

More Precision



confocalDT 2451/2471



System structure

confocalDT 2451/2471 are the newest high performance signal processing controllers for the confocal measurement technology offered by Micro-Epsilon. Due to its excellent signal to noise ratio, this state of the art CCD spectrometer achieves a measurement rate up to 10,000 Hz using a white light LED source and up to 70,000 Hz when using a xenon light source .

The new active high speed real time exposure control, embedded in its detector, enables a precise and fast surface compensation for dynamic measurement processes on varying surfaces.

The entire system configuration is done via an easy to use, intuitive web interface, eliminating the need of any external setup software.

The processed measurement data is output through Ethernet, EtherCAT, RS422 or an analog output.

The confocal DT 2451/2471 controllers are successfully used for challenging precise measurement tasks in the field of distance and thickness applications and supports any optical sensor head chosen from a large selection of Micro epsilons optical pens. The transmission of optical signals from the sensor head to the controller is realized via an optical fiber cable (sensor, controller, xenon light source).

Features

- The fastest confocal controllers on the market
- Excellent signal to noise ratio
- Adjustable measuring rate up to 70,000 Hz
- High speed real time surface compensation
- Data mapping in 3 axis via encoders
- Set up and configuration via Web-Interface
- Interface: Ethernet, EtherCAT, RS422, analogue
- Robust design with passive cooling - no moving parts

A measuring system optoNCDT2451 consists of:

- Sensor IFS240x
- Controller IFC2451

A measuring system optoNCDT2471 consists of:

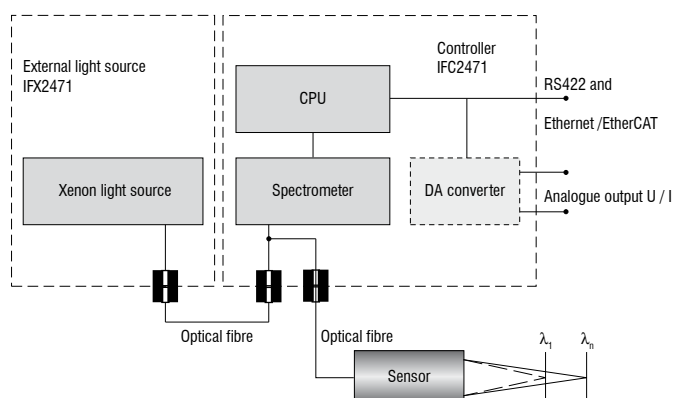
- Sensor IFS240x
- Controller IFC2471 (for external light source)
- Xenon light source IFX2471

Option:

- Integrated Multipeak software for 5 Layers

Block diagram

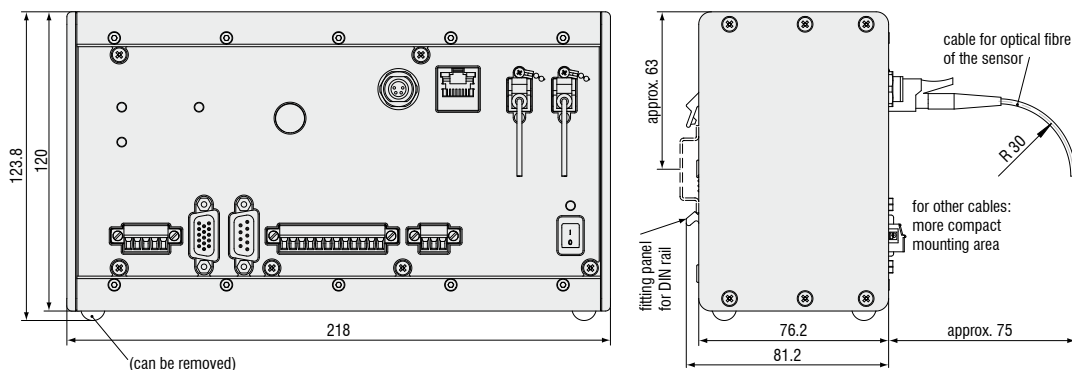
Controller IFC2471



confocalDT 2451/2471 Technical data

Controller	IFC2451/IFC2471		
Light source	IFC2451: internal white LED; IFC2471: external XENON light source IFX2471		
Measuring rate [kHz]	IFC2471: adjustable 70 / 50 / 25 / 10 / 5 / 2.5 / 1 / 0.3kHz IFC2451: adjustable 10 / 5 / 2.5 / 1 / 0.3 / 0.2 / 0.1kHz		
Storage	up to 20 calibration tables for different sensors, menu selection		
Controller Inputs / Outputs	Power supply +24VDC, <u>not</u> galvanically isolated Sync-In/Trig-In, Sync-Out Error1-Out, Error2-Out Encoder (3x A, B, Index) EtherCAT/Ethernet, galvanically isolated RS422, galvanically isolated Analogue power, voltage, galvanically isolated External light source: temperature, light-bulb exchange (only IFC2471)		
Operating elements, controller display	On/Off rocker switch Button for dark alignment (as well as for reset to factory setting after 10s) 4x LED for intensity, range, status, supply voltage		
Supply voltage, power consumption	Controller: 24VDC \pm 15%, approx. 10W Xenon light source: 90 ... 265VAC, approx. 100W		
Housing	Aluminium case for DIN rail mounting		
Ambient conditions	Sensors	Controller	Xenon light source
Protection class	IP 64	IP40	IP40
Operating temperature	5°C to 50°C non-condensing	5°C to 50°C, linearity at 25 \pm 5°C	5°C to 40°C
Storage temperature	-20°C to 70°C	-20°C to 70°C	-20°C to 70°C
Permissible ambient light	30,000lx		
Safety; EMC	CE; UL certified		
Interference emission	EN 61 000-6-3 / DIN EN 61326-1 (class B)		
Interference resistance	EN 61 000-6-2 / DIN EN 61326-1		
Optical fibre cable length	Sensor	3m (cannot be detached on miniature and hybrid sensors, but on standard sensors)	
	Xenon light source	1m	
	Connector type	E2000	
Maximum cable length	All cables are shielded		
EtherCAT, Ethernet	CAT5E; cable length < 100m		
Supply, RS422, Sync./Error	< 30m		
Analogue	< 30m		
Encoder	< 3m		

Controller IFC2471



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