










More Precision

confocalDT // Confocal chromatic measuring system



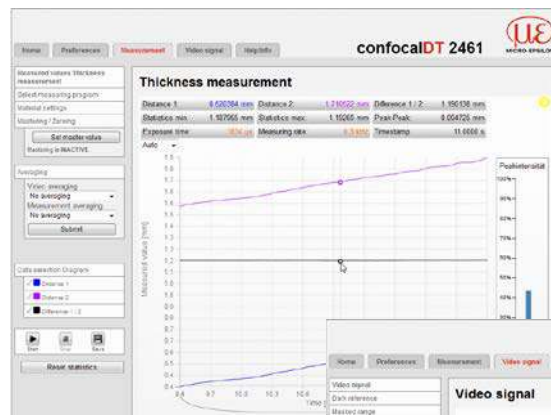


-  **Fast confocal controller: up to 25kHz**
- INTERFACE**  **Interfaces: Ethernet / EtherCAT / RS422 / Analog**
-  **Fast surface compensation**
-  **Configuration via web interface**
-  **Submicrometer resolution**
-  **Multi-layer thickness measurement**
-  **Robust design with passive cooling**

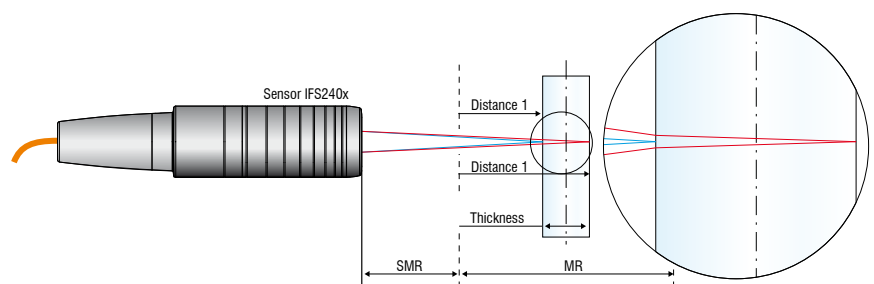
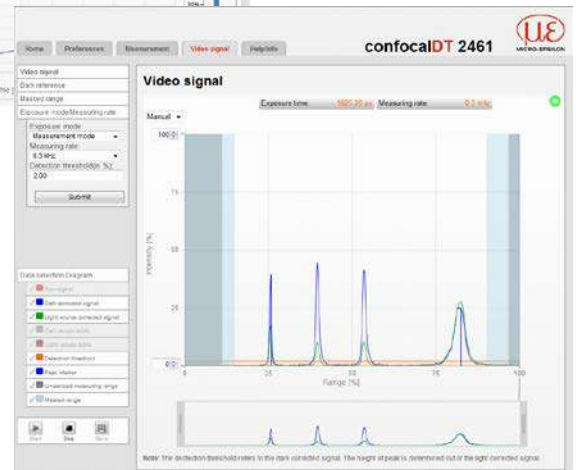
confocalDT IFC2461 systems are used for complex distance and thickness measurements. The IFC2461 controller is equipped with enhanced, optimized optical components enabling measuring rates up to 25 kHz without having to use an external light source. The high light intensity enables reliable measurements on difficult surfaces, e.g. on matt black objects or for multi-layer thickness measurement of glass. The active exposure regulation feature in 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 and thickness measurements or as a multi-peak version for multi-layer measurements.

Due to a user-friendly web interface, no additional software is necessary to configure the controller and the sensors. Data output is via Ethernet, EtherCAT, RS422 or analog output.

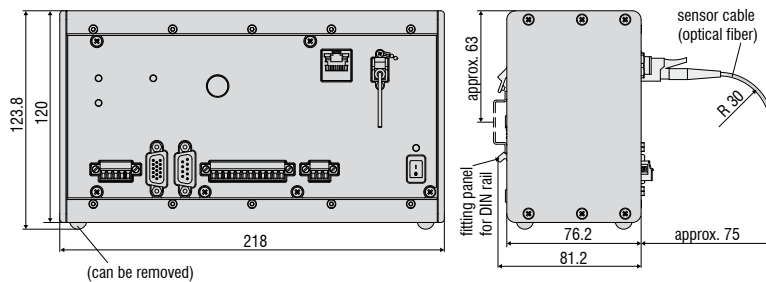


All settings are performed in the web interface. For thickness measurements, materials are stored in an expandable materials database.



Controller		IFC2461	IFC2461MP
Multi peak measurement		1 layer	up to 5 layers
Light source		internal white LED	
Measuring rate		continuously adjustable from 100 Hz to 25 kHz	
Resolution	Ethernet	1 nm	
	RS422	18 bits	
	analog	16 bits (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		 Conformance tested	
Operating elements, controller display		on/off switch; button for dark alignment (and for reset to factory settings after 10 sec) 4x LEDs for intensity, range, status, supply voltage	
Supply voltage, power consumption		24 VDC ± 15 %, approx. 10 W	
Material		Aluminum case for DIN rail mounting	
Protection class		IP40	
Temperature range	Operation	+5 ... +50 °C	
	Storage	-20 ... +70 °C	
Permissible ambient light		30,000 lx	
Shock		15 g, 6 ms	
Vibration		2g / 10 Hz ... 500 Hz	
Connection	Cable (optical fiber)	2 ... 50 m	
	Connector	E2000	
	EtherCAT, Ethernet	CAT5E; cable length <100 m	
Max. cable lengths (all cables are shielded)	Supply, RS422, Sync./Error	<30 m	
	analog	<30 m	
	Encoder	<3 m	

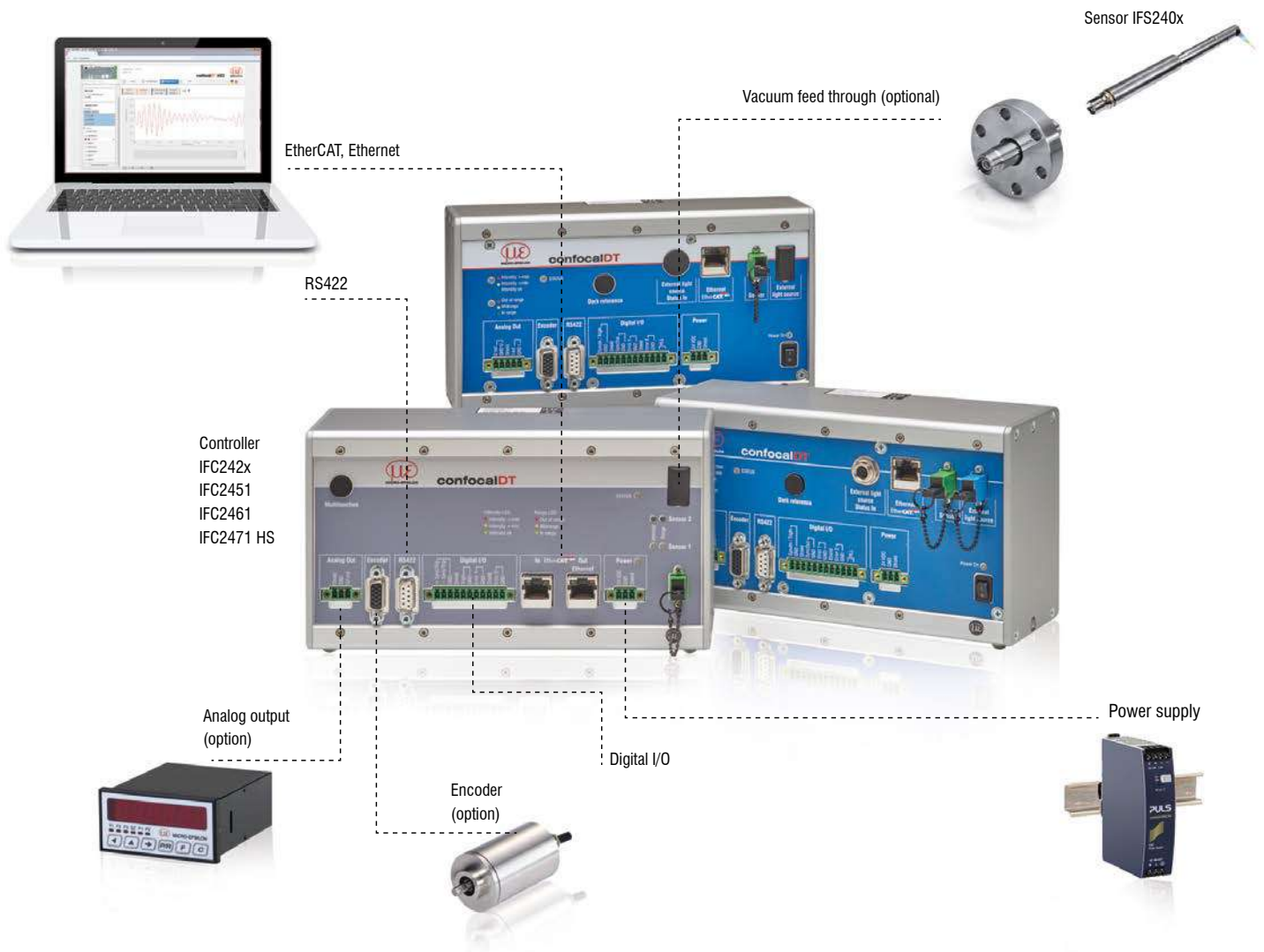
IFC2461 controller



System design

The confocalDT system consists of:

- Sensor IFS240x
- Controller IFC24xx
- Fiber optic cable C24xx



Customer-specific modifications

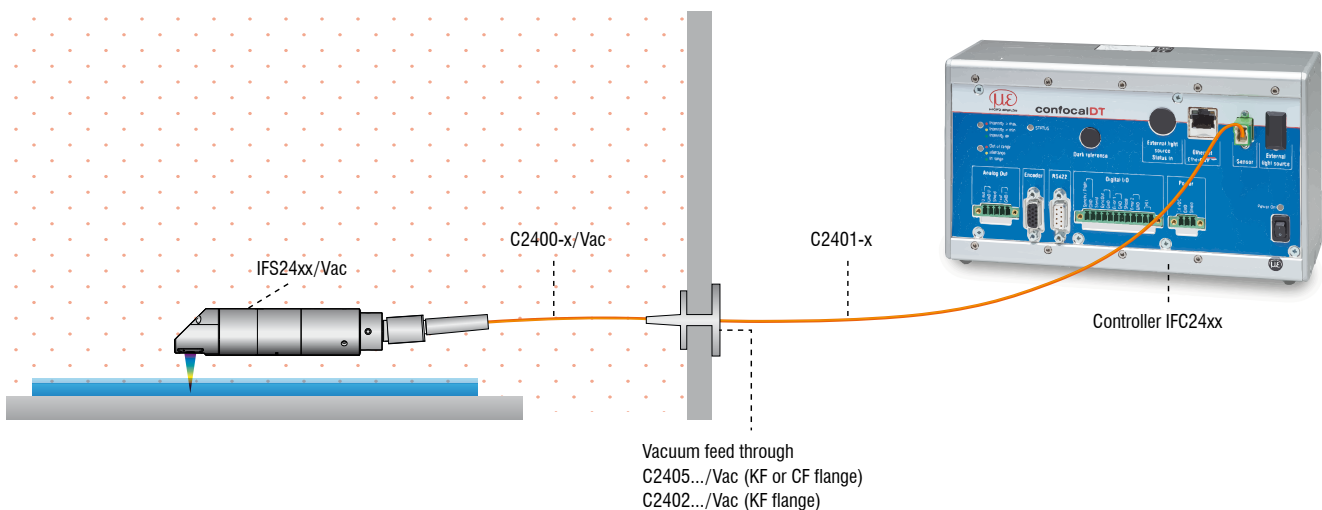
Application examples are often found where the standard versions of the sensors and the controllers are performing at their limits. To facilitate such special tasks it is possible to customize the sensor design and to adjust the controller accordingly. Common requests for modifications include changes in design, mounting options, customized cable lengths and modified measuring ranges.



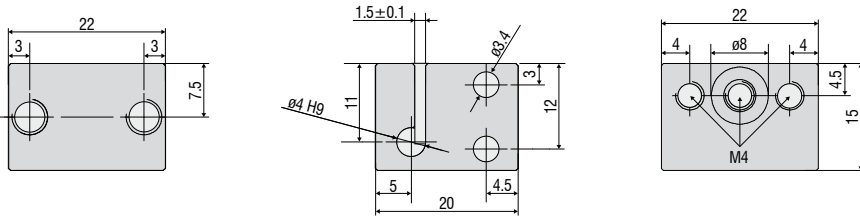
Possible modifications

- Sensors with connector
- Cable length
- Vacuum suitability up to UHV
- Specific lengths
- Customer-specific mounting options
- Optical filter for ambient light compensation
- Housing material
- Measuring range / Offset distance

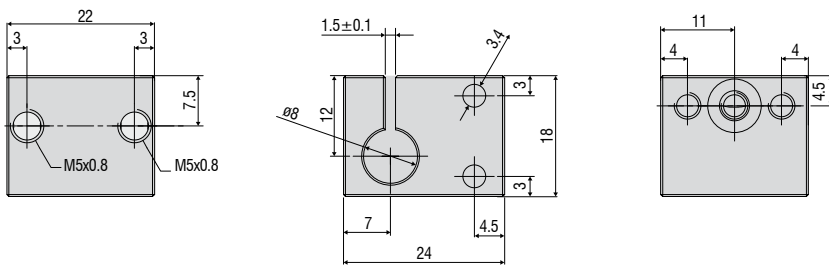
Vacuum setup



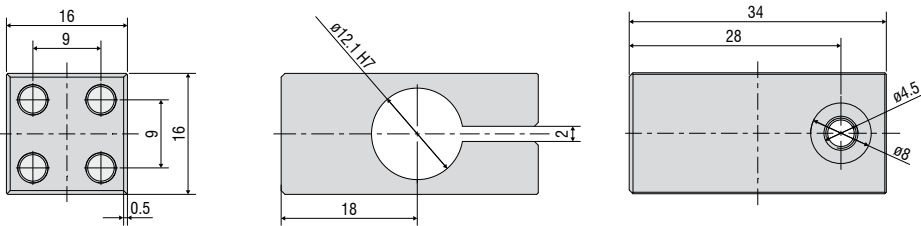
Accessories: mounting adapter
MA2402 for sensors 2402



Accessories: mounting adapter
MA2403 for sensors 2403

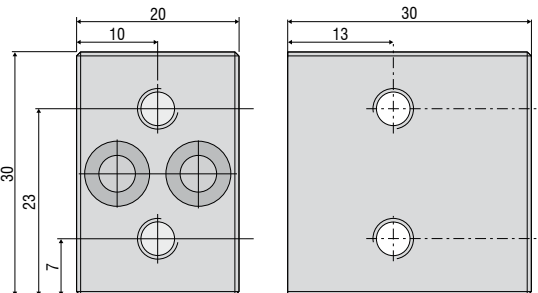


Accessories: mounting adapter
MA2404-12 for sensors IFS2404-2

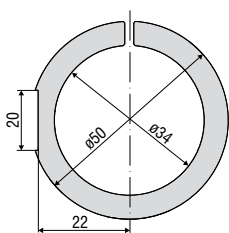
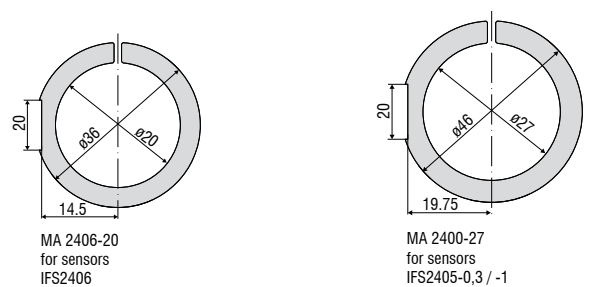


Accessories: mounting adapter
MA2400 for sensors IFS2405/IFS2406 (consisting of a mounting block and a mounting ring)

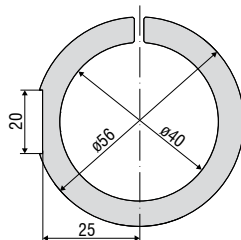
Mounting block



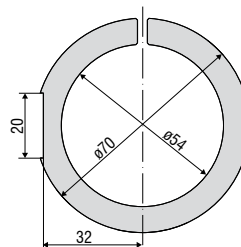
Mounting ring



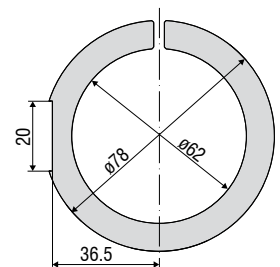
MA 2405-34
for sensors
IFS2405-3



MA 2405-40
for sensors
IFS 2405-6



MA 2405-54
for sensors
IFS2405-10



MA 2405-62
for sensors
IFS2405-28 / IFS2405-30

Accessories

Software

IFD24n1-Tool Free demo software tool included

Accessories light source

IFL2422/LE Lamp module for IFC2422
 IFL24x1/LED Lamp module for IFC24x1
 IFL2451/LED(003) Lamp module for IFC2451(003)

Cable extension for sensors

CE2402 Cable with 2x E2000/APC connectors
 CE2402-x Extension for optical fiber (3 m, 10 m, 13 m, 30 m, 50 m)
 CE2402-x/PT Extension for optical fiber with protection tube for mechanical stress (3 m, 10 m, customer-specific length up to 50 m)

Cable for IFS2404 sensors

C2404-x (01) Optical fiber core diameter 20 μm (2 m)

Cables for IFS2405/IFS2406/2407-0,1 sensors

C2401 Cable with FC/APC and E2000/APC connectors
 C2401-x Optical fiber (3 m, 5 m, 10 m, customer-specific length up to 50 m)
 C2401/PT-x Optical fiber with protection tube for mechanical stress (3 m, 5 m, 10 m, customer-specific length up to 50 m)
 C2401-x (01) Optical fiber core diameter 26 μm (3 m, 5 m, 15 m)
 C2401-x(10) Drag-chain suitable optical fiber (3 m, 5 m, 10 m)

C2400 Cable with 2x FC/APC connectors
 C2400-x Optical fiber (3 m, 5 m, 10 m, customer-specific length up to 50 m)
 C2400/PT-x Optical fiber with protection tube for mechanical stress (3 m, 5 m, 10 m, customer-specific length up to 50 m)
 C2400/PT-x-Vac Optical fiber with protection tube suitable for use in vacuum (3 m, 5 m, 10 m, customer-specific length up to 50 m)

Cable for IFS2407/90-0,3 sensors

C2407-x Optical fiber with DIN connector and E2000/APC (2 m, 5 m)

Vacuum feed through

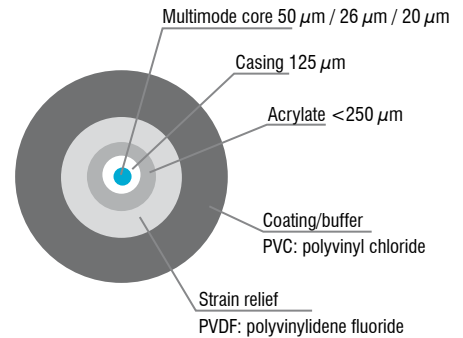
C2402/Vac/KF16 Vacuum feed through with optical fiber, 1 channel, vacuum side FC/APC non-vacuum side E2000/APC, clamping flange KF 16
 C2405/Vac/1/KF16 Vacuum feed through on both sides FC/APC socket, 1 channel, clamping flange type KF 16
 C2405/Vac/1/CF16 Vacuum feed through on both sides FC/APC socket, 1 channel, flange type CF 16
 C2405/Vac/6/CF63 Vacuum feed through FC/APC socket, 6 channels, flange type CF 63

Other accessories

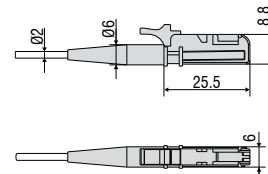
SC2471-x/USB/IND Connector cable IFC2451/61/71, 3 m, 10 m, 20 m
 SC2471-x/IF2008 Connector cable IFC2451/61/71-IF2008, 3 m, 10 m, 20 m
 PS2020 Power supply 24V / 2.5A
 EC2471-3/OE Encoder cable, 3m

Optical fiber

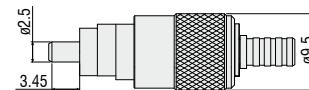
Temperature range : -50°C to 90°C
 Bending radius: 30/40 mm



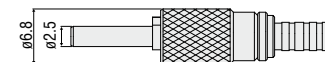
E2000/APC standard connector



FC/APC standard connector



DIN connector



Sensors and Systems from Micro-Epsilon



Sensors and systems for displacement, distance and position



Sensors and measurement devices for non-contact temperature measurement



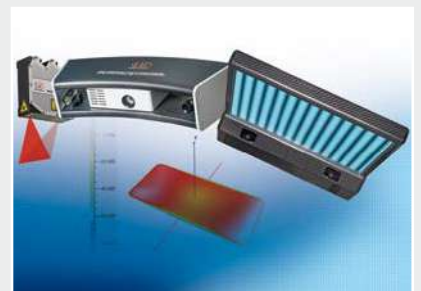
Measuring and inspection systems for metal strips, plastics and rubber



Optical micrometers and fiber optics, measuring and test amplifiers



Color recognition sensors, LED analyzers and inline color spectrometers



3D measurement technology for dimensional testing and surface inspection



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