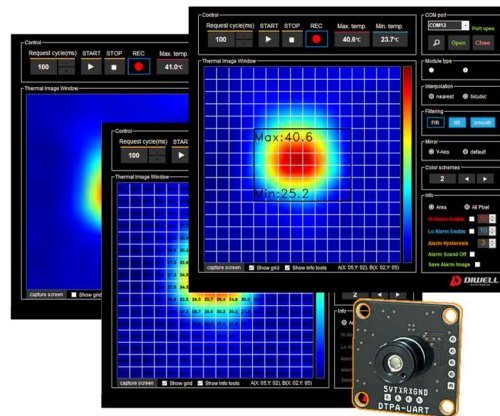


DTPA-UART-1616S Test board

Manual



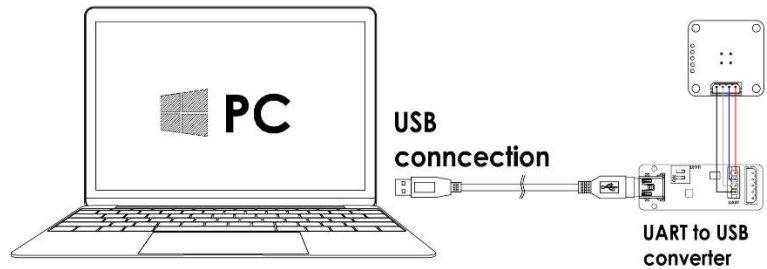
※ support model: DTPA-UART-1616S

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The DTPA-UART-1616S is an industrial-grade infrared array thermometer that is fully calibrated with 16x16 pixels. It contains 256 IR pixels and supports UART interface. With the provided Test Board, it is easy to connect and measure temperature without the need for additional circuitry. Please refer to the datasheet for more detailed information.

Features

- ◇ Compact size and simple components.
- ◇ Easy monitoring on a PC with windows 10 OS.
- ◇ Easy connection via USB.
- ◇ Free downloads of PC software and drivers.
- ◇ Provides temperature display, video recording and alarm logging.



Requirements

Hardware

			
DTPA-UART-1616S x 1pc	UART to USB Converter x 1pc	Molex wire connector x 1set	USB mini B type 5pin Cable x 1pc

Please note that the color and shape of the product may vary from the images shown above.
Recommended pc monitor resolution: 1920*1080

software

- PC Software
- UART to USB Converter Driver

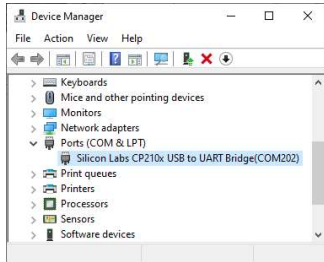
Driver installation and connection

- ◇ 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
 - Note: It is not advisable to download the "Universal Windows Driver" as it has been known to cause malfunctions on some devices.

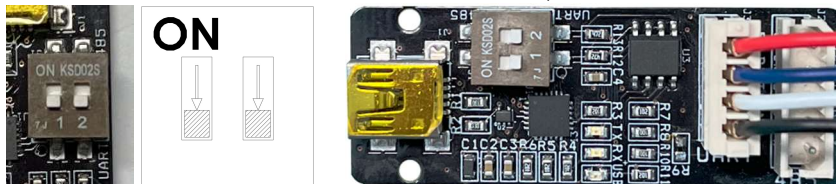
- ◇ step2. Connect the USB cable between "PC" and "USB Converter".

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

The COM port number may vary depending on the PC environment.



- ◇ step4. Please make sure that both slide switches of the converter are in the OFF position. (UART side)



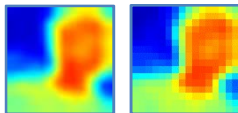
- ◇ step5. Download and extract file, then run the application(exe).
 - download Link: https://www.diwellshop.com/web/en/DTPA/DTPA-UART-S_Testprogram.zip
- ◇ step6. Connect the cable between DTPA and USB converter (as shown in step 4 picture)

User interface

- ◇ To open the COM port, select the COM number (as described in step 3 on the previous page) and click the "Open" button.
Note. The status of the port connection does not guarantee a successful connection with the Test Board. It only indicates that the port is in an open state.
- ◇ Select module type(Ver**y important!!!**): "16x16" – The module type must be selected before pressing the "START(▶)" button.



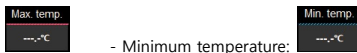
- ◇ Read temperature: Click "START" button. (▶)
- ◇ Stop reading: Click "STOP" button. (■)
- ◇ Record: By pressing the "REC(●)" button, the video will be saved as a file name "Record_XXXX.avi" in a subfolder called "VIDEO", where XXXX represents the date and time.
Recording is possible during measurement and the file access is enabled after pressing the "STOP" button or pressing the "REC" button again.
Make sure to adjust the recording time based on the remaining storage space available. Failure to do so may result in data loss or program errors.



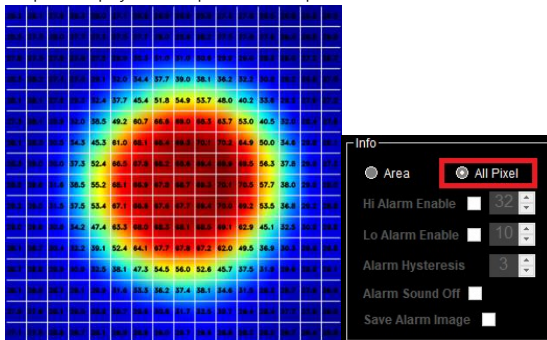
- ◇ Interpolation:

<bicubic> <nearest>

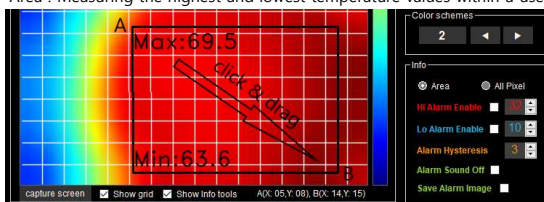
- ◇ Result table



- Maximum temperature: ---°C
- Minimum temperature: ---°C
- All pixel: Displays the temperature of all pixels on the screen. In this mode, alarm function is disabled.

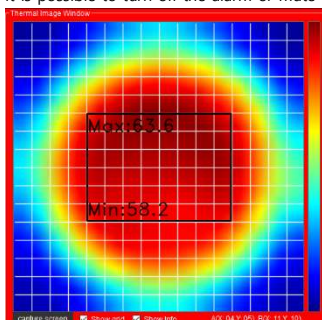


- Area : Measuring the highest and lowest temperature values within a user-defined area and activating the alarm settings.



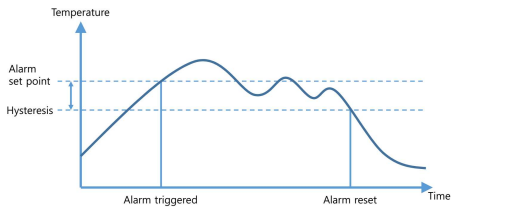
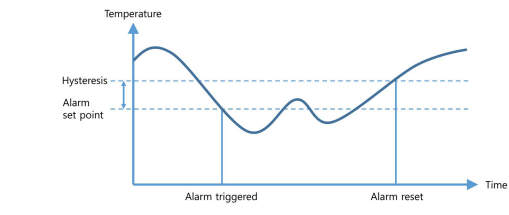
- ◇ Alarm settings:

- Alarm Set Point: The temperature at which the alarm is triggered. When the measured temperature exceeds the set point, an alarm will sound and the background color of the "Thermal Image Window" will change.
High Alarm setting range: 32°C ... 200°C
Low Alarm setting range: -20°C ... 30°C
It is possible to turn off the alarm or mute the sound manually.



< background color : Red >

- Hysteresis: The temperature difference between the Alarm Set Point and the reset temperature. Please refer to the diagrams below for more information.(value: 2...10)
- Alarm reset: The alarm will be automatically acknowledged and reset when the temperature reaches the reset point.

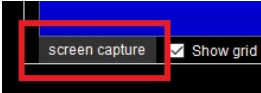
		
Alarm Type	High alarm with automatic reset(The alarm is triggered when the temperature rises above the Alarm Set Point.)	Low alarm with automatic reset(The alarm is triggered when the temperature drops below the Alarm Set Point)
e.g.	If. Set point: 60°C, Hysteresis value: 3°C, reset point is 57°C	If. Set point : 10°C, Hysteresis value: 3°C, reset point is 13°C

◇ Alarm Logging:

The alarm events can be logged into a text file located in a subfolder called "ALMLOG". The logging process is automatic and occurs when an alarm event happens. Checking the "Save Alarm Image" option will save the image of the event that triggered the alarm. Before performing any record function, it is essential to check the remaining storage capacity of the storage device to prevent any potential issues.

◇ Screen capture

To take a screenshot of the currently measured screen, simply click on the "screen capture" button. The screenshot will be saved in a subfolder named "CAPTURE".



Products handling precaution

- ※ Always use the product according to the instructions provided in the user manual.
- ※ Do not drop or hit the product, as this can cause physical damage to the product.
- ※ When not in use, it is recommended to store the product at room temperature and in a dry place.
- ※ To remove dust, use a blower rather than compressed air.
- ※ Avoid pressing the lens with your hands or any other object.
- ※ Do not scratch the lens surface with sharp objects.
- ※ Do not disassemble or modify the product voluntarily. This can cause injury or damage to the product.
- ※ Avoid exposing the product to direct sunlight, chemicals, heat, or fire.
- ※ This product is not water-resistant.
- ※ Do not remove the sensor during communication.

Additional information

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

Revision history

Version	Date(Y,M,D)	Description
1.0.0	2023. 4. 25.	First version is released