

LASCON® - Hybrid : Laser and infrared pyrometer for measurement & closed loop control

Laser system with ultra fast, built in infrared pyrometer with 100µs sampling rate

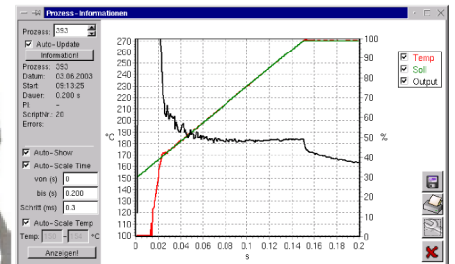
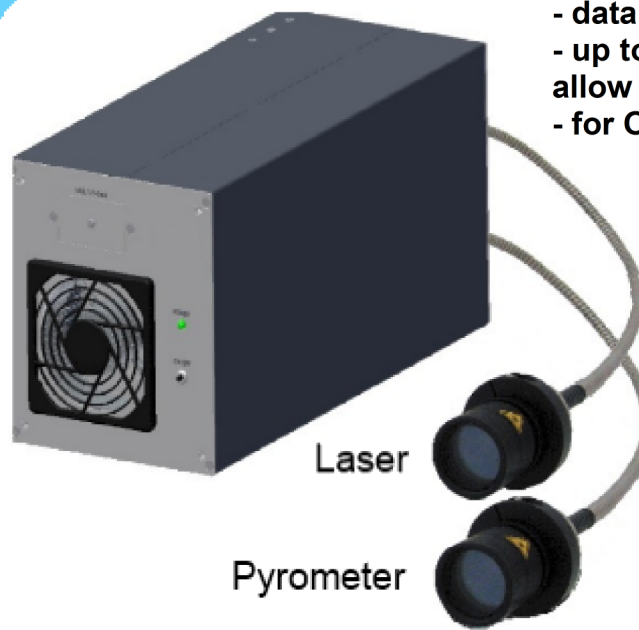
Industrial I/O terminal with digital and analog I/O for connection to plc`s

Powerfull software package for

- temperature measurement
- closed loop control
- data storage and visualization
- up to 255 different process scripts allow handling of complex tasks
- for OS Linux® and Windows®

Ethernet connectivity

Built in power supply 90-260VAC



LASCON® HYBRID

Glas fiber cable with lenght up to 120 ft

Visible pilot laser beams

Integrated diode laser with up to 60W power into 200µm or 100µm fiber

Various optics with spots down to 200µm diameter and temperature ranges from 100°C - 2200°C

LASCON HYBRID is a unique combination of infrared temperature measurement and control system and integrated high power diode laser, which provides powerful possibilities to handle complex tasks in industry and science.

LASCON measurement and control system has been established as a kind of standard in laser industry. Over 800 industrial installations worldwide speak for themselves.

The main field of applications are :

- Compact integration into laser soldering robots for temperature controlled laser soldering. Laser plastic welding. Laser heating

LASCON HYBRID offers a complete solution of :

- Built in, ultrafast, fiber coupled infrared pyrometers with sampling rates down to 100µs – blocked against laser light. Glas fiber coupling for high immunity against electromagnetic interference.
- Visible pilot laser beam for aiming.
- Various laser heads like LH101 (ultra compact) and LH501 (with video camera and pyrometer port) can be directly connected to LASCON HYBRID
- Ultra fast adaptive closed loop temperature control for high speed laser soldering and welding in unmatched quality
- Rugged controller with realtime operating system and 4 GB flash disk to store data with a rate up to 10kHz
- Industrial I/O terminal (analog and digital) for integration into machines and connection to plc. For example digital start/stop/error signals or analog temperature and control out
- The system can monitor and supervise laser processes and can create an error signal, if the laser process does not follow the predefined parameters. This parameters can be defined by a simple programming language in so called „laser scripts“.
- Up to 255 different scripts can be stored on the system and can be activated within milliseconds. In case of laser soldering, thus up to 255 individual laser joints can be processed and supervised.
- The flash disk can store up to 500.000 processes.
- A separate software task checks, whether the flash disk is full, gives a warning and starts deleting of old processes
- All features are supported by our powerfull PROCESS MANAGER SOFTWARE (LPM) . The software can run on the controller itself or can be installed on any Windows® pc, which is connected by ethernet with the controller
- Easy calibration of the pyrometer can be done with the LPM software. This allows, that the pyrometer can always be traced back to NIST standards.
- Rugged diode laser system integrated with lifetime > 20.000h
- Fiber diameter 100µm or 200µm (detachable fiber)
- System builders and integrators can use the proگرامing handbook to developpe and create own software

Infrared pyrometer	
Temperature ranges	from 100 °C to 2200 °C in different ranges, depending on response time and optics
Subrange	Any subrange is selectable by changing parameters with LPM software
Spectral range	1.65 – 2µm
Accuracy (e=1, t90=1s, T=25°C)	Below 1500 °C: 0.3% of measured value in °C or +-2 °C,
Repeatability	0.1% or +-1 °C
Resolution	0.1 °C
Response time (t90)	< 0.2ms
Max. sampling rate	0.1ms (10kHz)
Emissivity	Adjustable from 0.01 to 1 by LPM software
Power supply	Wide range power supply 90-260VAC , 250W
Sighting	Laser targeting light, coaxial with pyrometer
Interfaces and bus control	VGA, keypad, mouse. Ethernet connectivity
IO terminal	6 analog IN, 2 analog OUT (0-10V , 12 Bit) , 16 dig IN, 8 dig OUT (24V) , update rate : 10kHz
Parameters and Software	Powerfull software package for measurement, closed loop control, storage, visualization, calibration curves for different optics selectable, customer can calibrate
Glas fiber lenght	5m, 10m, other lenghts on request
Ambient temperature	For controller max. 40 °C, for optical head 60 °C
Dimensions	Controller 165 x 145 x 340mm

Diode laser	
Power	up to 60W
Wavelength	Typ. 980nm
Rise time	0.1ms
Fiber diameter	Typ. 200 µm (100 µm on request)
Life time	> 20.000h
Cooling	Aircooled by integrated fan

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