LinkZill

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TruEbox 04MD (100x180) User Guide

V1.0

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TruEbox 04MD (100x180) User Guide

Product Overview

This product supports signal driving of array light-emitting devices with a maximum resolution of 100*180. It can provide 100 channels of Scan signals, 180 channels of Data Read signals, and dual channels of DC bias signals. Through the USB, the PC terminal transmits the compiled array signal 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.

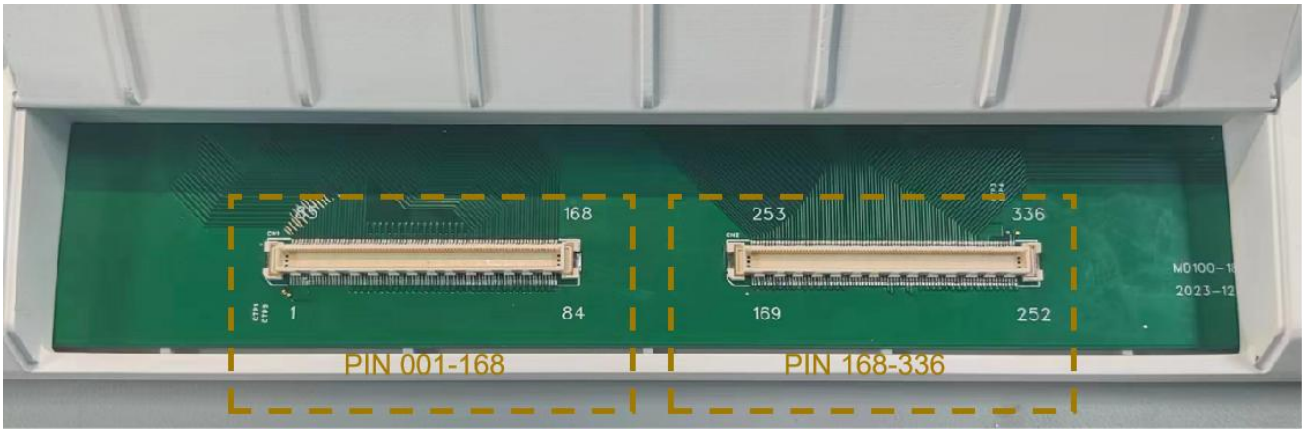
Parameter	Specification
L*W*H	310×208×35 mm
Weight	1100 g
Charging interface	DC005-5.5*2.5 mm
General	100 channel pulse row signals, voltage range: -20V~+20V 180 channel pulse column signals, voltage range: -10V~+10V 2 channel DC bias signals, voltage range: -10V~+10V
Communication	USB
Terminal	PC (Windows 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 level)

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	20-199	221-320	325-328	Remaining Pins
Definition	Vdd	180 channel pulse column signals	100 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 in the PC software correspond to the selected and unselected voltage of the 100 channel pulse row signals, with an adjustable range between -20V to +20V;

2. The Vh and Vl in the PC software correspond to the open and close voltage of the 180 channel pulse column signals, with an adjustable range between -10V to +10V;

3. The Vdd and Vss in the PC software are 2 channels of DC bias voltages that correspond to the load voltage and common electrode coltage for the driven device, with an adjustable range between -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:

(The illustration is based on the compatible device of a 100*180 TFT array with quantum dot luminescent material on top)

a. Before connecting the TFT array to the system, please make sure the TruEbox 04MD (100 × 180) is powered off.

b. 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.

c. Close the lid to hold the FPC.

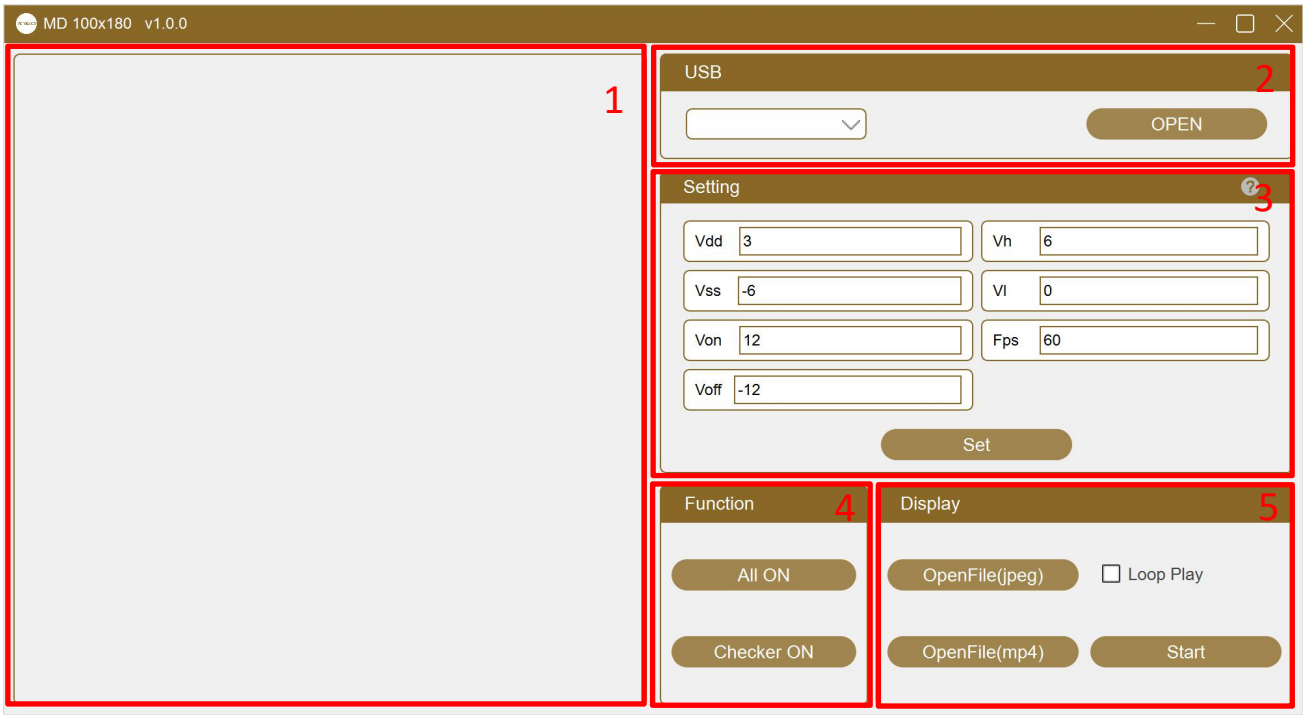
3. System Connection：

a. Turn the power switch of the "TruEbox 04MD (100×180)" to ON to turn on the power of the device.

b. Use a USB cable to connect the "TruEbox 04MD (100×180)" to the computer. Make sure both ends of the USB cable are correctly inserted into the device and the computer's USB ports.

C. Open the "MD100*180" application on the computer. If the connection is successful, the program device selection box will display the serial number of the "MD100*180" device.

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, the system number 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.
Vl	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 -20V to 20V and 12V is recommended for initial setting.
Voff	Non-select voltage of TFT（Scan）	Range is from -20V to -20V and -12V is recommended for initial setting.

④. Function area

1) ALL ON/ALL OFF
2) Checker ON/Checker OFF

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
4) Strat/Stop: Start/stop the playback of images or videos.

⚠ **Any selected video or image can be automatically converted by the system for display at a resolution of 100×180.**

5. Usage Process:

a. After confirming the system is connected to the computer, open the MD100*180 program. The appearance of the device name 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 voltage and click the "Send" 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 images and videos, then click "Start" to begin playback. If you want to loop the playback, you can click "Loop Play."

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.