



SYMMEDIA SP/1 MONITORING

- › Cross-interface data acquisition on machines
- › Data processing and visualization
- › First step towards predictive maintenance and benefit-based pricing models
- › Action and escalation concept for certain events based on threshold values

Data acquisition and provision

The idea of condition monitoring is based on the collection of machine data. The concept of symmedia SP/1, which has been specially designed for mechanical engineering, tames the flood of data and converts relevant values into a uniform basic format.

A wide variety of data sources can be used. The available data adapters in symmedia SP/1 include native interfaces to the control systems (S7, Heidenhain, Bachmann, etc.) as well as standards such as OPC UA and umati. In addition, values from sensors or databases can be included in the machine monitoring (e.g. via MTConnect, Modbus or IO Link).

In order to be able to monitor the condition of a machine, a wide variety of data must be recorded and evaluated. One of the greatest challenges of condition monitoring is to crystallize significant information from the flood of data: First of all, a machine provides a very large amount of different raw data completely unfiltered.

In order to be able to make the data available to third-party systems (e.g. analytics instances, databases or cloud applications), symmedia SP/1 has the ability to collect the data from various sources and in various formats and to make it available in one or more desired formats. Machines can be equipped with OPC UA or umati-ready, for example. symmedia SP/1 thus simultaneously serves as a data collector and server.

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Dashboard

The symmedia SP/1 Dashboard is used to illustrate the data collected from the machine during monitoring (e.g. pressure, temperature, reject rate, etc.) and, for example, to display it over time, to compare it and bring it into a logical context. For this purpose, the dashboard can be configured and compiled individually and role-based according to the needs of the user. Collected and calculated data are clearly displayed in various graphs and diagrams. Using previously defined threshold values, deviations from the standard can be identified and displayed.

Live-Visualization

Anyone who thinks of condition monitoring often sees the red flashing light of an alarm in front of their inner eye. In fact, the most frequent monitoring action is first of all the local recording of values, and if necessary with an extremely high data rate.

symmedia SP/1 creates monitoring diagrams from data written and derived locally on the machine. These diagrams show, for example, an overview of the current status or the last actions of the machine. This data can be viewed locally or centrally in the Live Cockpit (dashboard).

Alarming

The alarm is a core function of monitoring: it is triggered when a defined threshold value is exceeded or fallen below and informs the operator and/or manufacturer of a machine of serious events.

Such an event can be a current problem up to a machine standstill. Ideally, however, it should be information about an imminent problem.

symmedia SP/1 Monitoring offers different forms of notification, depending on how urgent the alarm is and to whom it should be sent. The simplest form of escalation is an email, SMS or push notification in the symmedia app. The highest level is the triggering of a service request to the manufacturer (which allows a reconnection to the machine).

OEE Evaluation

The OEE evaluation is a possible use of symmedia SP/1 Monitoring. It allows the display of the overall plant effectiveness, i.e. the product of „quality“, „availability“ and „performance“ in different views of the entire machine park.

symmedia SP/1 provides the corresponding interface and ensures that sensitive machine data can be safely transported from A to B. The system is designed to provide a high level of security for the machine data.

Selections and calculations can already be carried out on site, so that only relevant data has to be transferred to a large extent.

Contact:

Vinzenz van Ketwich | fon +49 521 96655 – 33 | vanketwich@symmedia.de