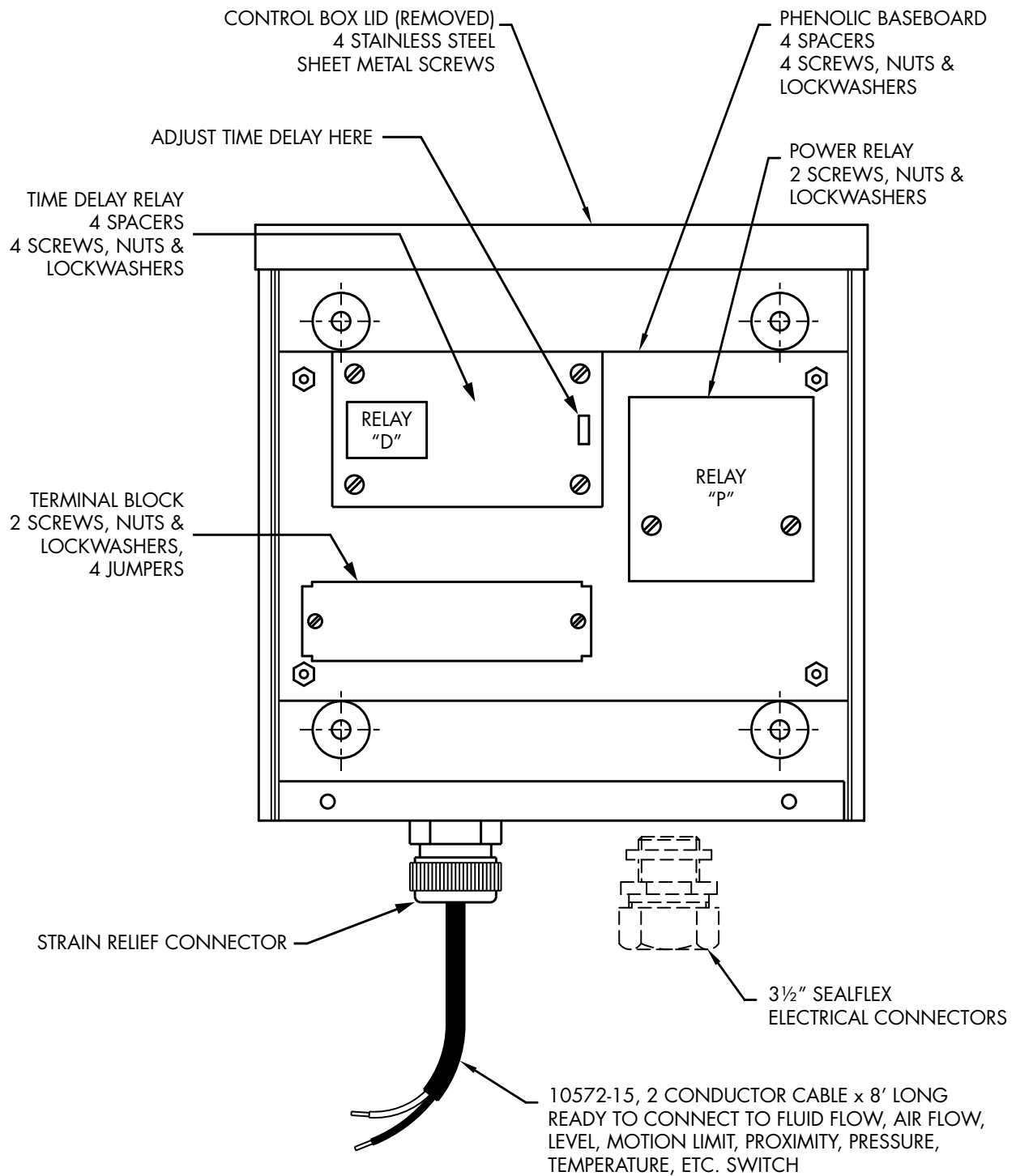


# MODEL SDC-101

## INSTALLATION INSTRUCTION SHEET

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### AUTOMATIC FLOW SHUT DOWN CONTROL

**MODEL**  
SDC-101

ULTRA RELIABLE SINCE 1956

## INSTALLATION AND OPERATING INSTRUCTIONS

1. Remove all components from the shipping carton and cross-check them against the components listed on the packing slip. Inspect for possible shipping damage and report all discrepancies and/or damage to the supplier and/or shipping company.
2. Read the installation manual from cover to cover.
3. Install the gray control box in the appropriate location using the stainless steel sheet-metal screws provided or any standard machine screw up to 1/4" in diameter.
4. Install the fluid flow switch in line according to the instructions supplied with the switch, and wire the two-conductor cable to the flow switch according to the wiring diagram on page 3 (FIG. 1).
5. Insert the input power cable, (e.g. 1/2" flexible conduit) into knockout #1 on the control box and attach individual leads to the terminal block, per wiring diagram (FIG. 1).
6. Insert power cable from pump motor, (e.g. 1/2" flexible conduit) into knockout #2 of control box and attach individual leads to terminal block and power relay per wiring diagram (FIG. 1).
7. Insert power cable from heater, (e.g. 1/2" flexible conduit) into knockout #3 of control box and attach individual leads to terminal block and power relay per wiring diagram (FIG. 1).
8. Make final check of wiring per FIG. 1 before powering up the system and check for proper operation by:

### A) OPERATING SYSTEM WITH NO FLOW RESTRICTION:

Immediately upon application of power time delay relay "D" and power relay "P" will change state with an audible click and pump and heater will turn on. At the end of the delay period (time optional, set by user) both relays will reset to initial no flow state but flow switch contacts will remain closed by continuing flow and pump and heater will continue to run until input power is removed.

### B) OPERATING SYSTEM WITH A RESTRICTION IN THE FLOW LINE (e.g. a closed valve):

As in A) above, both relays will actuate, pump and heater will turn on and, after delay period, relays will reset to initial no flow state. However, since there is a stoppage of flow in the line, the flow switch contacts will not close and pump and heater will shut down and remain off until line power is removed and reapplied. After reapplication of line power the sequence describe above will repeat.

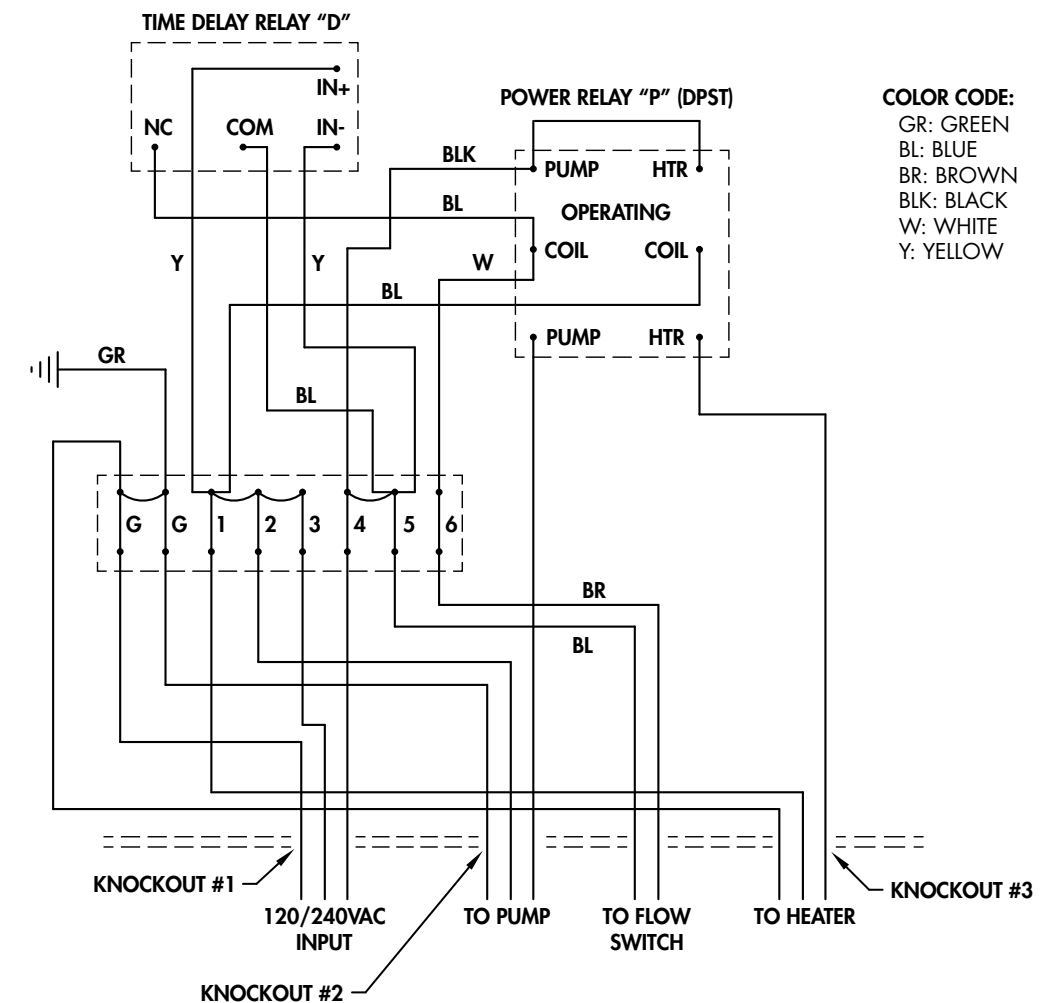
### Troubleshooting:

1. If the relay "D" mounted on time delay circuit board does not change state upon application of line power, check for security of slip on connectors located on the board and firm attachment of leads and jumpers on terminal block. Check for AC voltage at + and - terminals on the circuit board. If voltage is present at input terminals and relay "D" remains inactivated, replace time delay relay circuit board.
2. If relay "D" on time delay circuit board operates but power relay "P" does not, check wiring between time delay board and power relay "P." Check voltage across power relay "P" coil. Voltage should be the same as the line voltage. If voltage is not present, replace time delay relay circuit board. If voltage is present and power relay "P" does not operate, replace with a new relay.
3. If power relay "P" operates, but pump and/or heater do not come on, inspect relay contacts for wear, burning, etc. Also check wiring between relay "P," pump motor and/or heater. Measure pump motor and heater voltage after relay "P" is activated. If voltage is low or non-existent, replace relay "P."
4. If both relays "D" and "P" operate correctly, and pump motor and/or heater do not operate, check pump motor and heater for malfunction.
5. Flow switch operation may be checked by turning off line power and removing flow switch lead wires from

terminal block positions 5 and 6, placing an ohmmeter (x1 scale) across these leads and, after removing cover from flow switch, manually activating the microswitch to check make and break of continuity. Be sure to double check that arrow on cover of flow switch is pointed in direction of flow in pipe.

6. Delay period between turning on of power to pump and heater and interruption of power if flow is not present, is adjustable between 1 and 180 seconds by rotating thumb wheel clockwise to increase, counter-clockwise to decrease. See page 1.

### WIRING DIAGRAM: FIGURE 1



These instructions provide an installation procedure for a fluid flow switch activated control. The same basic procedure can be applied to all other sensor switches such as pressure, temperature, liquid level, etc.

Electric power circuits can be dangerous if standard safety procedures are not followed. Be sure to think "safety" before and during installation, testing, and troubleshooting. If not completely familiar with electrical circuits, obtain the services of a qualified electrician.

# CERTIFICATE OF CONFORMANCE

All HARWIL Corporation ("HARWIL") products are manufactured using new materials and components. Our products meet the applicable performance and materials specifications indicated in our current Specifications Sheets and Parts Lists. HARWIL endeavors to obtain its materials and components from American Companies.

## **DOMINANCE OF HARWIL LIMITED EXPRESS WARRANTY**

HARWIL warrants that all HARWIL products will be free from defects in material and workmanship for a period of one year from the date of original shipment. This warranty shall be limited to the replacement and reconditioning of our products and parts. HARWIL reserves the right and sole discretion to modify or change the composition, design and appearance of its products at anytime.

This warranty shall be in lieu of all warranties of merchantability and of all warranties of fitness for a particular purpose relating to harwil products and parts. Buyer's sole remedy hereunto shall be replacement or reconditioning as set forth herein.

HARWIL shall incur no obligations hereunder and no liability in the event of (a) buyer not fulfilling its responsibilities, including as set forth herein; (b) neglect, alteration or improper product use, including use with non-compatible devices or chemicals; or (c) repair by other than HARWIL. ANY LAWSUIT RELATING TO THIS WARRANTY MUST BE COMMENCED WITHIN ONE YEAR OF THE DATE IT ACCRUES.

Each user of our product should make appropriate analysis and tests to determine the suitability of the product for the intended use prior to purchase. HARWIL provides no warranty and assumes no responsibility for corrosive attack on any material, component or design features associated with any of its products.

Corrosion resistance information listed in HARWIL specification sheets, installation sheets and product brochures is solely for general background information. This table has been compiled from literature published by various material suppliers and by equipment manufacturers who use these materials in their products. Inasmuch as these data are based on tests by entities over which HARWIL has no control, HARWIL does not guarantee or accept responsibility for the accuracy of such tests. When using the table, please remember that in any given case several factors such as concentration, temperature, degrees of agitation and presence of impurities influence the rate of corrosion. The guide is intended, in a general way, to rate materials for resistance to chemicals which contain their usual impurities and for types of equipment in common use. Ratings should be used only as a general guide to first approximation of your material requirements rather than as the final answer.

- When in doubt, test materials before installation.
- After installation, follow up with preventative maintenance and periodic inspection.