

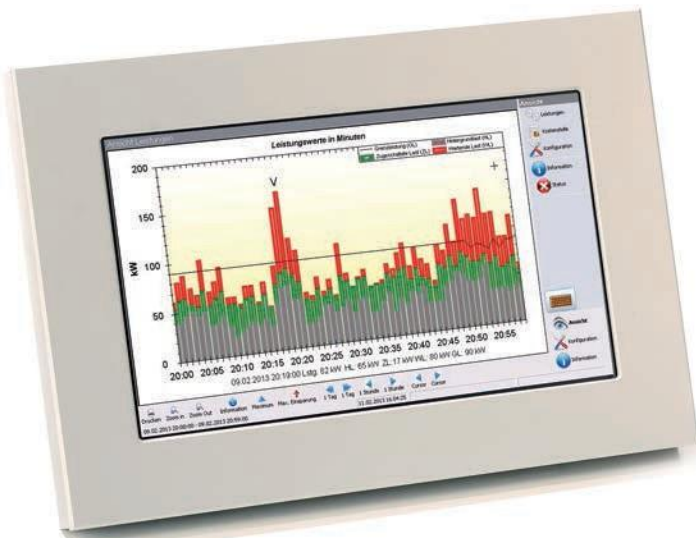
# SICOTRONIC®

Reduce  
your peak load by  
30 to 50 %  
with our state-of-the-art  
technology

# ZE5000

The intelligent energy management system with process control technology function for kitchens, hotels, hospitals...

For devices with interface according **DIN 18875**



- ▶ Reduction of the peak load by 30 to 50 %
- ▶ completely new high-performance software
- ▶ simple operation
- ▶ performance monitoring per day, per month and per year
- ▶ Empirical data through over 35 years of specialist know-how
- ▶ Award-winning by the VdF-planning group, innovative induction optimization

## SICOTRONIC® ZE5000 Intelligent and innovative energy management system

### Central unit SICOTRONIC 5000

The electronic control system consists in a central unit with touch screen and up to 70 input and output modules (EAM) with application-specific functions, which can also be distributed decentrally. All EAMs are suitable for LON-FTT10 and are supplied with data and voltage via the BUS. All modules can be installed simply and at very low cost by means of a top hat rail mounting. Central unit 5000 for the menu-driven visualisation and control of the energy management functions.

### Module Options

- ▶ Module EAM-N for two electrothermic circuits
- ▶ Module REL-N for two general electric circuits
- ▶ Module EAM-T4 for measuring the temperature via sensors
- ▶ Module EAM-TAB32 for the display of the status of the appliances by LEDs on operations manager tableaux.
- ▶ Module GW-ASL for limit value switching and output of alarm, fault notification and general notification ventilation.
- ▶ Module LSM-6 for the demand-based control of the ventilation, 6 outputs
- ▶ Active power transducer MU400LON for the signed measurement of the power (kW), the consumption (kWh) and the phase currents (I1, I2, I3 in A) via current transformers

### Thermic Load

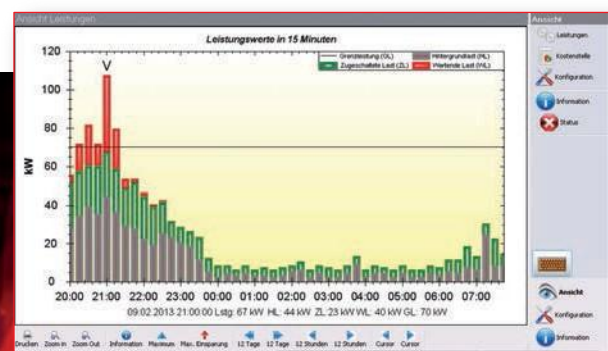
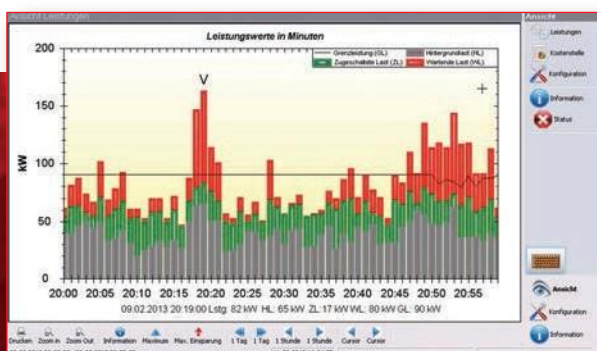
Just like any cook would do, the **SICOTRONIC** central unit observes the respective thermostat status (and of course the on or off status of the appliance switch) of appliances in use and counts the seconds of individually and effectively elapsed operation. Warming up phase, continuous cooking phase, thermostat status on and off load are clearly recognised and analysed. To avoid any disruption of the production on individual appliances, the off-periods are computer-controlled and automatically reduced to a minimum, based on load ratio, appliance type, current use and production phase and thermostat status.

### Ventilation Systems

To reduce the energy consumption of ventilation systems and larger extractor hoods, the conventional manual control can be replaced by an intelligent, automatic control. The ventilation system is controlled based on the switch-on notification of the appliances. The allocation is programmed on the ZE5000 and the output is controlled via the LSM-6 modules.

### Temperature Monitoring

Freezer rooms that are larger than 10 m<sup>3</sup> must be monitored and measured and recorded at 15-minute intervals. This temperature monitoring of freezer and cold-storage rooms is recommended in canteen kitchens for the food hygiene monitoring in accordance with HACCP or EN ISO 9000. **SICOTRONIC** offers a two-wire BUS module for the analogue measuring of the temperature. 4 sensors Pt100 can be connected with a 4-conductor connection. All cold-store and freezer rooms can so be checked locally – an individually adjustable temperature limit monitors the correct cold-store room temperature and initiates an alarm



notification by email in case the actual value exceeds or falls below the pre-set limit. Temperature curves of up to a year ago can be accessed on the graphics display of the central unit at the push of a key, displayed and selected historically.

### Kitchen Manager Tableaus

Without having to lay an entire system of notification or signalling cables from the appliance to the local display unit or the potentially free extra appliance contacts, efficient kitchen manager tableaus can be connected to the central unit 5000 through nothing more than a two-wire cable. The kitchen manager tableau signals the on or off status of all electro-thermic appliances - the chef can therefore always keep an eye on which appliances are currently in use or if an appliance may have accidentally remained switched on when it is time to go home. **SICOTRONIC** provides a tableau-decoder circuit board that can be integrated into any kitchen manager tableau and that decodes the BUS data (on and off status) and transforms them into LED signals. An individual anodized tableau with black outline print is supplied ready-made on request for surface or in-wall mounting. Two separate LEDs signal an imminent alarm or fault notification.

Alternatively, an electronic option of the tableau is available. Via the remote maintenance software S5-Remote the floor plan of any kitchen can be imported by picture file on the PC screen. Freely placeable indicator fields show the status of every kitchen appliance colour-coded in the picture.

### SO-Quantity Signal Measurement and Tariff Module

By means of the LON network technology numerous consumptions, even non-electrical ones, can be registered, remote-read and visualised. To this effect, **SICOTRONIC** supplies the module EAM-IMP, which operates and scans the widely used and standardised SO-interfaces.

### ZE5000 Premium

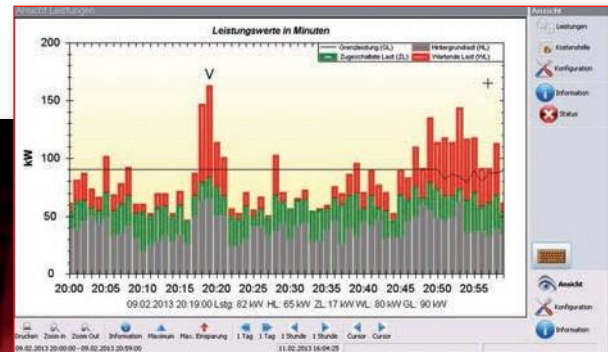
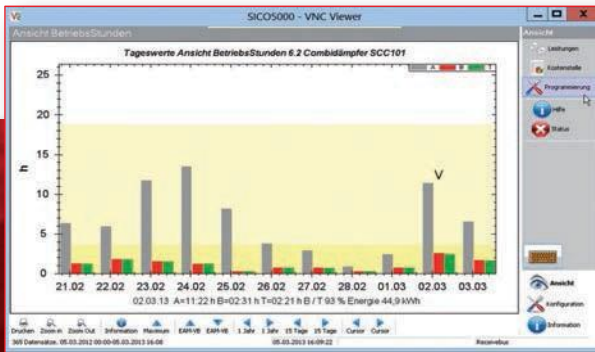
The latest development has the ability to optimize up to 5 different energy areas like kitchen 1, kitchen 2, laundry, bakery and spa with one single central unit. Each area can be optimized on a different limit.

### LON Meter

The LON meter measures the respective phase currents at a three-phase infeed and uses this to calculate the total performance. In addition to the effective power, the phase currents can of course be transferred as well. The ingenious trick: the LON meter has a contact to the HT/NT switch. Therefore, the engineer does not need any further cables or arteries to the central unit.

A further application: e.g. with two or more infeeds that need supervising and with a distance between measuring points of ca. 50 to 100 m, a conventional measurement of the summation current is not possible as the current transformers would distort the measuring result through the cable power loss. With the LON network technology with intelligent meters by **SICOTRONIC** local sub-distribution measuring points are set up. The digital measuring value transmission and totalling is then done over the LON network. This means that a complex installation of summation current transformers becomes unnecessary. Up to 5 measurements are totalled in the ZE5000 which optimises the system.





## The ideal saving concept can only be felt in the energy bill – nowhere else!

For 35 years, **SICOTRONIC** has been developing and selling systems for the optimising of energy procurement for buildings for which the electricity price is billed according to a special contract which consists in a kilowatt-hour rate and a demand rate or for those buildings which have to be limited to a minimum due to the infeed!

### The Efficient Way of Lowering Energy Cost

All electro-thermic appliances in canteen kitchens, bakeries, ventilation and cooling systems, laundries or galvanic companies have an energy storage capacity with a considerable savings potential: depending on the use and application the power peaks for electricity can be reduced by 20 to 40 %, which reduces the total energy bill by 5 to 25 %! The collection and regulation strategy according to the European patent no 0053383 owned by **SICOTRONIC** secures drastic savings in the

demand rate, guaranteed without affecting the production negatively.

### We cut your power peaks and reduce your energy bill without affecting the production negatively

An example: In a canteen kitchen with 12 medium-sized, electro-thermic appliances and 3 continuous current users, the average yearly energy consumption is 225 000 kWh and the average power peak is ca. 150 kW. By installing the **SICOTRONIC** energy management system, the power peak is reduced by ca. 35 % to less than 100 kW and the annual consumption is reduced by ca. 5 %. In total, the energy cost is lowered by ca. 8 500 EUR or by ca. 20 %. The investment, including the cost of the installation, is therefore paid off within less than 2 years – after that you will save the above amount every year!

**SICOTRONIC®**

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