



Hangzhou LinkZill Technology Co., Ltd.

TruEbox 04MD (360x360) User Guide

V1.1

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TruEbox 04MD (360x360) User Guide

Product Overview

This product supports signal driving of array light-emitting devices with a maximum resolution of 360*360. It can provide 360 channels of Scan signals, 360 channels of Data Read signals, and dual channels of DC bias signals. Through the USB, the PC terminal transmits the compiled array signals to the array light-emitting device through the compatible PC software to realize the custom display on the device. With the supporting thin film transistor array chip, the TruEbox 04MD can achieve the display of new light-emitting devices such as QLED and perovskite LEDs, and support grayscale display.



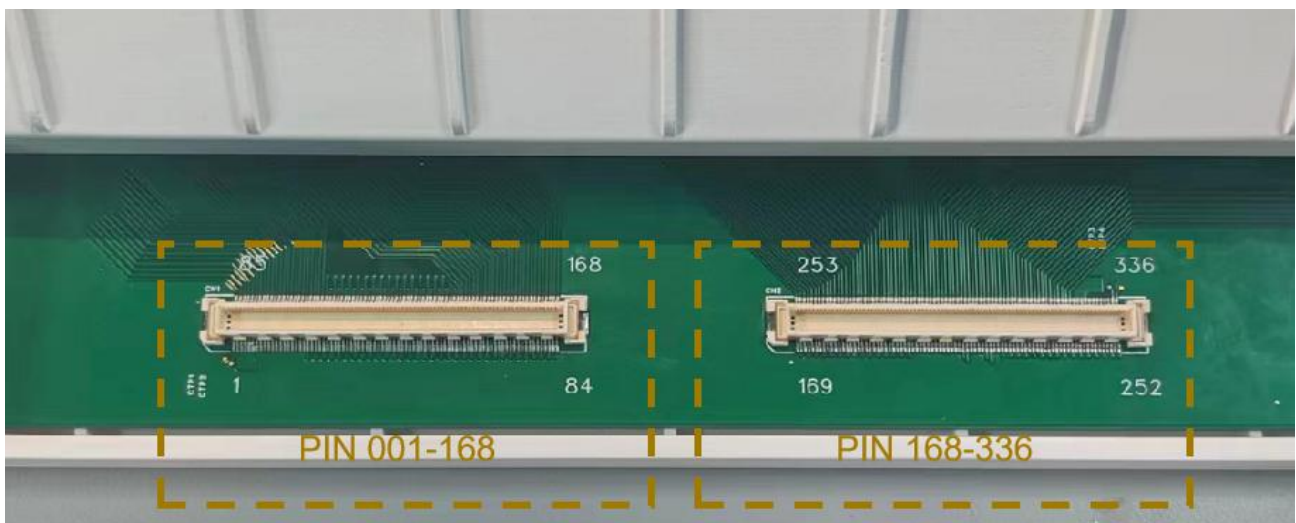
Parameter	Specification
L*W*H	310*208*33mm
Weight	1000g
Charging interface	DC005-5.5*2.5mm
General	90+4 channel pulse row signals, voltage range: -15V~+15V 180+2 channel pulse column signals, voltage range: -10V~+10V 2 channel DC bias signals, voltage range: -10V~+10V
Communication	USB
Terminal	PC (Windows 10 or higher)
Display format	Images and videos
Adaptive video support	Yes
Refresh Rate	1~60 Hz adjustable
Data bit length	8-bit (256 gray levels)

Product List

Host	X1
Charger	X1
User guide	X1
USB cable (2m)	X1

Pinout Description

336 Pin FPC pin assignment (left to right):



Pinout	3-6	DATA: 20-199 MUX: 321-322	SCAN: 221-310 CK: 317-320	325-328	Remaining Pins
Definition	Vdd	180+2 channel pulse column signals	90+4 channel pulse row signals	Vss	DUMMY

*The pins not listed in the above table are reserved for debugging purposes and do not need to be concerned by the customer during normal use.

1. The Von and Voff settings in the PC software correspond to the selected and non-selected voltages of the row signals, respectively. The adjustable voltage range is -15V to +15V.
2. The Vh and Vl settings in the PC software correspond to the ON and OFF voltages of the column signals, respectively. The adjustable voltage range is -10V to +10V.
3. The Vdd and Vss settings in the PC software are the two DC bias voltages corresponding to the load voltage and common electrode voltage of the driven device. The adjustable voltage range is -10V to +10V.

Operating Manual

1. PC Software Installation:

The after-sales staff will send the PC software to you by email.

2. Device Connection:

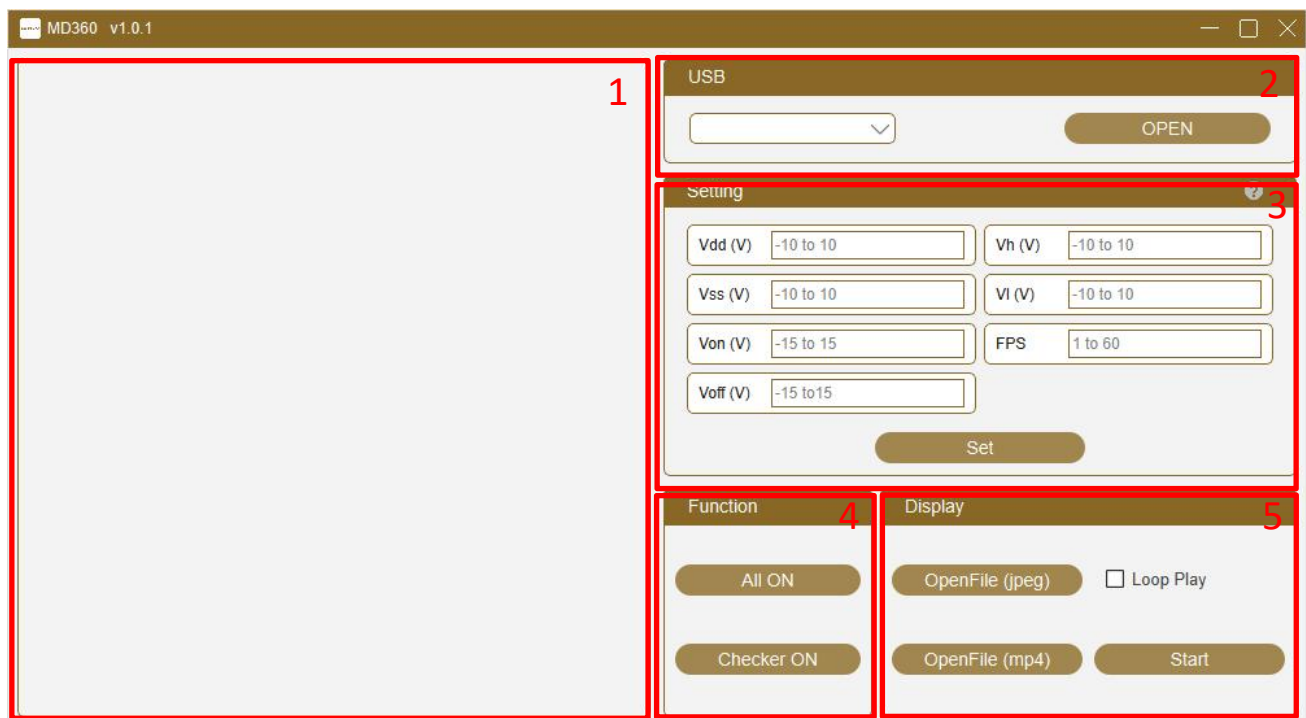
Note: The illustration is based on the compatible device of a 360*360 TFT array with quantum dot luminescent material on top.

- Before connecting the TFT array to the system, please make sure the system is powered off (set the power switch to OFF).
- Flip the lid of the system and plug in the FPC. It needs to be pressed several times to make sure that the FPC is firmly inserted.
- Close the lid to hold the FPC.

3. System Connection:

- Turn the power switch of the "MD360*360" device to ON to turn on the power of the device.
- Use a USB cable to connect the "MD360*360" device to the computer. Make sure both ends of the USB cable are correctly inserted into the device and the computer's USB ports.
- Open the MD360*360 application on the computer. If the connection is successful, "MD360" will appear in the device selection box.

4. PC Software Introduction:



- ①. Playback area: The real-time display of the device after opening a video or image.
- ②. USB connection: After a successful connection, "MD360" is displayed in the box, and you can click "OPEN"

to connect the PC and the system.

③. Setting (Voltage Settings): “?” The content is shown in the table below:

Voltage	Function	Suggest
Vdd	Bias voltage applied on the PD	Range is from -10V to 10V and 2V is recommended for initial setting.
Vss	Bias voltage applied on the common electrode of PD	Range is from -10V to 10V and -2V is recommended for initial setting.
Vh	Data voltage for gray level 255	Range is from -10V to 10V and 6V is recommended for initial setting.
Vi	Data voltage for gray level 0	Range is from -10V to 10V and 0V is recommended for initial setting.
Von	Select voltage of TFT (Scan)	Range is from -15V to 15V and 12V is recommended for initial setting.
Voff	Non-select voltage of TFT (Scan)	Range is from -15V to -15V and -12V is recommended for initial setting.
FPS	The setting for the frame rate of the displayed picture	Range is from 1Hz to 60Hz and 60Hz is recommended for initial setting

④. Function area

- 1) ALL ON/ALL OFF: Full illumination / All off
- 2) Checker ON/Checker OFF: Enable / Disable checkerboard display

⑤. Display area

- 1) OpenFile (jpeg): Open an image; click to select the path and open images in "jpeg" format.
- 2) OpenFile (mp4): Open a video; click to select the path and open videos in "mp4" format.
- 3) Loop Play: Plays the content repeatedly.
- 4) Start/Stop: Start/stop the playback of images or videos.

Note: Any selected video or image can be automatically converted by the system for display at a resolution of 360*360.

5. Usage Process:

- a. After confirming the system is connected to the computer, open the MD360 program. The appearance of “MD360” in the “USB” area indicates a successful connection. Then click the “Open” button to start the device.
- b. In the “Setting” area, set the corresponding voltages and click the “Set” button.
- c. In the “Function” area, you can click “ALL ON” or “Checker ON” to enable full illumination or checkerboard display.
- d. In the “Display” area, you can click “OpenFile (jpeg)” or “OpenFile (mp4)” to open the corresponding image or video, and then click “Start” to begin playback. Click “Loop Play” for continuous playback.

Warnings:

-  Please do not use in areas with complex electromagnetic environments. The testing environment, the object under test, and the fixtures should be kept dry and clean.
-  Please use the original charging adapter to avoid damaging the device.
-  Please don't use the system in hot or humid environments. Don't throw the system into fire or water to avoid damage or explosion.
-  Please don't bash or drop the system from height to avoid damage.