## MS-7TPS4157ED-M

#### **Bi-spectrum Radar-PTZ Linkage Speed Dome Camera**



#### **Key Features**

- 384 × 288 (the resolution of output image is 1280 × 720) resolution
- 12 $\mu$ m, VOx UFPA, NETD  $\leq$  40mK
- Thermal: 25mm motorized focus lens; Visible: 40X optical zoom module
- Support human/vehicle, smoker, smoke & flame, fire point detection
- Intelligent analytics: Intrusion, single/double line crossing, loitering, wrong-way,
   enter/leave area detection, smart motion detection, and people counting
- Radar-PTZ linkage solution: realize the perfect combination of the video and radar
- Smart tracking: Cold/hot spot tracking, human/vehicle tracking
- Support 3 temperature measurement rule types (spot, line, area)
- Temperature monitoring & alarm: -20°C to 150°C (-4°F to 302°F), Accuracy: ±8°C
- Smart IR range up to 300m
- Smart Rain-Sensing Wiper, IP66





## Specification

Camera	Thermal	Visible
Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays	1/1.8" STARVIS™ CMOS
Resolution	Sensor is 384×288. Image can be scaled up to 1280×720	2688 (H)×1520 (V), 4MP
Pixel Pitch	12µm	
Spectral Range	8 to 14µm	
NETD	≤ 40mK	
Min. Illumination		Color: 0.001 Lux @(F1.5, AGC ON), B/W: 0.0001 Lux (F1.5, AGC ON), 0 Lux with light
Shutter Speed		1/5 to 1/20,000s
Lens Type	Fixed lens	40x optical zoom
Focal Length	25 mm	6.27 to 251 mm
Max. Aperture	F1.0	F1.5
Focus Control	Motorized focal	Auto/Manual/Semi-automatic
Field of View (FOV)	H: 10.5°, V: 7.9°	H: 60.7° to 2.33°, V: 36.8° to 1.38°
IVS		
Al Multi-Target	Human and vehicle detection	Human and vehicle detection
Intelligent Analysis	Intrusion, Single Line Crossing, Double Line Crossing, Loitering, Wrong-Way Detection, Enter Area, Leave Area, Smart Motion Detection  Support alarm triggering by specified target types (human and vehicle)	Intrusion, Single Line Crossing, Double Line Crossing Loitering, Wrong-Way Detection, Enter Area, Leave Area, Smart Motion Detection Support alarm triggering by specified target types (human and vehicle)
Smoke and Flame Detection		Support
Smoker Detection	Support	
Fire Spot Detection	Support	
People Counting	Support	Support
Smart Tracking	Cold/hot spot tracking, human/vehicle tracking	
Video and Audio		
Main Stream	1280×720, 704×576, 384×288 @ 25fps	2688×1520, 2560×1440, 2304×1296, 1920×1080, 1280×720 @25/30fps
Sub Stream	704×576, 384×288, 352×240 @ 25fps	D1, VGA @25/30fps
Bit Rate Control	CBR/VBR	CBR/VBR
Bit Rate	Main Stream: 100Kbps to 8Mbps, Sub Stream: 100Kbps to 6Mbps	Main Stream: 100Kbps to 16Mbps Sub Stream: 100Kbps to 6Mbps
Smart Encode	Support	Support
Audio Compression	G.711 A-law, G.711 μ-law, RAM PCM	G.711 A-law, G.711 $\mu$ -law, RAM PCM
Image		
Image Setting	Brightness, Contrast, Sharpness	Brightness, Saturation, Contrast, Sharpness
Mirror	Horizontal / Vertical / Horizontal+Vertical	Horizontal / Vertical / Horizontal+Vertical
Pseudo-color Setting	Up to 17 colors (White-hot / Black-hot / Rainbow / Iron red / HSV /Bone / Cool / Copper / Fire-hot / Pink / Spring / Summer / Autumn / Winter / Jet / Flame / Rose -Bengal)	
FFC Control	Auto / Manual	

White Balance	Gain Control		Auto / Manual	
Day/Night				
Noise Reduction 2D/3D DNR 2D/3D DNR Image Enhancement WDR, HLC, BLC Wide Dynamic Range True WDR 1208 OSD Up to 8 OSD Up to 8 OSD Up to 8 OSD Fivery Masking Up to 4 areas Up to 4 areas Illuminator IR Range - Up to 3 OWN (84.25ft)  Thermal Function  Temperature Range -20°C to 150°C (-4°F to 302°F) Accuracy #8°C Temperature Display areas (100 Display in the lower left corner, follow the cursor display of the highest temperature, lowest temperature or average temperature are average temperature and overlaid details of the optical channel  Event  Alarm Triggers IVS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection Event Actions Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  P17 Pan/Til Range Pan: 0° to 360° endiess, Tilt: -10° to 90° (auto-flip) Pan Speed Pan: 0.01° to 300° to 300°/S, preset speed: 300°/S  Wiper Support  Fester Acturacy 40.2° Preset Accuracy 40.2° Preset Accuracy 40.2° Preset Accuracy 40.2° Preset Accuracy 50.2° Preset Accuracy 50.2° Preset 50.20° Preset 50.20° Preset 50.20° Preset 60.20° Prese				
Image Enhancement Wide Dynamic Range Up to 8 OSD Up to 8 OSD Up to 8 OSD Up to 8 OSD Up to 4 areas Up to 4 areas Illuminator Illuminator Illuminator  Temperature Range -20°C to 150°C (-4°F to 302°F) Accuracy 28°C Temperature Detection 3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line). Temperature Display Display in the lower left corner, follow the cursor display of the highest temperature or average temperature Image Fusion Fusion in the lower left corner, follow the cursor display of the highest temperature or average temperature Image Fusion Fusion view of thermal view and overlaid details of the optical channel Fevent Alarm Triggers VS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection Event Actions Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  PTZ  Pan/IIR Range Pan:0° to 360° endless, Till: -10° to 90° (auto-flip) Pan Speed Pan:0° to 360° endless, Till: -10° to 90° (auto-flip) Pan Speed Pill: 0.01° to 240°/s, preset speed: 240°/s Wiper Support Viper Support Presets 400 Scan 12 Scans 12 Scans 12 Scans Patrol 12 patrols, up to 32 presets per patrol Track 6 tracks 3D Positioning Support Speed Setup Auto/Manual (0-8) Power Off Memory Support The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network Protocols Ook, 802.1s, SMMP, Multicast Ook, 802.1s, SMMP, Multicast Ook, 802.1s, SMMP, Multicast Ook, 1976, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, Conpatible Integration ONVIE (Profiles FY/G/M), CGI, SDK MAx Concurrent Streams 10 channels		2D/3D DNR		
Wide Dynamic Range  OSD  Up to 8 OSD  Privacy Masking  Up to 4 areas  Up to 4 areas  Illuminator  Thermal Function  Temperature Range  -20°C to 150°C (-4°F to 302°F)  Accuracy  28°C  Temperature Detection  3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line).  Display in the lower left corner; follow the cursor display of the highest temperature, lowest temperature or average temperature  Image Fusion  Fusion view of thermal view and overlaid details of the optical channel  Event  Alarm Triggers  Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  PTZ  Pan/Till Range  Pan: 0" to 360" endless, Till: -10" to 90" (auto-flip)  Pan Speed  Pan: 0.01" to 300"/s, preset speed: 240"/s  Wiper  Support  Preset Accuracy  3 to 2° Presets  400  Scan  11 scans  Patrol  12 patrols, up to 32 presets per patrol  Track  6 tracks  3D Postitoning  Support  Preset Off Memory  Support  Power Off Memory  Support  Protocols  Qos, 802.1x, SMMP, Multicast  Compatible Integration  ONVE (Profiles FT/G/MI), CG, SDK  Max Concurrent Streams  10 channels  User/Host Level  32+ users, 3 levels: Administrator, Operator, Media user			<u>'</u>	
OSD Up to 8 OSD Up to 8 OSD Up to 8 OSD Privacy Masking Up to 4 areas Up to 4 areas IR Range: - Range: - Up to 4 areas IR Range: - Up to 300m (984,25ft)  Thermal Function  Temperature Range - 20°C to 150°C (-4°F to 302°F)  Accuracy 48°C  Temperature Detection 3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line).  Display in the lower left corner; follow the cursor display of the highest temperature, lowest temperature or average temperature Image Fusion Fusion view of thermal view and overlaid details of the optical channel  Event  Alarm Triggers V5, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detections Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  PTZ  PTZ  PTATIR Range Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)  Pan Speed Pan: 0° to 360° s, preset speed: 240°/s  Wiper Support  Tilt: 5, preset speed: 240°/s  Wiper Support  Preset Accuracy \$0.2°  Presets 400  12 patrols, up to 32 presets per patrol  Track 6 tracks 3D Positioning Support  Speed Setup Auto/Manual (0·8)  Power Off Memory Support  Prover Off Memory Support  Prover Off Memory Support  Prover Off Memory Support  Protocols Power Off Memory Support  Protocols ONN'E (Profiles FY/Fo/M), CGI, SDK  Max Concurrent Streams 10 channels  User/host Level 32* Lesers, 3 levels: Administrator, Operator, Media user				
Privacy Masking Up to 4 areas IR Range: - Up to 300m (984,25ft)  Thermal Function  Temperature Range -20°C to 150°C (-4°F to 302°F)  Accuracy 28°C  Temperature Display 28°C  Temperature Display 39 in the lower left corner; follow the cursor display of the highest temperature or average temperature  Image Fusion Fusion 40 in the main view of thermal view and overlaid details of the optical channel  Event  Alarm Triggers NS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection  Event Actions Alarm out, Alarm event, SMTP, FTP upload, Audible alarm output  PTZ  Pan/Tilt Range Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)  Pan Speed Pan: 0.01° to 240°/s, preset speed: 240°/s  Wiper Support  Preset Accuracy \$0.2°  Pre		Un to 8 OSD		
Thermal Function  Temperature Range -20°C to 150°C (-4°F to 302°F)  Accuracy 28°C  Temperature Range -20°C to 150°C (-4°F to 302°F)  Accuracy 28°C  Temperature Detection 3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line).  Temperature Display Display in the lower left corner; follow the cursor display of the highest temperature, lowest temperature or average temperature  Image Fusion Fusion view of thermal view and overlaid details of the optical channel  Event  Alarm Triggers VS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection  Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  PTZ  PTZ  PTZ  Pan/Tilt Range Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)  Pan Speed Pan: 001′ to 300°/s, preset speed: 300°/s  Tilt Speed Tilt: 0.01° to 240°/s, preset speed: 240°/s  Wiper Support  Freset Accuracy \$ 0.2°  Preset Accuracy \$ 0.2°  Track 6 track 6 track 6 track 6 track 6 track 6 track 7 to 50° (auto-flip)  Speed Setup Auto/Manual (0-8)  Power Off Memory Support 5 the time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols [Profile Syl/je/s, HTTP/HTTPS, DNS, DDNS, DICP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 80.2 ix, SMMP, Multicast Compatible Integration ONVIF (Profile Syl/je/s), Multicast Compatible Integration ONVIF (Profile Syl/je/s), Multicast 10 channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user		·		
Temperature Range	<u> </u>		·	
Temperature Range  -20°C to 150°C (-4°F to 302°F)  Accuracy  28°C  Temperature Detection  3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line).  Display in the lower left corner; follow the cursor display of the highest temperature, lowest temperature or average temperature  Image Fusion  Fusion view of thermal view and overlaid details of the optical channel  Event  Alarm Triggers  IVS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection  Event Actions  Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  PTZ  Pan/Tilt Bange  Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)  Pan Speed  Pan: 0.01° to 300°/s, preset speed: 200°/s  Tilt: 0.01° to 240°/s, preset speed: 240°/s  Wiper  Support  Preset Accuracy  \$0.2°  Preset Accuracy  \$0.2°  Presets  400  Scan  12 scans  Patrol  12 patrols, up to 32 presets per patrol  Track  6 tracks  3D Positioning  Support  Support  Support  Speed Setup  Auto/Manual (0-8)  Power Off Memory  Support  Idle Motion  The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols  ORVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams  10 channels  User/Host Level  32+ users, 3 levels: Administrator, Operator, Media user			- Up to 300m (984.25ft)	
Accuracy 18°C Temperature Detection 3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line).  Temperature Display Display in the lower left corner; follow the cursor display of the highest temperature, lowest temperature or average temperature  Image Fusion Fusion view of thermal view and overlaid details of the optical channel  Event  Alarm Triggers IVS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection  Event Actions Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  PTZ  Pan/Tilt Range Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)  Pan Speed Pan: 0.01° to 300°/s, preset speed: 300°/s  Tilt Speed Tilt: 0.01° to 240°/s, preset speed: 240°/s  Wiper Support  Preset Accuracy 5 0.2°  Preset Accuracy 5 0.2°  Preset Accuracy 12 cans  Patrol 12 patrols, up to 32 presets per patrol  Track 6 tracks  3D Positioning Support  Support  Speed Setup Auto/Manual (0-8)  Power Off Memory Support  Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols Os, 802.1x, SNNP, Multicast  Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDIX  Max Concurrent Streams 10 channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user				
Temperature Detection  3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line).  Temperature Display  Display in the lower left corner; follow the cursor display of the highest temperature, lowest temperature or average temperature  Fusion view of thermal view and overlaid details of the optical channel  Event  Alarm Triggers  IVS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection  Event Actions  Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  PTZ  Pan/Tilt Range  Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)  Pan Speed  Pan: 0.01° to 300°/s, preset speed: 300°/s  Tilt: Speed  Tilt: 0.01° to 240°/s, preset speed: 240°/s  Wiper  Support  Preset Accuracy  \$ 0.2°  Presets  400  Scan  12 scans  Patrol  12 patrols, up to 32 presets per patrol  Track  6 tracks  3D Postitioning  Support  Speed Setup  Auto/Manual (0-8)  Power Off Memory  Support  Idle Motion  The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols  ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams  10 channels  User/Host Level  32+ users, 3 levels: Administrator, Operator, Media user	Temperature Range			
Display in the lower left corner; follow the cursor display of the highest temperature or average temperature  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of the optical channel  Fusion view of thermal view and overlaid details of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of the optical channel  Fusion view of the view of	Accuracy	±8°C		
Image Fusion Fusion view of thermal view and overlaid details of the optical channel  Event  Alarm Triggers IVS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection  Event Actions Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  PTZ  Pan/Tilt Range Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)  Pan Speed Pan: 0.01° to 300″s, preset speed: 300°/s  Tilt Speed Tilt: 0.01° to 240°/s, preset speed: 240°/s  Wiper Support  Preset Accuracy ≤ 0.2°  Presets 400  Scan 12 scans  Patrol 12 patrols, up to 32 presets per patrol  Track 6 tracks  3D Positioning Support  Support  Speed Setup Auto/Manual (0-8)  Power Off Memory Support  Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols QoS, 802.1x, SNMP, Multicast  Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 Channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Temperature Detection			
Alarm Triggers IVS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection  Event Actions Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  PTZ  Pan/Tilt Range Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)  Pan Speed Pan: 0.01° to 300°/s, preset speed: 300°/s  Tilt Speed Tilt: 0.01° to 240°/s, preset speed: 240°/s  Wiper Support  Preset Accuracy 5 0.2°  Presets 400  Scan 12 scans  Patrol 12 patrols, up to 32 presets per patrol  Track 6 tracks  3D Positioning Support  Speed Setup Auto/Manual (0-8)  Power Off Memory Support  Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols PAMPP, HTP/HTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Temperature Display			
Alarm Triggers  IVS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection  Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  PTZ  Pan/Tilt Range  Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)  Pan Speed  Pan: 0.01° to 300°/s, preset speed: 300°/s  Tilt Speed  Tilt: 0.01° to 240°/s, preset speed: 240°/s  Wiper  Support  Preset Accuracy  \$ 0.2°  Presets  400  Scan  12 scans  Patrol  12 patrols, up to 32 presets per patrol  Track  6 tracks  3D Positioning  Support  Speed Setup  Auto/Manual (0-8)  Power Off Memory  Support  Idle Motion  The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols  Protocols  Profile S/T/G/M), CGI, SDK  Max Concurrent Streams  10 channels  User/Host Level  32+ users, 3 levels: Administrator, Operator, Media user	Image Fusion	Fusion view of thermal view and overlai	Fusion view of thermal view and overlaid details of the optical channel	
Alarm Iriggers  detection  Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output  PTZ  Pan/Tilt Range  Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)  Pan Speed  Pan: 0.01° to 300°/s, preset speed: 300°/s  Tilt Speed  Tilt: 0.01° to 240°/s, preset speed: 240°/s  Wiper  Support  Preset Accuracy  \$ 0.2°  Presets  400  Scan  12 scans  Patrol  12 patrols, up to 32 presets per patrol  Track  6 tracks  3D Positioning  Support  Speed Setup  Auto/Manual (0-8)  Power Off Memory  Support  Idle Motion  The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols  Protocols  PV4/IPV6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, Cos, 802.1x, SNMP, Multicast  Compatible Integration  ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams  10 channels  User/Host Level  32+ users, 3 levels: Administrator, Operator, Media user	Event			
Pan/Tilt Range Pan: 0" to 360" endless, Tilt: -10" to 90" (auto-flip) Pan Speed Pan: 0.01" to 300"/s, preset speed: 300"/s Tilt Speed Tilt: 0.01" to 240"/s, preset speed: 240"/s Wiper Support Preset Accuracy \$0.2" Presets 400 Scan 12 scans Patrol 12 patrols, up to 32 presets per patrol Track 6 tracks 3D Positioning Support Speed Setup Auto/Manual (0-8) Power Off Memory Support Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols PP4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 channels User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Alarm Triggers			
Pan/Tilt Range Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)  Pan Speed Pan: 0.01° to 300°/s, preset speed: 300°/s  Tilt Speed Tilt: 0.01° to 240°/s, preset speed: 240°/s  Wiper Support  Preset Accuracy ≤ 0.2°  Presets 400  Scan 12 scans  Patrol 12 patrols, up to 32 presets per patrol  Track 6 tracks  3D Positioning Support  Speed Setup Auto/Manual (0-8)  Power Off Memory Support  Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols IPV4/IPV6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QOS, 802.1x, SNMP, Multicast  Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Event Actions	Alarm out, Alarm record, SMTP, FTP upl	Alarm out, Alarm record, SMTP, FTP upload, Audible alarm output	
Pan Speed Pan: 0.01° to 300°/s, preset speed: 300°/s  Tilt Speed Tilt: 0.01° to 240°/s, preset speed: 240°/s  Wiper Support  Preset Accuracy ≤ 0.2°  Presets 400  Scan 12 scans  Patrol 12 patrols, up to 32 presets per patrol  Track 6 tracks  3D Positioning Support  Speed Setup Auto/Manual (0-8)  Power Off Memory Support  Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols Pv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	PTZ			
Tilt: 0.01° to 240°/s, preset speed: 240°/s  Wiper Support  Preset Accuracy \$ 0.2°  Presets 400  Scan 12 scans  Patrol 12 patrols, up to 32 presets per patrol  Track 6 tracks  3D Positioning Support  Speed Setup Auto/Manual (0-8)  Power Off Memory Support  Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols IPV4/IPV6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Pan/Tilt Range	Pan: 0° to 360° endless, Tilt: -10° to 90°	Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip)	
Wiper       Support         Preset Accuracy       ≤ 0.2°         Presets       400         Scan       12 scans         Patrol       12 patrols, up to 32 presets per patrol         Track       6 tracks         3D Positioning       Support         Speed Setup       Auto/Manual (0-8)         Power Off Memory       Support         Idle Motion       The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.         Network       IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast         Compatible Integration       ONVIF (Profile S/T/G/M), CGI, SDK         Max Concurrent Streams       10 channels         User/Host Level       32+ users, 3 levels: Administrator, Operator, Media user	Pan Speed	Pan: 0.01° to 300°/s, preset speed: 300°	Pan: 0.01° to 300°/s, preset speed: 300°/s	
Presets 400  Scan 12 scans  Patrol 12 patrols, up to 32 presets per patrol  Track 6 tracks  3D Positioning Support  Speed Setup Auto/Manual (0-8)  Power Off Memory Support  Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Tilt Speed	Tilt: 0.01° to 240°/s, preset speed: 240°	Tilt: 0.01° to 240°/s, preset speed: 240°/s	
Presets 400  Scan 12 scans  Patrol 12 patrols, up to 32 presets per patrol  Track 6 tracks  3D Positioning Support  Speed Setup Auto/Manual (0-8)  Power Off Memory Support  Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols Pv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Wiper	Support	Support	
Patrol 12 patrols, up to 32 presets per patrol  Track 6 tracks  3D Positioning Support  Speed Setup Auto/Manual (0-8)  Power Off Memory Support  Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols IPV4/IPV6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Preset Accuracy	≤ 0.2°	≤ 0.2°	
Patrol 12 patrols, up to 32 presets per patrol  Track 6 tracks  3D Positioning Support  Speed Setup Auto/Manual (0-8)  Power Off Memory Support  Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Presets	400	400	
Track 6 tracks 3D Positioning Support  Speed Setup Auto/Manual (0-8)  Power Off Memory Support  Idle Motion The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 channels  User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Scan	12 scans	12 scans	
Support  Speed Setup  Auto/Manual (0-8)  Power Off Memory  Support  Idle Motion  The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols  IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration  ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams  10 channels  User/Host Level  32+ users, 3 levels: Administrator, Operator, Media user	Patrol	12 patrols, up to 32 presets per patrol	12 patrols, up to 32 presets per patrol	
Speed Setup  Auto/Manual (0-8)  Support  Idle Motion  The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols  IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration  ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams  10 channels  User/Host Level  32+ users, 3 levels: Administrator, Operator, Media user	Track	6 tracks	6 tracks	
Power Off Memory  Idle Motion  The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols  IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration  ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams  10 channels  User/Host Level  32+ users, 3 levels: Administrator, Operator, Media user	3D Positioning	Support	Support	
Idle Motion  The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.  Network  Protocols  IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration  ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams  10 channels  User/Host Level  32+ users, 3 levels: Administrator, Operator, Media user	Speed Setup	Auto/Manual (0-8)	Auto/Manual (0-8)	
Network  Protocols  IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast  Compatible Integration  ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams  10 channels  User/Host Level  32+ users, 3 levels: Administrator, Operator, Media user	Power Off Memory	Support	Support	
Network         Protocols       IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast         Compatible Integration       ONVIF (Profile S/T/G/M), CGI, SDK         Max Concurrent Streams       10 channels         User/Host Level       32+ users, 3 levels: Administrator, Operator, Media user	Idle Motion			
Compatible Integration  ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams  10 channels  User/Host Level  32+ users, 3 levels: Administrator, Operator, Media user	Network			
Compatible Integration ONVIF (Profile S/T/G/M), CGI, SDK  Max Concurrent Streams 10 channels User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Protocols		ICP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP,	
User/Host Level 32+ users, 3 levels: Administrator, Operator, Media user	Compatible Integration			
	Max Concurrent Streams	10 channels	10 channels	
Security IP address filter, encrypted HTTPS, Illegal login lock, IEEE 802.1x	User/Host Level	32+ users, 3 levels: Administrator, Oper	32+ users, 3 levels: Administrator, Operator, Media user	
	Security	IP address filter, encrypted HTTPS, Illega	IP address filter, encrypted HTTPS, Illegal login lock, IEEE 802.1x	

Web Viewer	<ie11, chrome,="" edge<="" firefox,="" microsoft="" th=""></ie11,>
Interface	
Network Interface	1 Ethernet (10/100 Base-T) RJ-45 Connector
Audio Interface	1ch Audio In, 1ch Audio Out
Alarm Interface	7ch Alarm In, 2ch Alarm Out
RS-485	Support
BNC Interface	1 (CVBS output for visible)
SD Card Slot	Built-in, up to 1TB
General	
Web Language	English, Chinese, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian, Japanese, Korean. Default: English
Power Supply	24VAC/36VDC/PoE++ (802.3bt), Standard Equipped: 36VDC
Power Consumption	Max 45 W
Working Temperature and Humidity	-40°C to 60°C (-40°F to 140°F) Less than 90% RH
Certifications	CE-EMC (EN 55032:2015+A1:2020, EN 55035:2017+A11:2020, EN 50130-4:2011+A1:2014, EN 61000-6-3:2007+A1:2011+AC:2012, EN IEC 61000-3-2:2019, EN 61000-3-3:2013+A1:2019) CE-LVD (EN 62368-1:2014+A11:2017) FCC (FCC 47 CFR 15, Subpart B, ANSI C63.4-2014)
Ingress Protection	IP66
Material	Metal
Dimensions	φ226 × 363 mm (φ8.9 × 14.29 inch)
Net Weight	6 kg (13.2 lb)
Ordering Information	
Model	Description
SN-TPS4157ED-M25-ZSD40	Thermal Focal Length: 25mm Optical Focal Length: 6.27 to 251mm, 40x optical zoom

### **Thermal DRI Range Table**

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

Note: The optimal detection, recognition, and identification distances are calculated according to Johnson's Criteria.

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.

DRI Distance Table	
Focal Length	25 mm
Detection Distance (Human: 1.8×0.5m)	1,042 m (3,418.6 ft)
Detection Distance (Vehicle: 4×1.5m)	3,194 m (10,479 ft)
Recognition Distance (Human: 1.8×0.5m)	260 m (853 ft)

Recognition Distance (Vehicle: 4×1.5m)	799 m (2,621.4 ft)
Identification Distance (Humans: 1.8×0.5m)	130 m (426.5 ft)
Identification Range (Vehicles: 4×1.5m)	399 m (1,309 ft)

### **Thermal Smart Detection Range Table**

**Note**: The table is for reference only. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.

Detection Range Table	
Focal Length	25 mm
VCA Detection Distance (Human: 1.8 × 0.5 m)	170 m (557.74 ft)
VCA Detection Distance (Front/Rear of Vehicle: 4×1.5 m)	250 m (820.2 ft)
Temperature Measurement (Object: 1 × 1m)	417 m (1,368.1 ft)
Temperature Measurement (Object: 0.2 × 0.2m)	83 m (272.3 ft)
Fire Detection (Object: 1 × 1m)	1,042 m (3,418.6 ft)
Fire Detection (Object: 0.2 × 0.2m)	208 m (682.4 ft)

### **Visible DORI Range Table**

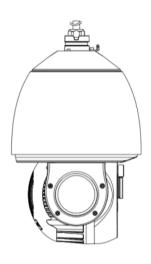
**Note**: DORI (Detect, Observe, Recognize, and Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/project design tool.

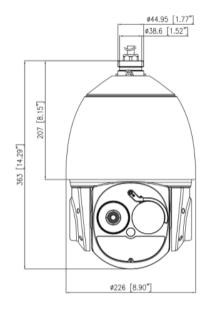
DORI Distance	
Lens	6.27 to 251 mm
Detection	95 to 3,515 m (311.68 to 11,532.15 ft)
Observe	38 to 1,406 m (124.67 to 4,612.86 ft)
Recognize	19 to 703 m (62.34 to 2,306.43 ft)
Identify	9.5 to 351.5 m (31.17 to 1,153.22 ft)

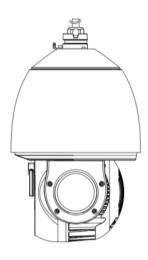
## Radar (optional)

Radar		
Model	MS-7SMWR02A	MS-7SMWR03A
Picture	į	į
Working Frequency	24GHz K-Band	24.00 to 24.1GHz
Modulation Waveform	FMCW (Frequency-Modulated Continuous-Wave)	FMCW (Frequency-Modulated Continuous-Wave)
Scan Frequency	8 Hz	8 Hz
Horizontal Detection Angle	90°	90°
Vertical Detection Angle	13°	13°
Max. Detectable Targets	Up to 32 targets	Up to 32 targets
Detection Target Type	Human, Vehicle	Human, Vehicle
Detection Distance	Human: Up to 150 m (492.1 ft), Vehicle: Up to 180 m (590.6 ft)	Human: Up to 450 m (1476.4 ft), Vehicle: Up to 600 m (1968.5 ft)
Distance Resolution	1 m (3.28 ft)	1.5 m (4.92 ft)
Distance Measurement Accuracy	± 0.5 m (1.64 ft)	± 0.75 m (2.46 ft)
Angle Accuracy	± 1°	± 1°
Speed Measuring Range	0.5 to 30 m/s	0.5 to 30 m/s
Speed Measuring Accuracy	0.03 m/s	0.006 m/s
Speed Resolution	0.06 m/s	0.003 m/s
EIRP	22 dBm	37 dBm
Network Interface	1 RJ45 10M/100M (PoE)	1 RJ45 10M/100M (PoE)
Alarm Interface	2ch output, 1ch input	1ch output
RS485	Support	Support
Relay	2ch output	-
Power Consumption	9W	17W
Power Supply	12VDC/PoE (802.3af)	12VDC/PoE+ (802.3at)
Dimension	194 × 158 × 49 mm	235 × 175 × 47.5 mm

## **Dimensions (mm)**







### **Accessories**

### **Optional:**



MS-7CBK506B Wall Bracket



MS-7BK367 Junction Box



MS-7BK348A Ceiling Bracket



MS-7BK358 Corner Mount



MS-7BK605 Corner Mount



MS-7BK359 Pole Mount



MS-7BK604B Pole Mount