

Trident

Laundry Chemical Delivery System



Installation and Setup Guide

The DEMA® Trident is a complete laundry chemical delivery system for commercial laundry applications. The Trident features Bluetooth connectivity for programming using the Trident App on smart devices and PC. The Pro Connect transfers the chemical supply signal from the laundry machine to Trident Laundry dispenser.

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.

The Trident Connect transfers the chemical supply signal from the laundry machine to Trident laundry dispenser. The signals are provided by means of a DB9 cable assembly. This cable plugs into the DB9 female connectors found on the Trident Connect and control board. This cable should be packed with the various components in the Trident Connect Cable Kit (86.100.10.2). The cable wiring diagram is shown on page 5 of this instruction guide.

The wiring of the Trident Connect is shown on the front label. The supply signals from the laundry machine can be 12VAC-250VAC. There are 2 common wires (white and tan). The out of the box Trident Laundry dispenser from DEMA can use either one or both commons. The commons are wired to the laundry machine trigger signal common or return connection terminal. All trigger wires and commons are in a jacketed cable assembly.

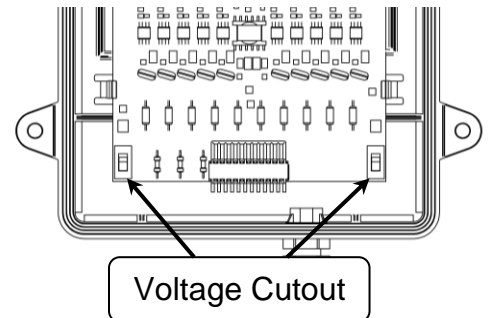
Mounting Ears

A new design feature of the Trident Connect is the addition of mounting ears. It will add to the ease of mounting the unit with the build in convenience of placing marks as a guide. The back cover of the Trident Connect is also the mounting plate for the unit.

Input Switches

It is possible to cutout supply signals from the machine that fall below 70VAC or to accept signals from unpowered, or “dry”, contacts.

Caution: *Before this can be done, it is critical to assure that the laundry machine has been powered down at the electrical service panel. There is a potential for exposure to high voltage conditions when the Trident Connect enclosure is opened. **All power to the laundry machine must be turned off.***



When the Trident Connect enclosure is opened, the input switches can be accessed. Both switches must be set to the same setting when commons are not split.

- When these switches are set to the 12V-240V setting the system can accept supply signals from the machine that range from 12-250VAC. **This is the factory default setting for any product.**
- When these switches are set to 70V-240V, the system can accept signals that range from approximately 70-250VAC.
- When these switches are set to DRY CONTACT, the system can accept signals from unpowered or “dry” contacts.
- It is important to make sure these two switches are set to the same position unless the commons have been split. For more information on this, please see below.

Note: When combining 2 or more trigger signal inputs from one supply signal from the laundry machine, it is recommended to have the voltage cutout switches set to 12V-250V settings. The system will accept 12-250VAC trigger signals.

Splitting Commons

The Trident Connect has the ability to have the two commons split so that one common wire will work with a range of trigger inputs while the other common wire will work with the remaining trigger inputs.

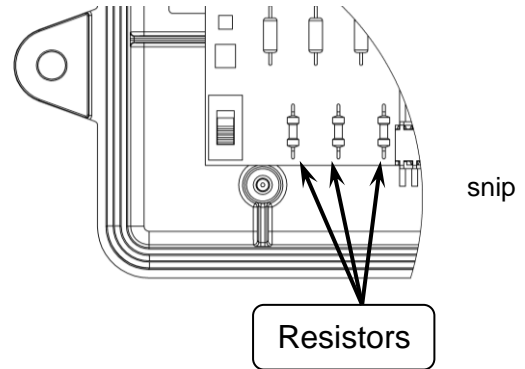
Caution: Before the commons are split, it is critical to assure that the laundry machine has been powered down at the electrical service panel. **All power to the laundry machine must be turned off.**

When the Trident Connect enclosure is opened the common wire can be split to one of four configurations. The four choices are:

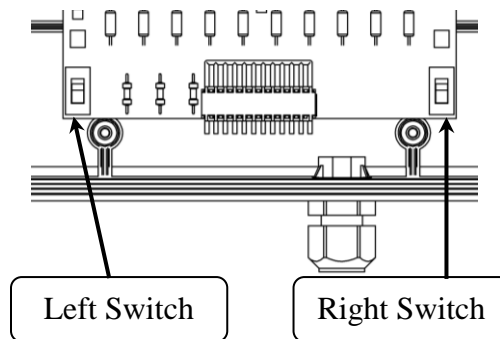
No Split (factory default)

- 1-2 and 3-10
- 1-4 and 5-10
- 1-5 and 6-10

It should be noted that once the commons are split, they cannot be modified again. Using a pair of small wire clips the resistor that provides the split that is desired.



Common Configurations		
Resistor Selection	White (Return 1)	Tan (Return 2)
1-2, 3-10	1, 2	3, 4, 5, 6, 7, 8, 9, 10
1-4, 5-10	1, 2, 3, 4	5, 6, 7, 8, 9, 10
1-5, 6-10	1, 2, 3, 4, 5	6, 7, 8, 9, 10

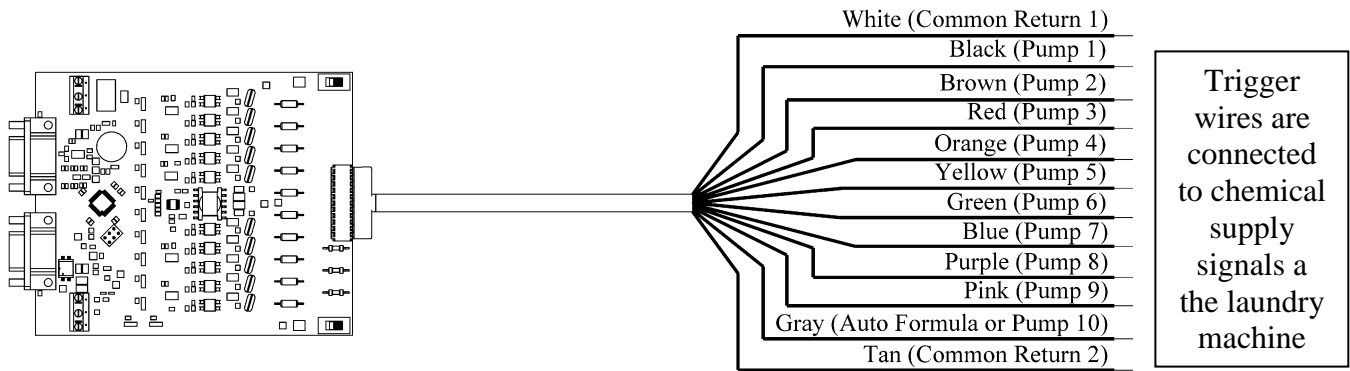


When the commons are split the voltage cutout switches will be assigned as follows.

- Left Switch will go with triggers assigned to the white common (Return 1).
- Right Switch will go with triggers assigned to the tan common (Return 2)
- It is possible to have each switch to individual settings.

Wiring Configurations

Trident Connect Wiring Configuration				
Trigger Input	Line (signal)	Common	Function of Trigger Input	
			Relay/Normal Mode	Sequence Mode
1	Black	White or Tan	Signal Pump 1	Event Trigger
2	Brown	White or Tan	Signal Pump 2	Event Trigger
3	Red	White or Tan	Signal Pump 3	Reset (optional), ex. – door switch
4	Orange	White or Tan	Signal Pump 4	Not used
5	Yellow	White or Tan	Signal Pump 5	Not used
6	Green	White or Tan	Signal Pump 6	Not Used
7	Blue	White or Tan	Signal Pump 7	Not Used
8	Purple	White or Tan	Signal Pump 8	Not Used
9	Pink	White or Tan	Signal Pump 9	Not Used
10	Gray	White or Tan	Auto Formula Select or Pump 10	Auto Formula Select



Auto Formula Select

This allows the formulas to be selected based on a trigger signal that is received from the laundry machine. The following list outlines the setup of this feature: The 10th trigger input on the Trident Connect is used for this purpose. A trigger source that can be programmed at the laundry machine will be required. The timing of this trigger source is what determines which formula is selected by the Pump Driver Module; either the DC (84.439.1) or BLDC (84.439.2). To determine the amount of signal time for any formula simply calculate as follows:

- Multiply the formula number by 2 then subtract 1
- Example: Formula 7 needs a trigger signal equal to 13 seconds. ($7 \times 2 = 14$ then $14 - 1 = 13$). A 13 second trigger signal to STU input number 8 (gray and white/tan wires) will change the Trident to formula 7.

When Auto Formula Select is set to off, input 10 (gray wire) is available as a trigger input.

Machine Hold

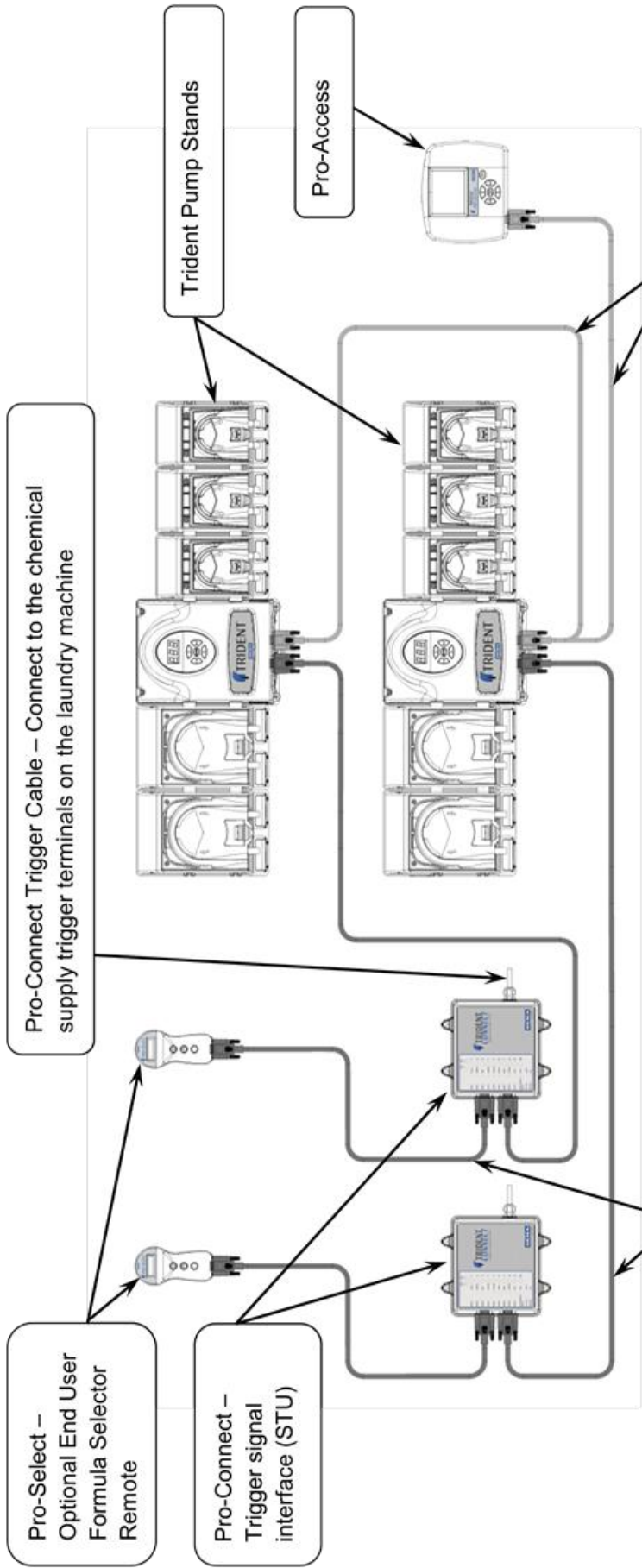
The Trident Connect may be fitted with relay kit 86.100.4. This allows the Trident Connect to be wired to the laundry machine's program pause function. This output has one form "C" connection (normally open, common, and normally closed). Refer to the laundry machine instruction manual for proper connection.

Parts Breakdown

Trident Connect Cable Kit (86.100.10.2)

- Trident Connect (84.418.1)
- Kit – DB9 Cable Assy. M-M W/ Dust Cover – 25' (86.100.5.2)
- Conduit Kit for STU-II (84.258.1)
- Instruction Sheet – Trident Connect (I227)

Cable Wiring Diagram



Pro-Connect Trigger Cable – Connect to the chemical supply trigger terminals on the laundry machine

Trident Pump Stands

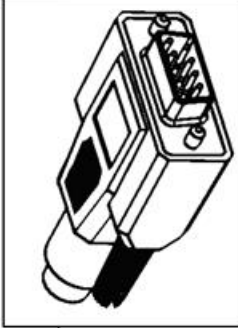
Pro-Access

Pro-Select – Optional End User Formula Selector Remote

Pro-Connect – Trigger signal interface (STU)

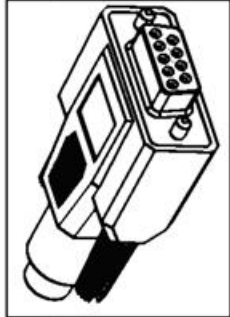
DB-9 Male Cable

- Use these cables to connect the Pro-Access a Trident pump stand
- Use these cables to connect the additional Trident pump stands.



DB-9 Female Cable

- Use these cables to connect the Pro-Connect to Trident pump stand
- Use these cables to connect the additional Pro-Select (Formula Selector Remotes) to Pro-Connect or Trident pump stands.



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).