

# Long range thermal multisensor cameras

## MWIR



### TCID97 Series

MWIR advanced thermal imagers in 640x512 resolution, boosted by a variety of high performance mid and long range lenses with f.4 stop number. Providing to this unit exceptional long range capability, making TCID97 series and ideal imager line for border security, critical infrastructures or blue line control.

TCID97 Series cooled detector is capable to detect human targets at 18Km. and NATO targets at over 24Km. distance, delivering standardized video image over Ethernet or analog, supporting ONVIF protocols and able to delivery various video systems at the same time, such as H.264 or optional HDSI digital video.

Select from several lens models, PTU systems, and other options to achieve your mission targets and detect threats in ultra long distances.

F.4 lenses provide advanced features like digital video stabilization improving detection, recognition and identification capabilities in long range surveillance.

### Key features:

- Long range distances, up to 24Km for vehicles, 18Km for human.
- High resolution 640x512 cooled MCT
- Pixel pitch 15µm.
- NETD sensitivity 25mK.
- f.4 High performance zoom lenses
- H.264/H.265, Mjpeg, analog optional
- Continuous zoom lenses
- Autofocus and remote focus
- Dynamic video enhancement
- Electronic video stabilization
- Cooling engine MTBF 20.000 hours
- Ethernet control, Pelco D RS485
- IP66 according to MIL810
- HELIOS C2 compatible
- Laser range finder, DMC, GPS optional



## Specifications:

Model	TCID97 Series			
	Type	Long range thermal camera		
THERMAL CAMERA	Sensor	MWIR, Cooled MCT		
	Wavelength	3,7-4,8µm.		
	NETD	≤25mK.		
	Pixel pitch	15µm.		
	Resolution	640x512		
	Lenses	20-300mm.	65-650mm.	90-900mm.
	FOV Wide - Narrow	1.83×1.47°	0.85×0.68°	0.61×0.49°
	Spatial resolution (IFOV)	0.75mrad-0.05mrad	0.23mrad-0.02mrad	0.17mrad-0.02mrad
	Lens stop No.	f.4		
	Focus type	Autofocus (continuous focus in zoom), motorized		
	NUC	1pt/2pts NUC, Blurred NUC		
	Video output, selectable	Triple stream H.264/H265/Mjpeg, optional analog		
	Optical zoom, cont.	10x		
	Digital zoom	8x		
	Image settings	Contrast, Brightness, Image enhancement, Digital detail enhancement		
	Video display resolution	1280x1024		
	Cross-hair	Yes		
	Digital estabilization	Yes		
	Cooling engine	Rotary stirling		
	Cooldown time	<7min. (20°C)		
MTBF cooler	20.000hours			
Cooler standby	Yes			
D/N CAMERA	Sensor	Low lux CMOS sensor, base in module selection		
		Resolution	Zoom	Focal length
		2 megapixel	57X OIS	15-850mm.
		2 megapixel	80X	15-1200mm.
		4 megapixel	88X	10,5-920mm.
		2 megapixel	86X	10-860mm.
		8 megapixel	88X	11,3-1000mm.
		2 megapixel	35X	21-750mm.
		2 megapixel	80X	12,5-1000mm.
		2 megapixel	80X	25-2000mm.
				HFOV
				29,1-0,5°
				23-0,3°
			40-0,49°	
			39,6-0,5°	
			37,5-0,44°	
			22-0,48°	
			18-0,37°	
			15,1-0,18°	
	Video compression	H.265, H.264, Mjpeg		
	Streams	Triple stream		
	Bitrate	1024-8,192Kbps., VBR/CBR (8192-16,384Kbps. MJPEG)		
	Image settings	Contrast, Brightness, Mirror, Flip, sharpness, Enhancement, 2/3DNR, AWB, BLC, HLC, WDR, Near Infrared		
	Day/Night	Day, night, auto		

D/N CAMERA	Frames/second	30fps. / 60fps.		
	Focus type	Autofocus, remote motorized		
	Defogging / Turbulence	Depending in the lens selection		
	Video output	Digital		
	Video analysis	Tripwire, Cross fence, Intrusion, Abandoned-missing object, Fast moving, Parking detection, Crowd gathering estimation, Loitering Detection		
	EIS	Yes		
	Local storage	MicroSD, up to 256Gb.		
GENERAL	Web browser	IE8 or above, Chrome, Edge, Firefox		
	Pan/tilt movement	Pan 360° endless, tilt -90/90°		
	Pan/tilt speed	0,001°-60°/Sec. - 0,001°-40°/Sec.*		
	Accuracy	±0,006°		
	Presets	256		
	Tours	8		
	Auto scan / Auto pan	Yes		
	Patterns	5 (10min.)		
	Groups	4		
	Idle action / Start up	Yes		
	Platform	Onvif 2.5, Profile S		
	Network	10/100/1000 Ethernet		
	Network protocols	IPv4/v6, RTSP/RTP/RTCP, TCP/UDP, HTTP, HTTPS, DHCP, DNS, FTP, DDNS, PPPoE, SMTP, SNMP V1/V2, IEEE802.X, Bonjour, IP filter, QoS, ICMP, IGMP, NTP		
	Protocols	Onvif 2.5 / Profile S / Pelco D / TZ protocol		
	Serial communication	2 cable Serial RS485 Pelco D / TZ protocol		
	Alarms	1/1 in each camera		
	Serial baudrate	2.400-115.200Kbps.		
	Encoders	Military grade in azimuth and elevation		
	Humidity/ Waterproof	RH 0-95%, not condensing / IP66 waterproof		
	Connectors	Military type		
	Working temperature	-32°/65°C.		
	Power	48v.DC (43-53v.)		
	Vibration / Shock	Random vibration 20-80Hz.+3dB/OCT, 80Hz-350Hz., 0.04g2/Hz., 350Hz.-2000Hz., -3dB/OCT (3min/axis) Final saw-tooth waves, 30g, 11ms (3 directions / 3 directions perpendicular axes, 3 impacts each, 18 times).		
	Weight/Size	Depending in the configuration		
	Options	Sand, green, gray colors	Marine coating	
		Digital magnetic compass	Laser range finder	
		GNSS	Advanced video tracker	
SWIR sensors		HELIOS C2		

## Outstanding video surveillance power - DRI

TCID97 f.4 Series long range zoom lenses are capable to monitor and control long distance objects base in Johnson´s Criteria / NATO standard.

### TCID97-300mm

Human target 1,8x0,5m.	Johnson´s criteria - NATO standard - 300mm. focal length
Detection	13,8Km.
Recognition	4,5Km.
Identification	3,9Km.

  

Vehicle target 2,3x2,3m.	Johnson´s criteria - NATO standard - 300mm. focal length
Detection	18Km.
Recognition	8,4Km.
Identification	5Km.

### TCID97-650mm

Human target 1,8x0,5m.	Johnson´s criteria - NATO standard - 650mm. focal length
Detection	18,8Km.
Recognition	11Km.
Identification	7Km.

  

Vehicle target 2,3x2,3m.	Johnson´s criteria - NATO standard - 650mm. focal length
Detection	20,2Km.
Recognition	13,4Km.
Identification	11Km.

### TCID97-900mm

Human target 1,8x0,5m.	Johnson´s criteria - NATO standard - 900mm. focal length
Detection	18,8Km.
Recognition	11Km.
Identification	7Km.

  

Vehicle target 2,3x2,3m.	Johnson´s criteria - NATO standard - 900mm. focal length
Detection	24,2Km.
Recognition	17,4Km.
Identification	12Km.

\* Different weather conditions and temperature changes may affect to final distances, the stated distances are references. Atmospheric attenuation factor of 0.82 db/km and  $\Delta t = 2^{\circ}\text{C}$ . / 50% probability / good transmission conditions. STANAG4347

\* Infrared CVBS/HDSDI video available as option.

\* Other configurations are available on request, Tanz Security can tailor solutions to fit requirements.

\* Check lenses, sensors and options to define the proper configuration

\* AI/Deep learning/Object classification and advanced features with HELIOS C2

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