

## UL LISTED INSEALATOR™ SEALED PROTECTED & UNPROTECTED TERMINAL BLOCK DESCRIPTION AND INSTALLATION

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### 1. GENERAL

**1.01** The INSEALATOR™ environmentally sealed terminal block (Fig. 1) applies advanced sealing technology to protect terminal connections against moisture and other adverse environmental conditions.

**1.02** The INSEALATOR block is Underwriters Laboratories Listed (UL hereafter) as meeting UL Spec. No. 497 (Protected & Unprotected Blocks) for "Protectors For Paired Conductor Communication Circuits" (QVGV). It is assumed that the installation is exposed as defined by the National Electric Code of 1990.

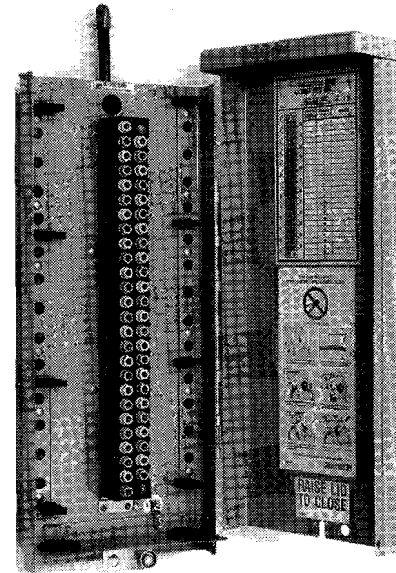
**1.03** This practice has been reissued to reflect the change in corporate name from Reliance Comm/Tec to RELTEC, and to incorporate a new design for the INSEALATOR without test port caps.

**1.04** Refer to other company practices and instructions for the correct methods, tools and materials to be used in performing procedures not specifically described in this practice.

**WARNING:** Telephone wiring should never be installed during a lightning storm nor should telephone jacks be installed in wet locations unless the jack is designed specifically for wet locations. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface. Use caution at all times when installing or modifying telephone lines.

### 2. DESCRIPTION

**2.01** The INSEALATOR terminal block uses IDC (insulation displacement connection) technology to make a gas-tight electrical connection. When an insulated wire is inserted



**Fig. 1 - INSEALATOR™ without Protection  
(Shown in Separately Ordered WP Housing)**

through INSEALATOR's tip or ring ports, and the activator screw is tightened down, the metal contacts automatically penetrate the insulation for an airtight, watertight termination.

**2.02** A petroleum-based sealant in the INSEALATOR housing envelops a terminated wire to prevent moisture from penetrating the connection. When the wire is pulled out of the block, a containment device wipes each wire clean of excess sealant so that the sealant remains in the housing cavity.

**2.03** The INSEALATOR is laid out tip over ring similar to conventional copper technology.

**2.05** The INSEALATOR block mounts on divider mounting plates in both pedestal and aerial applications.

### 3. INSTALLATION

**3.01** The INSEALATOR terminal block may be installed in two ways:

- Mount the terminal block on the mounting surface by inserting a long screw through mounting holes at the top and bottom. Fasten a lockwasher and nut to each screw and tighten.
- The block may be rear mounted by placing the block against the mounting surface and installing two short

screws and lockwashers through the inserts in the block.

- c) All mounting hardware is provided in a loose parts package.

**3.02** For shielded cable stubs, bond and splice per locally approved practices.

**4. PROTECTION**

**4.01** Cable pair protection is provided using either fail-safe carbon gap, fail-safe gas-tube, or solid-state arresters. Reliable's VSR and VSB arresters are UL Listed and meet the strict requirements of RUS (formerly REA) (VSR-types), as well as Bellcore (VSB-types). See TABLE A for the types of arresters used.

**TABLE A**  
**Arrester Color Code**

Arrester Code	Type	Cap Color
P	Carbon	White (2 stripes)
VSB	Bell	White Solid
VSR	RUS	Orange Cross
T	Solid-State	White "T" Stamped

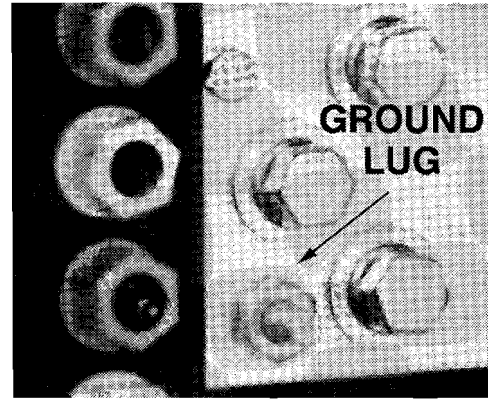
**5. GROUNDING**

**5.01** Terminals with Reliable metal housings and pedestals are provided with a ground connection between the protector block and a ground lug on the housing. An external No. 6 ground wire must be installed between this lug and an approved ground in accordance with local practices. Terminals without housings should have the external No. 6 ground wire connected directly to the protector block (Fig. 2).

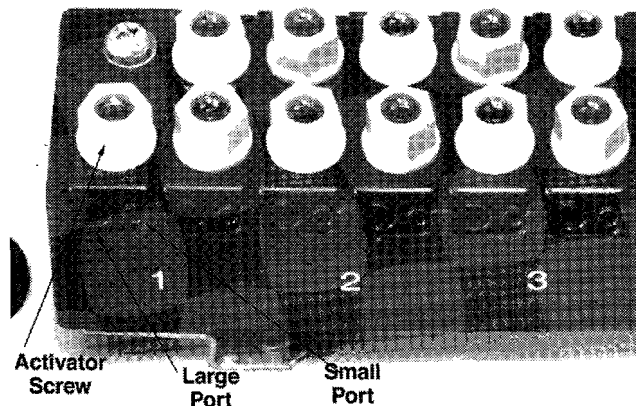
**6. DROP WIRE INSTALLATION**

**6.01** Using a 216-type tool, back off the activator screw until it stops (approximately 3 turns).

**6.02** For 18 1/2-gauge aerial drop wire, split the ends of the drop wire leads approximately 2 inches. Insert the tip wire into the large tip port and the ring wire into the large ring port on the side of the block under the activator screw (the white screw is tip and orange is ring) (Fig. 3). Insert each wire firmly



**Fig. 2 - Ground Lug**



**Fig.3 - INSEALATOR Detail**

through the port so that it goes through the grommet into the cap. For proper termination, the wire must be fully inserted into the cap—approximately 1/2 inch.

**6.03** Terminate 22 to 24AWG wire using the same procedure, except that the wire enters the small side ports instead of the large ones.

**6.04** Using the 216-type tool, tighten the activator screws down (approximately 3 turns), until the tension increases and stops. The wires are now terminated. Do not exceed 30 inch pounds of torque.

**6.05** The test port at the top of each activator screw is filled with sealant for environmental protection. If a talk pair is needed, insert the test clips into the test port.

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In Mexico: Productos Lorain de Mexico S.A. de C.V. / Apartado Postal 77001/ Mexico, 10 D.F. MX 11200 / (5-25) 576-8277

Printed in USA / F01961M



Part No. P72109