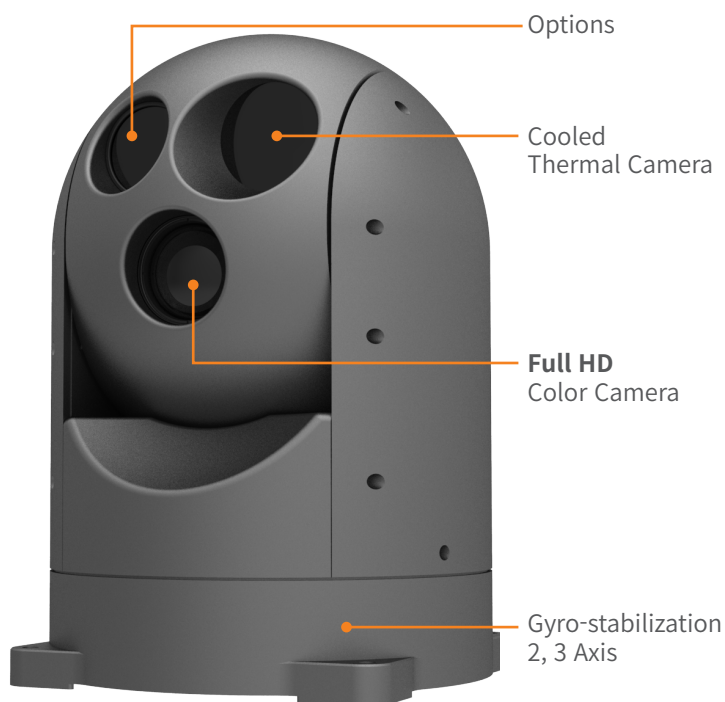


TBX-20M *EO/IR Gyro Stabilized Gimbal Camera*



* Product appearance varies depending on options.

The TBX-20M series is a high-performance Pan/Tilt thermal imaging camera system suitable for Port surveillance, Vessel and Long Range surveillance. It is possible that 2, 3-axis and various sensors are mounted on these applications.

The thermal imaging 640x480 sensor helps identify targets even when it is dark or difficult to secure visibility due to snow, rain, fog, etc.

Full HD color cameras provide maximum visibility with options such as spotlights and LRF.

FEATURE

Cooled Thermal Camera

- Detector type : Cooled InSb 640x512
- Pixel Pitch : 15μm
- NETD : ≤ 20 mK typical (Without Lens)
- MTTF : 10,000Hours
- Lens DRI

Lens Focal length	20 to 275mm
DRI	D : 8.4km R : 2.4km I : 1.5km
Human 1.8 x 0.5 m	
DRI	D : 14.9km R : 5.2km I : 3.4km
Vehicle 2.3 x 2.3 m	

Day/Night Color Camera

- 2 MP High Resolution Camera 1920x1080

Mechanism

- Gyro Motion Stabilization 2, 3 Axis
- BIT (Built In Test)

Various Options

- GPS
- Controller
- Software
- Laser Range Finder (LRF)
- Laser Pointer
- Auto Tracker
- Spotlight

APPLICATION



[USV]



[Navy]



[Vessel]

SPECIFICATION

Cooled Thermal Camera

Sensor Type	Cooled InSb, 640x512
Pixel Pitch	15μm
NETD	≤ 20 mK typical (Without Lens)
F Number	F/5.5
Cooler	Rotary Stirling Cooler, MTTF : 10,000Hours
Lens Focal Length (HFOV)	20 to 275mm (H:28° ~ H:1.9°)

Day/Night Color Camera

Sensor	1/2.3" Sony CMOS Sensor
Output Resolution	1920 x 1080 / 30p
Zoom	36x F=1.5 ~ 4.8, f=6 ~ 216mm (Optical x36, Digital x32 Zoom)
Min. Illumination	Color(1/30s, 48dB) : 0.3lux, BW(1/30s, 48dB) : 0.01lux, Color DSS(1/2s, 48dB) : 0.06lux, BW DSS(1/2s, 48dB) : 0.002lux

Gimbal

Dimensions	Ø250mm x 370mm
Weight	≤18Kg
Pan/Tilt Range	Pan : 360° continuous, Tilt : -60° ~ +90°
Max Speed	Pan : 60°/s, Tilt : 60°/s
Gyro	2, 3 Axis Gyro Stabilization Available
Power Requirement	22-34 VDC
Operating/Storage Temp.	-20°C to +55°C / -30°C to +75°C
Environmental Rating	IP66

Software (Options)

Operation SW	UI SW(EXE files) installed in PC
OS	Windows 10 Pro (64bit)
CPU	Intel Core i5+
RAM	8GB+
SSD / HDD	100GB+

LRF (Options)

Laser safety class	Eye Safe Class 1
Detection Range	5, 10, 15 km NATO Target
Measurement rates	0.2, 1, 4, 10, 15, 200 Hz

Spotlight (Options)

Spotlight	≥580 Lumens LED
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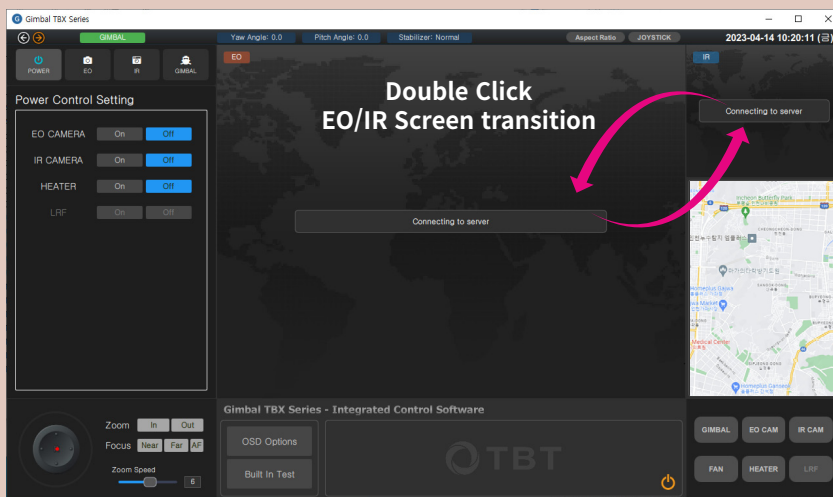
Joystick (Options)

PTZ Control	Joystick (3 Axis Twist zoom)
Interface	USB 2.0, DirectX
Power	5V DC, 32mA (USB)
Operating Temp.	-25°C ~ 70°C

Auto Tracking (Options)

Auto Video Tracking	Yes
Target Coordinate Estimation	Yes
Video Storage	Yes
PIP	Yes
Network Streaming	Adjustable Compression Rate

Self-Developed Software Gimbal TBX



Intuitive Visibility

- Intuitive user interface minimizes operational complexity for operators
- Provides access to a variety of information

Various Controls

- Easily control key functions of color/thermal imaging cameras and gimbals
- Easy Pan/Tilt Control with Virtual Joystick
- USB joystick available
- Easy control with keyboard shortcuts

Flexible scalability

- Being compatible with your system to meet changing needs

Ease of maintenance

- Check the condition of the equipment with the BIT (Bit In Test) function
- Support immediate response with a variety of maintenance features



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Design and specifications are subject to change without notice. 2021 TBT printed in KOREA (Ver. 3.1.0_20230615)