

**NEW COMPACT, LOW-COST RELAYS PROVIDE SAFE, RELIABLE LONG-LIFE OPERATION FOR A BROAD RANGE OF ORIGINAL EQUIPMENT APPLICATIONS**

BIW Series 5600 Relays were developed especially for use as safe, reliable, economical original equipment components in many different types of commercial and industrial products.

Designed to operate from electrodes or probes contacting conductive liquids, they are ideally suited for level control applications in such products as vending, dispensing and ice-making machines—water softeners, dishwashers, coffee makers—plus many types of operating equipment in the food, drug, dairy, brewing, distilling and chemical processing industries.

In addition, Series 5600 Relays have a low energy sensing circuit with a lock-in holding feature that permits operation over a range of levels, or from momentary contact pilot devices such as float, flow, pressure and limit switches, thermostats and pushbutton actuators, etc. Thus they are equally suitable for use as original equipment components in many products and systems that require monitoring and control of such process variables as temperature, pressure, humidity, flow, voltage and current, etc.

**OTHER FEATURES AND ADVANTAGES**

- Choice of direct or inverse operation to provide fail-safe control.
- UL Recognized Component File No. E67365.

- In *direct* operation, load relay is *energized* when the low voltage dc sensing circuit is completed. In *inverse* operation, load relay is *de-energized* when the low voltage dc sensing circuit is completed.

**NOTE:** When ordering, please specify Type 5611-00 relays for direct operation applications, and Type 5612-00 relays for inverse operation.

- All line voltage circuits are isolated from the low voltage dc sensing circuit to assure optimum safety in service.
- Low voltage dc sensing circuit also permits location of relays several thousand feet from electrodes or remote pilot devices.
- Relays will operate reliably when mounted in any position required to meet a complete range of application design requirements.
- Barrier-type terminal blocks with saddle clamp screw terminals for 12 to 18 gauge wire are standard. Quick-disconnect tabs or other wiring terminals can also be supplied to meet specific application requirements.
- Load contacts are covered with a clear plastic housing to protect against dust and moisture to assure reliable long-life operation.
- Relays will operate over ambient temperature range from  $-40^{\circ}$  to  $+150^{\circ}\text{F}$  ( $-40^{\circ}$  to  $+66^{\circ}\text{C}$ ).

**BASIC SPECIFICATIONS**

**Voltage:** 120 volts ac, 50/60 hertz  
 240 volts ac, 50/60 hertz  
 12 volts dc  
 24 volts dc  
 Other voltages available on special order.

**Power Required:** 4 volt-amperes, 2 watts.

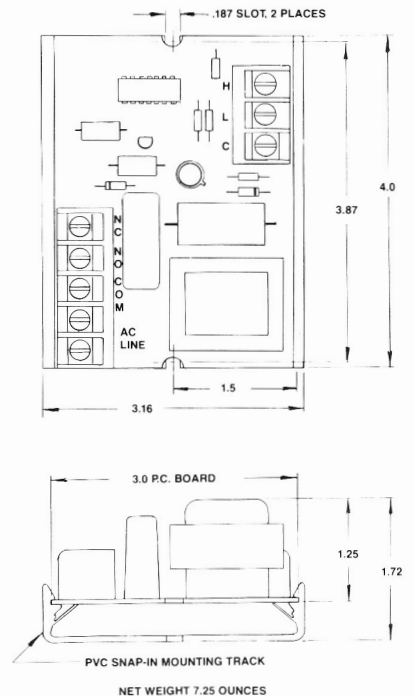
**Load Contacts:** Single pole, double throw. Gold-flashed silver cadmium oxide.

**Contact Ratings:** 10 amperes resistive load or 1/3 hp at 120 volts ac; 6 amperes resistive load at 240 volts ac or 28 volts dc.

**Sensing Circuit:** 17.5 volts dc open circuit; 400 micro-amperes short circuit. Includes a lock-in feature for greater versatility.

**Sensitivity:** 50,000 ohms fixed is standard. Other sensitivities, fixed or adjustable, are available on special order.

**SERIES 5600 RELAY DIMENSIONS**



## TYPICAL APPLICATIONS

Diagrams at right illustrate basic details of typical applications in which Series 5600 Relays are used as original equipment components to provide fail-safe control by de-energizing the load in event of power or relay failure.

In Diagram A, Type 5611-00 Relay is used for *direct operation* to provide automatic *pump down* control for dehumidifiers, sumps, or any other product requiring control of a liquid at a given high level set point. In Diagram B, a Type 5612-00 Relay is used for *inverse operation* to provide *pump-up* control for carbonators, humidifiers, purification stills, etc. where liquid must be kept above a low level set point.

Diagram C shows use of a Type 5611-00 Relay for direct operation to provide low level alarm and/or cutoff with lock-in and manual reset for automatic dispensing, bottling and mixing machines.

Diagram D shows direct operation from a transducer or any other pilot device to perform specific control functions required by many commercial and industrial products.

## INSTALLATION NOTES

Because Series 5600 Relays feature a low voltage, low current sensing circuit, inexpensive small gauge lead wires may be used between relays and electrodes, sensors, or pilot switching devices. Shielded cable is not required, and lead wires do not have to be isolated from other wiring. Also, in many level control applications, a common electrode is not required so long as a good, dependable metallic ground return from the relay to the liquid is provided.

DIAGRAM A: PUMP DOWN CONTROL — DIRECT OPERATION

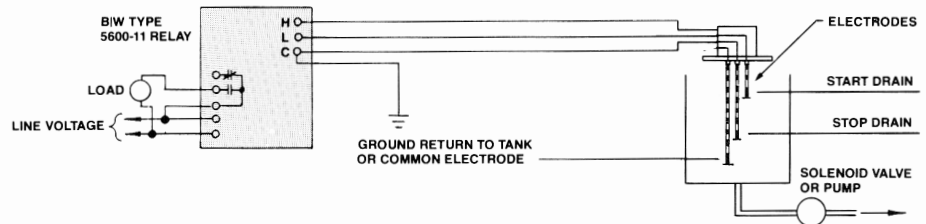


DIAGRAM B: PUMP UP CONTROL — INVERSE OPERATION

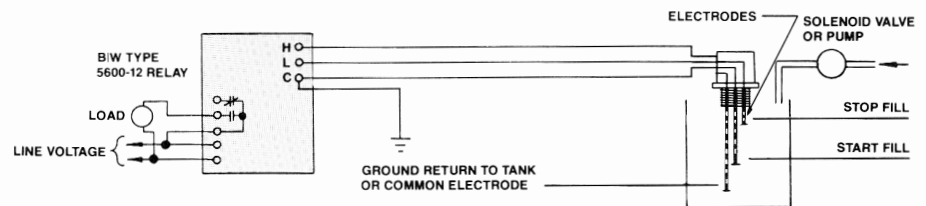


DIAGRAM C: LOW LEVEL ALARM OR CUT OFF — DIRECT OPERATION — WITH LOCK-IN & RESET PUSHBUTTON

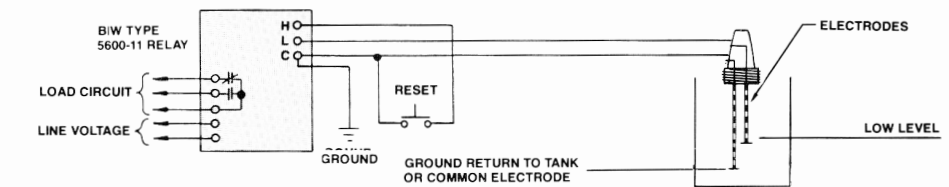
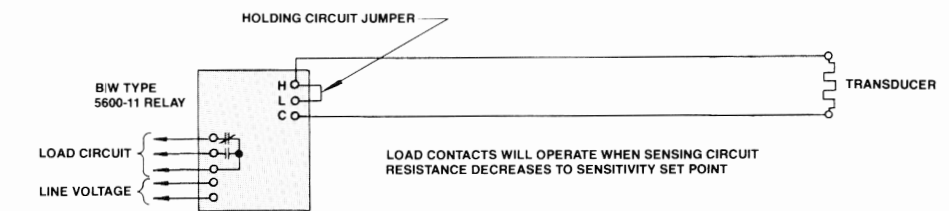


DIAGRAM D: CONTROL FROM RESISTIVE TRANSDUCER — DIRECT OPERATION — LOAD ACTUATION ON DECREASING RESISTANCE



## CATALOG NUMBER

5611-0000 Relay for Direct Operation — Specify line voltage

5612-0000 Relay for Inverse Operation — Specify line voltage

The standard sensitivity of the Series 5600 Control Relay is 50,000 ohms. Other sensitivities, fixed or adjustable, are available.

Many special features are available such as time delays, high power relay outputs, and triac outputs.

Consult the factory for your specific requirements.