SIEMENS

Analysis of mechanical vibration with SM 1281 inside SIMATIC S71200 (SE-TIAVIB)

Short Description

Preventive maintenance means:
Optimal life time utilization of machines and facilities
Effective stocking of spare parts
Cost-reduction through planned maintenance

All information about the mechanical wear collected with SIPLUS CMS1200 SM 1281 are now available in the automation world of SIMATIC S7-1200.

Objectives

Object of the training is to describe vibration analysis as an integral part of preventive maintenance.
The participants will be introduced to vibration analysis in detail by practical exercises and will be able to transfer the learned knowledge into every day practice.
Therefore, the user have the ability to see mechanical changes as well as the electrical and process values and can integrate all this information into decision making.

Target Group

- Service personnel
- Maintenance personnel
- Operators, users
- Project managers
- project team members

Content

- Basics
  - Definition and possible causes of vibrations
  - Acceleration sensors; connection and measuring points
- Global diagnostic procedures, Part 1
  - Overview
  - EN60034-14: Measurement at manufacturer's works
  - ISO 10816; Measurement at installation location and examples; Examples of common causes of vibrations e.g. alignment faults, imbalance, housing mounted under tension
  - Roller Bearing monitoring through characteristic values
- Analytical diagnostic procedures
  - Overview
  - Typical frequency spectrums of the most common error sources
  - Roller Bearing monitoring through envelope spectrum
  - Excursion - Causes and effects of roller bearing damages
  - Summary using the example of a drive train
  - Systematic approach to analytical monitoring using the practical example of fan monitoring
  - Practice experience of analytics using the examples "Influence of converters" and "Double bearing"
  - Deeper understanding of contents through practical exercises
  - Analysis examples with Practical tips and tricks

Prerequisites

- Basic knowledge in electrical and machine engineering
- SIMATIC STEP 7 knowledge applicable to TIA-PRO1

Note

A personal scientific electronic calculator is needed.

Type

Face-to-face training

Duration

2 days

Language

en