Control Software
User Manual
for VisiLED MC-D 1100

SCHOTT
glass made of ideas

Table of Contents

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1. Purpose

This user manual describes the general installation and usage of the MC-D Control Software.

2. General

The MC-D Control Software is a PC application, which is used to demonstrate the functionality of the MC-D 1100 VisiLED Controller in combination with the VisiLED Ring Lights.

Further information regarding the MC-D 1100 and the VisiLED Ring Lights can be found within the general VisiLED Series – User Manual.

VisiLED Series - User Manual

3. Software Installation

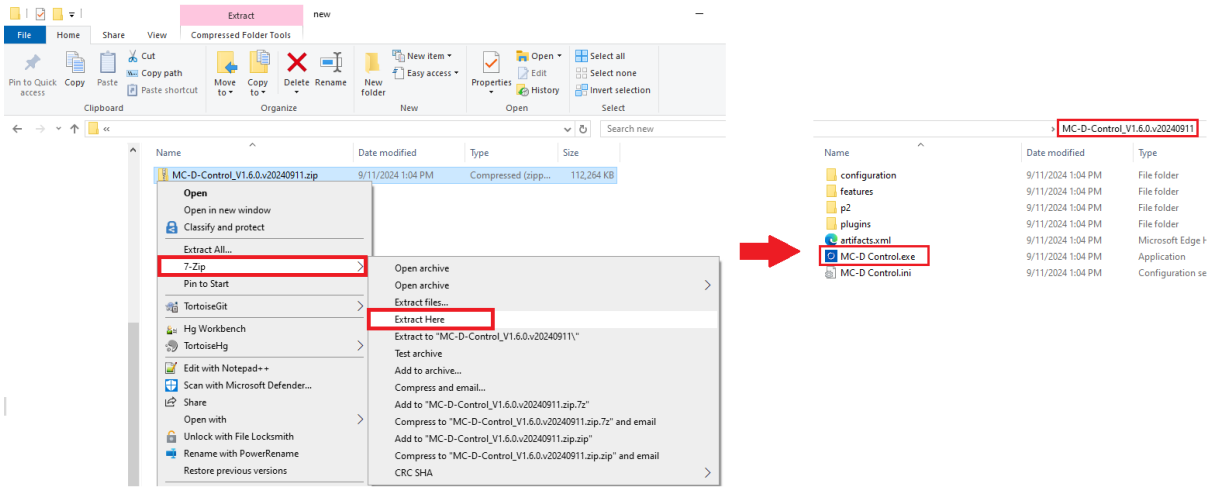
This chapter describes the installation procedure for the MC-D Control Software.

3.1 General Installation

In general, the MC-D Control Software is deployed as a zip data package, which already contains all required runtime data.

The zip data package just needs to be extracted to the desired local installation location.

Afterwards the software can be started via the executable ‘MC-D Control.exe’.

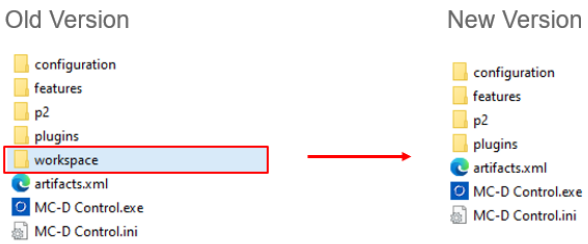


3.2 Software Update

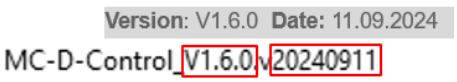
If the MC-D Control Software is already installed and shall be updated to a newer version, just follow the instruction for the general installation.

Afterwards the "workspace" folder must be moved from the folder of the old software version to the folder of the newly installed software version. The "workspace" folder contains local user data like the user presets.

Finally, the folder with the older software version can be deleted.



Note: The name of the software folder is a combination of the software version and the release date.



4. Software Usage

This chapter describes how to use the MC-D Control Software.

4.1 User Menu

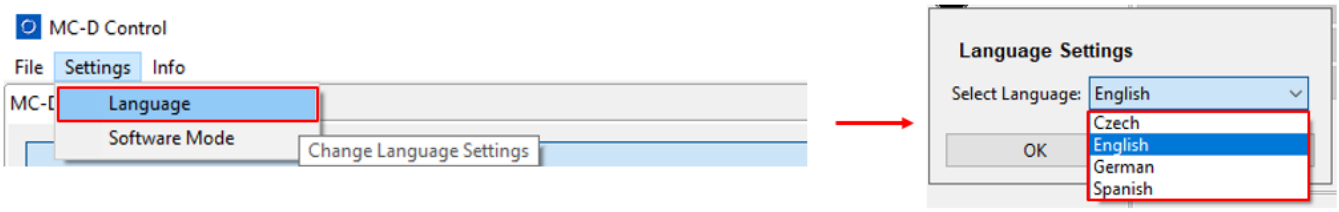
4.1.1 File

In the “File” tab, the user can close the software using the “Exit” button. Another way to exit the software is to use the X in the upper right corner.

4.1.2 Settings

In the “Settings” tab the user can change the language of the software.

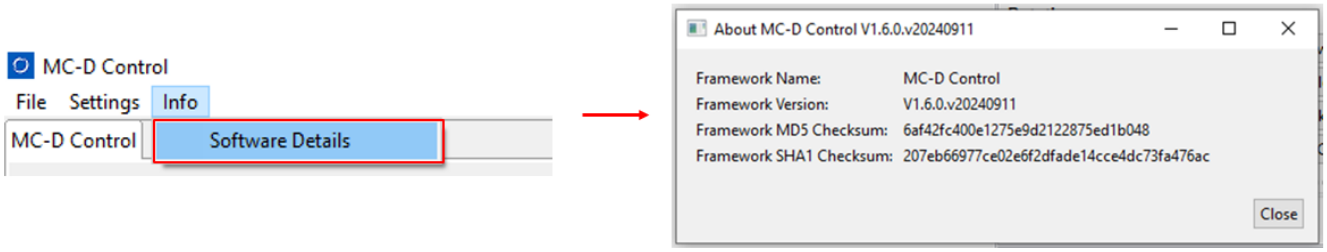
Afterwards the software will restart with the newly selected language.



Note: The MC-D must not be connected when changing the language.

4.1.3 Info

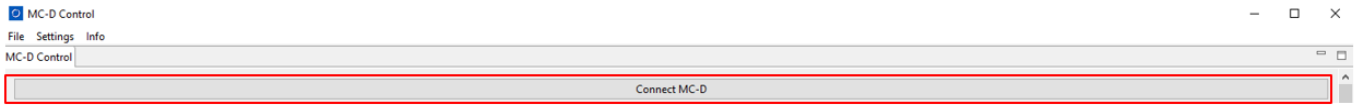
In the “Info” tab the user can see the software details.



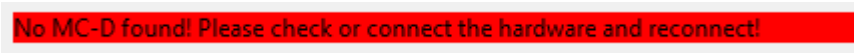
4.2 Device Connection

The connection to the MC-D 1100 can be established through the “Connect MC-D” button.

Then, the MC-D Control Software will search for the MC-D 1100 device and connect to it.

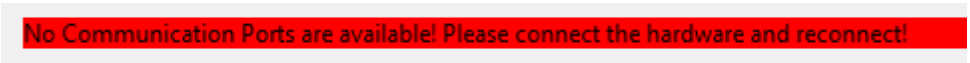


If the device search fails, the following error message is shown:



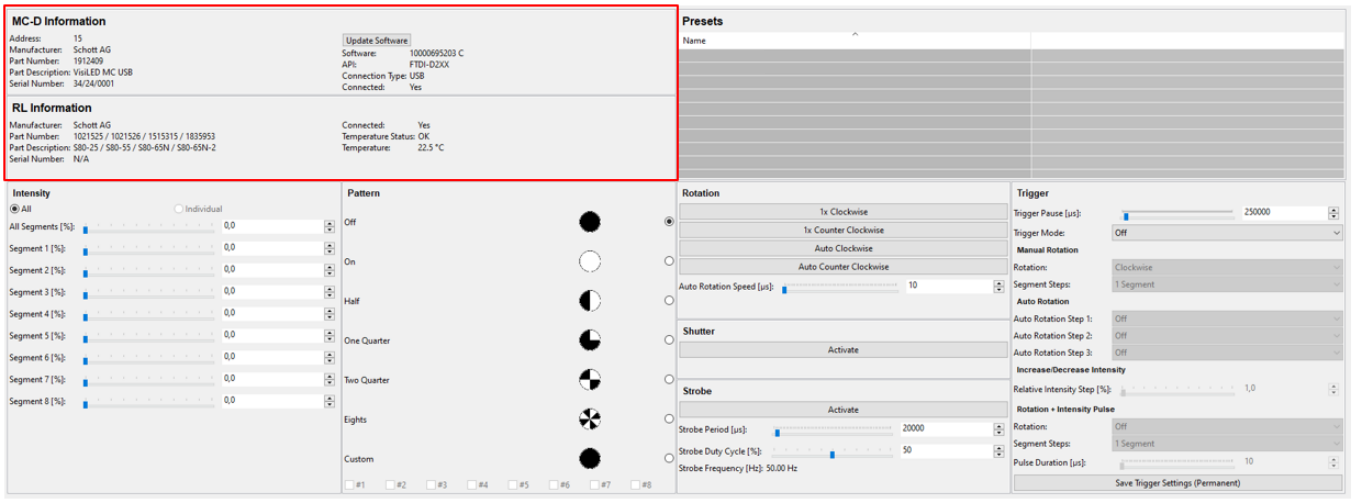
Note:
Prior to the start of the MC-D Control Software, the MC-D 1100 must be connected physically to the PC via an USB cable and must be switched on as described in the VisiLED User Manual. Further, it takes a few seconds until the MC-D 1100 is registered at the PC.

Otherwise, the MC-D Control Software directly shows the following error message:



4.3 Device Information

In the upper left corner, the information about the connected MC-D and VisiLED Ring Light (RL) can be found.



4.3.1 MC-D Information

The ‘MC-D Information’ section contains the information that identify the connected MC-D 1100. This includes mainly the manufacturer, the part number, the serial number and the software version of the MC-D 1100.

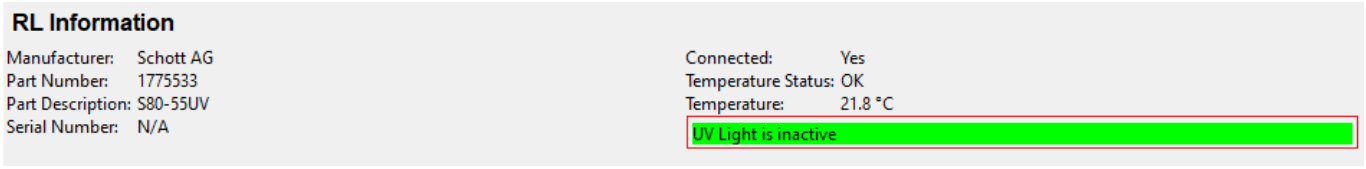
4.3.2 Ring Light Information

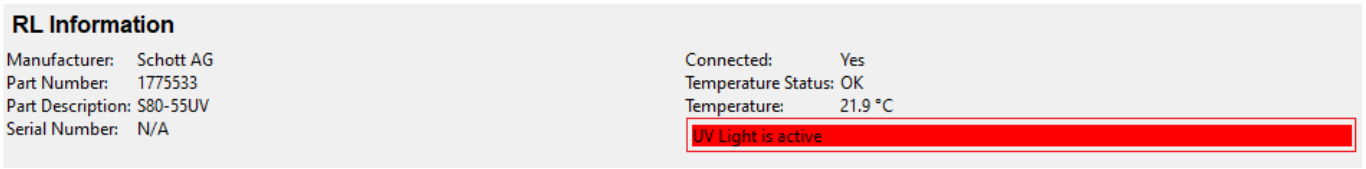
The ‘RL Information’ section contains the information that identify the VisiLED Ring Light connected to the MC-D 1100. This includes the manufacturer, the part number and the part description of the connected VisiLED Ring Light as well as the serial number if this feature is supported by the connected ring light.

Further, the section shows whether the connection with the VisiLED Ring Light is working as well as the temperature of the ring light and if it is OK.

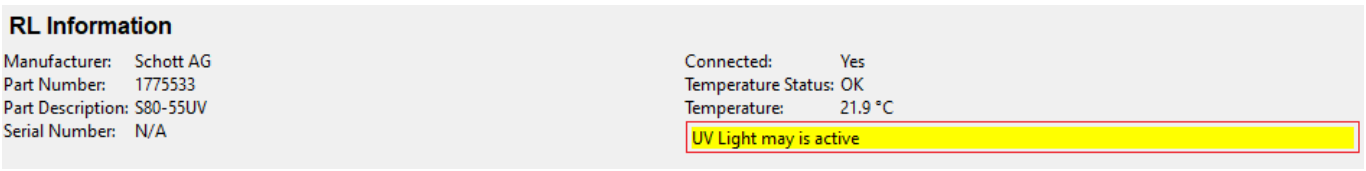
Note:
In case of some VisiLED Ring Lights the MC-D 1100 cannot identify the ring light down to a specific part number. Then, all possible part numbers and descriptions are displayed for the connected VisiLED Ring Light.

The VisiLED Ring Light series also includes some ring lights with UV LEDs. If such a ring light is connected to the MC-D 1100, the MC-D Control Software informs the user whether the UV LEDs currently emitting light or not.





In some cases, for example if the light is strobed with a high frequency, the MC-D Control Software cannot determine the current UV LED light state. Then, the MC-D Control Software informs the user that the UV LEDs may be emitting light.



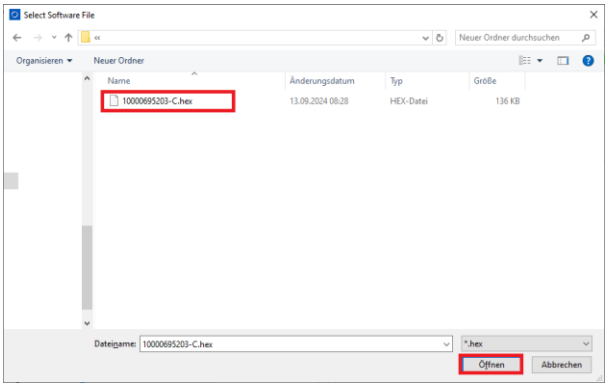
4.4 Device Software Update

In general, the MC-D 1100 supports remote software updates in the field.

This function is supported by the MC-D Control Software in combination with valid MC-D 1100 software files distributed by Schott to enable customers to update their MC-D 1100 to a newer software.

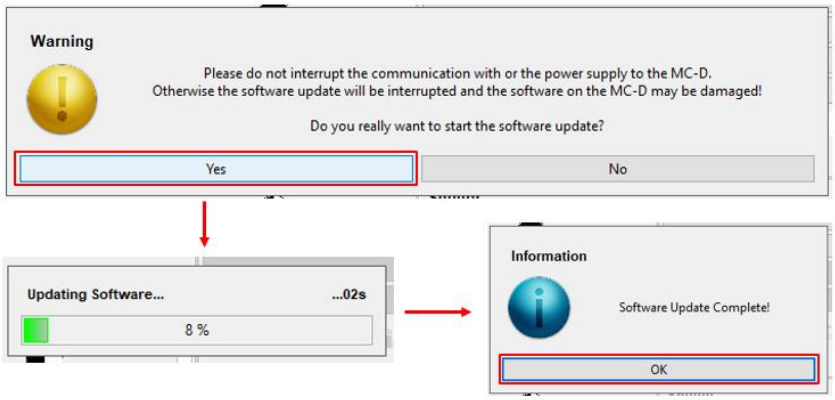
If a MC-D 1100 software update shall be done, press the ‘Update Software’ button within MC-D Control Software.

Then, select the desired valid MC-D 1100 software ‘hex’ file.



After the selection, a warning appears that the connection to the MC-D 1100 must not be interrupted and that the MC-D 1100 must not be powered off. Otherwise, the MC-D 1100 will cause damage.

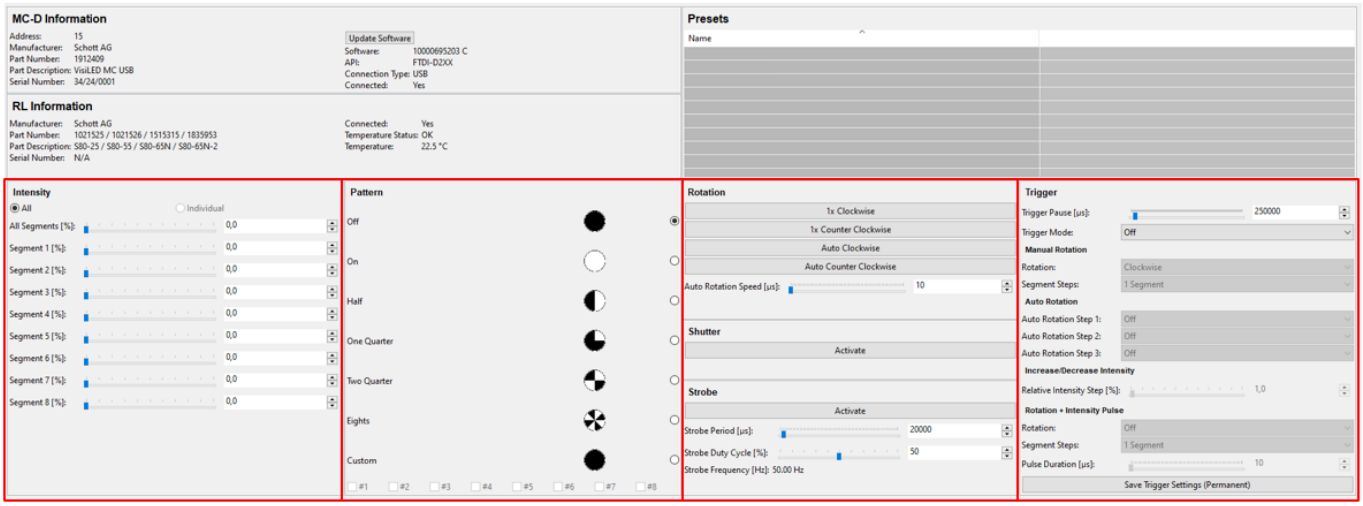
Then, the update starts and takes about 30 seconds, which can be recognized by the green bar that runs through. Once the update is complete, this is displayed in an information window. Finally, after confirming the message with OK, the connection to the MC-D 1100 is automatically re-established.



4.5 Device Control

There are 6 different control sections according to the functionality of the MC-D 1100:

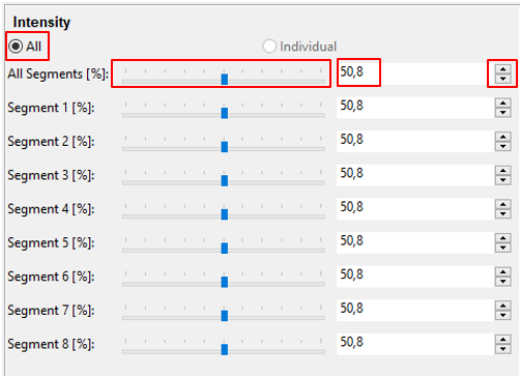
Segment Intensity, Segment Pattern, Segment Rotation, Shutter, Strobe and Trigger



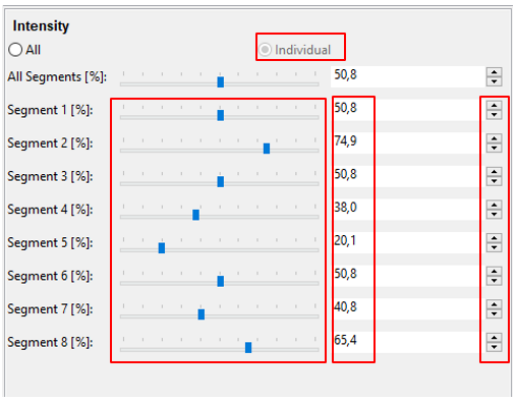
4.5.1 Segment Intensity

The segment intensity can be configured either for all segments simultaneously or individually for each segment. In general, the intensity is configured as a percentage.

The common intensity for all segments can be changed by moving the first slider back and forth, by pressing the arrow buttons or by entering the desired intensity as a percentage.



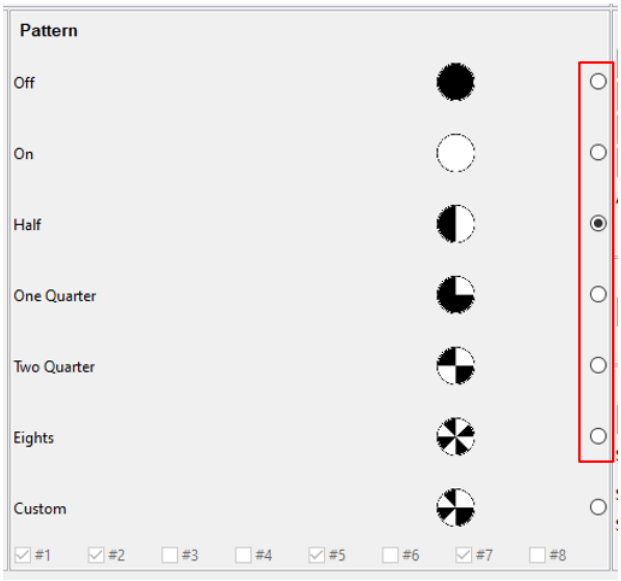
An individual selection for every single segment can be done by configuring the corresponding segment section.



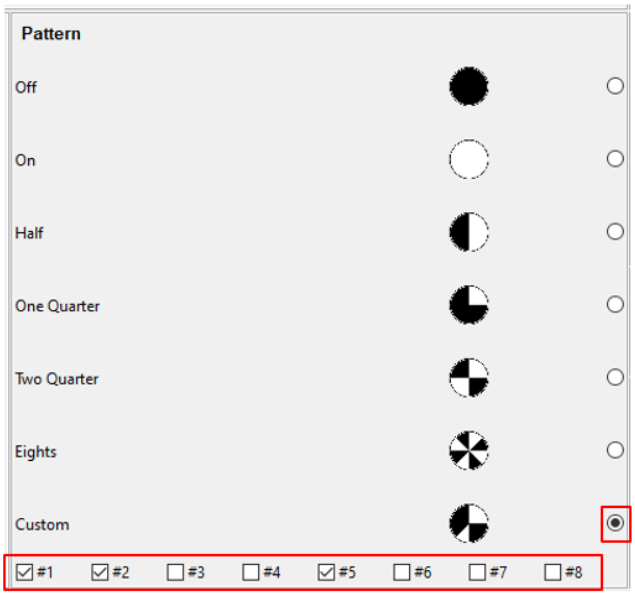
4.5.2 Segment Pattern

The MC-D Control Software provides some standard pre-defined segment pattern, but it is also possible to define a custom segment pattern. A black spotlight means that the light is off, and in contrast, a white

spotlight means that it is emitting light. The segments are divided so that the first segment starts to the right of the cable when the ring light shines downwards. The segments then continue in a clockwise direction. To select a pattern, click on the round button.



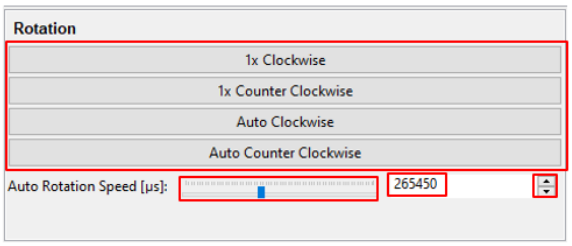
For the definition of an individual segment pattern, the ‘Custom’ pattern must be selected first. Then, the individual segments that shall be illuminated can be selected by ticking the corresponding box.



4.5.3 Segment Rotation

The selected segment pattern can be rotated manually or automatically per segment clockwise or counterclockwise. To trigger this, the respective button must be clicked.

In case of automatic rotation, the speed can be adjusted in microseconds by using the corresponding slider. Another option is to press the arrow buttons or directly enter the desired speed.



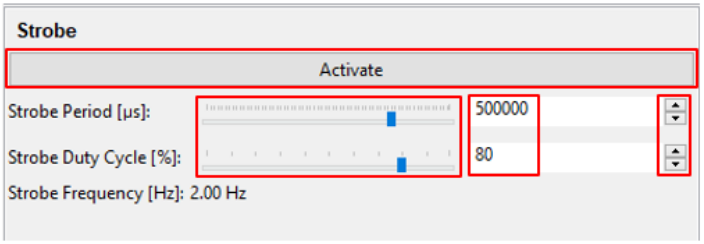
4.5.4 Shutter

The integrated shutter is activated by clicking the corresponding button. Activation switches the light off, but the other current control settings continue to run in the background, like a cover that moves in front of the light source. When deactivated, the light is shown again.

4.5.5 Strobe

When activating the strobe, the light pulses. The strobe period specifies how many microseconds a pulse should be. The lower the strobe period in microseconds, the higher the strobe frequency in Hertz, which is displayed in the lower area. The strobe duty cycle shows the ratio of the on and off time within one light pulse. Like the other settings, the strobe period and duty cycle can be adjusted using the sliders, by pressing the arrow buttons or by entering the desired values.

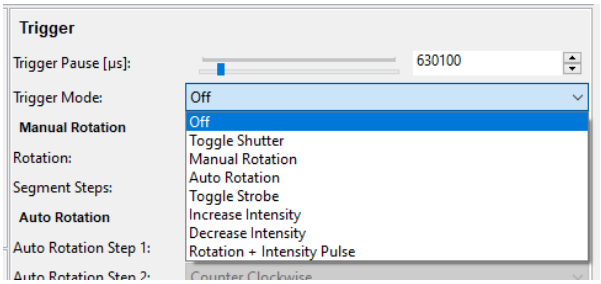
Example: The settings are 500 microseconds (strobe period) and 80% (strobe duty cycle). This means that the light is on for 400 microseconds and off for 100 microseconds per strobe period.



4.5.6 Trigger

If an external trigger source is connected to the MC-D 1100, the VisiLED Ring Light can also be controlled via this trigger. To support multiple application cases of customers, the trigger function can be customized with various actions.

Unless the configured action or trigger mode, a common trigger pause time can be configured depending on the used trigger source. For example, if a mechanical switch is used, which typically bounces a bit, a trigger pause of 250,000 microseconds prevents false trigger actions. But, if the trigger shall react very fast for example in combination with an electrical trigger synchronized with a camera, the trigger pause may be only 50 microseconds.



In general, all changes regarding the trigger settings are volatile and are reset if the power of the MC-D 1100 is cycled. However, if the configured settings shall be set permanently, even if the MC-D 1100 is switched off and on, this can be done using the “Save Trigger Settings (Permanent)” button.

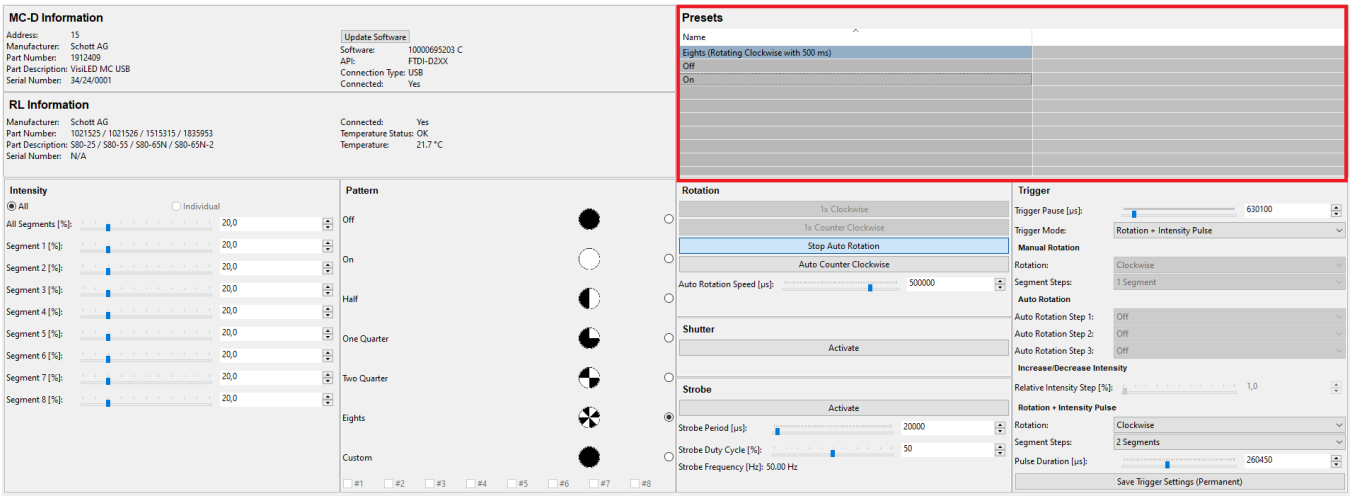
The following table describes the different trigger modes:

Trigger Mode	**Description**
Off	The trigger is deactivated.
Toggle Shutter	Each trigger event activates or deactivates the shutter.
Manual Rotation	Each trigger event rotates the current segment pattern in the configured direction for the configured amount of segment steps. *Example: The segment pattern shall rotate 3 segments in a clockwise direction with one trigger event.*
Auto Rotation	Each trigger event activates the next step of the configured sequence. Two identical steps are treated as one step. Clockwise, counterclockwise and off are available for selection. *Example: The sequence is configured with clockwise, counterclockwise and off.* *So, the first trigger event starts clockwise rotation, the second one changes to counterclockwise rotation and the third one stops the rotation.*
Toggle Strobe	Each trigger event activates or deactivates the strobe.
Increase Intensity Decrease Intensity	Each trigger event increases or decreases the intensity of all segments by the specified percentage. If the intensity rises above 100 %, it starts again at 0 % plus the carryover. And vice versa, if the intensity falls below 0 %, it starts again at 100 % minus the carryover. *Example: The intensity is currently at 35% and the relative incremental intensity step is set to 40%. So, the first trigger event increases the intensity to 75 % and the second one to 15 % (115 %).*
Rotation + Pulse	Each trigger event rotates the current segment pattern in the configured direction for the configured amount of segment steps and generates an intensity pulse with the configured pulse time in microseconds. *Example: The segment pattern shall rotate 1 segment in a clockwise direction and shall then generate a light pulse of 100 microseconds with one trigger event.*

4.6 User Presets

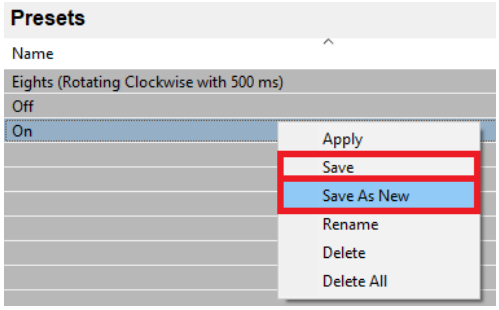
The MC-D Control Software supports user-defined presets that allow the user to switch between certain control variants easily and selectively.

The overview with all user presets is located in the top right-hand corner, whereat each preset can be assigned with a unique name.



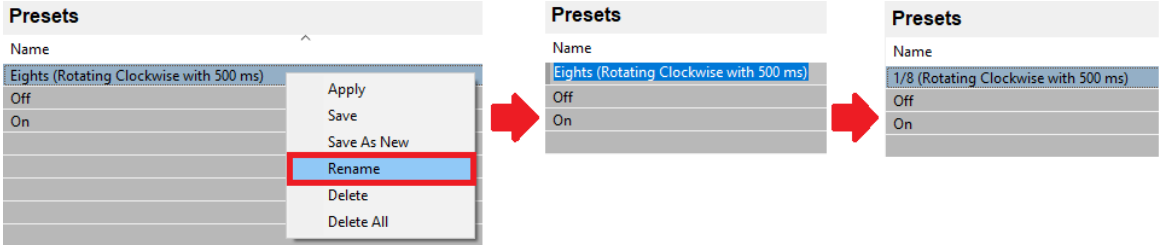
4.6.1 Save

After adjusting the desired control settings, they can be saved by right-clicking in the presets area either as the currently selected preset via “Save” or as a new preset via “Save As New”.



4.6.2 Rename

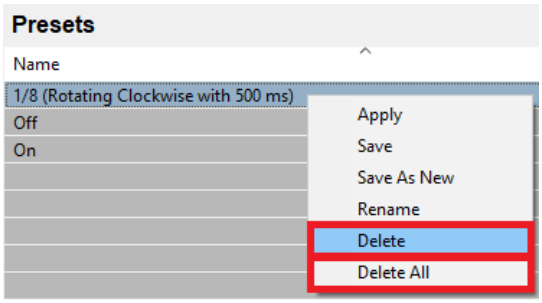
Each new preset is automatically saved with the name “Preset” followed by a consecutive number if the name is already assigned. Then, the preset can be renamed by selecting it and choosing “Rename” from the context menu.



4.6.3 Delete

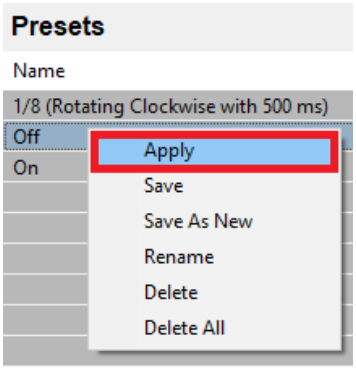
If a preset needs to be deleted, select the preset and choose “Delete” within the context menu.

In addition, it is possible to delete all presets at once via “Delete All”.



4.6.4 Apply

The control settings of an existing preset can be applied either by double clicking on the preset or by selecting the preset and pressing the enter key or via the context menu using “Apply”.



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