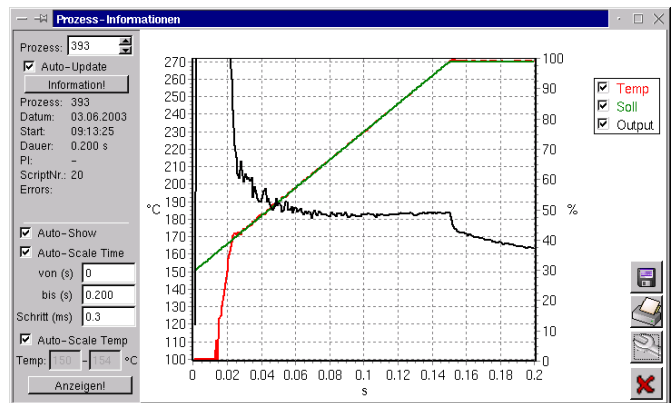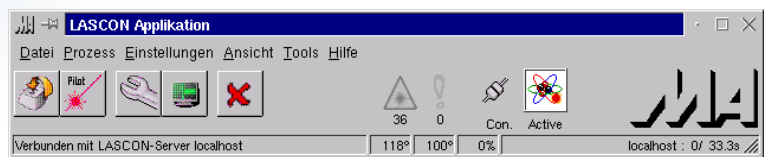# LASCON®

LASCON® is a **La**ser **Con**troller Software for temperature controlled laser processing. The main applications are laser soldering, laser hardening, micro hardening and laser welding (especially laser welding of polymers) as well as any process, which causes a temperature increase on the work piece, like induction heating. LASCON® controls, optimises and supervises the laser process. Using a simple laser process script programming language, LASCON® is able to decide betwen good and poor laser processes and makes it easy to sort out bad parts in laser supported production.

Special developed hardware components as controllers, PCI cards, infrared pyrometers, laser heads, calibration units and adapters are supported by the software and make integration into machines and factory equipment easy. The whole software package is separated into different units, which communicate via TCP/IP protocol .

LASCON® Control Kernel:

The LASCON® control kernel takes the digital data 10.000 times per second from the infrared pyrometer, calculates the temperature and the control signal for the laser, stores the data to the hard disc and supervises the laser process by the parameters, which have been set with the process script language. With the process script programming language, the user is able to define very complex laser processes easily. Also external devices as sensors, machines and others can be controlled during the laser process by the LASCON® hardware via process script language. It is also possible to define the parameters for supervising the laser process and the process good/poor quality decision.

LASCON® LPM software windows

LASCON® Server:

The LASCON® server is the interface between the user front end and the controller software and the LASCON® kernel. The commands to the server are based on the TCP/IP protocol. The commands are used to set the parameters in the LASCON® kernel controller software and to get the data out of the kernel.

This commands are open to the user so that he is able to write his own application software.

Laser Process Manager (LPM):

The Laser Process Manager Software is Windows like and offers in comfortable menues a setting of the parameters, visualisation of the laser process, control of the pyrometers and recalibration as well as writing a process script (optional) in a process script editor. The Laser Process Manager Software can be installed on the controller PC itsself (host) and/or on other pc`s, which run under LINUX or WINDOWS. In case of installation on an external pc, an ethernet connection between client and server must be installed. An additional utility program on the controller pc supervises the hard discs and starts to delete process data if the hard disc gets overloaded by the stored laser process data.

» **laser technology**
Dr. Mergenthaler GmbH & Co. KG

The Benefits Of LASCON® At A Glance:

- Temperature measurement rate and control rate is 0.1ms provided by a realtime operating system.
- Online grafics for temperature and laser control voltage for long lasting processes (from a few seconds to a few hours)
- Process data can be stored up to 10.000 data per second to hard disc during laser process.
- Complete visualisation of process data after the laser process.
- Digital temperature display.
- Pyrocal software for recalibration of the pyrometers, if pyrometers are integrated in laser heads or custom specific setups.
- Comfortable script editor to define laser processes with the laser process script language. A script compiler is included to control before sending to the kernel. Efficient process language to define and supervise laser processes.
- 100% control of all laser processes with custom defined parameters. In case of an imperfect laser process, LASCON creates an error signal to the plc
- Storage of up to 500.000 laser processes on internal flash disk
- Integation into computer networks via ethernet and TCP/IP protocol.
- The LPM software can be installed on the controller and/or on pc`s, which are connected by ethernet with the controller.
- Low network traffic by efficient and comfortable commands.
- Open TCP/IP interface to the control kernel via the server software.
- Software in german and englisch language.
- Connection to automation controls via digital 24 V ports or digital logic ports (5V) or RS232
- The software is completly password protected.

LASCON® - Controller

As hardware plattform for the LASCON® software package we offer the controller LPC03 with flash disk. The fiber coupled two colour pyrometer QP004 and infrared pyrometer EP004 are mounted inside the controllers. The glas fiber cable has to be connected on the backside of the pc to the pyrometer.

We also manufacture custom specific controllers.

LASCON Controller LPC03

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