Smart Metering

Optimising electric drive systems is a challenging undertaking. Process demands on drives are constantly changing, depending on the order backlog, the day of the week or the season. Performance measurements provide a good overview of the current use of motors. However, they offer a limited snapshot in time and are often not suitable for optimising a drive system for maximum effect. As a result, a possible redimensioning of the drive system is often not detected.

Permanent monitoring of the countless motors in a company was time-consuming, cost-intensive and therefore not economically feasible in most cases. Monitoring technology has become simpler, more versatile and more cost-effective in recent years, and the trend towards seamless online monitoring will continue in the coming years. Many manufacturers now offer «smart metering» options for their motors. These extensions can record the most important parameters of a motor, either ex works or retrofitted. Cloud-based solutions offer the operator the possibility of accessing the operating parameters of the monitored drives at any time, independent of location and in real time. The permanent recording of motor data provides a valuable data basis for optimising the drive system. In this way, its operating hours can be easily read and well-founded statements can be made about the dimensioning of the motor. Particularly with regard to a motor replacement, a broad database is essential for assessing the dimensioning of the drive.

Smart metering also simplifies condition monitoring of drives. The seamless recording of operating parameters such as temperature or vibration makes it possible to carry out software-based evaluations of the data and to derive trends. Many manufacturers use a «traffic light system» (e.g. green, yellow, red) in their portals to evaluate the condition and indicate changes (degradation).
In this way, wear on the bearings, for example, can be detected at an early stage and their replacement can be planned in advance and service intervals or motor replacement can be carried out individually. This helps to avoid unnecessary early service interruptions and unexpected downtimes.

Previously «dumb» motors are becoming «smart» thanks to IoT (Internet of things) and offer operators a variety of new ways to efficiently operate and optimise their motor fleet. In addition, intrinsically unavoidable interruptions can be used to increase efficiency and ensure a continuous improvement process, when combined with the recorded motor performance data.

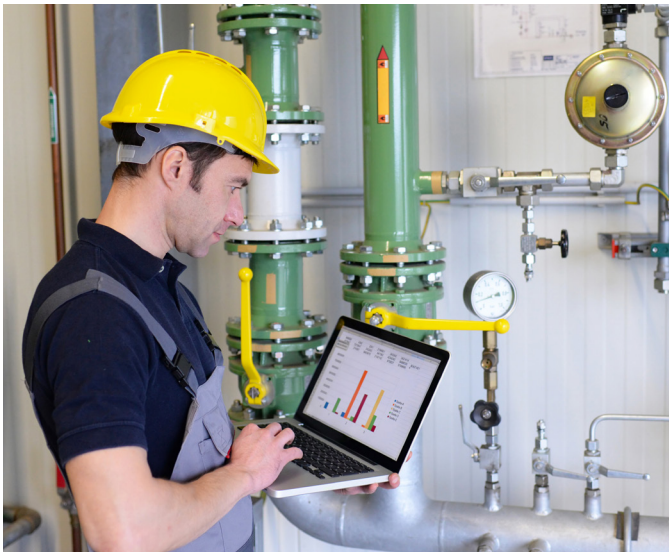

Photo: Smart Metering in use
(Source: © industrieblick – stock.adobe.com)

IMPACT ENERGY

energieschweiz