KNIGHT

IDEX

IDEX CORPORATION

Data-Plus Installation Instruction Manual

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CAUTION: The DataPlus system has high voltage connected to the transformer. Always disconnect main power when servicing the unit.

INTRODUCTION

The DataPlus represents an innovation in warewash technology, providing both user-friendly programming features and simple operator-oriented messages. DataPlus is the smart system that tracks all chemical and machine usage as it occurs, pinpointing productivity concerns and presenting them as they occurred on a clean, formatted, easy to read printed report. Additionally, information is provided on an interactive display panel that notifies the user of conditions outside of optimum operating specifications. Finally, information in the DataPlus system can be entered directly on the display panel or via a programming device, permitting pre-formatted dispenser setup information to be loaded in seconds. Dry or liquid detergents, probe or probeless mode of operation, the DataPlus does it all.

UNIT INSTALLATION

(1) Mount the unit on a wall in a convenient location near the dishmachine. Note: Mounting the unit on the side, the back, or on the vents of the dishmachine may cause thermal overloading and damage or hinder the performance of your unit. If the unit is in the direct path of steam ensure that the water-proof cover is securely fastened for a secure water-tight seal.

(2) Check main voltage of dishmachine with a voltmeter. Application of incorrect voltage will permanently damage unit and is not covered under warranty.

ELECTRICAL CONNECTIONS

NOTE: Rigid or flexible conduit should be used to ensure safety and continued operation. Obey local electrical codes when running wiring thru conduit. The green ground wire must be applied to ground (located at the transformer; refer to wiring diagram for details). Failure to do so will void warranty.

Main Power Connections

Install main power leads from the dishwasher to appropriate terminals on the transformer barrier. Wire the system in a manner that will ensure that constant power is applied to the dispenser at all times. Constant power is required to maintain the real-time clock in the DataPlus.

Detergent Signal Connections

Install detergent power leads from the dishwasher to the detergent signal input connections on the wiring barrier (refer to wiring diagram). Use the magnetic contactor terminals for the wash pump motor or other appropriate connection points that will ensure that power is applied to the terminals when the machine is in the wash cycle of operation. Only when the signal is applied will the DataPlus begin to measure temperatures, control concentration, and perform critical data management functions.

Rinse Signal Connections (if rinse is to be electrically activated...)

(1) Install rinse power leads from the dishwasher to appropriate terminals on the wiring barrier (refer to wiring diagram). Use a rinse solenoid or other appropriate connection point which is "on" during rinse cycle.

(2) Ensure that a "jumper" wire is placed across the pressure switch terminals (units are shipped with the jumper in place). This will insure that all rinse features (i.e. pump, temperature sampling) will activate when the rinse power is "on".

Rinse Signal Connections (if rinse is to be activated by a pressure switch...)

(1) Connect main power from the primary side of the transformer barrier to the terminals on the wiring barrier (refer to the wiring diagram showing a remote pressure switch configuration). This will ensure that power for all rinse features is provided.

(2) Connect a remote pressure switch to the pressure switch terminals (refer to wiring diagram).

NOTE: Observe MSDS sheets when handling chemical

PUMP/SOLENOID CONNECTIONS

Detergent Pump Connections (for liquid detergent...)

(1) Install chemical injection fitting onto wall of the washtank. Use 7/8" hole saw or punch to do this. Install discharge tubing between the discharge (right) side of the peristaltic chemical pump and the chemical injection fitting.

(2) Install suction tubing between suction (left) side of the peristaltic chemical pump and the poly pickup tube provided.Be sure to draw tubing through th

(3) Be sure to draw tubing through the end of the pickup tube.

Detergent Solenoid Connections (for dry or powder detergent...)

(1) Install copper tubing from water line to input side of water solenoid.

(2) Install copper tubing from output of water solenoid to detergent bowl feeder.

(3) Follow appropriate instructions for dry detergent bowl installation.

Rinse Pump Connections

(1) Locate a spot for the installation of the 1/8" NPT fitting for the rinse injection point. This spot should be on the side or bottom of the dishwasher rinse line between the rinse solenoid valves and the rinse jets.

(2) Drill a 11/32" hole and tap to 1/8" NPT. Use of a saddle clamp may be desired on copper rinse line for better support. Saddle clamps can be used if required.

(3) Install the rinse injection fitting in the 1/8” FPT opening.

(4) Install 1/4" O.D. poly tubing between the discharge (right) tube side of the peristaltic rinse pump and the injection fitting using the 1/4" compression nut.

(5) Install 1/4" O.D. poly tubing between the suction (left) tube side and the PVC rinse pickup tube provided. Be sure to draw tubing through the end of the pickup tube.

PROBE/SENSOR CONNECTIONS

Detergent Probe Connections (for conductivity and temperature)

(1) Install the probe into the wash tank below the water level, away from incoming water supplies, and 3 to 4 inches from corners, heating elements, or the bottom of the tank. Use 7/8" hole saw or punch to do this. NOTE: Install the probe even if probe control is not used (meaning the conductivity elements of the probe will not be used). This will permit the monitoring of wash water temperature.

(2) Connect the electrical wiring from the terminal barrier to the probe elements.

***Rinse Probe Connections (For Temperature*)**

Drill a 1/8" NPT hole near the existing temperature probe for the DataPlus probe. Or, perform the following steps:

(1) Locate the existing temperature probe for the machine (Knight recommends connecting the rinse temperature probe at the same point). Most temperature probes are mounted in a 1/2" NPT hole.

(2) Remove the existing probe. Install a 1/2" close nipple in the hole, and attach a 1/2" NPT tee fitting (all female ends) on the nipple. Re-insert the probe for the dishmachine in the tee fitting. In order to mount the temperature probe, use a 1/2" NPT x 1/8" NPT bushing in the remaining spot on the tee fitting. Mount the temperature probe in the bushing.

(3) Connect the electrical wiring from the terminal barrier to the probe wires. Be careful not to crimp the rinse probe lead wire; use butt connectors to lengthen the probe lead wires.

SANITIZER PUMP CONNECTION

The DataPlus can also activate a sanitizer pump, providing a compete solution that results in the control of overall warewashing costs and, most importantly, sanitized results. The sanitizer pump is connected to the sanitizer pump output terminals of the control board (see the attached wiring diagram).

As in the case of rinse products (and liquid detergent products), the DataPlus has provisions for the connection of a product switch that ensures that sanitizer is provided in the product supply side of the sanitizer pump. Connect the wires from the sanitizer product switch to the terminals provided on the control board (see the attached wiring diagram).

OPERATION AND PROGRAMMING OF THE DATAPLUS

Do NOT attempt to program the DataPlus until you have read the programming manual. The manual contains critical guidelines on how to properly calibrate the many control features this system offers.

Each of the main menu selections give an idea of what information can be found, entered, and changed. Within each main menu selection are several screen displays which allow such things as the setup of a dispensing system, pump programming characteristics, and printing of reports. This "layered" approach is used by many different types of computer-controlled machines, but none give the ease of operation and as many user-friendly features as the DataPlus.

THE PTM-6000 PRINTER TERMINAL MODULE

In addition to using the keypad on the front of the system, communication with the system can also be done with the PTM-6000 Printer/Terminal Module. The PTM-6000 is connected to the system by using the small "mini stereo" plug on the side of the case. A terminal device, like a laptop personal computer (IBM compatible) or a palmtop computer can then be connected to the system for the downloading of information. Alternately, a printer can be connected, allowing reports to be printed on-site.

Read over the PTM manual carefully before using it to upload/download files or print reports.

CONNECTING THE PTM-6000 TO THE DATAPLUS

(1) Connect one end of the network cable (a cable with two "mini stereo" plugs) to the jack on the left side of the DataPlus unit.

(2) Connect the other end of the cable to the DISPENSER INTERFACE PORT on the PTM-6000.

CONNECTING THE PRINTER TO THE PTM-6000

(1) Connect the 9-pin end of the printer cable to the PRINTER PORT connections on the PTM-6000.

(2) Connect the 25-pin end of the printer cable to the serial printer connection on the printer.

(3) To print reports, follow the instructions in the programming manual.

AFTER PROGRAMMING

There are several small shunt jumpers located on the DataPlus circuit board located near the wire terminals for the low product level vacuum switches (see the lower-right portion of the board in the wiring diagram). These shunt jumpers simulate a closed product switch for each of the chemicals. It is recommended that these jumpers be left on during calibration, and removed immediately after programming is performed. If these jumpers are left on, the low product level lights and alarms will NOT activate.

TROUBLE SHOOTING GUIDE

PROBLEM	SOLUTION

Display does not light:

1. Check voltage from cleaning system.
2. Check voltage at transformers.
3. Check 12 VAC input terminals on board for correct voltage.

Pump(s) won't prime

1. Check for proper voltage across motor windings.
2. Check for obstruction in pump head.

Pump(s)runs too slowly:

1. Check roller block for binding.
2. Check for proper input voltage (12 volts).
3. Check for lubrication on squeeze tube.

Too much/too little chemical:

1. Check the concentration setting.
2. Check the dry/liquid setting.
3. Check the probe in the wash tank for corrosion or foreign particles.
4. Check for open wires between the probe and the connections to the circuit board barrier.

No Rinse Feed:

1. Check signal voltage from rinse valve.
2. Check supply.
3. Check for rinse speed setting.

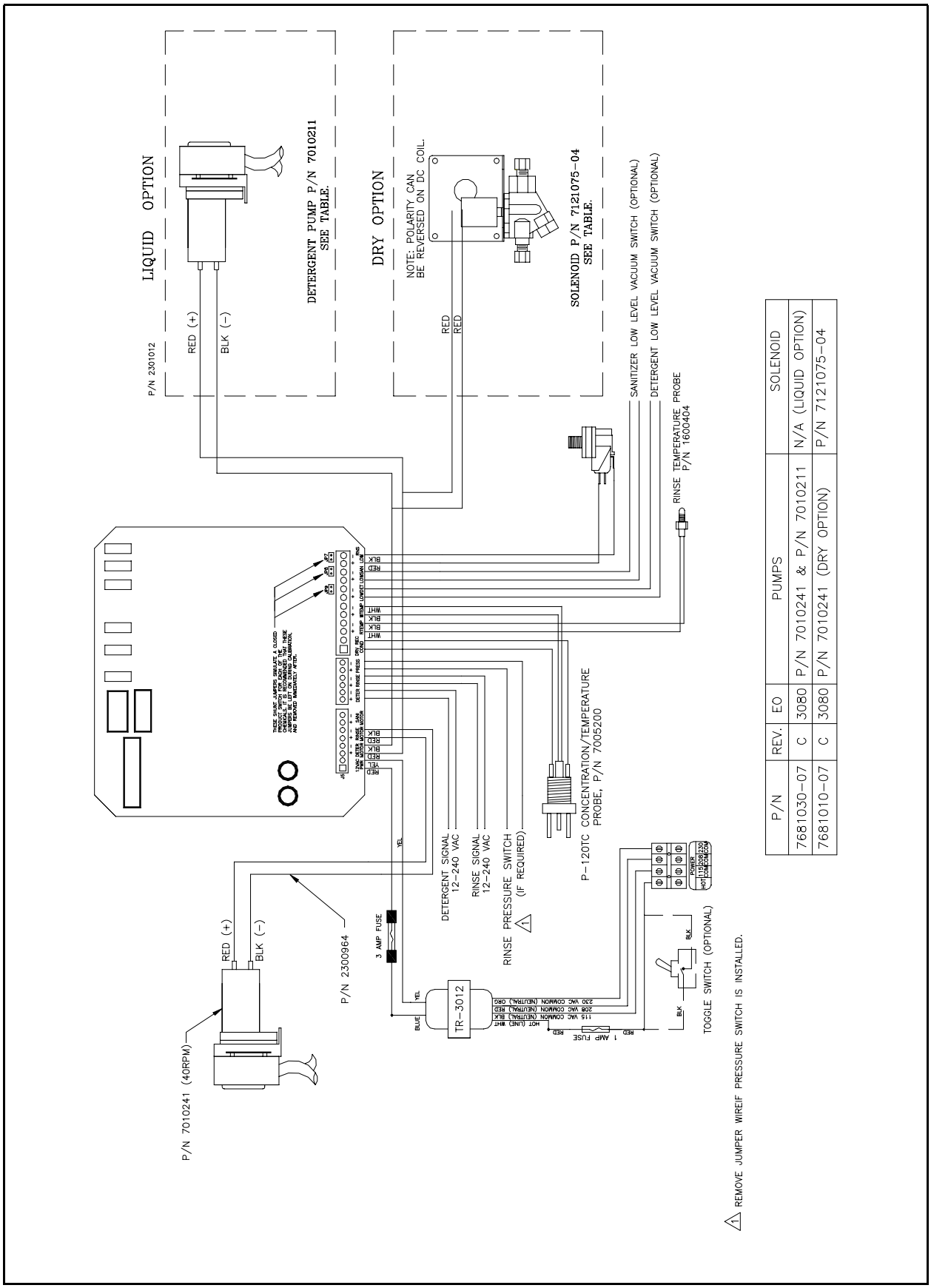
Rinse/Sanitizer pump won't turn:

1. Check voltage in and out of transformer.
2. Check solenoid for wiring connections.
3. Check for loose wires.

Loss of rinse/sanitizer pump prime:

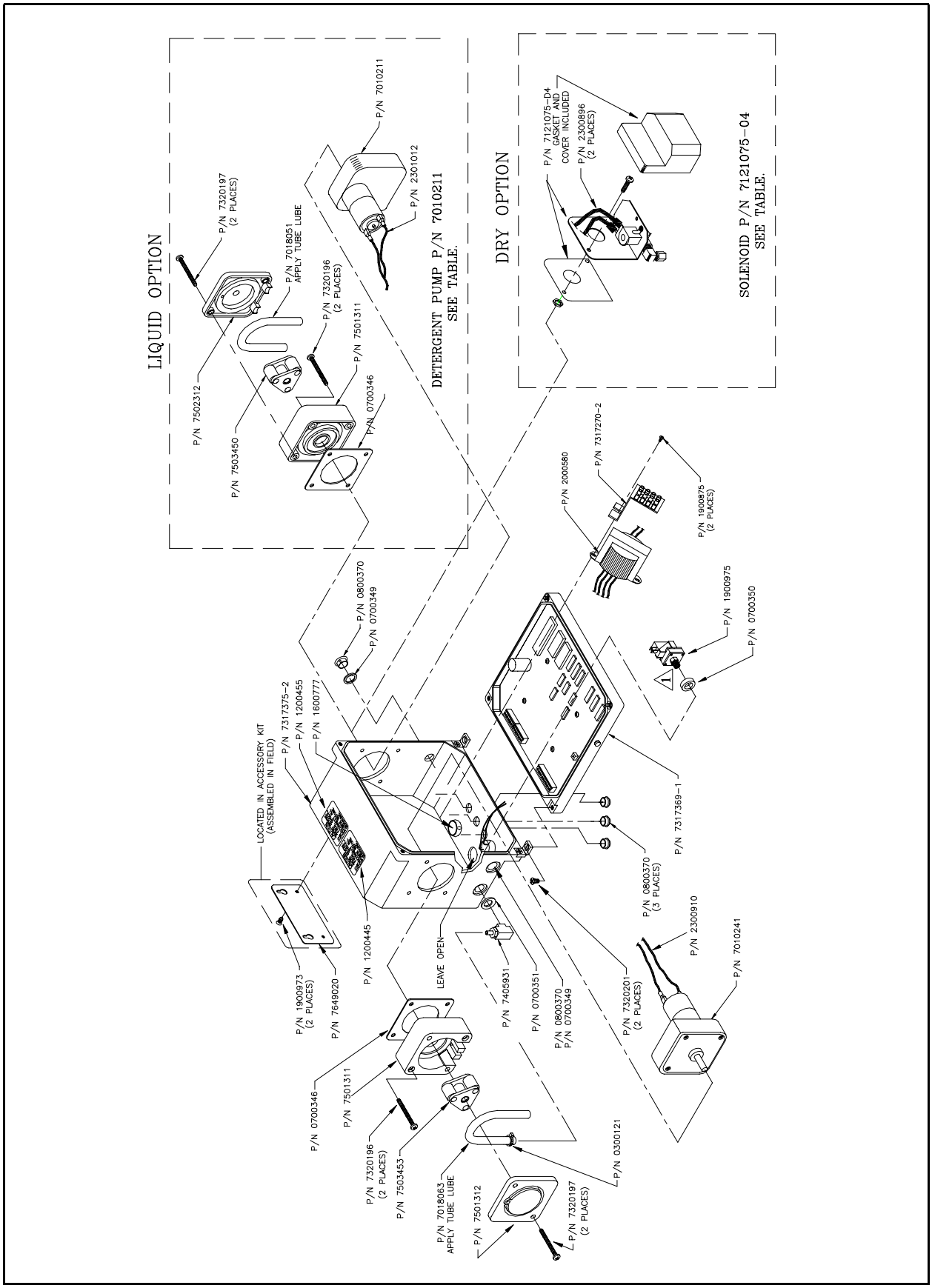
1. Check pickup line for any holes or air leaks.
2. Check squeeze tubing in pump for any cracks or pin holes.

WIRING DIAGRAM



P/N	REV.	EO	PUMPS	SOLENOID
7681030-07	C	3080	P/N 7010241 & P/N 7010211	N/A (LIQUID OPTION)
7681010-07	C	3080	P/N 7010241 (DRY OPTION)	P/N 7121075-04

ASSEMBLY DIAGRAM



NOTE

DISCLAIMER

Knight Inc. does not accept responsibility for the mishandling, misuse, or non-performance of the described items when used for purposes other than those specified in the instructions. For hazardous materials information consult label, MSDS, or Knight Inc.

WARRANTY

All Knight controls and pump systems are warranted against defects in material and workmanship for a period of ONE year. All electronic control boards have a TWO year warranty. Warranty applies only to the replacement or repair of such parts when returned to factory with a Knight Return Authorization (KRA) number, freight prepaid, and found to be defective upon factory authorized inspection. Bearings and pump seals or rubber and synthetic rubber parts such as “O” rings, diaphragms, squeeze tubing, and gaskets are considered expendable and are not covered under warranty. Warranty does not cover liability resulting from performance of this equipment nor the labor to replace this equipment. Product abuse or misuse voids warranty.

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