MICRO-EPSILON

More Precision

confocalDT // Confocal chromatic measuring system

- Measuring rate up to 6.5kHz
- Interfaces: Ethernet / EtherCAT / RS422 / Analog
- Fast surface compensation
- Configuration via web interface
- Submicrometer resolution
- Multi-layer thickness measurement
- Synchronous two-sided thickness measurement
- Robust design with passive cooling

The confocalDT 2421 and 2422 sets the industrial standard in precise, confocal measurement technology.

Available as either a single- or a dual-channel version, these measuring systems enable a low cost solution especially for high volume applications. The active exposure regulation feature in the CCD line enables accurate, fast surface compensation on difficult changing surfaces.

The controller can be operated with any IFS sensor and is available as a standard version for distance measurements or as a multi-peak version for multi-layer thickness measurements. Using a special calculation function, the confocalDT 2422 dual-channel version evaluates both channels. Measurement acquisition is synchronous and can be carried out while exploiting the full measuring rate for both channels.

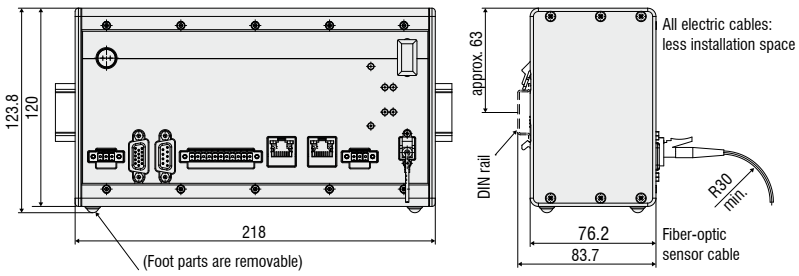
Due to a user-friendly web interface, the entire configuration process of controller and sensors is carried out without using any additional software. Data output is via Ethernet, EtherCAT, RS422 or analog output.

All settings are performed in the web interface. For thickness measurements, materials are stored in an expandable materials database.

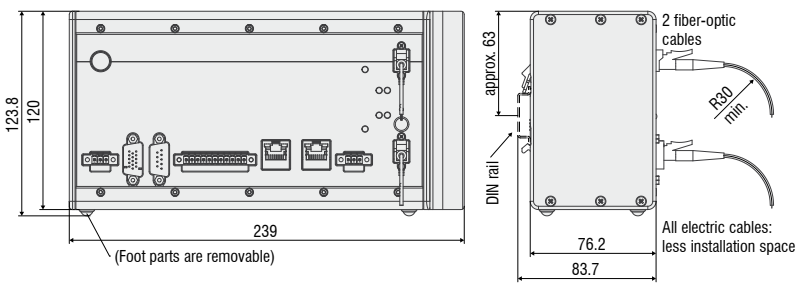
Two sensors can be directly connected to a confocal IFC2422 controller.

Controller		IFC2421	IFC2421MP	IFC2422	IFC2422MP
Multi peak measurement		2 peaks	6 peaks	2 peaks	6 peaks
Measurement channels		1	1	2	2
Light source		internal white LED			
Measuring rate		continuously adjustable from 100Hz to 6.5kHz			
Resolution	Ethernet/EtherCAT	1nm			
	RS422	16bit			
	analog	16bit (teachable)			
Storage		up to 20 calibration tables for different sensors per channel, menu selection			
Controller inputs/outputs		Sync-In/Trig-In, Sync-Out Error1-Out, Error2-Out encoder (2x A, $\bar{A}$, B, $\bar{B}$, index) EtherCAT/Ethernet RS422 analog: current, voltage (16bit D/A converter)			
EtherCAT		EtherCAT®			
Operating elements, controller display		multifunction button (dark alignment and reset to factory setting after 10 sec) 5x LED for intensity, range, status, supply voltage			
Supply voltage, power consumption		24VDC ±15%, approx. 10W			
Material		aluminum case for DIN rail mounting			
Protection class		IP40			
Temperature range	Operation	+5 ... +50°C			
	Storage	-20 ... +70°C			
Permissible ambient light		30,000lx			
Shock		15g, 6ms			
Vibration		2g / 10Hz ... 500Hz			
Connection	Cable (optical fiber)	2 ... 50m			
	Connector	E2000			
Max. cable lengths (all cables are shielded)	EtherCAT, Ethernet	CAT5E; cable length <100m			
	Supply, RS422, Sync./error	<30m			
	analog	<30m			
	Encoder	<3m			

Controller IFC2421



Controller IFC2422

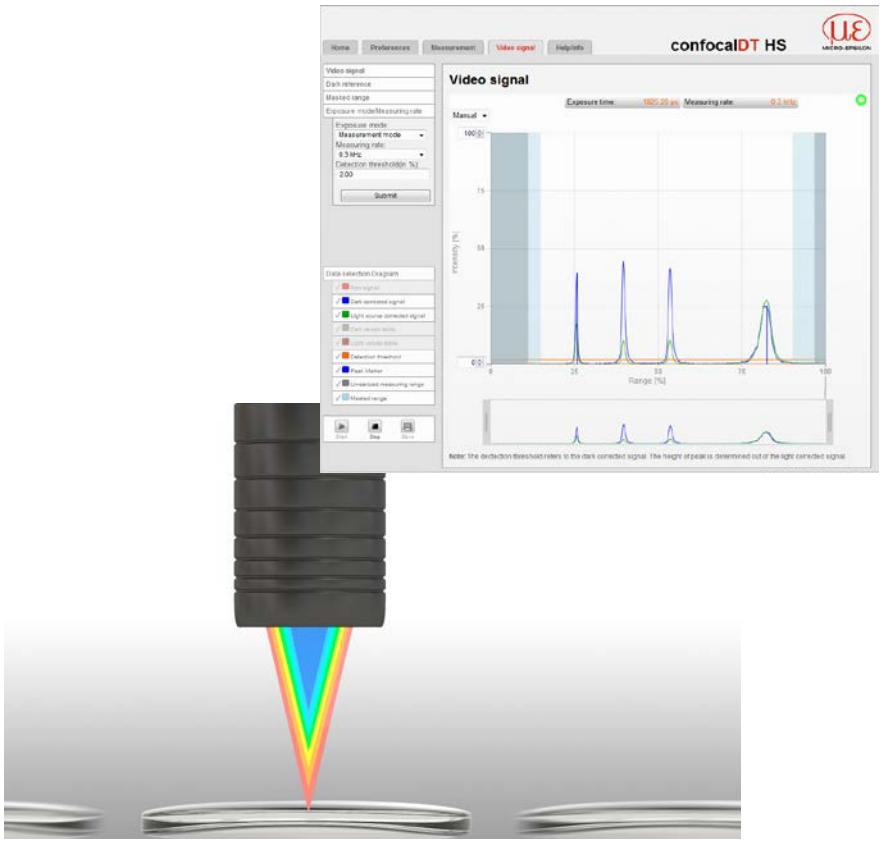


- Fastest controller worldwide: Measuring rate up to 70kHz
- Interfaces: Ethernet / EtherCAT / RS422 / Analog
- Fast surface compensation
- Configuration via web interface
- Submicrometer resolution
- Multi-layer thickness measurement
- Robust design with passive cooling

The confocalDT 2471 HS controllers are used for fast distance and thickness measurements of highly reflecting and specular surfaces. The controllers are equipped with enhanced optical components enabling measuring rates up to 70kHz on reflecting surfaces without having to use an external light source. The confocalDT HS controllers are considered one of the fastest confocal measuring systems in the world. The active exposure regulation feature for the CCD line enables accurate, fast surface compensation on changing surfaces during dynamic measurement processes.

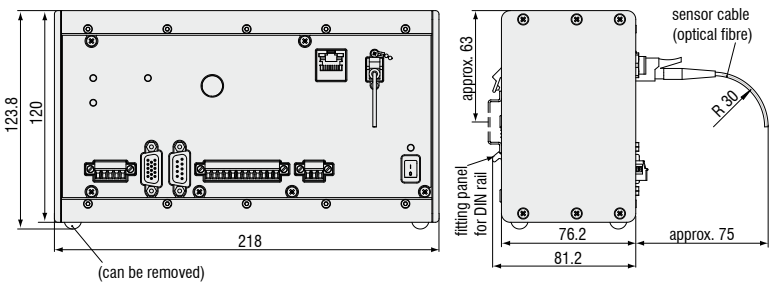
The controller can be operated with any IFS sensor and is available as a standard version for distance measurements or as a multi-peak version for thickness measurements.

Due to a user-friendly web interface, the entire configuration process of controller and sensors is carried out without using any additional software. Data output is via Ethernet, EtherCAT, RS422 or analog output.



Controller		IFC2471LED	IFC2471MP LED
Multi peak measurement		2 peaks	up to 6 peaks
Light source		internal white LED	
Measuring rate		continuously adjustable from 100Hz to 70kHz	
Resolution	Ethernet/EtherCAT	1nm	
	RS422	16bit	
	analog	16bit (teachable)	
Storage		up to 20 calibration tables for different sensors per channel, menu selection	
Controller inputs/outputs		Sync-In/Trig-In, Sync-Out Error1-Out, Error2-Out encoder (3x A, B, Index) EtherCAT/Ethernet RS422 analog: current, voltage (16 bit D/A converter)	
EtherCAT		EtherCAT®	
Operating elements, controller display		On/Off switch; button for dark alignment (as well as for reset to factory setting after 10 sec) 4x LED for intensity, range, status, supply voltage	
Supply voltage, power consumption		24VDC ±15%, approx. 10W	
Material		aluminum case for DIN rail mounting	
Protection class		IP40	
Temperature range	Operation	+5 ... +50°C	
	Storage	-20 ... +70°C	
Permissible ambient light		30,000lx	
Shock		15g, 6ms	
Vibration		2g / 10Hz ... 500Hz	
Connection	Cable (optical fiber)	2 ... 50m	
	Connector	E2000	
Max. cable lengths (all cables are shielded)	EtherCAT, Ethernet	CAT5E; cable length <100m	
	Supply, RS422, Sync./error	<30m	
	analog	<30m	
	Encoder	<3m	

Controller IFC2471 LED



High performance sensors made by Micro-Epsilon

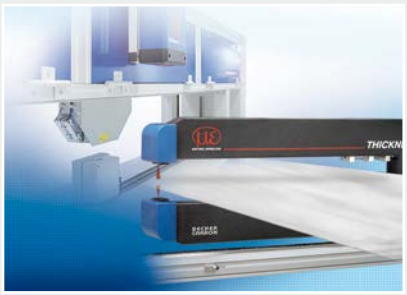
Sensors and systems for displacement and position

Sensors and measurement devices for non-contact temperature measurement

2D/3D profile sensors (laser scanner)

Optical micrometers, fiber optic sensors and fiber optics

Color recognition sensors, LED analyzers and color inline spectrometer



Measurement and inspection systems

Modifications reserved / Y9761149-O011048GKE

MICRO-EPSILON

MICRO-EPSILON Headquarters
Koenigbacher Str. 15 · 94496 Ortenburg / Germany
Tel. +49 (0) 8542 / 168-0 · Fax +49 (0) 8542 / 168-90
info@micro-epsilon.com · **www.micro-epsilon.com**