



Production and Accumulator Optimization

Reduce the energy costs and CO₂ emission with 5-10%

Savings and other benefits

Reduction in CO ₂ emission	5-10%
Reduction in fuel cost	5-10%

Powered by TERMIS Operation

The module uses the TERMIS model. This ensures:

Correct calculation of **time delays** in the network

Correct calculation of **heat accumulation**, ensuring correct optimization, for example in the morning

Correct calculation of **heat loss**

Easy, quick and **affordable start-up**

The automatic Production and Accumulator Optimization module from 7-Technologies minimizes the operational cost of the district heating network. The best possible production scenario is chosen to ensure minimum production cost.

The Production and Accumulation Optimization module encompasses the heat volume supplied to the consumers in the network while also using the flexibility and dynamics provided by the accumulator tank.

It also provides for the accumulated heat loss and energy consumption in the network, the hydraulic constraints as defined in TERMIS Operation and the forecasted load as a result of predicted outdoor temperature and wind speed conditions.

Operational Cost Savings

The Production and Accumulator Optimization reduces your energy costs with approximately 5-10% depending on the flexibility and variation in fuels. This will not only improve your economy, but also reduce the CO₂ emission.

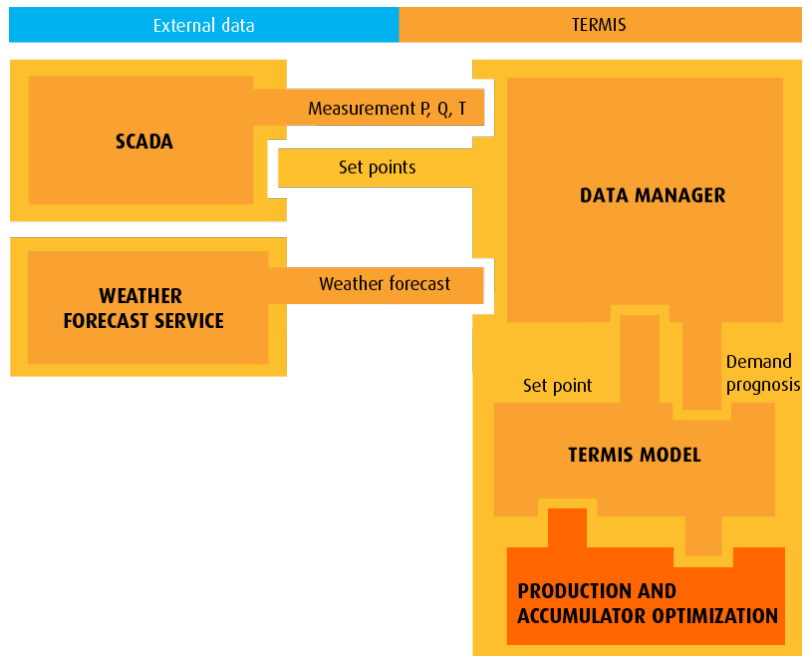
The use of the Production and Accumulator Optimization will see fewer boiler start-ups. As a result of this the maintenance will be reduced leading to an extension of the life span of these units.

The system can be embedded in your SCADA system and be provided by your usual supplier. This allows for an uninterrupted supplier support and you can work with the supplier you usually do business with.

The module requires limited or no intervention. The module is in operation around the clock. Save money all the time – every single day of the year.

SOLUTION BRIEF

Overview



TERMIS Real-Time

Your existing TERMIS model can be utilized directly. If you are using an alternative modeling tool, this model can be directly and easily transformed into TERMIS. Implementation of the Accumulator Optimization module requires no knowledge about the operation of TERMIS.

The TERMIS Operation Real-Time functionality can be used to display full and dynamic results for temperature, pressure and flow. This will provide you not only with the perfect overview but also with a lot of information about the operation of your network.

Send calculated data into the SCADA system. This will provide a better overview and possibly postpone or eliminate the need for adding new and costly measurement points.

Worldwide TERMIS Operation is today the most widely used simulation tool for district energy networks.

Production and Accumulator Optimization

The Production and Accumulator Optimization module uses SCADA data from the district heating network, creating the best possible basis for the optimization.

The module allows for common operational changes and adjustments such as valves being opened or closed, consumers with varying consumption, and variation in load during weekends and holidays.

Unusual operational interruptions, such as boilers being out of operation, will also be included in the calculation to provide the best status possible for the operation at all time.

TERMIS Production and Accumulator Optimization continuously performs a load prediction for example based on a weather forecast downloaded via the Internet.

Based on the input stated in the preceding and knowledge of the network capacity, defined constraints, etc., the Production and Accumulator Optimization module provides the Operator with a schedule for the operation of the plants. Based on a production cycle of 24 hours, the schedule defines which plants to be used and which boilers. The outcome of such a schedule is a reduction of the production cost and an operation scenario for the accumulator tank.

Production Scheduler is required in case of two or more plants.