

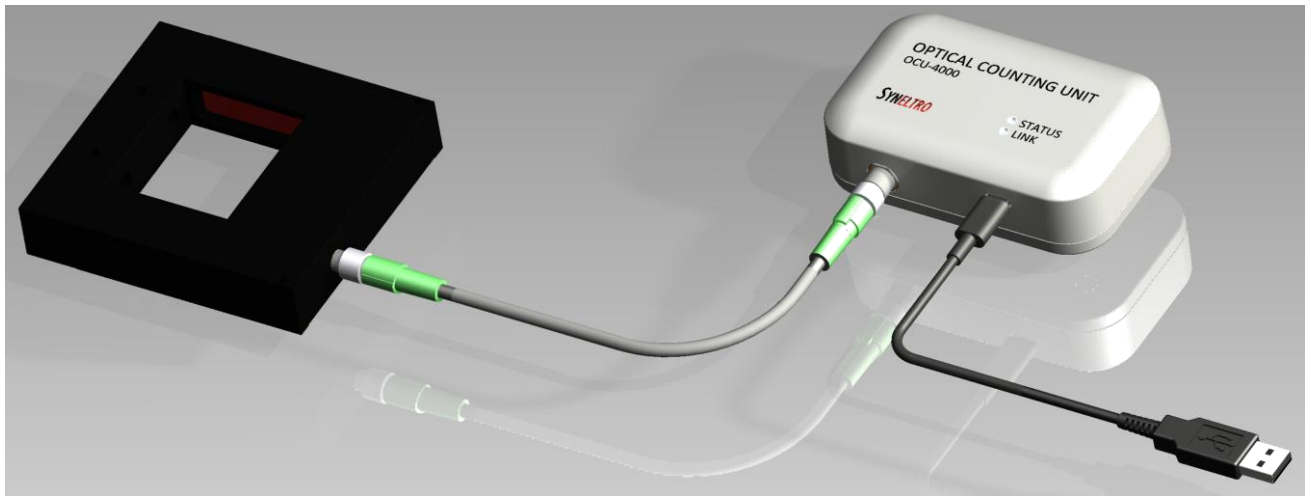
OCU-4000 Operating Manual

Content:

1	Use of the Device	2
2	Indication Symbols	2
3	Nameplate – Explanations	2
4	Included in the Delivery	2
5	Hardware Installation	3
6	Technical Data	3
7	Dimensions	4
8	Maintenance	4
9	Safety	4
10	EU Declaration of Conformity	5
11	Warranty	6

1 Use of the Device

The **Optical Counting Unit** hereafter called “**OCU-4000**”, is a device to measure the statistical distribution of objects passing a sensor. Interpretation of the results requires some basic understanding of statistical analysis.



2 Indication Symbols



Potential danger / risk



Additional information

3 Nameplate – Explanations

Type: Device identification
 S/N: Production date and unique ID
 QR Code: Product link



4 Included in the Delivery

Please check for completeness.

The OCU-4000 system consists of the following components:

1x	OCU-4000 device	
1x	Light barrier sensor	
1x	M8-Sensor cable	Shielded cable, 3.0m
1x	USB-A to USB-C cable	Shielded cable, 1.5m

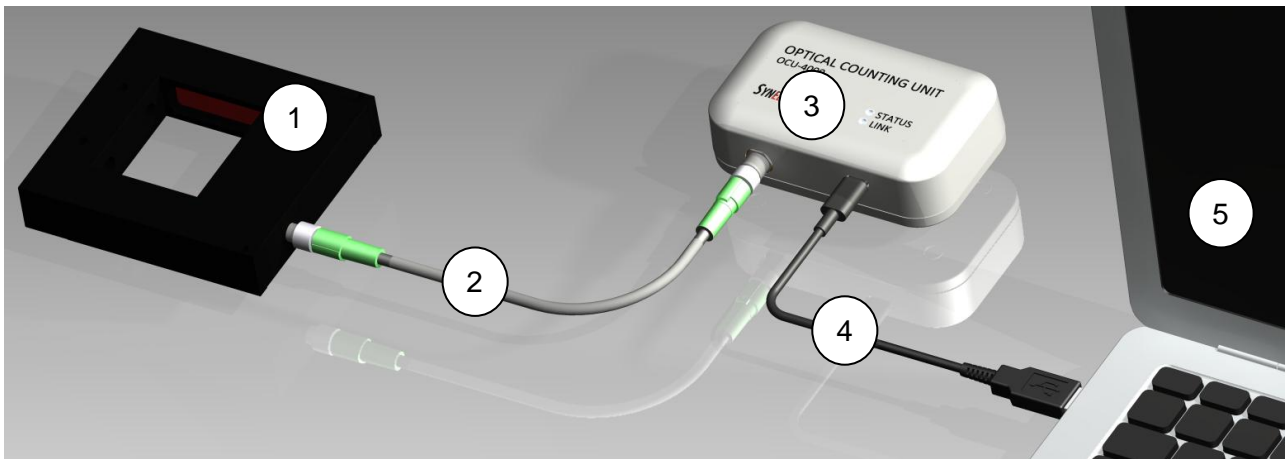
5 Hardware Installation

i Prior to the hardware installation, download and install the software “**Distribution Analyzer**”. The software can be downloaded from the following link: <https://www.syneltro.ch/products/OCU-4000> (select the tab “**Downloads**”). The software will also install the USB driver.

Follow the steps below to bring the system into operation:

- Step 1: Connect the sensor cable (2) to the light barrier (1) and the OCU-4000 unit (3).
- Step 2: Connect the USB-cable (4) with OCU-4000 (3) and the computer (5).
- Step 3: If the USB port is powered, the OCU-4000 LEDs blink red, blue and finally green.
- Step 4: The computer detects the device on its port and installs the driver.
- Step 5: Status LED is now constantly on with green light and the link LED is blinking green.
- Step 6: The device is now ready to be used with the “**Distribution Analyzer**” software.
- Step 7: Start the software and wait until the device is detected.
- Step 8: Both LED's are now constantly green.

The system is now ready for measurements.



6 Technical Data

OCU-4000 Interface

Operating Voltage:	4.8V _{DC} to 5.2V _{DC}
Current:	< 500mA (with sensor)
Time Resolution:	250us
USB Mode:	Full-Speed, 12Mbps
Connector 1:	USB-C
Connector 2:	M8, female, 3pol.
Weight:	82g
Sealing Class:	IP65

Light Barrier

Operating Voltage:	24V _{DC} ± 20%
Power Consumption:	1.7W max
Type:	Frame Sensor
Light:	Infrared (880nm)
Output Type:	PNP
Connector:	M8, male, 3pol.
Weight:	282g
Sealing Class:	IP67

Computer Requirements

Operating System:	MS Windows 7, 8, 10
CPU:	i5 or newer
Memory:	minimum 8 GB RAM
HD Storage:	50 GB free space

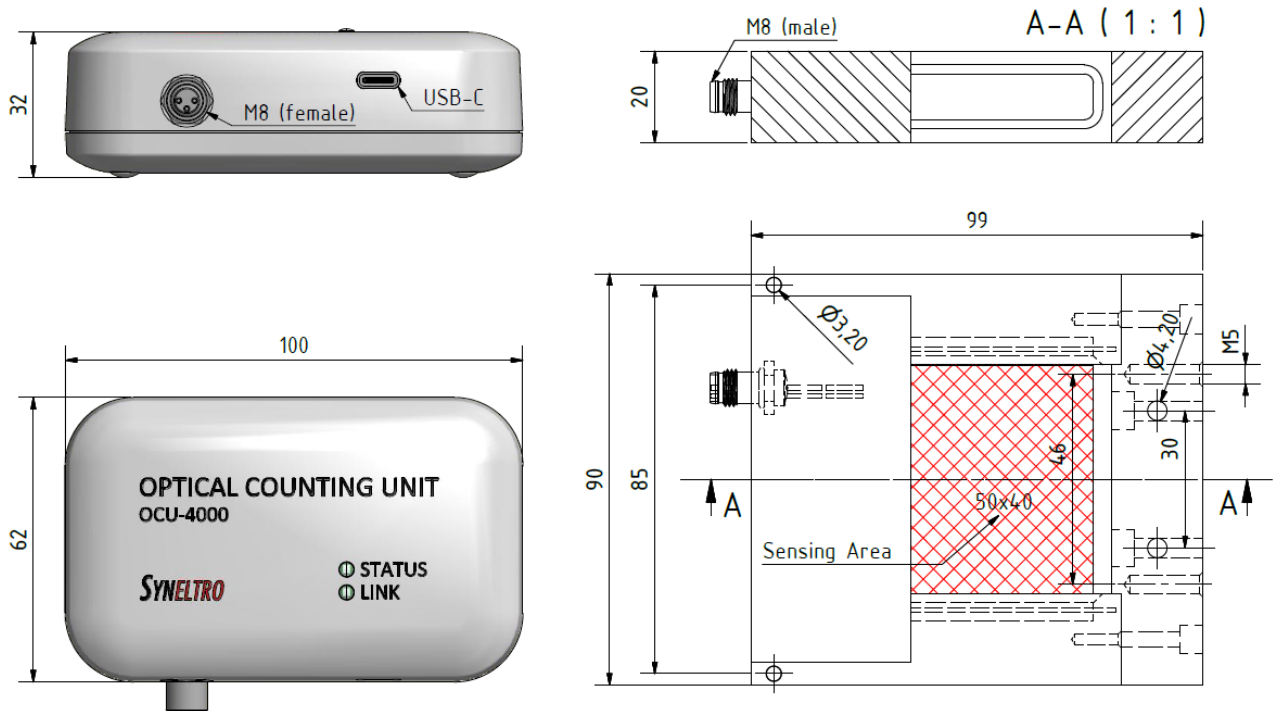
General

Storage Temperature:	-20 to 80°C
Operating Temperature:	0 to 60°C
Power:	Over USB-C port (< 2.5Watt)


7 Dimensions

Below are the dimensions of the system. All units are in mm. The light barrier has extra holes to use for mounting purposes of the device, two are with M5 threads. If needed, the entire part to the right can be disassembled.


The red zone is the area which detects the passing objects. Make sure, your mechanical setup is correctly aligned for the passing objects. They must not touch the light barrier sensor.





8 Maintenance

 For reliable operation, keep the sensing area clean from dust and dirt. Clean it with a microfiber cloths periodically.

9 Safety

 The light barrier operates with invisible infrared light. Even though it is not a laser classified device, do not stare into the sensing area (the two red windows of the sensor).

10 EU Declaration of Conformity

<u>EU Declaration of Conformity (DoC)</u>		CE
Manufacturer:		
Address of Manufacturer:	SYNELTRO GmbH Gewerbeweg 2 CH-5103 Möriken	
Product:	The device records chronological, temporal sequences of objects that pass a sensor.	
Type Designation:	OCU-4000	
The above product complies with the directives:		
2014/30/EU	Electromagnetic Compatibility, EMC	
2011/65/EU	RoHS	
The conformity of the indicated product is in accordance with the terms, and in compliance with the following standards:		
IEC 61326-1:2020,		
EN 61326-1:2013		
IEC 61000-6-3:2020 / EN 61000-6-3:2007+A1:2011		
IEC 61000-6-2:2016 / EN IEC 61000-6-2:2019		
Report Reference:	E2884-05-22	
Möriken, May 2022		
(location, date)	(legally binding signature of the manufacturer)	

11 Warranty

The warranty applies for two calendar years from the date of delivery to the customer.

Services rendered during the term of the warranty (such as repair or replacement) or any resale or transfer whatsoever do not cause any kind of extension or restart of the term of the warranty.

11.1 Limitations

Customer must inspect the purchased devices immediately upon receipt. Any physical defects have to be immediately notified by written notice to the transportation-agent and Syneltro. Otherwise the purchased device is deemed to be accepted and any warranty claims against Syneltro are excluded.

Any claims which are discovered in the course of professional utilization of the purchased device must be made by the customer within seven (7) days upon discovery, specifying in reasonable detail the nature and basis of the claim and citing relevant serial number or other information to enable identification of the device in question. Otherwise the device purchased is deemed to be accepted and any warranty claims against Syneltro are excluded.

Defects which were not recognizable in the course of a customary examination or professional use must be notified in writing immediately upon their discovery, otherwise the device purchased shall be deemed to have been accepted and any warranty claims against Syneltro shall be excluded.

No claims may be made after expiration of the term of warranty.

11.2 Warranty Claim

Warranty claims can only be raised in connection with defective devices. A device shall be considered to be defective in case of material defect and/or defect in workmanship. For all other defects, in particular such as defects resulting from unprofessional use of the device, non-compliance with instructions or impact by third parties, all warranty claims against Syneltro shall be excluded.

Transport to and from the center which takes the warranty claims and/or hands out the repaired device shall take place at the customers own risk.

Warranty claims can only be honored in cases where a copy of the original invoice is brought forward. In individual cases Syneltro reserves its right to ask for submission of the original invoice.

11.3 Warranty Exclusion

Any warranty or representation, express or implied, shall be excluded, if

- a) The label with the serial number has been removed from the device.
- b) The device has been damaged or destroyed by major force events or environmental influences (such as humidity, electric shock or excessive mechanical stress).
- c) The device has been stored or operated under conditions outside technical specifications.
- d) Damages arise due to improper and/or unprofessional handling.
- e) The device has been opened, repaired or otherwise modified by any person not authorized by Syneltro.
- f) The device shows any kind of mechanical damages.
- g) The warranty claim has not been notified in accordance with Paragraph 11.1.

Notwithstanding any other provision of this Agreement, Syneltro shall have no liability for any loss of profit, indirect or consequential loss suffered or incurred by customer in connection, directly or indirectly, with the device.

11.4 Handling Error

In case the malfunction of the device was caused by defective third party hardware and/or software, installation or handling, Syneltro reserves its right to charge the costs of the inspection to the customer claiming the warranty.

11.5 Others

The provisions mentioned above shall constitute the entire legal relationship between customer and Syneltro. By this warranty no further warranties, representations and/or covenants (such as redhibitory actions or reductions) are created.

To the extent legally possible, any and all warranties, representations and/or liabilities for compensation for damages shall be completely excluded. In particular Syneltro shall not be liable for data loss and/or the recovery of lost data.

This Agreement shall be governed by and construed according to the laws of Switzerland, with the exception of the conflict of laws principles and with the exception of the United Nations Convention on the International Sale of Goods. The place of jurisdiction is Lenzburg / AG.