



More Precision

capaNCDT // Capacitive displacement sensors and systems





- Modular, expandable for up to 4 channels
- Ethernet / EtherCAT interface
- Easy configuration using the web browser
- Resolution up to 0.0005% FSO
- Bandwidth: 5kHz
- Digital data rate: 4 x 3.9kSa/s
- Trigger feature
- Synchronous operation supported

System structure

The new capaNCDT 6200 is an innovative measuring system that offers excellent performance at a very attractive price. Its modular design ensures that you can easily combine up to 4 channels. The measuring system includes a control unit and a demodulator for each sensor. Its Ethernet interface supports fast and easy configuration through a web browser. The modulator DL6230 is available for high resolution measurements.

The compact controller can be used as benchtop unit, it can be mounted to the wall or on a tophat rail. The capaNCDT 6200 is compatible with all Micro-Epsilon sensors.

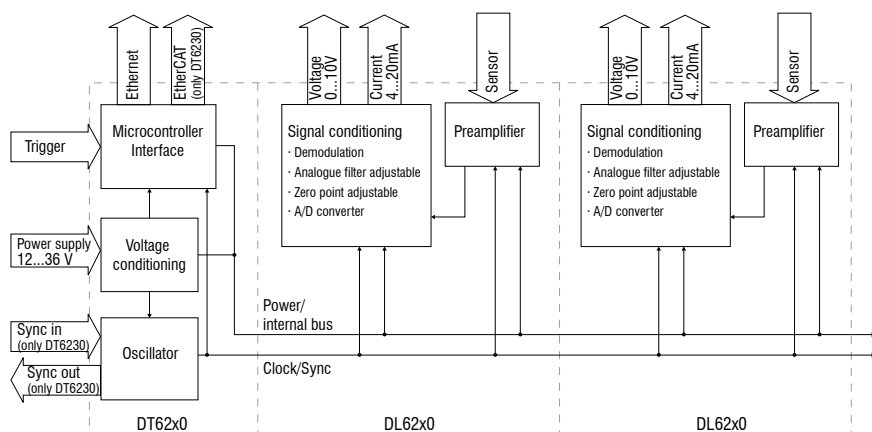
A measuring system consists of:

- control unit DT62x0
- demodulator DL62x0
- sensor
- sensor cable
- power supply cable
- Ethernet cable EtherCAT cable
- signal output cable

Accessories:

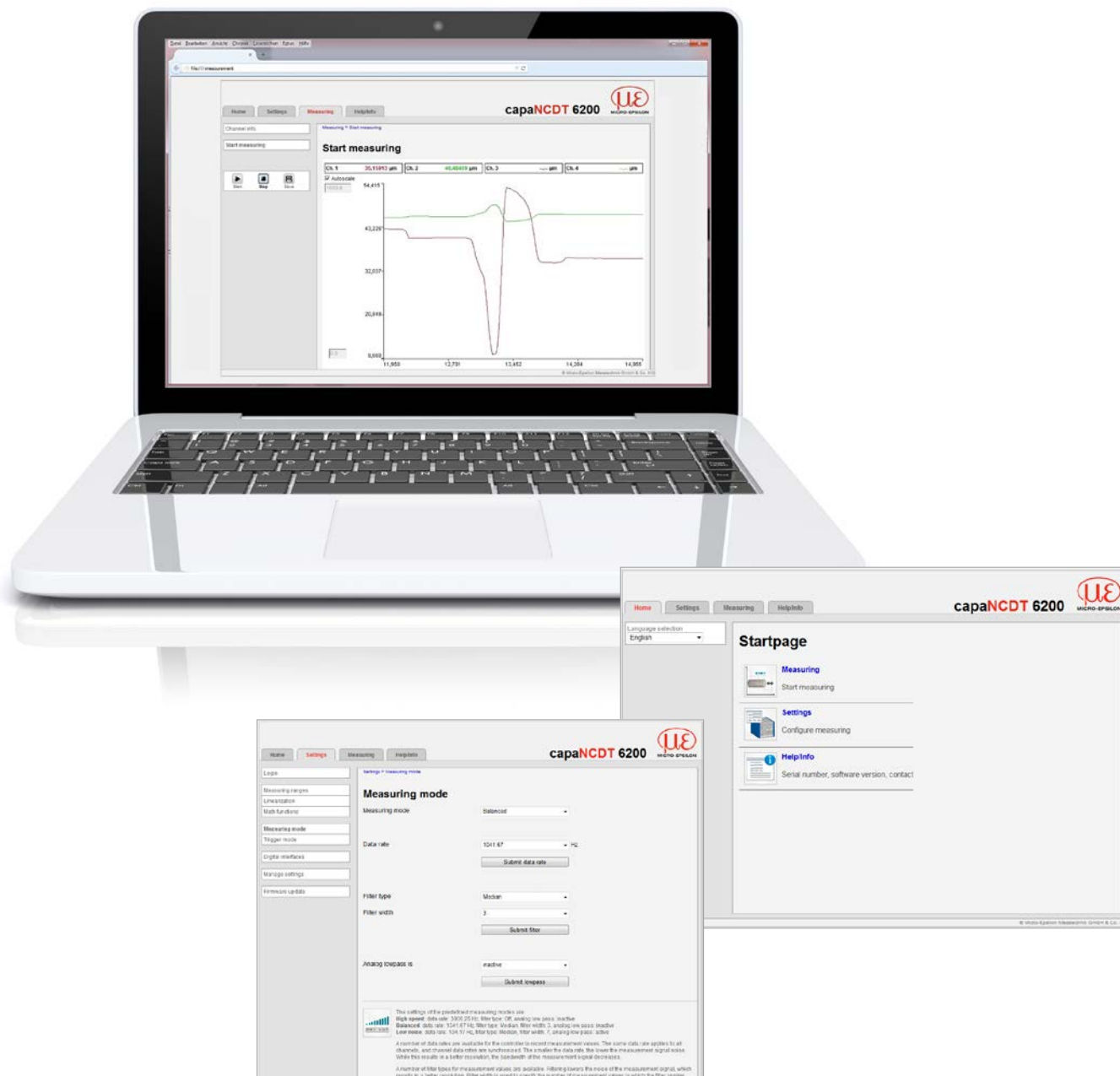
- signal output cable
- power supply cable
- DIN rail brackets
- mounting plates for wall mounting

Block diagram



Web interface

The controller is configured by the Ethernet which calls the web interface. Up to 8 channels can be visualised and combined arithmetically.



Options

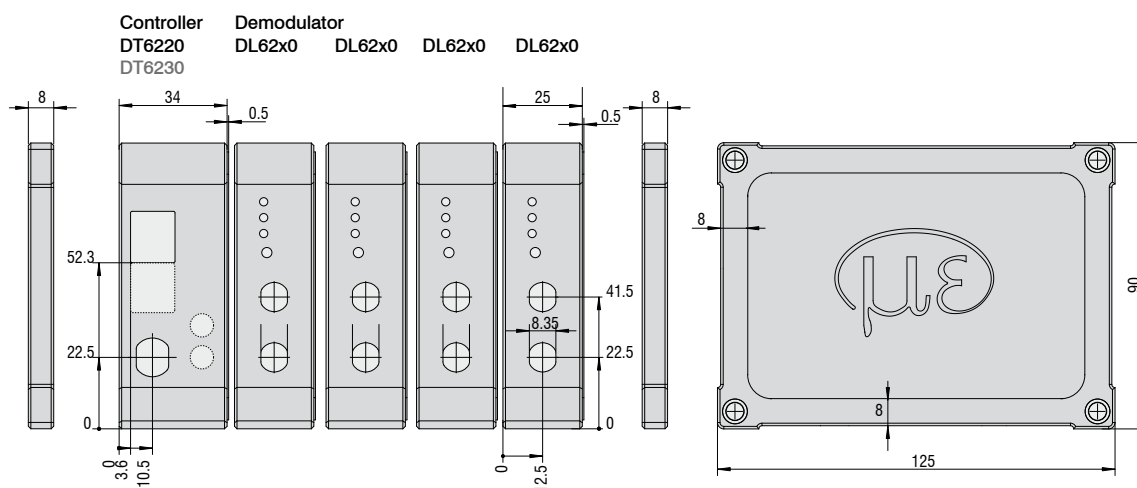
Article number	Description	Explanation	Suitable for articles			
			2303018 DL6220	2303022 DL6220/ECL2	2303023 DL6220/ECL3	2303029 DL6220/LC
2982044	LC DL62x0 digital	special calibration of linearity on digital output	○	○	○	•
2982045	LC DL62x0 analogue	special calibration of linearity on analogue output	○	○	○	•
2982046	ECL2 DL6220	special tuning for double standard cable length (CC =2m / CCm =2.8m / CCg =4m)	-	•	-	•
2982047	ECL3 DL6220	special tuning for triple standard cable length (CC =3 m / CCm =4,2 m / CCg =6 m)	-	-	•	•
2982048	EMR2 DL6220	extended measuring range (factor: 2) contains LC DL62x0 digital and LC DL62x0 analogue	○	○	○	•
2982049	RMR1/2 DL6220	reduced measuring range (factor: 1/2) contains LC DL62x0 digital and LC DL62x0 analogue	○	○	○	•

Article number	Description	Explanation	Suitable for articles			
			2303019 DL6230	2303024 DL6230/ECL2	2303025 DL6230/ECL3	2303030 DL6230/LC
2982044	LC DL62x0 digital	special calibration of linearity on digital output	○	○	○	•
2982045	LC DL62x0 analogue	special calibration of linearity on analogue output	○	○	○	•
2982054	ECL2 DL6230	special tuning for double standard cable length (CC =2m / CCm =2.8m / CCg =4m)	-	•	-	•
2982055	ECL3 DL6230	special tuning for triple standard cable length (CC =3m / CCm =4.2m / CCg =6m)	-	-	•	•
2982051	EMR2 DL6230	extended measuring range (factor: 2) contains LC DL62x0 digital and LC DL62x0 analogue	○	○	○	•
2982052	EMR3 DL6230	extended measuring range (factor: 3) contains LC DL62x0 digital and LC DL62x0 analogue	○	○	○	•
2982053	RMR1/2 DL6230	reduced measuring range (factor: 1/2) contains LC DL62x0 digital and LC DL62x0 analogue	○	○	○	•

- Articles already contain the option
- Option available
- No option available

Controller type DT62x0		Demodulator DL6220	Demodulator DL6230
Resolution static		0.004% FSO	0.0005% FSO
Resolution dynamic		0.02% FSO (5kHz)	0.005% FSO (5kHz)
Bandwidth		5kHz (-3dB)	5kHz (-3dB)
Bandwidth adjustable		5kHz, 20Hz	5kHz, 20Hz
Bandwidth digital output		max. 3.906 kSa/s	max. 3.906 kSa/s
Linearity (typ.)		$\leq \pm 0.05\%$ FSO	$\leq \pm 0.025\%$ FSO
Max. sensitivity deviation		$\leq \pm 0.1\%$ FSO	$\leq \pm 0.1\%$ FSO
Long term stability		$\leq 0.02\%$ FSO/month	$\leq 0.02\%$ FSO/month
Synchronous operation supported	DT6220	yes (only internal)	yes (only internal)
	DT6230	yes	yes
Insulator measurement		no	no
Temperature stability		200ppm	200ppm
Temperature range (operation)	Sensor	-50 ... + 200°C	-50 ... + 200°C
	Controller	+10 ... +60°C	+10 ... +60°C
Temperature range (storage)		-10 ... +75°C	-10 ... +75°C
Supply	DT6220	24VDC (12...36VDC)	24VDC (15...36VDC)
	DT6230	24VDC (15...36VDC)	24VDC (15...36VDC)
Power consumption	per DL62x0	1.8W (typ.); 2.0 W (max.)	1.9W (typ.); 2.2W (max.)
	DT6220	3.1W (typ.)	3.1W (typ.)
	DT6230	3.8W (typ.)	3.8W (typ.)
Analogue output		0 ... 10V (short circuit proof)	0 ... 10V (short circuit proof)
		4...20mA (load max. 500Ω)	4...20mA (load max. 500Ω)
Digital interface	DT6220	Ethernet	Ethernet
	DT6230	Ethernet + EtherCAT	Ethernet + EtherCAT
Sensors		all sensors	all sensors
Sensor cable standard		CC cable $\leq$ 1m CCm cable = 1.4m CCg cable = 2m	CC cable $\leq$ 1m CCm cable = 1.4m CCg cable = 2m
Sensor cable (matched)		double / triple standard cable length	double / triple standard cable length
Trigger		TTL, 5V	TTL, 5V
Number of channels		max. 4	max. 4

FSO = Full Scale Output



Sensor cable **Cable CCx,x / CCx,x/90**

Description Low-outgassing cable up to 4m length, for applications in clean rooms

Temperature stability -100°C to +200°C

Outer diameter 3.1mm ±0.1mm

Bending radius 3x cable diameter during installation; 7x cable diameter for movement; 12x cable diameter recommend at continuous movement

Cable **CCmx,x / CCmx,x/90**

Description Low-outgassing cable up to 4.2m length, for applications in clean rooms, UHV and EUV

Temperature stability -100°C to +200°C

Outer diameter 2.1mm ±0.1mm

Cable **CCgx,x / CCgx,x/90**

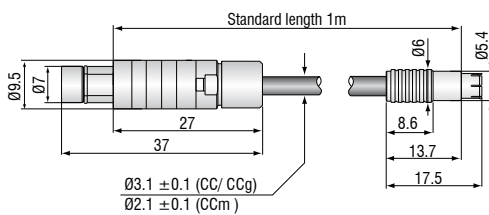
Description Robust cable up to 8m length, for industrial applications

Temperature stability -20°C to +80°C (permanent)
-20°C to +100°C (10,000 h)

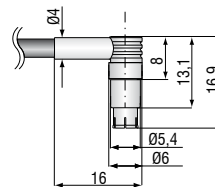
Outer diameter 3.1mm ±0.1mm

Version	Cable with connector type C for sensors CS005 / CS02 / CS05 / CSE05 / CS08 / CSE1						Cable with connector type B for sensors CS1 / CS1HP / CS2 / CSE2 / CS3 / CS5 / CS10					
	2 x straight connector			1 x straight / 1 x 90° connector			2 x straight connector			1 x straight / 1 x 90° connector		
Type	CCx,xC	CCmx,xC	CCgx,xC	CCx,xC/90	CCmx,xC/90	CCgx,xC/90	CCx,xB	CCmx,xB	CCgx,xB	CCx,xB/90	CCmx,xB/90	CCgx,xB/90
Standard 1m	•		•	•		•	•		•	•		•
1.4m		•			•			•			•	
2m	•		•	•		•	•		•	•		•
2.8m		•			•			•			•	
3m	•			•			•			•		
4m			•			•			•			•
4.2m		•			•			•			•	
6m			•			•			•			•
8m			•			•			•			•

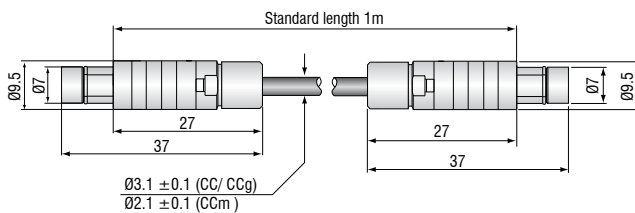
Sensor cable with connector type C



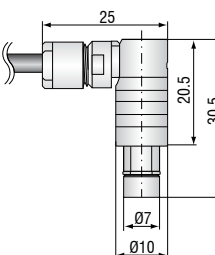
Connector type C/90



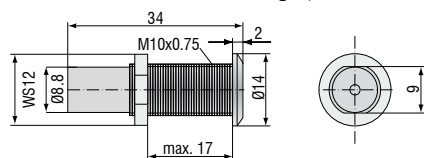
Sensor cable with connector type B



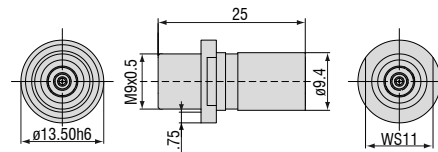
Connector type B/90



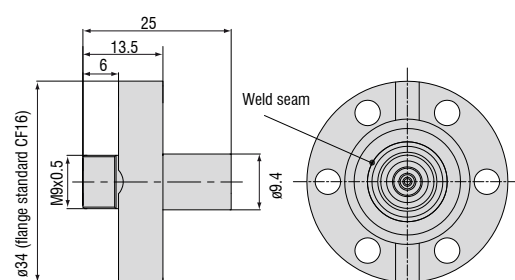
Accessories	capaNCDT	6110	6200	6500
MC2.5 Micrometer for sensor calibration, range 0 - 2.5mm, Resolution 0.1µm. Suitable for sensors CS005 to CS2	•	•	•	•
MC25D Digital micrometer for sensor calibration, range 0 - 25mm, adjustable offset (zero). Suitable for all sensors.	•	•	•	•
HV/B Vacuum feed through triaxial	•	•	•	•
UHV/B Vacuum feed through triaxial for ultra-high vacuum	•	•	•	•
PC6200-3/4 Power-/trigger cable, 4 pin, 3m			•	
SCAC3/4 Signal output cable, (necessary for multi channel applications), 4 pin, 3m			•	
SCAC3/5 Signal output cable, analog, 5 pin, 3m	•			
SC6000-1,0 Synchronization cable, 5 pin, 1m			•	•
CA5 Preamplifier cable 5 pin, 5m				•
PS2020 Power supply for DIN rail mounting; Input 230VAC (115VAC); Output 24VDC / 2.5 A; L/W/H 120x120x40mm	•	•	•	•

HV/B Vacuum feed through (Art.-no. 0323050)

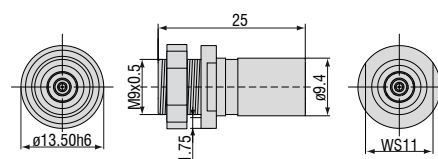
Max. leak rate 1×10^{-7} mbar · l s⁻¹, compatible with connector type B

UHV/B Vacuum feed triax weldable (Art.-no. 0323346)

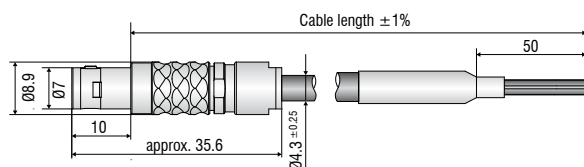
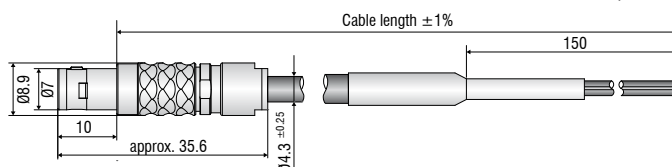
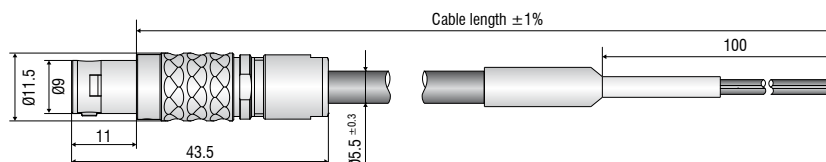
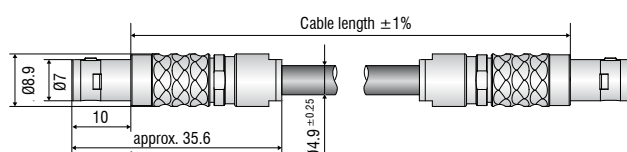
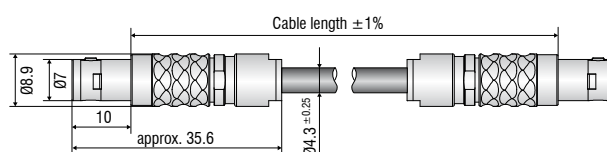
Max. leak rate 1×10^{-9} mbar · l s⁻¹, compatible with connector type B

UHV/B Vacuum feed triax with flange CF16 (Art.-no. 0323349)

Max. leak rate 1×10^{-9} mbar · l s⁻¹, compatible with connector type B

UHV/B Vacuum feed triax screwable (Art.-no. 0323370)

Max. leak rate 1×10^{-9} mbar · l s⁻¹, compatible with connector type B

SCA3/4 Signal output cable (Art.-no. 2902104)**SCA3/5 Signal output cable (Art.-no. 2902112)****PC6200-3/4 Power-/trigger cable (Art.-no. 2901881)****SC6000-1,0 Synchronization cable (Art.-no. 2903473)****CA5 Preampifier cable (Art.-no. 2903180)**

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, fibre optic sensors and fibre optics



Colour recognition sensors, LED analyzers and colour online spectrometer



Measurement and inspection systems



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