Pro-Access Module
Trident
Laundry Chemical Delivery System

Programming and Setup Guide

The DEMA® Trident is a complete laundry chemical delivery system for commercial laundry applications. The Pro-Access supports programming and setup interface with up to eight Trident laundry pump stands using a communication network.

Warnings

Installation of DEMA products must meet all applicable electrical codes and regulations established by national, city, county, parish, provincial or other agencies. It is possible that electrical codes and regulations require that a certified electrical contractor or engineer perform the electrical installation. For questions, contact a certified electrician.

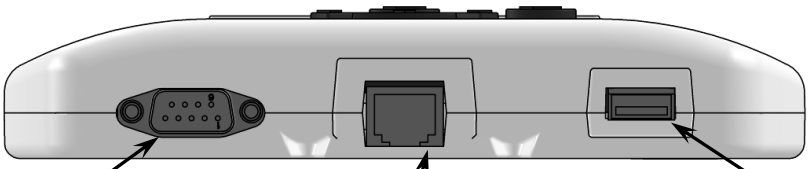
All installations must conform to local plumbing codes and use approved backflow prevention devices. A pressure indicating tee is to be installed with existing faucets according to local plumbing codes in the state of Wisconsin and any other state that requires the use of a pressure indicating tee.

ALWAYS WEAR PROTECTIVE CLOTHING AND EYEWEAR WHEN WORKING WITH CHEMICAL PRODUCTS.

Installation

WARNING: INSTALLATION OF DEMA PRODUCTS MUST MEET ALL APPLICABLE ELECTRICAL CODES AND REGULATIONS ESTABLISHED BY NATIONAL, CITY, COUNTY, PARISH, PROVINCIAL OR OTHER AGENCIES. IT IS POSSIBLE THAT ELECTRICAL CODES AND REGULATIONS REQUIRE THAT A CERTIFIED ELECTRICAL CONTRACTOR OR ENGINEER PERFORM THE ELECTRICAL INSTALLATION. FOR QUESTIONS, CONTACT A CERTIFIED ELECTRICIAN.

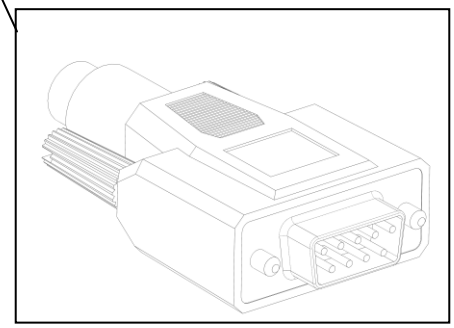
1. Determine a suitable location to mount the Pro-Access:
    a. Within length of communication cable
    b. Avoid wet areas
    c. Easy access for interfacing the buttons and display
    d. Can be mounted on DIN Rail or independent
2. Mount the mounting bracket on the wall or on the DIN rail.
3. Mount the Pro-Access by sliding it onto the mounting bracket. The Pro-Access will slide down from the top of the mounting bracket.
4. Connect communication cable to the bottom edge of the Pro-Access.
5. Connect the other end of communication cable to the Trident pump stand control module.



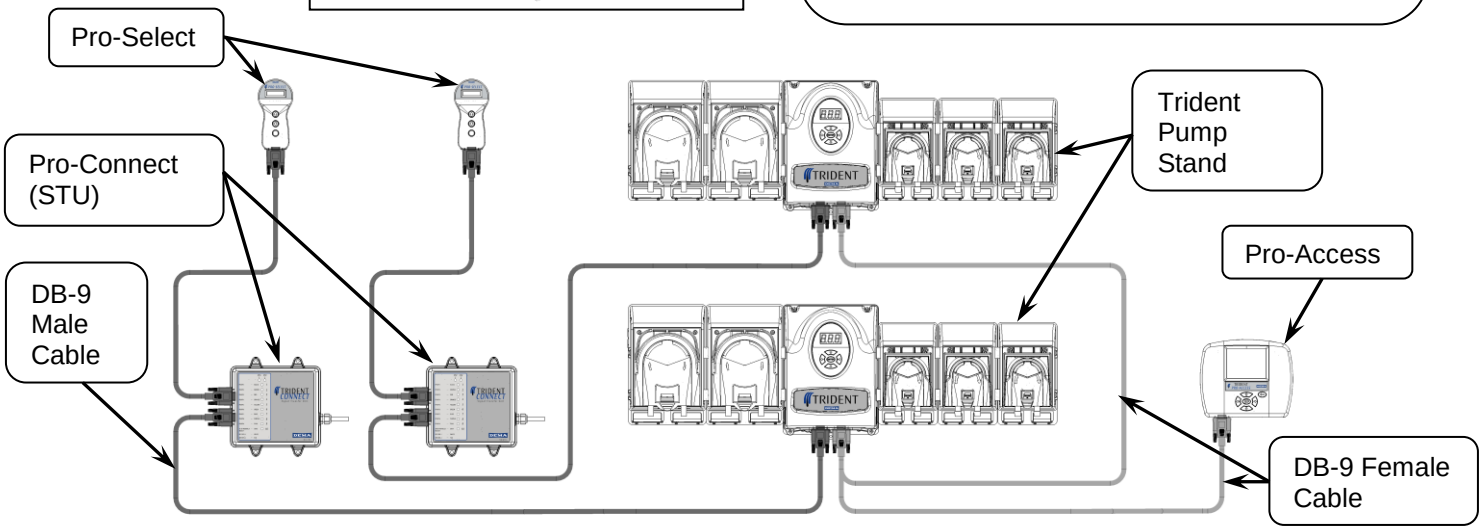
DB-9 Port – Use DB-9 Male Cable to connect to Trident Pump Stand

Ethernet Port – For future use to connect Trident to local network or WiFi Router

USB Port – Used to upgrade software for the Trident Pro-Access and Trident Pump Stand



The wiring diagram below illustrates the two different DB-9 cables used for the communication. The DB-9 male is used for Pro-Access and linking Trident pump stands. Up to 8 Trident pump stands can be linked to the Pro-Access. The DB-9 female is used for linking Pro-Connect and Pro-Select to Trident pump stands.



Programming & Setup

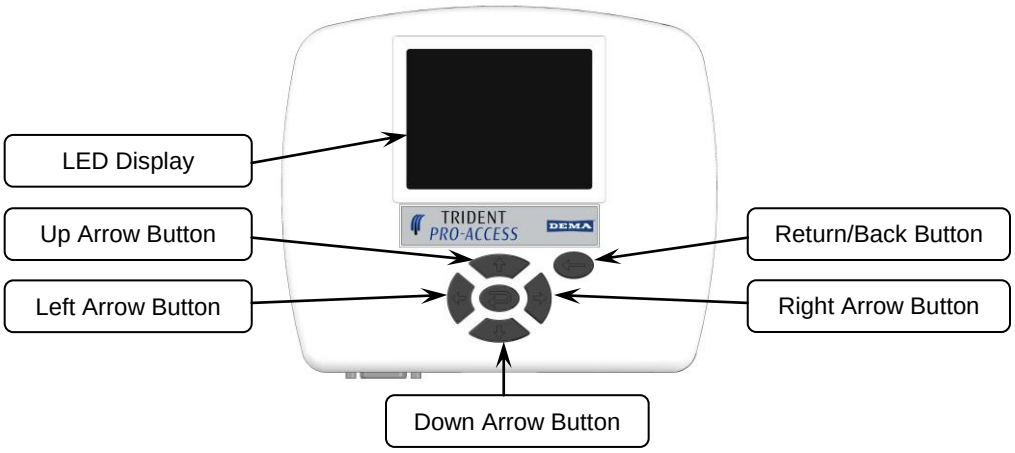
The Trident can be programmed on board using the Pro-Access or with a Smart Phone/Device using the DEMA Trident App.

Bluetooth Technology and Trident App
The Trident can be programmed using the Trident App. Simply connect to the Pro-Access via Bluetooth. The connection is made by searching for Tridents within the App. The App has been developed to support IOS, Android operating system and Windows 10 (PC). Download the App at:

- IOS – I Tunes
- Android – Google Store

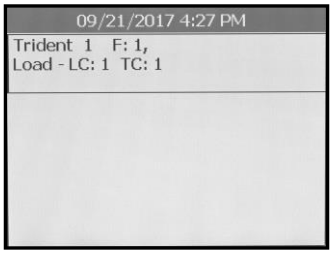
Programming with Pro-Access
The Pro-Access has six buttons and the graphical LED display that allows easy programming. The button arrangement consist of an enter button, navigational and selection arrow buttons and a return/back button.

- Enter button – Use this to enter the various programming screens and to save value or setting changes
- Navigational arrow buttons – Use these to navigate through the programming screens and selecting values or setting opportunities
- Return/Back button – Use this to return to previous screens

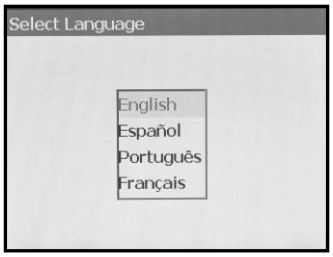


Note: *Data Management programming and setup is only available using the Trident App*

Idle Screen – Status of any Trident pump stands that are connected to the Pro-Access. This includes current formula and any active chemical pumps or flush. Each Pro-Access will support up to 8 Trident pump stands.

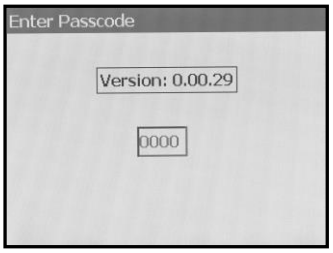


Press Enter to access programming.

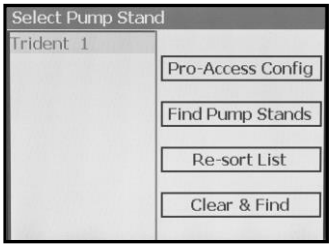


Language Screen – Select desired language and press Enter.

Passcode Screen – Enter the passcode and press Enter.

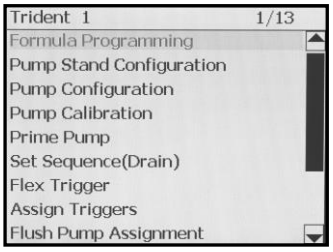


Select Pump Stand Screen – The various Trident pump stands will be listed on the left side. Highlight the desired pump stand and press Enter. Pro-Access Configuration, Find Pump Stands, and Resort and Clear the list can be accessed by highlighting and pressing Enter.

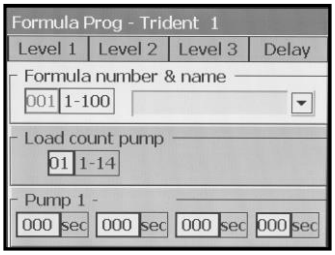


Trident Pump Stand – Allows full programming and setup for the Trident Pump Stand.
The menu includes:

- Formula Programming
- Pump Stand Configuration
- Pump Calibration
- Prime Pump
- Set Sequence (Drain mode)
- Flex Trigger assignment
- Trigger Assignment
- Flush Pump Assignment
- Copy Configuration
- Clear Load Counts
- Test Formulas
- Set Factory Default

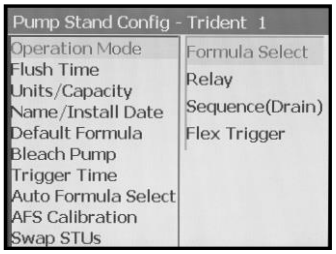


Formula Programming – Program and setup for each formula. Assign formula number and formula name, load count pump. Program chemical pump delivery amounts for each pump. The pump run times can be in seconds, ounces or milliliters. Each pump can be programmed with 3 different amounts per formula (levels). Additionally, each pump can be programmed with a delay.

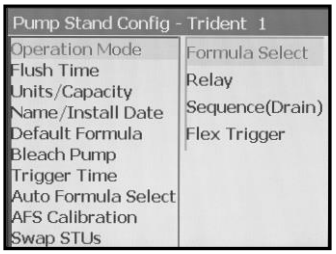


Pump Stand Configuration – Program and setup for the following:

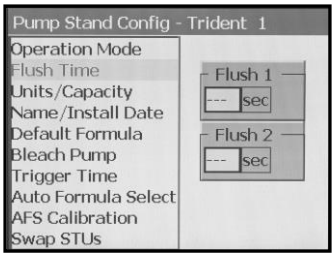
- Operation Mode
- Flush Time
- Units/Capacity
- Name/Install Date
- Default Formula
- Bleach Pump
- Trigger Time
- Auto Formula Select
- AFS Calibration
- Swap STUs



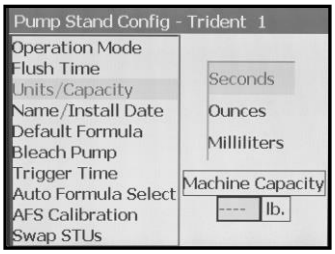
Operation Mode – 4 Different operation modes are available
Formula Select – Various formulas are setup and each chemical pump is triggered for chemical. Pump run times are programmed at Trident based time or volume.
Relay – All pumps run "one to one" with the chemical supply trigger from the laundry machine. Pump run times are programmed at laundry machine based on time.
Sequence (Drain) – All pumps run from Trigger Signal 1 and/or 2. The electrical signal to drain valve on the machine that is active for each fill is used to call for chemicals. Simply program which pumps to run for each laundry machine fill during the wash cycle.
Flex Trigger – Each pump can be programmed to run with each trigger. This includes running a pump two different times from two different triggers.



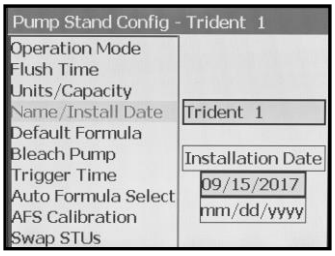
Flush Time – Program the flush valve run times. Two flushes are available. If a value above zero is entered the flush is automatically active and will flush when a pump runs. The flush will continue to run for the amount of time that has been programmed. If a value above zero is entered for flush 2, then a prompt to assign pumps to each flush will occur.



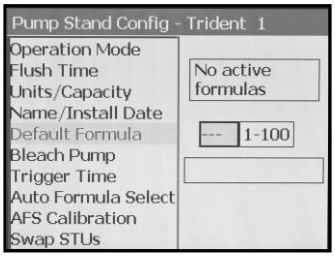
Units/Capacity – Program the desired unit for chemical amounts. The choices are seconds, ounces and milliliters. If ounces are milliliters are selected, pump calibration will be required for each pump. Additionally, the machine capacity can be entered. The machine capacity is used for reporting needs where calculations concerning pounds or kilograms are desired.



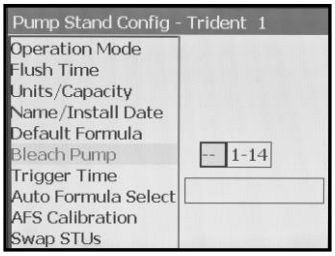
Name/Install Date – Program the name of the pump stand and the date that it was installed.



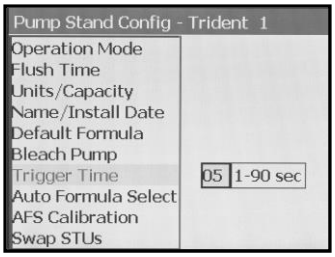
Default Formula – The Default Formula is a formula that is prompted every time the load count pump is triggered. This will leave the Trident setting at the desired Default Formula at the end of each wash cycle. The Default Formula is often set up as a color safe formula in the even the end user forgets to change the formula when starting the next wash cycle. At least one formula must have pump run values to be able to setup the Default Formula. If there is not at least one formula setup, then the message "No Active Formulas" will be displayed.



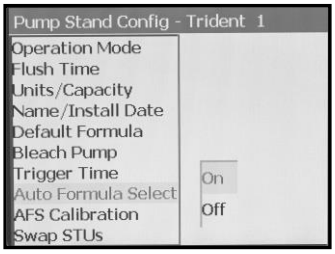
Bleach Pump – Assign any of the pumps to be the bleach pump. The bleach pump will not simultaneously with any other pump. If the bleach pump is triggered simultaneously with other pumps, either the bleach pump or the other pump will run first, once completed, the other pump will run.



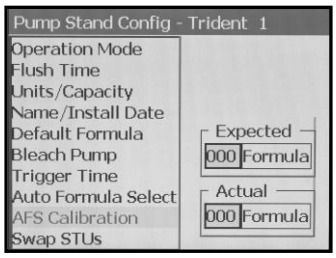
Trigger Time – This is the amount of time that the chemical supply trigger signal is active to validate and run a pump. The default setting is 5 seconds. It can be set from 1 – 90 seconds.



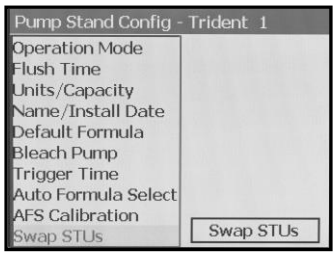
Auto Formula Select – This will allow the trigger to the number 10 input (gray wire) to select formulas automatically. Multiply the formula number by 2s and that is the amount of time required to select the formula. Example: Desired formula is 5`1`, multiply by 2s which equals 10s. The laundry machine must have programmable chemical signals to use this feature.



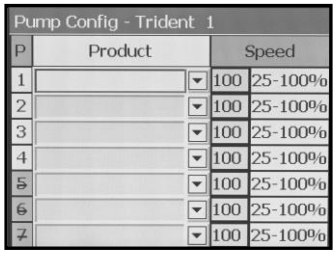
AFS Calibration – The AFS can be calibrated to select the correct formulas when the timing of the trigger signal from the machine chooses the incorrect formula. Immediately after the AFS trigger signal, simply enter the expected formula number and the actual formula that was selected. The system will then calculate and make an adjustment in how it reads the AFS trigger signal. The correction will adjust other formulas both lower and higher proportionally.



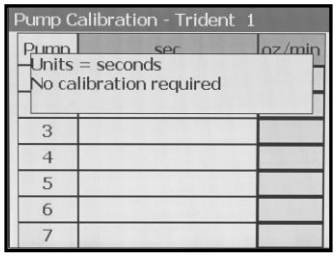
Swap STUs – The Trident can accommodate 2 Pro-Connects to support a greater number of pumps. The Pro-Connects are automatically assigned STU 1 and STU 2. The assignment can be found by looking at the front of the Pro-Connect front face and the assignment is shown at the top. The Swap STUs function will flip the assignment.



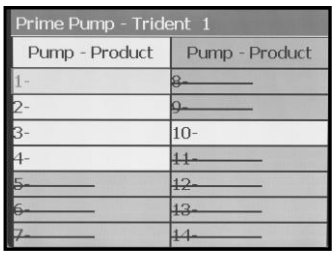
Pump Configuration – Program a chemical name for each pump. Additionally, the speed of the pump can be adjusted from 25-100% of the rated speed of the pump motors. Typically Trident pump stands are equipped with 105RPM pump motors (max speed).



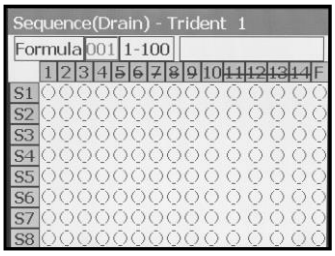
Pump Calibration – Calibrate pumps for ounces or milliliters programming. The Trident will accurately calculate pump calibration rates automatically. With the desired pump number highlighted press Enter and the pump will begin to pump. Simply catch the media coming out of the pump with a graduated cylinder and allow to run long enough to catch at least 8 ounces or 250mL. Then press Enter to stop pump and a prompt will come up to enter the amount that was caught. Enter the amount and the Trident will calculate the pump rate. Note: Pump rates can be entered manually by highlighting the oz/min or ml/min column and pressing Enter.



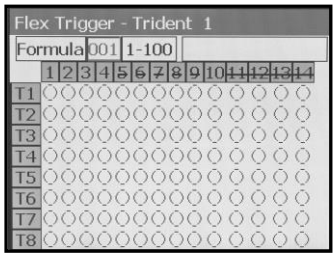
Prime Pump – Select the desired pump and press Enter. Press Enter again to stop pump.



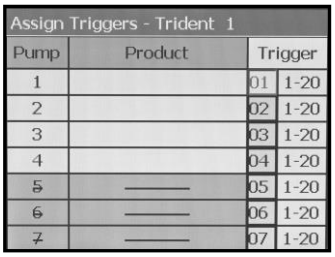
Sequence (Drain) – Program the Trident to deliver multiple chemicals at various points through a wash cycle from a single trigger source. Often the drain valve is used to provide the trigger. During each fill of the laundry machine the drain valve is energized with an electrical signal. The Trident can be programmed to deliver chemical at any of the fills (energized drain valve) during the wash cycle. Simply choose the formula, the S1-14 on the left side are the sequence events (fills on the machine). The 1-14 above are the pumps. Highlight the ovals and press Enter on desired sequence/pump ovals. Note: Use the “F” at the end of the pump numbers to program the final event (final fill of the wash cycle). This will reset the events so that the next wash cycle will start with sequence event 1.



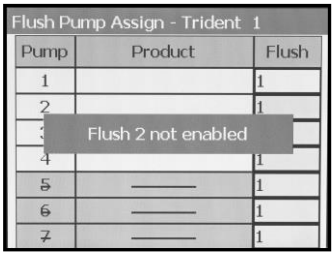
Flex Trigger – Program the Trident to deliver any chemical with any trigger signal. Select the desired formula. The 1-14 above are the pumps, the T1-20 are the trigger signal inputs. Highlight and press Enter on the ovals for the desired chemical deliveries.



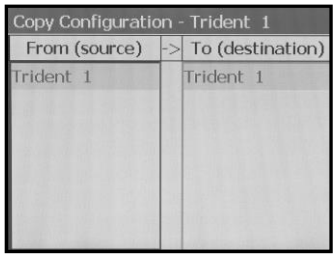
Assign Triggers – The Trident by default is setup to use trigger signal 1 to operate pump 1. This is true for all triggers and respective pumps. Assign Triggers will allow each pump to be assigned to a different trigger. Example: Pump 2 could be assigned to operate from trigger 1 along with pump 1.



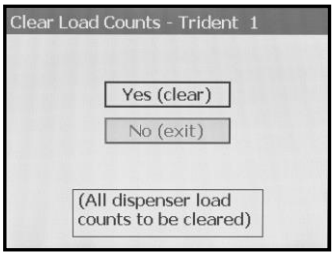
Flush Pump Assignment – When using more than one flush valve, pumps need to be assigned to operate with either Flush 1 or Flush 2. The Flush Pump Assignment will program in the assigned flush.



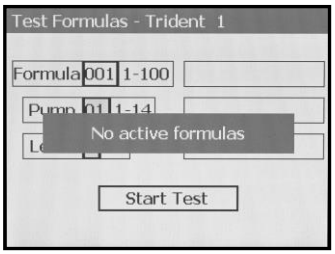
Copy Configuration – The Pro-Access can be connected to a network of 8 Trident pump stands. This function allows the system to copy programming from one Trident pump stand to another.



Clear Load Counts – This function will clear the load counts on all Trident pump stands.

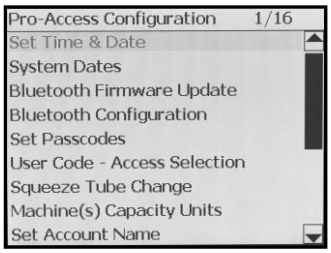


Test Formulas – Test the output of any pump in any formula on any Trident pump stand. This is used to confirm the desired amount of chemical is being delivered to the laundry machine.

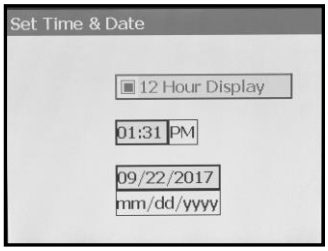


Set Factory Defaults – This will reset the Trident to factory settings. Warning – it will clear out and delete all programming.

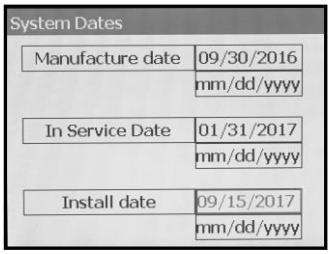
Pro-Access Configuration – This allows configuration of the Pro-Access module. The following is included:



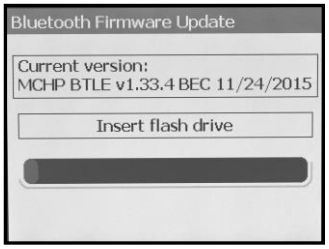
- Set Time and Date
- System Dates
- Bluetooth Firmware Update
- Bluetooth Configuration
- Set Passcodes
- User Code – Access Selection
- Squeeze Tube Change
- Machine Capacity Units
- Set Account Name
- Home Screen Configuration
- Maintenance Notes
- Save Data Log
- Pro-Access Firmware Update
- Pump Stand Firmware Update
- Reset Pro-Access
- Default Name/Dates/Notes/Log



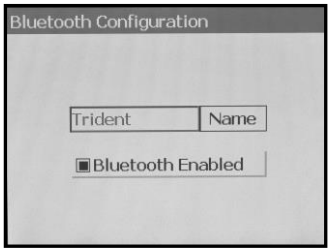
Set Time and Date – Program clock format 12 or 24 hour, set the time for clock, set the date mm/dd/yyyy.



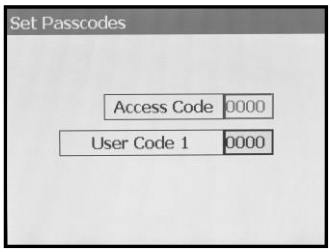
System Dates – The date that the system was installed can be entered. The Manufacturing Date and In Service Date are driven automatically. The manufacturing date is the date the system was manufactured at DEMA Engineering Company. The In Service Date is the date the system was first used in normal application.



Bluetooth Firmware Update – On occasion DEMA will release and update for the software that controls the Bluetooth function. The Bluetooth Firmware Update will allow a user to transfer an update from a USB flash drive to the Pro-Access.

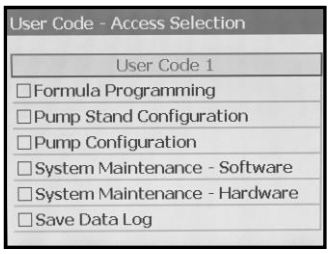


Bluetooth Configuration – Change the name of the Pro-Access Bluetooth name can be set. Additionally, the Bluetooth function can be enabled or disabled.

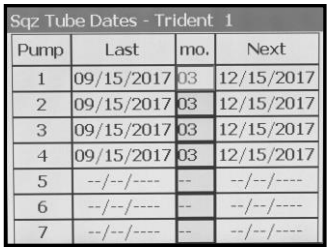


Set Passcodes – Change the main passcode for programming and setup access. Additional User Codes can be setup as well. User Codes can have limited or defined access (see User Code)

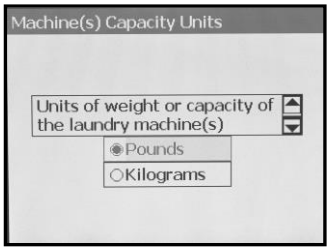
User Code – User Codes allow for limited or defined access. Each User Code can have its own defined access.



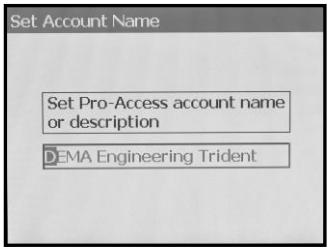
Squeeze Tube Change – Record the date of a squeeze tube change. Additionally, schedule a future date to change the squeeze tubes by entering how many months until the next change. The Pro-Access will show past due schedule changes on the display as you enter programming.



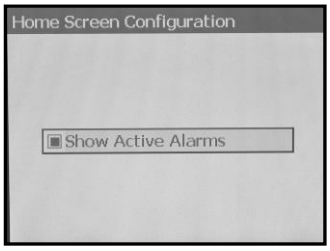
Machine Capacity Units – Set the laundry machine capacity units (lbs or kilograms).



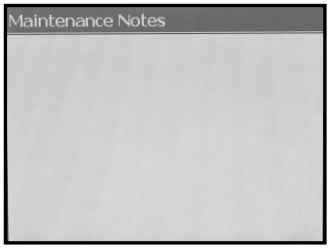
Set Account Name – Customize the name of the account or application site.



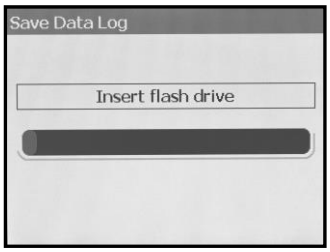
Home Screen Configuration – The Pro-Access will show active alarm conditions when enabled.



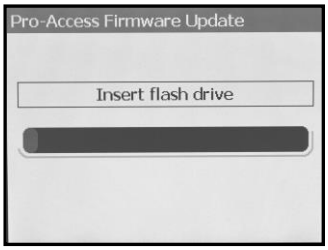
Maintenance Notes – Read any notes that have been entered in the past. Notes can be added using the Trident App.



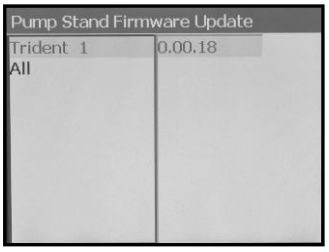
Save Data Log – Insert a USB Flash drive into the USB port and save collected data to flash drive. The data can be viewed and used in a spreadsheet program.



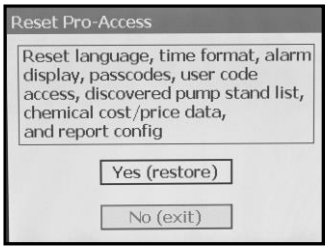
Pro-Access Software Update – Use this feature to update the software on the Pro-Access. DEMA will occasionally release new software that addresses field concerns or for new features. The software update can be downloaded and saved to a USB flash drive. The USB flash drive with the update is inserted into the Pro-Access USB port. Use the feature to load update.



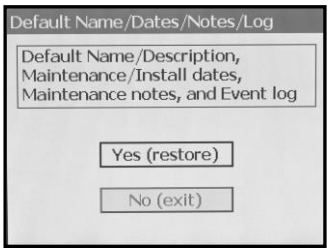
Pump Stand Firmware Update – Use this feature to update the software on the Trident Pump Stand. DEMA will occasionally release new software that addresses field concerns or for new features. The software update can be downloaded and saved to a USB flash drive. The USB flash drive with the update is inserted into the Pro-Access USB port. Use the feature to load update. The software will be loaded through the communication system to the Trident Pump Stand. When multiple pumps stands are connected to the communication network, individual pump stands or all pump stands can be updated.



Reset Pro-Access – This will reset the Pro-Access (not the Trident Pump stands) to factory defaults. This includes clearing Trident Pump Stand list, data management and reporting configurations, passcodes and user codes.



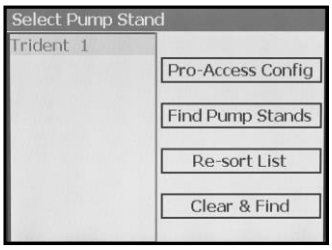
Default Name/Dates/Notes/Log – This will clear notes and dates that have been entered into the Pro-Access. This will not clear configurations, data management and other settings in Pro-Access and will not clear the Trident pump stand.



Find Pump Stands – This will search to see if any new pumps stands have been added to the communication network.

Re-sort List – This feature allows the order of the pump stand list to be modified.

Clear & Find – This feature allows the Pro-Access to clear the list of pump stands and find any that are connected to the Pro-Access.



Replacement Parts and Reference Information

Trident Pro-Access Parts and Cables	
DEMA Part Number	Description
86.100.9	Pro-Access Kit (includes the 84.441.1 Mounting Bracket, does not include cable)
84.441.1	Pro-Access Mounting Bracket
86.100.5.1	DB9 Male x Male Cable – 8ft
86.100.5.2	DB9 Male x Male Cable – 25ft

Warranty

Merchandise Returns

No Merchandise will be Returned for Credit Without DEMA'S Written Permission. Returned Merchandise Authorization Number is Required in Advance of Return.

Product Warranty

DEMA products are warranted against defective material and workmanship under normal use and service for one year from the date of manufacture. This limited warranty does not apply to any products that have a normal life shorter than one year or failure and damage caused by chemicals, corrosion, physical abuse, or misapplication. Rubber and synthetic rubber parts such as "o"-rings, diaphragms, PVC tubing, and gaskets are considered expendable and are not covered under warranty. This warranty is extended only to the original buyer of DEMA products. If products are altered or repaired without prior approval of DEMA, this warranty is void.

Defective units or parts should be returned to the factory with transportation prepaid. If inspection shows them to be defective, they will be repaired or replaced without charge, F.O.B. factory. DEMA assumes no liability for damages. Return merchandise authorization number must be granted in advance of returned units for repair or replacement (See "Merchandise Returns" above).