THERMOEYE

TMC256xH Manual

TMC256BH / TMC256EH

Revision

Version	Date	Contents
1.0	JUN.27.2024	1st Release
1.1	FEB.06.2026	Detailed specifications update

Chapter

1. Introduction

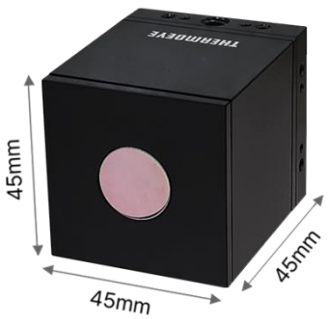
The Thermoeye TMC256BH and TMC256EH cameras are compact thermal camera and suitable for application to research and industrial products. They offer comprehensive visual temperature monitoring for process control and quality assurance applications as well as condition monitoring and fire prevention.

1.1. Figure

TMC256BH TMC256EH

Item	Description	Item	Description
❶	Window	❸	USB cable
❷	Tripod mounting holes	❹	PoE cable

1.2. Key Features



- ✓ Resolution : 256 x 192
- ✓ Field of View : 56˚ x 42˚ / 90˚ x 65˚
- ✓ Frame Rate : 25Hz
- ✓ Noise Equivalent Temperature Difference : ≤50mK
- ✓ Compact Size : 45mm x 45mm x 45mm (53.5mm/including mounting block)
- ✓ Interface : USB or Ethernet (PoE)

2. Specifications

Model		TMC256BH			TMC256EH		
Sensor		Uncooled VOx Microbolometer					
Spectral Range		8㎛ ~ 14㎛					
Resolution		256 X 192					
Pixel Pitch		12㎛					
NETD		≤50mK @25℃					
Frame Rate		25Hz					
FOV		56 ° x 42 ° / 90 ° x 65 °					
Measure Range	High Gain	-10℃ ~ 150℃					
	Low Gain	50℃ ~ 550℃					
Accuracy	High Gain	±2℃ or ±2%					
	Low Gain	±5℃ or ±5%					
Interface		USB-HS (Type-A)			Ethernet (RJ-45)		
Protocol		UVC, CDC ACM			TCP, UDP, RTSP, RTP		
Operating Temperature		-10℃ ~ 70℃					
Power		USB DC5V USB 			PoE(802.3af) DC12V ※ DC 12V PoE 		
Cable Length		144mm			56mm		
Size		45mm x 45mm x 45mm(53.5mm/including mounting block)					
Power Consumption	State / Unit	Voltage	Current	Watt	Voltage	Current	Watt
	Idle	5V	156mA	780mW	12V	64mA	768mW
	Streaming		160mA	800mW		75mA	900mW
	FFC		260mA	1300mW		110mA	1320mW

※ PoE adapter (PoE switch, injector) and DC12V adapter are not provided.

※ Don't connect the DC12V and PoE adapter at the same time. This may damage the device.

※ If you use a general switch other than PoE, you can use a DC12V for separate power supply.

3. Installation

Connect the camera device to a Windows PC via Ethernet or USB cable and check the connection status with the ThermoCamSDK.

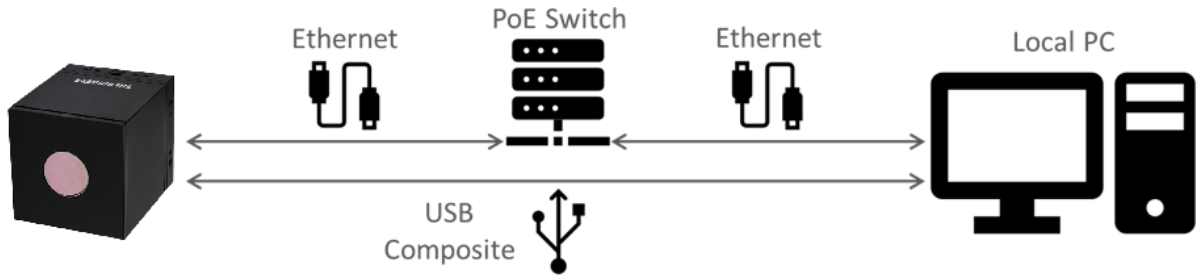


Figure 1. System Configuration Diagram

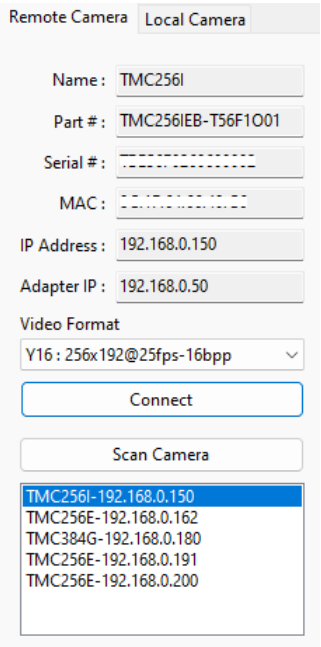
The TmSDK GUI can be downloaded from the Thermoeye Github. For detailed instructions, please refer to the separately provided TmSDK manual.

https://github.com/thermotye/tmsdk

2.1. Ethernet

Connect the camera device and a network switch that supports PoE with an RJ-45 Ethernet cable. And the LED will turn on when it boots up normally.

When you run the TmSDK on a PC connected to the network, you can find connectable camera devices on the network and view the device list and product information on the **Remote Camera** tab, as shown below.



The default network settings for your device are:

- IP Assignment: Static
- IP Address: 192.168.0.150
- Subnet Mask: 255.255.255.0
- Gateway: 192.168.0.1
- Main DNS Server: 164.124.101.2
- Sub DNS Server: 168.126.63.1
- Protocol and Port:
UDP (15000), RTSP/TCP (554), RTP/UDP (50000-51000)

Network settings can be changed on the **Network** tab after connecting with the camera device.

Figure 2. Ethernet Connection

2.2. USB

Connect the camera device and a PC with an USB cable.

When you run the TmSDK on your PC, you can find connectable camera devices and view the device list and product information in the **Local Camera** tab, as shown below.

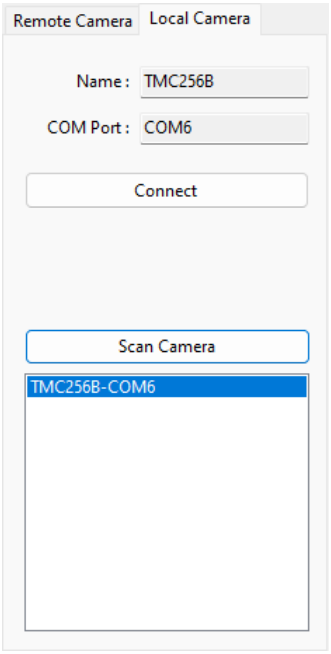


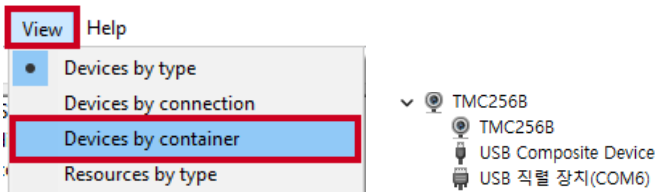
Figure 3. USB Connection

You can also view the connection information in the Windows Device Manager.

USB connection is possible using the product name and COM port number of the camera device.

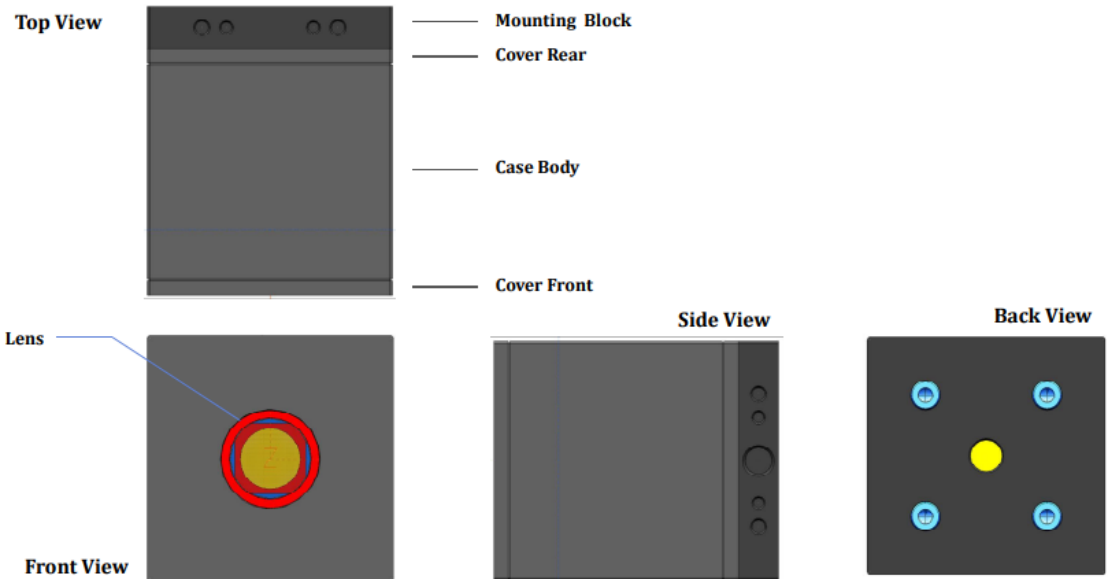
The COM port number might change each time you connect the camera device with a USB cable.

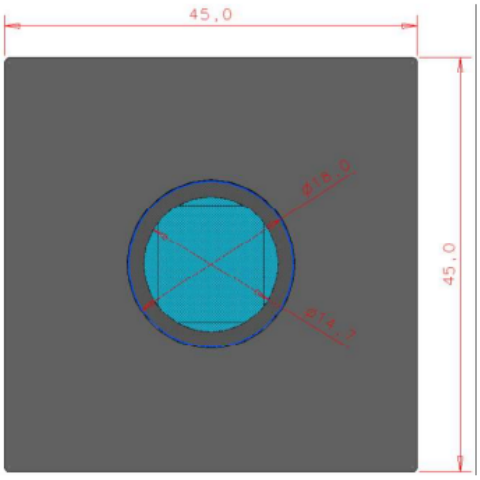
If you change the display to "View ⇨ Devices by container" from the menu in Device Manager, you can see the USB camera product name and COM port number included with the camera device at a once.

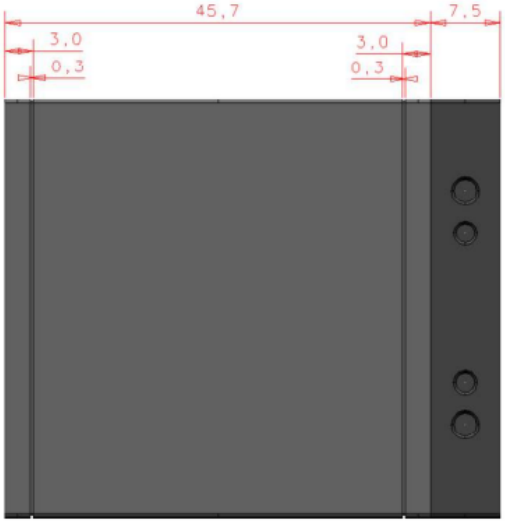


4. Mechanical Drawings

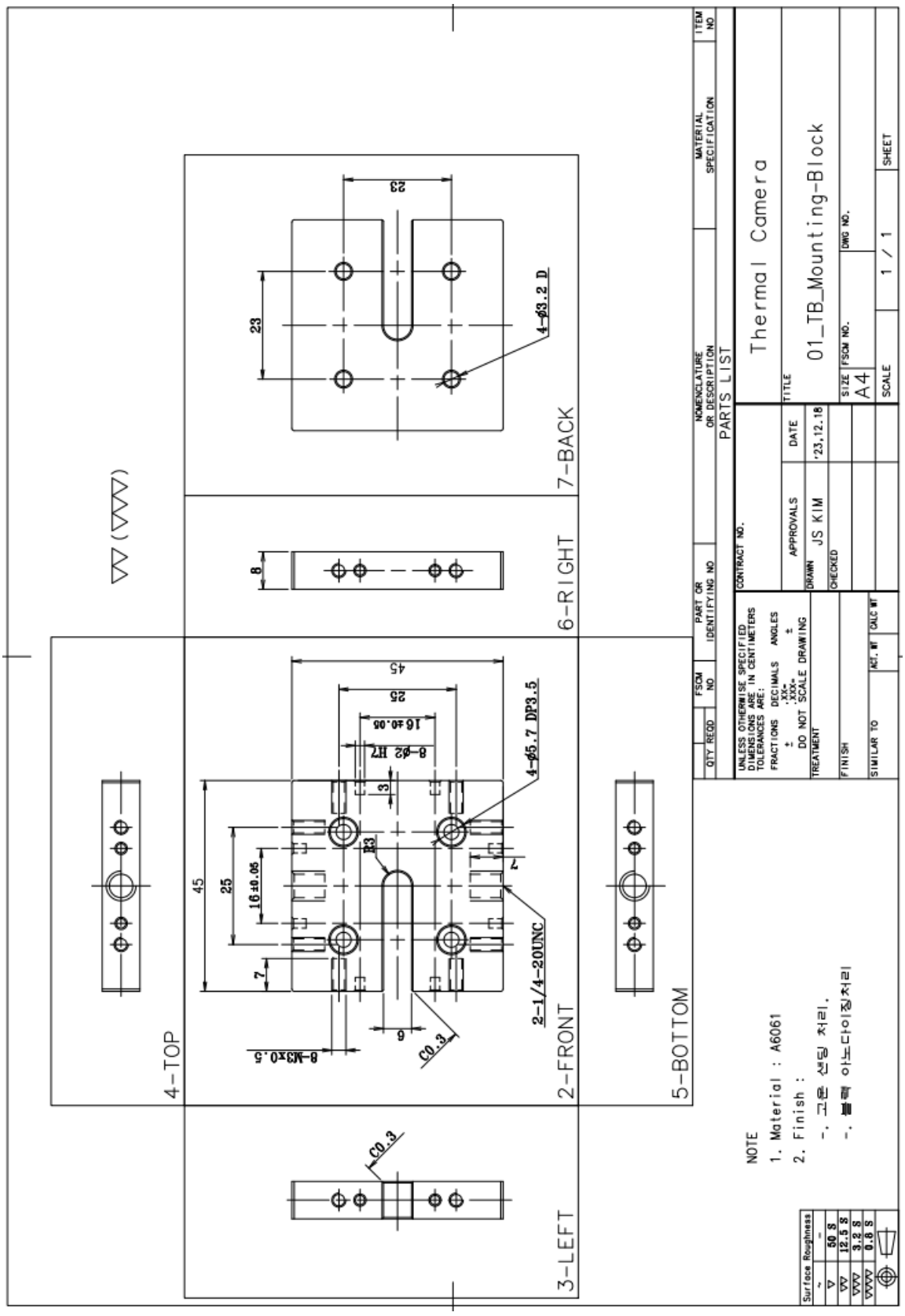
4.1. Basic Dimension



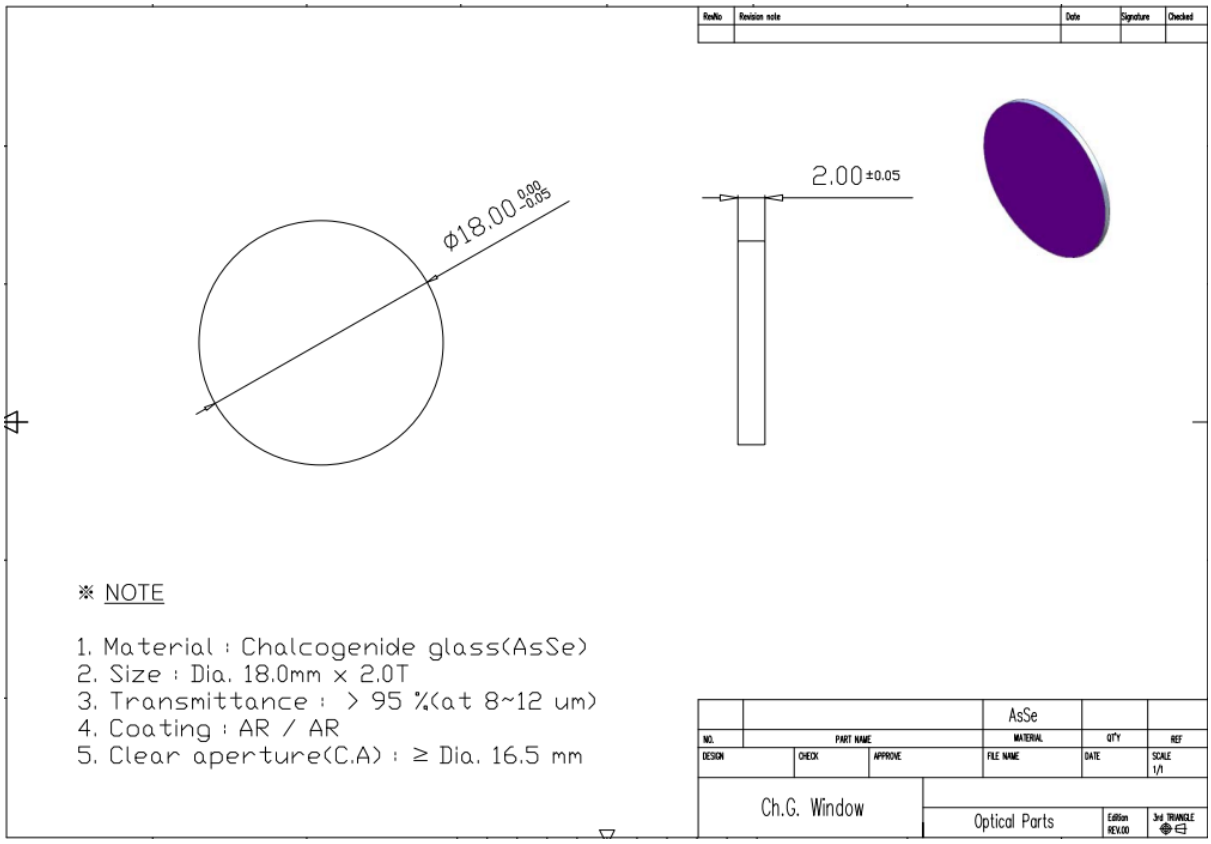




4.2. Mounting Block Dimension



4.3. Window Dimension



5. Maintenance

Cleaning and window care are the only maintenance required to the product.

5.1. Clean the Case

Clean the case with a soft cloth and a weak soap solution.

Caution!
To prevent damage to the case: ✓ **Do not use abrasives, isopropyl alcohol, or solvents to clean the case.**

5.2. Window Care

Use a pressurized can of air or a dry nitrogen-ion gun, if available, to blow off the particulates from the window surface.

Clean the window with a polyester micro fiber fabric cloth.

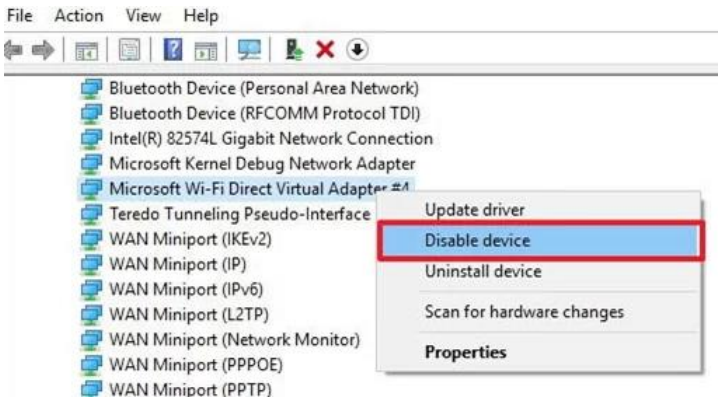
Caution!
To prevent damage to the window: ✓ **Carefully clean the window. The window has a delicate anti-reflective coating.** ✓ **Do not clean the window too vigorously because this can damage the anti-reflective coating.**

6. Troubleshooting

Please refer to this if you encounter any problems during product installation or SDK development.

6.1. Scan Camera is not working on Remote Camera

If you execute Scan Camera to find a Remote Camera connected to PoE on a PC equipped with Wi-Fi wireless adapter, but you cannot find any device, please set all of **Microsoft Wi-Fi Direct Virtual Adapter** devices to **Disable device** on the network adapter in the PC's Device Manager as follows.



7. Support

Thermoeye Inc. operates service channels to keep your camera running at all times. If you discover a problem with your camera, please get in touch with us for technical support.

- ✓ Website: www.thermoeye.co.kr
- ✓ E-mail: help@thermoeye.co.kr
- ✓ Tel: +82-70-4489-6196
- ✓ Head Office: 307, Research Building 3, 70, Yuseong-daero 1689 beon-gil, Yuseong-gu, Daejeon, Republic of Korea
- ✓ Seoul R&D: 4~5F, 169 Sadang-ro, Dongjak-gu, Seoul, Republic of Korea

Please visit the Thermoeye Github to download detailed product manuals and SDK for application development.

- ✓ https://github.com/thermoeye/tmsdk

8. Glossary

Term	Definition
CDC ACM	USB Communication Device Class - Abstract Control Model
COM port	USB serial COMmunication port
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
FOV	Field Of View
IP	Internet Protocol
LED	Light-Emitting Diode
MAC	Media Access Control
NEDT	Noise Equivalent Differential Temperature
NETD	Noise Equivalent Temperature Difference
PoE	Power over Ethernet
ROI	Region Of Interest
RTSP	Real-Time Streaming Protocol
RTP	Real-time Transport Protocol
TCP	Transmission Control Protocol
UDP	User Datagram Protocol
USB	Universal Serial Bus
USB-HS	USB High Speed
UVC	USB Video device Class
VOx	Vanadium Oxide