

THEORY OF OPERATION

The One Shot chemical dispenser is an advanced microprocessor controlled injection system for dispensing institutional cleaning chemicals. The dispenser features the KTM-500 timing module that includes a unique button programmable pump timer, and a pump "Lock-Out" time that is designed to prevent consecutive dispensing where cost containment and control is required. The KTM-500 also features a delay time function, and a "Relay Mode" which allows for a timed signal from a microprocessor laundry machine to control the pump operation.

The One Shot will activate a pump/solenoid when the Start button is pressed or when the signal input terminal receives an external 14-240 VAC trigger signal.

INSTALLATION

- Locate a mounting spot where operators can access the Start button and within 20 feet of the chemical supply.
- The One Shot comes with a 115V wall plug transformer or a 115/208/240V internal transformer for main power connection. Use approved power cord and conduit for 240 VAC units and install leads to terminal strip on top of the internal transformer (refer to wiring diagram).
Note: When installing any electrical equipment ensure that all state and local safety codes are met.
- Liquid product plumbing: Connect 1/4" OD tubing from the output (right) side of the pump to the point of injection. Connect 1/4" OD tubing from the chemical source to the suction (left) side of the pump.
- Solid product plumbing: Connect 1/4" OD tubing between inlet side of solenoid to water source. Connect 1/4" OD copper tubing between output side of solenoid to the input connector of the Power Bowl Ultra.
- For units using an external trigger signal, wire signal from signal source to the 14-240 VAC signal input terminal (refer to wiring diagram).
- If using optional remote start switch wire the Orange and Red wires from the switch box to the "START" terminals on the board. The remote activator buttons can be used for programming and priming.

PRIMING

- (1) Locate the dip-switch pack on the circuit board and set switch #6 to RELAY.
- (2) Press and hold the Start button until the chemical line is fully primed, then release the button.
- (3) Set switch #6 to SIGNAL (unless you intend to use relay mode).



CAUTION: Wear protective clothing and eyewear when dispensing chemicals or other materials. Observe safety handling instructions (MSDS) of chemical manufacturers.



CAUTION: To avoid severe or fatal shock, always disconnect main power when servicing the unit.

PROGRAMMING

Pump/Solenoid Run Time: (max run time is 12 minutes and 42 seconds)

- (1) Locate the dip-switch pack on the circuit board — set switch #6 to SIGNAL, set switch #7 to RUN TIME and set switch #8 to PROGRAM MODE.
- (2) Using a measuring cup or flask, press Start switch and release when pump starts. Let the pump or solenoid run until desired amount of chemical is dispensed then press Start switch again to stop. The One Shot run time is now programmed. Repeat step if new volume is required.
- (3) Set mode switch #8 to RUN MODE.

Delay Time: (max delay time is 12 minutes and 42 seconds)

- (1) Locate the dip-switch pack on the circuit board — set switch #6 to SIGNAL, set switch #7 to DELAY TIME and set switch #8 to PROGRAM MODE.
- (2) Press Start switch and release when the LED begins flashing. When the desired delay time has passed, press the Start switch again. The One Shot delay time is now programmed. Repeat step if new delay time is required.
- (3) Set mode switch #8 to RUN MODE.

Lock-Out Time: (max lock-out time is 31 minutes)

This feature defeats consecutive dispensing of product for a pre-determined interval. Select a combination of switches 1 – 5 to program total lock-out time.

Example: For 10 minute lock-out, set switches #2 and #4 to ON with all other switches OFF.

For maximum lock-out (31 min) set all switches ON.

For no lock-out, set all switches OFF.

OPERATION

Manual activation: Press the Start button on the cover or on the remote switch box for 1 full second. The OS-100 will begin counting down the delay time (if used) and will then run the pump/solenoid for the amount of time programmed. Once the lock-out time expires the pump/solenoid will be ready to restart.

Signal activation: When the signal input on the circuit board receives a 14-240 VAC trigger signal for at least 5 full seconds, the delay time (if used) will begin counting down. Then the pump/solenoid will run for the amount of time programmed. Once the lock-out time expires the pump or solenoid will be ready to restart.

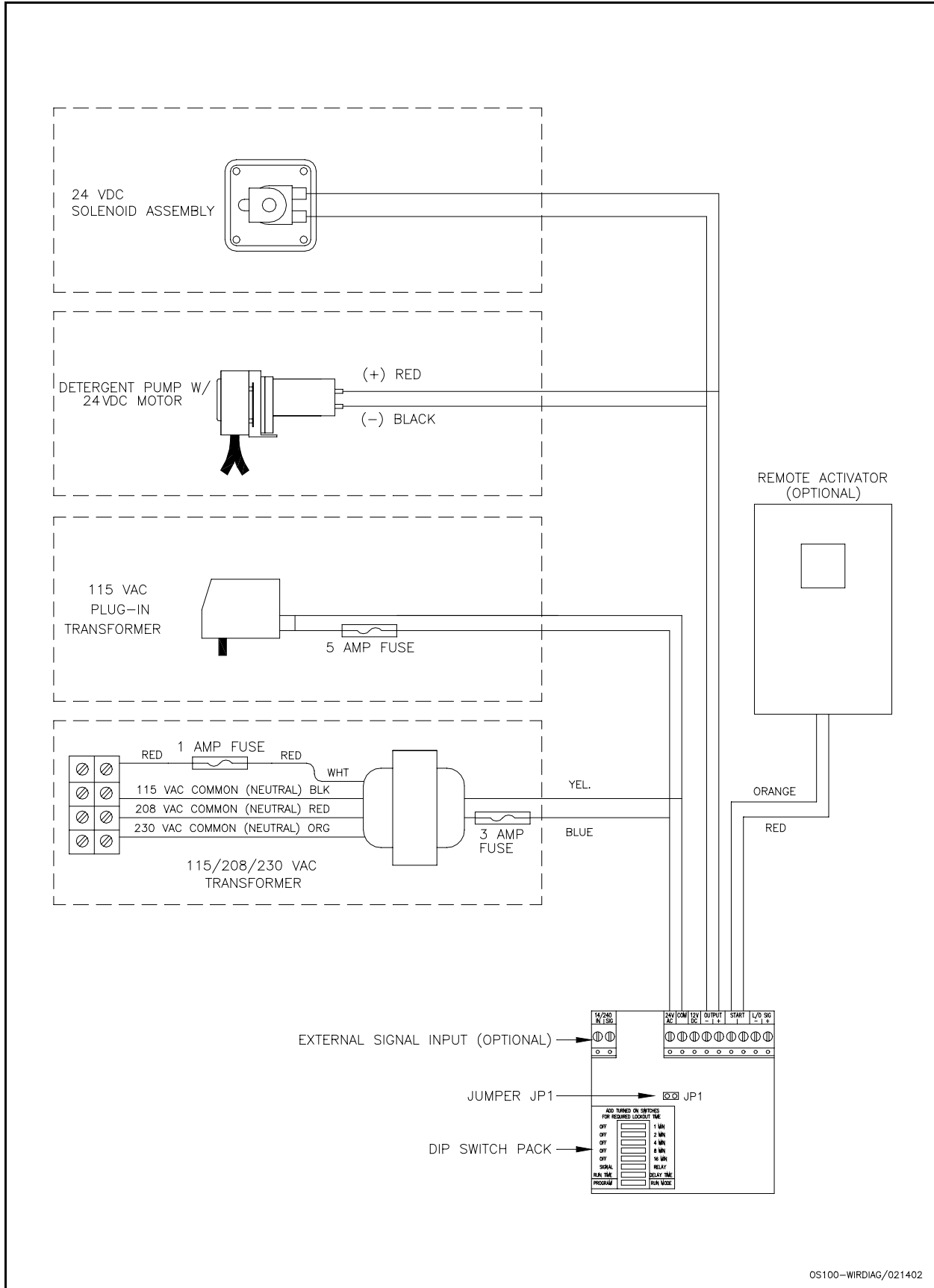
Relay Mode: Set switch #6 to RELAY. The pump/solenoid will activate for as long as an external trigger signal is present, or for as long as the manual button is depressed. All other board functions (such as delay time and lock-out time) are by-passed in relay mode.

DISABLING THE START BUTTON

There is a jumper marked “JP1” on the circuit board that can be used to prevent manual activation in certain applications, or to allow manual activation by remote push-button only. This jumper only affects the on-board start button. A remote start button, or trigger signal, can always be used to activate the pump.

- When the jumper is ON, the on-board start button is functional.
- When the jumper OFF, the on-board start button is disabled.

WIRING DIAGRAM



OS100-WIRDIAG/021402

DISCLAIMER

Knight LLC 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 LLC. Knight products are not for use in potentially explosive environments. Any use of our equipment in such an environment is at the risk of the user, Knight does not accept any liability in such circumstances.

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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