



Mergenthaler LBS-Mini  
miniLED direct view display  
rework system

High beam uniformity  
Rectangle spot match miniLED  
Closed-loop temperature control

**MERGENTHALER**  
ultimate laser processing

# Why Mergenthaler miniLED system?

Our laser bonding system offers 3 distinct advantages.

## 1. Temperature control

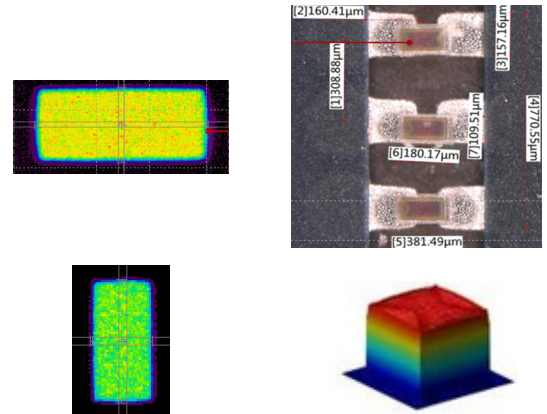
Lascon® controller is connected to the laser. It allows for fast, precise, and accurate material surface temperature control.

The image shows how our laser varies its power output in order to reach its pre-programmed temperature profile. In this case a stable 300 °C during 1.2s.



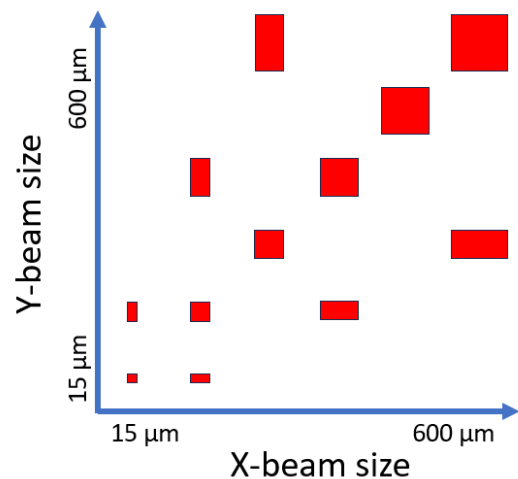
## 2. Uniform and shaped laser spot

Our top hat beam profile has high beam uniformity. Sharp contours prevent damage to surrounding areas.

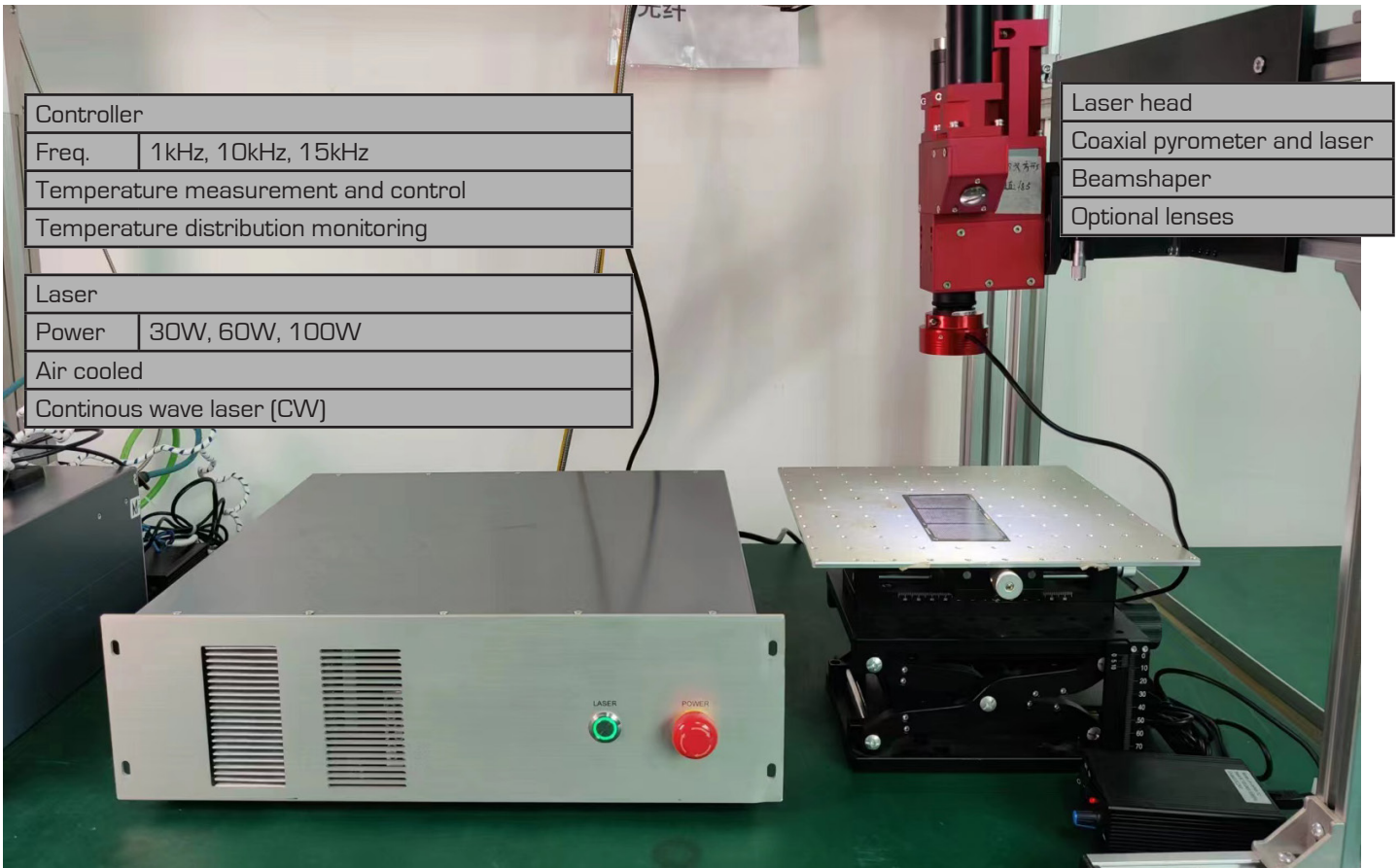


## 3. Adaptive spot

We offer a wide range of profile shapes including squares and rectangles with adjustable spot sizes. Spot sizes can be set to 1:1, 2:1, and 1:2.

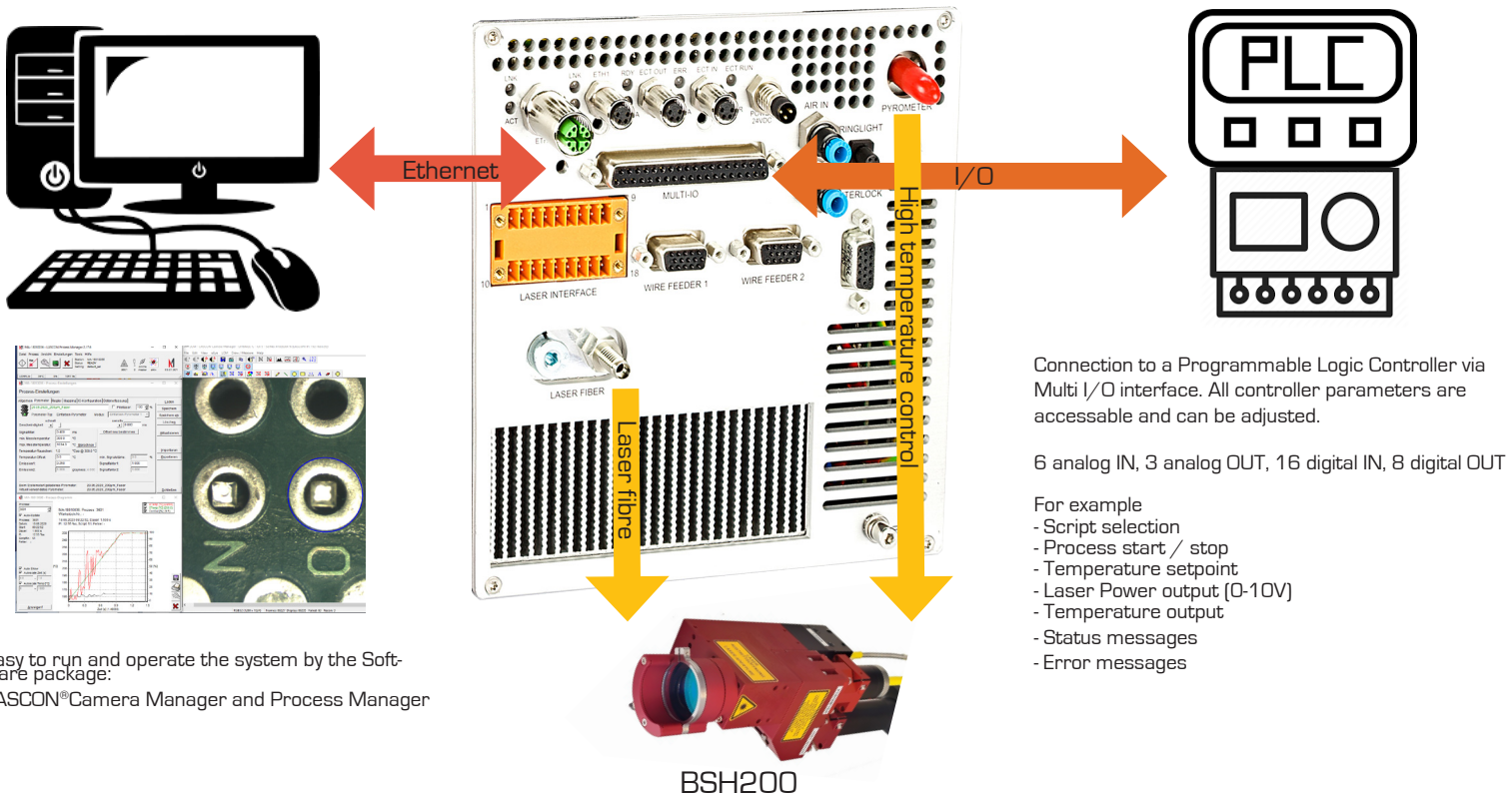


# Setup



# Setup schematic

Connections can be done alternatively or simultaneously



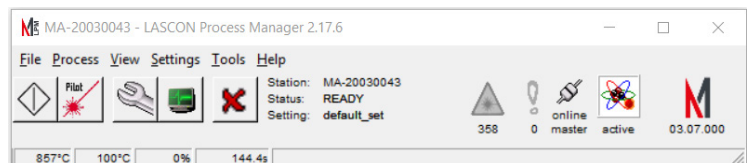
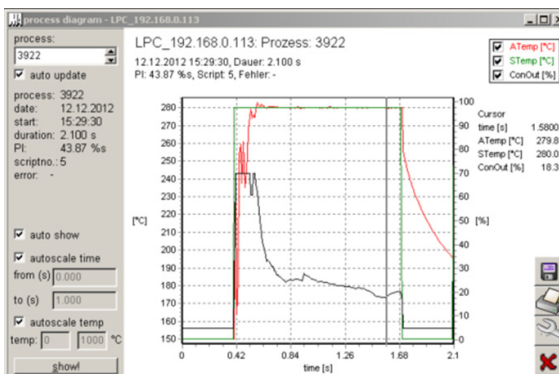
# Laser technical specifications

Laser power	W	30, 60, 100
Wavelength	nm	975
Pilot light		Yes
Numerical aperture		0.22
Fibre length	m	3, or 5 or customized
Connector		SMA905 or D80
Input voltage	V	200 - 240 (50 - 60 Hz)
Operating mode		Continuous wave (CW)
Dimensions (L×W×H)	mm	354 x 133 x 298
Weight	kg	10.5
Cooling method		air cooling
Working temperature	°C	15 - 30
Storage temperature	°C	5 - 50
Cooling requirements		10 cm open space around it
Laser safety class		DIN EN 60825-1, class 4

# Laser head technical specifications

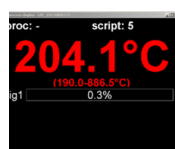
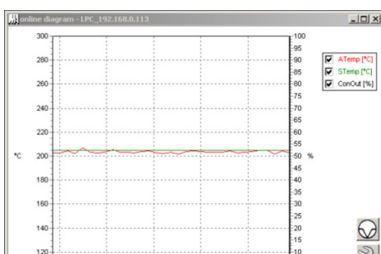
Power limit	W	200
Ambient temperature	°C	5-55 for operation, no condensation
Dimensions	mm	122 x 40 x 220
Weight	kg	1.4 <sup>1</sup>
Protection		IP50
CE Label		According to EU directives for electromagnetic immunity
Conformity		RoHS directive 2011/65/EU of 2011-06-08 with supplement from 2015-03-31 are fulfilled.
Camera		USB2.0 1280x1024, coaxial with pyrometer and laser
<sup>1</sup> 0.8kg without the camera.		
Size and weight may be different for different power ratings and optics.		

# Software



## Process Manger Software (LPM)

- Windows® operating system
- Adjustment of all pyrometer and controller parameters
- Providing variety of control commands and functions for script
- Storage capacity up to 500.000 processes and 255 scripts
- Process visualization, automatical data export in csv format
- Free configuration of Multi I/O interface
- Pyrometer calibration inside the application
- Access rights management with password protection

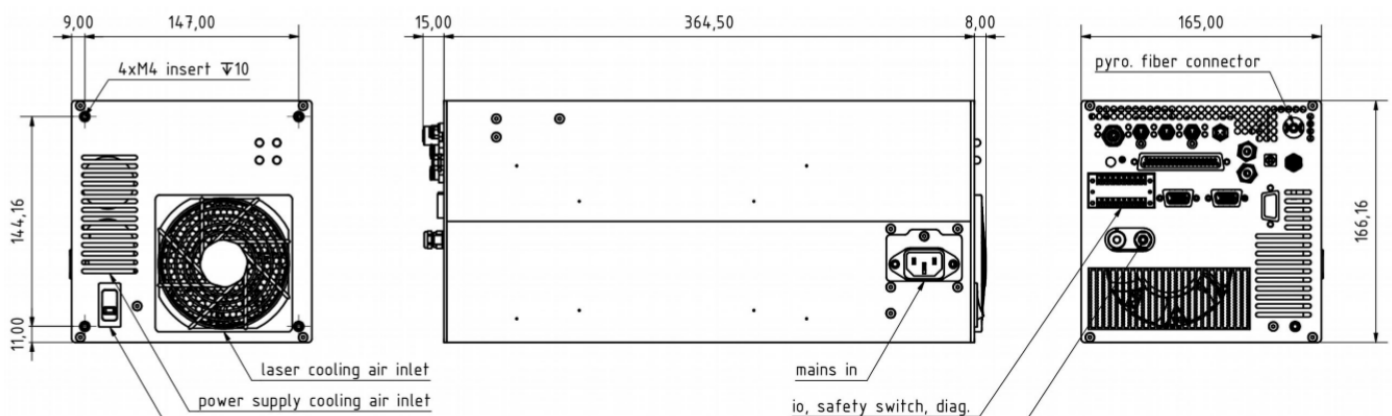


Temperature Bandwidth Control

# Lascon ® controller technical specifications

Temperature range	°C	100 - 2200
Spectral range	µm	1.65 - 2 / 1.65 - 2.5
Accuracy [e = 1, t90 = 1s, T=25 °C]		< 1500°C 0.3% ± 2K
Repeatability		0.1% ± 1K
Resolution	°C	0.1
Response time	ms	1
Emissivity		0.01 - 1
Analog output	V	0 - 10 (16Bit configurable using software)
Power supply		24V DC, max. 2A
Data storage		internal, 500.000 processes, 255 process control scripts
Optical fibre length	m	3, 5, or customized
Ambient temperature	°C	max 40
CE Label		According to EU directives for electromagnetic immunity
Conformity		RoHS Directive 2011/65/EU of 2011-06-08 with supplement from 2015-03-31 are fulfilled
Software		Includes LASCON® software
Position		Coaxial

## Dimensions



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