

# THUNDER Pro TQ50 Thermal Scope



HIKMICRO THUNDER Pro TQ50 Thermal Scope has  $640 \times 512$  thermal detector and  $1024 \times 768$  OLED monitor, which provides clear image under harsh environment conditions like darkness, fog, smoke, dust, rain, snow, wood, camouflage, etc. The scope is mainly applied to scenarios such as patrolling, and hunting, etc.

#### **Key Features**

- 640 × 512 thermal resolution, high sensitivity detector, NETD <35 mK (25°C, F# = 1.0)
- Image processing technology: Adaptive AGC, DDE, 3D DNR
- 1024 × 768 resolution 0.39-inch OLED display
- Supports distance measurement, and hotspot function
- Supports video recording and snapshot, built-in EMMC (16 GB)
- Supports digital zoom and cursor function, palettes of color adjustable
- Observation distance up to 2600 m



# Specification

Image Sensor         Uncooled Focal Plane Arrays           Pixel Interval         12 μm           Max. Resolution         640 × 512           Response Waveband         8 μm to 14 μm           NETD         <35 mK (25°C, F# = 1.0)	Thermal Module	
Max. Resolution         640 × 512           Response Waveband         8 μm to 14 μm           NETD         <35 mk (25°C, F# = 1.0)           Lens (Focal Length)         50 mm           Detection Range         2600 m           IFOV         0.24 mrad           Field of View         8.78° × 7.03°           Min. Focusing Distance         5 m           Aperture         F1.0           Frame Rate         50 Hz           Magnification         2.6x           Image Display           Display         1024 × 768, 0.39 inch, OLED           Palettes         Black hot, white hot, red hot, fusion           Exit Pupil         6 mm           Eye Relief         45 mm           Diopter (Range)         -5 Dto 3 D           System           Digital Zoom         1x, 2x, 4x, 8x           Reticle         Yes           Bistopt         Yes           Distance Measurement         Yes           Standby mode         Yes           Standby mode         Yes           Capture Snapshot         Yes           Hot Track         Yes           DPC         Yes           Uniformity Correction	Image Sensor	Uncooled Focal Plane Arrays
Response Waveband         8 µm to 14 µm           NETD         <35 mK (25°C, FH = 1.0)	Pixel Interval	12 μm
NETD         435 mK (25°C, F# = 1.0)           Lens (Focal Length)         50 mm           Detection Range         2600 m           IFOV         0.24 mrad           Field of View         8.78° × 7.03°           Min. Focusing Distance         5 m           Aperture         F1.0           Frame Rate         50 Hz           Magnification         2.6x           Image Display           Display           Palettes         Black hot, white hot, red hot, fusion           Exit Pupil         6 mm           Eye Relief         45 mm           Diopter (Range)         -5 D to 3 D           System           Digital Zoom         1x, 2x, 4x, 8x           Reticle         Yes           Hotspot         Yes           Record Video         On-board video recording           Standby mode         Yes           Capture Snapshot         Yes           DPC         Yes           PIP         Yes           Uniformity Correction         Auto, Manual, External Correction           Storage         Built-in EMMC (16 GB)           Power Supply           Power Supply <t< td=""><td>Max. Resolution</td><td>640 × 512</td></t<>	Max. Resolution	640 × 512
Lens (Focal Length)         50 mm           Detection Range         2600 m           IFOV         0.24 mrad           Field of View         8.78° × 7.03°           Min. Focusing Distance         5 m           Aperture         F1.0           Frame Rate         50 Hz           Magnification         2.6x           Image Display           Display Of Display           Palettes         Black hot, white hot, red hot, fusion           Exit Pupil         6 mm           Eye Relief         45 mm           Diopter (Range)         5 D to 3 D           System         Ves           Betticle         Yes           Reticle         Yes           Hotspot         Yes           Distance Measurement         Yes           Record Video         On-board video recording           Standby mode         Yes           Capture Snapshot         Yes           Hot Track         Yes           DPC         Yes           Uniformity Correction         Auto, Manual, External Correction           Storage         built-in EMMC (16 GB)           Power Supply           Battery         App	Response Waveband	8 μm to 14 μm
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IFOV         0.24 mrad           Field of View         8.78° x 7.03°           Min. Focusing Distance         5 m           Aperture         F1.0           Frame Rate         50 Hz           Magnification         2.6x           Image Display           Usiplay         1024 x 768, 0.39 inch, OLED           Palettes         Black hot, white hot, red hot, fusion           Exit Pupil         6 mm           Eye Relief         45 mm           Diopter (Range)         -5 D to 3 D           System         Ves           Digital Zoom         1x, 2x, 4x, 8x           Reticle         Yes           Hotspot         Yes           Distance Measurement         Yes           Standby mode         Yes           Standby mode         Yes           Capture Snapshot         Yes           Hot Track         Yes           DPC         Yes           Uniformity Correction         Auto, Manual, External Correction           Storage         Bull-in EMMC (16 GB)           Power Supply           Battery         Applicable type: CR123A, RCR123A           Battery Operating Time         3.75 h (25°C, with ho	Lens (Focal Length)	50 mm
Field of View         8.78° × 7.03°           Min. Focusing Distance         5 m           Aperture         F1.0           Frame Rate         50 Hz           Magnification         2.6x           Image Display           USSP Jance           Black Not, white hot, red hot, fusion           Exit Pupil         6 mm           Eye Relief         45 mm           Diopter (Range)         -5 D to 3 D           System           Digital Zoom         1x, 2x, 4x, 8x           Reticle         Yes           Hotspot         Yes           Distance Measurement         Yes           Record Video         On-board video recording           Standby mode         Yes           Capture Snapshot         Yes           Hot Track         Yes           DPC         Yes           PIP         Yes           Uniformity Correction         Auto, Manual, External Correction           Storage         Built-in EMMC (16 GB)           Power Supply           Battery         Applicable type: CR123A, RCR123A           Battery Operating Time         3.75 h (25°C, with hotspot off)           Ant	Detection Range	2600 m
Min. Focusing Distance         5 m           Aperture         F1.0           Frame Rate         50 Hz           Magnification         2.6x           Image Display           Display         1024 × 768, 0.39 inch, OLED           Palettes         Black hot, white hot, red hot, fusion           Exit Pupil         6 mm           Eye Relief         45 mm           Diopter (Range)         -5 D to 3 D           System           System           Digital Zoom         1x, 2x, 4x, 8x           Reticle         Yes           Hotspot         Yes           Record Video         On-board video recording           Standby mode         Yes           Capture Snapshot         Yes           Hot Track         Yes           DPC         Yes           PIP         Yes           Uniformity Correction         Auto, Manual, External Correction           Storage         Built-in EMMC (16 GB)           Power Supply           Battery         Applicable type: CR123A, RCR123A           Battery Operating Time         3.75 h (25°C, with hotspot off)           Anti-reverse battery connection         Yes     <	IFOV	0.24 mrad
Aperture         F1.0           Frame Rate         50 Hz           Magnification         2.6x           Image Display           Display         1024 × 768, 0.39 inch, OLED           Palettes         Black hot, white hot, red hot, fusion           Exit Pupil         6 mm           Eye Relief         45 mm           Diopter (Range)         -5 D to 3 D           System           Digital Zoom           1 x, 2x, 4x, 8x           Reticle         Yes           Hotspot         Yes           Distance Measurement         Yes           Record Video         On-board video recording           Standby mode         Yes           Capture Snapshot         Yes           DPC         Yes           DPC         Yes           Uriformity Correction         Auto, Manual, External Correction           Storage         Built-in EMMC (16 GB)           Power Supply           Battery         Replaceable Applicable type: CR123A, RCR123A           Battery Operating Time         3.75 h (25°C, with hotspot off)           Anti-reverse battery connection         Yes	Field of View	8.78° × 7.03°
Frame Rate 50 Hz Magnification 2.6x  Image Display  Display 1024 × 768, 0.39 inch, OLED  Palettes Black hot, white hot, red hot, fusion Exit Pupil 6 mm Eye Relief 45 mm Diopter (Range) -5 D to 3 D  System  Digital Zoom 1x, 2x, 4x, 8x Reticle Yes Hotspot Yes  Distance Measurement Yes Record Video 0n-board video recording Standby mode Yes  Capture Snapshot Yes  DPC Yes  PIP Yes  Uniformity Correction Auto, Manual, External Correction Storage Built-in EMMC (16 GB)  Power Supply  Replaceable Applicable type: CR123A, RCR123A Battery Operating Time 3.75 h (25°C, with hotspot off) Anti-reverse battery connection Yes	Min. Focusing Distance	5 m
Image Display         1024 × 768, 0.39 inch, OLED           Palettes         Black hot, white hot, red hot, fusion           Exit Pupil         6 m           Exit Pupil         45 mm           Diopter (Range)         -5 D to 3 D           System           System           Digital Zoom         1x, 2x, 4x, 8x           Reticle         Yes           Distance Measurement         Yes           Distance Measurement         Yes           Standby mode         Yes           Capture Snapshot         Yes           Hot Track         Yes           DPC         Yes           PIP         Yes           Uniformity Correction         Auto, Manual, External Correction           Storage         Built-in EMMC (16 GB)           Power Supply           Battery         Replaceable Applicable type: CR123A, RCR123A           Battery Operating Time         3.75 h (25°C, with hotspot off)           Anti-reverse battery connection         Yes	Aperture	F1.0
Display 1024 × 768, 0.39 inch, OLED Palettes Black hot, white hot, red hot, fusion Exit Pupil 6 mm  Eye Relief 45 mm Diopter (Range) 5-D to 3 D  System  System  Digital Zoom 1x, 2x, 4x, 8x Reticle Yes Hotspot Yes Distance Measurement Yes Record Video 0n-board video recording Standby mode Yes Capture Snapshot Yes Hot Track Yes DPC Yes PIP Yes Uniformity Correction Auto, Manual, External Correction Storage Built-in EMMC (16 GB)  Power Supply  Replaceable Applicable type: CR123A, RCR123A Battery Operating Time 3.75 h (25°C, with hotspot off) Anti-reverse battery connection Yes	Frame Rate	50 Hz
Display     1024 x 768, 0.39 inch, OLED       Palettes     Black hot, white hot, red hot, fusion       Exit Pupil     6 mm       Eye Relief     45 mm       Diopter (Range)     -5 D to 3 D       System       System       Digital Zoom     1x, 2x, 4x, 8x       Reticle     Yes       Hotspot     Yes       Distance Measurement     Yes       Record Video     On-board video recording       Standby mode     Yes       Capture Snapshot     Yes       Hot Track     Yes       DPC     Yes       PIP     Yes       Uniformity Correction     Auto, Manual, External Correction       Storage     Built-in EMMC (16 GB)       Power Supply       Battery     Replaceable Applicable type: CR123A, RCR123A       Battery Operating Time     3.75 h (25°C, with hotspot off)       Anti-reverse battery connection     Yes	Magnification	2.6x
Palettes Black hot, white hot, red hot, fusion  Exit Pupil 6 mm  Eye Relief 45 mm  Diopter (Range) -5 D to 3 D  System  Digital Zoom 1x, 2x, 4x, 8x  Reticle Yes Hotspot Yes  Distance Measurement Yes Record Video On-board video recording  Standby mode Yes  Capture Snapshot Yes  Hot Track Yes  DPC Yes  DPC Yes  DPC Yes  Uniformity Correction Auto, Manual, External Correction  Storage Built-in EMMC (16 GB)  Power Supply  Battery Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off)  Anti-reverse battery connection Yes	Image Display	
Exit Pupil 6 mm  Eye Relief 45 mm  Diopter (Range) -5 D to 3 D  System  Digital Zoom 1x, 2x, 4x, 8x  Reticle Yes  Hotspot Yes  Distance Measurement Yes  Record Video On-board video recording  Standby mode Yes  Capture Snapshot Yes  Hot Track Yes  DPC Yes  PIP Yes  Uniformity Correction Auto, Manual, External Correction  Storage Built-in EMMC (16 GB)  Power Supply  Battery Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off)  Anti-reverse battery connection Yes	Display	1024 × 768, 0.39 inch, OLED
Eye Relief 45 mm   Diopter (Range) -5 D to 3 D   System   Digital Zoom 1x, 2x, 4x, 8x   Reticle Yes   Hotspot Yes   Distance Measurement Yes   Record Video On-board video recording   Standby mode Yes   Capture Snapshot Yes   Hot Track Yes   DPC Yes   PIP Yes   Uniformity Correction Auto, Manual, External Correction   Storage Built-in EMMC (16 GB)   Power Supply   Battery Replaceable Applicable type: CR123A, RCR123A   Battery Operating Time 3.75 h (25°C, with hotspot off)   Anti-reverse battery connection Yes	Palettes	Black hot, white hot, red hot, fusion
System         Digital Zoom       1x, 2x, 4x, 8x         Reticle       Yes         Hotspot       Yes         Distance Measurement       Yes         Record Video       On-board video recording         Standby mode       Yes         Capture Snapshot       Yes         Hot Track       Yes         DPC       Yes         PIP       Yes         Uniformity Correction       Auto, Manual, External Correction         Storage       Built-in EMMC (16 GB)         Power Supply         Battery       Replaceable Applicable type: CR123A, RCR123A         Battery Operating Time       3.75 h (25°C, with hotspot off)         Anti-reverse battery connection       Yes	Exit Pupil	6 mm
Digital Zoom 1x, 2x, 4x, 8x  Reticle Yes Hotspot Yes Distance Measurement Yes Record Video On-board video recording Standby mode Yes Capture Snapshot Yes Hot Track Yes DPC Yes PIP Yes Uniformity Correction Auto, Manual, External Correction Storage Built-in EMMC (16 GB)  Power Supply  Replaceable Applicable type: CR123A, RCR123A Battery Operating Time 3.75 h (25°C, with hotspot off) Anti-reverse battery connection Yes	Eye Relief	45 mm
Digital Zoom 1x, 2x, 4x, 8x  Reticle Yes Hotspot Yes Distance Measurement Yes Record Video On-board video recording Standby mode Yes Capture Snapshot Yes Hot Track Yes DPC Yes PIP Yes Uniformity Correction Auto, Manual, External Correction Storage Built-in EMMC (16 GB)  Power Supply  Replaceable Applicable type: CR123A, RCR123A Battery Operating Time 3.75 h (25°C, with hotspot off) Anti-reverse battery connection Yes	Diopter (Range)	-5 D to 3 D
ReticleYesHotspotYesDistance MeasurementYesRecord VideoOn-board video recordingStandby modeYesCapture SnapshotYesHot TrackYesDPCYesPIPYesUniformity CorrectionAuto, Manual, External CorrectionStorageBuilt-in EMMC (16 GB)Power SupplyBatteryReplaceable Applicable type: CR123A, RCR123ABattery Operating Time3.75 h (25°C, with hotspot off)Anti-reverse battery connectionYes	System	
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Distance Measurement Yes  Record Video On-board video recording  Standby mode Yes  Capture Snapshot Yes  Hot Track Yes  DPC Yes  PIP Yes  Uniformity Correction Auto, Manual, External Correction  Storage Built-in EMMC (16 GB)  Power Supply  Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off)  Anti-reverse battery connection Yes	Reticle	Yes
Record Video On-board video recording  Standby mode Yes  Capture Snapshot Yes  Hot Track Yes  DPC Yes  PIP Yes  Uniformity Correction Auto, Manual, External Correction  Storage Built-in EMMC (16 GB)  Power Supply  Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off)  Anti-reverse battery connection Yes	Hotspot	Yes
Standby modeYesCapture SnapshotYesHot TrackYesDPCYesPIPYesUniformity CorrectionAuto, Manual, External CorrectionStorageBuilt-in EMMC (16 GB)Power SupplyBatteryReplaceable Applicable type: CR123A, RCR123ABattery Operating Time3.75 h (25°C, with hotspot off)Anti-reverse battery connectionYes	Distance Measurement	Yes
Capture Snapshot  Hot Track  Yes  DPC  Yes  PIP  Yes  Uniformity Correction Storage  Built-in EMMC (16 GB)  Power Supply  Battery  Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time  Anti-reverse battery connection  Yes	Record Video	On-board video recording
Hot Track PYes  PIP Yes  Uniformity Correction Auto, Manual, External Correction Storage Built-in EMMC (16 GB)  Power Supply  Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time Anti-reverse battery connection Yes	Standby mode	Yes
DPC Yes  PIP Yes  Uniformity Correction Auto, Manual, External Correction  Storage Built-in EMMC (16 GB)  Power Supply  Battery Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off)  Anti-reverse battery connection Yes	Capture Snapshot	Yes
PIP Yes Uniformity Correction Auto, Manual, External Correction Storage Built-in EMMC (16 GB)  Power Supply  Battery Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off) Anti-reverse battery connection Yes	Hot Track	Yes
Uniformity Correction Storage Built-in EMMC (16 GB)  Power Supply  Battery  Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off)  Anti-reverse battery connection  Yes	DPC	Yes
Storage Built-in EMMC (16 GB)  Power Supply  Battery Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off)  Anti-reverse battery connection Yes	PIP	Yes
Power Supply  Battery  Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off)  Anti-reverse battery connection Yes	Uniformity Correction	Auto, Manual, External Correction
Battery Replaceable Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off)  Anti-reverse battery connection Yes	Storage	Built-in EMMC (16 GB)
Battery Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off)  Anti-reverse battery connection Yes	Power Supply	
Applicable type: CR123A, RCR123A  Battery Operating Time 3.75 h (25°C, with hotspot off)  Anti-reverse battery connection Yes	Battery	Replaceable
Anti-reverse battery connection Yes		Applicable type: CR123A, RCR123A
·	Battery Operating Time	3.75 h (25°C, with hotspot off)
Overvoltage Protection Yes	Anti-reverse battery connection	Yes
	Overvoltage Protection	Yes



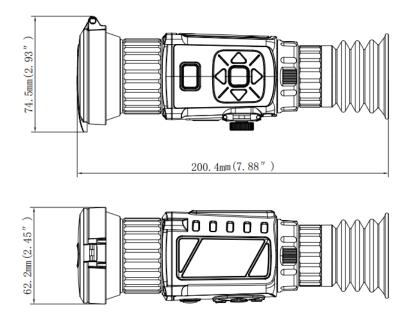
Battery Capacity Display	Yes
Type-C Power Supply	5 VDC, 2 A
	Supports external power supply
General	
Port	Type-C
Working Temperature	-20°C to 55°C (-4°F to 131°F)
Protection Level	IP67
Vibration & Shock	750 g/1 ms
Dimension (L × W × H)	200.4 mm × 74.5 mm × 62.2 mm (7.88" × 2.93" × 2.45")
Weight	492 g without eyepiece and batteries

# **Available Model**

HM-TR16-50XG/W-TQ50

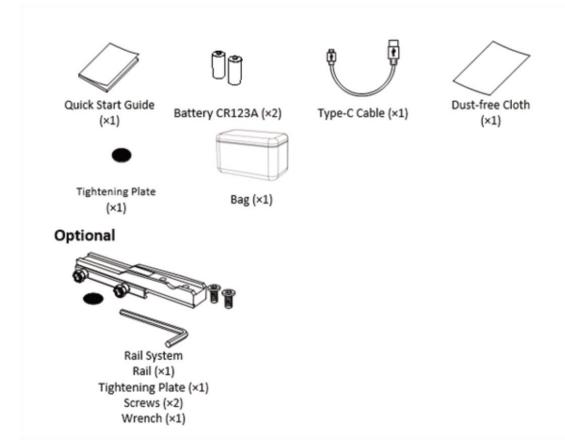


### Dimension



Unit: mm [inch]

## **Accessory**



COMPLIANCE NOTICE: The thermal series products might be subject to export controls in various countries or regions, including without limitation, the United States, European Union, United Kingdom and/or other member countries of the Wassenaar Arrangement. Please consult your professional legal or compliance expert or local government authorities for any necessary export license requirements if you intend to transfer, export, re-export the thermal series products between different countries.



