

Download the CMT Installer

You will find the latest PC version for the operating system Microsoft Windows at:

https://www.optronic.ch/download/sw/sensors/lvmc/cmt/lvmc_cmt_a2_latest_setup.exe

Installing CMT

Run the downloaded installer.

During installation, an icon is created on your desktop.



lvmc_cmt_a2_latest_setup.exe

Power Supply

There are two possibilities to power the LVMC::

- via the D-Sub connector: see the pin assignment in the user manual
- via the Ethernet jack: Power over Ethernet (PoE) standard



Connection via USB

Connect your LVMC to your PC using a USB 2.0 cable.



Start CMT

Start the software by double-clicking on the newly created icon on the desktop.

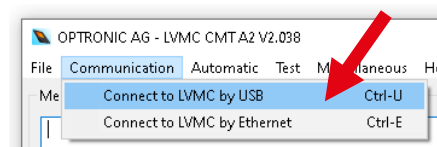


LVMC CMT A2 V2.037

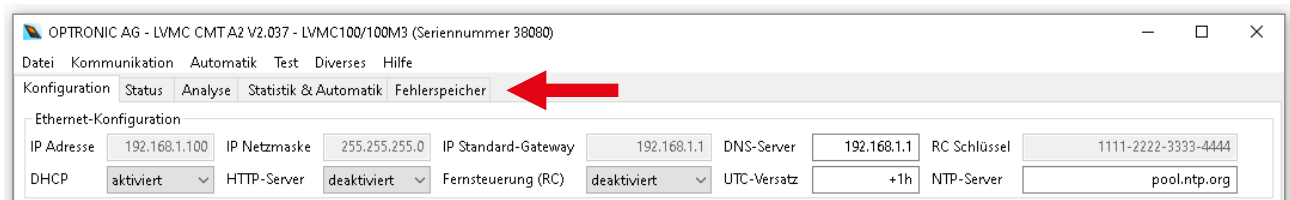
Connecting with LVMC

Select entry „Connect to LVMC by USB“ in the CMT menu „Communication“.

The connection to the LVMC will be established.



Explore CMT



Five pages are available to you:

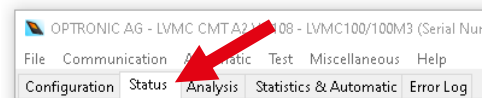
- Configuration: Information about the connected LVMC and all configuration settings
- Status: Information about the device status

- Analysis: Visualize and analyze detected objects
- Statistics & Automatic: Collected statistical data and information for automatic configuration
- Error Log: Overview of all logged errors

Counting Objects

Each light curtain is already preconfigured and is immediately ready for use. Change to the status page. Hold an object in the sensing area for less than a second.

The counter readings of the four counting channels are increased individually.



Channel Status												
Channel 1:	Detection Size	0.5mm	Count	21	Covered	NO	Passing Time: Last	79ms980us	Minimum	23ms340us	Maximum	129ms660us
Channel 2:	Detection Size	1.4mm	Count	19	Covered	NO	Passing Time: Last	79ms260us	Minimum	12ms960us	Maximum	128ms910us
Channel 3:	Detection Size	4.2mm	Count	15	Covered	NO	Passing Time: Last	63ms570us	Minimum	24ms840us	Maximum	127ms290us
Channel 4:	Detection Size	8.8mm	Count	10	Covered	NO	Passing Time: Last	62ms160us	Minimum	22ms290us	Maximum	123ms540us

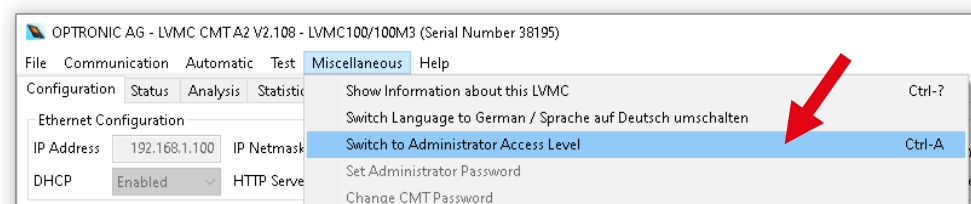
Observe the states of the output signals 1 to 3 *: They switch to "ON" or remain "OFF", depending on the size of the object. (*)Your device may have only one output signal.)

General Status Information

State	running	Run	2	Uptime	2h19min10.8s	Last Start Before	2min22.0s	Date	10/25/21	Time	10:30:34
Output 1 (Monitoring 2): State	ON	Output 2: State	ON	Output 3: State	ON	I/O 1 (Output 4): State	ON	I/O 2 (Output 5): State	ON		

Change Settings

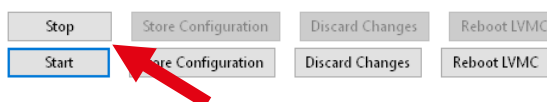
Switch to the Administrator Access Level: In the "Miscellaneous" menu, select entry "Switch to Administrator Access Level".



Stop the LVMC: Therefore, press button "Stop".

Changes to the settings are now possible.

Restart the LVMC by pressing button „Start“

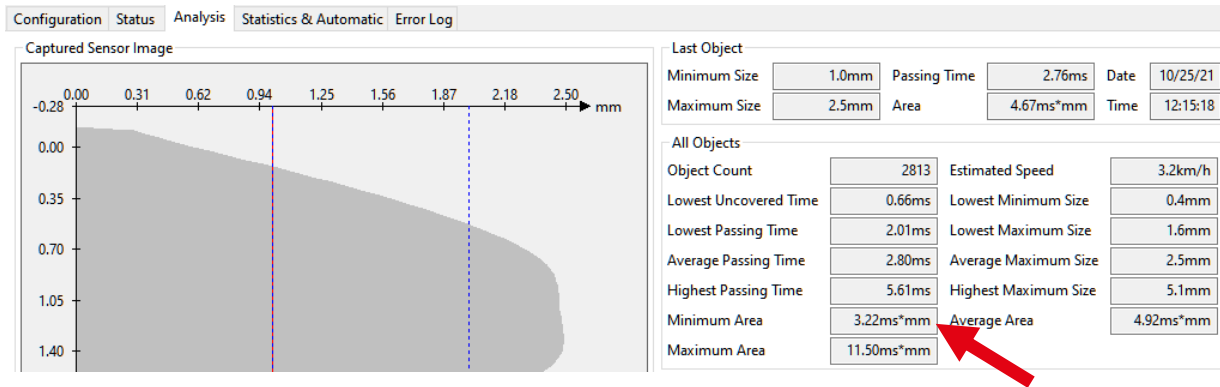


Configure Counting Channels

The light curtain offers four configurable counting channels for the simultaneous detection of different objects: Use the gap suppression function to prevent multiple counts of translucent or complex shaped objects. Suppress the counting of unwanted small objects by specifying the minimum size, the minimum passing time, or the minimum area.

Channel Configuration									
Channel 1: Min. Size	1.0mm	Min. Passing Time	0us	Min. Area	0us*mm	Gap Suppression Time	0us	Min. Expected Passing Time	0.0ms
Channel 2: Min. Size	2.0mm	Min. Passing Time	0us	Min. Area	0us*mm	Gap Suppression Time	0us	Min. Expected Passing Time	0.0ms
Channel 3: Min. Size	5.0mm	Min. Passing Time	0us	Min. Area	0us*mm	Gap Suppression Time	0us	Min. Expected Passing Time	0.0ms
Channel 4: Min. Size	10.0mm	Min. Passing Time	0us	Min. Area	0us*mm	Gap Suppression Time	0us	Min. Expected Passing Time	0.0ms

The use of the area offers great advantages. On the analysis page, you will find many values useful for parameterization, e.g. the minimum area of all captured objects.



Each object is captured and analyzed in detail by the sensor in high resolution. It is displayed graphically on the analysis page.

Selection of the Object Detection Method

Select the object detection method that is best for you: In mode "separately", each channel works independently, just like in the LV..M light curtain, the predecessor of the LVMC. In mode "combined", an object is assigned to only one channel. The LVMC thus offers the possibility to classify objects, even self-learning in automatic mode.

The screenshot shows the 'Sensor Configuration' page. The 'Object Detection Method' dropdown menu is open, showing several options. A red arrow points to the option 'All channels combined, automatic mode, when object is leaving the sensing area'.

Automatic Parameterization in Automatic Mode

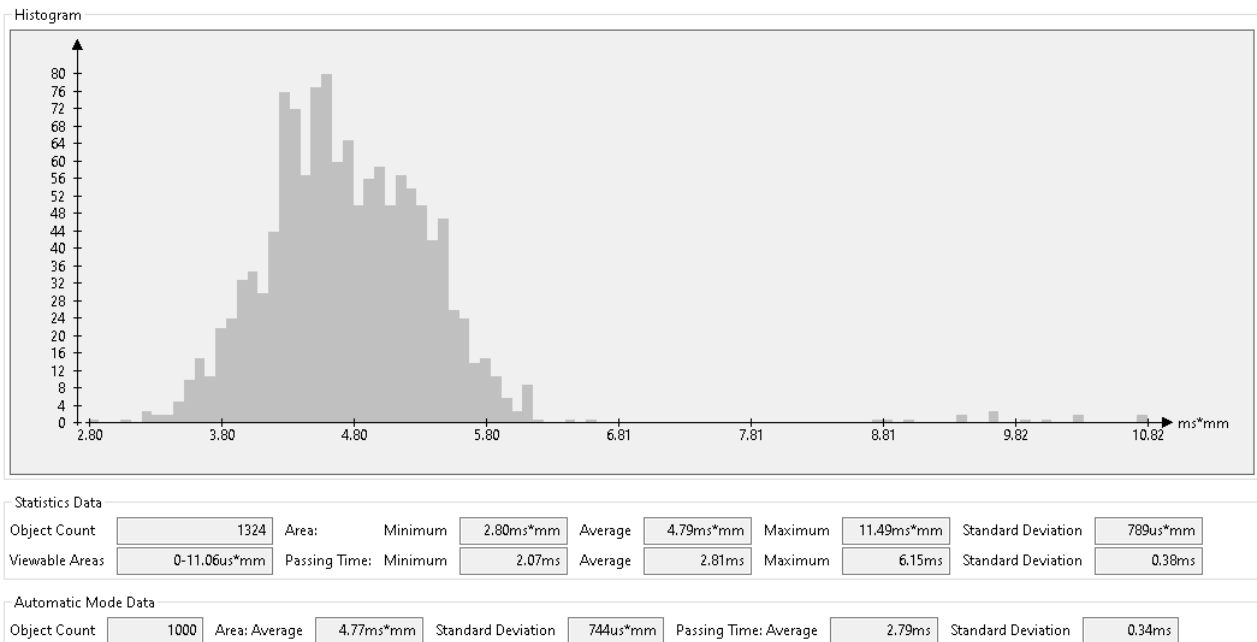
Test the integrated automatic mode! The LVMC parameterizes itself independently by continuously analyzing the passing objects. The minimum areas and the gap suppression time of the channels are determined automatically. They are shown to you on the configuration page.

The screenshot shows the 'Automatic Mode Configuration' page. It includes sections for 'Automatic Mode Configuration', 'Channel Configuration', and 'I/O Configuration'. A red arrow points to the 'Minimum Area' parameter for Channel 3, which is set to 6.68ms*mm.

On the status page you can follow the counter readings of the channels. Channel 2 counts objects with the correct size, channel 1 too small ones. Channels 3 and 4 count objects that are too large, or those of the correct size that have passed the sensing area too closely.

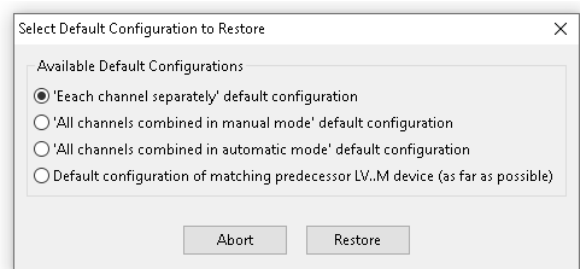
Channel Status												
Channel 1:	Detection Size	0.5mm	Count	4	Covered	NO	Last Passing Time	2ms190us	Minimum	2ms190us	Maximum	2ms190us
Channel 2:	Detection Size	0.5mm	Count	1744	Covered	NO	Last Passing Time	2ms550us	Minimum	2ms70us	Maximum	3ms420us
Channel 3:	Detection Size	0.5mm	Count	16	Covered	NO	Last Passing Time	3ms630us	Minimum	3ms120us	Maximum	6ms150us
Channel 4:	Detection Size	0.5mm	Count	1	Covered	NO	Last Passing Time	4ms110us	Minimum	4ms110us	Maximum	4ms110us

On the “Statistics & Automatic” page, a histogram gives you information about the measured object areas. In addition, statistical data is displayed.



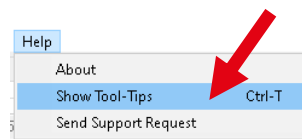
Loading a Default Configuration

Four default configurations are available to choose from. Select entry “Restore Default Configuration” in menu „File“. The easiest way to start is with the one that best suits your needs.



Using Tool-Tips

Activate showing Tool-Tips in menu “Help”. Hold the mouse pointer briefly on a display element: Explanations of how it works are displayed.



General Status Information											
State	stopped	Run	2	Uptime	2h38min53.7s	Last Start Before		Date	10/25/21	Time	10:50:17
Output 1 (M)	Shows if the LVMC is running or stopped.										
Ethernet Sta	The LVMC detects objects only in state 'running'. Configuration changes can only be made in state 'stopped'. After a restart, the LVMC automatically enters state 'running', if no error occurs.										
IP Address	192.168.200.216	IP Netmask	255.255.255.0	IP Default Gateway	192.168.200.1	DNS Server	192.168.200.1	NTP Server	192.168.200.1		

Download the User Manual

You will find the latest user manual at:

https://www.optronic.ch/download/doc/sensors/Light_Curtain_LVMC_User_Manual.pdf