



## **PREVENTIVE MAINTENANCE**

TIS provides reliable Preventive Maintenance on most Industrial Control Equipment. Our goal is to identify potential problems and recommend solutions before failures occur causing unscheduled costly downtime.

### **What Is Involved In Routine Preventive Maintenance?**

#### **Clean The Equipment:**

Dust and other foreign materials can create cooling problems, hide damaged components, cause corrosion, cause arching and other damages.

#### **Check Motor Resistance and Connections:**

Motors often show changes in resistance prior to failure.

#### **Verify All Power Connections:**

Power connections can loosen over time due to heat related expansion and vibration. Loose power connections cause fuse blowing, breaker trips, damage to terminal strips, insulation failure and ground faults.

#### **Verify Power Supplies For Tolerance:**

Power supplies can drift out of tolerance due to electronic component failure. This will eventually cause a complete power supply shutdown.

#### **Observe Relevant Wave Forms For The Best Operation:**

Our technicians check the supplies, output waveforms, reference signals and feedback signals. This often reveals hidden problems.

#### **Verify Signal Wiring, Properly Terminated Shielding and Tight Connections:**

Improper shielding can cause intermittent and erratic behavior of drive equipment. Loose signal wire is a primary cause of drive equipment downtime.

#### **Backup PLC/HMI Programs and VFD Parameters:**

Once the PLC/HMI programs and VFD parameters are backed up, our engineers will routinely check the programs for any changes that may indicate possible future equipment failure. Bi-annual backups, updates and upgrades for efficiency are also available.