



ENERGY MONITORING

PRODUCE MORE SUSTAINABLY. REDUCE ENERGY CONSUMPTION.
SAVE COSTS.

SICK
Sensor Intelligence.



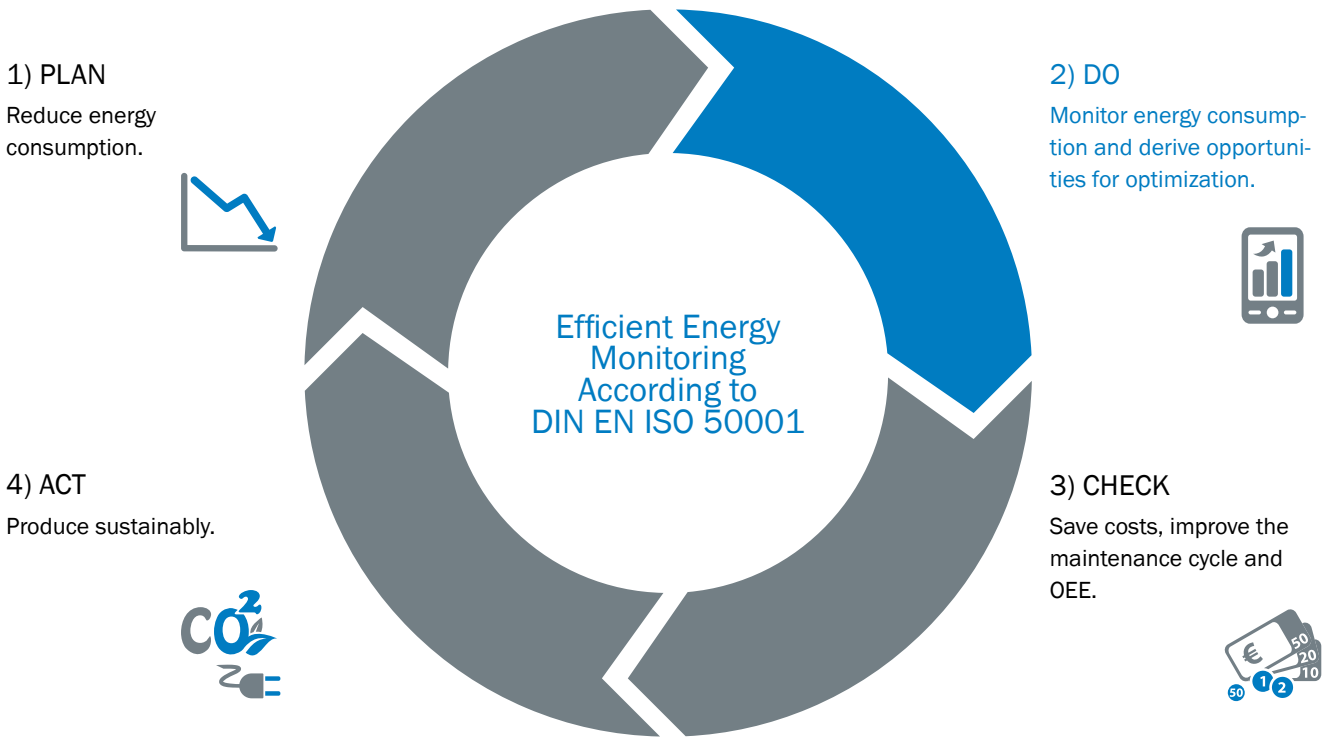


What is an energy management system according to ISO 50001?

ISO 50001 is a globally applicable standard that aims to support companies and organizations in establishing systematic energy management. At the same time, it is the basis for the verification and certification of standard-compliant energy management systems. Even though it is not mandatory, certification is a prerequisite in many countries for the exemption of manufacturing companies from taxes and energy costs. Whereas only electricity, water, heating and air conditioning were considered before the standard was amended, energy management systems according to ISO 50001:2018 now also take into account the consumption of compressed air – one of the most expensive forms of energy.

How can energy monitoring reduce energy consumption?

According to the ISO 50001 standard, transparent energy data can be used to derive measures for reducing energy consumption. More specifically, it is possible to achieve savings through start-up and shutdown management, compressor regulation, and peak load management. Wear and tear or defects in mechanical components such as leakage also play an important role in compressed air consumption. Using intelligent sensors and suitable software, it is possible to detect deviations early and initiate appropriate maintenance or repair works.



FTMg – an all-in-one sensor for energy monitoring and data transparency

As a multifunctional flow sensor for pneumatic applications, the FTMg makes it possible to measure eight parameters, including energy in kWh, in just one device. It reliably detects the flow, pressure and temperature in pneumatic systems and makes additional sensors unnecessary. This saves costs in installation and maintenance and also avoids unnecessary leakage risks.

The FTMg is available in two variants: “Ethernet” and “Industrial”. The Ethernet-based type comes with an integrated web server. For optimum cloud connectivity, the sensor can not only be accessed via the web server but also via MQTT and OPC UA. This allows, for example, the measurement data stored in the ring memory for the most recent seven days to be easily read and visualized. The Industrial version communicates via IO-Link as well as switching and analog outputs.

Using the FTMg, it is therefore possible to display the energy consumption data directly and precisely in kWh on an OLED display, or to save the data and thereby compare the fed-in compressed air without conversion.



From intelligent sensors to integration in your system right through to complete solutions

Intelligent sensors like the FTMg provide the basis for an efficient energy monitoring. To comprehensively minimize downtimes through dynamic leak testing and to optimize maintenance operations, however, appropriate software solutions are also required. Using a clear dashboard showing all sensors and measuring devices, it is possible to continuously monitor all statuses. When an undesirable event occurs, the responsible person receives a message on their end device. Visualizing the data helps with deriving suitable measures for reducing the energy consumption and with certifying that data according to ISO50001. It also allows the energy costs to be calculated at the product level and factored into the manufacturing costs.

The energy monitoring can be performed in a customer-specific system or in the monitoring app that SICK has developed specifically for this purpose. In either case, a reliable data quality as well as a high level of security for the data in cloud solutions are essential. This is guaranteed by suitable software tools combined with gateway solutions that meet the current standards. SICK can therefore offer you a solution that is precisely tailored to your needs and requirements, whether it be sensors, integration into your system or right through to complete systems.

1 Flow sensor for data acquisition including web server

Monitoring of the compressed air according to ISO 50001 using an FTMg flow sensor including a web server for easy diagnostics.

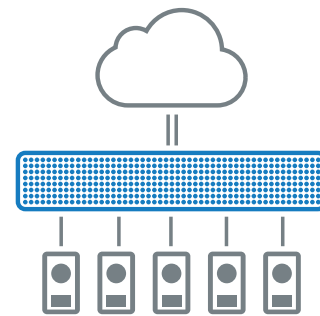
- FTMg flow sensor with integrated local web server
- Optional: further sensors for the pneumatic system
- Ethernet cables
- Commissioning and service



2 Integration of flow sensors into specific systems

Compressed air sensor, software, expert advice and provision of services to integrate these into specific MES/Energy Management Systems via an IIoT gateway or via IO-Link through the PLC.

- FTMg flow sensor with integrated local web server
- Optional: further sensors for the pneumatic system
- Ethernet cables
- Commissioning and service
- IIoT gateway
- Integration service and expert advice



3 Complete solution for flow sensors including dashboard with monitoring app

The solution comprising monitoring app, Smart Service Gateway, and FTMg flow sensor allows you to visualize the compressed air consumption for individual systems right through to entire production halls. Leaks can be identified quickly thanks to statistical comparisons and the visual display of all consumers in the event of a downtime. Automatically generated recommended actions inform the user in a timely manner of limit value violations, e.g., for consumption, temperature, leakage, or service life.

- FTMg flow sensor with integrated local web server
- Optional: further sensors for the pneumatic system
- Ethernet cables
- Commissioning and service
- IIoT gateway
- FTMg monitoring app

