



Absolute Process Instruments, Inc.

Manufacturer of Quality Signal Conditioners Transmitters & Isolators

Application Notes

- **General Info**
- **Temperature**
- **Pressure**
- **Flow**
- **Speed**
- **Weighing**
- **Process**

RFI and EMI

Electrical interference, or noise, is an unwanted electrical signal that can cause intolerable error in, or complete disablement of an electronic control or measurement systems. Interference or electrical noise is broken down into two somewhat overlapping categories: Radio Frequency Interference (RFI) and Electromagnetic Interference (EMI). Some of the more commonly encountered sources of interference are:

- Mobile and stationary radio, television and hand-held transmitters (walkie-talkies)
- Cellular telephones
- Fluorescent lights
- Radar
- Weather related electrical discharges such as lightning
- Static discharges
- Induction heating systems
- High speed power switching elements such as SCRs and thyristors
- High AC current conductors
- Large solenoids or relays
- Transformers
- AC or DC motors
- Ultrasonic cleaning or welding equipment
- Welding equipment
- Engine ignition systems

The effects of Radio Frequency Interference (RFI) and Electromagnetic Interference (EMI) can cause unpredictable and non-repeatable degradation of instrument performance and accuracy, and even complete instrument failure. This can result in reduced process efficiency and production, plant shutdowns, and sometimes dangerous safety hazards.

There are two basic approaches to protecting an electronic system from the harmful effects of radio frequency and electromagnetic interference. The first is to keep the interference from entering the system or instrument using special shielding, designs and terminal filters. The second is to design the system or instruments circuitry so that it is inherently immune to RFI/EMI.

Did You Know...?

That Api plug-in and DIN style signal conditioners and isolators use state-of-the-art optical isolation.

FREE APPLICATION ASSISTANCE

Call  **Customer Service**

800-942-0315

