Regelation   Energie- & battery management
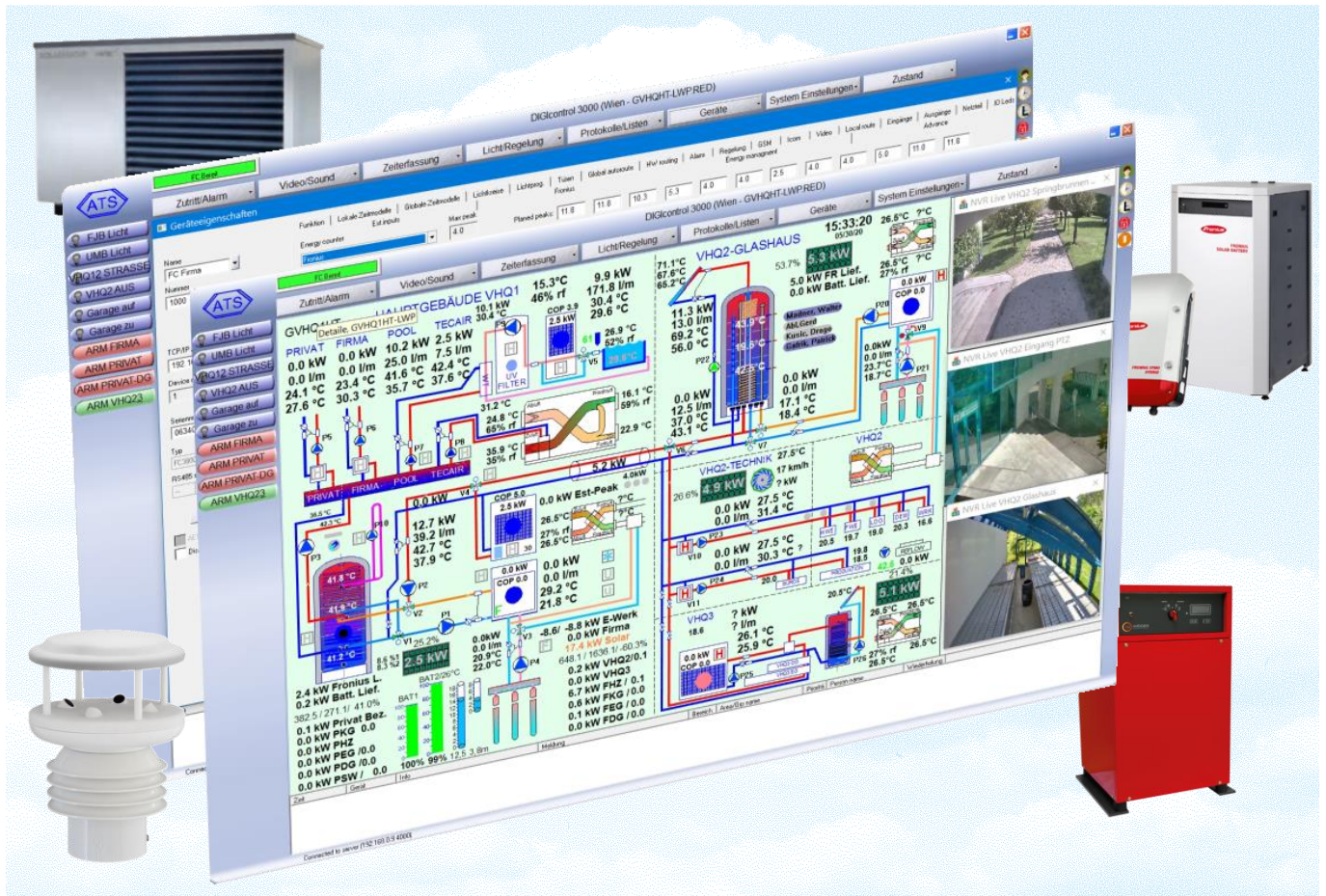

DIGIcontrol-3000EM

- Self-learning energy management system
- Battery management to reduce power peeks
- Maximizing self-consumption of electric energy
- Optimization of Fronius hybrid Systems and heat pumps
- Recording and controlling of energy flows
- Dynamic adaptation to weather and user behaviour
- Inclusion of weather forecast to optimise energy stockpiling
- Optimization of the use of different heat sources
- Dynamic use of excess energy and heat storage
- Continuous visualization of energy savings to previous periods
- Long-time data storage for continuous „deep learning"
- ISO50000 compliant protocols & data preparation

DIGIcontrol-EM   Energie- & battery management

The DIGIcontrol-EM energy management system uses self-learning algorithms for optimal control, which guarantee constant improvement of energy use and dynamic adaptation to changes in use. Even in well-optimized systems, 15-30% energy savings can be achieved with increased user comfort.

Base is a comprehensive monitoring system for recording all electrical and thermal energy flows, room temperatures and their visualization.

The system independently learns all the relevant key figures from the collected data, such as energy requirements in different weather conditions, the influence of solar radiation and time delays in heating and cooling requirements due to the building mass.

An essential part of the system is the optimal use of PV and battery storage systems. Battery systems for improving the use of self-generated electricity will currently only pay for themselves in about 20 years. This value can be reduced to 15 years through the combined use of the battery storage system to reduce the peak current load. If the system is also used as an emergency power supply, an amortization period of 10 years can be achieved.

Thanks to its predictive algorithms, the DIGIcontrol-3000EM system is able to make optimal use of multiple PV systems / battery storage systems and heat pumps. Different heat pumps (air / brine) are used depending on requirements and weather so that an optimal cop-value is achieved in each case.

Selected energy consumers are switched on and off using the inertia behaviour in order to limit the external energy requirement to a minimum.

The basis for the EM system is a DIGIcontrol-FC3xxx building controller with its measuring and control elements connected via bus cables.

There are over 30 different sensor interfaces available for all measurement and control tasks. A graphic Windows application enables long-term storage, visualization and graphic evaluation of all processes.

The self-learning algorithms run independently in the controller. Once installed you can leave the system to its own and it will optimize and learn and learn ...
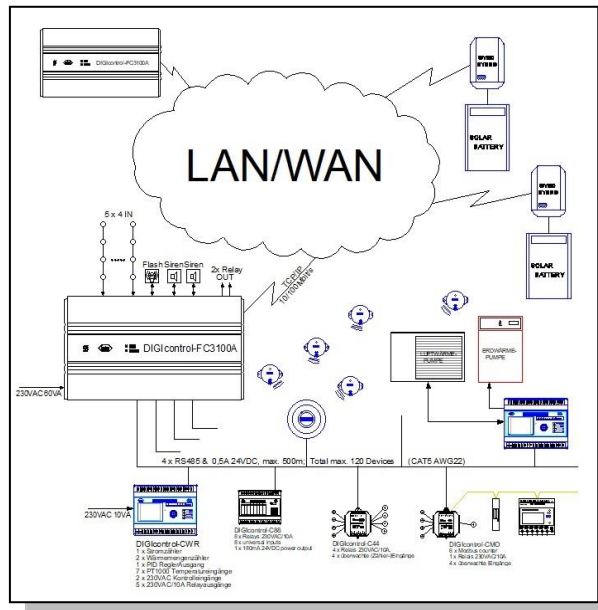
Technical Data:

Software & firmware extension for all DIGIcontrol-FC3xxx systems with current firmware. Direct support of Fronius hybrid PV & battery storage systems via Modbus TCP / IP.
Acquisition of all electrical and thermal energy flows via ATS-IBB interface modules. Support of "multi" floor controller installations.
ISO50000 compliant records of all energy flows and temperatures and comparison with the previous year's data.
Dynamic visualization of the comparison with the previous year's periods for real-time success control of the energy savings.
Peak current management with priority-controlled disconnection and connection of selected consumers.
Weighted inclusion of 24h weather forecasts for optimal energy storage. Long-term data storage for learning behaviour, documentation and graphic evaluations.

Acquisition modules:

DIGIcontrol-C44A
I/O modules with four relay outputs and four monitored inputs with pulse counting function for electricity and water meters.

DIGIcontrol-C8D
Universal I /O module with 8 relay outputs and 8 universal inputs for counters, PT1000 temperature sensors, 1-10V or 0-20mA

DIGIcontrol-CWR
1x current & 2x heat meter and flow temperature controller; Valve control

DIGIcontrol-BLS
BLE to ATS-IBB / S gateway for communication with up to 30 BLE battery sensor modules.

AIpoint-BTH
BLE battery sensor module for recording temperature & humidity in configurable intervals with a battery life time of more than 3 years. Range to the gateway up to 30m.

DIGIcontrol-WS11
Weather station for temperature, humidity, air pressure, amount of rain, wind speed and brightness.

Austrian Technical Systems