



Quick Manual
capa**NCDT 6110/6112/6120**

DT6110
DT6112
DT6120

DT6110/IP
DT6120/IP

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You can find more information about the measurement system in the operating instructions. They are available online at:

www.micro-epsilon.com/download/manuals/man--capaNCDDT-6110-6120--en.pdf

www.micro-epsilon.com/download/manuals/man--capaNCDDT-6110-6120IP--en.pdf



General

Symbols Used

The following symbols are used in this document:



Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.



Indicates a situation that may result in property damage if not avoided.



Indicates a user action.



Indicates a tip for users.



Sensor measurement direction

Warnings



Disconnect the power supply before touching the sensor surface.

> Risk of injury, static discharge

Connect the power supply and the display/output device according to the safety regulations for electrical equipment.

> Risk of injury, damage to or destruction of the sensor and/or the controller



Avoid shocks and impacts to the sensor and the controller.

> Damage to or destruction of the sensor and/or the controller

The supply voltage must not exceed the specified limits.

> Damage to or destruction of the sensor and/or the controller

Protect the sensor cable against damage.

> Destruction of the sensor, failure of the measurement system.

Intended Use

- The measuring system is designed for use in an industrial environment. It is used for
 - measuring displacement, distance, movement and thickness,
 - measuring the position of parts or machine components.
- The measuring system must only be operated within the limits specified in the technical data.
- The measuring system must be used in such a way that no persons are endangered or machines and other material goods are damaged in the event of malfunction or total failure of the controller..
- Take additional precautions for safety and damage prevention in case of safety-related applications.

Proper Environment

Temperature range controller	Operation	Storage
DT61xx	+10 ... +60 °C (+50 ... +140 °F)	-10 ... +75 °C (+14 ... +167 °F)
DT61x0/IP	-20 ... +60 °C (-4 ... +140 °F)	-20 ... +75 °C (-4 ... +167 °F)

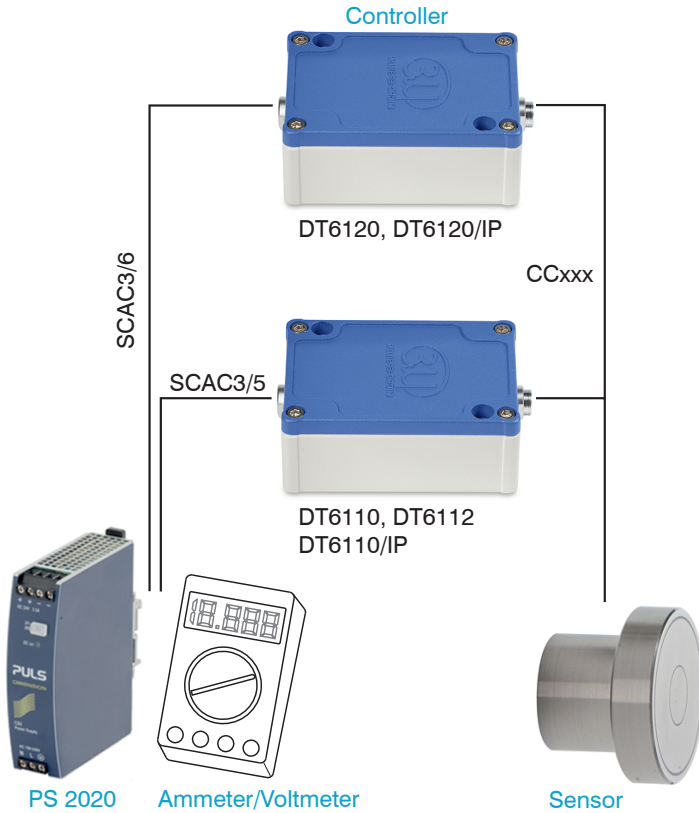
Temperature range sensor	Operation	Storage
DT61xx	-50 ... +200 °C (-58 ... +392 °F)	
DT61x0/IP		
type CSE		
type CSF	-40 ... +100 °C (-40 ... +212 °F)	

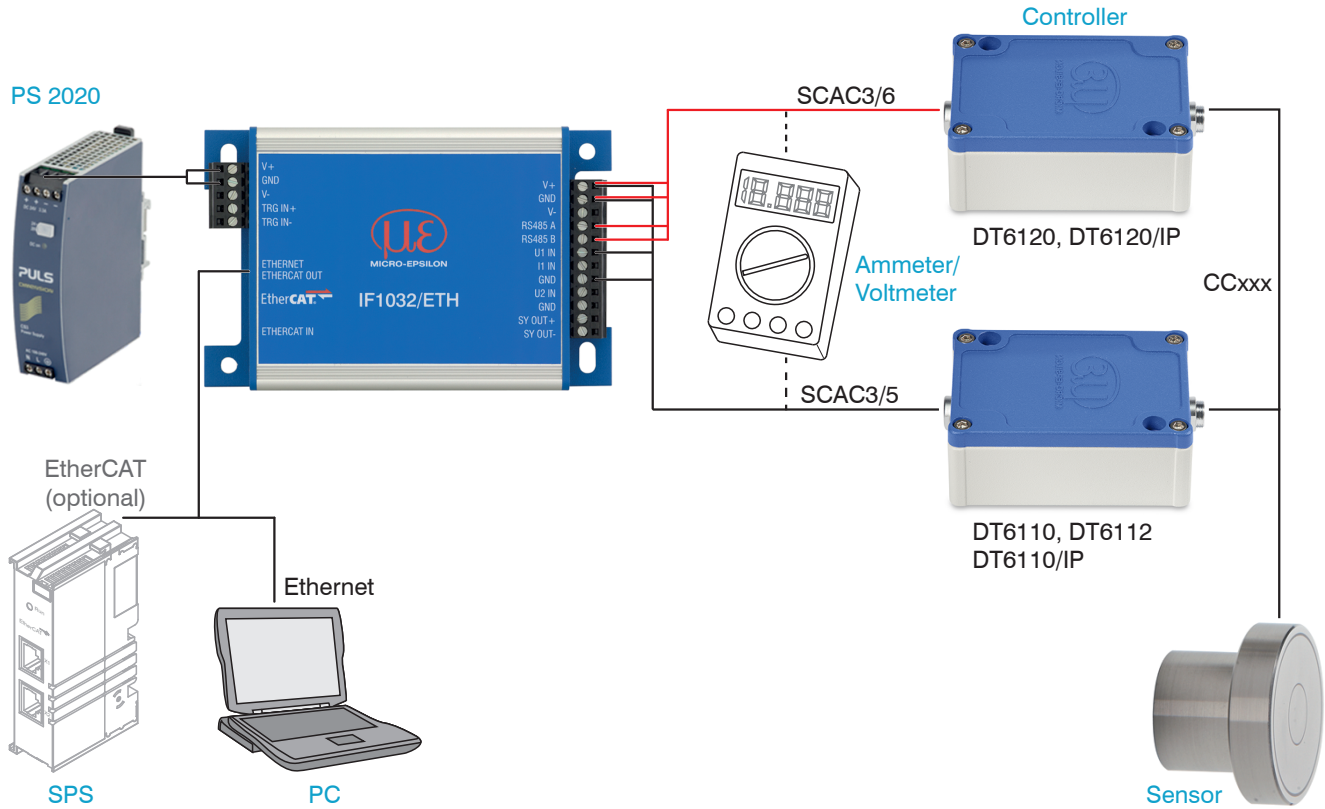
Temperature range sensor cable	Operation			Storage
		Permanent	Up to 10,000 h	
DT61xx	CCx, CCx/90	-100 ... +200 °C (-148 ... +392 °F)		-50 ... +200 °C (-58 ... +392 °F)
	CCmx, CCmx/90			
	CCgx, CCgx/90	-20 ... +80 °C (-4 ... +176 °F)	-20 ... +100 °C (-4 ... +212 °F)	-50 ... +80 °C (-58 ... +176 °F)
DT61x0/IP				

- Protection class
 - Sensors IP54 (DT61xx, when plugged in)
 - IP40, IP54 (DT61x0/IP)
 - Controller IP40 (DT61xx)
 - IP68 (DT61x0/IP)
- Humidity 5 ... 95 % RH (non-condensing)
- Ambient pressure Atmospheric pressure
- The space between the sensor surface and the target must have an unvarying dielectric constant.
- The space between the sensor surface and the target may not be contaminated (e. g. water, rubbed-off parts, dust, etc.).

Setup, Connection Options

Power supply and signal output are provided via plug connectors on the front of the controller.





Ground Connection, Earthing

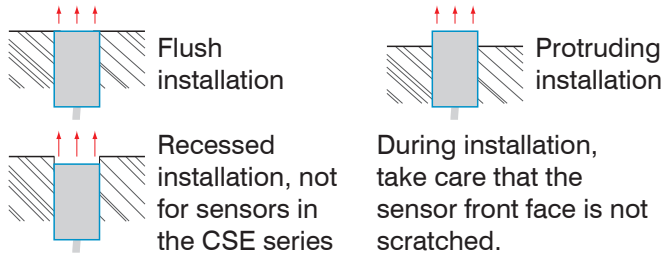
► Ensure sufficient grounding of the target, for example, by connecting it to the sensor or the power supply ground.

Installation and Assembly

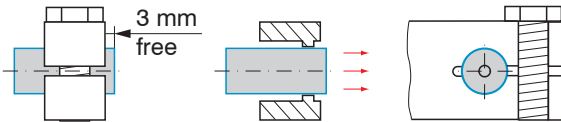
No sharp or heavy objects should be allowed to affect the cable sheath.

i A damaged cable cannot be repaired. Tension on the cable is not permitted!

Sensor



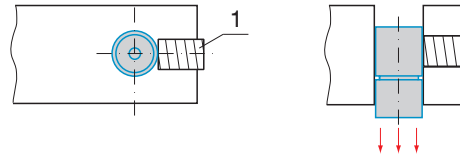
Clamping Around Circumference, Cylindrical Sensors



Clamping around circumference, assembly with clamp collet

- High reliability
- Flat clamping across cylindrical housing
- Recommended assembly for e.g., machines, production facilities, etc.

Radial Spot Clamping with Grub Screw, Cylindrical Sensors

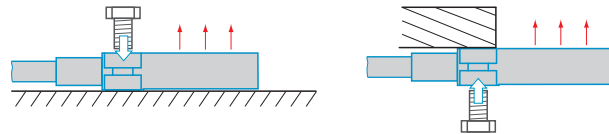


Radial spot clamping with grub screw (1)

- Simple mounting option
- Recommended assembly only for installation locations that are free of impact or vibration
- The grub screw must be made of plastic

Do not use metal grub screws!
> Risk of damage to the sensor

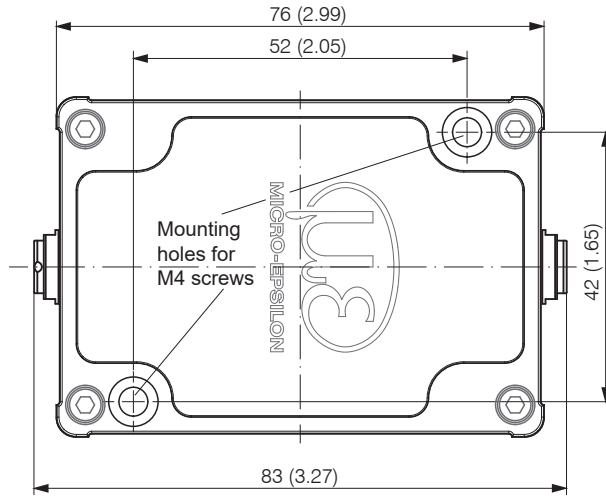
Flat Sensors



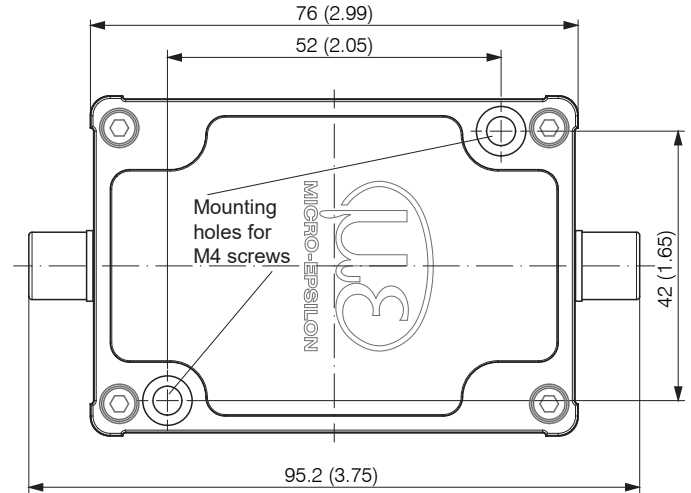
Screwed connection from top

Screwed connection from bottom

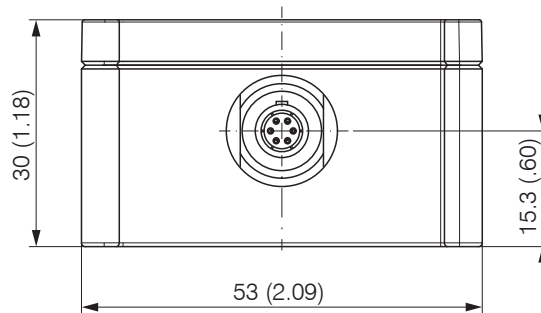
Controller DT61xx, DT61x0/IP



Dimensional drawing controller DT61xx



Dimensional drawing controller DT61x0/IP



Dimensions in mm (inches)

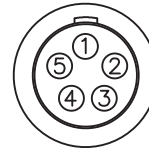
Dimensional drawing shows the connector side of the controller DT6120

Commissioning

Power Supply, Display/Output Device DT6110, DT6112

The power supply and signal output occur via the 5-pin connector on the front side of the controller.

PIN	Wire color SCAC3/5	Signal	Description
1	white	+24 V	+24 V power supply
2	gray	GND	Supply ground
3	yellow	-	not used
4	green	AGND	Analog ground (for signal output)
5	brown	U-out ¹	Signal output (load, min 10 kOhm)
Shield			Cable shield, housing



View: solder side, 5-pin.
female cable connector



Connection power supply

SCAC3/5 is a 3 m long, pre-assembled power supply and output cable.



SCAC3/5 power supply and
output cable

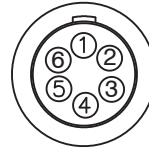
1) Current output with DT6110/IP/I

Power Supply, Display/Output Device DT6120

PIN	Color SCAC3/6	Signal	Description
1	white	+24 V	+24 V power supply
2	gray	GND	Supply ground
3	pink	RS485_A	RS485 interface
4	green	AGND	Analog ground (for signal output)
5	brown	U-out ¹	Signal output (load, min 10 kOhm)
6	blue	RS485_B	RS485 interface
Shield			Cable shield, housing

SCAC3/6 is a 3 m long, pre-assembled power supply and output cable.

1) Current output with DT6120/IP/I



View on solder pin side,
6-pin. female cable
connector



Connection power supply



SCAC3/6 power supply and
output cable

Power Supply, Display/Output Device DT61x0/IP

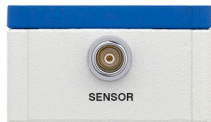
PIN	Color SCAC3/6/IP	Signal	Description
1	white	+24 V	+24 V power supply
2	gray	GND	Supply ground
3	pink	RS485_A ¹	RS485 interface
4	green	AGND	Analog ground (for signal output)
5	brown	U-out	Voltage output (load, min 10 kOhm)
		I-out ²	Current output (max. 500 Ohm load)
6	blue	RS485_B ¹	RS485 interface
Shield			Cable shield, housing

SCAC3/6 is a 3 m long, pre-assembled power supply and output cable.

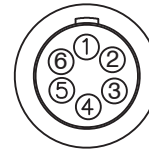
1) Digital interface with DT6120/IP/U or DT6120/IP/I only

2) Voltage or current output

Sensor Connection



Connection sensor cable



View on solder pin side,
6-pin. female cable
connector



Connection power supply



SCAC3/6/IP power supply
and output cable

Operation

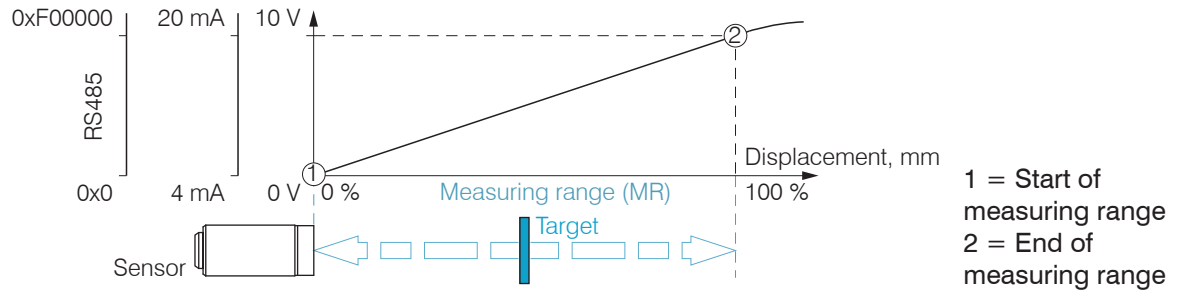
➔ Connect the display/output devices through the signal output socket, see operating instructions Chap. 4.6, before connecting the device to the power supply and switching on the power supply.

The measuring system is delivered calibrated. Calibration by the user is not necessary.

i Allow the measuring system to warm up for about 10 minutes before the first measurement.

NOTICE

The power supply may not exceed or continuously fall below the specified limits.
 > Damage to or destruction of the sensor and/or controller



Output characteristic controller

CAUTION

Disconnect the power supply before touching the sensor surface.
 > Static discharge, risk of injury

	DT6110	DT6110/ECL2	DT6110/IP/U	DT6112	DT6112/ECL2	DT6110/IP/I	DT6120/IP/I	DT6120	DT6120/ECL2	DT6120/IP/U
0 ... 10 V	x	x	x	x	x			x	x	x
4 ... 20 mA						x	x			
RS485							x	x	x	x

Operation and Maintenance

Please note for operation and maintenance:

- ▶ Ensure that the sensor surface is always clean.
- ▶ Before cleaning, turn off the supply voltage.
- ▶ Clean with a damp cloth and then rub the sensor surface dry.

If the target has been changed or operating periods are very long, minor losses in operating quality are possible. You can correct these long-term errors by recalibrating.

- ▶ Disconnect the power supply before touching the sensor surface.
- > Static discharge, risk of injury

If the cause of a fault cannot be clearly determined, always send the complete measurement system. In case of a defect in the controller, the sensor or the sensor cable, send the affected parts for repair or exchange.

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Disclaimer

All components of the device have been checked and tested for functionality in the factory. However, should any defects occur despite careful quality control, these shall be reported immediately to MICRO-EPSILON or to your distributor / retailer.

MICRO-EPSILON undertakes no liability whatsoever for damage, loss or costs caused by or related in any way to the product, in particular consequential damage, e.g., due to

- non-observance of these instructions/this manual,
- improper use or improper handling (in particular due to improper installation, commissioning, operation and maintenance) of the product,
- repairs or modifications by third parties,
- the use of force or other handling by unqualified persons.

This limitation of liability also applies to defects resulting from normal wear and tear (e.g., to wearing parts) and in the event of non-compliance with the specified maintenance intervals (if applicable).

MICRO-EPSILON is exclusively responsible for repairs. It is not permitted to make unauthorized structural and / or technical modifications or alterations to the product. In the interest of further development, MICRO-EPSILON reserves the right to modify the design.

In addition, the General Terms of Business of MICRO-EPSILON shall apply, which can be accessed under Legal details | Micro-Epsilon <https://www.micro-epsilon.com/impressum/>.

Decommissioning, Disposal

In order to avoid the release of environmentally harmful substances and to ensure the reuse of valuable raw materials, we draw your attention to the following regulations and obligations:

- Remove all cables from the sensor and/or controller.
- Dispose of the sensor and/or the controller, its components and accessories, as well as the packaging materials in compliance with the applicable country-specific waste treatment and disposal regulations of the region of use.
- You are obliged to comply with all relevant national laws and regulations.

For Germany / the EU, the following (disposal) instructions apply in particular:

- Waste equipment marked with a crossed garbage can must not be disposed of with normal industrial waste (e.g. residual waste can or the yellow recycling bin) and must be disposed of separately. This avoids hazards to the environment due to incorrect disposal and ensures proper recycling of the old appliances.
- A list of national laws and contacts in the EU member states can be found at https://ec.europa.eu/environment/topics/waste-and-recycling/waste-electrical-and-electronic-equipment-weee_en. Here you can inform yourself about the respective national collection and return points.
- Old devices can also be returned for disposal to MICRO-EPSILON at the address given in the imprint at <https://www.micro-epsilon.com/impressum>.
- We would like to point out that you are responsible for deleting the measurement-specific and personal data on the old devices to be disposed of.
- Under the registration number WEEE-Reg.-Nr. DE28605721, we are registered at the foundation Elektro-Altgeräte Register, Nordostpark 72, 90411 Nuremberg, as a manufacturer of electrical and/or electronic equipment.





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