# **Amphenol**<sup>®</sup>

## **Application Note**

## IAN-108



## Pre-Earth and FMLB 97

## BACKGROUND

Industrial manufacturing equipment is evolving at an ever increasing rate and requiring greater levels of intelligence and automation every cycle. The connector market continues to constantly expand with today's demand and innovations for markets such as Servo Motor, Robotics, Machine Tools, Semiconductor Equipment Processes, Controls & Testing. With today's high safety standards, Amphenol has developed the "Pre-Earth and FMLB 97" connector featuring larger voltage protection to individuals and circuits.

### PROBLEM

Does your circuit require a special connection or disconnection sequence? Such as the need to connect a connector to a live circuit: ground first, then power, then data (connect) or disconnect data, then power, then ground? The main concern is the connector establishes a ground connection before all other signals come into electrical contact, and the ground connection remains after the other terminals have separated. Commonly used circular plugs along with SAE 5015 type connectors have deprived features when it comes to the following:

- Grounding path in case of "current leakage"
- Protection during the mating and un-mating sequences
- Moisture sealing

### **AIO SOLUTION**

A Pre-Earth and First Mate Last Break (FMLB) connector series was developed to meet the highest safety standards of IEC/EN 61984, and UL 1977 by incorporating an integrated voltage protection pin.

Some of the product highlights are:

- Excellent waterproof and moisture sealing performance with an IP67 rating when mated.
- Intermateable with SAE-AS50151 (MS 5015) or equivalent and Amphenol 97 Series styles.
- Simple structure with proven design.
- Cost-Effective
- Rugged to combat Industrial environments.

The Amphenol Pre-earth and FMLB 97 solves the energy/electric protection problem.