

# HM-TD1228T-3/G1/T3A Bi-spectrum Thermography Network Turret Camera





HM-TD1228T-3/G1/T3A Thermal & Optical Bi-spectrum Network Turret Camera s can be applied to substations, hydropower stations, waste incineration plants, manufacturing workshops, etc. The accurate temperature measurement device sends temperature exception alarms for loss prevention.

#### Features

- 256 × 192 resolution, 12 μm, VOx UFPA, NETD ≤ 25mK (25°C, F1.0)
- Extended human/vehicle detection distance and ultra low false alarm with GUANLAN Large-Scale Al Model
- Support smart hybrid light: white light, IR and smart mode
- Temperature exception alarm for fire prevention, -20 °C to 650 °C (-4 °F to 1202 °F), Max. (± 2 °C, ± 2%)
- Support smoking detection algorithm
- Support Fire detection and smoke detection Algorithm
- Support sun-reflection filter and forklift alarm filter algorithm (forklift alarm filter is exclusive with VCA function)
- Image processing technology: linear, histogram, self-adaptive thermal AGC mode, DDE, 3D DNR
- High quality detector with 10 years guarantee



## Specification

Image Sensor         Vanadium Oxide Uncooled Focal Plane Arrays           Resolution         256 × 192           Pixel Pitch         12 µm           Spectral Range         8 µm to 14 µm           NETD         \$25 mK (25°C, F1.0)           Focal Length         3.6 mm           IFOV         3.33 mrad           Field of View         \$0.0°(H) x37.3°(V)           Min. Focusing Distance         0.3 m           Aperture         F1.0           Digital Zoom         x2, x4           Optical Module         The Color Co	Thermal Module				
Spectral Range 8 µm to 14 µm  NETD	Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays			
Spectral Range 8	Resolution	256 × 192			
NETD   \$25 mK (25°C, F1.0)     Focal Length   3.6 mm     IFOV   3.33 mrad     Field of View   50.0°(H) x37.3°(V)     Min. Focusing Distance   F1.0     Digital Zoom   x2, x4     Optical Module     Image Sensor   1/2.7" Progressive Scan CMOS     Resolution   5MP, 2688 x 1944     Min. Illumination   Color: 0.0176 Lux @ (F2.25, AGC ON), B/W: 0.0035 Lux @ (F2.25, AGC ON)     Shutter Speed   1 s to 1/100,000 s     Focal Length   4.3 mm     Field of View   84.0°(H) x43.1°(V)     Aperture (Range)   F1.6     WDR   120 dB     Image Effect     Bi-spectrum Image     Fusion   Display the details of optical channel on thermal channel     Fusion   Picture   Display partial image of thermal channel on the full screen of optical channel     Illuminator     Light Supplement   Hybrid (IR, White light or Smart mode)     IR Distance   Up to 60 m     Audible and Visual Alarm     Ves. White Light alarm with adjustable flashing frequencies     Ves. for two types of audible alarm (VCA and Temperature Exception)     2 preset voice alerts (one for each)     6 importable user-defined voice alerts (6 options shared in the two types)     Smart Function     VCA   4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Pixel Pitch	12 µm			
Focal Length   3.6 mm    FOV   3.33 mrad    Field of View   50.0°(H) x37.3°(V)    Min. Focusing Distance   0.3 m    Aperture   F1.0    Digital Zoom   x2, x4    Digital Zoom   5MP, 2688 x 1944    Min. Illumination   5MP, 2688 x 1944    Min. Illumination   Color: 0.0176 Lux @ (F2.25, AGC ON), B/W: 0.0035 Lux @ (F2.25, AGC ON)    Shutter Speed   1 s to 1/100,000 s    Focal Length   4.3 mm    Field of View   84.0°(H) x43.1°(V)    Aperture (Range)   F1.6    WDR   120 dB    Image Effect    Bi-spectrum Image    Fusion   Display the details of optical channel on thermal channel    Fusion   Picture in Picture   Display partial image of thermal channel on the full screen of optical channel    Illuminator    Light Supplement   Hybrid (IR, White light or Smart mode)    R Distance   Up to 60 m    Audible and Visual Alarm    Audio alarm   Yes. White light alarm with adjustable flashing frequencies    VCA   4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8 s	Spectral Range	8 μm to 14 μm			
IFOV   3.33 mrad   50.0°(H) x37.3°(V)   Min. Focusing Distance   0.3 m   Fil.0   Fil	NETD	≤25 mK (25°C, F1.0)			
Field of View 50.0°(H) x37.3°(V)  Min. Focusing Distance 0.3 m  Aperture F1.0  Digital Zoom x2, x4  Optical Module  Image Sensor 1/2.7° Progressive Scan CMOS  Resolution 5MP, 2688 x 1944  Min. Illumination Color: 0.0176 Lux @ (F2.25, AGC ON), B/W: 0.0035 Lux @ (F2.25, AGC ON)  Shutter Speed 1 s to 1/100,000 s  Focal Length 4.3 mm  Field of View 84.0°(H) x43.1°(V)  Aperture (Range) F1.6  WDR 120 dB  Image Effect  Bi-spectrum Image Fusion Display the details of optical channel on thermal channel  Ficture in Picture Display partial image of thermal channel on the full screen of optical channel  Target Coloration Yes. Supported in white hot and black hot mode.  Illuminator  Light Supplement Hybrid (IR, White light or Smart mode)  IR Distance Up to 60m  Audible and Visual Alarm  White Light Range Up to 60 m  Ves. for two types of audible alarm (VCA and Temperature Exception)  2 preset voice alerts (one for each) 6 importable user-defined voice alerts (6 options shared in the two types)  Smart Function  VCA  4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Focal Length	3.6 mm			
Min. Focusing Distance   Aperture	IFOV	3.33 mrad			
Aperture F1.0  Digital Zoom ×2, ×4  Optical Module  Image Sensor 1/2.7" Progressive Scan CMOS  Resolution 5MP, 2688 × 1944  Min. Illumination Color: 0.0176 Lux @ (F2.25, AGC ON), B/W: 0.0035 Lux @ (F2.25, AGC ON)  Shutter Speed 1 s to 1/100,000 s  Focal Length 4.3 mm  Field of View 84.0°(H) x43.1°(V)  Aperture (Range) F1.6  WDR 120 dB  Image Effect  Bi-spectrum Image Fusion Display the details of optical channel on thermal channel Fusion Picture in Picture Display partial image of thermal channel on the full screen of optical channel IR Distance Up to 60m  Audible and Visual Alarm  White Light Range Up to 60 m  Visual Alarm Yes. White light alarm with adjustable flashing frequencies  Ves, for two types of audible alarm (VCA and Temperature Exception)  Audio alarm 2 VCA 4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Field of View	50.0°(H) x37.3°(V)			
Digital Zoom x2, x4  Optical Module Image Sensor 1/2.7" Progressive Scan CMOS  Resolution 5MP, 2688 x 1944  Min. Illumination Color: 0.0176 Lux @ (F2.25, AGC ON), B/W: 0.0035 Lux @ (F2.25, AGC ON)  Shutter Speed 1 s to 1/100,000 s  Focal Length 4.3 mm  Field of View 84.0°(H) x43.1°(V)  Aperture (Range) F1.6  WDR 120 dB  Image Effect  Bi-spectrum Image Fusion Display the details of optical channel on thermal channel  Ficture in Picture Display partial image of thermal channel on the full screen of optical channel  Target Coloration Yes. Supported in white hot and black hot mode.  Illuminator  Light Supplement Hybrid (IR, White light or Smart mode)  IR Distance Up to 60m  Audible and Visual Alarm  White Light Range Up to 60 m  Visual Alarm Yes. White light alarm with adjustable flashing frequencies  Yes, for two types of audible alarm (VCA and Temperature Exception)  A udio alarm 2 preset voice alerts (one for each) 6 importable user-defined voice alerts (6 options shared in the two types)  Smart Function  VCA 4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Min. Focusing Distance	0.3 m			
Optical Module Image Sensor 1/2.7° Progressive Scan CMOS Resolution 5MP, 2688 × 1944 Min. Illumination Color: 0.0176 Lux @ (F2.25, AGC ON), B/W: 0.0035 Lux @ (F2.25, AGC ON) Shutter Speed 1 s to 1/100,000 s Focal Length 4.3 mm Field of View 84.0°(H) x43.1°(V) Aperture (Range) F1.6 WDR 120 dB Image Effect Bi-spectrum Image Fusion Display the details of optical channel on thermal channel Ficture in Picture Display partial image of thermal channel on the full screen of optical channel Target Coloration Yes. Supported in white hot and black hot mode. Illuminator Light Supplement Hybrid (IR, White light or Smart mode) IR Distance Up to 60m Audible and Visual Alarm White Light Range Up to 60 m Visual Alarm Yes. White light alarm with adjustable flashing frequencies Yes, for two types of audible alarm (VCA and Temperature Exception) Audio alarm 2 preset voice alerts (one for each) 6 importable user-defined voice alerts (6 options shared in the two types) Smart Function VCA 4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Aperture	F1.0			
Image Sensor 1/2.7" Progressive Scan CMOS  Resolution 5MP, 2688 × 1944  Min. Illumination Color: 0.0176 Lux @ (F2.25, AGC ON), B/W: 0.0035 Lux @ (F2.25, AGC ON)  Shutter Speed 1 s to 1/100,000 s  Focal Length 4.3 mm  Field of View 84.0°(H) x43.1°(V)  Aperture (Range) F1.6  WDR 120 dB  Image Effect  Bi-spectrum Image Fission Display the details of optical channel on thermal channel Fusion Picture Display partial image of thermal channel on the full screen of optical channel  Target Coloration Yes. Supported in white hot and black hot mode.  Illuminator  Light Supplement Hybrid (IR, White light or Smart mode)  IR Distance Up to 60m  Audible and Visual Alarm  White Light Range Up to 60 m  Visual Alarm Yes. White light alarm with adjustable flashing frequencies  Yes, for two types of audible alarm (VCA and Temperature Exception)  4 preset voice alerts (one for each) 6 importable user-defined voice alerts (6 options shared in the two types)  Smart Function  VGA  4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Digital Zoom	×2, ×4			
Resolution 5MP, 2688 × 1944  Min. Illumination Color: 0.0176 Lux @ (F2.25, AGC ON), B/W: 0.0035 Lux @ (F2.25, AGC ON)  Shutter Speed 1 s to 1/100,000 s  Focal Length 4.3 mm  Field of View 84.0°(H) x43.1°(V)  Aperture (Range) F1.6  WDR 120 dB  Image Effect  Bi-spectrum Image Pisotrum Image Pisotrum Image Picture in Picture Display partial image of thermal channel on the full screen of optical channel  Illuminator  Light Supplement Hybrid (IR, White light or Smart mode)  IR Distance Up to 60m  Audible and Visual Alarm  White Light Range Up to 60 m  Visual Alarm Yes. White light alarm with adjustable flashing frequencies  Yes, for two types of audible alarm (VCA and Temperature Exception)  2 preset voice alerts (one for each) 6 importable user-defined voice alerts (6 options shared in the two types)  Smart Function  VCA  4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Optical Module				
Min. Illumination  Color: 0.0176 Lux @ (F2.25, AGC ON), B/W: 0.0035 Lux @ (F2.25, AGC ON)  Shutter Speed  1 s to 1/100,000 s  Focal Length  4.3 mm  Field of View  84.0°(H) x43.1°(V)  Aperture (Range)  F1.6  WDR  120 dB  Image Effect  Bi-spectrum Image Fusion  Picture in Picture  Display partial image of thermal channel on the full screen of optical channel  Target Coloration  Yes. Supported in white hot and black hot mode.  Illuminator  Light Supplement  Hybrid (IR, White light or Smart mode)  IR Distance  Up to 60m  Audible and Visual Alarm  White Light Range  Up to 60 m  Visual Alarm  Yes. White light alarm with adjustable flashing frequencies  Yes, for two types of audible alarm (VCA and Temperature Exception)  4 ycs (line crossing, intrusion, region entrance, and region exiting), up to 8	Image Sensor	1/2.7" Progressive Scan CMOS			
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Aperture (Range)  WDR  120 dB  Image Effect  Bi-spectrum Image Fusion  Picture in Picture  Display partial image of thermal channel on the full screen of optical channel  Target Coloration  Yes. Supported in white hot and black hot mode.  Illuminator  Light Supplement  Hybrid (IR, White light or Smart mode)  IR Distance  Up to 60m  Audible and Visual Alarm  White Light Range  Up to 60 m  Visual Alarm  Yes. White light alarm with adjustable flashing frequencies  Yes, for two types of audible alarm (VCA and Temperature Exception)  2 preset voice alerts (one for each) 6 importable user-defined voice alerts (6 options shared in the two types)  Smart Function  VCA  4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Focal Length	4.3 mm			
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IR Distance  Audible and Visual Alarm  White Light Range  Up to 60 m  Visual Alarm  Yes. White light alarm with adjustable flashing frequencies  Yes, for two types of audible alarm (VCA and Temperature Exception)  Audio alarm  2 preset voice alerts (one for each) 6 importable user-defined voice alerts (6 options shared in the two types)  Smart Function  VCA  4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Illuminator				
Audible and Visual Alarm  White Light Range  Up to 60 m  Visual Alarm  Yes. White light alarm with adjustable flashing frequencies  Yes, for two types of audible alarm (VCA and Temperature Exception)  Audio alarm  2 preset voice alerts (one for each) 6 importable user-defined voice alerts (6 options shared in the two types)  Smart Function  VCA  4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Light Supplement	Hybrid (IR, White light or Smart mode)			
White Light Range  Visual Alarm  Yes. White light alarm with adjustable flashing frequencies  Yes, for two types of audible alarm (VCA and Temperature Exception)  Audio alarm  2 preset voice alerts (one for each)  6 importable user-defined voice alerts (6 options shared in the two types)  Smart Function  VCA  4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8		Up to 60m			
Visual Alarm  Yes. White light alarm with adjustable flashing frequencies  Yes, for two types of audible alarm (VCA and Temperature Exception)  Audio alarm  2 preset voice alerts (one for each)  6 importable user-defined voice alerts (6 options shared in the two types)  Smart Function  VCA  4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8					
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Audio alarm  2 preset voice alerts (one for each) 6 importable user-defined voice alerts (6 options shared in the two types)  Smart Function  VCA  4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Visual Alarm	· · · · · · · · · · · · · · · · · · ·			
4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8	Audio alarm	2 preset voice alerts (one for each)			
VCA	Smart Function				
	VCA				



Temperature				
Measurement	3 temperature measurement rule types (point, area, line), 21 rules in total			
Temperature Range	-20 °C to 650 °C (-4 °F to 1202 °F)			
Temperature Accuracy	Max (± 2 °C, ±2 %)			
Fire Detection	Dynamic fire detection, up to 10 fire points detectable			
Smoking Detection	Up to 10 smoking points detected			
Smoke Detection	Support smoke detection on optical channel			
Video and Audio				
	Thermal: 25 fps (1280 × 720, 704 × 576, 640 × 512, 320 × 240)			
Main Stream	Optical:			
	50 Hz: 25 fps (2688 × 1944, 2688 × 1520, 1920 × 1080, 1280 × 720)			
	60Hz: 30 fps (2688 × 1944, 2688 × 1520, 1920 × 1080, 1280 × 720)			
	Thermal:			
	25 fps (704 × 576, 640 × 512, 320 × 240)			
Sub-stream	Optical:			
Sub-stream	50 Hz: 25 fps (704 × 576, 352 × 288)			
	60 Hz: 30 fps (704 × 480, 352 × 240)			
	Main Stream: H.265/H.264			
Video Compression	Sub-Stream: H.265/H.264/MJPEG			
Audio Compression	G.722.1/G.711ulaw/G.711alaw/MP2L2/G.726/PCM			
Video and Image				
Color Palettes	17 types (White hot, Black hot, Fusion 1, Rainbow, Fusion 2, Ironbow 1, Ironbow 2, Sepia,			
Coloi Palettes	Color 1, Color 2, Ice fire, Rain, Red hot, Green hot, Dark blue, Winter, Summer)			
Network				
Protocols	IPv4/IPv6,HTTP,HTTPS,802.1x,Qos,FTP,SMTP,UPnP,SNMP,DNS,DDNS,NTP,RTSP,RTCP,RTP,TCP,UDP,IGMP,ICMP,DHCP,PPPoE,Bonjour,SFTP,SRTP			
	MicroSD/SDHC/SDXC card (up to 512 G) local storage, NAS (NFS, SMB/CIFS), Auto			
Network Storage	Network Replenishment (ANR)			
API	ISAPI, ISUP, HIKVISION SDK, and third-party management platform, Open Network Video			
AFI	Interface (Profile S, Profile G, Profile T, Profile M),OTAP			
Simultaneous Live View	Up to 20 channels			
User/Host level	Up to 32 users, 3 levels: Administrator, Operator, User			
Security	User authentication (ID and Password), MAC address binding, HTTPS encryption, IEEE			
-	802.1x(EAP-MD5, EAP-TLS), access control, IP address filtering			
Client	iVMS-4200, Hik-Connect			
	Live view (plug-in allowed) : Internet Explorer 11			
Web Browser	Live view (plug-in free): Chrome 57.0 +, Firefox 52.0 +			
	Local service : Chrome 57.0+, Firefox 52.0 +			
Interface	4 4 (0.5)(0.0)			
Alarm Input	1, alarm input (0-5 VDC)			



Alarm Action   SD recording/Relay output/Smart capture/FTP upload/Email linkage   1, 3.5 mm Mic In/Line in Interface   1, 3.5 mm Mic In/Line in Interface   Line input: 2 - 2.4 V [p-p], output impedance: 1 KΩ ± 10%   Audio Output   Linear level, impedance: 600 Ω   Communication   1, RJ45 10 M/100 M Self-adaptive Ethernet interface.   1, RS-485 interface (half duplex)   S2 languages English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil)   12 VDC ± 25%, 24VDC ± 25%, φ 5.5 mm coaxial power plug   PoE (802.3at, class 4)   12 VDC ± 25%: 1.1A to 1.8 A, Max 16 W   24 VDC ± 25%: 1.1A to 1.8 A, Max 16 W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4)   42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (	Alarm Output	2, alarm output (alarm response actions configurable)		
Audio Input         Line input: 2 - 2.4 V [p-p], output impedance: 1 KΩ ± 10%           Audio Output         Linear level, impedance: 600 Ω           Communication         1, RJ45 10 M/100 M Self-adaptive Ethernet interface.           1, RS-485 interface (half duplex)           General           32 languages English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil)           Power Supply         12 VDC ± 25%, 24VDC ± 25%, φ 5.5 mm coaxial power plug PoE (802.3at, class 4)           Power Consumption         12 VDC ± 25%: 0.67A, Max 16 W           Power Consumption         24 VDC ± 25%: 0.67A, Max 16 W           Working         Temperature: -40°C to 65°C (-40°F to 149°F)           Humidity: 95% or less         IP67 Standard           TVS 6000V lightning protection, surge protection, voltage transient protection           Dimensions         138.3 mm × 138.3 mm × 123.1 mm (5.45° × 5.45° × 4.85°)           Weight         940 g (2.07 lb)           Detection Range Table           VCA Range for Humans         36 m           VCA Range for Vehicles         Pos modern state of the protection of the protect	Alarm Action	, , , , , , , , , , , , , , , , , , , ,		
Line Input: 2 - 2.4 V (p-p), output Impedance: 1 RΩ ± 10%		1, 3.5 mm Mic in/Line in interface		
Communication   1, RJ45 10 M/100 M Self-adaptive Ethernet interface.   1, RS-485 interface (half duplex)	Audio Input	Line input: 2 - 2.4 V [p-p], output impedance: 1 K $\Omega$ ± 10%		
T. RS-485 interface (half duplex)   Caperal	Audio Output	Linear level, impedance: 600 $\Omega$		
Seneral   32   languages English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil)   12 VDC ± 25%, 24VDC ± 25%, φ 5.5 mm coaxial power plug PoE (802.3at, class 4)   12 VDC ± 25%: 1.1 A to 1.8 A, Max 16 W   24 VDC ± 25%: 1.1 A to 1.8 A, Max 16 W   24 VDC ± 25%: 1.1 A to 1.8 A, Max 16 W   PoE (802.3at, class 4): 42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   PoE (802.3at, class 4): 42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W   Protection Level   Pfor Standard TVS 6000V lightning protection, surge protection, voltage transient protection   Dimensions   138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")   Potection Range Table VCA Range for Humans   36 m   90 m   Approval   CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014);   RCM (AS/NZS CISPR 32: 2015);   IC (ICES-003: Issue 7)   CB: IEC 62368-1: 20144/A11;   CE-LVD: EN 62368-1: 20144/A11;   CE-LVD: EN 62368-1: 20144/A11;   CE-LVD: EN 62368-1: 20114/65/EU,   Reach: Regulation (EC) No 1907/2006	Communication	1, RJ45 10 M/100 M Self-adaptive Ethernet interface.		
32   languages English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil)    12 VDC ± 25%, 24VDC ± 25%, φ 5.5 mm coaxial power plug PoE (802.3at, class 4)    12 VDC ± 25%: 1.1 A to 1.8 A, Max 16 W   24 VDC ± 25%:: 0.67 A, Max 16 W   Power Consumption   24 VDC ± 25%:: 0.67 A, Max 16 W   PoE (802.3at, class 4): 42.5 V to 57 V, 0.28 A to 0.37 A, Max 16 W   PoE (802.3at, class 4): 42.5 V to 57 V, 0.28 A to 0.37 A, Max 16 W   PoE (802.3at, class 4): 42.5 V to 57 V, 0.28 A to 0.37 A, Max 16 W   Portaction Level   Pof Standard   TVS 6000V lightning protection, surge protection, voltage transient protection     Dimensions   138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")     Weight   940 g (2.07 lb)     Detection Range Table   VCA Range for Humans   36 m   90 m     Approval   CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN 50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)   CB: IEC 62368-1: 2014-A11; CB: ICE (26368-1: 2014-B11; CB: ICE	Interface	1, RS-485 interface (half duplex)		
Web Client Language         Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil)           Power Supply         12 VDC ± 25%, 24VDC ± 25%, φ 5.5 mm coaxial power plug PoE (802.3at, class 4)           Power Consumption         12 VDC ± 25%: 1.1A to 1.8 A, Max 16 W           Power Consumption         24 VDC ± 25%: 0.67A, Max 16 W           Power Rouse         24 VDC ± 25%: 0.67A, Max 16 W           Working         Temperature: -40°C to 65°C (-40°F to 149°F)           Humidity: 95% or less         IP67 Standard           Protection Level         IP67 Standard           TVS 6000V lightning protection, surge protection, voltage transient protection           Dimensions         138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")           Weight         940 g (2.07 lb)           Detection Range Table           VCA Range for Humans         36 m           VCA Range for Vehicles         90 m           Approval         CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)           CB: IEC 62368-1: 2014/A11: 2017; LOA: SANS/IEC 60950-1         CE-ROHS: 2011/65/EU, Reach: Regulation(EC) No 1907/2006	General			
Power Supply  PoE (802.3at, class 4)  12 VDC ± 25%: 1.1A to 1.8 A, Max 16 W  24 VDC ± 25%: 0.67A, Max 16 W  PoE (802.3at, class 4): 42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W  Working  Temperature: -40°C to 65°C (-40°F to 149°F)  Humidity: 95% or less  IP67 Standard  TVS 6000V lightning protection, surge protection, voltage transient protection  Dimensions  138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")  Weight  940 g (2.07 lb)  Detection Range Table  VCA Range for Humans  VCA Range for Vehicles  90 m  Approval  CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014);  RCM (AS/NZS CISPR 32: 2015);  IC (ICES-003: Issue 7)  CB: IEC 62368-1: 2014+A11;  CF-LVD: EN 62368-1: 2014/A11: 2017;  LOA: SANS/IEC 60950-1  CE-ROHS: 2011/65/EU,  Environment  WEEE: 2012/19/EU,  Reach: Regulation(EC) No 1907/2006	Web Client Language	Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedisl Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese,		
12 VDC ± 25%: 1.1A to 1.8 A, Max 16 W	Power Supply			
Power Consumption         24 VDC ± 25%:: 0.67A, Max 16 W           PoE (802.3at, class 4): 42.5 V to 57 V, 0.28 A to 0.37 A, Max 16 W           Working         Temperature: -40°C to 65°C (-40°F to 149°F)           Temperature/Humidity         Humidity: 95% or less           Protection Level         IP67 Standard           TVS 6000V lightning protection, surge protection, voltage transient protection           Dimensions         138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")           Weight         940 g (2.07 lb)           Detection Range Table           VCA Range for Humans         36 m           VCA Range for Vehicles         90 m           Approval           EMC         CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)           CB: IEC 62368-1: 2014+A11; CE-LVD: EN 62368-1: 2014/A11: 2017; LOA: SANS/IEC 60950-1         CE-ROHS: 2011/65/EU, WEEE: 2012/19/EU, Reach: Regulation(EC) No 1907/2006		PoE (802.3at, class 4)		
PoE (802.3at, class 4): 42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W  Working Temperature: -40°C to 65°C (-40°F to 149°F) Humidity: 95% or less  Protection Level Protection Level Protection Level  Protection Level Protection Level  1967 Standard TVS 6000V lightning protection, surge protection, voltage transient protection  Dimensions 138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")  Weight 940 g (2.07 lb)  Petection Range Table VCA Range for Humans VCA Range for Vehicles 90 m  Approval  CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)  CB: IEC 62368-1: 2014+A11; CF-LVD: EN 62368-1: 2014/A11: 2017; LOA: SANS/IEC 60950-1  CE-ROHS: 2011/65/EU, WEEE: 2012/19/EU, Reach: Regulation(EC) No 1907/2006		12 VDC ± 25%: 1.1A to 1.8 A, Max 16 W		
Working         Temperature: -40°C to 65°C (-40°F to 149°F)           Temperature/Humidity         Humidity: 95% or less           Protection Level         IP67 Standard TVS 6000V lightning protection, surge protection, voltage transient protection           Dimensions         138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")           Weight         940 g (2.07 lb)           Detection Range Table           VCA Range for Humans         36 m           VCA Range for Vehicles         90 m           Approval         CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)           EMC         CB: IEC 62368-1: 2014+A11; CE-LVD: EN 62368-1: 2014/A11: 2017; LOA: SANS/IEC 60950-1           CE-ROHS: 2011/65/EU, Reach: Regulation(EC) No 1907/2006	Power Consumption	24 VDC ± 25%:: 0.67A, Max 16 W		
Temperature/Humidity         Humidity: 95% or less           Protection Level         IP67 Standard           TVS 6000V lightning protection, surge protection, voltage transient protection           Dimensions         138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")           Weight         940 g (2.07 lb)           Detection Range Table           VCA Range for Humans         36 m           VCA Range for Vehicles         90 m           Approval           EMC         CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)           CB: IEC 62368-1: 2014+A11; CIT; LOA: SANS/IEC 62368-1: 2014/A11: 2017; LOA: SANS/IEC 60950-1         CE-ROHS: 2011/65/EU, Reach: Regulation(EC) No 1907/2006		PoE (802.3at, class 4): 42.5 V to 57 V, 0.28 A to 0.37 A, Max 16W		
Protection Level IP67 Standard TVS 6000V lightning protection, surge protection, voltage transient protection Dimensions 138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")  Weight 940 g (2.07 lb)  Detection Range Table  VCA Range for Humans 36 m  VCA Range for Vehicles 90 m  Approval  EMC CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)  CB: IEC 62368-1: 2014+A11; CE-LVD: EN 62368-1: 2014/A11: 2017; LOA: SANS/IEC 60950-1  CE-ROHS: 2011/65/EU, Reach: Regulation(EC) No 1907/2006	Working	Temperature: -40°C to 65°C (-40°F to 149°F)		
Protection Level         TVS 6000V lightning protection, surge protection, voltage transient protection           Dimensions         138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")           Weight         940 g (2.07 lb)           Detection Range Table           VCA Range for Humans         36 m           VCA Range for Vehicles         90 m           Approval           EMC         CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN 50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)           Safety         CB: IEC 62368-1: 2014+A11; CE-LVD: EN 62368-1: 2014/A11: 2017; LOA: SANS/IEC 60950-1           CE-ROHS: 2011/65/EU, WEEE: 2012/19/EU, Reach: Regulation(EC) No 1907/2006	Temperature/Humidity	Humidity: 95% or less		
TVS 6000V lightning protection, surge protection, voltage transient protection  Dimensions  138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")  Weight  940 g (2.07 lb)  Detection Range Table  VCA Range for Humans  VCA Range for Vehicles  90 m  Approval  CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014);  RCM (AS/NZS CISPR 32: 2015);  IC (ICES-003: Issue 7)  CB: IEC 62368-1: 2014+A11;  CE-LVD: EN 62368-1: 2014/A11: 2017;  LOA: SANS/IEC 60950-1  CE-ROHS: 2011/65/EU,  Reach: Regulation(EC) No 1907/2006	Protection Level	IP67 Standard		
Weight       940 g (2.07 lb)         Detection Range Table         VCA Range for Humans       36 m         VCA Range for Vehicles       90 m         Approval       CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)         CB: IEC 62368-1: 2014+A11; CE-LVD: EN 62368-1: 2014/A11: 2017; LOA: SANS/IEC 60950-1         CE-ROHS: 2011/65/EU, Reach: Regulation(EC) No 1907/2006	1 Totestion Level	TVS 6000V lightning protection, surge protection, voltage transient protection		
Detection Range Table           VCA Range for Humans         36 m           VCA Range for Vehicles         90 m           Approval         CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)           CB: IEC 62368-1: 2014+A11; CE-LVD: EN 62368-1: 2014+A11; CE-LVD: EN 62368-1: 2014/A11: 2017; LOA: SANS/IEC 60950-1           CE-ROHS: 2011/65/EU, WEEE: 2012/19/EU, Reach: Regulation(EC) No 1907/2006	Dimensions	138.3 mm × 138.3 mm × 123.1 mm (5.45" × 5.45" × 4.85")		
VCA Range for Humans         36 m           VCA Range for Vehicles         90 m           Approval         CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN 50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)           CB: IEC 62368-1: 2014+A11; CE-LVD: EN 62368-1: 2014/A11: 2017; LOA: SANS/IEC 60950-1         CE-RoHS: 2011/65/EU, WEEE: 2012/19/EU, Reach: Regulation(EC) No 1907/2006	Weight	940 g (2.07 lb)		
VCA Range for Vehicles         90 m           Approval         CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 7)           CB: IEC 62368-1: 2014+A11; CE-LVD: EN 62368-1: 2014/A11: 2017; LOA: SANS/IEC 60950-1         CE-RoHS: 2011/65/EU, WEEE: 2012/19/EU, Reach: Regulation(EC) No 1907/2006	Detection Range Table			
Approval  CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014);  RCM (AS/NZS CISPR 32: 2015);  IC (ICES-003: Issue 7)  CB: IEC 62368-1: 2014+A11;  Safety  CE-LVD: EN 62368-1: 2014/A11: 2017;  LOA: SANS/IEC 60950-1  CE-RoHS: 2011/65/EU,  Environment  WEEE: 2012/19/EU,  Reach: Regulation(EC) No 1907/2006	VCA Range for Humans	36 m		
CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014);  RCM (AS/NZS CISPR 32: 2015);  IC (ICES-003: Issue 7)  CB: IEC 62368-1: 2014+A11;  CE-LVD: EN 62368-1: 2014/A11: 2017;  LOA: SANS/IEC 60950-1  CE-RoHS: 2011/65/EU,  Environment  WEEE: 2012/19/EU,  Reach: Regulation(EC) No 1907/2006		90 m		
EMC  EN50130-4: 2011+A1: 2014);  RCM (AS/NZS CISPR 32: 2015);  IC (ICES-003: Issue 7)  CB: IEC 62368-1: 2014+A11;  CE-LVD: EN 62368-1: 2014/A11: 2017;  LOA: SANS/IEC 60950-1  CE-RoHS: 2011/65/EU,  Environment  WEEE: 2012/19/EU,  Reach: Regulation(EC) No 1907/2006	Approval			
Safety  CE-LVD: EN 62368-1: 2014/A11: 2017;  LOA: SANS/IEC 60950-1  CE-RoHS: 2011/65/EU,  Environment  WEEE: 2012/19/EU,  Reach: Regulation(EC) No 1907/2006	EMC	EN50130-4: 2011+A1: 2014); RCM (AS/NZS CISPR 32: 2015);		
Environment WEEE: 2012/19/EU, Reach: Regulation(EC) No 1907/2006	Safety	CE-LVD: EN 62368-1: 2014/A11: 2017;		
Reach: Regulation(EC) No 1907/2006		CE-RoHS: 2011/65/EU,		
	Environment	WEEE: 2012/19/EU,		
Protection IP67: IEC 60529-2013		Reach: Regulation(EC) No 1907/2006		
	Protection	IP67: IEC 60529-2013		



### Range Table

\*The table is only for reference and the performance may vary according to different environment.

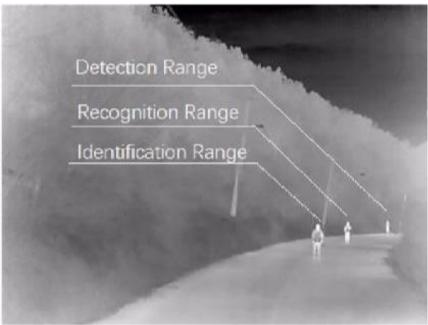
VCA Range (Vehicles: 1.4 × 4.0 m)	VCA Range (Humans: 1.8 × 0.5 m)	Temperature Measurement (Object: 0.2 × 0.2 m)	Temperature Measurement (Object: 1 × 1 m)	Fire Detection (Object: 0.5 × 0.5 m)	Smoke Detection (Object: 0.5 × 0.5 m)	Smoking Detection
90 m	36m	11.7 m	58.3 m	25.8 m	12.9m	5.4m

#### DORI

Detection Range: In order to distinguish an object from the background, the object must be covered by 1.5 or more pixels.

Recognition Range: In order to classify the object (animal, human, vehicle, etc.), the object must be covered by 6 or more pixels.

Identification Range: In order to identify the object and describe it in details, the object must be covered by 12 or more pixels.



<b>Detection Range</b>	Detection Range	Recognition	Recognition	Identification	Identification
(Humans: 1.8 ×	(Vehicles: 1.4 ×	Range (Humans:	Range (Vehicles:	Range (Humans:	Range (Vehicles:
0.5 m)	4.0 m)	1.8 × 0.5 m)	1.4 × 4.0 m)	1.8 × 0.5 m)	1.4 × 4.0 m)

## Typical Application

HIKMICRO products are classified into three levels according to their anti-corrosion performance. Refer to the following description to choose for your using environment.

No products could be used under HYDROGEN FLUORIDE environment. This model has No Specific PROTECTION.

<sup>\*\*</sup>The table is only for reference and the performance may vary according to different environment.

<sup>\*</sup>The optimal human detection, recognition, and identification distances are calculated according to Johnson's Criteria.

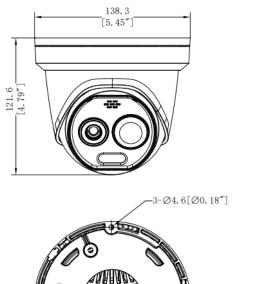


Level	Description
	HIKMICRO products at this level are equipped for use in
	areas where professional anti-corrosion protection is a
Top-level Protection	must. Usually it is used in salt-spray and sulfur dioxide
	(with a concentration volume ratio of less than 0.67%)
	environment, such as chemical plants and coastal lines.
	HIKMICRO products at this level are equipped for use in
	areas with moderate anti-corrosion demands. Typical
Moderate Protection	application scenarios include coastal areas about 2
	kilometers (1.24 miles) away from coastlines, as well as
	areas affected by acid rain.
	HIKMICRO products at this level are equipped for use in
No Specific Protection	areas where no specific anti-corrosion protection is
	needed.

## Available Model

HM-TD1228T-3/G1/T3A

## Dimension



Ø128 [Ø5. 04″]







## Accessory

Optional

DS-1271ZJ-140 Pendant Mount DS-1280ZJ-DM21 Junction box DS-1273ZJ-140B Wall mount DS-1273ZJ-140 Wall mount DS-1275ZJ-SUS Vertical pole mount











DS-1276ZJ-SUS Corner mount DS-1273ZJ-140(BLAC K) Wall mount





#### Note

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.



