Trailing & Leading Edge Dimmers

series HDL-MDT0203.433, HDL-MDT04015.433, HDL-MDT0601.433

Simplified manual

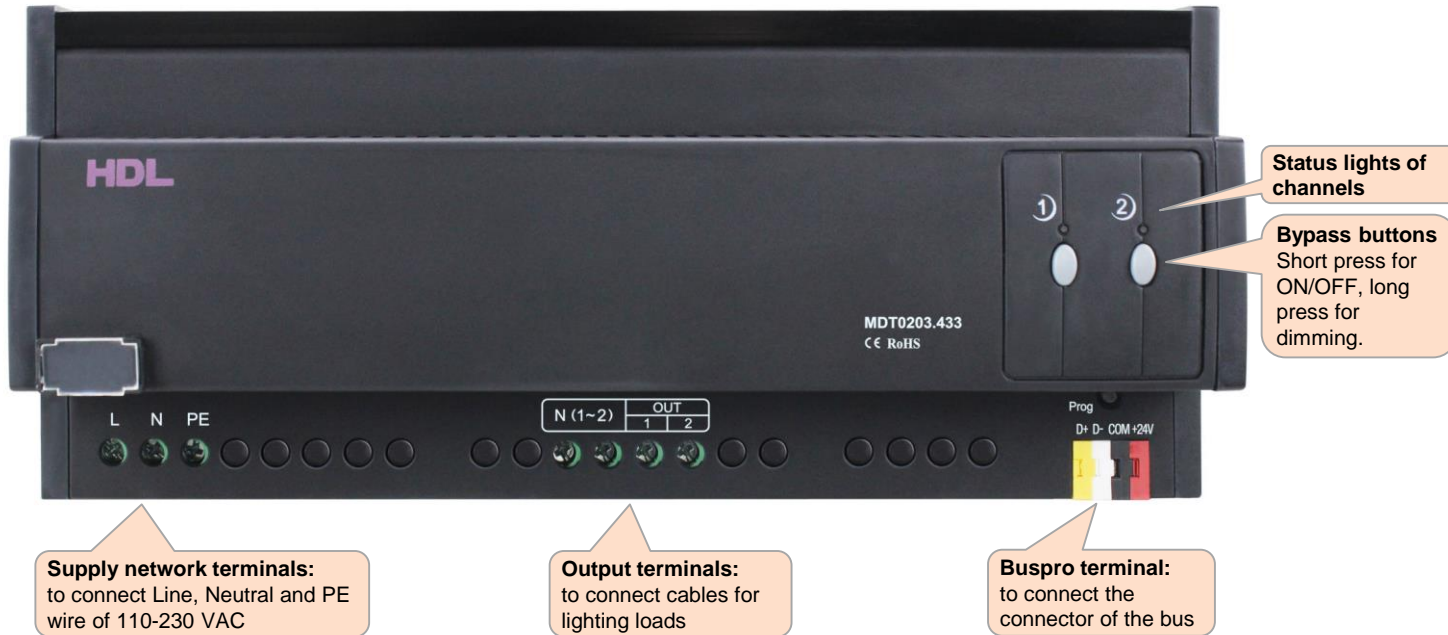Modified 9/2019 by HDL Automation s.r.o. /JU

Introduction 1

▪ All dimmer modules can save and control scenes. After programming, users can recall the preset scene stored in the dimmer module. Meanwhile, if there is power cut, the dimmer can restore the previous scene or specific scene when power restores.

▪ All dimming modules have a sequence function that brings dynamics to light effects.
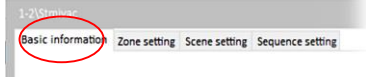
Introduction 2

Three available types differ in the number of output channels and their maximal current, as detailed in the datasheet.
The settings of MDT0203.433, described here after serves as example for all other models MDT0x0x whose settings are identical.

Status lights of channels

Bypass buttons
Short press for ON/OFF, long press for dimming.

Supply network terminals:
to connect Line, Neutral and PE wire of 110-230 VAC

Output terminals:
to connect cables for lighting loads

Buspro terminal:
to connect the connector of the bus

Settings - overview

Use the HBST2 software to set the parameters according to your needs. On the picture, there is the window of the MDT device, accessible from the main HBST2 screen. This window allows to set all dimmer parameters.
The window contains 4 thumbs with individual functions.

Basic inf. displays output channels of the dimmer with their parameters.

Zone settings: to set the *Zone*. *Zone* means the physical location of the load connected to the channels (eg. kitchen, 1st flor etc.).

Scene settings: to set the *Scenes*. A *Scene* groups several channels whose status is changed at a time just by activating the Scene.

Sequence settings: to set the *Sequences*. *Sequence* ranges several Scenes in the timeline and after the launch, one scene after another are activated.
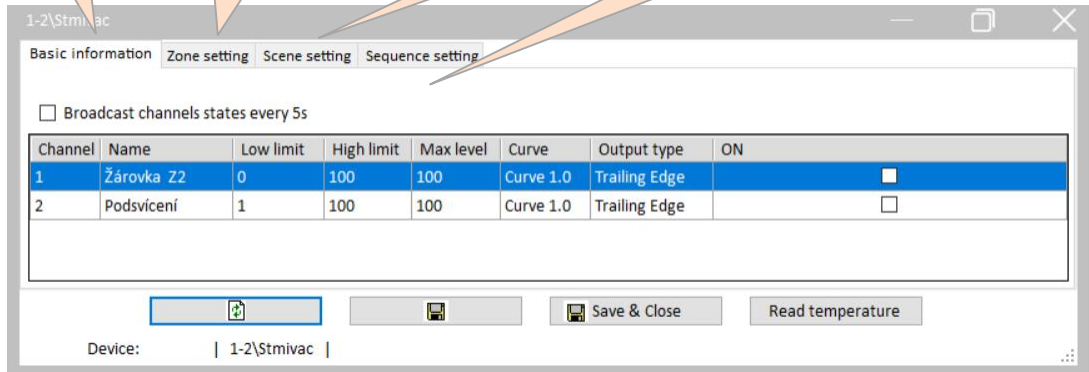
Pic. 1 HBST2 window of the dimmer MDT with options accessible through 4 thumbs.

Settings – Basic information

Choosing *Basic information* thumb displays the table with output channel settings. Each line corresponds to one channel.

Name: allows to set the name of the channel or the connected load, eg. "Lustre living room" etc.

Low limit (in %): if reached, the channel closes at all. If set to 0 allows to open the channel from 0, with another value (eg. 10%) avoid the flickering of some lighting sources.

High limit: (in %): if reached, the channel opens at the maximal allowed value (see the option *Max level*). Set to eg. 80% allows to fully open the channel skipping the remaining part which is often not discernible to the naked eye.

Max level: (in %): Protects the channel against full opening. It is not possible to overpass the set level. Normal default value is 100%.

Curve: Allows to choose the best fitting characteristic in order to linearize the increase in light.

Output type: Allows to choose the type of dimming on trailing or leading edge depending on the type of load. **Warning**: wrong settings can destroy the dimmer or the load.

Channel: Nb of the channel. Corresponds to the nb. of the output terminal.

ON: Marking the checkmark turns on the channel. Use during commissioning to test the wiring etc.

Data refreshing button To use to verify what parameters really and exactly were stored in the device memory.

Data save button To use to store the set parameters to the device memory, don't leave the screen before using it.

Channel	Name	Low limit	High limit	Max level	Curve	Output type	ON
1	Žárovka Z2	0	100	100	Curve 1.0	Trailing Edge	☐
2	Podsvícení	1	100	100	Curve 1.0	Trailing Edge	☐

Device: | 1-2\Stmivac |

Note: *Default setting are: Low limit: 0%; High limit: 100%; Max. level: 100%*

Settings – Zone 1

This option allows to create *Zones* and assign them the channels. *Zone* means the physical location of the load which is connected to the channel, eg. kitchen, 1st flor etc.). To create a *Zone*, follow the numbered steps.

Why to use Zones:
1. To mark the location (placement of loads of channels). This function is purely descriptive.

2. When the scenes want to be used, it is necessary to create zone at first. The zone determines which channels will be used in a scene.

3. Choose the zone created in the step 2. by clicking on the name of this. The name of zone will turn blue.

1. Write the name of the zone

2. Click on *Add zone*. The newly created zone will appear in the left window.

4. To assign a channel to a zone click on it in order its line turns blue.

5. Once the line of the channel is blue, click on symbol of the house to choose one zone (there may be more than one).

6. Click on left arrow button. The channel (chosen in the step 3) disappears in the right window and appears in the left window.

The left window shows the existing zones which were created using the button *Add zone*. Also, the channels which are assigned to these zones are displayed.

The right window shows all channels which are not assigned to any zone.
I.e. when the device is new, all its channels are here.

Settings – Zone 2

The previous picture shows the creation of a zone and how to assign the output channel to the zone. Note that maximal number of zones depends on the number of channels, so when the dimmer has e.g. 2 channels, there is possible to create at most 2 zones. For operations over zones and channels, see the picture here bellow.

To **delete existing zone**, click on its name and then, click on *Delete zone* button.

To **cancel the assignment of a channel to a zone:** Click on the channel to choose it, then click on right arrow button. The channel disappears in the left window and appears in the right window which means that is free – not assign to a zone.
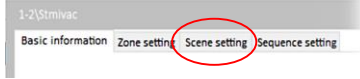
Settings – Scene 1

This option allows to create Scenes. A *Scene* is useful for changing the status of several channels at once.

Examples of scenes:

1. To turn off all channels. This function is often used when the last person leaves the building.
2. Suppose that the scene contains 2 channels. The intention is to open the first channel at 100% and to open the 2nd at 20%.
3. Suppose that the scene contains 2 channels. The intention is to close the first channel and to open the 2nd at 20%.

The max. number of scenes depends on the type of dimmer, the more channels there are, the more scenes there are.

Note:
1. *The scene can contain and control only the channels which are assigned to a Zone.*
2. *By activating a scene, the states of all the channels contained in that scene are affected.*

Settings – Scene 2

To create a *Scene*, follow the numbered steps.

1. Choose the zone in which the scene should be set, i.e. setting the zone, you choose the channels to control.

2. Choose the scene to be set clicking on its row.
Note: *if the lines with scenes don't appear, click on* Data refreshing button.

3. **Name**: Write the name of the scene. The name is just optional.

The left window shows the list of zones available for the scenes chosen in the step 2.

5. **Restore mode** to define what a scene will chosen after black out and voltage recovering.

Note: *The scene no.0 switches all channels OFF. This can't be changed. So use the zone 0 to switch all channels off.*

6. **Runtime**: in minutes and seconds. After activating the scene, the set values of channels will be reached gradually. Default value is 0.

4. Set the intensity of each channel contained in the scene which was chosen in the step 2. **Note:** *As the device is a dimmer, the channels intensity can be set gradually from 0 to 100%.*

The right window shows the list of channels available in the the zone chosen in the step 1.

Settings – Sequence 1
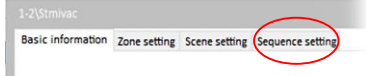
This option allows to create sequences of scenes. A *Sequence* contains several scenes and activates them in a specific predefined order. This can be used to simulate presence in the empty building, for lighting effects and so on.
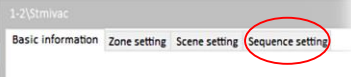Several sequences are available, their number depends on the dimmer type.

2. Choose the mode of the sequence. The most common are *Forward* or *Random*.

3. Choose the number of passages (execution) of the sequence. When *Never Stop* is chosen, the sequence runs until an extern command stops it.

4. Choose the number of steps depending on the number of scenes, that are to be presented.

1. Choose one sequence to be used clicking on its row in the column *Mode*.

Note: for Forward and Backward*, the double of* Runtimes *must be set. Eg. when just one passage forward and backward is wanted, the* RunTimes *value must be 2.*

Settings – Sequence 2

Control of dimmer 1

The channels can be controlled manually pushing the bypass button on the front of dimmer or by addressing them a datagram through the Buspro bus. While the bypass button is typically used for testing and commissioning, datagrams are used to control using wall control panels, and so on. While the bypass button can control just a channel, datagrams can control not only channels but also scenes or sequences of dimmer.

Datagrams can be sent not only by the wall control panels, but also by the sensors and the logic module, etc. In the following, we will see how to adjust the button of a wall panel to control the dimmer. To send the control datagram from a sensor or logical module, please refer to the same description, because the window of the HBST2 program is the same or similar for all the cases mentioned.

Note:
the following text explains just how to set the target, not other settings of a wall panel as these fall under the manual of wall panels (and so on for logic module, sensor, etc.).

Nevertheless, to learn and try all following operations, and as a standard wall panel Buspro is used, set the chosen button Mode as shown in the picture here bellow, i.e. Mode = Single ON/OFF.

Manual control of channels using bypass buttons. Short press for ON/OFF, long press for dimming.

Control of dimmer 2 – Single channel control

The channels of dimmer can be controlled manually pushing the bypass button on the front of dimmer or addressing him a datagram through the Buspro bus. Before to proceed the following description, set the button mode to *Single ON/OFF*, see *Note* on the previous page. Then, follow the numbered steps.

Typical look of the window to control the targets (this one belongs to wall panel of iTouch series).

1. **Current selected button**: Choose the number of the button.

2. Write the address Buspro of the dimmer filling parameters *Subnet ID* and *Device ID*.

1-5\Panel iTouch 4 knofl

Basic information

Subnet ID: 1   Device ID: 5   Name: Panel iTouch 4 knofl

Current selected button: 1

Button type: Single ON/OFF   Button name:

Targets

Input target number(1-1)   From 1   To 1   Read   Save

Index	Subnet ID	Device ID	Type	Param1	Param2	Param3	Param4
1	1	2	Single Channel Control	1(Channel no.)	60(Intensity)	0:0(Running time[M:S])	Enable

Invalid
Scene
Sequence
Timer Switch
Universal Switch
Single Channel Control
Curtain Switch
GPRS Control
Panel Control
Broadcast Scene
Broadcast Channel
Security Module
Music Control
Universal Control
Infrared Control
Logic Light Adjust

3. Choose the correct type of target. For a dimmer channel, select *Singe Channel Control.*

4. Fill in the number of relevant dimmer channel (the value corresponding to the number of the output terminal on the dimmer)

5. Choose the percentage of channel opening, from 0 to 100% *Note: 100% correspond to fully opened channel.*

6. *Running time* in minutes and seconds. The set value of intensity (step 5.) will be reached gradually. Default value is 0.

7. Save the settings before leaving the window.

Control of dimmer 3 – Scene control

To switch a scene of dimmer on/off, see the description here bellow. The first 2 steps are same as to set *Single channel control,* refer to the previous page *Control of dimmer 2* . Follow the numbered steps, the first different step to do is the step no. 3.

Note:
Note that the meaning of Param1 *and* Param2 *changes according to the option of parameter* Type*.*

Control of dimmer 4 – Sequence control

To switch a sequence of dimmer on/off, see the description here bellow. The first 2 steps are same as to set *Single channel control,* refer to the previous page *Control of dimmer 2* . Follow the numbered steps, the first different step to do is the step no. 3.

Note:
Note that the meaning of Param1 *and* Param2 *changes according to the option of parameter* Type*.*

3. Choose the correct type of target. To control a sequence, select *Sequence* option.

4. In the column Param1, type the no. of zone when the wanted sequence is placed (see page *Settings – Zone 1*) .

4. In the column Param2, type the no. of sequence to be used (see page *Settings – Sequence 1*).

5. Save the settings before leaving this window.