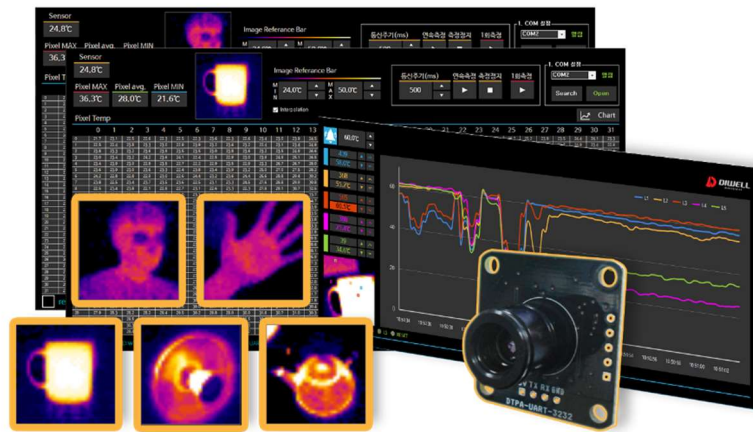


# DTPA-UART-3232 Test board

## Manual



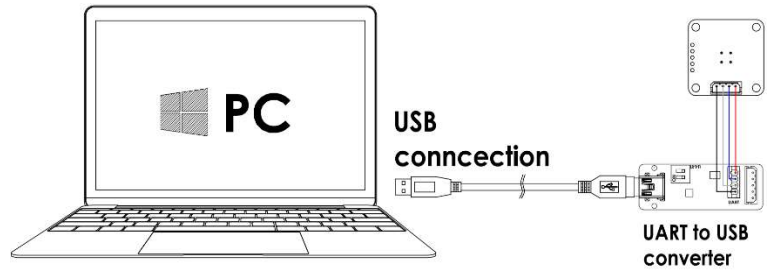
※ support model: DTPA-UART-3232

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The DTPA Series is a fully calibrated 32 x 32 pixels infrared array thermometer for industry. The DTPA contains 1024 IR pixels and supports UART TTL interface. This Test Board supports easy connection and simple temperature measurement without any additional circuitry. Please refer to the datasheet for more detailed information.

### Features

- ◇ Compact size, simple components.
- ◇ Easy monitoring on pc(windows 10 OS).
- ◇ Easy connection by USB.
- ◇ Free downloads of pc software and driver.
- ◇ Provides temperature display, chart view, alarm, and data logging.



### Requirements

#### Hardware

			
DTPA-UART-3232 x 1pc	UART to USB Converter x 1pc	Molex wire connector x 1set	USB mini B type 5pin Cable x 1pc

Note. The color and shape of the product may differ from the pictures above.

Recommended pc monitor resolution: 1920\*1080

#### software

- PC Software
- UART to USB Converter Driver

### Driver installation and connection

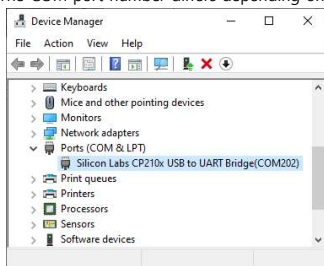
#### step1. Driver download & install.

- site address: <https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers>
- **CP210x Windows Drivers** download: [https://www.silabs.com/documents/public/software/CP210x\\_Windows\\_Drivers.zip](https://www.silabs.com/documents/public/software/CP210x_Windows_Drivers.zip)
- Note: Do not download the Universal Windows Driver. The Universal Windows driver has been reported to have malfunctioning issues on certain devices.

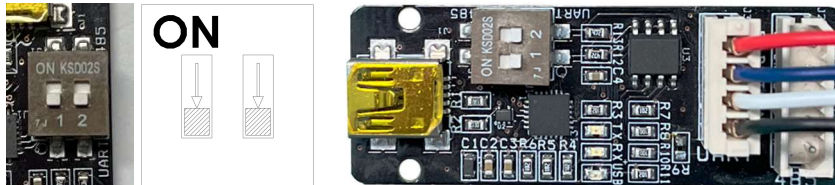
#### step2. Connect the "USB cable" and "USB Converter".

#### step3. Check the COM port number in "Device Manager" (Window key +X, M)

The COM port number differs depending on the PC environment.



#### step4. Check if all two slide switches of the converter are in the OFF position. (UART)



#### step5. Unzip after downloading the PC program and execute: [https://www.diwellshop.com/web/en/DTPA/DTPA-UART-3232\\_Testprogram.zip](https://www.diwellshop.com/web/en/DTPA/DTPA-UART-3232_Testprogram.zip)

#### step6. Connect the DTPA and USB converter (see step4 picture)

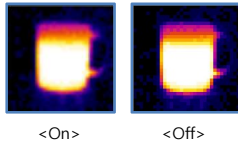
## User interface

◇ Open COM port: Select the COM number (see step3 on the previous page) and click "Open".  
 Note. The port connection status does not mean that the test board connection is successful. It's just that the port is open state.

◇ Read temperature: Click "START". (▶)

◇ Stop reading: Click "STOP". (■)

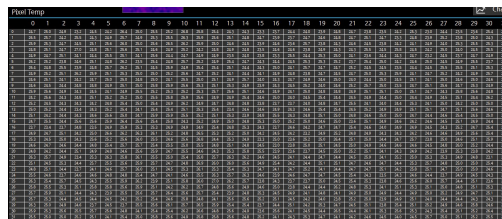
◇ Temperature scale reference: An infrared image can be adjusted manually. The colors are distributed evenly from the lowest to the highest temperature.  
 You can adjust the temperature scale close to the temperature of a specific object.  
 min range : 20...29°C, max range: 35...200°C



◇ Interpolation On/Off:

◇ Result table

- Ambient temperature: **23.9°C**
- Maximum temperature: **86.0°C**
- Minimum temperature: **28.0°C**
- Average temperature: **53.5°C**



- Pixel temperature: You can check the temperature of each 1024 pixels.

◇ Data Logging: All data is saved as a text file in a subfolder "TEMPLOG". Logging can be started and stopped manually.  
 The file size increases by about 5kB for each measurement.

- start: **Data logging D:\TEMPLOG\2022-05-27\_11h2m31s.txt**
- stop: **Data logging D:\TEMPLOG\**

※ How to open a file using the *Convert Text to Columns Wizard* in *Microsoft Excel* to separate cell content.

1. Run excel
2. **File** menu → **Open** → Find a folder (text file location)
3. Change the file format to be imported (excel → **all files(\*.\*)** )
4. Choose a text file. Click **Open**.
5. Choose **Delimited**. Click **Next**.
6. Choose only **Space**. Click **Next**.
7. Choose **General** or **Text**. Click **Finish**




	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
1	0000000	5/27/2022	12:56:05.S	26.4.P	27.5	26.9	28.2	27.4	27.1	28.3	26.7	27.5	27.5	28	27.5	27.7	27.5			

◇ 5-point temperature monitoring.



Choose any pixels you want to monitor. (Click the increase/ decrease buttons or select the radio button at the bottom and click the image screen). The display of the selected pixel point is updated during temperature measurement.

◇ Alarm Control: Configure the settings for alarm.

- Alarm Off:  , On:  (default: Off)
- Alarm Set Point: The temperature at which the alarm is triggered.  
 High: minimum 50°C, maximum 200°C  
 Low: minimum 10°C, maximum 40°C  
 An alarm sound will be played. And the background color of the temperature will be changed, until the alarm is reset.  
 It can turn off the alarm manually. 

- Hysteresis: The temperature difference between the Alarm Set Point and the reset temperature. Please see the diagrams below for more information.

Alarm Type	High alarm with automatic reset(The alarm is triggered when the temperature rises above the Alarm Set Point.)	Low alarm with automatic reset(The alarm is triggered when the temperature drops below the Alarm Set Point)
Hysteresis	Alarm Set Point - 5°C	Alarm Set Point +5°C
e.g.	If. Set point: 60, Hysteresis point: 60-5 = 55°C	If. Set point : 30°C, Hysteresis point: 30+5 = 35°C

- Alarm reset: The alarm is acknowledged and reset automatically when the temperature reaches the reset temperature.

- ◇ Alarm Logging: Alarm events can be logged to a text file in a subfolder "ALMLOG". Logging will start when an alarm is triggered. Logging stops when alarms are reset.  
(Time, L1, L2, L3, L4, L5)

```
10:50:51 59 56.7 61.3 24.9 34.1
10:50:52 59 56.2 60.4 25.7 34.1
10:50:53 59 56.2 60.4 25.7 34.1
10:50:52 59 56.8 61.3 25.7 33.8
```

- ◇ Chart always on top



## Products handling precaution

- ※ When it comes to dust removal by air, the best method is to use a blower, and to avoid using compressed air.
- ※ Do not press the lens with your hands or any other object.
- ※ Do not scratch the lens surface with sharp objects.
- ※ Voluntary disassembly and modification of the product is prohibited.
- ※ Avoid direct sunlight, chemical substance, heat or fire.
- ※ Water resistance is not guaranteed.
- ※ Do not remove the sensor during communication.

## Additional information

Manufacturer: DIWELL Electronics Co., Ltd. (South Korea)  
 Technical support: <mailto:expoeb2@diwell.com>, <mailto:dsjeong@diwell.com>

## Revision history

Version	Date(Y,M,D)	Description
1.0.0	2022. 5. 27.	First version is released