PRODSP TECHNOLOGIES

Fundamentals of Industrial Measurement Technology

Complex Testing Methods

ProDSP Post Series Nr.32.

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There are measurements that occur frequently in industry but go far **beyond simple** current or voltage measurements. In these cases, **complex and sophisticated measurement logic** must be implemented, which requires a **high level of professional expertise and experience**. In the **upcoming** posts, we will present three such testing methods.

Here is what we will cover: 👉

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RF measurements

- The **role and purpose** of RF testing in end-of-line (EOL) validation
- Overview of **signaling** and **non-signaling** RF test methods
- **Radiated** and **conducted** measurement setups
- Measurement environment and equipment: **antennas, chambers, VNA**

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⚡ HIPOT (high-voltage insulation testing)

- The **purpose** of HIPOT tests in verifying insulation and electrical safety limits
- **Insulation resistance**, AC/DC voltage **withstand**, and **breakdown** voltage measurements
- Typical **voltage-time characteristics** and protective functions of these tests
- **Practical considerations**: test instruments, verification functions, and grounding fault handling

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🌍 Ground Bonding (protective earth continuity testing)

- The **purpose** of Ground Bonding tests in verifying protective earth continuity
- **Typical measurements** between the connector ground point and the device enclosure
- Comparison of **two-wire** and **four-wire** measurement methods
- **Advantages of high-current testing:** accuracy and current-carrying capability verification

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