



Level



Pressure



Flow



Temperature



Liquid Analysis



Registration



Systems Components



Services



Solutions

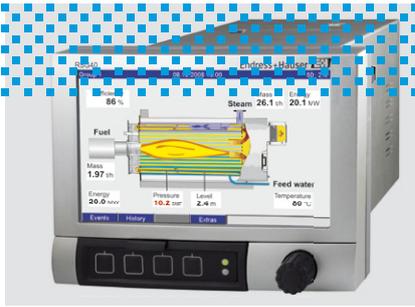
Memograph M

Application package for energy, water and steam

Monitor energy supply efficiently



Onsite operation possible with jog/shuttle dial or USB keyboard



Device available as panel-mounted unit, in a desktop housing or field housing



Complete solution for energy monitoring of steam boilers, for example

Energy is becoming increasingly important and increasingly expensive. Emission trading is already a common feature of our everyday life. A lot of data has to be documented for this purpose. Similarly, more and more importance is also being attached to saving energy. Energy quantities have to be recorded to make energy saving possible.

Problem / task

Water and steam are the energy sources most commonly used in industrial applications.

The energy content of these energy sources is to be measured accurately using the measured variables flow, pressure and temperature.

In addition, the data must be saved, and daily, monthly and annual consumption rates documented for invoicing purposes. Precise documentation that includes all error messages is an important factor here. In addition, plant efficiency must also be monitored and improved.

Both heating and cooling processes are to be recorded.

Solution

The solution comprises the “Energy, water/steam” application package, which is used to record, calculate and log thermal energy. The Memograph M links measuring signals from flowmeters to those of pressure and temperature sensors.

Using a number of international standards, the Memograph M is able to calculate important variables.

Depending on the application, the system can simultaneously perform between 5 calculations (each taking 3 measured variables into account) and 8 calculations (each taking 2 measured variables into account). In addition, it is also possible to mathematically link the calculated and recorded values and offset them against one another.

Customer benefits

With the energy software, it is possible to combine heat counter and steam computer functions with data recording and a bright, clear color display, and deploy this as a complete solution package for energy monitoring, for example in steam boilers.

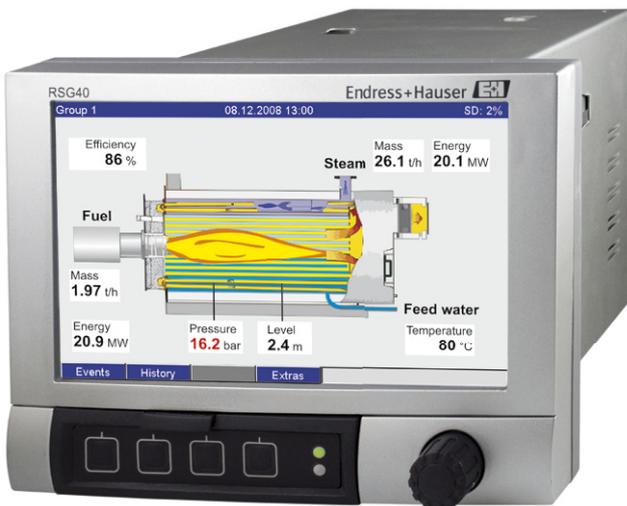
The Memograph M energy package provides users with the possibility of calculating the mass flow and energy flow in water and steam applications on the basis of the following input variables:

- Flow
- Pressure
- Temperature (or temperature differential)

The data can be forwarded to a higher-level energy recording system via the OPC server. Furthermore, energy calculations are also possible using glycol-based refrigerant media.

By balancing the results against one another or by linking the results to other input variables (e.g. gas flow, electrical energy), users can perform overall balances, calculate efficiency levels etc.

The internationally recognized IAPWS-IF 97 standard is used to calculate the thermodynamic state variables of water and steam.



Advantages at a glance:

- Recording, calculating and logging thermal energy with just one device
- Onsite calculation and visualization of important values
- Data forwarding via OPC servers
- Long-term archive of consumption values

Additional documentation:

Technical Information for Memograph M, RSG40: TI133R09
Operating Instructions for Memograph M, RSG40 Energy: BA266R09
Product Overview of Recording Technology: FA014R09

Additional information:

www.products.endress.com/rsg40

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