line, thus exceeding the pump's vacuum specifications.

2. There may be an air leak somewhere in the input supply line. Most often this is caused by inadequate sealing of the supply line into the line nuts. See **Installation and Setup** section for recommended procedure.

3. Squeeze tube is worn and the rollers can no longer squeeze the tube properly. Correct by changing the pump cartridge with the correct size squeeze tube and line nuts for the chemical being pumped.

ACCESSORIES & SPARES

The items listed in this section provide you with quick reference numbers for some of the major parts and accessories. A complete exploded assembly drawing is located in the back of the manual. Please note that transport tubing and power/trigger wires are sold separately from the Alpine.

Spare Parts and Accessories

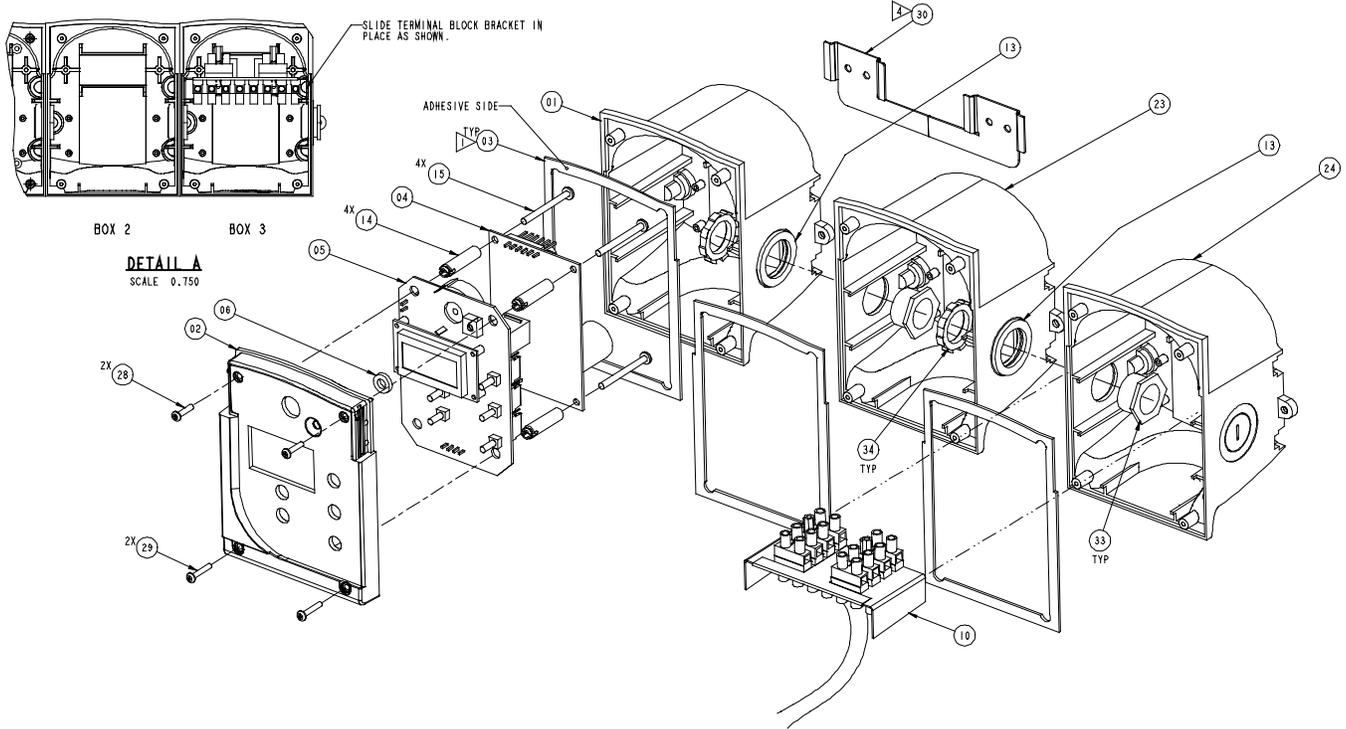|	
1/2" Strain Relief, Small Knockout, Nylon	032121
3/4" Strain Relief, Large Knockout, Nylon	090369
Low Level Alarm Lance	091518
Remote Buttons	1201630
Panel mount low level alarm, 100 dB	1200452
Mounting Bracket	069188
Power Supply PCB 100-240 VAC	087751
Main PCB	1201065
1/2" Watertight Plastic Conduit Elbow	068529
1/2" Plug	041236
Tube kit, EPDM2/Nordel, ¼" T	058550
Tube kit, High Flow Flex, ¼"T	092847
Tube kit, Viton, ¼" T	069928
Insert, rinse, outlet, 1/8"	036982
Motor Gearbox	051351
Chemical Tubing Standpipe	036857

TECHNICAL ASSISTANCE

If you require additional technical information, contact our Technical Support Department at 1-800-468-4893. From Europe, please call 0800-052-4726.

RETURNING EQUIPMENT FOR REPAIR

If you need to send an item back to be repaired, please call or write to obtain a Returned Authorization (R.A.) Number before sending it back. Please write the R.A. # on the outside of the box before sending it back. It is also very helpful to our repair department if you include a note inside the box explaining the nature of the problem. Failure to obtain an Return Authorization Number before sending an item in for repair or replacement may delay the return of your equipment, and will incur a $25 handling fee.
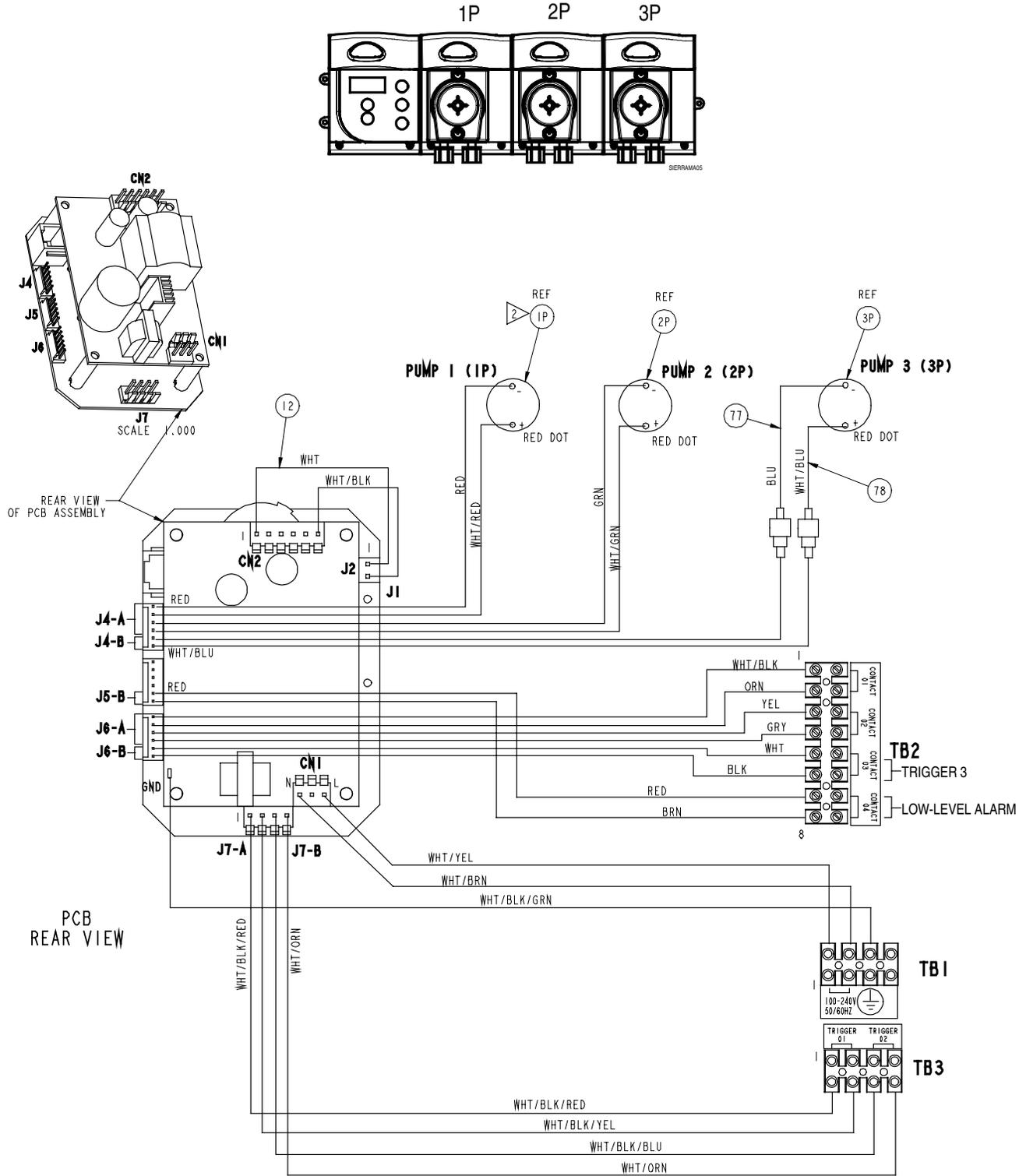
APPENDIX B: ASSEMBLY DRAWINGS

Seq #	Description	Code#
01	ENCL,BUCKET,,HOLE B,GRY	1200398
02	ENCL,BEZEL,CONT,SIERRA, GRY	069974
03	GSKT,ENCL,ADH	069630
04	PCB ASSY,PWR SPLY, 90-264VAC,	087751
05	PCB ASSY,ALPINE	1201065
06	GSKT,LED,NPRN,PSA	087415
10	HARN,PWR/IO,SIERRA,CSA	069653

Seq #	Description	Code#
13	WSHR,FL,1.25ODX.88IDX.13, NRPN	069180
14	SPCR,SNP,9/32RND,#6X1,NYL	069135
15	SCR,T-B,PH PNH,#6X1-1/2,ZP STL	068516
23	ENCL,BUCKET,HOLE AB,GRY	1200397
28	SCR,T-B,PH PNH,#4X1/2,SST	099688
29	SCR,T-B,PH PNH,#4X5/8,SST,BLK	099689
30	BRKT,MTG,SIERRA	069188
33	CFTG,NIP,CHASE,1/2",STL	069665
34	NUT,LK,1/2,CND	041077

APPENDIX B: ASSEMBLY DRAWINGS

ENCLOSURE GASKET IS NOT SYMETRICAL.
TAKE CAUTION TO ORIENT AS SHOWN.

DETAIL B

Seq #	Description	Code#	Seq #	Description	Code#
24	ENCL,BUCKET, HOLE AB,GRY	1200397	1P	PMP PS/A,5 OZ,24VDC, W/NEW HSG	See Note A
51	LBL,CVR,CONT,SIERRA , BETA	069379	1P	NRPRN,.188ID,1/4T-1/4T	See Note A
53	LBL,CVR,PMP,SIERRA,BETA	1201098	2P	PMP PS/A,5 OZ,24VDC, W/NEW HSG	See Note A
69	ENCL,BUCKET, HOLE A,GRY	1200411	2P	NRPRN,.188ID,1/4T-1/4T	See Note A
74	ENCL,BEZEL,PMP MDL, SIERRA,GRY	069975	3P	PMP PS/A,5 OZ,24VDC, W/NEW HSG	See Note A
			3P	NRPRN,.188ID,1/4T-1/4T	See Note A

NOTE A: SEE **SPARE PARTS AND ACCESSORIES** FOR COMPLETE PUMP OPTIONS