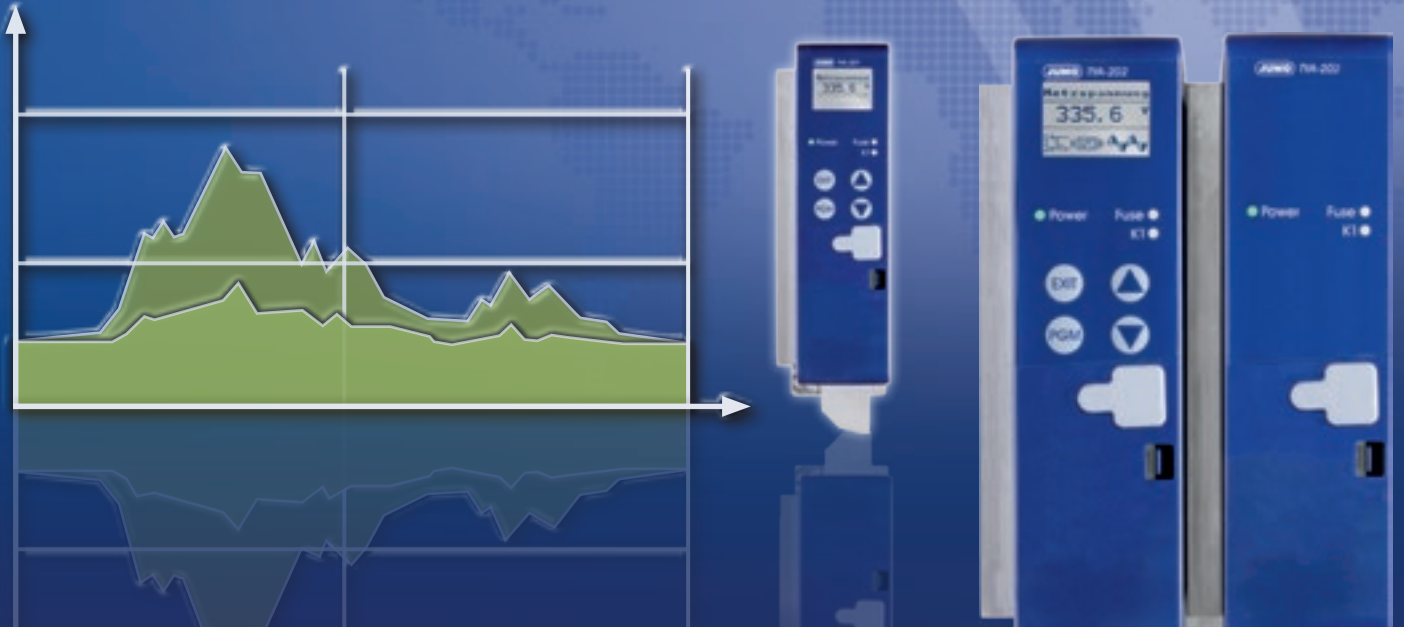




More than **sensors + automation**



Application

# Dual Energy Management with SCR Power Controllers



# Dual energy management with JUMO – the efficient way to reduce costs

Energy management refers to the systematic approach to a sustainable and efficient use of energy with the aim of continuously improving processes and lowering the associated overall operating costs. JUMO supports energy management with its SCR power controllers.

The dual energy management of the SCR power controller series TYA 201/202 coordinates the power output of several controllers, thereby reducing the peak current load.

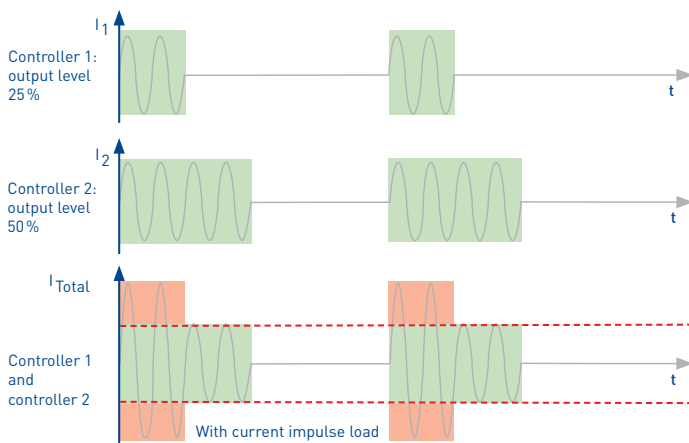
For example, if several zones in a furnace or even several plants are kept at a certain temperature, then generally, the best course of action is to compensate with a low output level at approximately 50%. The heating elements are controlled by burst firing operation, whereby, depending on the output level, complete sinusoids are switched on or off in pulse groups. With dual energy management, the pulse gaps that arise are detected and filled in so that a continuous load exists in the mains voltage. This means that in addition to the energy costs, the connected load and peak current load can be substantially lowered.

Setpoint values up to 50% can be specified in each case without peak loads occurring in the mains voltage as a result of simultaneous activation. Even if the distribution of setpoint values is asymmetric (e.g. 30% and 70%) peak loads and interference will not occur in the mains voltage.

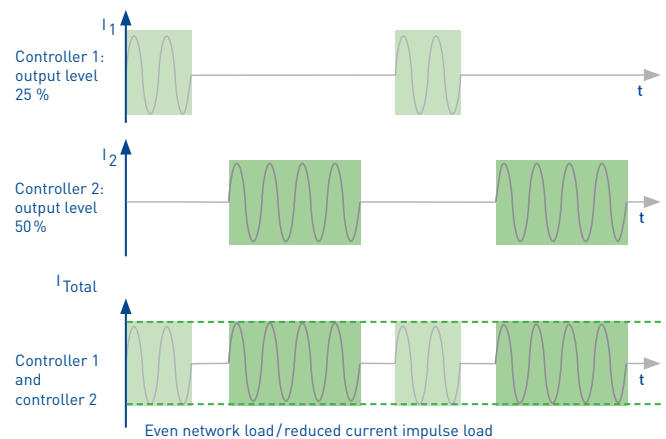
If several plants are controlled by different setpoint values, even better distribution takes place in the mains voltage. The individual power controllers are synchronized by the mains voltage – a process that does not require any additional wiring.

The devices simply need to be switched on at the same time. This can be done without any difficulty in a plant with several zones.

## Without dual energy management



## With dual energy management



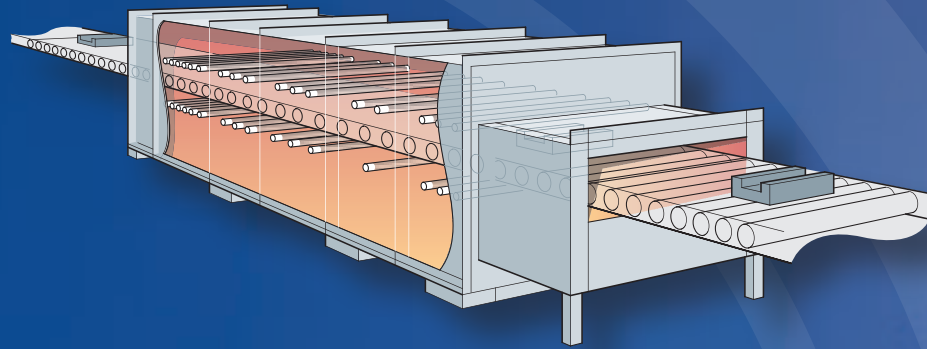
## Your benefits in a nutshell

- Deliberately lower the peak current load with dual energy management
- Up to 50% reduction in energy costs for your processes
- Reduction in plant costs and operating costs
- Low connected loads
- Improved transparency
- More efficient processes
- Reduction in environmental impact

## Your contact person

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Continuous furnace with several zones and controlled by several SCR power controllers



In thermal treatment plants, such as a continuous furnace, a huge range of demands are placed on the process. The specific demands depend on the material that is being treated. Manufacturers of such complex plants face enormous challenges.

When heating up work pieces, such as a steel rod, the user must make sure that they are evenly heated. The temperature must be kept within a certain temperature range for a specific period of time with extremely narrow tolerances. This is the only way to ensure that a higher mechanical resistance/a higher material strength and improved material quality is achieved. The used heating systems must fulfill the highest requirements with regard to limiting emissions, energy efficiency, a high level of production quality, increased output, and reduced maintenance requirements.

By using the **TYA-200 series** from **JUMO** and dual energy management you will be ideally equipped for upcoming tasks and requirements. You can rely on the innovative, efficient technology for thermal treatment.

**JUMO TYA 201**  
Single-phase power controller  
Type 709061



**JUMO TYA 202**  
Three-phase power controller  
in three-phase economy circuit  
Type 709062



<b>Load currents</b>	20, 32, 50, 100, 150, 200, 250 A	
<b>Load voltage</b>	24, 42, 115, 230, 400, 460, 500 V	
<b>Operating modes</b>	Phase angle, burst firing mode, half-wave control, SSR logical operation, fast logical operation, alpha start, soft start	Burst firing mode, SSR logical operation, fast logical operation, alpha start, soft start
<b>Load types</b>	Resistive load, resistive inductive load, cold-warm ratio 1 : 16, transformer load, infrared emitter (short, medium, and long-wave)	Resistive load, resistive inductive load, transformer load, infrared emitter (short, medium, and long-wave)
<b>Subordinate control loop</b>	U-, U <sup>2</sup> -control loop (standard), I-, I <sup>2</sup> , P-control loop (optional)	U-, U <sup>2</sup> -control loop (standard), I-, I <sup>2</sup> , P-control loop (optional)
<b>Special features</b>	Current limiting, mains load optimization, dual energy management, "teach-in" function (partial load failure detection), "R control" (resistance limitation), intelligent diagnosis system, rotation detection, vibrant display, "True RMS" (Root Mean Square)	Economy circuit, mains load optimization, dual energy management, "teach-in" function (partial load failure detection), "R control" (resistance limitation), intelligent diagnosis system, rotation detection, vibrant display, "True RMS" (Root Mean Square)
<b>Applications</b>	Infrared drying, float glass plants, extruders, tempering plants, continuous furnaces, industrial furnace construction, glass furnaces, heating pipes	



[www.jumo.net](http://www.jumo.net)