

**CHROMATIC
CONFOCAL**
CONTROLLER
FOR POINT
SENSORS

MARPOSS
STIL



CHROMATIC CONFOCAL MULTICHANNEL CONTROLLERS FOR POINT SENSORS



ChromaPoint Controllers

LIGHTMASTER™ & LIGHTMASTER16™ are multichannel controllers designed to work with a wide range of sensors designed for Metrology, Mechanics, Semiconductors, 3C, Glass, Automotive, Aerospace, Medical.

They are highly precise and parallel. They allow to accurately measure distance, shape, roughness, and thickness of different materials, such as varnish, coatings, rolled sheets, and lithium-ion battery electrodes.

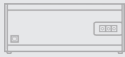
ChromaPoint Controllers



ChromaPoint Sensor Heads



ChromaLine Controllers



ChromaLine Sensor Heads



ChromaVision Camera



Accessories



LIGHTMASTER / LIGHTMASTER16

The LIGHTMASTER™ is a modular, multi-channel controller for STIL chromatic confocal sensor heads. It is capable of 48 simultaneous measurements. It features 12 LightSlot modules with 4 measurement channels each, all contained within a 19" 3U rack. It offers/proposes a universal Ethernet GiGE interface, Ethernet interface for easy integration of a trigger input, and can be easily mounted on a production line.

For those needing a more compact solution, the LIGHTMASTER16™ offers 16 simultaneous measurements within 4 LightSlots modules with 4 channels each, a smaller size, and the same advanced capabilities as the LIGHTMASTER™.

Available versions are with:

- up to 48 channels with 12 LightSlots
- up to 16 channels with 4 LightSlots

Benefits

- Chromatic confocal technology can measure any material capable of reflecting white light (e.g. metal, glass, plastic, paint films, liquids)
- Non-contact measurement is suitable in all cases where it is necessary to measure without touching the part
- Input/output: Ethernet
- Universal: interchangeable STIL optical heads like CL-MG™ / OP™ / ENDO™ / EVEREST™ series
- Up to 48 simultaneous and so parallel, synchronized measurements
- Availability of SDK and protocol commands for easy integration into any system
- Synchronized measurement with encoder for dynamic acquisitions
- Works in any environment
- LightSlot board is made for 4 point sensor inputs

Application fields

Any application requiring simultaneous measurements on the largest set of surface reflectivity, transparent or opaque, shiny or diffusive.

Versions

- LIGHTMASTER™ is available in 2 versions :
Standard with 48 channels max
Compact LIGHTMASTER 16™ with 16 channels max
- LIGHTMASTER™ is available in only 1 configurations :
1300 Hz speed
- Each LIGHTMASTER™ is modular, thanks to the 4 measurement channels LIGHTSLOT which can be adapted to the applications

Technical Specifications

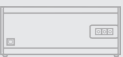
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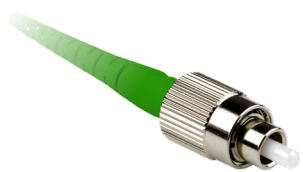


Accessories



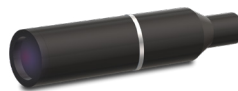
Model	Lightmaster S	Lightmaster16 S
Order Code	08ST08M0001	08ST08M0003
Technology	Chromatic Confocal	
Source	White LED	
Number of channel	Up to 48 (simultaneous)	Up to 16 (simultaneous)
Acquisition Frequency	Up to 1300 Hz	
Distance Measurement	First/Second/Third/Fourth/Last/Strongest peak	
Thickness Measurement	2 Peaks among 5	
Advanced features	Exposure time /Encoder trigger...	
Digital Output	Ethernet (GigE)	
Synchronization	Trigger in&out	
Other Input/Output	Encoder input (1)	
Fiber connection	E2000/APC	
Temperature in use	+5 to +50°C	
Storage temperature	-30 to +70°C	
Relative humidity	5 to 80% RH without condensation	
Protection type	IP20	
Compliance	EN 61010-1; EN 61326-1	
Power	100-240 VDC	24 VDC
Maximum/Usual Consumption	120W / 70W	
Dimensions	502 x 440 x 184 mm	436 x 236 x 183 mm
Weight	11 kg	6.2 kg

OPTICAL FIBER



- Standard cladding
- Stainless steel cladding
- Armored fiber

SENSOR HEAD*



- EVEREST™ Series
- CL-MG™ Series
- OP™ Series
- ENDO™ Series

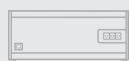
ChromaPoint
Controllers



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Camera



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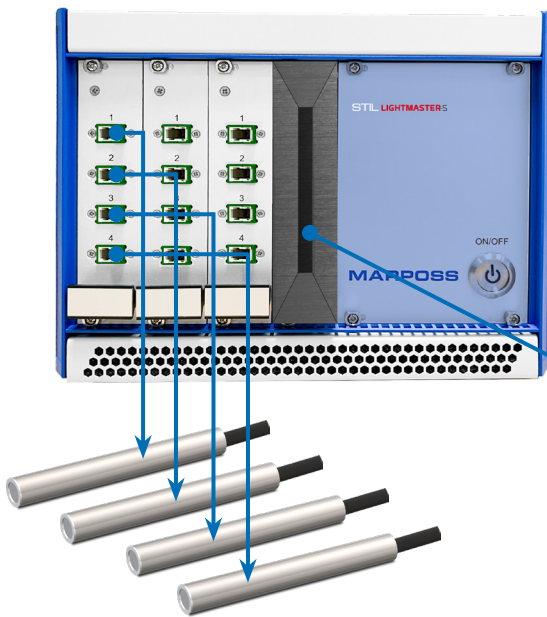


Technical Specifications

Model	Unit	ENDO 10/D8	OP 30 000	Sensor Heads*
Order Code		03PS0388001	03PS1400008	On Demand
Measuring Range	µm	10000	30000	For other sensor heads available on request, please contact your Account Manager or our Application Laboratory.
Working distance	mm	11,3	220	
Numerical Aperture		0,1	0,095	
Max. sample slope	°	4,5	4,5	
Axial or radial model		Axial	Axial	
Spot size	µm	31	96	
Max. linearity error	nm	4400	9000	
Static Noise	nm	700	3000	
Axial resolution (Average 10)	nm	233	1000	
Lateral Resolution	µm	17	48	
Photometric Efficiency		36	117	
Min. Measurable Thickness	µm	-	-	
Length	mm	102	168	
Diameter	mm	8	59	
Weight	g	26	405	

* Everest CL-MG, ENDO and OP Series

Product features



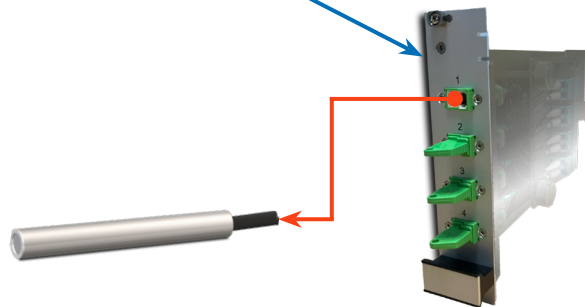
LIGHTMASTER™ and LIGHTMASTER16™ controllers manage acquisition signals, compute the distance data, and provide data transmission functions via Gigabit Ethernet link.

The front panel of the controller features:

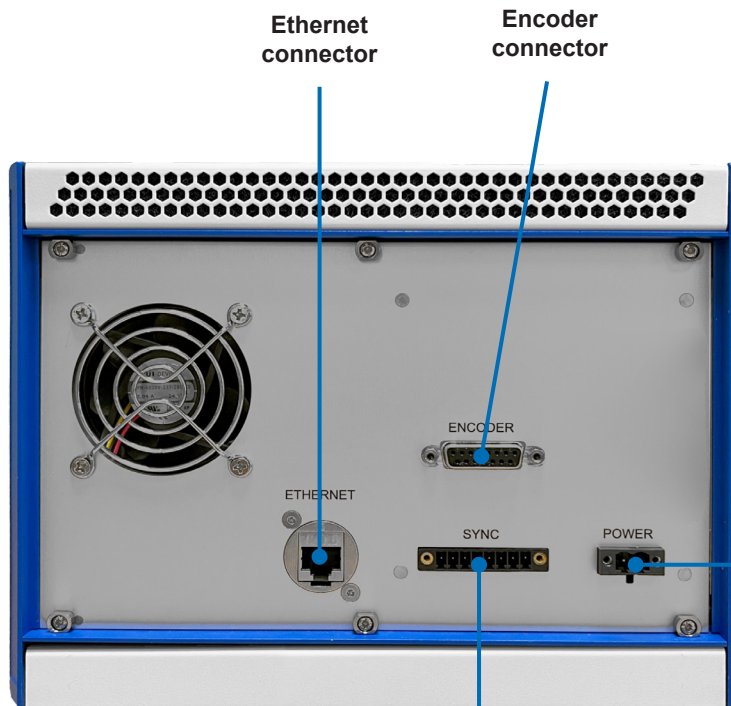
- up to 48 (16 - respectively) parallel and simultaneous acquisitions through 12 (4 - respectively) LightSlots of 4 optical lines each

The back panel of the controller features:

- Power supply
- RJ-45 Gigabit Ethernet connector
- Interface connector for synchronization signals
- Encoder connector



**Detachable
for easy
maintenance**



**Ethernet
connector**

**Encoder
connector**

**Interface
connector**

**Power
connector
24 VDC**

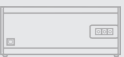
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Synchronisation

Roll-to-Roll (R2R) – Foil thickness

Up to 24 face-to-face (F2F) sensor pairs measure inline :

- Foil thickness before and after rolling / thinning
- Or foil + coating thickness before and after deposition

Up to 4 transparent layers deposited on each foil face can also be measured at the same time.

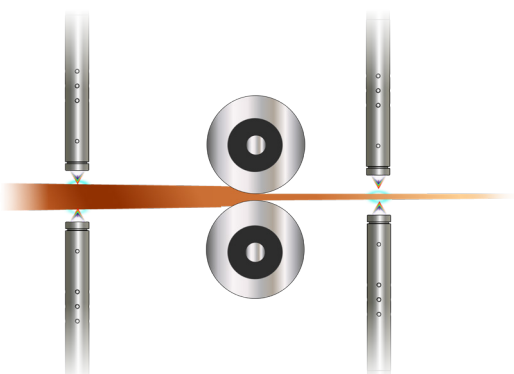
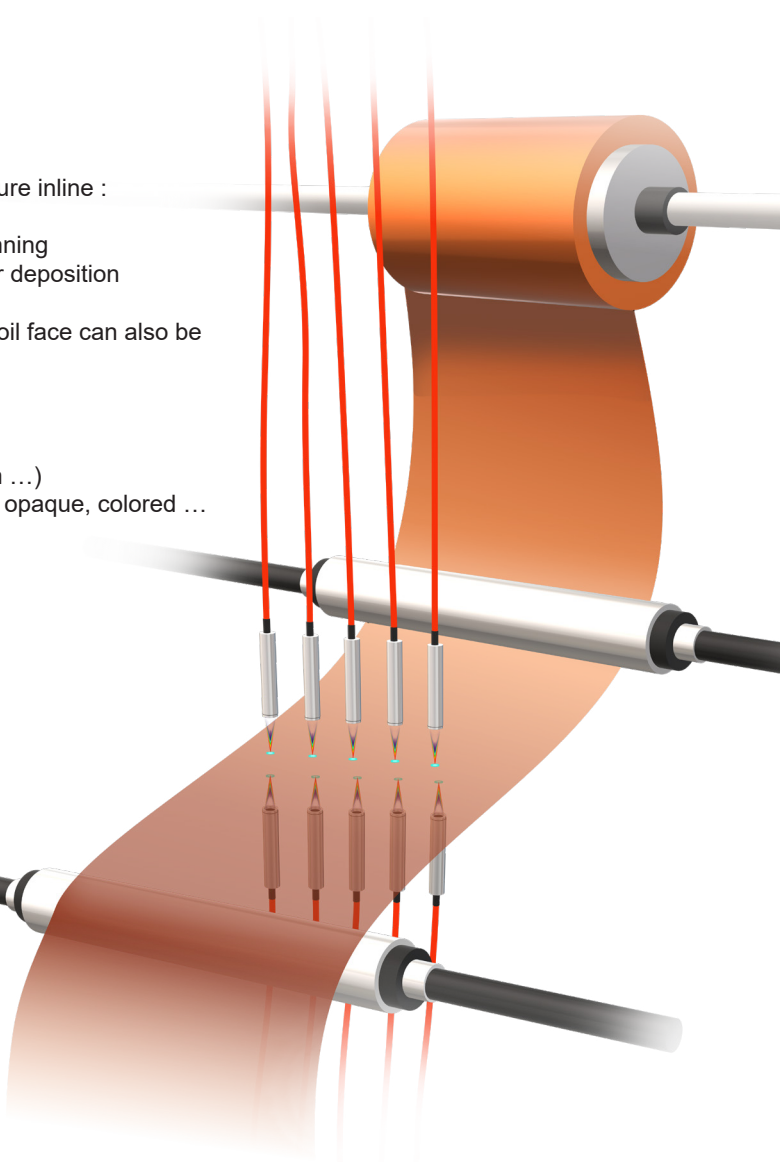
Foil material can be :

- Metallic (Steel, Copper, Aluminum, Lithium ...)
- Organic (PE, PLA, PPV ...) transparent or opaque, colored ...

Coating material can be :

- Ceramic
- Carbon
- Metallic
- Organic ...

Surfaces can be rough or polished, or diffusive



R2R – Roll adjustments

In cold calendering process, measuring thickness of foil after the rolls offers the ability to adjust in real time roll spacing & tilt in order to deliver better characteristics uniformity on final foil. Measuring before the rolls allows to anticipate foil thickness variations to better adjust roll pressure.

Similarly, in lamination processes, measuring films before & after the rolls allows a fine control of final product characteristics.

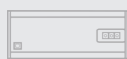
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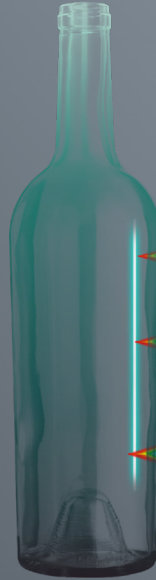
Accessories



Application examples

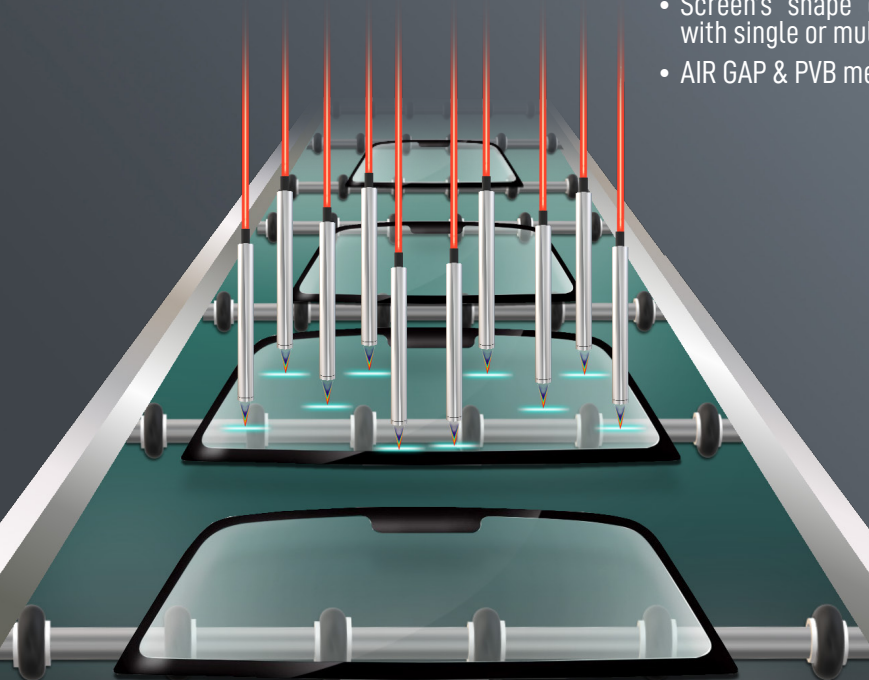
Bottle Glass quality control

- Multipoint dimension control
- Thickness measurement
- Glass shape control



Automotive - Car Glass Quality Control

- Windshield shape and thickness measurements
- Glass shape & thickness measurements
- Screen's shape control measurements with single or multi-points sensor heads
- AIR GAP & PVB measurement



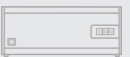
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Application examples

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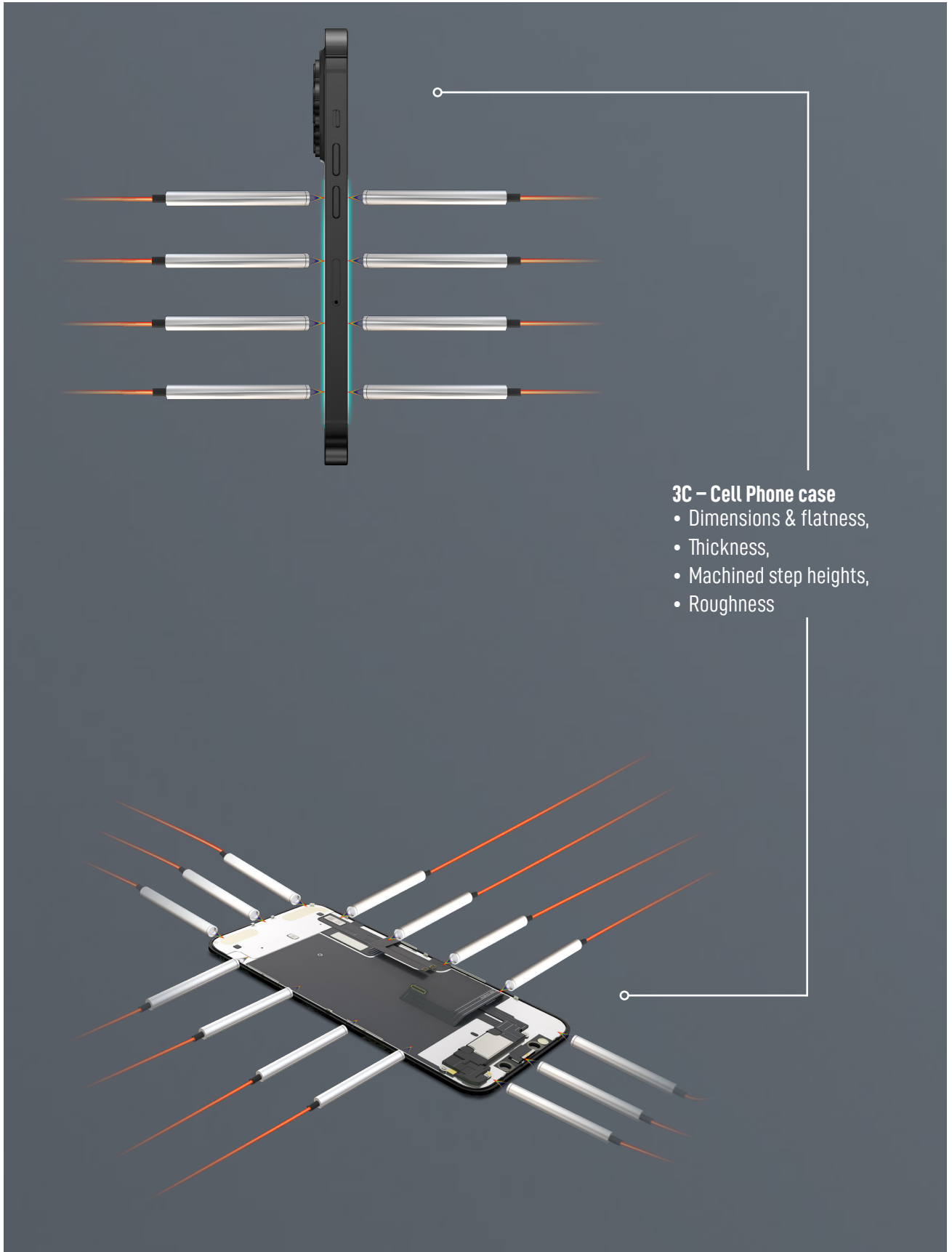
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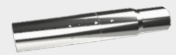


3C – Cell Phone case

- Dimensions & flatness,
- Thickness,
- Machined step heights,
- Roughness

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Compatible sensor heads*

Model	Description
	CL-MG™ Sensor Head - Diam.: 27 mm - MR: 0.15 mm to 24 mm - WD: 3.3 mm to 21.5 mm - Spot Size: 1.8 µm to 43 µm - Axial or Radial
	CL-MG VACUUM™ Sensor Heads - Diam.: 27 mm - MR: 0.15 mm to 24 mm - WD: 3.3 mm to 21.5 mm - Spot Size: 1.8 µm to 43 µm - Axial or Radial
	ENDO™ Sensor Head - Diam.: 4 mm to 8 mm - MR: 1 mm to 10 mm - WD: 1 mm to 11.3 mm - Axial or Radial
	ENDO VACUUM™ Sensor Heads - Diam.: 4 mm to 8 mm - MR: 1 mm to 10 mm - WD: 1 mm to 11.3 mm - Axial or Radial
	OPT™ Sensor Head - Diam.: 15 mm to 120 mm - MR: 0.22 mm to 100 mm - WD: 5 mm to 650 mm - Axial or Radial
	EVEREST™ Sensor Head - Diam.: 82 mm to 47 mm - MR: 1 mm to 6 mm - WD: 13.7 mm to 19.2 mm - Axial

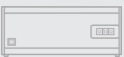
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Accessories



Compatible fiber optics

Model	Description	Order code
	E50-3 Optical fiber - standard cladding - Length: 3 m or 5 m or 10 m; External Diam.: 2.8 mm Minimum bending radius in : Static Mode: 25 mm - Dynamic Mode: 40 mm	3 m - O67SE503001 5 m - O67SE505001 10 m - O67SE510001
	E50-3-MA Optical fiber - armored fiber - Length: 3 m or 5 m or 10 m; External Diam.: 3 mm Minimum bending radius in : Static Mode: 30 mm - Dynamic Mode: 60 mm	3 m - O67SE503M02 5 m - O67SE505M02 10 m - O67SE510M02
	E50-3-M Optical fiber - stainless steel cladding - Length: 3 m or 5 m or 10 m or 15 m or 20 m; External Diam.: 6.2 mm Minimum bending radius in : Static Mode: 40 mm - Dynamic Mode: 40 mm	3 m - O67SE503M01 5 m - O67SE505M01 10 m - O67SE510M01 15 m - O67SE515M01 20 m - O67SE520M01

Accessories

Model	Description	Order code
	Optical connector cleaner for Chromapoint sensors	O15ST000028

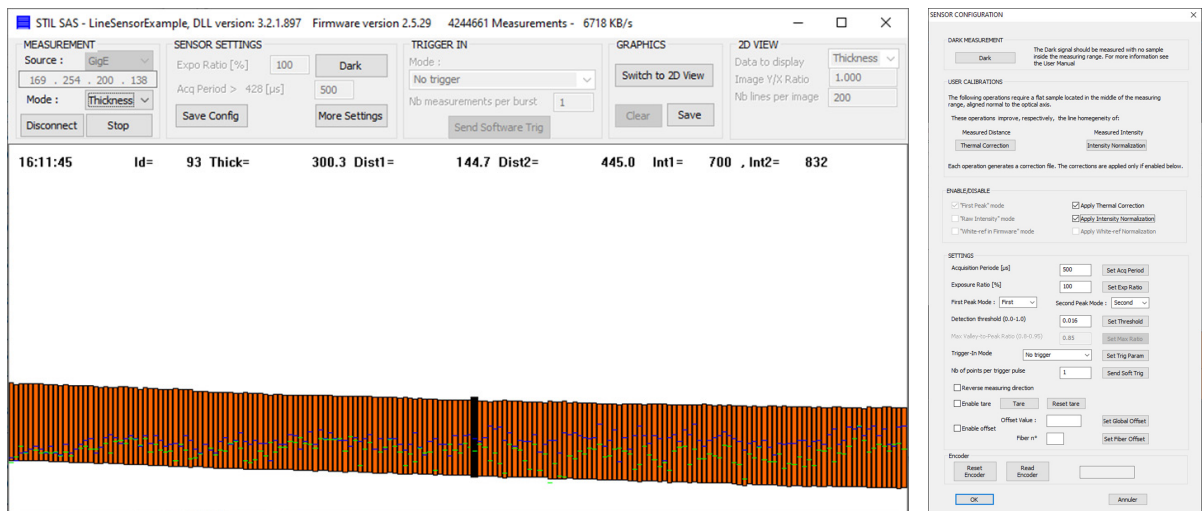
Software development kit

In order to ease integration, each LightMaster™ controller is delivered with a software development kit (SDK). LightMaster™ SDK tool set was developed with most valuable and efficient software environments C, C++, and C#, with state-of-the-art software development technologies. Integration examples are available and you'll benefit STIL support in your integration work if needed.

Software MultiPoint Manager

Each LightMaster™ controller is delivered with a dedicated software « Multi-ChromaPoint Manager® » to easily :

- Adjust sensor measurement parameters
- Visualise signals
- Set communication & synchronisation parameters
- Test commands

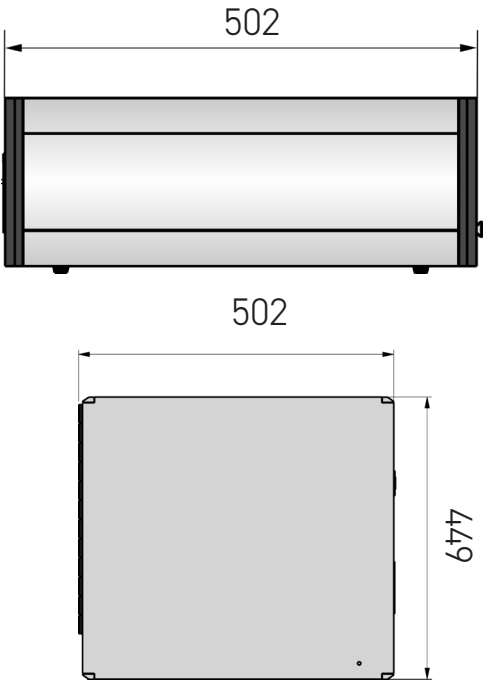
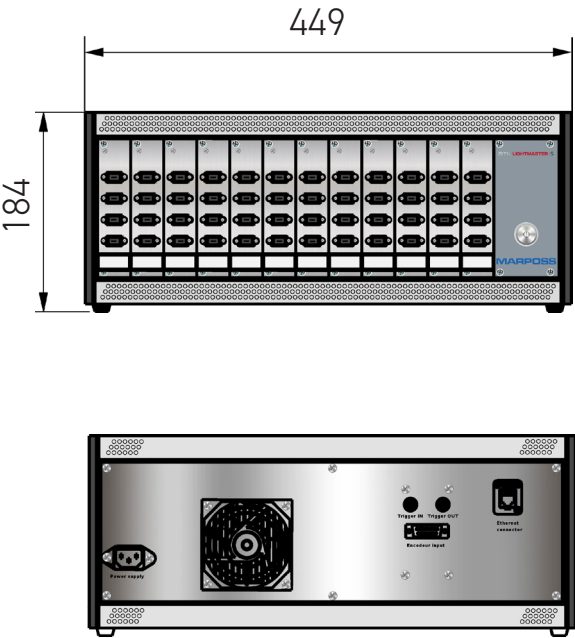


MINIMUM REQUIREMENTS

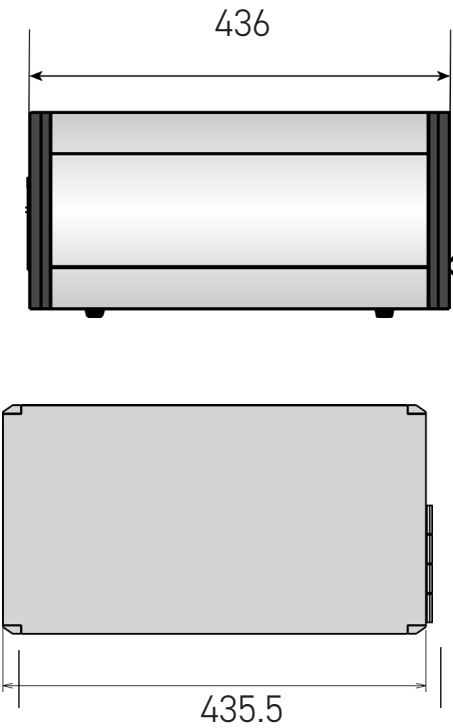
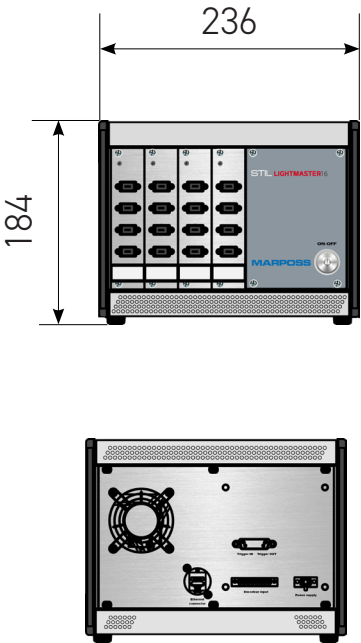
Integration requires any Windows® compatible PC with: Windows10™ (32 bits or 64 bits) or Windows7™ (32 bits or 64bis) operating system, Core i5-2500 CPU @3.30 GHz with 4GB RAM or more.

Dimensions (mm)

LIGHTMASTER™



LIGHTMASTER16™



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For a full list of address locations, please consult the Marposs official website
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