



# Just the Facts

56-020-0893

## Line Isolation Monitors

### What is a Line Isolation Monitor?

A line isolation monitor (LIM) is an early warning device that continually checks the potential hazard current from each line of an isolated circuit to ground. With this system a fault does not pose an immediate danger of massive electrical shock to patients or staff, and power is not interrupted. When the alarm sounds, the system is still safer than a conventional grounded system.

### How Does a Line Isolation Monitor Work?

A green signal lamp indicates when the system is adequately isolated from ground.

A red signal lamp and an audible signal provide warning when a single fault occurs which may expose the patient or staff to an unsafe condition should an additional fault occur. The audible alarm can be silenced, while the red light remains lit so it does not distract the staff from performing the medical procedure. The alarm sounds at a potential current flow of 5.0 milliamperes.

When a fault is corrected, the green lamp lights, and the red lamp and audible alarm automatically reset.

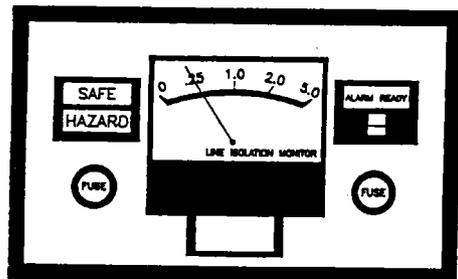
An ammeter continuously measures how much current will flow through a ground fault. It does not indicate actual current that is flowing.

When problems occur with a LIM, prompt corrective action is required by the hospital engineering or medical maintenance department to prevent further degradation of the unit.

### What Are the Required Tests of Line Isolation Monitors?

The LIM has a test circuit that simulates a fault. This test verifies the proper functioning of the LIM alarm circuit when energized. It does not verify the operation of the total isolated electrical system.

After installation, simulated fault tests are conducted at all of the outlets. Thereafter, a minimum of one simulated fault test should be performed annually. A LIM functional test should be conducted monthly according to the National Fire Protection Association (NFPA) Code 99, Standard for Health Care Facilities. Tests should be conducted only when the system is not in use.



- ◆ Healthcare Facilities
- ◆ Information
- ◆ LIM Testing Procedures

#### Healthcare Hazards Program

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