

## LASCON®

### LPC04 Laser Process Controller 1-Color Pyrometer



**10kHz**

High Speed pyrometer measurement  
and  
Closed Loop temperature control  
for low temperature applications

Low temperature measurement starting @100°C (\*)

### Typical Applications

Laser plastic welding  
Laser soldering  
Laser annealing

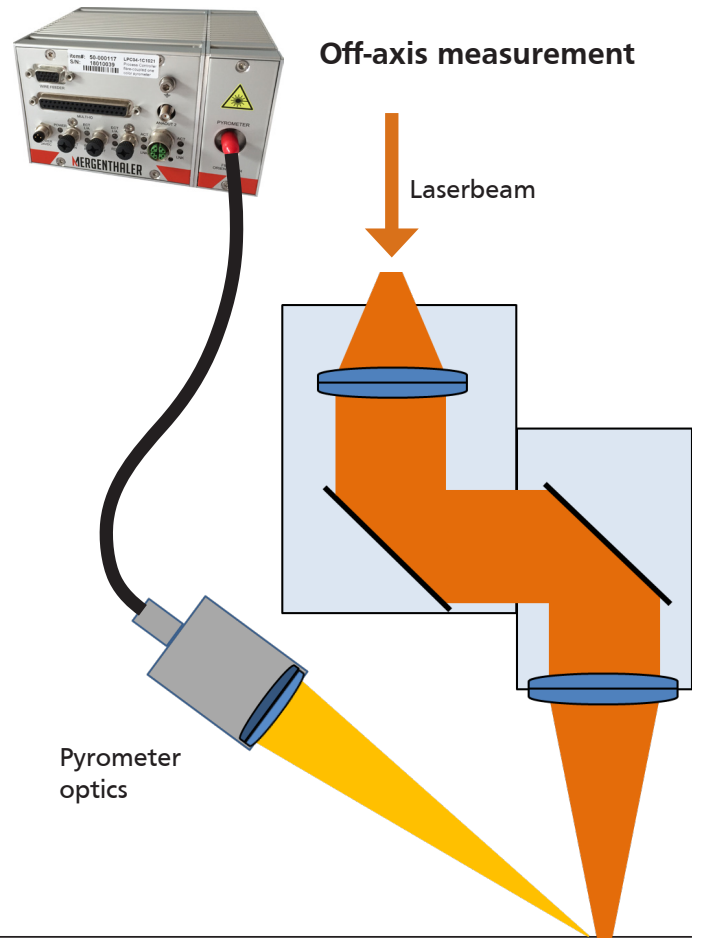
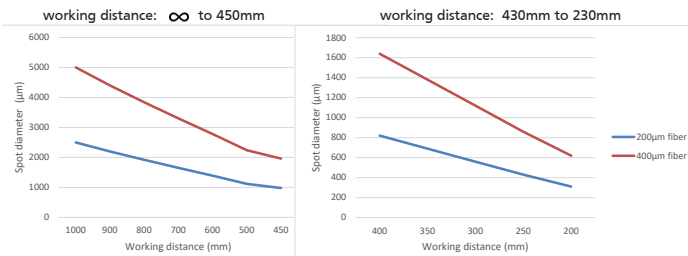
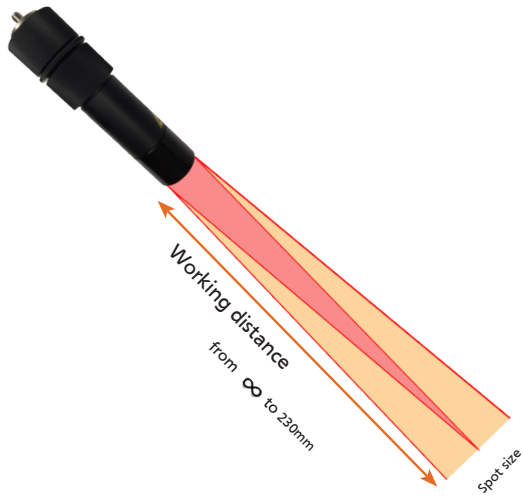
Temperature ranges from  
100°C to 2200°C

### Features

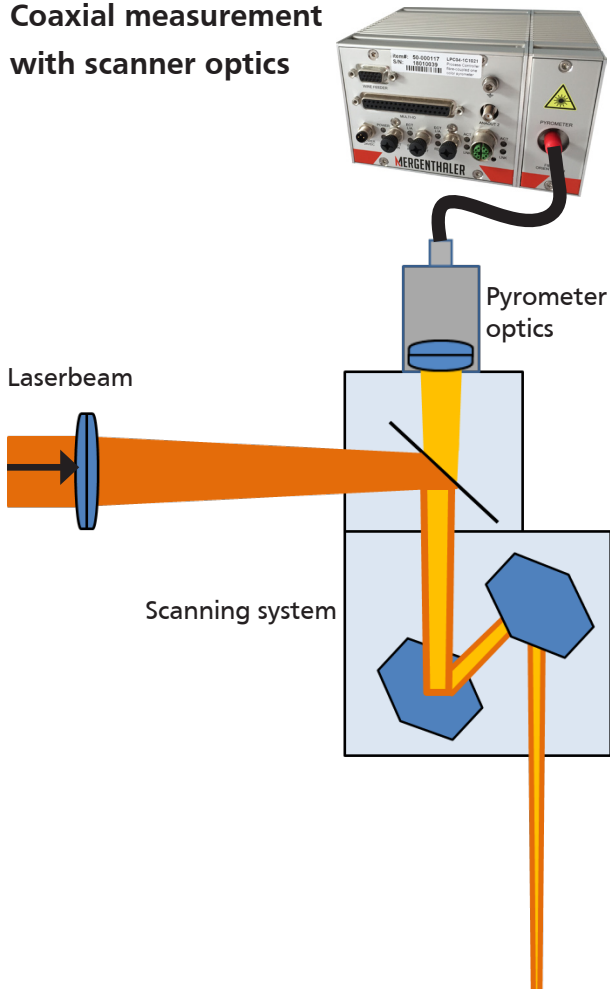
Autonomous working system  
Ethernet connection  
EtherCAT® connection  
Industrial I/O ports  
Flexible process script programming

Process visualisation  
Process documentation  
Real time data storage  
Open programmable architecture  
Compact and easy to integrate

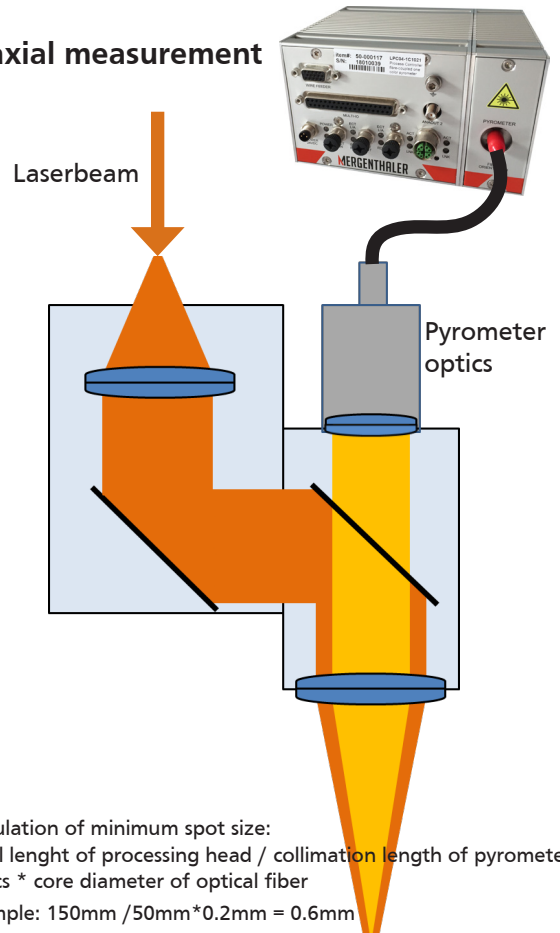
## Off-axis measurement with adjustable optics for smallest spot sizes



## Coaxial measurement with scanner optics



## Coaxial measurement

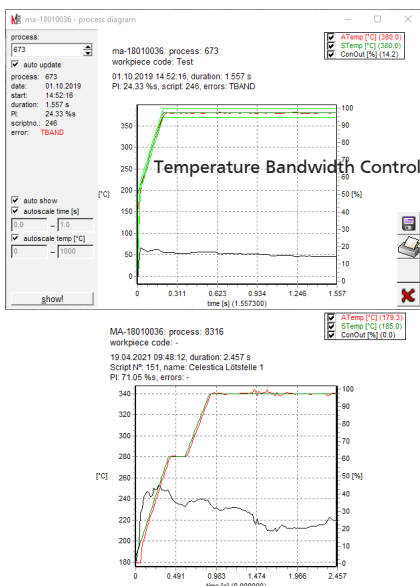


Calculation of minimum spot size:  
 Focal length of processing head / collimation length of pyrometer optics \* core diameter of optical fiber  
 Example: 150mm / 50mm \* 0.2mm = 0.6mm

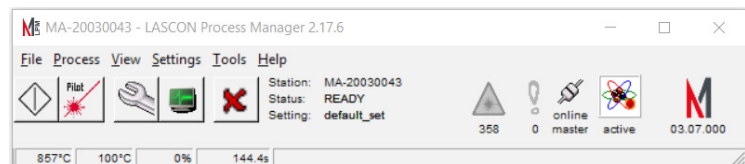
# Technical Data

<b>LASCON® Controller</b>	
<b>Single color pyrometer 1C0326</b>	
Temperature ranges:	100°C (*) up to 2200°C
Spectral range:	1,65- 2,5µm
Accuracy (e=1, t90=1s, T=25°C):	< 1500°C: 0.3% +/- 2K
Repeatability:	0.1% +/- 1K
Resolution:	0.1°C
Response time:	100µs, adjustable
Emissivity:	adjustable 0.01 to 1
Analog output:	0-5V, 0-10V, +- 5V, +-10V, 0-20mA, 4-20mA, 0-24mA (16Bit), (configurable via Software)
Power supply:	24V DC, 2A max.
Sighting:	laser targeting coaxial with pyrometer measurement
Interface:	Ethernet, EtherCAT (option)
IO terminal :	6 analog IN, 3 analog OUT, 16 digital IN, 8 digital OUT (24V) (configurable via Software)
Data storage:	internal, typical 5.000 hours of pure process time
Software:	including LASCON® software package for measurement and closed loop control, storage and visualisation of measurement, calibration of pyrometer
Optical fiber length:	3m, 5m, 10m, 20m, 30m (special lenghts on request)
Ambient temperature:	controller 40°C, optical head 60°C
Dimensions:	controller: 144 x 125 x 82mm, Optics: dia 30.6mm, lenght 100mm
CE label:	according to EU directives for electromagnetic immunity
Conformity:	the RoHS Directive 2011/65/EU of 2011-06-08 with supplement from 2015-03-31 is fulfilled
* depending on the emissivity and optical path conditions to the object and signal filter. Fiber length < 7.5m	

## Included Software



### Process Manger Software (LPM) Windows® operating system

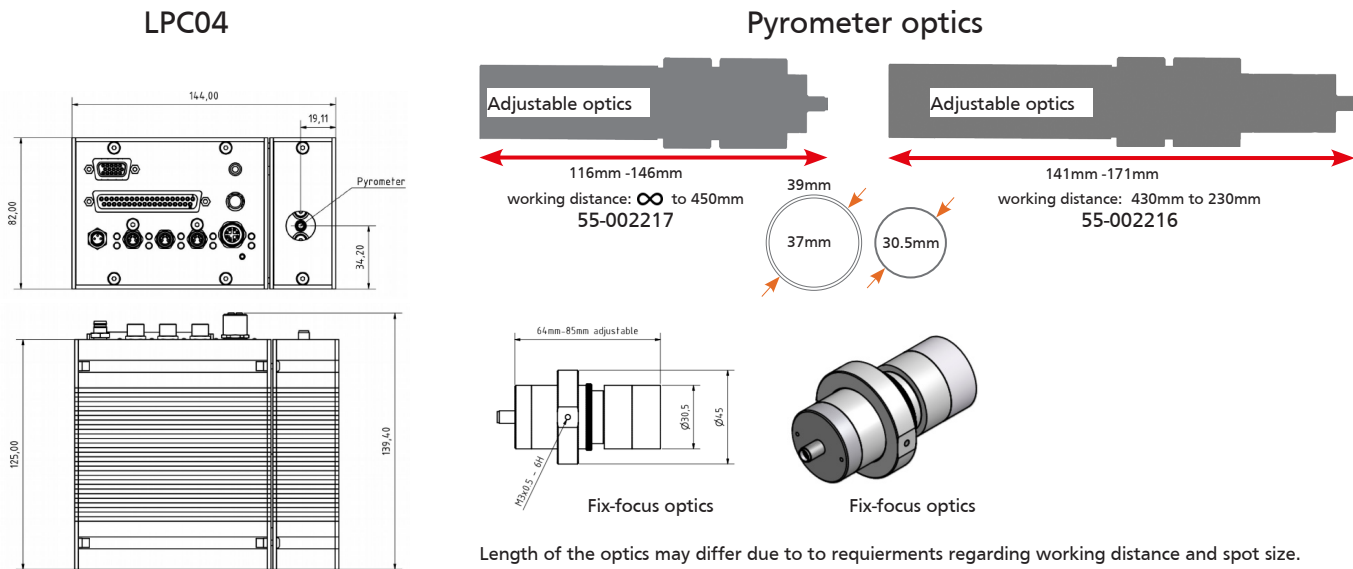


- Adjustment of all pyrometer and controller parameters
- Providing variety of control commands and functions for script
- Storage capacity for infinite number of processes (5.000h) and scripts
- Process visualization, automatical data export in csv format
- Free configuration of Multi I/O interface
- Pyrometer calibration inside the application
- Access rights management with password protection

# Order Code

Order Code	Item (more on request)	
50-000243	LPC04-1C0326; LASCON Process Controller with built in fiber coupled 1 color infrared pyrometer ( 10kHz)	
50-000834	Optical fiber cable, metal armored, core dia. 200 $\mu$ m, length 3m	200 $\mu$ m fiber is recommended for very small spot sizes
50-000253	Optical fiber cable, metal armored, core dia. 200 $\mu$ m, length 5m	
50-000254	Optical fiber cable, metal armored, core dia. 200 $\mu$ m, length 10m	
50-000255	Optical fiber cable, metal armored, core dia. 200 $\mu$ m, length 20m	
50-000998	Optical fiber cable, metal armored, core dia. 200 $\mu$ m, length 30 m	
50-000661	Optical fiber cable, metal armored, core dia. 400 $\mu$ m, length 3 m	400 $\mu$ m fiber is recommended for very low temperature measurement
500-625	Optical fiber cable, metal armored, core dia. 400 $\mu$ m, length 5 m	
500-298	Optical fiber cable, metal armored, core dia. 400 $\mu$ m, length 10 m	
500-573	Optical fiber cable, metal armored, core dia. 400 $\mu$ m, length 20 m	
500-705	Optical fiber cable, metal armored, core dia. 400 $\mu$ m, length 30 m	
55-002216	Adjustable optical head, working distance 430mm to 230mm, f= 95mm (description on page 2)	
55-002217	Adjustable optical head, working distance $\infty$ to 450mm, f=95mm (description on page 2)	
500-536	Focusing optical head, diameter=30.6 mm f=50 mm, with laser blocking filter	
500-529	Focusing optical head, diameter=30.6 mm f=150 mm, with laser blocking filte.	
500-337	Collimating Optical head, diameter=30.6 mm f1=50 mm, f2= $\infty$ ,with laser blocking filter	
xxx-xxx	Custom specific optical head : same price as standard heads	
500-629	High Temperature Filter HT	
500 - 438	Additional pyrometer calibration	
50-000122	Power supply, Input 90-260VAC, Out 24V 2.0A for LASCON Controller only	

## Dimensions



You are solely responsible for selecting the appropriate product for your application, validating and testing your application, and ensuring your application meets applicable standards, and any other safety, security, or other requirements. Data are subject to be changed without notice.

ultimate laser processing

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