KNIGHT
IDEX CORPORATION

RELAY SYSTEM INSTRUCTION MANUAL

OPERATION

Knight Relay Systems are designed to interface with washers that are microprocessor controlled. The circuit board in the Relay System will active a pump from the signal sent by the washer and will run the pump as long as the signal is present. This allows all chemical injection programming to be done at the washer.

Multi-Flow models (AC output) can operate up to nine pumps, and On-Premise models (DC output) can operate up to six pumps. Both AC and DC versions have flush capability, and individual commons for each signal input. Signal voltage must be 24, 110 or 220 VAC, depending on model purchased. See wiring diagram for signal current draw.

INSTALLATION

See the wiring diagrams on pages 2 & 3 for additional reference.

(1) Check the voltage of all supply signals that will be used from the washmachine. Measure voltage between supply signal and signal common with a voltmeter. DO NOT check signal voltage between supply signal and case (earth) ground. Ensure that the signal voltage matches the relay voltage of your system

(2) Disconnect all power to washer.

(3) Mount pump cabinet in a convenient location no higher than 8' above, and within 10' horizontally, of supply containers. This is usually near the washer, however dispenser can be mounted as a remote pumping system.

(4) Connect 115, 208 (available on OP version only) or 230 VAC power source to main power connection in pump cabinet. Use suitable conduit for electrical wiring and per applicable wiring codes.
NOTE: For Multi-Flow models (AC-output) the main power voltage must match the pump motor voltage!

(5) Connect the signal and common wires for each pump input. If the washer signals have only one common, the common wire should be jumped to each signal input on the circuit board.

(6) For each pump, cut the suction tube to length and insert one end into the appropriate supply container using PVC pipe as a support. Insert other end of suction tube into the left (input) side of the pump's squeeze tube.

(7) For each pump, cut the discharge tube to length and insert one end into the right (output) side of the pump's squeeze tube. Form an anti-siphon loop (pointing "down") with the other end of discharge tube and insert into the supply pocket of the machine.

(8) The system is now ready to be powered up and operated.

FLUSH MODE (OPTIONAL)

The flush mode will activate a flush solenoid when any pump begins running — the flush will continue to run while any of the chemical pumps are running and will then begin counting down its own programmed time once all pumps have stopped. This allows the flush line to be consistently cleared of any remaining chemical after dispensing.

NOTE: The flush solenoid voltage must match the voltage of the chemical pumps being used.

(1) Dispense a small amount of colored chemical into manifold — this will be used as a "tracer".

(2) Remove jumper JP1 from the board.

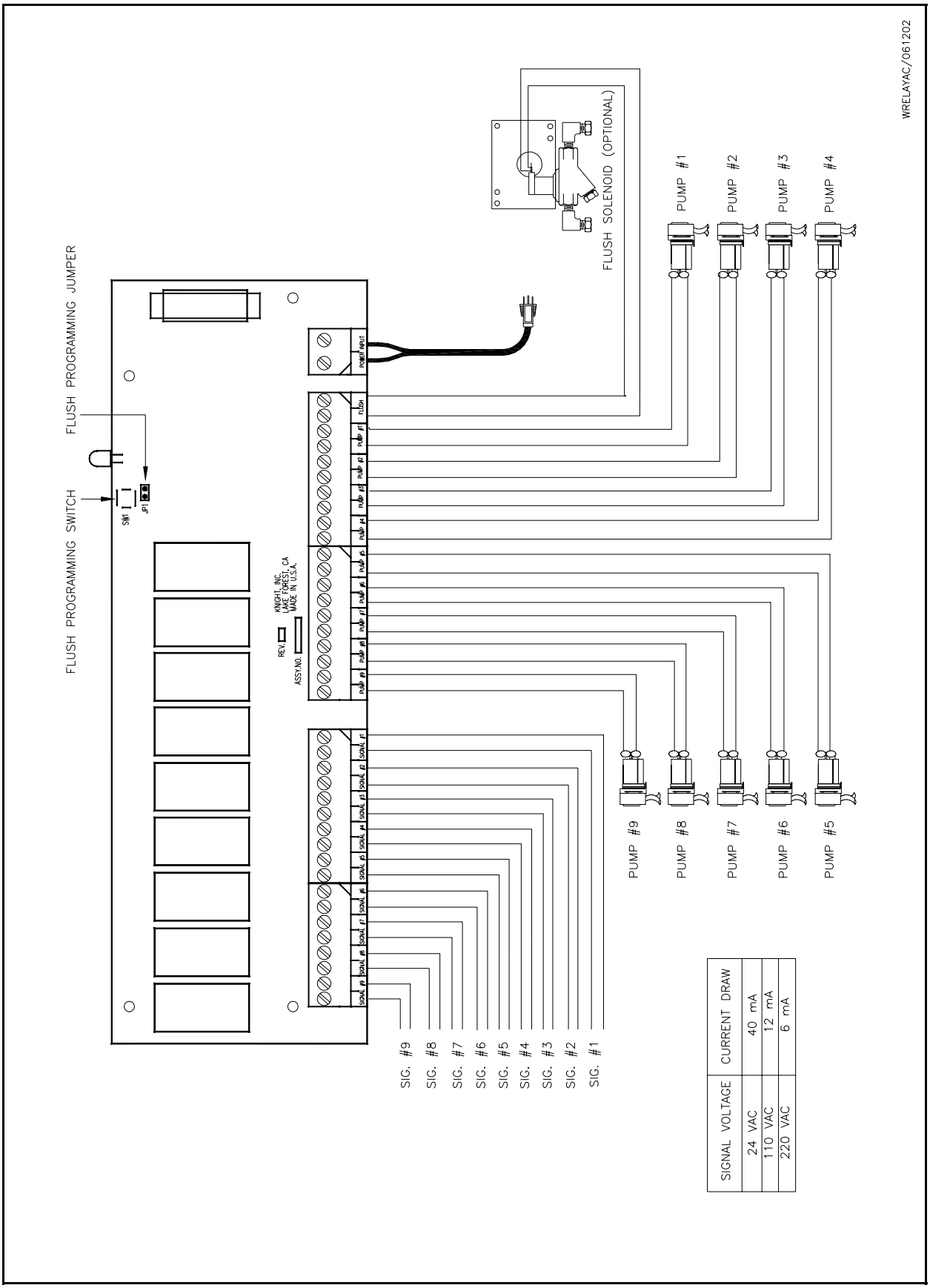
(3) Hold the push-button switch (located next to jumper) until the flush solenoid activates — then release button.

(4) When all of the colored product has been cleared from the line to the washer, hold the button again until the flush stops — then release button.

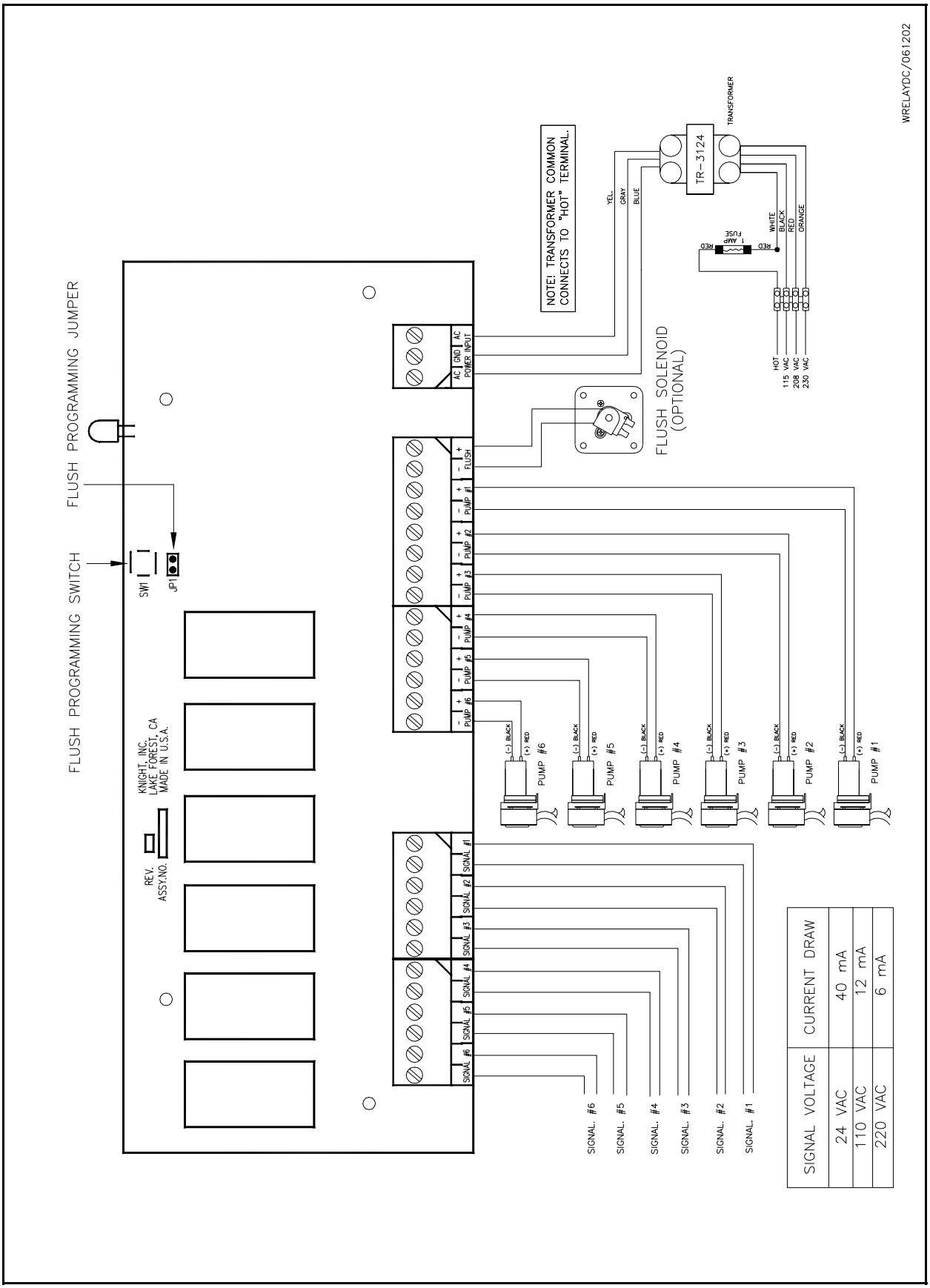
(5) Replace jumper JP1 back on the board.

(6) The flush will work as described above. The push-button can also be used to manually activate the flush time.

MULTI-FLOW (AC OUTPUT) WIRING DIAGRAM



ON-PREMISE (DC OUTPUT) WIRING DIAGRAM



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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