V-UAV



Focus on the NEW ECOSYSTEM

of Unmanned Systems

Model Map

Series		AI Series			
Model		A609R	A609R Pro	A613	A619
Pics					
EO	EO image Sensors	1/2.9" CMOS	1/2" CMOS	1/2.9" CMOS	1/2.9" CMOS
	Optical zoom	/	/	/	/
	Total pixel	2MP	48MP	2MP	2MP
	MAX HFOV	50°	69.6°	50°	50°
	Min illumination	/	/	/	/
IR	IR thermal imager	640*512, 9.1mm	640*512, 9mm	640*512, 13mm	640*512, 19mm
	Pixel size	12μm	12μm	12μm	12μm
	HFOV	48.3°	46.2°	33°	22.9°
	NETD	≤40mK (@25°C, F1.0)	≤25mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)
LRF	Laser rangefinder	5~1200m	5~1200m	/	/
Overall	Object tracking	Yes, AI	Yes, AI	Yes, AI	Yes, AI
	N.W	232g	257g	238g	493g
	Dimension	62*78*106.2mm	62*78*116.2mm	62*81*106.2mm	86*118.2*143.2mm
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AI Series				
A650	AT1575-6	AT50	AT9-50	AT19
	 5x Optical Zoom IR			
1/2.9" CMOS	1/2.9" CMOS	/	/	/
/	/	/	/	/
2MP	5MP	/	/	/
50°	55°	/	/	/
/	/	/	/	/
640*512, 50mm	640*512, **15~75mm**	640*512, 50mm	640*512, 9.1mm + 50mm	640*512, 19mm
12μm	12μm	12μm	12μm	12μm
8.8°	28.7°~5.86°	8.8°	8.7°	22.9°
≤35mK (@25°C, F1.0)	≤40mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)
/	/	/	/	/
Yes, AI	Yes, AI	Yes, AI	Yes, AI	Yes, AI
693g	1171g	686g	718g	441g
100.8*135.5*168.6mm	130*134*204.8mm	100.8*136.3*163.6mm	105*114.5*171.2mm	86*118.2*143.2mm
P.04	P.05	P.05	P.30	P.05

AI Series

H4TS-19	H4Q-25	H4Q-9	H3TS	A10TR Pro
				
1/2" CMOS	1/2" CMOS	1/2" CMOS	1/2" CMOS	1/2.8" CMOS
10x Equivalent	10x Equivalent	10x Equivalent	2.6x	10x, F=4.7~47mm
48MP	48MP	48MP	48MP	5.13MP
70.2°	70.2°	70.2°	20°	58.3°
Color 0.1 lux	/	/	/	Color 0.02 lux
640*512, 19mm	640*512, 25mm	640*512, 9.1mm	640*512, 9mm	640*512, 19mm
12μm	12μm	12μm	12μm	12μm
22.9°	17.5°	48.3°	46.2°	22.9°
≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤40mK (@25°C, F1.0)	≤25mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)
5~1200m	5~1200m	5~1200m	5~1200m	5~1500m
Yes, AI	Yes, AI	Yes, AI	Yes, AI	Yes, AI
399g	442g	427g	298g	651g
96.9*106.1*136.2mm	106*115*145mm	98.9*113.3*139mm	86.5*81.3*124.7mm	100*114.7*174.2mm
P.06	P.07	P.07	P.08	P.08

AI Series

A20KTR	A20KT-35	A20KT-19	A20KR-X
			
1/2.5" "Exmor R" CMOS	1/2.5" "Exmor R" CMOS	1/2.5" "Exmor R" CMOS	1/2.5" "Exmor R" CMOS
20x 4K	20x 4K	20x 4K	20x 4K
8.51MP	8.51MP	8.51MP	8.51MP
70.2°	70.2°	70.2°	70.2°
Color 0.06 lux	Color 0.06 lux	Color 0.06 lux	Color 0.06 lux
640*512, 35mm	640*512, 35mm	640*512, 19mm	/
12μm	12μm	12μm	/
12.5°	12.5°	22.9°	/
≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	/
20~3000m	/	/	5~1500m
Yes, AI	Yes, AI	Yes, AI	Yes, AI
1011g	1035g	987g	859g
130*161*201.8mm	130*161*201.8mm	130*161*201.8mm	117.4*139.3*197.8mm
P.10	P.11	P.11	P.12

AI Series

A20KTR-50HD	A20KTR-24HD	A30TR-1575	A30TR-50M
			
1/2.5" "Exmor R" CMOS	1/2.5" "Exmor R" CMOS	1/1.8" STARVIS CMOS	1/2.8" STARVIS2 CMOS
20x 4K	20x 4K	30x	30x
8.51MP	8.51MP	4.17MP	2.13MP
70.2°	70.2°	58.1°	64.0°
Color 0.06 lux	Color 0.06 lux	Color 0.009 lux	Color 0.009 lux
1280*1024, 50mm	1280*1024, 24mm	640*512, **5x optical zoom**, 15-75mm	640*512, 50mm
12μm	12μm	12μm	12μm
17.5°	35.9°	28.7°~5.86°	8.8°
≤35mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤40mK (@25°C, F1.0)	≤40mK (@25°C, F1.0)
20~3000m	20~3000m	50~10000m	50~5000m
Yes, AI	Yes, AI	Yes, AI	Yes, AI
1410g	1032g	2293g	1343g
135*150.1*218.2mm	130*161*201.8mm	175*200*248.4mm	138*144.8*218.2mm
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AI Series

Mini H30T	H30TL	A40TR-35	A40TR Pro	A40T Pro
				
1/1.8" STARVIS CMOS	1/2.8" STARVIS CMOS	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
30x enhanced	30x	40x	40x	40x
4.17MP	2.13MP	2.13MP	2.13MP	2.13MP
58.1°	64.0°	66.35°	66.35°	66.35°
Color 0.009 lux	Color 0.009 lux	Color 0.01 lux	Color 0.01 lux	Color 0.01 lux
640*512, 19mm	640*512, 19mm	640*512, 35mm	640*512, 19mm	640*512, 19mm
12μm	12μm	12μm	12μm	12μm
22.9°	22.9°	12.5°	22.9°	22.9°
≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)
5~1500m	5~1200m **Laser Illumination Range ≥800m**	50~3000m	50~3000m	/
Yes, AI	Yes, AI	Yes, AI	Yes, AI	Yes, AI
970g	938g	1034g	990g	941g
129.5*174*195.5mm	131.2*145.7*193.3mm	130*136*209.7mm	125*134.5*204.7mm	118*134.5*193.8mm
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AI Series		
A40-AF (Anti-Fog/Anti-Icing)	**UA40T-35**	**UAT50**
		
1/2.8" CMOS	1/2.8" CMOS	/
40x	40x	/
2.13MP	2.13MP	/
66.35°	66.35°	/
Color 0.01 lux	Color 0.01 lux	/
/	640*512, 35mm	640*512, 50mm
/	12μm	12μm
/	12.5°	8.8°
/	≤50mK (@25°C, F1.0)	≤35mK (@25°C, F1.0)
/	/	/
Yes, AI	Yes, AI	Yes, AI
952g	1076g	555g
118*138.5*139.8mm	140*136*213.2mm	100.8*100.5*161.9mm
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Series		1280*1024 HD IR Thermal Gimbal Camera Series		
Model		**Q40TIRM-HD**	**U30TIRM-HD**	**Q30TIRM-15100**
Pics				
EO	EO image Sensors	1/2.8" CMOS	1/2.8" STARVIS2 CMOS	1/1.8" STARVIS CMOS
	Optical zoom	40x, F=4.25~170mm	30x, F=4.3~129mm	30x, F=6.5~162.5mm
	Total pixel	2.13MP	2.13MP	4.17MP
	MAX HFOV	66.35°	64.0°	58.1°
	Min illumination	Color 0.01 lux	Color 0.009 lux	Color 0.009 lux
IR	IR thermal imager	1280*1024, 50mm	1280*1024, 50mm	1280*1024, 15~100mm, **7x optical zoom**
	Pixel size	12μm	12μm	12μm
	HFOV	17.5°	17.5°	54.2°~8.8°
	NETD	≤40mK (@25°C, F1.0)	≤40mK (@25°C, F1.0)	≤40mK (@25°C, F1.0)
LRF	Laser rangefinder	50~5000m	50~5000m	**30~10000m**
Overall	Object tracking	Yes	Yes	Yes
	N.W	1512g	1474g	5737g
	Dimension	145*149.4*228.2mm	155*143.5*228.2mm	236*266.7*322.3mm
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1280*1024 HD IR Thermal Gimbal Camera Series			
Q30TIR Pro	**QIR50T Pro**	**A20KTR-50HD**	**A20KTR-24HD**
			
1/2.8" STARVIS2 CMOS	/	1/2.5" "Exmor R" CMOS	1/2.5" "Exmor R" CMOS
30x, F=4.3~129mm	/	20x	20x
2.13MP	/	8.51MP	8.51MP
64.0°	/	70.2°	70.2°
Color 0.009 lux	/	Color 0.06 lux	Color 0.06 lux
1280*1024, 50mm	1280*1024, 50mm	1280*1024, 50mm	1280*1024, 24mm
12μm	12μm	12μm	12μm
17.5°	17.5°	17.5°	35.9°
≤40mK (@25°C, F1.0)	≤40mK (@25°C, F1.0)	≤35mK (@25°C, F1.0)	⩽50mK (@25°C, F1.0)
/	/	20~3000m	20~3000m
Yes	Yes	Yes, AI	Yes, AI
1303g	943g	1410g	1032g
120*140.9*212.2mm	112*136*181.3mm	135*150.1*218.2mm	130*161*201.8mm
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Series		Hawkeye Series（Micro Prime Lens)			
Model		**U2 Pro**	**Q2R**	**Q2R Pro**	**Q2RM**
Pics					
EO	EO image Sensors	CMOS	1/3" CMOS	CMOS	1/3" CMOS
	Focus length	/	/	/	/
	Resolution	3840*2160	1920*1080	1920*1080	1920*1080
	MAX HFOV	83°	30°	66°	30°
IR	IR thermal imager	/	640*512, 13mm	640*512, 13mm	640*512, 9.1mm
	Pixel size	/	12μm	12μm	12μm
	HFOV	/	33.9°	33.9°	48.3°
	NETD	/	≤40mK (@25°C, F1.0)	≤40mK(@25°C, F1.0)	≤40mK (@25°C, F1.0)
LRF	Laser rangefinder	/	/	/	5~1200m
Overall	Object tracking	Yes	Yes	Yes	Yes
	Output	IP	IP	IP	IP
	N.W	118g	177g	209g	202g
	Dimension	40*49.1*85.7mm	56.1*50*111.5mm	66.4*62*100.3mm	62.7*60.1*118.5mm
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Hawkeye Series（Micro Prime Lens）				
A609R	**A609R Pro**	**A613**	**U818M**	**Q818**
				
1/2.9" CMOS	1/2" CMOS	1/2.9" CMOS	CMOS	CMOS
/	/	/	/	/
1920*1080	8000*6000	1920*1080	1920*1080	1920*1080
50°	69.6°	50°	38.3°	38.3°
640*512, 9.1mm	640*512, 9mm	640*512, 13mm	640*512, 18mm	640*512, 18mm
12μm	12μm	12μm	12μm	12μm
48.3°	46.2°	33°	24°	24°
≤40mK (@25°C, F1.0)	≤25mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)
5~1200m	5~1200m	/	5~1200m	/
Yes, AI	Yes, AI	Yes, AI	Yes	Yes
IP	IP	IP	IP	IP
232g	257g	238g	319g	345g
62*78*106.2mm	62*78*116.2mm	62*81*106.2mm	88.2*62.9*107.2mm	68.1*92.3*112.9mm
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Series		**T Series - Laser Rangefinder Series**		
Model		**Q40TIRM-HD**	**U30TIRM-HD**	**Q30TIRM-15100**
Pics				
EO	EO image Sensors	1/2.8" CMOS	1/2.8" STARVIS2 CMOS	1/1.8" STARVIS CMOS
	Optical zoom	40x, F=4.25~170mm	30x, F=4.3~129mm	30x, F=6.5~162.5mm
	Total pixel	2.13MP	2.13MP	4.17MP
	MAX HFOV	66.35°	64.0°	58.1°
	Min illumination	Color 0.01 lux	Color 0.009 lux	Color 0.009 lux
IR	IR thermal imager	**1280*1024**, 50mm	**1280*1024**, 50mm	**1280*1024**, 15~100mm, 7x optical zoom
	Pixel size	12μm	12μm	12μm
	HFOV	17.5°	17.5°	54.2°~8.8°
	NETD	≤40mK (@25°C, F1.0)	≤40mK (@25°C, F1.0)	≤40mK (@25°C, F1.0)
LRF	Laser rangefinder	50~5000m	50~5000m	**30~10000m**
Overall	Object tracking	Yes	Yes	Yes
	N.W	1512g	1474g	5737g
	Dimension	145*149.4*228.2mm	155*143.5*228.2mm	236*266.7*322.3mm
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Series		T Series - EO + IR Series		
Model		U30TIR-35	Q30TIR Pro	Q30TIR Lite
Pics				
EO	EO image Sensors	1/2.8" STARVIS2 CMOS	1/2.8" STARVIS2 CMOS	1/2.8" STARVIS2 CMOS
	Optical zoom	30x	30x	30x
	Total pixel	2.13MP	2.13MP	2.13MP
	MAX HFOV	64.0°	64.0°	64.0°
	Min illumination	Color 0.009 lux	Color 0.009 lux	Color 0.009 lux
IR	IR thermal imager	640*512, 35mm	1280*1024, 50mm	640*512, 24mm
	Pixel size	12μm	12μm	12μm
	HFOV	12.5°	17.5°	18.2°
	NETD	≤50mK (@25°C, F1.0)	≤40mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)
Overall	Object tracking	Yes	Yes	Yes
	N.W	934g	1303g	860g
	Dimension	127*130*201.9mm	120*140.9*212.2mm	112*129.8*184.2mm
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Series		IR Thermal Only Series		
Model		AT19	AT50	UAT50
Pics				
IR	Focus Length	19mm	50mm	50mm
	Resolution	640*512	640*512	640*512
	Pixel pitch	12μm	12μm	12μm
	NETD	≤50mK (@25°C, F1.0)	≤50mK (@25°C, F1.0)	≤35mK (@25°C, F1.0)
	FOV(Horizontal/Vertical)	22.9°	8.8°	8.8°
	Detective Distance（Man: 1.8x0.5m）	792m	2083m	2083m
	Recognize Distance	198m	521m	521m
	Identify Distance	99m	260m	260m
	Detective Distance（Car: 4.2x1.8m）	2428m	6389m	6389m
	Recognize Distance	607m	1597m	1597m
	Identify Distance	303m	799m	799m
Overall	Object tracking	Yes, AI	Yes, AI	Yes, AI
	Working mode	Uncooled LWIR	Uncooled LWIR	Uncooled LWIR
	N.W(w/o damping system)	441g	686g	555g
	Meas.	86*118.2*143.2mm	100.8*136.3*163.6mm	100.8*100.5*161.9mm
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IR Thermal Only Series			
QIR50T Pro	**AT9-50**	**QIR1575T**	**QIR25250T**
			
50mm	9.1mm + 50mm	15~75mm, **5x optical zoom**	25~250mm, **10x optical zoom**
1280*1024	640*512	640*512	640*512
12μm	12μm	12μm	15μm
≤40mK (@25℃, F1.0)	≤50mK (@25℃, F1.0)	≤40mK (@25℃, F1.0)	≤35mK(@25℃, F1.0)
17.5°	8.7°	28.7°~5.86°	2.17°~21.73°
2083m	2083m	3125m	833~8333m
521m	521m	781m	208~2083m
260m	260m	391m	104~1042m
6389m	6389m	9583m	2556~25556m
1597m	1597m	2396m	639~6389m
799m	799m	1198m	319~3194m
Yes	Yes, AI	Yes	Yes
Uncooled LWIR	Uncooled LWIR	Uncooled LWIR	**Cooled MWIR**
943g	718g	1216g	2471g
112*136*181.3mm	105*114.5*171.2mm	130*160*200.8mm	165*188.2*238.4mm
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Series		**Single EO Series**		
Model		**Q10N Pro**	**Q30T Pro**	**U30T**
Pics				
EO	EO image Sensors	1/2.7" CMOS	1/2.8" STARVIS2 CMOS	1/2.8" STARVIS2 CMOS
	Optical zoom	10x	30x	30x
	Total pixel	5MP	2.13MP	2.13MP
	MAX HFOV	61.5°	64.0°	64.0°
	Min illumination	Color 0.02 lux	Color 0.009 lux	Color 0.009 lux
Overall	Power	11.1V~25.2V (2.4W, Max.7.2W)	14.8V~25.2V (8.8W, Max.20W)	14.8V~25.2V (8.3W, Max.16W)
	Object tracking	/	Yes	Yes
	N.W	355g	811g	717g
	Dimension	88.7*108.7*139.2mm	104.9*128.2*180mm	108*115.8*170.3mm
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Single EO Series	
Z36T Cube	**Q40T-PLUS**
	
1/2" CMOS **(Starlight)**	1/2.8" CMOS
36x	40x
2.13MP	2.13MP
56.5°	66.35°
Color 0.01 lux	Color 0.01 lux
14.8V~25.2V (9.3W, Max.18.4W)	14.8V~25.2V (9.6W, Max.20W)
Yes	Yes
842g	1004g
106.6*182.1*185mm	118*147.5*191.5mm
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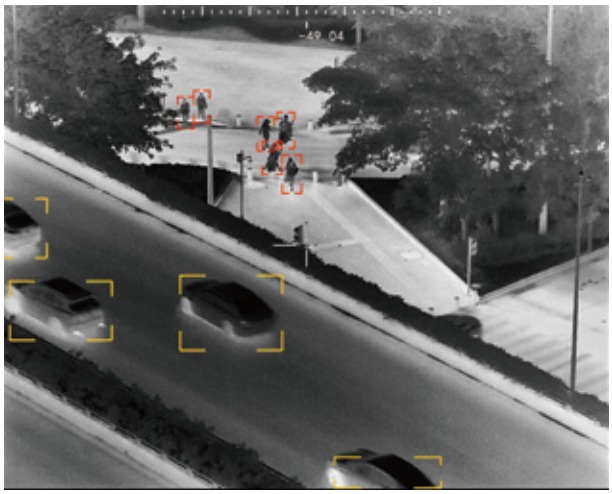
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PRODUCT INTRODUCTION

AI Series



The automatic object identification technology uses computer vision to replace manual decision-making, and combines deep learning technology to extract and classify the targets in the field of view. Efficiently identify object of interest, enhance the autonomy and intelligence level of unmanned systems, weaken or even get rid of the dependence on operators. It reduces the operator's burden, shortens the reaction time of the entire system, improves the anti-interference capability, and provides accurate and reliable information for the next reconnaissance on the object. It supports the development of artificial intelligence vision applications, the rapid deployment of algorithms, and the unlimited expansion of applications. Supports AI target customization.

A609R

Micro Prime Lens EO + IR + LRF Triple Sensors AI Gimbal Camera



Overall Specifications

N.W.	232g
Product meas.	62*78*106.2mm
Input voltage	14.8V~25.2V
Dynamic current	530~1000mA @ 16V
Power consumption	Average 8.5W, Max 16W
Working environment temp.	-20°C ~ +50°C
IP rate	IP4X
Output	IP (RTSP/UDP 720p/ 1080p 30fps H264/H265)
Storage	TF card (up to 256GB, Class 10, FAT32)
Picture in TF Card	JPG(1920*1080)
Video in TF Card	MP4(1080P@30fps)
Control method	S.BUS or TTL(either one, default is TTL) / TCP / UDP

Gimbal Spec

Mechanical Range	Pitch/Tilt: -45°(Up)~130°(Down), Roll: ±60°, Yaw/Pan: ±150°
Controllable Range	Pitch/Tilt: -40°~125°, Yaw/Pan: ±145°
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

Imager Sensors	1/2.9" CMOS Sensors
Image pixel	2MP
Picture quality	Full HD 1080 (1920*1080)
Digital zoom	1x ~ 12x
Field of View	50°(H) x 28°(V)

IR Thermal Imager Spec

Focus Length	9.1mm
Horizontal FOV	48.3°
Vertical FOV	38.6°
Diagonal FOV	62.4°
Detection Distance (Man: 1.8x0.5m)	379 meters
Recognition Distance (Man: 1.8x0.5m)	95 meters
Identification Distance (Man: 1.8x0.5m)	47 meters
Detection Distance (Car: 4.2x1.8m)	1163 meters
Recognition Distance (Car: 4.2x1.8m)	291 meters
Identification Distance (Car: 4.2x1.8m)	145 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel size	12μm
Digital zoom	1x~8x
Focusing method	Athermal prime lens
NETD	≤40mK (@25°C, F1.0)
Color palette	White hot, Black hot, Iron red
Radiometric function (Optional)	Support full-screen temperature data output
	Optional range(-20°C~+150°C, +100°C~+550°C) ±2°C or ±2% of the reading (whichever is greater).

Laser Rangefinder

Range	5~1200 meters
Accuracy	1m
Light Beam	905nm pulse laser
Divergent Angle	~6 mrad
Laser pulse frequency	1~4Hz
Rangefinder	Measure the distance between the object at the center of screen and the laser rangefinder

Camera Object Tracking

Update rate of deviation pixel	30Hz
Output delay of deviation pixel	<30ms
Minimum object contrast	5%
SNR	4
Minimum object size	16*16 pixel
Maximum object size	256*256 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames

Camera AI Performance

Targets type	Car and human
Simultaneous detection quantity	≥ 10 targets
Min contrast ratio	5%
Min target size	5×5 pixel
Car detection rate	≥85%
False alarm rate	≤10%





A609R Pro

Mini 48MP Wide Angle EO + IR + LRF AI Gimbal Camera



- EO Imager Sensors: **1/2 " CMOS, 48MP**
- IR Thermal imager: **640x512, 9mm focus length, 12μm**
- Laser range: **5~1200m**
- Object Tracking: **√**
- Output: **IP**
- Power: **14.8V~25.2V(8W, Max.16W)**
- N.W.: **257g**
- Dimension: **62*78*116.2mm**

A613

Prime Lens EO + IR Dual Sensors AI Gimbal Camera



- EO Imager Sensors: **1/2.9" CMOS, 2MP**
- EO Camera FOV: **50°(H) x 28°(V)**
- IR Thermal imager: **640x512, 13mm focus length, 12μm**
- Object Tracking: **√**
- Output: **IP**
- Power: **14.8V~25.2V(7.2W, Max.12W)**
- N.W.: **238g**
- Dimension: **62*81*106.2mm**

A619

Prime Lens EO + IR Dual Sensors AI Gimbal Camera



- EO Imager Sensors: **1/2.9" CMOS, 2MP**
- EO Camera FOV: **50°(H) x 28°(V)**
- IR Thermal imager: **640x512, 19mm focus length, 12μm**
- Object Tracking: **√**
- Output: **IP**
- Power: **14.8V~25.2V(7.8W, Max.14.4W)**
- N.W.: **493g**
- Dimension: **86*118.2*143.2mm**

A650

Dual Sensors EO + IR 50mm Thermal AI Gimbal Camera



Overall Specifications

N.W.	693g
Product meas.	100.8*135.5*168.6mm
Input Voltage	14.8V~25.2V
Dynamic current	550~1000mA @ 16V
Power consumption	Average 8.8W, Max 16W
Working environment temp.	-20°C~+50°C
IP rate	IP4X
Output	IP (RTSP/UDP 720p/ 1080p@25fps H264/H265)
Storage	TF card (up to 256GB, Class 10, FAT32)
Picture in TF Card	JPG(1920*1080)
Video in TF Card	MP4(1080P@30fps)
Control method	PWM / S.BUS / UART (TTL) / TCP / UDP

IR Thermal Imager Spec

Focus Length	50mm
Horizontal FOV	8.8°
Vertical FOV	7.0°
Diagonal FOV	11.2°
Detection Distance (Man: 1.8x0.5m)	2083 meters
Recognition Distance (Man: 1.8x0.5m)	521 meters
Identification Distance (Man: 1.8x0.5m)	260 meters
Detection Distance (Car: 4.2x1.8m)	6389 meters
Recognition Distance (Car: 4.2x1.8m)	1597 meters
Identification Distance (Car: 4.2x1.8m)	799 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel size	12μm
Digital zoom	1x~8x
Focusing method	Athermal prime lens
NETD	≤35mK (@25°C, F1.0)
Color palette	White hot, Black hot, Iron red

Gimbal Spec

Mechanical Range	Pitch/Tilt: -90°(Up)~150°(Down), Roll: ±70°, Yaw/Pan: ±360°*N
Controllable Range	Pitch/Tilt: -45°~120°, Yaw/Pan: ±360°*N
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

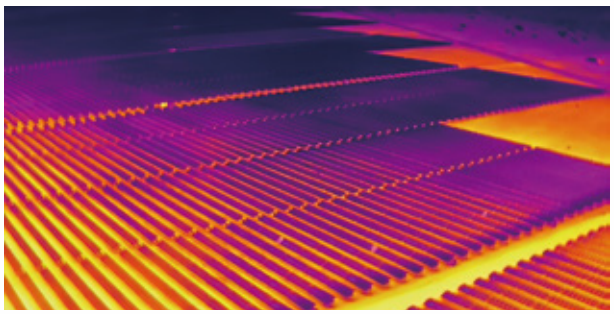
Imager Sensors	1/2.9" CMOS Sensors
Image pixel	2MP
Picture quality	Full HD 1080 (1920*1080)
Digital zoom	1x ~ 12x
Field of View	50°(H) x 28°(V)

Camera AI Performance

Targets type	Car and human
Simultaneous detection quantity	≥ 10 targets
Min contrast ratio	5%
Min target size	5×5 pixel
Car detection rate	≥85%
False alarm rate	≤10%

Camera Object Tracking

Update rate of deviation pixel	30Hz
Output delay of deviation pixel	<30ms
Minimum object contrast	5%
SNR	4
Minimum object size	16*16 pixel
Maximum object size	256*256 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames



AT1575-6

Dual Sensors 5x Optical Zoom IR AI Gimbal Camera



- EO Imager Sensors: **1/2.9" CMOS, 5MP**
- EO Camera FOV: **55°(H) x 30°(V)**
- IR Thermal imager: **640x512, 15~75mm focus length, 5x optical zoom, 12μm**
- Object Tracking: **√**
- Output: **1080p micro HDMI / IP**
- Power: **14.8V~25.2V**
- N.W.: **1171g**
- Dimension: **130*134*204.8mm**

AT50

50mm Single IR Thermal AI Gimbal Camera



- IR Thermal imager: **640*512, 50mm focus length, 12μm**
- Object Tracking: **√**
- Output: **1080p micro HDMI / IP**
- Power: **14.8V~25.2V(5.6W, Max.16W)**
- N.W.: **686g**
- Dimension: **100.8*136.3*163.6mm**

AT19

19mm Single IR Thermal AI Gimbal Camera



- IR Thermal imager: **640*512, 19mm focus length, 12μm**
- Object Tracking: **√**
- Output: **1080p micro HDMI / IP**
- Power: **14.8V~25.2V(7.6W, Max.20W)**
- N.W.: **441g**
- Dimension: **86*118.2*143.2mm**

H4TS-19

10x EO + IR + LRF Wide-Angle Quad-Sensors AI Gimbal Camera



Overall Specifications

N.W.	399g
Product meas.	96.9*106.1*136.2mm
Input Voltage	14.8V~25.2V
Dynamic current	750~2000mA @ 16V
Power consumption	Average 12W, Max 32W
EO camera zoom capability	10x optical zoom, hybrid zoom 160x
Working environment temp.	-20°C~+50°C
IP rate	IP4X
Output	IP (RTSP/UDP 4K/1080p/720p @30fps H264/H265)
Storage	TF card (up to 256GB, Class 10, FAT32)
Picture in TF Card	JPG(EO supports 4K/48M, selectable by mode, IR supports 640x512)
Video in TF Card	MP4(EO supports 4K/1080P/720P, IR supports 640x512)
Control method	PWM / S.BUS / UART (TTL) / TCP / UDP

IR Thermal Imager Spec

Focus Length	19mm
Horizontal FOV	22.9°
Vertical FOV	18.4°
Diagonal FOV	29.0°
Detection Distance (Man: 1.8x0.5m)	792 meters
Recognition Distance (Man: 1.8x0.5m)	198 meters
Identification Distance (Man: 1.8x0.5m)	99 meters
Detection Distance (Car: 4.2x1.8m)	2428 meters
Recognition Distance (Car: 4.2x1.8m)	607 meters
Identification Distance (Car: 4.2x1.8m)	303 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel size	12μm
Focusing method	Athermal prime lens
NETD	≤50mK (@25°C, F#1.0)
Color palette	White hot, Black hot, Iron red
Digital zoom	1x~8x
Radiometric function (Optional)	Thermometry range optional: -20°C~+150°C, +100°C~+650°C Thermometry accuracy: ±3℃ or +3% of reading (whichever is greater) @ ambient temperature -20°C~60°C

Gimbal Spec

Mechanical Range	Pitch/Tilt: -60°(Up)～140°(Down), Roll: ±50°, Yaw/Pan: ±360°xN
Controllable Range	Pitch/Tilt: -45°～120°, Yaw/Pan: ±360°xN
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

Wide angle EO Camera Spec

Imager Sensors	1/2" CMOS Sensors (H:6.4mm, V:4.8mm, D:8.0mm)
Pixel size	0.80 μm (H) ×0.80 μm (V)
Resolution	48MP(8000*6000)
EFL	4.49mm
Equivalent focal length	24.29mm
Aperture	F2.8
Field of View	70.2°(H) x 54.9°(V)
Min illumination	Color 0.1 lux

Laser Rangefinder

Range	5~1200 m
Accuracy	±1m
Light Beam	905nm pulse laser
Divergent Angle	~6 mrad
Laser pulse frequency	1~4Hz
Eye safety level	Class1
Working power	≤2W
Rangefinder	Measure the distance between the object at the center of screen and the laser rangefinder

Optical Zoom EO Camera Spec

Imager Sensors	1/2 inch CMOS (H:6.4mm, V:4.8mm, D:8.0mm)
Pixel size	0.80 μm (H) ×0.80 μm (V)
Resolution	48MP(8000*6000)
EFL	18~46.3mm
Equivalent focal length	97.83~250.48mm
Field of View	H: 20°(W)~7.8°(T) V: 15.1°(W)~5.9°(T)
Min illumination	Color 5 lux



Camera Object Tracking

Update rate of deviation pixel	30Hz
Output delay of deviation pixel	<30ms
Minimum object contrast	5%
Minimum signal-to-noise ratio	4
Minimum object size	16*16 pixel
Maximum object size	256*256 pixel
Tracking speed (Car)	±48 pixel/frame

Camera AI Performance

Targets type	Car and human
Simultaneous detection quantity	≥ 34 targets
Min contrast ratio	5%
Min target size	5×5 pixel
Car detection rate	≥85%
False alarm rate	≤10%

H4Q-25

10x 48MP Quad Sensors EO + IR + LRF Wide-Angle Waterproof AI Gimbal Camera



EO Imager Sensors
1/2" CMOS, 48MP, dual lens

IR Thermal imager
640*512, 25mm focus length, 12μm

Laser range
5~1200m

Object Tracking
√

Output
IP

Power
14.8V~25.2V(10.6W, Max.32W)

N.W.
442g

Dimension
106*115*145mm

H4Q-9

10x 48MP Quad Sensors EO + IR + LRF Wide-Angle Waterproof AI Gimbal Camera



EO Imager Sensors
1/2" CMOS, 48MP, dual lens

IR Thermal imager
640*512, 9.1mm focus length, 12μm

Laser range
5~1200m

Object Tracking
√

Output
IP

Power
14.8V~25.2V(10.6W, Max.32W)

N.W.
427g

Dimension
98.9*113.3*139mm

H3TS

2.6x 48MP Triple Sensors EO + IR + LRF AI Gimbal Camera



New

8K

EO Imager Sensors
1/2" CMOS, 48MP

IR Thermal imager
640*512, 9mm focus length, 12μm

Laser range
5~1200m

Object Tracking
√

Output
IP

Power
14.8V~25.2V(9.28W, Max.20W)

N.W.
298g

Dimension
86.5*81.3*124.7mm

A10TR Pro

10x EO + IR + LRF AI Gimbal Camera



Overall Specifications

N.W.	651g
Product meas.	100*114.7*174.2mm
Input voltage	14.8V~25.2V
Dynamic current	700mA~1250mA @ 16V
Power consumption	Average 11.2W, Max 20W
Working environment temp.	-20℃ ~ +50℃
IP Rating	IP4X
Output	micro HDMI(1080P 30fps/60fps) / IP (RTSP/UDP 720p/1080p 30fps)
Storage	TF card (up to 256GB, Class 10, FAT32)
Picture in TF Card	JPG(1920*1080)
Video in TF Card	MP4(1080P@30fps)
Control method	PWM / S.BUS / UART (TTL) / TCP / UDP

Gimbal Spec

Mechanical Range	Pitch/Tilt: ±125°, Roll: ±40°, Yaw/Pan: ±300° / ±360°*N (IP output version)
Controllable Range	Pitch/Tilt: -45°(Up)~120°(Down), Yaw/Pan: ±290° / ±360°*N (IP output version)
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

Imager Sensors	1/2.8" CMOS Sensors
Total pixel	5.13MP
Picture quality	Full HD 1080 (1920*1080)
Optical zoom	10x, F= 4.7mm ~ 47mm, F1.7~F3.1
Digital zoom	32x
Angle of View (D, H, V)	D: 69.9°(Wide end) ~ 8.7° (Tele end)
	H: 58.3°(Wide end) ~ 7.1° (Tele end)
	V: 44.7°(Wide end) ~ 5.4° (Tele end)
Min target distance	0.1 / 1.5 / 3.0 / 5.0 / 10.0 m
Min illumination	Color(1/30s, 72.0dB): 0.02 lux , BW(1/30s, 72.0dB): 0.005lux
	Color DSS(1/1s, 72.0dB): 0.002 lux , BW DSS(1/1s, 72.0dB): 0.0005 lux
Focus	Auto / One Push / Manual
White balance	Auto
Shutter speed	1/1sec ~ 1/100,000 sec
Exposure	Auto / Manual / Priority Mode (Shutter priority & aperture priority)
Backlight compensation	Yes
Auto ICR	Yes
Image stabilization	Yes
Defog	Yes

IR Thermal Imager Spec

Focus Length	19mm
Coating Film	DLC
Horizontal FOV	22.9°
Vertical FOV	18.4°
Diagonal FOV	29.0°
Detection Distance (Man: 1.8x0.5m)	792 meters
Recognition Distance (Man: 1.8x0.5m)	198 meters
Identification Distance (Man: 1.8x0.5m)	99 meters
Detection Distance (Car: 4.2x1.8m)	2428 meters
Recognition Distance (Car: 4.2x1.8m)	607 meters
Identification Distance (Car: 4.2x1.8m)	303 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel pitch	12μm
Focusing method	Athermal prime lens
NETD	≤50mK (@25°C, F#1.0)
Color palette	White hot, Black hot, Iron red
Digital zoom	1x ~ 8x
Radiometric function(optional)	Thermometry range optional: -20°C~+150°C, 0°C~+550°C
	Thermometry accuracy: ±3°C or +3%(take larger value)@23°C ±3°C, Thermometry range 5m

AI Performance

Targets type	Car and human
Simultaneous detection quantity	≥ 10 targets
Min contrast ratio	5%
Min target size	5×5 pixel
Car detection rate	≥85%
False alarm rate	≤10%

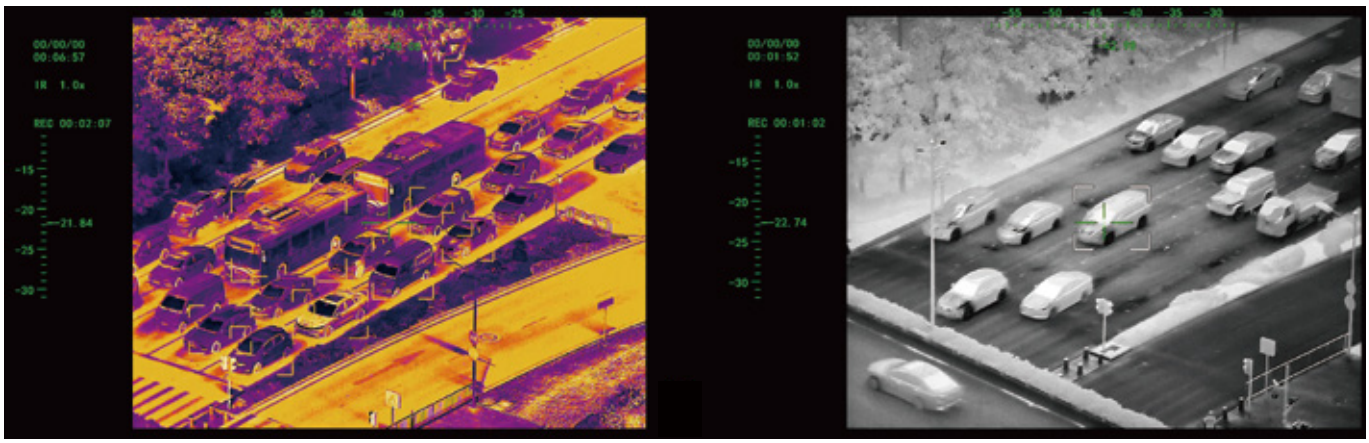
Laser Rangefinder

Range	5~1500m
Resolution	1:<400±1 2:>400±0.4%
Light Beam	905nm pulse laser
Divergent Angle	3~10 mrad
Measuring Respond Time	1:<0.06s/m(≤100) 2:<0.28s/m(≥100~600)
	3:<0.85s/m(≥600~1000) 4:<1s/m(≥1000~1500)
Power	0.5~0.9W
Rangefinder	Measure the distance between the object at the center of screen and the laser rangefinder

Camera Object Tracking

Update rate of deviation pixel	30Hz
Output delay of deviation pixel	<30ms
Minimum object contrast	5%
SNR	4
Minimum object size	16*16 pixel
Maximum object size	256*256 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames





A20KTR

4K 20x EO + IR + LRF Triple Sensors AI Gimbal Camera



Overall Specifications

N.W.	1011g
Product meas.	130*161*201.8mm
Input voltage	14.8V~25.2V
Dynamic current	950~1500mA @ 16V
Power consumption	Average 15.2W, Max 24W
Working environment temp.	-20°C~ +50°C
IP rate	IP4X
Output	Micro HDMI(1080P 30fps/60fps) / IP (RTSP/UDP 4K/1080P/720P 30fps H264/H265)
Storage	TF card (up to 256GB, Class 10, FAT32)
Picture in TF Card	JPG(4K:3840*2160)
Video in TF Card	MP4(4K@30fps)
Control method	PWM / S.BUS / UART (TTL) / TCP / UDP

Gimbal Spec

Mechanical Range	Pitch/Tilt: -125°(Up)~115°(Down), Roll: ±70°, Yaw/Pan: ±300° / ±360°*N (IP output version)
Controllable Range	Pitch/Tilt: -45°~110°, Yaw/Pan: ±290° / ±360°*N (IP output version)
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

Imager Sensors	1/2.5" "Exmor R" CMOS Sensors
Total pixel	8.51MP
Optical zoom	20x, F2.0 to F3.8, F= 4.4 mm (Wide), 88.4 mm(Tele), up to 30x with Super Resolution
Angle of view	H: 70.2°(Wide end) ~ 4.1°(Tele end)
	V: 43.1°(Wide end) ~ 2.3°(Tele end)
Digital zoom	12x (240x with optical zoom)
Min illumination	1.6 lux (1/30 sec, 50%, ICR off, High Sensitivity mode Off)
	0.4 lux (1/30 sec, 50%, ICR Off, High Sensitivity mode On)
	0.21 lux (50%, ICR off, Slow Shutter 1/4s, High sensitivity off)
	0.06 lux (50%, ICR off, Slow shutter 1/4s, High sensitivity on)
S/N ratio	50dB
Recommended illumination	100 to 100000 lux
Shutter speed	1/1 to 1/10000 sec
Exposure control	Auto, Manual, Priority mode (shutter priority & iris priority)
Focus	Auto/Manual
Min. working distance	80 mm (Wide end), 800 mm (Tele end)
Backlight compensation	Yes
Auto ICR	Yes
Noise Reduction	Yes
Image stabilization(EIS)	Yes
Defog	Yes

IR Thermal Imager Spec

Focus Length	35mm
Horizontal FOV	12.5°
Vertical FOV	10.0°
Diagonal FOV	16.0°
Detection Distance (Man: 1.8x0.5m)	1458 meters
Recognition Distance (Man: 1.8x0.5m)	365 meters
Identification Distance (Man: 1.8x0.5m)	182 meters
Detection Distance (Car: 4.2x1.8m)	4472 meters
Recognition Distance (Car: 4.2x1.8m)	1118 meters
Identification Distance (Car: 4.2x1.8m)	559 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel pitch	12μm
Focusing method	Athermal prime lens
NETD	≤50mK (@25°C, F1.0)
Color palette	White hot, Black hot, Iron red
Digital zoom	1x ~ 8x
Radiometric function(optional)	Thermometry range optional: -20°C~+150°C, 0°C~+550°C
	Thermometry accuracy: ±3°C or +3%(take larger value)@23°C ±3°C, Thermometry range 5m

Laser Rangefinder

Range	20~3000m
Frequency	1~10Hz
Accuracy	±1m
Light Beam	1535±5nm pulse laser
Divergent Angle	~0.6 mrad
Rangefinder	Measure the distance between the object at the center of screen and the laser rangefinder

Camera Object Tracking

Update rate of deviation pixel	30Hz
Output delay of deviation pixel	<30ms
Minimum object contrast	5%
SNR	4
Minimum object size	16*16 pixel
Maximum object size	256*256 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames

Camera AI Performance

Targets type	Car and human
Simultaneous detection quantity	≥ 10 targets
Min contrast ratio	5%
Min target size	5×5 pixel
Car detection rate	≥85%
False alarm rate	≤10%



A20KT-35

4K 20x EO + IR Dual Sensors AI Gimbal Camera



EO Imager Sensors
1/2.5" "Exmor R" CMOS, 8.51MP

EO Lens
20x optical zoom, F=4.4~88.4mm

IR Thermal imager
640*512, 35mm focus length, 12μm

Object Tracking
√

Output
1080p micro HDMI / IP (4K)

Power
14.8V~25.2V(16W, Max.24W)

N.W.
1035g

Dimension
130*161*201.8mm

A20KT-19

4K 20x EO + IR Dual Sensors AI Gimbal Camera



EO Imager Sensors
1/2.5" "Exmor R" CMOS, 8.51MP

EO Lens
20x optical zoom, F=4.4~88.4mm

IR Thermal imager
640*512, 19mm focus length, 12μm

Object Tracking
√

Output
1080p micro HDMI / IP (4K)

Power
14.8V~25.2V(16W, Max.24W)

N.W.
987g

Dimension
130*161*201.8mm

A20KR-X

4K 20x EO + Prime Lens EO + LRF Tripe Sensors AI Gimbal Camera



EO Camera 1
1/2.5" "Exmor R" CMOS, 20X optical zoom, 8.51MP

EO Camera 2
1/2.8" "Exmor R" CMOS

Laser range
5~1500m

Object Tracking
√

Output
1080p micro HDMI / IP

Power
14.8V~25.2V(15.2W, Max.24W)

N.W.
859g

Dimension
117.4*139.3*197.8mm

A30TR-1575

30x EO + 5x IR + LRF Triple Sensors AI Gimbal Camera
(Starlight Level)



Overall Specifications

N.W.	2293g
Product meas.	175*200*248.4mm
Input voltage	14.8V~25.2V
Dynamic current	1200~1700mA @ 16V
Power consumption	Average 19.2W, Max 27.2W
Working environment temp.	-20°C ~ +50°C
IP Rating	IP4X
Output	Micro HDMI(1080P 30fps/60fps) / IP (RTSP/UDP 720p/1080p 30fps H264)
Storage	TF card (up to 256GB, Class 10, FAT32)
Picture storage format in TF car	JPG(1920*1080)
Video in TF Card	MP4(1080P@30fps)
Control method	PWM / S.BUS / UART (TTL) / TCP / UDP

Gimbal Spec

Mechanical Range	Pitch/Tilt: -60°(Up)~105°(Down), Roll: ±60°, Yaw/Pan: ±300° / ±360°*N (IP output version)
Controllable Range	Pitch/Tilt: -45°~100°, Yaw/Pan: ±290° / ±360°*N (IP output version)
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

Imager Sensors	1/1.8" STARVIS CMOS Sensors
Picture quality	4.17MP
Lens optical zoom	30x, F=6.5~162.5mm, F1.6 to F4.8
Digital zoom	12x (max. 432x with StableZoom)
Min object distance	100 mm (Wide end), 1200 mm (Tele end)
Horizontal viewing angle	58.1°(wide end) ~ 2.3°(tele end)
Image S/N	50 dB (Weight On)
Min illumination	In the case of ICR-Off (Typical value) 0.009 lx (1/30 sec, 50%, High Sensitivity mode On) 0.09 lx (1/30 sec, 50%, High Sensitivity mode Off) 0.0012 lx (1/4 sec, 1/3 sec, 50%, High Sensitivity mode On) 0.012 lx (1/4 sec, 1/3 sec, 50%, High Sensitivity mode Off) In the case of ICR-On 0.00008 lx (1/30 sec, 50%, High Sensitivity mode On) 0.00063 lx (1/30 sec, 50%, High Sensitivity mode Off) 0.000005 lx (1/4 sec, 1/3 sec, 30%, High Sensitivity mode On)"
White balance	Auto
Recommended illumination	100 lx to 100,000 lx
Shutter speed	1/1 sec to 1/10000 sec
Wide Dynamic Range Mode	Yes
Backlight compensation	Yes
Auto ICR	Yes
Noise Reduction	Yes
Image stabilization(EIS)	Yes
Defog	Yes

IR Thermal Imager Spec

Focus Length	15~75mm
optical zoom	1x ~ 5x
Digital zoom	1x ~ 8x (Maximum Hybrid Zoom:5*8=40x)
Horizontal FOV	28.7°~5.86°
Vertical FOV	23.1°~4.69°
Detection Distance (Man: 1.8x0.5m)	625~3125 meters
Recognition Distance (Man: 1.8x0.5m)	156~781 meters
Identification Distance (Man: 1.8x0.5m)	78~391 meters
Detection Distance (Car: 4.2x1.8m)	1917~9583 meters
Recognition Distance (Car: 4.2x1.8m)	479~2396 meters
Identification Distance (Car: 4.2x1.8m)	240~1198 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel pitch	12μm
Focusing method	Athermal prime lens
NETD	≤40mK (@25°C, F#1.0)
Color palette	White hot, Black hot, Iron red

Camera Object Tracking

Update rate of deviation pixel	30Hz
Output delay of deviation pixel	<30ms
Minimum object contrast	5%
SNR	4
Minimum object size	16*16 pixel
Maximum object size	256*256 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames

Camera AI Performance

Targets type	Car and human
Simultaneous detection quantity	≥ 10 targets
Min contrast ratio	5%
Min target size	5×5 pixel
Car detection rate	≥85%
False alarm rate	≤10%

Laser Rangefinder

Range	10km for big target (eg. building) ≥6km for car (2.3m×2.3m) ≥2.5km for people (1.75m×0.75m) (Based on typical value: LOS visibility: ≥10km Diffuse reflection rate: ≥0.3 Humidity: ≤80%)"
Accuracy	≤2m (RMS)
Light Beam	1535±5nm pulse laser
Divergent Angle	≤0.5mrad
Laser pulse frequency	1~10Hz
Min measuring range	≤30m
Rangefinder	Measure the distance between the object at the center of screen and the laser rangefinder



A30TR-50M

30x EO + IR + LRF Triple Sensors AI Gimbal Camera



EO Imager Sensors
1/2.8" STARVIS2 CMOS, 30x optical zoom, 2.13MP

IR Thermal imager
640*512, 50mm focus length, 12μm

Laser range
50~5000m

Object Tracking
√

Output
1080p micro HDMI / IP

Power
14.8V~25.2V(11.2W, Max.24W)

N.W.
1343g

Dimension
138*144.8*218.2mm

A30T-50

30x EO + IR Dual Sensors AI Gimbal Camera



EO Imager Sensors
1/2.8" STARVIS2 CMOS, 2.13MP

EO Lens
30x optical zoom, F=4.3~129mm

IR Thermal imager
640*512, 50mm focus length, 12μm

Object Tracking
√

Output
1080p micro HDMI / IP

Power
14.8V~25.2V(16W, Max.24W)

N.W.
1208g

Dimension
128*139.5*214.2mm

Mini H30T

30x EO + IR + LRF Triple Sensors AI Gimbal Camera (Starlight level)



Overall Specifications

N.W.	970g
Product meas.	129.5*174*195.5mm
Input Voltage	14.8V~25.2V
Dynamic current	850~1500mA @ 16V
Power consumption	Average 13.6W, Max 24W
Working environment temp.	-20°C ~ +50°C
IP rate	IP4X
Output	Micro HDMI(1080P 30fps/60fps) / IP (RTSP/UDP 720p/1080p 30fps H264/H265)
Storage	TF card (up to 256GB, Class 10, FAT32)
Picture in TF Card	JPG(1920*1080)
Video in TF Card	MP4(1080P@30fps)
Control method	PWM / TTL / S.BUS / TCP / UDP

Gimbal Spec

Mechanical Range	Pitch/Tilt:-40°(Up)~100°(Down), Roll: ±70°, Yaw/Pan: ±300° / ±360°*N (IP output version)
Controllable Range	Pitch/Tilt: -35°~95°, Yaw/Pan: ±290° / ±360°*N (IP output version)
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

Imager Sensors	1/1.8" STARVIS CMOS Sensors
Picture quality	4.17MP
Lens optical zoom	30x, F=6.5~162.5mm, F1.6 to F4.8
Digital zoom	12x (max. 432x with StableZoom)
Min object distance	100 mm (Wide end), 1200 mm (Tele end)
Horizontal viewing angle	58.1°(wide end) ~ 2.3°(tele end)
Image S/N	50 dB (Weight On)
Min illumination	In the case of ICR-Off (Typical value) 0.009 lx (1/30 sec, 50%, High Sensitivity mode On) 0.09 lx (1/30 sec, 50%, High Sensitivity mode Off) 0.0012 lx (1/4 sec, 1/3 sec, 50%, High Sensitivity mode On) 0.012 lx (1/4 sec, 1/3 sec, 50%, High Sensitivity mode Off)
	In the case of ICR-On 0.00008 lx (1/30 sec, 50%, High Sensitivity mode On) 0.00063 lx (1/30 sec, 50%, High Sensitivity mode Off) 0.000005 lx (1/4 sec, 1/3 sec, 30%, High Sensitivity mode On)
White balance	Auto
Recommended illumination	100 lx to 100,000 lx
Shutter speed	1/1 sec to 1/10000 sec
Wide Dynamic Range Mode	Yes
Backlight compensation	Yes
Auto ICR	Yes
Noise Reduction	Yes
Image stabilization(EIS)	Yes
Defog	Yes

IR Thermal Imager Spec

Focus Length	19mm
Horizontal FOV	22.9°
Vertical FOV	18.4°
Diagonal FOV	29.0°
Detection Distance (Man: 1.8x0.5m)	792 meters
Recognition Distance (Man: 1.8x0.5m)	198 meters
Identification Distance (Man: 1.8x0.5m)	99 meters
Detection Distance (Car: 4.2x1.8m)	2428 meters
Recognition Distance (Car: 4.2x1.8m)	607 meters
Identification Distance (Car: 4.2x1.8m)	303 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel size	12μm
Focusing method	Athermal prime lens
NETD	≤50mK (@25°C, F1.0)
Color palette	White hot, Black hot, Iron red
Digital zoom	1x ~ 8x
Radiometric function(optional)	Thermometry range optional: -20°C~+150°C, 0°C~+550°C
	Thermometry accuracy: ±3°C or +3%(take larger value)@23°C±3°C, Thermometry range 5m

Laser Rangefinder

Range	5~1500 meters
Accuracy	±0.5m
Light Beam	905nm pulse laser
Divergent Angle	~6 mrad
Laser pulse frequency	1~20Hz(5~40m), 1~4Hz(40~1200m)
Eye safety level	Class 3R (IEC 60825-1)
Rangefinder	Measure the distance between the object at the center of screen and the laser rangefinder

Camera Object Tracking

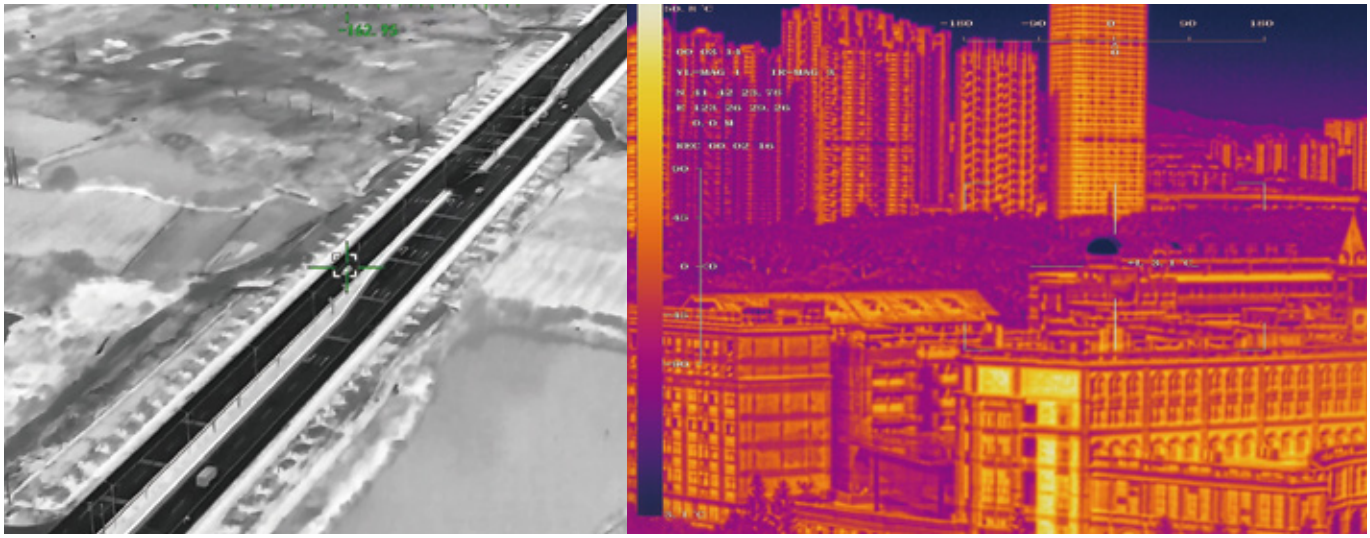
Update rate of deviation pixel	30Hz
Output delay of deviation pixel	<30ms
Minimum object contrast	5%
SNR	4
Minimum object size	16*16 pixel
Maximum object size	256*256 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames

Camera AI Performance

Targets type	Car and human
Simultaneous detection quantity	≥ 10 targets
Min contrast ratio	5%
Min target size	5×5 pixel
Car detection rate	≥85%
False alarm rate	≤10%







H30TL

30x Quad-Sensors Gimbal Camera with Laser Night Illumination



EO Imager Sensors
1/2.8" STARVIS2 CMOS, 30x optical zoom, 2.13MP

IR Thermal imager
640*512, 19mm focus length, 12μm

Laser range
5~1200m

Laser Illumination Range
≥800m

Output
1080p micro HDMI / IP

Power
14.8V~25.2V(11.2W, Max 40W)

N.W.
938g

Dimension
131.2*145.7*193.3mm

A40TR-35

40x EO + IR + LRF Triple Sensors AI Gimbal Camera



EO Imager Sensors
1/2.8" CMOS, 40x optical zoom, 2.13MP

IR Thermal imager
640*512, 35mm focus length, 12μm

Laser range
50~3000m

Object Tracking
√

Output
1080p micro HDMI / IP

Power
14.8V~25.2V(11.2W, Max 24W)

N.W.
1034g

Dimension
130*136*209.7mm

A40TR Pro

40x EO + IR + LRF Triple Sensors AI Gimbal Camera



Overall Specifications

N.W.	990g
Product meas.	125*134.5*204.7mm
Input voltage	14.8V~25.2V
Dynamic current	700~1500mA @ 16V
Power consumption	Average 11.2W, Max 24W
Working environment temp.	-20°C ~ +50°C
IP rate	IP4X
Output	Micro HDMI(1080P 30fps/60fps) / IP (RTSP/UDP 720p/1080p 30fps H264/H265)
Storage	TF card (up to 256GB, Class 10, FAT32)
Picture in TF Card	JPG(1920*1080)
Video in TF Card	MP4(1080P@30fps)
Control method	PWM / S.BUS / UART (TTL) / TCP / UDP

Gimbal Spec

Mechanical Range	Pitch/Tilt:-60°(Up)~130°(Down), Roll: ±40°, Yaw/Pan: ±300° / ±360°*N (IP output version)
Controllable Range	Pitch/Tilt: -45°~125°, Yaw/Pan: ±290° / ±360°*N (IP output version)
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

Imager Sensors	1/2.8" CMOS Sensors
Picture quality	Full HD 1080 (1920*1080)
Effective pixel	2.13MP
Lens optical zoom	40x, F=4.25~170mm
Digital zoom	x32
Field of View (D, H, V)	Wide: 73.80° / 66.35° / 39.98°
	Tele: 2.16° / 1.90° / 1.11°
Min object distance	0.1 / 1.5 / 3.0 / 5.0 / 10.0 m
Min illumination	Color(1/30s, 79.5dB) : 0.01 lux , BW(1/30s, 79.5dB) : 0.002 lux
	Color DSS(1/1s, 79.5dB) : 0.001 lux , BW DSS(1/1s, 79.5dB) : 0.0002 lux
S/N ratio	more than 50dB
Focus	Auto / One Push / Manual
White balance	Auto
Shutter speed	1/1 ~ 1/30,000 sec
Exposure control	Auto / Iris. Priority / Shut. Priority / Manual
Backlight compensation	Yes
Auto ICR	Yes
Image Stabilizer	Yes
Defog	Yes

IR Thermal Imager Spec

Focus Length	19mm
Horizontal FOV	22.9°
Vertical FOV	18.4°
Diagonal FOV	29.0°
Detection Distance (Man: 1.8x0.5m)	792 meters
Recognition Distance (Man: 1.8x0.5m)	198 meters
Identification Distance (Man: 1.8x0.5m)	99 meters
Detection Distance (Car: 4.2x1.8m)	2428 meters
Recognition Distance (Car: 4.2x1.8m)	607 meters
Identification Distance (Car: 4.2x1.8m)	303 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel pitch	12μm
Focusing method	Athermal prime lens
NETD	≤50mK (@25°C, F1.0)
Color palette	White hot, Black hot, Iron red
Digital zoom	1x ~ 8x
Radiometric function(optional)	Thermometry range optional: -20°C~+150°C, 0°C~+550°C
	Thermometry accuracy: ±3°C or +3%(take larger value)@23°C ±3°C, Thermometry range 5m

Laser Rangefinder

Range	for car ≥ 3000m, for human ≥ 2000m
Minimum range	15m
Frequency	1~10Hz
Accuracy	±1m
Light Beam	1535±5nm pulse laser
Divergent Angle	~0.6 mrad
Rangefinder	Measure the distance between the object at the center of screen and the laser rangefinder

Camera Object Tracking

Update rate of deviation pixel	30Hz
Output delay of deviation pixel	<30ms
Minimum object contrast	5%
SNR	4
Minimum object size	16*16 pixel
Maximum object size	256*256 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames

Camera AI Performance

Targets type	Car and human
Simultaneous detection quantity	≥ 10 targets
Min contrast ratio	5%
Min target size	5×5 pixel
Car detection rate	≥85%
False alarm rate	≤10%



A40T Pro

40x EO + IR Dual Sensors AI Gimbal Camera



EO Imager Sensors
1/2.8" CMOS, 2.13MP

EO Lens
40x optical zoom, F=4.25~170mm

IR Thermal imager
640*512, 19mm focus length, 12μm

Object Tracking
√

Output
1080p micro HDMI / IP

Power
14.8V~25.2V(9.6W, Max.20W)

N.W.
941g

Dimension
118*134.5*193.8mm

A40-AF (Anti-Fog/Anti-Icing)

40x EO AI Gimbal Camera



EO Imager Sensors
1/2.8" CMOS, 40x optical zoom, 2.13MP

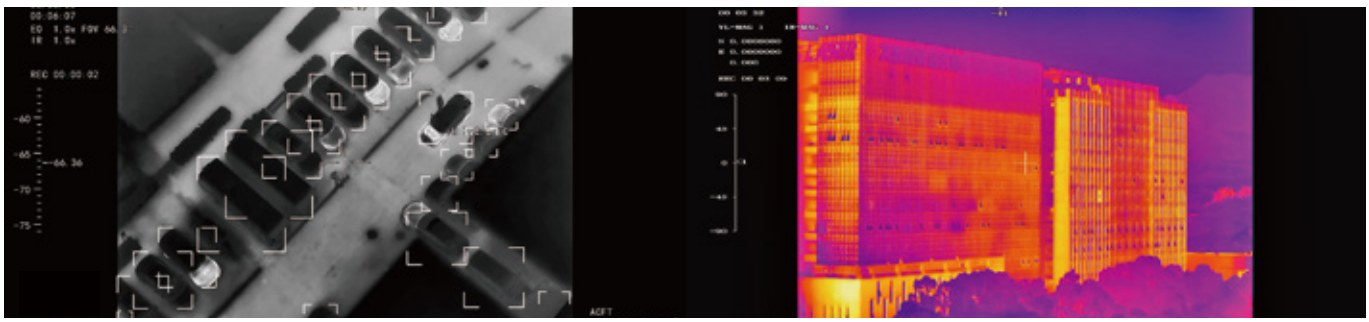
Object Tracking
√

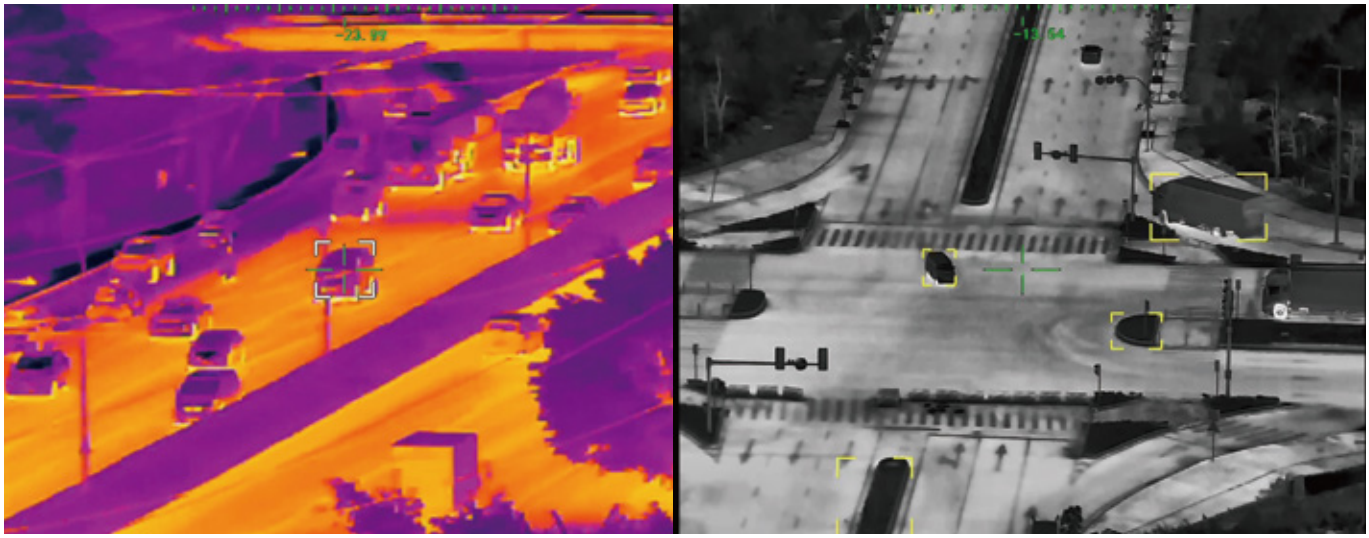
Output
1080p micro HDMI / IP

Power
14.8V~25.2V(12W, Max 40W)

N.W.
952g

Dimension
118*138.5*139.8mm





UA40T-35

40x AI EO + IR Dual Sensors Gimbal Camera



Overall Specifications

N.W.	1076g
Product meas.	140*136*213.2mm
Input voltage	14.8V~25.2V
Dynamic current	1000~1500mA @ 16V
Power consumption	Average 16W, Max 24W
Working environment temp.	-20℃ ~ +50℃
IP Rating	IP4X
Video Output (optional)	Micro HDMI(1080P 30fps/60fps) / IP (RTSP/UDP 720p/1080p 30fps H264/H265)
Local-storage	TF card (up to 256GB, Class 10, FAT32)
Picture storage format in TF card	JPG(1920*1080)
Video storage format in TF card	MP4(1080P@30fps)
Control method	PWM / S.BUS / UART (TTL) / TCP / UDP

Gimbal Spec

Mechanical Range	Pitch/Tilt:-40°(Up)~130°(Down), Yaw/Pan: ±300° / ±360°*N (IP output version)
Controllable Range	Pitch/Tilt: -30°(Up)~125°(Down), Yaw/Pan: ±290° / ±360°*N (IP output version)
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

Imager Sensors	1/2.8" CMOS Sensors
Picture quality	Full HD 1080 (1920*1080)
Effective pixel	2.13MP
Lens optical zoom	40x, F=4.25~170mm
Digital zoom	X32
Angle of View (D, H, V)	Wide: 73.80° / 66.35° / 39.98°
	Tele: 2.16° / 1.90° / 1.11°
Min object distance	0.1 / 1.5 / 3.0 / 5.0 / 10.0 m
Min illumination	Color(1/30s, 79.5dB) : 0.01 lux , BW(1/30s, 79.5dB) : 0.002 lux
	Color DSS(1/1s, 79.5dB) : 0.001 lux , BW DSS(1/1s, 79.5dB) : 0.0002 lux
S/N ratio	more than 50dB
Focus	Auto / One Push / Manual
White balance	Auto
Shutter speed	1/1 ~ 1/30,000 sec
Exposure control	Auto / Iris. Priority / Shut. Priority / Manual
Backlight compensation	Yes
Auto ICR	Yes
Image Stabilizer	Yes
Defog	Yes

IR Thermal Imager Spec

Focus Length	35mm
Horizontal FOV	12.5°
Vertical FOV	10.0°
Diagonal FOV	16.0°
Detection Distance (Man: 1.8x0.5m)	1458 meters
Recognition Distance (Man: 1.8x0.5m)	365 meters
Identification Distance (Man: 1.8x0.5m)	182 meters
Detection Distance (Car: 4.2x1.8m)	4472 meters
Recognition Distance (Car: 4.2x1.8m)	1118 meters
Identification Distance (Car: 4.2x1.8m)	559 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel pitch	12μm
Focusing method	Athermal prime lens
NETD	≤50mK (@25°C,F#1.0)
Color palette	White hot, Black hot, Iron red
Digital zoom	1x ~ 8x
Radiometric function (optional)	Thermometry measuring mode: point anywhere measurement, selected box measurement
	Thermometry range optional: -20°C~+150°C, +100°C~+550°C
	Thermometry accuracy: ±3°C or +3% of reading (whichever is greater) @ ambient temperature -20°C~60°C

Camera Object Tracking

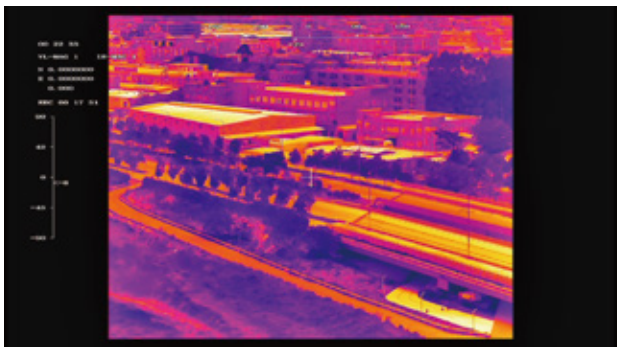
Update rate of deviation pixel	30Hz
Output delay of deviation pixel	<30ms
Minimum object contrast	5%
SNR	4
Minimum object size	16*16 pixel
Maximum object size	256*256 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames

Camera AI Performance

Targets type	Car and human
Simultaneous detection quantity	≥ 10 targets
Min contrast ratio	5%
Min target size	5×5 pixel
Car detection rate	≥85%
False alarm rate	≤10%



1280 High-Definition IR Thermal Gimbal Camera Series



1280*1024 High-Definition uncooled long-wave infrared detection thermal image Sensors features of longer detection distance, digital zoom coaxiality, more accurate and stable performance. The invisible objects by the naked eye can be able to be transformed into visual images through infrared thermal imaging technology. It is mainly used in detection, inspection, search and rescue, and other applications in the unvisual environment of at night or dark environments, fires, smoke, etc.

Q40TIRM-HD

50mm HD IR + 40x EO + LRF Triple Sensors AI Gimbal Camera



Overall Specifications

N.W.	1512g
Product meas.	145*149.4*228.2mm
Input voltage	14.8V~25.2V
Dynamic current	800~1500mA @16V
Power consumption	Average 12.8W, Max 24W
Working environment temp.	-20°C ~ +50°C
IP rate	IP4X
Output	IP (RTSP/UDP 720p/1080p 25fps /30fps H264/H265) / SDI (1080P 30fps)
Storage	TF card (up to 512GB, Class 10, FAT32)
Picture in TF Card	JPG(1920*1080)
Video in TF Card	MP4(1080P@30fps)
Control method	PWM / S.BUS / UART (TTL) / TCP / UDP

Gimbal Spec

Mechanical Range	Pitch/Tilt: -60°(Up)~130°(Down), Roll: ±70°, Yaw/Pan: ±360°*N
Controllable Range	Pitch/Tilt: -45°~125°, Yaw/Pan: ±360°*N
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

Imager Sensors	1/2.8" CMOS Sensors
Picture quality	Full HD 1080 (1920*1080)
Effective pixel	2.13MP
Lens optical zoom	40x, F=4.25~170mm
Digital zoom	x32
Angle of View (D, H, V)	Wide: 73.80° / 66.35° / 39.98°
	Tele: 2.16° / 1.90° / 1.11°
Min object distance	0.1 / 1.5 / 3.0 / 5.0 / 10.0 m
Min illumination	Color(1/30s, 79.5dB) : 0.01 lux, BW(1/30s, 79.5dB) : 0.002 lux
	Color DSS(1/1s, 79.5dB) : 0.001 lux, BW DSS(1/1s, 79.5dB) : 0.0002 lux
S/N ratio	more than 50dB
Focus	Auto / One Push / Manual
White balance	Auto
Shutter speed	1/1 ~ 1/30,000 sec
Exposure control	Auto / Iris. Priority / Shut. Priority / Manual
Backlight compensation	Yes
Auto ICR	Yes
Image Stabilizer	Yes
Defog	Yes

IR Thermal Imager Spec

Focus Length	50mm
Horizontal FOV	17.5°
Vertical FOV	14.0°
Detection Distance (Man: 1.8x0.5m)	2083 meters
Recognition Distance (Man: 1.8x0.5m)	521 meters
Identification Distance (Man: 1.8x0.5m)	260 meters
Detection Distance (Car: 4.2x1.8m)	6389 meters
Recognition Distance (Car: 4.2x1.8m)	1597 meters
Identification Distance (Car: 4.2x1.8m)	799 meters
Working mode	Uncooled long wave (8μm~14μm) thermal imager
Detector pixel	1280*1024
Pixel pitch	12μm
Focusing method	Athermal prime lens
NETD	≤40mK (@25°C,F #1.0)
MRTD	≤400mK (@25°C,F #1.0)
Shutter	Bistable Shutter
Color palette	White hot, Black hot, Iron red
Digital zoom	1x ~ 4x
Thermometry type	Not supported

Camera Object Tracking

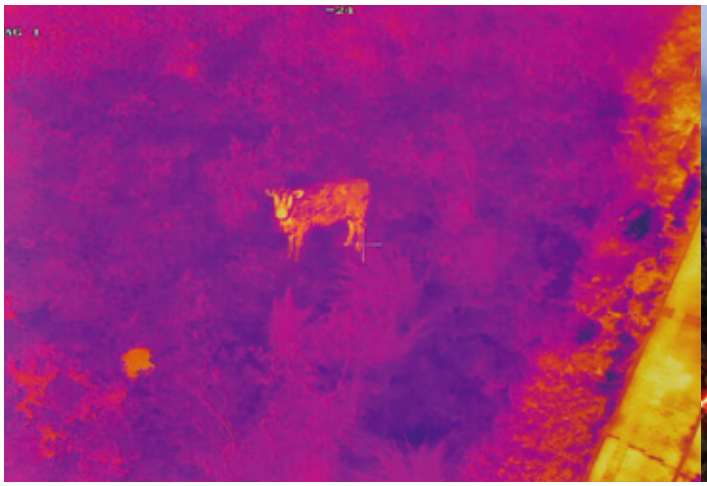
Update rate of deviation pixel	50Hz
Output delay of deviation pixel	5ms
Minimum object contrast	5%
SNR	4
Minimum object size	32*32 pixel
Maximum object size	128*128 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames (4s)

Laser Rangefinder

Measure ability	≥5km for big target (eg. building) ≥3km for car (2.3m×2.3m) ≥1.5km for people (1.75m×0.75m) (Based on typical value: LOS visibility: ≥8km Diffuse reflection rate: ≥0.3 Humidity: ≤80%)
Accuracy (Typical value)	≤ ±1m (RMS)
Wave length	1535nm pulse laser
Divergent Angle	≤ 0.5mrad
Measurement frequency	1~10HZ
Min measuring range	≤20m
Rangefinder	Measure the distance between the object at the center of screen and the laser rangefinder









U30TIRM-HD

50mm HD IR + 30x EO + LRF Triple Sensors Gimbal Camera



EO Imager Sensors
1/2.8" STARVIS2 CMOS, 30x optical zoom, 2.13MP

IR Thermal imager
1280*1024, 50mm focus length, 12μm

Laser range
50~5000m

Object Tracking
√

Output
IP / SDI

Power
14.8V~25.2V(13.6W, Max.24W)

N.W.
1474g

Dimension
155*143.5*228.2mm

Q30TIRM-15100

7x HD IR + 30x EO + 10KM LRF Triple Sensors Gimbal Camera



EO Imager Sensors
1/1.8" STARVIS CMOS, 30x optical zoom, 4.17MP

IR Thermal imager
1280*1024, 15~100mm, 7x optical zoom, 12μm

Laser range
30~10000m

Object Tracking
√

Output
IP / SDI

Power
14.8V~25.2V(16W, Max.32W)

N.W.
5737g

Dimension
236*266.7*322.3mm

Q30TIR Pro

50mm HD IR + 30x EO Dual Sensors Gimbal Camera



EO Imager Sensors
1/2.8" STARVIS2 CMOS, 2.13MP

EO Lens
30x optical zoom, F=4.3~129mm

IR Thermal imager
1280*1024, 50mm focus length, 12μm

Object Tracking
√

Output
IP / SDI

Power
14.8V~25.2V(13.1W, Max.24W)

N.W.
1303g

Dimension
120*140.9*212.2mm

A20KTR-50HD

20x 4K EO + 50mm HD IR + LRF Triple Sensors AI Gimbal Camera



New

4K

EO Imager Sensors
1/2.5" "Exmor R" CMOS, 20x optical zoom, 8.51MP

IR Thermal imager
1280*1024, 50mm focus length, 12μm

Laser range
20~3000m

Object Tracking
√

Output
1080p micro HDMI / IP

Power
14.8V~25.2V(17.6W, Max.24W)

N.W.
1410g

Dimension
135*150.1*218.2mm

A20KTR-24HD

20x 4K EO + HD IR + LRF Triple Sensors AI Gimbal Camera



New

4K

EO Imager Sensors
1/2.5" "Exmor R" CMOS, 20x optical zoom, 8.51MP

IR Thermal imager
1280*1024, 24mm focus length, 12μm

Laser range
20~3000m

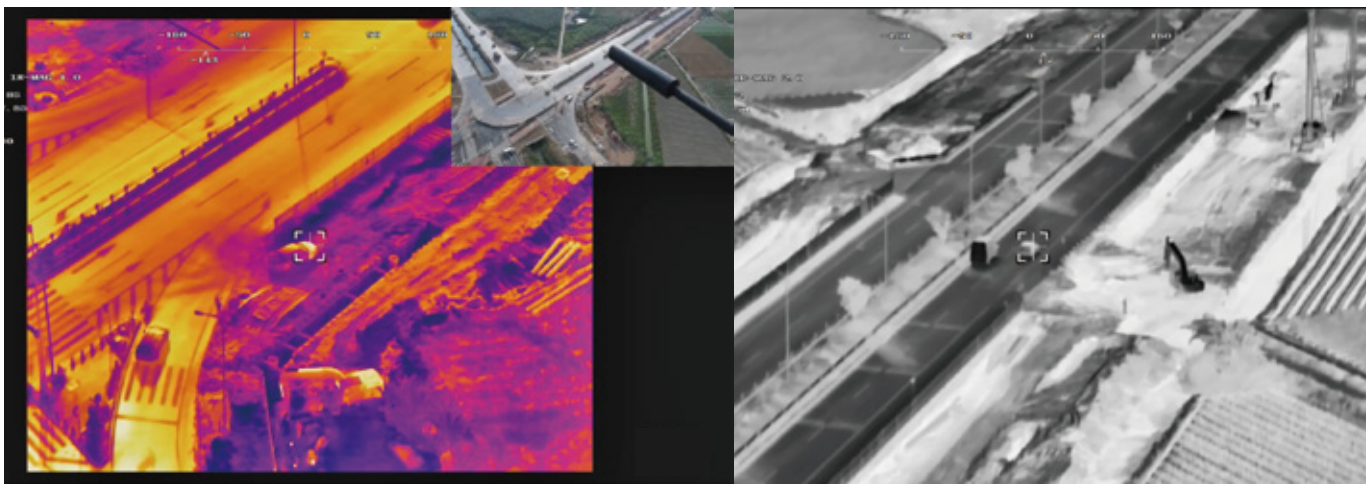
Object Tracking
√

Output
1080p micro HDMI / IP

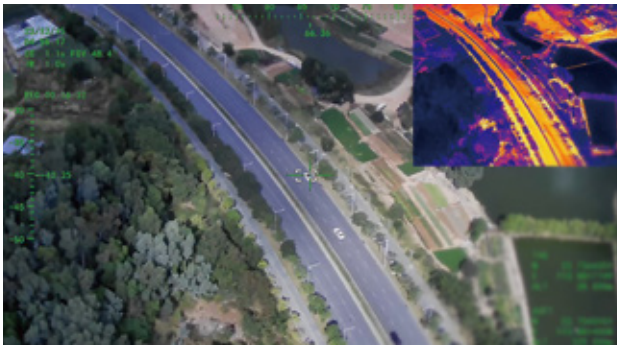
Power
14.8V~25.2V(14.2W, Max.24W)

N.W.
1032g

Dimension
130*161*201.8mm



Hawkeye Series



New generation of micro prime lens systems focus on the micro unmanned systems applications, combined the IR thermal Sensors and high definition visual camera with advanced stabilization and intelligence technology, the micro camera system is easy to realize powerful insights that save time, cost and lives.

U2 Pro

Micro Prime Lens Dual EO Sensors Gimbal Camera



Overall Specifications

N.W.	118g
Product meas.	40*49.1*85.7mm
Working voltage	12~25.2V
Dynamic current	490~900mA @ 12V
Power consumption	Average 5.88W, Max 10.80W
Working environment temp.	-20°C ~ +50°C
IP rate	IP4X
Output	IP (RTSP 720p/1080p 25fps/30fps H264/H265)
Control method	TTL or S.BUS (choose one of them, and TTL by default), and TCP

Gimbal Spec

Mechanical Range	Pitch/Tilt: -35°(Up)~115°(Down), Yaw/Pan: ±125°
Controllable Range	Pitch/Tilt: -30°~110°, Yaw/Pan: ±120°
Vibration angle	Pitch/Yaw: ±0.02°
One-key to center	√

EO Camera Spec 1

Resolution	3840*2160
Angle of View	83°(H) x 53°(V)
Digital zoom	1~5x

EO Camera Spec 2

Resolution	3840*2160
Angle of View	20°(H) x 11°(V)
Digital zoom	1~8x (Hybrid Zoom: 5*8=40x)

Camera Object Tracking

Minimum object contrast	5%
Minimum object size	16*16 pixel
Maximum object size	128*128 pixel
Tracking speed（Man）	±32 pixel/frame
Tracking speed (Car)	±48 pixel/frame
Object memory time	100 frames



Q2R

Micro Prime Lens EO + IR Dual Sensors Gimbal Camera



EO Imager Sensors
1/3" CMOS

EO Camera FOV
30°(H) x 17.1°(V)

IR Thermal imager
640x512, 13mm focus length, 12μm

Object Tracking
√

Output
IP

Power
14.8V~25.2V(3.84W, Max.9.6W)

N.W.
177g

Dimension
56.1*50*111.5mm

Q2R Pro

Micro Prime Lens Dual EO + IR Triple Sensors Gimbal Camera



EO Camera 1
FHD CMOS, 66°(H) x 40°(V)

EO Camera 2
FHD CMOS, 26°(H) x 14°(V)

IR Thermal imager
640x512, 13mm focus length, 12μm

Object Tracking
√

Output
IP

Power
14.8V~25.2V(6.4W, Max.16W)

N.W.
209g

Dimension
66.4*62*100.3mm



Q2RM

Micro Prime Lens EO + IR + LRF Triple Sensors Gimbal Camera



Overall Specifications

N.W.	202g
Product meas.	62.7*60.1*118.5mm
Working voltage	12~25.2V
Dynamic current	400~900mA @ 12V
Power consumption	Average 4.8W, Max 10.8W
Working environment temp.	-20°C ~ +50°C
IP rate	IP4X
Output	IP (RTSP 1080p 25fps H264/H265)
Control method	TTL or S.BUS (choose one of them, and TTL by default), and TCP

Gimbal Spec

Mechanical Range	Pitch/Tilt: -65°(Up)～130°(Down), Roll: ±30°, Yaw/Pan: ±150°
Controllable Range	Pitch/Tilt: -45°~125°, Yaw/Pan: ±130°
Vibration angle	Pitch/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

Imager Sensor	1/3" CMOS Sensor
Pixel size	2.9um
Resolution	1920*1080
Angle of View	30°(H) x 17.1°(V)
Digital zoom	1~3x

IR Thermal Imager Spec

Focus Length	9.1mm
Aperture	F1.0
Horizontal FOV	48.3°
Vertical FOV	38.7°
Detection Distance (Man: 1.8x0.5m)	379 meters
Recognition Distance (Man: 1.8x0.5m)	95 meters
Identification Distance (Man: 1.8x0.5m)	47 meters
Detection Distance (Car: 4.2x1.8m)	1163 meters
Recognition Distance (Car: 4.2x1.8m)	291 meters
Identification Distance (Car: 4.2x1.8m)	145 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel size	12μm
Digital zoom	1x~8x
Focusing method	Athermal prime lens
NETD	≤40mK (@25°C, F1.0)
Color palette	White hot

Laser Rangefinder

Range	5~1200 meters
Accuracy	1m
Light Beam	905nm pulse laser
Divergent Angle	~6 mrad
Laser pulse frequency	1~4Hz
Safety level	Class 1
Rangefinder	Measure the distance between the object at the center of screen and the laser rangefinder

Camera Object Tracking

Update rate of deviation pixel	25Hz
Minimum object contrast	5%
Minimum object size	16*16 pixel
Maximum object size	128*128 pixel
Tracking speed（Man）	±32 pixel/frame
Tracking speed (Car)	±48 pixel/frame
Object memory time	100 frames









U818M

Micro Prime Lens EO + IR with LRF Triple Sensors Gimbal Camera



Overall Specifications

N.W.	319g
Product meas.	88.2*62.9*107.2mm
Input voltage	12V~25.2V
Dynamic current	540~900mA @ 16V
Power consumption	Average 8.6W, Max 14.4W
Working environment temp.	-20°C ~ +45°C
IP rate	IP4X
Output	IP (RTSP/UDP 720p/1080p 25fps/30fps H264/H265)
Storage	TF card (up to 512 GB, Class 10, FAT32)
Picture in TF Card	JPG(1920*1080)
Video in TF Card	MP4(1080P@30fps)
Control method	S.BUS or TTL(either one, default is TTL) / TCP / UDP

Gimbal Spec

Mechanical Range	Pitch/Tilt: -55°(Up)~125°(Down), Yaw/Pan: ±360°*N
Controllable Range	Pitch/Tilt: -45°~120°, Yaw/Pan: ±360°*N
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

Imager Sensors	CMOS Sensors
Resolution	1920*1080
Focus Length	8mm
Field of View (H, V)	38.3°(H) x 22.1°(V)
Digital zoom	1x ~ 8x
Detection Distance (Car: 4.2x1.8m)	2000m
Recognition Distance (Car: 4.2x1.8m)	1000m
Recognition Distance (Man: 1.8x0.5m)	400m

IR Thermal Imager Spec

Focus Length	18mm
Horizontal FOV	24°
Vertical FOV	18.1°
Detection Distance (Car: 4.2x1.8m)	1000m
Recognition Distance (Car: 4.2x1.8m)	500m
Recognition Distance (Man: 1.8x0.5m)	250m
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel size	12μm
Focusing method	Athermal prime lens
NETD	≤50mK (@25°C, F1.0)
Color palette	White hot, black hot, Iron red
Digital zoom	1x ~ 8x

Laser Rangefinder

Range	5~1200m
Resolution	1m
Light Beam	905nm pulse laser
Divergent Angle	~6 mrad
Laser pulse frequency	1~4Hz
Rangefinder	Measure the distance between the object at the center of screen and the laser rangefinder

Camera Object Tracking

Update rate of deviation pixel	60Hz
Minimum object contrast	5%
Minimum object size	16*16 pixel
Maximum object size	128*128 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames



Q818

3-axis Micro Prime Lens EO + IR Dual Sensors Gimbal Camera



EO Imager Sensors
CMOS

EO Camera FOV
38.3°(H) x 22.1°(V)

IR Thermal imager
640x512, 18mm focus length, 12μm

Object Tracking
√

Output
IP

Power
12V~25.2V(7.2W, Max.12W)

N.W.
345g

Dimension
68.1*92.3*112.9mm

IR Thermal Only Gimbal Camera Series



Designed for professional aerial missions, this series provides clear, stabilized infrared imaging for inspection, surveillance, and search & rescue operations. Equipped with fixed-focus or optical zoom IR lenses, and supporting cooled MWIR Sensors, it ensures long-range detection, smooth imaging, and reliable performance in demanding flight environments.

AT9-50

5.5x Dual IR Thermal Sensors AI Gimbal Camera



Overall Specifications

N.W.	718g
Product meas.	105*114.5*171.2mm
Input voltage	14.8V~25.2V
Dynamic current	500~1000mA @ 16V
Power consumption	Average 8W, Max 16W
Working environment temp.	-20°C ~ +50°C
IP rate	IP4X
Output	IP (RTSP/UDP 720p/1080p 30fps H264/H265)
Storage	TF card (up to 256GB, Class 10, FAT32)
Picture in TF Card	JPG(1920*1080)
Video in TF Card	MP4(1080P 30fps)
Control method	PWM / S.BUS / UART (TTL) / TCP / UDP

IR Thermal Imager 1 Spec

Focus Length	50mm
Aperture	F1.0
Horizontal FOV	8.7°
Vertical FOV	7.0°
Detection Distance (Man: 1.8x0.5m)	2083 meters
Recognition Distance (Man: 1.8x0.5m)	521 meters
Identification Distance (Man: 1.8x0.5m)	260 meters
Detection Distance (Car: 4.2x1.8m)	6389 meters
Recognition Distance (Car: 4.2x1.8m)	1597 meters
Identification Distance (Car: 4.2x1.8m)	799 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel pitch	12μm
Focusing method	Athermal prime lens
NETD	≤50mK (@25°C, F1.0)
Color palette	White hot, Black hot, Iron red
Digital zoom	1x ~ 8x

Gimbal Spec

Mechanical Range	Pitch/Tilt: -110°(Up)~130°(Down), Roll: ±40°, Yaw/Pan: ±300° / ±360°*N (IP output version)
Controllable Range	Pitch/Tilt: -45°~125°, Yaw/Pan: ±290° / ±360°*N (IP output version)
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

IR Thermal Imager 2 Spec

Focus Length	9.1mm
Aperture	F1.0
Horizontal FOV	48.3°
Vertical FOV	38.6°
Detection Distance (Man: 1.8x0.5m)	379 meters
Recognition Distance (Man: 1.8x0.5m)	95 meters
Identification Distance (Man: 1.8x0.5m)	47 meters
Detection Distance (Car: 4.2x1.8m)	1163 meters
Recognition Distance (Car: 4.2x1.8m)	291 meters
Identification Distance (Car: 4.2x1.8m)	145 meters
Working mode	Uncooled VOx long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel pitch	12μm
Focusing method	Athermal prime lens
NETD	≤40mK (@25°C, F1.0)
Color palette	White hot, Black hot, Iron red

Camera Object Tracking

Update rate of deviation pixel	30Hz
Output delay of deviation pixel	<30ms
Minimum object contrast	5%
SNR	4
Minimum object size	16*16 pixel
Maximum object size	256*256 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames (4s)

Camera AI Performance

Targets type	Car and human
Simultaneous detection quantity	≥ 10 targets
Min contrast ratio	5%
Min target size	5×5 pixel
Car detection rate	≥85%
False alarm rate	≤10%

QIR1575T

15~75mm High-Definition IR Thermal Gimbal Camera



IR Thermal imager
640*512, 15~75mm focus length, 12μm

Object Tracking
√

Output
1080 Micro HDMI / IP

Power
14.8V~25.2V(7.68W, Max.16W)

N.W.
1216g

Dimension
130*160*200.8mm

QIR25250T

10x Optical Zoom Cooled MWIR IR Thermal Gimbal Camera



IR Thermal imager
640*512, 25-250mm focus length (Cooled MWIR)

Object Tracking
√

Output
1080 Micro HDMI / IP

Power
14.8V~25.2V(19.5W, Max.40W)

N.W.
2471g

Dimension
165*188.2*238.4mm

UAT50

50mm IR Thermal AI Gimbal Camera



New

IR Thermal imager
640*512, 50mm focus length, 12μm

Power
14.8V~25.2V(5.6W, Max.16W)

Object Tracking
√

N.W.
555g

Output
1080 Micro HDMI / IP

Dimension
100.8*100.5*161.9mm

QIR50T Pro

50mm High-Definition IR Thermal Gimbal Camera (1280*1024)



Overall Specifications

N.W.	943g
Product meas.	112*136*181.3mm
Input voltage	14.8V~25.2V
Dynamic current	500~1250mA @ 16V
Power consumption	Average 8W, Max 20W
Working environment temp.	-20°C ~ +50°C
IP rate	IP4X
Output	IP (RTSP/UDP 720p/1080p 25fps /30fps H264/H265) / SDI (1080P 30fps)
Storage	TF card (up to 512GB, Class 10, FAT32)
Picture in TF Card	JPG(1920*1080)
Video in TF Card	MP4(1080P@30fps)
Control method	PWM / S.BUS / UART (TTL) / TCP / UDP

Gimbal Spec

Mechanical Range	Pitch/Tilt:-55°(Up)~125°(Down), Roll: ±70°, Yaw/Pan: ±360°*N
Controllable Range	Pitch/Tilt: -45°~120°, Yaw/Pan: ±360°*N
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

IR Thermal Object Tracking

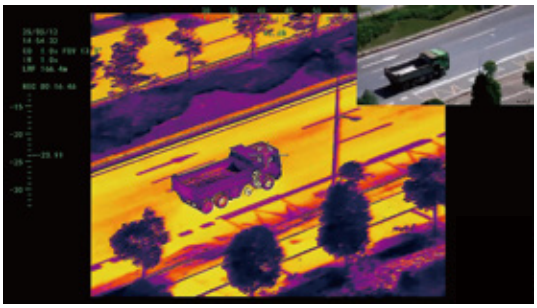
Update rate of deviation pixel	50Hz
Output delay of deviation pixel	5ms
Minimum object size	32*32 pixel
Maximum object size	128*128 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames (4s)

IR Thermal Imager Spec

Focus Length	50mm
Horizontal FOV	17.5°
Vertical FOV	14.0°
Detection Distance (Man: 1.8x0.5m)	2083 meters
Recognition Distance (Man: 1.8x0.5m)	521 meters
Identification Distance (Man: 1.8x0.5m)	260 meters
Detection Distance (Car: 4.2x1.8m)	6389 meters
Recognition Distance (Car: 4.2x1.8m)	1597 meters
Identification Distance (Car: 4.2x1.8m)	799 meters
Working mode	Uncooled long wave (8μm~14μm) thermal imager
Detector pixel	1280*1024
Pixel pitch	12μm
Focusing method	Athermal prime lens
NETD	≤40mK (@25°C, F1.0)
MRTD	≤400mK (@25°C, F1.0)
Shutter	Bistable Shutter
Color palette	White hot, Black hot, Iron red
Digital zoom	1x ~ 4x
Thermometry type	Not supported



T Series Dual Sensors Series



Integrated high-precision uncooled long wave IR thermal image Sensors, EO + IR Dual Sensors gimbal cameras can record and transmit IR thermal image and visible images at the same time. See the unseen. IR Thermal Sensors reveal details invisible to the naked eye by making subtle differences in temperature visible. This new view on the world can reveal the damage of equipment or buildings, sparks or fires in forests, and more. Thermometry function even increases the IR thermal inspection standard to a higher level.

U30TIR-35

30x EO + IR Dual Sensors Gimbal Camera



Overall Specifications

N.W.	934g
Product meas.	127*130*201.9mm
Input voltage	14.8V~25.2V
Dynamic current	650~1250mA @ 16V
Power consumption	Average 10.4W, Max 20W
Working environment temp.	-20°C ~ +50°C
IP rate	IP4X
Output	Micro HDMI(1080P 60fps) / IP (RTSP /UDP 720p/1080p 25fps/30fps H264/ H265)
Storage	TF card (up to 512GB, Class 10, FAT32)
Picture in TF Card	JPG(1920*1080)
Video in TF Card	MP4(1080P@30fps)
Control method	PWM / S.BUS / UART (TTL) / TCP / UDP

Gimbal Spec

Mechanical Range	Pitch/Tilt: -45°(Up)~120°(Down), Roll: ±40°, Yaw/Pan: ±300° / ±360°*N (IP output version)
Controllable Range	Pitch/Tilt: -30°~115°, Yaw/Pan: ±290° / ±360°*N (IP output version)
Vibration angle	Pitch/Roll/Yaw: ±0.02°
One-key to center	√

EO Camera Spec

Imager Sensors	1/2.8" STARVIS2 CMOS Sensors
Picture quality	Full HD 1080 (1920*1080)
Effective pixel	2.13MP
Lens optical zoom	30x, F=4.3~129mm
Horizontal viewing angle	64.0°(wide end) ~ 2.4°(tele end)
Digital zoom	12x (360x with optical zoom)
Min illumination	Color 0.009 lux (1/30 sec, 50%, High Sensitivity mode On) Color 0.09 lux (1/30 sec, 50%, High Sensitivity mode Off)
Recommended illumination	100 lx to 100,000 lx
S/N ratio	more than 50dB
Min object distance	10mm(wide end) to 1200mm(tele end)
Shutter speed	1/1s to 1/10,000s, 22 steps
Exposure control	Auto, Manual, Priority mode(shutter priority & iris priority)
White balance	Auto
Focus	Auto / Manual
Backlight compensation	Yes
Auto ICR	Yes
Image stabilization(EIS)	Yes
Defog	Yes

IR Thermal Imager Spec

Focus Length	35mm
Horizontal FOV	12.5°
Vertical FOV	10.0°
Diagonal FOV	16.0°
Detection Distance (Man: 1.8x0.5m)	1458 meters
Recognition Distance (Man: 1.8x0.5m)	365 meters
Identification Distance (Man: 1.8x0.5m)	182 meters
Detection Distance (Car: 4.2x1.8m)	4472 meters
Recognition Distance (Car: 4.2x1.8m)	1118 meters
Identification Distance (Car: 4.2x1.8m)	559 meters
Working mode	Uncooled long wave (8μm~14μm) thermal imager
Detector pixel	640*512
Pixel pitch	12μm
Focusing method	Athermal prime lens
NETD	≤50mK (@25°C, F1.0)
Color palette	White hot, Black hot, Iron red
Digital zoom	1x ~ 8x

EO/IR Camera Object Tracking

Update rate of deviation pixel	50Hz
Output delay of deviation pixel	5ms
Minimum object contrast	5%
SNR	4
Minimum object size	32*32 pixel
Maximum object size	128*128 pixel
Tracking speed	±48 pixel/frame
Object memory time	100 frames (4s)



Q30TIR Lite

30x EO + IR Dual Sensors Gimbal Camera



EO Imager Sensors
1/2.8" Type STARVIS2 CMOS, 2.13MP

EO Lens
30x optical zoom, F=4.3~129mm

IR Thermal imager
640*512, 24mm focus length, 12μm

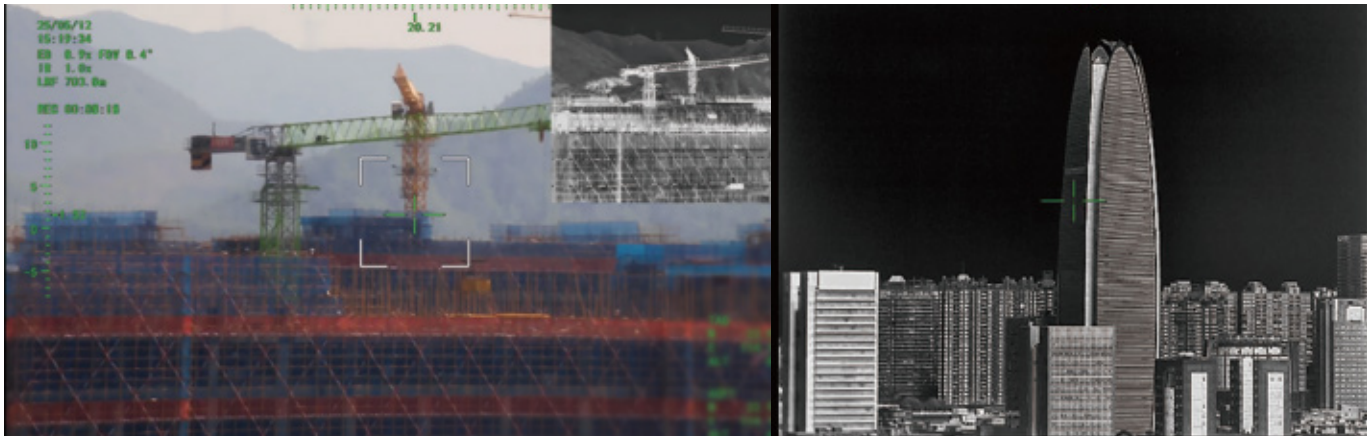
Object Tracking
√

Output
Micro HDMI / IP

Power
14.8V~25.2V(9.9W, Max.20W)

N.W.
860g

Dimension
112*129.8*184.2mm



Single EO Sensors Series



Built-in normalization, cross-correlation and tracking algorithm, combining with object missing recapture algorithm, object tracking gimbal cameras achieve stable tracking of a target. Mainly used for law enforcement, security protection, inspection and also be helpful for zooming a target without losing it.

Q10N Pro

10x Optical Zoom IP Output Gimbal Camera



EO Imager Sensors
1/2.7" CMOS, 10x optical zoom, 5MP

Object Tracking
√

Output
IP

Power
11.1V~25.2V(2.4W, Max.7.2W)

N.W.
355g

Dimension
88.7*108.7*139.2mm

Q30T Pro

30x Optical Zoom Gimbal Camera



EO Imager Sensors
1/2.8" STARVIS2 CMOS, 30x optical zoom, 2.13MP

Object Tracking
√

Output
1080 Micro HDMI / IP / SDI

Power
14.8V~25.2V(8.8W, Max.20W)

N.W.
811g

Dimension
104.9*128.2*180mm

U30T

30x Optical Zoom Gimbal Camera



EO Imager Sensors
1/2.8" STARVIS2 CMOS, 30x optical zoom, 2.13MP

Object Tracking
√

Output
1080 Micro HDMI / IP / SDI

Power
14.8V~25.2V(8.3W, Max.16W)

N.W.
717g

Dimension
108*115.8*170.3mm

Z36T Cube

36x Optical Zoom Gimbal Camera (Starlight level)



EO Imager Sensors
1/2" CMOS, 36x optical zoom, 2.13MP

Object Tracking
√

Output
1080 Micro HDMI / IP / SDI

Power
14.8V~25.2V(9.3W, Max.18.4W)

N.W.
842g

Dimension
106.6*182.1*185mm

Q40T-PLUS

40x Optical Zoom Dual EO Sensors Gimbal Camera



EO Camera 1
1/2.8" CMOS, 40x optical zoom, 2.13MP

EO Camera 2
1/2.3" FHD CMOS, 45°(H) x 30°(V)

Object Tracking
√

Output
1080p Micro HDMI / IP

Power
14.8V~25.2V(9.6W, Max.20W)

N.W.
1004g

Dimension
118*147.5*191.5mm

Specialized Payload and Gimbal Series

This series provides more convenient lighting and communication support for applications such as emergency rescue, industrial inspection, and public safety.



L4 Pro

3-axis stabilized gimbal searchlight



LED Power: 0–128 W (adjustable)	Pitch/Tilt: -30°(Up)～100°(Down), Roll: ±70°, Yaw/Pan: ±120°
Luminous Flux: 13,500 lm (128W Power)	Power: 22.2V~25.2V（1W, Max.144W）
Luminous Efficacy: 113 lm/W (128 W)	Dimensions: 134*141.1*185.3mm
Illumination Coverage: 1256 m² (128W, 150m distance)	Weight: 790g

M120 Pro

4G Loudspeaker



Power: 25W	Speaker mode: Real-time / Recording / Audio file upload / Text to voice
Maximum sound pressure: 124dB@1m	Audio format: MP3 / WAV / M4A / FLAC / AAC
Operating Temperature: -10°C ~ +40°C	Dimensions: 142.7*95.2*201.6mm(L*W*H)
Effective broadcast distance: 800~1000m	Weight: 691g

Tianjie K4

4-Hook Multi-Point Aerial Delivery System with Built-in Camera



Overall Parameters			
Number of Hooks	4	Control Methods	TCP / USART / SBUS / PWM / DJI PSDK
Total Payload Capacity	20 kgs (5 kgs*4)	Camera	1080P
Power Supply	12 ~ 36V	Dimensions	62*62*67mm
Power Consumption (Release)	8 W (per hook)	Weight	260g
Power Consumption（Standby）	1.5 W		

Z6K Pro

SONY ILCE Gimbal



Support Sony A5xxx Series / A6xxx Series / RX100 Series / ILX-LR1	Control method: PWM / S.BUS / TTL
HDMI signal is routed internally from the bottom to the top of the gimbal	Dimensions: 152.5*138.8*220mm
Gimbal function: supply power, photo shoot, record, zoom, etc	Weight: 940±10g

V-Port-Mini

Open 3-Axis Gimbal Platform



Static Power: 1W	Roll Axis: -90° ~ 70°, Pitch Axis: -60° ~ 120°
Max Payload: 400g	Power：14.8V~25.2V
Load Width: 80mm	Dimensions: 131.5*131.6*167.7mm
Reserved Interface: 4-pin cable (Ethernet support), UART(TTL), Power (10~12V)	Weight: 422g

Supports integration of methane detectors, multispectral Sensors, and other mission-specific payloads, enabling versatile disaster monitoring and emergency response applications.



Multispectral Cameras



Sony Mapping Cameras

Whether it is an EO/IR gimbal, mapping camera, multispectral camera, LiDAR, or other industry-specific payload, V-Port provides a stable, efficient, and flexible gimbal platform for diverse mission applications.

Accessories Series

This series is designed for high-precision task execution, providing reliable data support for inspection, monitoring, and search & rescue operations.

Equipped with high-performance flight control systems and multi-Sensors modules, it enables precise positioning, stable navigation, and efficient data transmission. It ensures stable performance across various complex environments, supporting demanding industry applications.



V-GPS Pro

The V-GPS Pro features a high-performance STM32F3 processor and a UBLOX M9N multi-constellation GNSS receiver, delivering high-precision and reliable positioning services.



Technical Specifications			
Main Processor	STM32F3	Operating Bands	GPS: L1 C/A / GLONASS: L1OF / BeiDou: B1I / Galileo: E1B/C
Sensors	Compass: RM3100 / Barometer: MS5611	Horizontal Accuracy	2.0 m (up to 0.7 m)
RGB	Supported	Velocity Accuracy	0.05 m/s
Buzzer	Passive	Max Satellite Count	32+
Safety Switch	Physical Button	Acquisition Time	Cold Start: 24 s /Reacquisition：2s / Hot Start: 2 s
Safety Switch Indicator	Supported	Sensitivity	Tracking: -167 dBm / Cold Start: -148 dBm / Hot Start: -159 dBm / Reacquisition: -160 dBm
Termination Resistor	Software Configurable		
Concurrent GNSS	4 (GPS + GLONASS + BeiDou + Galileo)	GNSS Receiver	UBLOX M9N
Supported FC	ArduPilot, PX4	Communication Protocol	DroneCAN
Weight	37.5g	Firmware Upgrade	Supported

G1

The G1 tracking gimbal is used as a linked antenna system for synchronized data and image transmission.



Technical Specifications			
Weight	3.2 kg	DC Voltage	12V~26V
Pan Rotation Speed	< 360°/s	Operating Temperature	-20°C ~ 60°C
Tilt Rotation Speed	< 65°/s	Average Power	<15W
Pan Rotation Range	360°	MAVlink Version	PX4 / APM Compatible
Tilt Rotation Range	-15° ~ 160°	Power Method	Universal Aviation Battery

G1_RTK

High-Precision Dual-Antenna RTK Positioning System



Technical Specifications			
Weight	3.35 kgs	Average Power Consumption	< 17W
Pan Tracking Speed	< 360°/s	MAVlink Compatibility	PX4 / APM Compatible
Tilt Tracking Speed	< 65°/s	Power Supply	Standard Aviation Battery (4S~6S)
Pan Tracking Range	360°	Satellite Acquisition Time	Cold Start < 30 s, Warm Start < 2 s, Hot Start < 5 s
Tilt Tracking Range	-15° ~ 160°	Dual-Antenna Heading Accuracy	0.5° (60 cm Baseline)
Operating Voltage	12V–26V DC	Positioning Accuracy (Horizontal)	1.5 m CEP
Operating Temperature	-20°C ~ +60°C	Supported GNSS Systems	BDS, GPS, GLONASS, Galileo, QZSS

MX45 PRO

The MX45 PRO is equipped with a high-performance processor and an embedded Android 13 system. It supports 1.4GHz communication, delivering low latency, long-range transmission, and strong anti-interference capability.



Technical Specifications			
Display	7-inch Industrial Touchscreen, Brightness 1500 nits	Charging Port	Type-C (PD protocol)
Resolution	1920 * 1200	Battery Life	8 hours
Memory	8 GB	Antenna	Dual antennas 1.4GHz
Storage	64 GB	Operating Frequency	1.4GHz
Touch Panel	10-point Capacitive Touchscreen	RF Power	27 dBm (CE / FCC)
Network Port	RJ45	Control Distance	45 km
External Interfaces	RJ45, TF, HDMI, USB-A, PPM, USB Type-C	Auxiliary Controls	Joysticks ×2, triple-position switches ×2, rotary knobs ×2, buttons ×12
Serial Port	TTL, S.Bus	Channels	16
Protection Level	IP54	OS	Android 13
Operating Temperature	-20°C ~ 40°C	Dimensions	291*174.5*80mm
Battery capacity	10,000 mAh	Weight	1644g

MX35 PRO

The MX35 PRO is equipped with a high-performance processor and an embedded Android 13 system. It supports 1.4GHz communication, delivering low latency, long-range transmission, and strong anti-interference capability.



Technical Specifications			
Display	7-inch Industrial Touchscreen, Brightness 1500 nits	Charging Port	Type-C (PD protocol)
Resolution	1920 * 1200	Battery Life	8 hours
Memory	8 GB	Antenna	Dual antennas 1.4GHz
Storage	64 GB	Operating Frequency	1.4GHz
Touch Panel	10-point Capacitive Touchscreen	RF Power	27 dBm (CE / FCC)
Network Port	RJ45	Control Distance	35 km
External Interfaces	RJ45, TF, HDMI, USB-A, PPM, USB Type-C	Auxiliary Controls	Joysticks ×2, triple-position switches ×2, rotary knobs ×2, buttons ×12
Serial Port	TTL, S.Bus	Channels	16
Protection Level	IP54	OS	Android 13
Operating Temperature	-20°C ~ 40°C	Dimensions	291*174.5*80mm
Battery capacity	10,000 mAh	Weight	1644g

MX25 PRO

The MX25 PRO is equipped with a high-performance processor and an embedded Android 13 system. It supports dual-band 2.4GHz/5.8GHz communication, delivering low latency, long-range transmission, and strong anti-interference capability.



Technical Specifications			
Display	7-inch Industrial Touchscreen, Brightness 1500 nits	Battery Life	8 hours
Resolution	1920 * 1200	Battery Capacity	10,000 mAh
Memory	8 GB	Antenna	Dual antennas (2.4GHz / 5.8GHz)
Storage	64 GB	Operating Frequency	2.4GHz / 5.8GHz
Touch Panel	Capacitive Touchscreen	RF Power	23 dBm (CE / FCC)
Network Port	RJ45	Control Distance	25 km
External Interfaces	RJ45, TF, USB-A, PPM, USB Type-C	Auxiliary Controls	Joysticks ×2, triple-position switches ×2, rotary knobs ×2, buttons ×11
Serial Port	2*usart	Channels	16
Charging Port	Type-C	OS	Android 13
Protection Level	IP54	Dimensions	291*174.5*80mm
Operating Temperature	-20°C ~ 40°C	Weight	1644g

V7 PRO

The V7 Pro is a high-performance autopilot designed for unmanned systems.



Processor		Sensors	
Chip	STM32H743	Accelerometer	ADIS16470 / ICM-42688-P / ICM-42688-P
Weight	100 g	Gyroscope	ADIS16470 / ICM-42688-P / ICM-42688-P
Supported Types	Various types of unmanned systems	Compass	RM3100
Firmware	ArduPilot 4.5.7 beta and above	Barometer	MS5611 ×2
Interface			
UART	6	GPS Port	2
I2C	4	ADC	2
PWM Output	14	RS232	1
RCIN	1 (PPM/SBUS/DSM)	DEBUG	1
RSSI	1	JTAG	1
SBUS Output	1	USB	1
CAN	2	USB Expansion	1
Power Input	2 (POWER1: ADC voltage/current sensing input / POWER2: CAN power input)	SD Card Slot	1

V7 PRO GPS

Integrated GPS based on the V7 Pro platform, with external antenna for enhanced anti-interference, fast satellite acquisition, and accurate positioning.



Processor / Sensors			
Chip	STM32H743	Compass	RM3100
Accelerometer	ADIS16470/ICM-42688-P/ICM-42688-P	Barometer	MS5611*2
Gyroscope	ADIS16470/ICM-42688-P/ICM-42688-P	GPS	Ublox M9N
Interface			
UART Serial	5	GPS Port	2
I2C	3	ADC	2
PWM Output	14	RS232	1
RC Input	1	DEBUG	1
RSSI Input	1	JTAG	1
SBUS Output	1	USB Port	1
CAN Port	2	USB Expansion Port	1
Power Input	2 (POWER1: ADC voltage/current sensing input / POWER2: CAN power input)	SD Card Slot	1
		GPS Antenna Port	MMCX
Overall parameters			
Main Power Voltage	4.5V~5.4V	Humidity	5%~95% (Non-condensing)
USB Voltage	4.5V~5.4V	Dimensions	39.6*45.4*88.1mm
Servo Input	0~9.9V	Weight	103g
Operating Temperature	-20℃ ~ 85℃		

Tiny V7

A lightweight and compact autopilot for unmanned systems.



Hardware parameters		Operating environment and physical parameters	
Processor	STM32H743	ESC Power Input	6V~26V
Accelerometer	ICM45686 / BMI088	Operating Temperature	-20°C ~ +85°C
Gyroscope	ICM45686 / BMI088	Dimensions	59* 46*16.3mm
Compass	IST8310	Weight	32g
Barometer	ICP-20100		
UART Port	5		
PWM Output	12		

V7

The V7 is an advanced autopilot system suitable for unmanned systems.



Sensors		Processor	
Main Processor	STM32H753	Accelerometer	BMI088 / ICM-42688-P / ICM20649
Co-Processor	STM32F103	Gyroscope	BMI088 / ICM-42688-P / ICM20649
		Barometer	ICP-20100 ×2
		Compass	RM3100
Interface			
UART	7	Safety Switch	1
I2C	3	Safety Indicator	1
PWM Output	16	Buzzer	1
RC Input	2 (PPM + SBUS)	Ethernet	1
CAN	2	SPI	1
USB	1	SBUS Output	1
SD Card Slot	1	USB	1
ADC	2	USB Expansion	1
SMBUS Power Monitor	2	FMU DEBUG	1
Servo voltage detection	1	IO DEBUG	1
Overall parameters			
Main Power Voltage	4.5V~5.4V	Humidity	5%~95% (non-condensing)
USB Voltage	4.5V~5.4V	Dimensions	44.6*45.1*90.2mm
Servo Input	0~9.9V	Weight	117g
Operating Temperature	-20℃ ~ 85℃		

V-H7



The V-H7 high-precision navigation module provides real-time output of attitude, position, and velocity data.

Processor			
Main Processor		STM32H743	
Module parameters		**GPS parameters**	
Sensors	ICM-42688-P	GPS Accuracy	Horizontal: 1.5 m / Vertical: 2.5 m
Compass	IST8310	Heading Accuracy	0.1° / 1 m baseline
Barometer	ICP-20100	Velocity Accuracy	0.03 m/s
GPS	UM982		
Overall parameters			
Operating Voltage	5V~26V	Dimensions	56*15*49mm
Operating Temperature	-20℃ ~ 85℃	Weight	50g

V-ASP-L10D

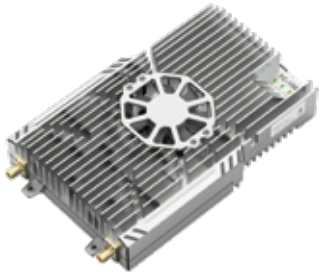


This module is built on an ultra-low-power STM32L431 MCU and integrates a high-precision DLVR airspeed Sensors and barometer.

Module Parameters		Overall Parameters	
Processor	STM32L431	Protocol	DroneCAN
Differential Pressure Sensors	DLVR-L10D	Operating Voltage	4.5~5.3V
Barometer Sensors	ICP-20100	Current	100mA
Airspeed Range	0~230km/h(0~10inH2O)	Operating Temperature	-20℃ ~ 85℃
Altitude Range	-940m~9300m,(30kpa~110kpa)	Dimensions	44.8*17*34.8mm
Accuracy	≤1%	Weight	21.3g



TC-150



The TC-150 is a wireless broadband integrated video and data transmission module, It adopts key technologies such as OFDM and TDD, and supports multiple bandwidth allocations (1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 20 MHz, and CA 40 MHz).

Item	Specification	Item	Specification
Transmission Distance	Up to 150 km (LOS)	Interface	Ethernet ×2 / TTL ×2 / SBUS ×2 (Reusable output 232*2/422*1)
Frequency	1.4 GHz	Bandwidth	Uplink & Downlink ≤50 Mbps @20MHz
Latency	Data Link: ≤ 20 ms, Image Link: ≤ 200 ms	Networking	Point-to-point / Star / Mesh
RF Channel	2T2R	Startup Time	≤30 ms
Receiver Sensitivity	10MHz, -103dBm, 20MHz, -97dBm	Configuration	Web UI
Channel Bandwidth	1.4 / 3 / 5 / 10 / 20 MHz, CA40MHz	Encryption	ZUC / SNOW3G / AES128
Modulation	QPSK / 16QAM / 64QAM	Transmission Mode	Unicast / Group / Broadcast
Power Control	Dynamic	Frequency Hopping	Supported
Operating Voltage	24V	Peak Current	6.5A
Peak Power	150W	Temperature	-20°C ~ +55°C / Storage: -40°C ~ +85°C
Dimensions	171*103.5*31mm	Weight	429g

TC-50



The TC-50 is a wireless broadband integrated video and data transmission module, It adopts key technologies such as OFDM and TDD, and supports multiple bandwidth allocations (1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 20 MHz).

Item	Specification	Item	Specification
Transmission Distance	Up to 50 km (LOS)	Interface	Ethernet ×1 / TTL ×1
Frequency	1.4 GHz	Bandwidth	Uplink & Downlink ≤30 Mbps @20MHz
Latency	Data Link: ≤ 20 ms, Image Link: ≤ 200 ms	Networking	Point-to-point / Star
RF Channel	1T2R	Startup Time	≤30 ms
Receiver Sensitivity	10MHz, -103dBm, 20MHz, -99dBm	Configuration	Web UI
Channel Bandwidth	1.4 / 3 / 5 / 10 / 20 MHz	Encryption	ZUC / SNOW3G / AES128
Modulation	QPSK / 16QAM / 64QAM	Transmission Mode	Unicast / Group / Broadcast
Power Control	Dynamic	Frequency Hopping	Supported
Operating Voltage	24V	Peak Current	1.5A
Peak Power	18W	Temperature	-20°C ~ +55°C / Storage: -40°C ~ +85°C
Dimensions	92.7*88*23.5mm	Weight	153g

TC-30



The TC-30 is a wireless broadband integrated video and data transmission module, It adopts key technologies such as OFDM and TDD, and supports multiple bandwidth allocations (1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 20 MHz).

Item	Specification	Item	Specification
Transmission Distance	Up to 30 km (LOS)	Interface	Ethernet ×1 / TTL ×1
Frequency	1.4 GHz	Bandwidth	Uplink & Downlink ≤30 Mbps @20MHz
Latency	Data Link: ≤ 20 ms, Image Link: ≤ 200 ms	Networking	Point-to-point / Star
RF Channel	1T2R	Startup Time	≤30 ms
Receiver Sensitivity	10MHz, -103dBm, 20MHz, -99dBm	Configuration	Web UI
Channel Bandwidth	1.4 / 3 / 5 / 10 / 20 MHz	Encryption	ZUC / SNOW3G / AES128
Modulation	QPSK / 16QAM / 64QAM	Transmission Mode	Unicast / Group / Broadcast
Power Control	Dynamic	Frequency Hopping	Supported
Operating Voltage	12V	Peak Current	1.25A
Peak Power	5W	Temperature	-20°C ~ +55°C / Storage: -40°C ~ +85°C
Dimensions	92.7*88*23.5mm	Weight	153g

TC-25



The TC-25 is a wireless broadband integrated video and data transmission module, It adopts key technologies such as OFDM and TDD, and supports multiple bandwidth allocations (1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 20 MHz).

Item	Specification	Item	Specification
Transmission Distance	Up to 25 km (LOS)	Interface	Ethernet ×2 / TTL ×2 / SBUS ×2 (Reusable output 232*2/422*1)
Frequency	2.4GHz / 5.8GHz	Bandwidth	Uplink & Downlink ≤30 Mbps @20MHz
Latency	Data Link: ≤ 20 ms, Image Link: ≤ 200 ms	Networking	Point-to-point
RF Channel	2T2R	Startup Time	≤30 ms
Receiver Sensitivity	10MHz, -103dBm, 20MHz, -99dBm	Configuration	Web UI
Channel Bandwidth	1.4 / 3 / 5 / 10 / 20 MHz	Encryption	ZUC / SNOW3G / AES128
Modulation	QPSK / 16QAM / 64QAM	Transmission Mode	Unicast / Group / Broadcast
Power Control	Dynamic	Frequency Hopping	Supported
Operating Voltage	12V	Peak Current	300mA
Peak Power	4W	Temperature	-20°C ~ +55°C / Storage: -40°C ~ +85°C
Dimensions	70.5*68.5*25mm	Weight	137g

VUM982

VUM982 is a high-performance module supporting centimeter-level positioning and heading, suitable for various unmanned systems and multi-platform applications.



Sensors		General Parameters	
Satellite Receiver Type	UM982	Input Voltage	4.5 V ~ 5.5 V
Electronic Compass	IST8310	Operating Temperature	-20℃ ~ +85℃
		Dimensions	37.8*42.8*13.5mm
		Weight	27.4g
RTK Parameters			
Channels	1408 channels, based on NebulasIV	Velocity Accuracy	0.03 m/s
Constellations Supported	4（BDS, GPS, GLONASS, Galileo）	Navigation Update Rate	5 Hz (default), up to 20 Hz
Supported Frequency Bands	BDS B1I, B2I, B3I GPS L1C/A, L2P/L2C, L5 GLONASS G1, G2 Galileo E1, E5a, E5b QZSS L1C/A, L2C, L5	Satellite Acquisition	Cold Start: < 30 s, Reacquisition: < 2 s Hot Start: < 5 s
		Dual Antenna Heading Accuracy	0.1° (1 m baseline)
Positioning Accuracy	RTK Positioning: 0.08m+1ppm CEP	RTK base station / rover switching	Supported
	Single Point Positioning: 1.5m CEP	Working Voltage	4.5 V – 6 V
	Aided Positioning: 0.4m CEP	Operating Temperature	-40°C ~ +85°C

V-RID

The V-RID Remote Identification Module complies with GB 46750-2025, prEN 4709-002, and ASTM F3411-22a standards. It supports broadcast-based identification (Bluetooth / Wi-Fi), enabling real-time reporting of unmanned equipment identity, position, speed, and other data.



Module Parameters	
Processor	Xtensa 32-bit LX7 dual-core processor
Broadcast Mode	2.4 GHz Wi-Fi / Bluetooth@5
Transmit Power	20 dBm
Antenna Interface	MMCX
Compliance Standards	GB 46750-2025 / prEN 4709-002 / ASTM F3411-22a
Protocols	DroneCAN, MAVlink
Overall Parameters	
Input Voltage	4.5V~5.5V
Operating Current	150mA @ 5V
Operating Temperature	-40°C~+85°C
Dimensions	36.8*37.8*11.5mm
Weight	16g

VP900

This data transmission module is based on the Microhard P900 RF core module. It integrates long-range wireless communication, wide input voltage support, and frequency hopping anti-interference technology, making it widely applicable for command, control, and telemetry data links in various unmanned systems.



Data Link Parameters			
Frequency	902-928 MHz	Error Detection	32-bit CRC, ARQ
Protocol	Transparent	Range	15 ~ 60 km
Link Method	Frequency Hopping	Sensitivity (@BER10-4)	-110 dBm @ 115.2 kbps -108 dBm @ 172.8 kbps -107 dBm @ 230.4 kbps
FEC	Hamming BCH Golay Reed-Solomon	Transmit Power	100mW - 1W (20-30dBm)
		Serial Baud Rate	230.4 kbps Asynchronous
Overall parameters			
Input Voltage	7~60V/4.6~16V	Dimensions	42.8*76.4*15.6mm
Dynamic Current	1000mA~1200mA @ 5V	Weight	54.8g
Operating Temp	-40°C ~ +85°C		

VF9P

The VF9P is a high-performance module supporting centimeter-level positioning and heading, with integrated RTK rover and base station capabilities. When two modules are used together, dual-antenna heading can be achieved.



Sensors			
GNSS Receiver Type	u-blox ZED-F9P, 184 channels		
Electronic Compass	RM3100		
RTK Parameters			
Constellations Supported	4 (BDS, GPS, GLONASS, Galileo)	Convergence Time	RTK<60s
		Satellite Acquisition	Cold start < 24 s Hot start < 1 s
Supported Frequencies	GPS L1C/A, L2C GLO L1OF, L2OF GAL E1B/C, E5b BDS B1I, B2I QZSS L1C/A L1S L5, QZSS L2C SBAS L1C/A	Sensitivity	Tracking & Navigation: -167 dBm Cold Start: -148 dBm Hot Start: -157 dBm Reacquisition: -160 dBm
		Anti-Jamming	Active CW Detection and Mitigation
Navigation Update Rate (Max)	RTK 20Hz RAW 25Hz PVT 25Hz	Security	Advanced Anti-Spoofing Algorithm
		Heading Accuracy (Dual Antenna)	0.3°
Positioning Accuracy	RTK: 0.01 m + 1 ppm CEP Single Point: 1.5 m CEP SBAS: 1.0 m CEP	RTK Base	Supported
Velocity Accuracy	0.05 m/s	Data Protocols	NMEA, UBX binary, RTCM 3.x
Overall Parameters			
Input Voltage	4.5 V – 5.5 V		
Operating Temperature	-20°C ~ +85°C		
Dimensions	32*47*14.8mm		
Weight	26.9g		

VADS-B



This module is designed specifically for open-source flight control systems. It receives 1090 MHz ADS-B signals and decodes data from commercial and general aviation aircraft. It provides situational awareness of surrounding airspace and works with the flight controller to enable automatic avoidance, ensuring safe operations in integrated airspace.

Module Parameters		Overall Parameters	
Frequency	1090MHz	Input Voltage	4.2V~5.5V
Sensitivity	-80dBm	Dynamic Current	80mA @ 5V
Protocols	CSV, RAW, MAVlink, ASTERIX, GDL90	Operating Temp	-40°C ~ +70°C
Range	150km (1dBi Antenna)	Dimensions	28*32*11.4mm
Max Targets	100	Weight	14.9g

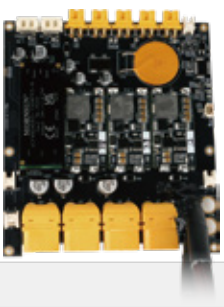
V-PMU



This power module is specifically designed for flight control systems. It integrates high-voltage step-down conversion with high-precision current and voltage measurement. It is widely applicable to unmanned systems, robotics, and industrial automation power management applications.

Overall Parameters			
Input Voltage	7~60V(2S~12S)	Voltage Accuracy	±0.1V
Maximum Current	60A（120s）	Output	5.3V/4A（Max 5 A）
Continuous Current	40A	Dimensions	25*32mm
Current Accuracy	±0.2A	Weight	38.7g

PBmain



This power management board is designed for highly integrated small-to-medium unmanned systems. It supports 12S battery input with up to 250 A current capability. It provides four high-current 50 V outputs (XT90 connectors) and integrated step-down outputs of 24 V / 12 V / 7.5 V / 5 V, all with over-voltage protection.

PBmain (Power Management Board)			
Processor	STM32F303	Communication Interfaces	Serial Port, CAN
Input	55V/200A	Voltage & Current Telemetry	DroneCAN, ADC
Output	4 * 55 V / 120 A 1 * 55 V / 3.75 A 1 * 24 V / 4 A 1 * 12 V / 3 A 1 * 7.8 V / 3 A 3 * 5.3 V / 5 A 3 * navigation light outputs (12 V / 0.2 A)	Dimensions	120*140*22mm
		Weight	563.6g
Current Sensing Method	Hall-effect sensing		

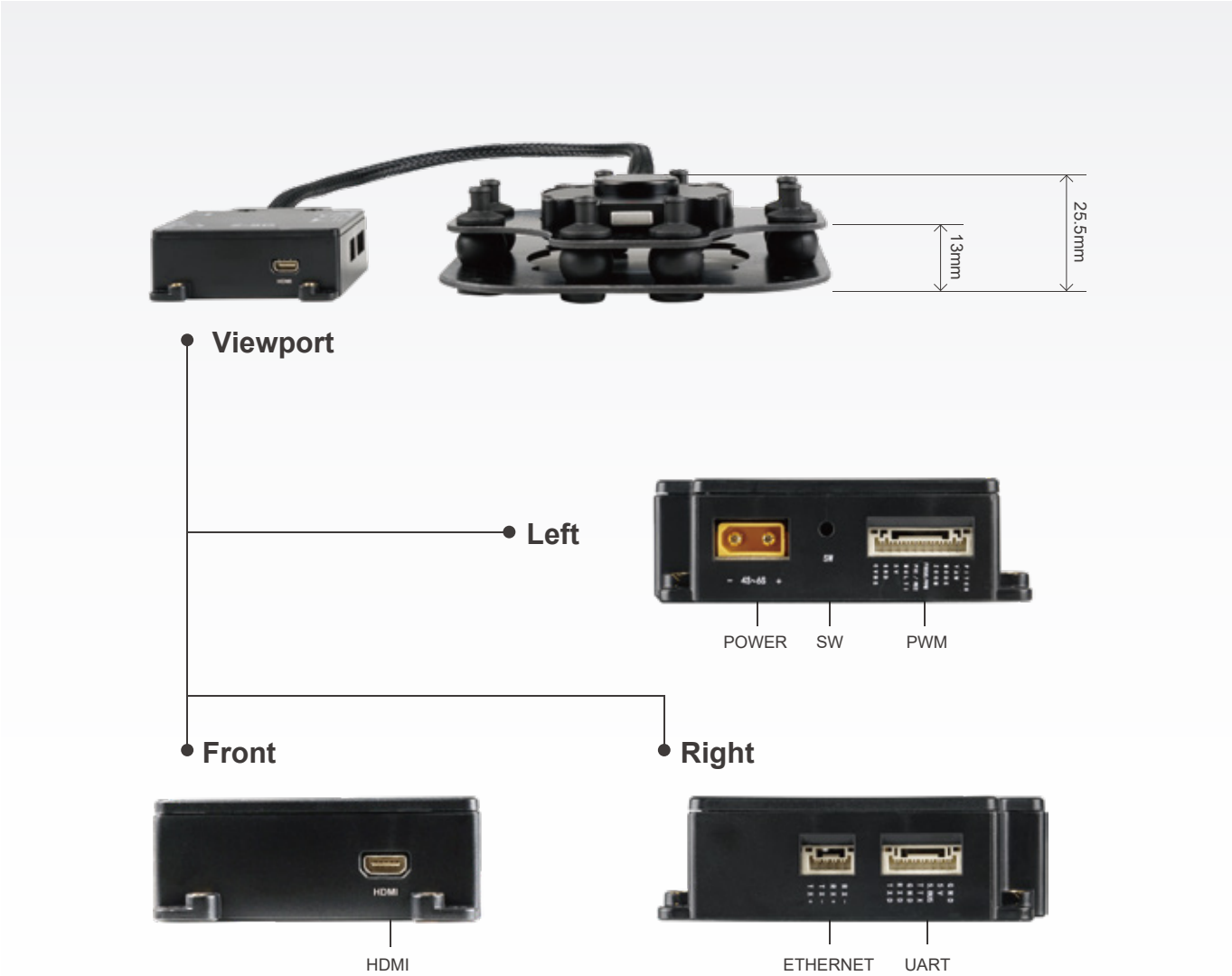
Viewport

Plug and Play Quick Setup
and Release

- Compatible with the full range of our cameras
- Net weight: 140 grams
- Quick release board size: 100*100*25.5mm
- Control box size: 48.4*56.2*14.2mm



Viewport Overview

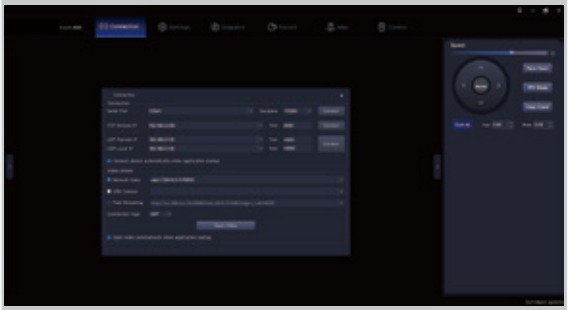


BlueEye Overview

BlueEye is a professional and user-friendly gimbal control software, engineered for precision and ease of use. It supports IP (RTSP/UDP/RTMP) and USB connections. Its built-in video player is intelligently optimized based on the user's computer configuration, providing an ultimate viewing experience with smooth and delicate visuals. Additionally, it supports multi-stream pulling, virtual nine-grid lines for balanced visuals. It can connect to Ethernet TCP/UDP or serial port TTL for gimbal control, enabling features such as gimbal firmware upgrades, encoder settings, 3D map visualization, flight path recording, live streaming, joystick configuration, OSD settings, remote control settings, file saving, extended commands, and general settings etc.

Windows

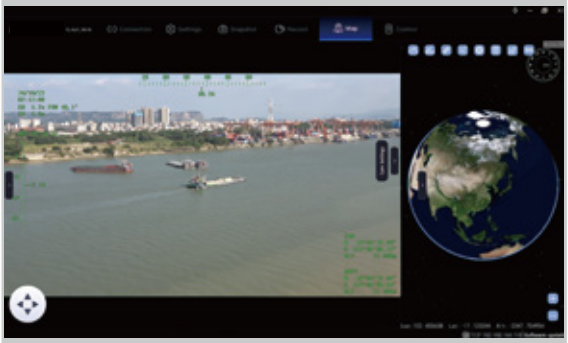
Device Connection



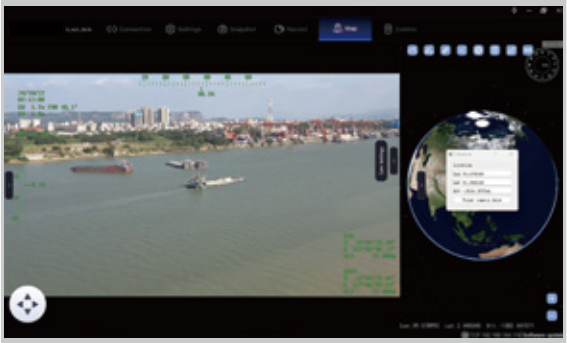
Camera Settings



Location

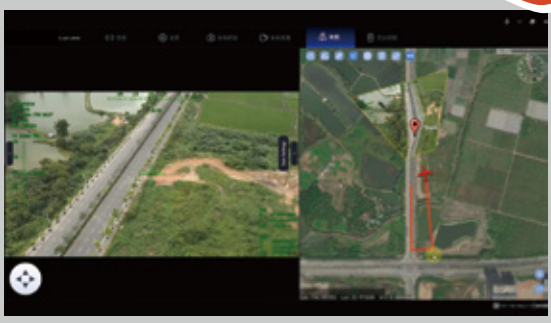


Location Settings

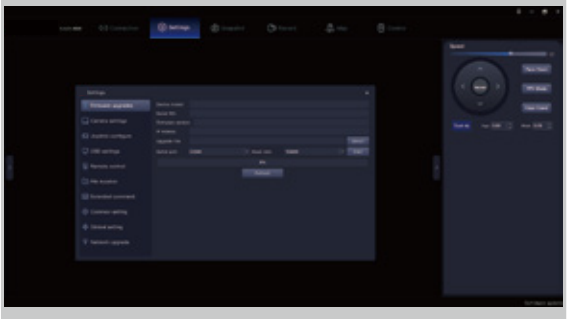


GIS

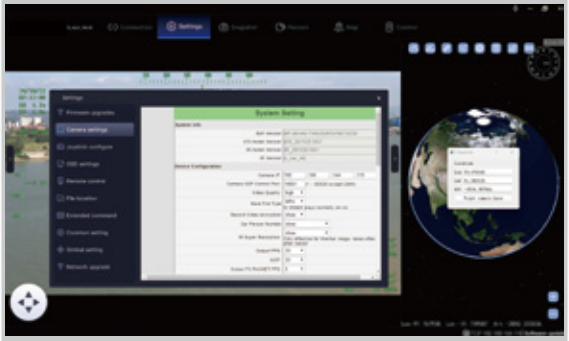
New Release



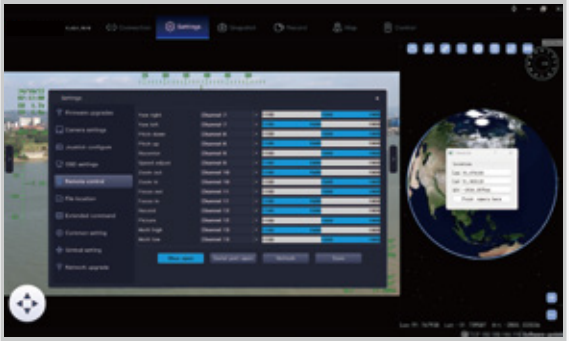
Firmware Upgrade



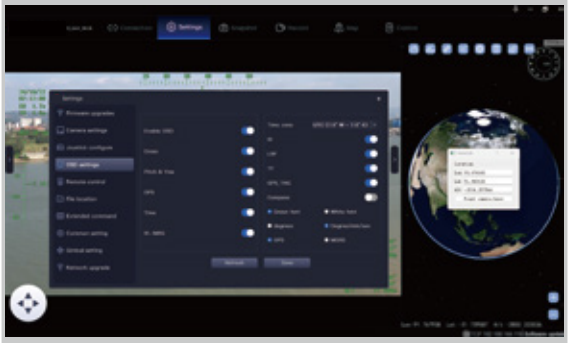
Encoder Settings



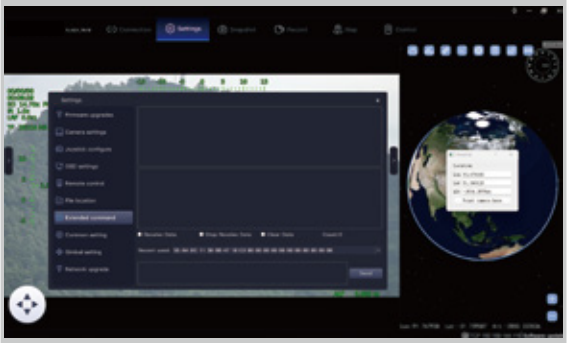
Joystick Settings



OSD Configuration



Extended Commands



Android

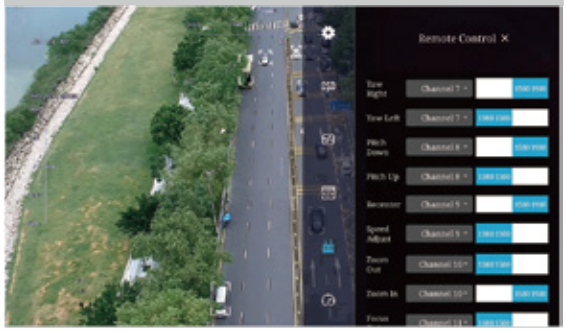
Log in



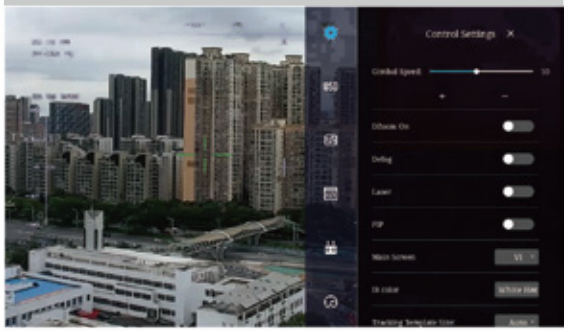
Device Info



Remote Control



Control Settings



Main interface



Main interface



VStation Overview

VStation is an Android terminal APP designed for drones. Through the careful design and technical implementation, it brings the unprecedented smooth experience to the users, and the features as below.

1. Supports the image preview and control of V-UAV gimbal camera.

2. Amap and Google map are optional.

3. Add voice broadcast which can broadcast the status of aircraft in real time.

4. Compatible with a variety of image transmission access.

5. Task type, parameter list, etc.

6. Compatible with APM flight control and firmware (lower version may not support).

7. Supports multiple unmanned systems.

8. Supports flight data (speed, battery level display, signal strength).

9. Supports calibration (accelerometer calibration, gyroscope calibration, magnetic compass calibration).

10. Supports flight control settings (fail-safe, receiver type, voltage, current, voice broadcast).

11. Supports parameter setting (basic parameter and advanced parameter setting).

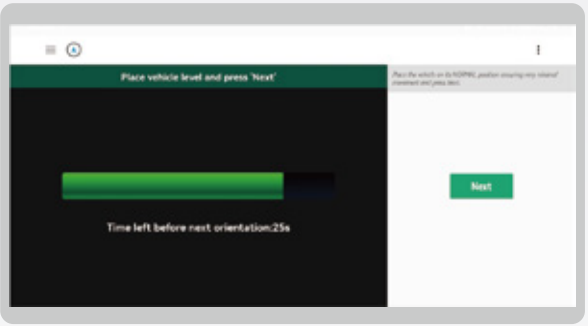
12. With EKF status displayed, the health status of the flight controller can be clearly known. the flight controller firmware version must be above AC3.3.

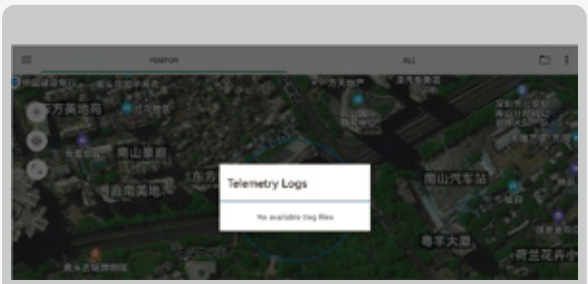
13. The flight status can be displayed.

14. Route planning, the aircraft can fly autonomously under the guidance.

15. Log record, the flight data of the aircraft can be collected and saved in the mobile phone as a file, the user can review the log of the aircraft after the flight.

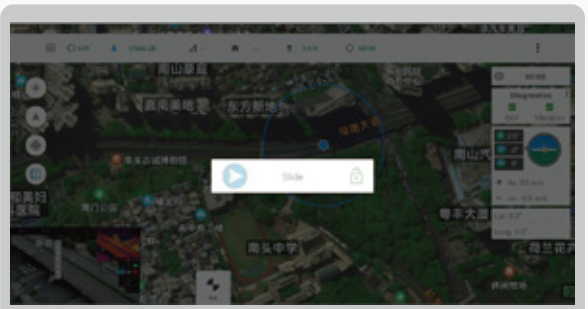

USB


Place vehicle level and press 'Next'
Next
Time left before next orientation:25s


Telemetry Logs

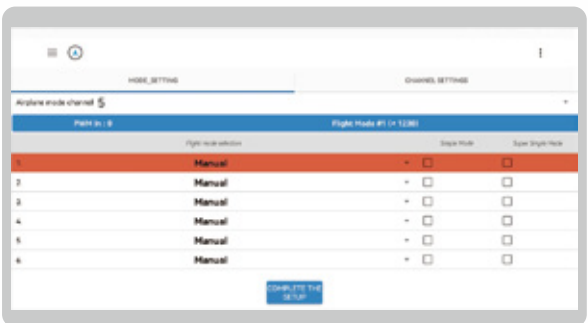



8 WAYPOINT






User Checklist
Control Surface
System Checklist


Manual



APPLICATION

Emergency Rescue

(Recommended gimbal payloads: H4Q-9, A10TR Pro, H30TL, A20KTR, A40TR Pro, M120 Pro, L4 Pro)

- **Visible Light Camera:** High-definition zoom enables long-distance situational assessment of disaster conditions, supports visual command and control, and contributes to precise and efficient rescue operations.
- **IR Thermal Imaging:** Real-time monitoring of risk points or trapped persons, early warning, and assistance in inspection, unaffected by darkness.
- **Laser Rangefinder:** Precisely determines dynamic coordinates of individuals and rapidly maps disaster locations.
- **Laser Illumination:** Provide high illumination to the EO camera so that the operator can see the target details even in completely dark conditions.
- **Searchlight:** Provides lighting support at rescue sites or illuminates evacuation routes for affected personnel.
- **Loudspeaker:** Offers long-distance reassurance and evacuation guidance for trapped individuals.









Public Safety

(Recommended gimbal payloads: H4TS-19, A10T Pro, Mini H30T, A20KTR, A40TR Pro, M120 Pro, L4 Pro)

- **Visible Light Camera:** High-definition zoom combined with AI-based human and vehicle tracking enables acquisition of on-site information from a safe distance. It effectively supplements areas not covered by fixed surveillance cameras.
- **Thermal Imaging:** Assists in nighttime search or tracking of suspicious individuals, provides intuitive assessment of crowd density, enables real-time evacuation guidance, and gives early warnings of potential stampede risks or fire hazards.
- **Laser Rangefinder:** Accurately measures target distance and supports target geolocation when integrated with compatible positioning systems.
- **Searchlight:** Provides continuous illumination of localized areas, preventing congestion and stampedes caused by darkness and panic.
- **Loudspeaker:** Enables ground-level guidance and coordination, allowing timely broadcast instructions.





Industrial Inspection

(Recommended gimbal payloads: A20KTR, A30TR-50M, Q30TIR Pro, A40TR Pro, L4 Pro)

- **Visible Light Camera:** High-definition zoom can detect subtle defects that are difficult to observe with the naked eye. It captures high-resolution imagery of key structural areas and enables efficient observation and evidence collection of target locations.
- **Thermal Imaging:** Allows multi-angle, full-range imaging of heat-generating components, precisely locating hidden abnormal heat sources.
- **Searchlight:** Provides mobile, wide-area aerial illumination for nighttime inspection and emergency repair, improving repair efficiency.





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