# Control system SVconCS

## Designed for efficient and economic production with a high process flexibility

**INTRO**

Modern technologies are based on control systems. The speed of their development constantly increases as seen in various spheres of life – from office computers through telecommunication to robot systems. Control system SVconCS is a set of hardware, software and I/O interfacing. The team of SVCS´s experts developed the second generation of system based on many years of experience with development and manufacturing thermal reactors for semiconductor industry. It's development was supported also by EU fundings and consultated with university and industry experts.

**SYSTEM**

System SVconCS is a modular system which can be configured for both horizontal and vertical thermal reactors, as well as other equipments used in semiconductor industry. The system is ready both for installation in the new SVCS´s diffusion furnaces (SV FUR and SV SOL) and in other manufacturer's refurbished equipment.

**DESCRIPTION**

The SVconCS hardware is a bus-based modular system, with the main powerful CPU as the core, and 10,4" TFT LCD high resolution color touchscreen display as the user interface. Various number of dedicated I/O modules handle all interface signals, analog and digital, input and output, in accordance with the system demands. Each module has it's own independent specialised CPU for signal processing and communication with main CPU. A Linux operating system was selected as a robust and reliable platform for control applications.

Though the system can fully control the equipment with it's own application software, another Windows based software package was developed to provide a powerful tool for operating personnel to perform various tasks. These include process recipe management, system archives storing both equipment variables and events, as well as many different ways to present all collected data.

Communication with the system is based on TCP/IP network, so the users have many possibilities of how to use the program. They can connect to practically any number of systems distributed on the LAN and many different users can gain access to the same system at the same time. Thanks to TCP/IP communication, users are not limited to access the system locally, but can connect from remote sites. One of the top features is its abillity to be seamlessly integrated to various high level manufacturing management systems including communication through SECS protocol.
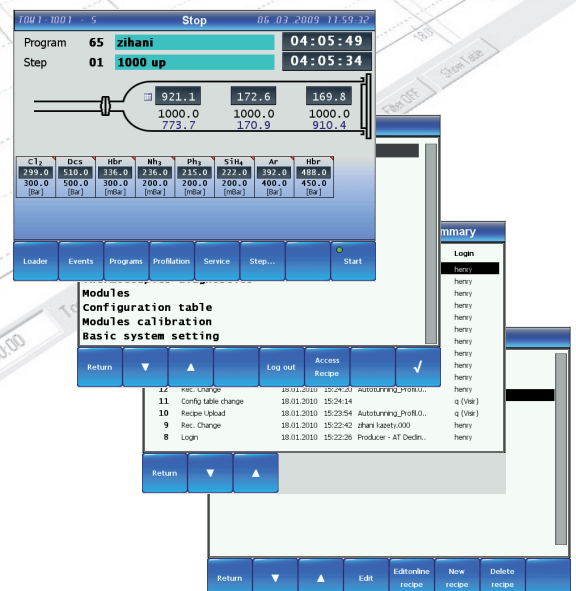
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## SCHEMA
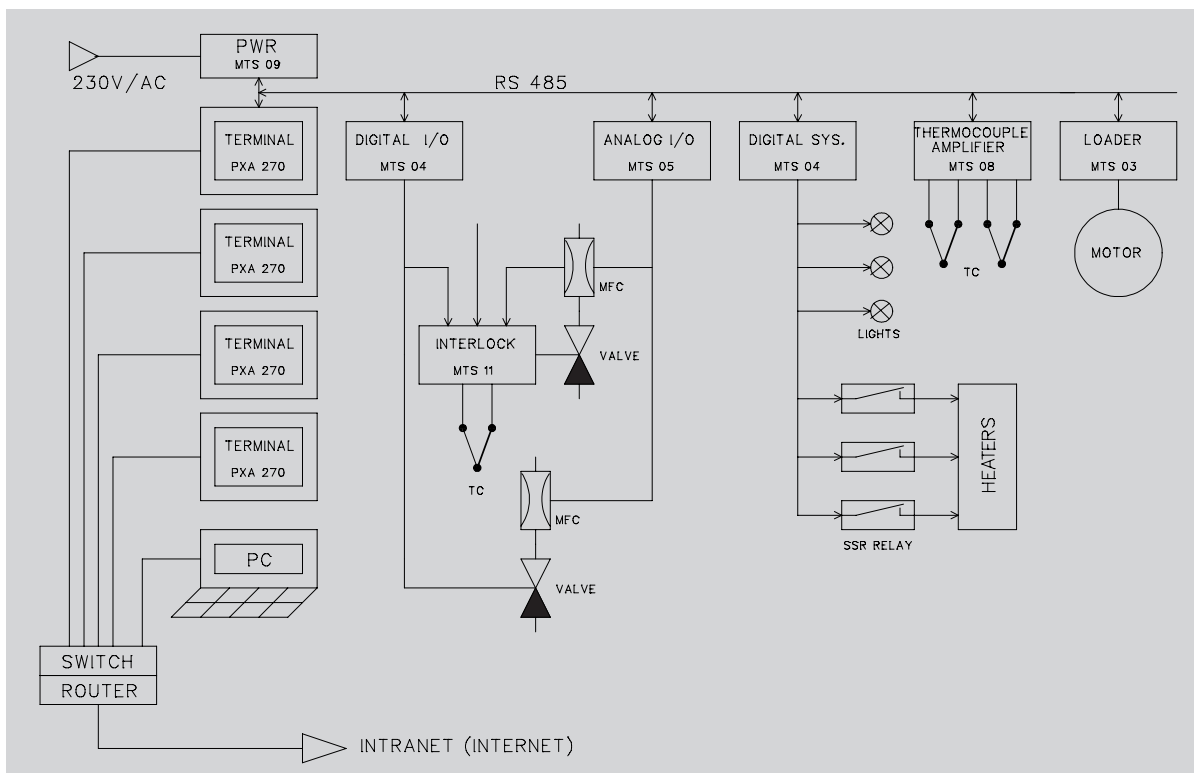


## MODULES

Available Interface Modules:

### MTS04 - Digital – 6xIn / 8xOut

Output levels 0/24 V, Iout(max) = 100 mA. Input trigger level 12 V. This unit can be configured for PWM signals output used for the furnace heating control.

### MTS12 - Digital Pwr – 4xOut

A power source unit providing additional power for digital module.
Output levels 0/24 V, $I_{out(max)}$ = 500 mA.

### MTS05 - Analog Voltage – 8xIn / 8xOut

Input and output levels 0...10 V, $I_{out(max)}$ = 20 mA.

### MTS13 - Analog Current – 8xIn / 8xOut

Input and output levels 4...20 mA.

### MTS11 – Security interlock

Control system independent, only hardware driven and configured system for prevention of dangerous situations. Interlock system monitors certain signals and in case of either control system failure or recipe inconsistency, overrides control system commands.

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