

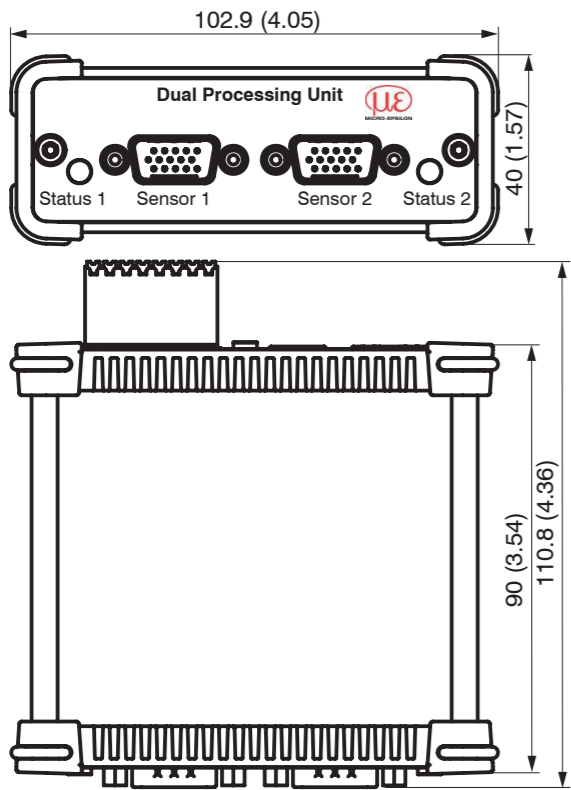
Proper Environment

- Protection class: IP40 <sup>1</sup>
  - Temperature range:
    - Operation: 0 ... +50 °C (+32 ... +122 °F)
    - Storage: 0 ... +50 °C (+32 ... +122 °F)
  - Humidity: 5 ... 95 % RH (non-condensing)
  - Ambient pressure: Atmospheric pressure
- <sup>1</sup> The protection class is limited to water (no penetrating liquids, detergents or similar aggressive media).

1) The protection class applies only with connected plugs.


Dimensional Drawing

- Ensure careful handling during installation and operation.



Dimensional drawing of Dual Processing Unit DPU, dimensions in mm (inches, rounded off)

Electrical Connections, LEDs

			<b>Pin</b>	<b>Sensor signal</b>	<b>Encoder signal</b>
			6	RS422 TRG+	R+
			7	RS422 TRG-	R-
			8	n.c.	+5 VDC
			9	Power supply +24 V via power connection	n.c.
			10	Power supply +24 V via power connection	n.c.
<b>Pin</b>	<b>Sensor signal</b>	<b>Encoder signal</b>	11	Multi-function output TTL/ HTL compatible	n.c.
1	RS422 Tx-	A-	12	Laser ON HTL compatible	n.c.
2	RS422 Tx+	A+	13	Switching input 1 HTL	n.c.
3	RS422 Rx-	B-	14	Switching input 2 HTL	n.c.
4	RS422 Rx+	B+	15	GND	n.c.
5	GND	GND			

Pin assignment sensor connections (2), sensor 1 or sensor 2, encoder 1 or encoder 2

LED color	Description
Off	No sensor connected
Green	Sensor operates within the measuring range
Red	Sensor operates outside the measuring range
Orange flashing	Sensor is being scanned.
Orange	CHANNELMODE = ENCODER

Description Status LED (1) for sensor 1 or sensor 2, encoder 1 or encoder 2


You can find more information about the measuring system in the operating instructions.

They are available online at:

<https://www.micro-epsilon.com/download-file/man--Dual Processing Unit--en.pdf>

or with the QR code at right:



			<b>Pin</b>	<b>Designation</b>	<b>Signal</b>
			6	Laser	Laser <sup>1</sup>
			7	OUT S2	Switching output 2
			8	GND	GND <sup>1</sup>
			9	OUT V1	Measurement value, voltage 1
			10	GNDA	Analog GND 1
<b>Pin</b>	<b>Designation</b>	<b>Signal</b>	11	OUT I1	Measurement value, current 1
1	24 VDC	Power	12	Shield	Shield
2	GND	GND	13	OUT V2	Measurement value, voltage 2
3	TRG IN	Trigger in	14	GNDA	Analog GND 2
4	MF IN	Multi-function input	15	OUT I2	Measurement value, current 2
5	OUT S1	Switching output 1	16	Shield	Shield

Pin assignment pin header 16-pin (4), Weidmüller type (B2CF)

1) The laser is active when Pin 6 (Laser on) is connected to Pin 8 (GND) by a jumper.

➡ Connect Pin 6 (Laser on) with Pin 8 (GND) via a jumper in order to switch on the laser light source of the connected sensors.

LED color	Description
Off	No power supply (Power OFF)
Green	Power ON, data output on USB interface deactivated or data output on USB interface activated and error-free data traffic
Orange	Power ON, data output on USB interface activated, data traffic is error-free or interrupted
Red	Power ON, data traffic on USB interface activated, USB cable not connected or connection interrupted

Description Status LED for power and USB status (3)



Setup Guide  
Dual Processing Unit - DPU

Intended Use

The Dual Processing Unit is designed for use in industrial and laboratory applications. It is used for

- Calculation of 2 digital input signals, e.g. thickness measurement.
- Conversion of measured values from RS422 to Ethernet.
- Filtering of measurement values.

The controller must only be operated within the limits specified in the technical data, see operating instructions, Chap 2.2. The controller 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.

Warnings

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 controller

The supply voltage must not exceed the specified limits.

- > Damage to or destruction of the controller

Avoid shocks and impacts to the controller.

- > Damage to or destruction of the controller

Notes on Product Marking

The product meets CE and UKCA requirements. All specifications and safety instructions described in the operating instructions must be observed.



MICRO-EPSILON MESSTECHNIK GmbH & Co. KG  
Koenigbacher Str. 15 • 94469 Ortenburg / Germany  
Tel. +49 8542 / 168-0 • Fax +49 8542 / 168-90  
info@micro-epsilon.com • www.micro-epsilon.com  
Your local contact: [www.micro-epsilon.com/contact/worldwide/](http://www.micro-epsilon.com/contact/worldwide/)



## Functions

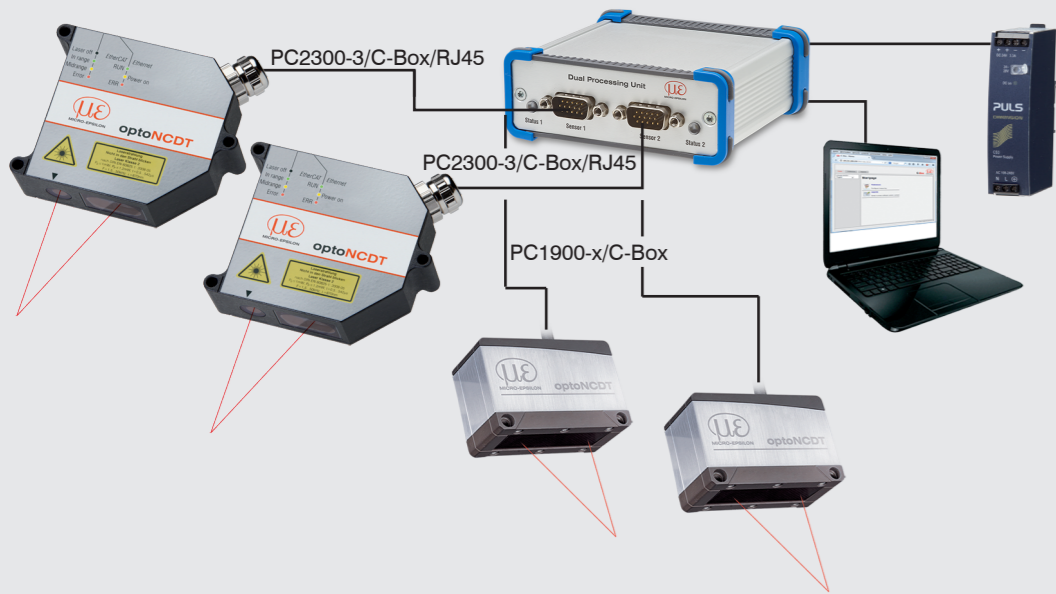
- Processing of two input signals, switchable between sensor and controller
- Programmable via Ethernet (websites)
- Semi-automatic sensor recognition for sensors from Micro-Epsilon with digital output
- Triggering
- Ethernet interface with TCP and UDP protocol
- USB interface
- D/A conversion of digital measurement values, output via current or voltage output

Up to two digital sensors of the same series can be connected to the Dual Processing Unit DPU directly via RS422. Both sensors are synchronized via the controller; the controller is the master.

## Quick Guide

### Structure of the Components


- Sensors, Dual Processing Unit
  - Power supply unit / PS2020
  - Laptop / PC and USB/Ethernet adapter or Ethernet cable
- ➡ Connect Pin 6 (Laser on) to Pin 8 (GND) using a jumper.
- ➡ Connect the components with one another.

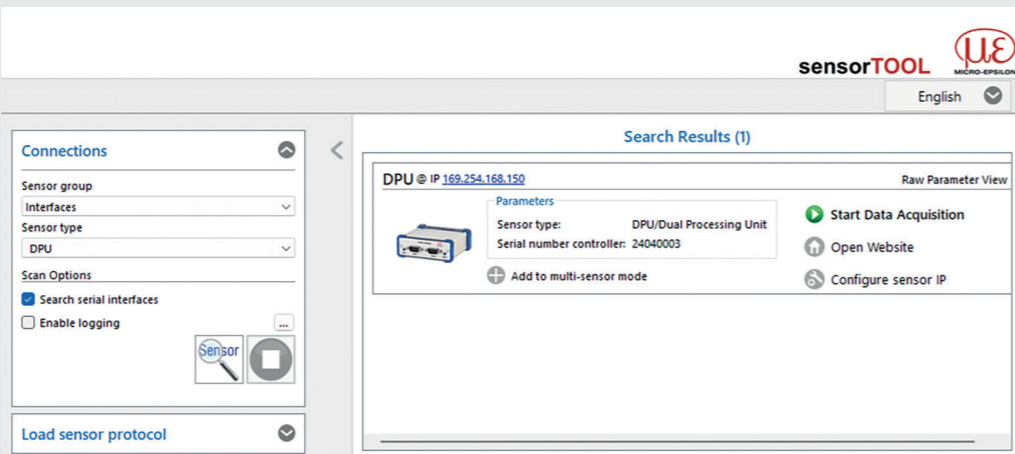


Example 1 of connecting two ILD2300/ILD1900 sensors to the Dual Processing Unit

- 1) The Dual Processing Unit supports the sensors ILD1x20, ILD1750, ILD1900, ILD2300, ILD5500, ILR3800, ODC2520, ODC2700, IFD241x, IFC241x, IFC242x, IFC2465, IFC2466

## Initial Operation

- ➡ Connect the Dual Processing Unit via an RS422 connector to a PC/notebook.
- ➡ Connect the power supply.
- ➡ Start the **sensorTOOL** program. In the **Sensor** group dropdown menu, select **Inter-**  
**faces** and in the **Sensor** type dropdown menu, select **DPU**.
- ➡ Click the  button.



### sensorTOOL program for sensor search

The program searches the available interfaces for connected Dual Processing Unit controllers.

- ➡ Select the correct controller from the list.
- ➡ Click the **Open Website** button to connect the controller to your default browser.

The **sensorTOOL** program is available online at

<https://www.micro-epsilon.com/fileadmin/download/software/sensorTool.exe>

## Access via Web interface

Interactive web pages you can use to configure the controller are now displayed in the web browser.

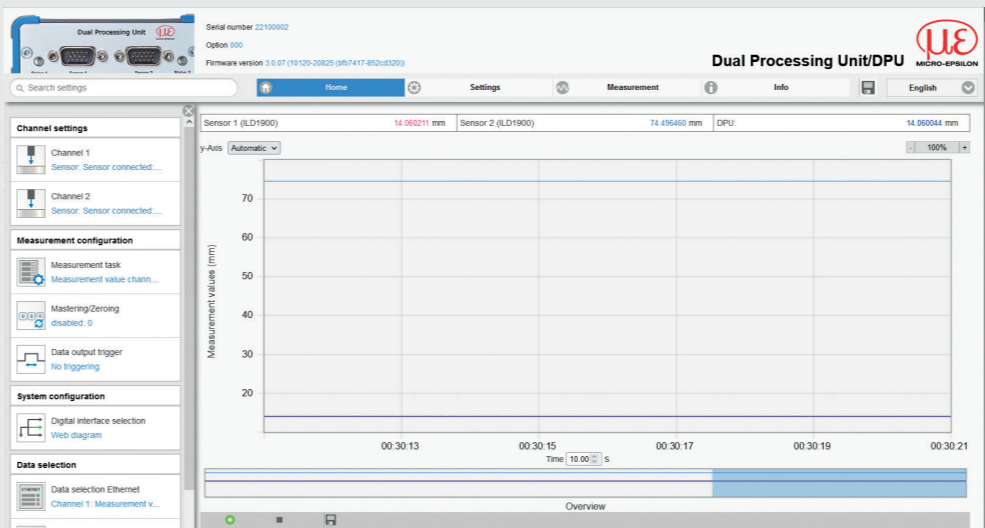
The controller is active and supplies measurement values.

The currently running measurement can be controlled using the function buttons in the diagram control section. The horizontal navigation includes the functions below:

- The search function permits time-saving access to functions and parameters.
- Home. The web interface automatically starts in this view with Measurement chart, Channel settings, Measurement configuration and System configuration.
- Settings. This menu includes all sensor parameters.
- Measurement. Measurement chart with digital display or video signal display.
- Info. Includes information about the sensor, such as serial number, software status and an overview of sensor parameters.

Parallel operation with web browser and ASCII commands is possible; the last setting applies. Don't forget to save.

The appearance of the web pages can change depending on the functions and the peripherals. Each page contains parameter descriptions and tips on configuring the controller.



First interactive web site after calling IP address

## 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 and the firmware.

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/legal-details/>.

## 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](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 legal details at <https://www.micro-epsilon.com/legal-details/>.
- 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.