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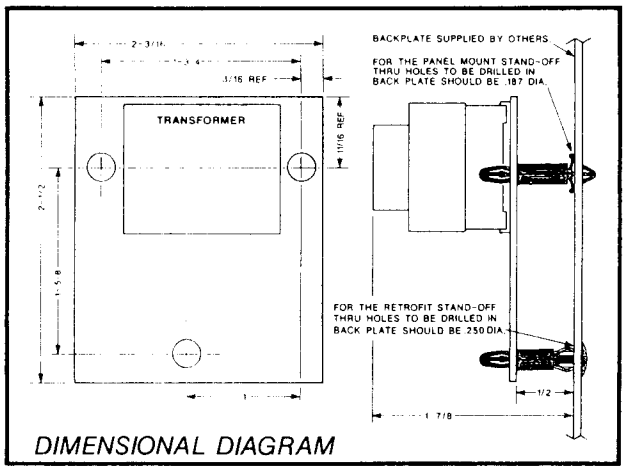
# INSTALLATION OF LVC521 STANDARD RELAY ELECTRONICS

This bulletin should be used by experienced personnel as a guide to the installation of LVC521 modules. Selection or installation of equipment should always be accompanied by competent technical assistance. We encourage you to contact OMEGA if further information is required.

## SPECIFICATIONS

**CONTROL DESIGN:** Open Circuit Board Design
**CONTACT DESIGN:** SPDT (1 form C): one normally open (N.O.) and one normally closed (N.C.) non powered contacts.
**CONTACT RATINGS:** 10A @ 120, 240 VAC resistive, 1/3 H.P. @ 120, 240 VAC.
**CONTACT LIFE:** Mechanical - 5 million operations. Electrical - 100,000 operations minimum at rated load.
**SUPPLY VOLTAGE:** Standard 120 VAC, optional 24, 240 VAC models, plus 10%, minus 15%, 50/60 Hz.
**SUPPLY CURRENT:** 120, 240, 24 VAC, Relay energized 4.4 VA.
**SECONDARY CIRCUIT:** 12 VAC RMS voltage on probes, 1.5 milli-amp current.
**SENSITIVITY:** Models operate from 0-1,000,000 OHM maximum specific resistance.
**TEMPERATURE:** -40 to 150 degrees F. ambient.
**TERMINALS:** Probe connections 3/16″ spade, line and power connections 1/4″ spade.
**TIME DELAYS:** Standard-H probe, .5 seconds on rising level.
**LISTING:** U.L. recognized, Industrial Motor Control (508).



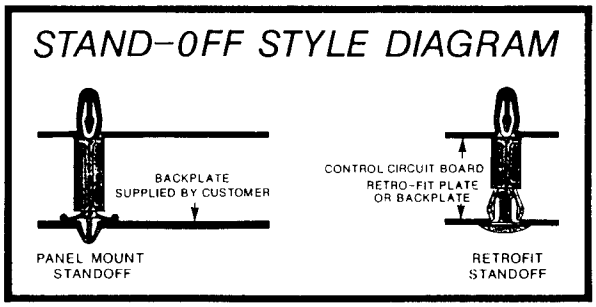
*DIMENSIONAL DIAGRAM*

## INSTALLATION

1) Drill 3 (three) .187 dia. holes in customer supplied backplate using stick on template supplied with control. Standard standoffs are designed for backplate thickness of .062 (1/16″). Standoffs are available for backplate of .125 (1/8″) nominal thickness. If retro-fit plate standoffs are used, drill 3 (three) .250 dia. holes in proper location.

2) Install 3 (three) standoffs into backplate. Snap circuit board onto standoffs. See sketch for proper installation. Install control in appropriate enclosure.

3) Wire control per wiring diagram, following N.E.C. and local codes. Use appropriately sized spade terminals.

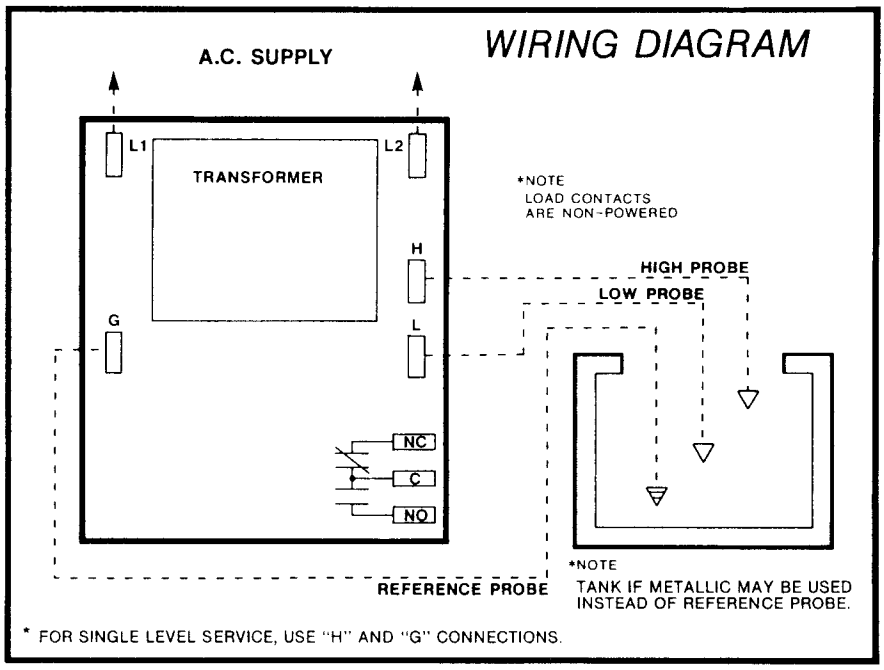



## SENSITIVITIES VS. MAXIMUM PROBE WIRE DISTANCE*

| SENSITIVITY (KOHMS) | DISTANCE (FT) |
|---|---|
| 4.7 | 10,000 |
| 10 | 5,700 |
| 26 | 2,200 |
| 50 | 1,075 |
| 100 | 570 |
| 470 | 270 |
| 1,000 | 38 |

**Based on type MTW or THHN wire, #14 or #16 Awg.*

# OPERATION OF LVC521 MODULES




## OPERATION

**Direct Mode; Single Level Service:** When the liquid rises to the electrode on terminal H, the control energizes, changing state of the load contacts. (LED will be lit). The control remains energized until the liquid level recedes below electrode on terminal H. The control then de-energizes, (LED will not be lit) returning load contacts to original state.

**Inverse Mode, Single Level Service:** Control energizes with power, changing the state of the load contacts. (LED will be lit). When the liquid rises to the electrode on terminal H the control de-energizes, returning load contacts to shelf state. (LED will not be lit). The control remains de-energized until the liquid level recedes below electrode on terminal H. The control then energizes.

**Direct Mode, Differential Service:** When the liquid rises to the electrode on terminal H, the control energizes, changing the state of the load contacts. (LED will be lit). The control remains energized until the liquid level recedes below electrode on terminal L. The control then de-energizes, (LED will not be lit) returning load contacts to original state.

**Inverse Mode, Differential Service:** Control energizes with power, (LED will be lit) changing the state of the load contacts. When the liquid rises to the electrode on terminal H, the control de-energizes, returning load contacts to shelf state. (LED will not be lit). The control remains de-energized until the liquid level recedes below electrode on terminal L. The control then energizes.

## OPTIONAL:

Time Delays: With time delay on increasing level, the liquid must be in contact with the short electrode for the full duration of the time delay before control will operate. With delay on decreasing level, the liquid must be below long electrode for the full duration of the time delay before control will operate. In single level service, H and L terminals must be jumpered together to achieve time delays on both increasing and decreasing levels or just decreasing level.