Condition Monitoring
Systems and services for condition-oriented maintenance
Condition monitoring is the systematic approach to keep all drive technology components in excellent condition. The approach includes measurement, interpretation and visualization of defined parameters that are then forwarded to your maintenance. The accuracy of these evaluations is based on technical expertise and precise sensor technology.

What we offer
SEW-EURODRIVE offers the extensive range of condition monitoring analogously to the modular drive technology system. We provide complete solutions that include initial consultation and design of the best analysis method all the way to installation and diagnostics.

Your advantages
Systematic condition monitoring using the latest measuring methods will reduce your maintenance costs. We compare the measurements on site with those values we have collected throughout the years (expertise) and you will be able to act instead of react.

- Minimization of production downtimes
- Reduction in maintenance costs
- Ability to schedule downtimes
- Greater operational reliability
- Optimum control of personnel resources
- Target-oriented material procurement
- Reduction in storage costs for spare parts
- Wear-oriented maintenance and servicing
- Optimum utilization of system capacity

Reduce your indirect expenses, minimize production downtimes and avoid unscheduled standstills with the help of condition monitoring.
- Thermograms for control cabinets and drive components
- DUV\(^1\) vibration sensor for monitoring bearings and gears
- DUO\(^2\) oil aging sensor for determining the time to change the oil
- DUB\(^3\) brake analysis sensor for monitoring functioning and wear
- Determine gear unit wear by means of oil analysis
- Gear unit diagnostics using endoscopy
- Inspection of drive technology
- Analysis of load condition
- Analysis of system voltage
- Determine EMC sources
- Analysis of unit-specific environmental conditions
- Measure current consumption

\(^1\) Diagnostic unit vibration
\(^2\) Diagnostic unit oil aging
\(^3\) Diagnostic unit brake

Our services at a glance:
Using thermography, we are able to clearly show temperature distribution in drives and control cabinets. This method helps us assess problems such as wear, overloads and worn-out contacts. Our service specialists will provide a correct interpretation of the test results.

Thermograms for control cabinets and drive components

A picture is worth a thousand words
Your advantages
- Non-destructive measurement method
- Analysis can take place with ongoing production
- Fast identification of conspicuous components
- Component-based damage analysis
- Maintenance according to plan with specific goals
- Ability to distinguish between actual problems and signs of wear
- Detection of dangerous heat sources (prevent burns/install touch-guards)

What we offer
- Thermographic testing of the drive technology in use
- Thermographic testing of the power components installed in the control cabinet
- Photographic and thermographic documentation and evaluation of the components
- Recommendations to eliminate risks and necessary maintenance jobs

Reduce your indirect expenses, minimize production downtimes and avoid unscheduled standstills with the help of condition monitoring.
The DUV (Diagnostic Unit Vibration) unit from SEW-EURODRIVE is the perfect sensor for simple and reliable monitoring of roller bearings and gearings. The DUV diagnostic unit measures the structure-borne noise and uses this value to calculate the frequency spectrum. The unit then uses this frequency spectrum to constantly monitor the condition of the roller bearings. The sensor and evaluation electronics are fully integrated in the diagnostic unit.
Your advantages

- Continuous monitoring of five bearing sites or 20 individual frequencies with one sensor
- Level monitoring device that monitors the entire vibration spectrum
- Signs of wear on roller bearings are detected at an early stage
- The condition of the bearings is simple to detect and read off: The colors green, yellow and red indicate the condition of the bearings
- System operators can configure the unit as required

What we offer

- Consulting services regarding the use of our vibration sensor
- Installation of the vibration monitors and referencing
- Calculation of cinematics, gear unit and bearing frequencies
- Integration and evaluation of sensor data at process level

Reduce your indirect expenses, minimize production downtimes and avoid unscheduled standstills with the help of condition monitoring.
DUO oil aging sensor to determine the time to change the oil

For things to keep running smoothly

The DUO (Diagnostic Unit Oil-aging) unit from SEW-EURODRIVE is the perfect sensor to determine the remaining life of the gear unit oil and indicate the right time for an oil change. A thermal sensor installed in the gear units measures the oil temperature and forwards this information to an evaluation unit that will calculate the time remaining until the next oil change. This feature is particularly important when the temperature of the gear unit oil is not constant during operation.
Your advantages
- Configuration and startup directly with the diagnostic unit
- Simple detection and reading out of the time remaining until next oil change
- Monitoring five different types of oil
- Warning signal in case set oil temperatures are exceeded
- Ensuring correct lubrication of gear unit

What we offer
- Consulting services regarding the use of our oil aging sensor
- Installation of the sensor and evaluation unit
- Configuration of the evaluation unit
- Integration and evaluation of sensor data at process level

Reduce your indirect expenses, minimize production downtimes and avoid unscheduled standstills with the help of condition monitoring.
The DUB (Diagnostic Unit Brake) unit from SEW-EURODRIVE is the ideal sensor for reliable monitoring of the brake lining wear and the function of the brake. A recoiling micro switch is used as normally closed contact or normally open contact, depending on the task. It sends the voltage-dependent signal to a higher-level controller. Brake monitoring increases safety and allows for condition-oriented maintenance. By installing two micro switches, both monitoring options can be utilized at the same time.
Your advantages

– Reliable monitoring of the brake function
– Wear of the brake lining can be detected during system operation
– Maintenance intervals of the brake can be adapted to wear
– Condition signal of the micro switch can be implemented as normally closed or normally open contact
– Evaluation directly via SEW-EURODRIVE inverter with suitable error protocol
– Can be used in humid conditions up to IP66
– Self-cleaning contacts inside the sensor
– Reduction of costs due to condition-oriented maintenance

What we offer

– Consulting services regarding the use of our diagnostic unit
– Installation and tuning of the micro switches
– Integration and evaluation of sensor data at process level
– New drives with built-in brake monitoring sensor
– Retrofitting to existing SEW-EURODRIVE drives

(Condition Monitoring)

Reduce your indirect expenses, minimize production downtimes and avoid unscheduled standstills with the help of condition monitoring.
Modern maintenance is gaining in importance under the aspects of LCC (Life Cycle Costing), TCO (Total Cost of Ownership) and TPM (Total Productive Maintenance). This is particularly true for modern, linked production processes that require considerable investment and are characterized by high system intensity. The CDM® maintenance management offers a complete package with individual service modules to ensure the availability of expensive machines and systems.

An appraisal of the existing drive technology in the system or inventory as well as the collection of results in an online database form the basis of the CDM® maintenance management. Online condition monitoring, such as vibration measurements and oil aging monitoring, can be performed using the database and testing can be carried out offline. Central data collection provides the optimal prerequisite for the specific assessment and scheduling of required maintenance measures. Required activities like maintenance and repair are displayed in the database. This means you can define and optimize an individual maintenance and response plan for each drive depending on the required availability. It is also possible to transfer data directly to SEW-EURODRIVE via the CDM® database and we will take care that malfunctions are already detected in advance so failures can be minimized.

**Your advantages**
- Transparency of all drives and frequency inverters (by type, quantity, condition, availability)
- Innovative and convenient CDM® database for entering, updating, searching, and evaluating data
- Optimized maintenance by using the CDM® functionalities, such as maintenance planning and history display
- Reduction of parts held in stock through optimized stock comparison, integrated warehouse administration and reliable spare parts availability

**What we offer**
- Inspection of drives and frequency inverters with classification of their condition:
  - Single inspection (visual check)
  - Listing of all necessary maintenance work
- Structuring and comparison of existing drive technology
- Provision of drive and frequency inverter data online in DriveGate® at www.sew-eurodrive.de:
  - CDM® display
  - Research
  - Maintenance planning
  - Evaluation
  - Modification notification
  - Quotation
- Marking of drives and frequency inverters for clear and quick identification also within the 24/7 availability
- Individual consulting to optimize the maintenance concept for existing drive engineering components, and on topics such as preserving energy, condition monitoring and storage optimization
CDM® – Maintenance Management

Performing required measures based on CDS®
by SEW-EURODRIVE on site or directly SEW-EURODRIVE

Planning of required measures based on CDS®
- Repair
- Inspection
- Maintenance
- Replacement

CDM® – Database
Central data collection, merging, comparison, evaluation and update through Internet access to the DriveGate portal of SEW-EURODRIVE.

CDM® – Installed base
Inspection of the drive/classification
The following data is entered:
- Customer, location, plant, system, etc.
- Drives and frequency inverters
- Condition
- Installation condition
- Software data
- Picture, etc.

CDS® – Condition Monitoring
DUV10A, DU010A, etc.
- Data collection and display
- Data transfer
Other condition monitoring services

- **Determine state of gear unit wear by means of oil analysis**
  - Qualification and quantification of contamination in oil
  - Analysis based on specific oil sample collected by SEW service technicians
  - Determine state of wear and make recommendations for maintenance work, if required

- **Analysis of system voltage**
  - Measure and analyze system voltage regarding used drive technology

- **Determining EMC sources**
  - Metrological analysis of EMC sources
  - Visual check of installed measures for EMC protection
  - Recommendation for optimized installation

- **Gear unit diagnostics using endoscopy**
  - Visual check of gearing
  - Determine state of gearing and make recommendations for maintenance work, if required

- **Inspection of drive technology**
  - Check a number of different features: wiring, EMC compliant installation, contamination, leakage, noise, function, mounting position, brake wear, ...
  - Professional analysis based on manufacturer’s expertise
  - Record actual status with recommendations for optimization

- **Analysis of unit-specific environmental conditions**
  - Chemical analysis of aggressive deposits on components
  - Individual recommendations to optimize operation (e.g. protective coating, recommended materials, etc.)

- **Analysis of load condition**
  - Measure and analyze static and dynamic parameters (current, torque, forces, etc.)
  - Measurements taken directly in system using mobile equipment
  - Evaluation of measurements and optimization of drive concept or determining cause of damage

- **Reduce your indirect expenses, minimize production downtimes and avoid unscheduled standstills with the help of condition monitoring.**
Service as integral component

Whether you require maintenance, repair, spare parts service, preventative maintenance, oil service or 24-hour availability: SEW-EURODRIVE offers a tailor-made service package with individual, combinable modules from the CDS® Complete Drive Service. Each module is based on the expertise of a global player with practical experience and an understanding of customer service at the highest level. Feel free to contact us!

24-hour service hotline
01805 SEWHELP

Installation consulting service

Startup service

Application programming service

Inspection and maintenance service

Repair service

Spare parts service

Express assembly service

Industrial gear unit service

Pickup and delivery service

Drive modernization service

Condition monitoring service

CDM® – Maintenance management

Training service

24-hour service hotline
01805 – SEWHELP
01805 – 73943 57