



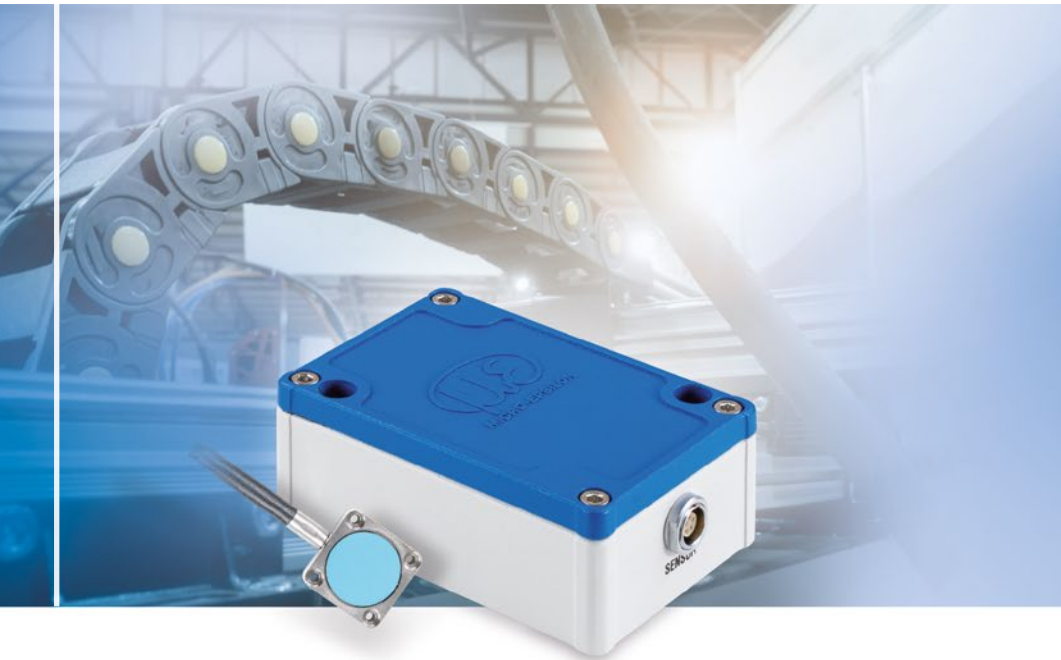
More Precision

capa**NCDT** 61x4 // Active capacitive measuring system for long signal transmission paths



Active capacitive measuring system
for long signal transmission paths

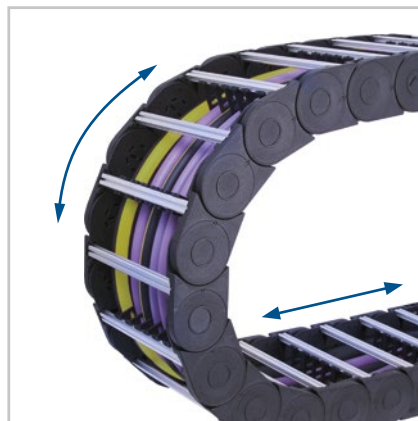
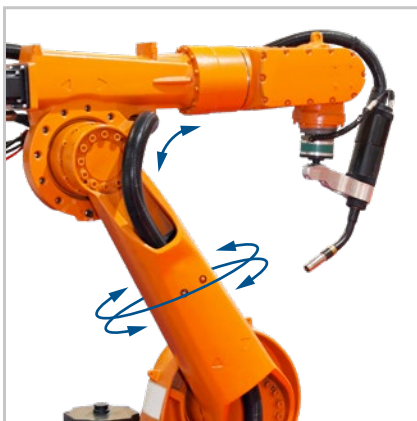
capaNCDT 61x4



- Ideal for long signal transmission paths up to 15 m
- Robust sensor cable for use on trailing chains and robots
- Easy integration due to flexible cable routing
- Highest signal stability even with sensor cable in motion
- RS485 interface or analog output

The capaNCDT DT61x4 is an active, capacitive system for displacement, distance and position measurement in industrial applications. Consisting of a sensor with integrated preamplifier, a robust cable and a compact controller, the innovative measuring system is immediately ready for use without any on-site calibration. The integrated preamplifier allows the sensor to bridge long signal transmission paths while maintaining high signal stability.

With cable lengths up to 15 m, the capaNCDT 61x4 is used in the fields of automation, robot manufacturing and drag chain tasks. Moreover, the capaNCDT 61x4 is also suitable for machine building and semiconductor applications. For optimum signal quality, the desired cable length is already factory-calibrated. The active flat sensor is designed with a ceramic sensor element and impresses by its compact and robust design.



Offering high flexibility and lengths up to 15 m, the robust capaNCDT 61x4 cables are ideally suited to measurement tasks on the robot and in automation technology.

Controller	DT6114/5	DT6114/15	DT6124/5	DT6124/15
Resolution	static (2 Hz)		0.01 % FSO	
	dynamic (1 kHz)		0.015 % FSO	
Frequency response (-3dB)	1 kHz			
Measuring rate	-	-	selectable: max. 2 kSa/s	selectable: max. 2 kSa/s
Linearity ¹⁾	< ±0.1 % FSO	< ±0.25 % FSO	< ±0.1 % FSO	< ±0.25 % FSO
Temperature stability	< 100 ppm FSO / K			
Sensitivity	< ±0.2 % FSO			
Long-term stability	< 0.05 % FSO / month			
Synchronization	no			
Supply voltage	9 ... 36 VDC			
Power consumption	1.32 W (24 V DC)		1.44 W (24 V DC)	
Digital interface	-	-	RS485; 24 bit; 230400 baud (adjustable)	
Analog output	0 ... 10 V (short-circuit-proof); optional: ±5 V; 10 ... 0 V			
Connection	Sensor: 5-pin connector; Supply/signal: 5-pin connector (suitable connection cable SCAC3/5 included)		Sensor: 5-pin connector; Supply/signal: 6-pin connector (suitable connection cable SCAC3/6 included)	
Mounting	2x through bores for M4 screw			
Temperature range	Storage		-10 ... +75 °C	
	Operation		+10 ... +60 °C	
Shock (DIN EN 60068-2-27)	20 g / 5 ms, 6 axes, 1000 shocks each, criterion B			
Vibration (DIN EN 60068-2-6)	10 Hz ... 49.8 Hz: 1 mm, 49.8 Hz ... 2000 Hz: 10 g, 3 axes 10 cycles each, criterion B			
Protection class (DIN EN 60529)	IP40			
Weight	approx. 165 g			
Compatibility	compatible with active sensors of type CSHA			

FSO = Full Scale Output

¹⁾ Valid only for controller. The channel's total linearity consists of the values for controller and sensor.

Sensor	CSHA2FL-CRa5	CSHA2FL-CRa15
Measuring range	reduced	1 mm
	nominal	2 mm
	expanded	4 mm
Resolution ¹⁾	Performance	-
	industrial	300 nm
Linearity ²⁾	< ±2 μm	< ±5 μm
Temperature stability ³⁾	< 0.2 μm / K	< 0.2 μm / K
Min. target size (flat)	Ø 17 mm	Ø 17 mm
Connection	integrated cable, length 5 m, drag-chain suitable; minimum bending radius: dynamic 60 mm (15 x Ø 4.0 mm)	integrated cable, length 15 m, drag-chain suitable; minimum bending radius: dynamic 60 mm (15 x Ø 4.0 mm)
Mounting	4 x through-bores for M2 screw	
Temperature range	Storage	
	-40 ... +80 °C	
Humidity ⁴⁾	Operation	
	-40 ... +80 °C	
Shock (DIN EN 60068-2-27)	0 ... 95 % r.H.	
Vibration (DIN EN 60068-2-6)	50 g / 5 ms, 6 axes, 1000 shocks each	
Protection class (DIN EN 60529)	10 Hz ... 46.15 Hz: 3.5 mm, 46.15 Hz ... 2000 Hz: 30 g, 3 axes 10 sweeps each, criterion B	
Material	IP40	
Weight	1.4104 (magn.)	
Compatibility	approx. 130 g (incl. cable)	approx. 360 g (incl. cable)
	compatible with capacitive controllers of DT61x4 series from Micro-Epsilon	

¹⁾ Referred to nominal measuring range

²⁾ Sensor linearity must be added to controller linearity

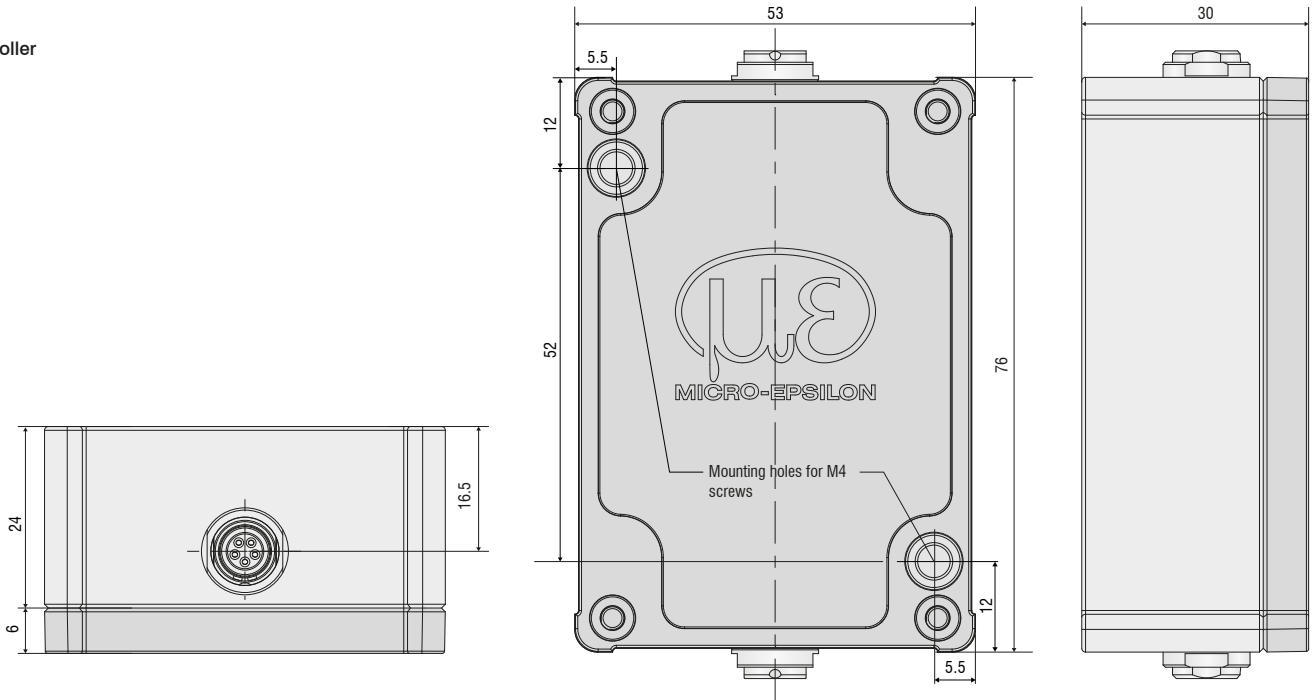
³⁾ With recommended mounting option

⁴⁾ Non-condensing

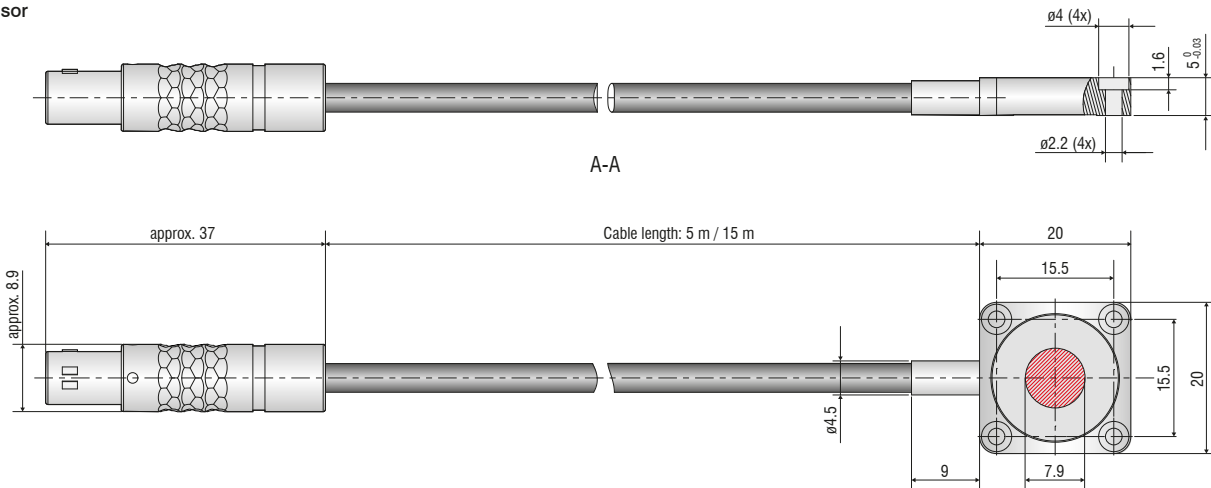
Dimensions:

(dimensions in mm, not to scale)

Controller



Sensor



Active measuring area

Pin assignment of supply and signal cable (DT6114)

Assignment	Color (cable: SCAC3/5)
Supply +24 V	White
GND supply	Gray
Not used	Yellow
GND analog output	Green
Analog output U (load min. 10 kOhm)	Brown

Pin assignment of supply and signal cable (DT6124)

Assignment	Color (cable: SCAC3/6)
Supply +24 V	White
GND supply	Gray
RS485_A	Pink
GND analog output	Green
Analog output U (load min. 10 kOhm)	Brown
RS485_B	Blue