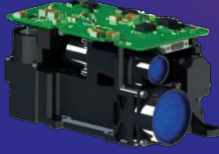


GÖKGÖRÜ DRONE GIMBAL 230



ISTANBUL
DEFENCE
SYSTEMS



The main features of the GÖKGÖRÜ DRONE GIMBAL 230 are:



Special for
Unmanned Vehicles



Built-in
INS/GPS



Laser Designation
Capability



Ballistic
Calculations

Maximum Weight	4,400 g
Maximum Height	350 mm
Maximum Diameter	280 mm
Thermal Camera	
Detector Type	LWIR (uncooled)
Detector Size	640x480
Lens	f→15-105 mm, F1.2
Pixel Size	12 µm
FOVs	43.3° - 8.2°(h) x 30.9° - 6.7° (v)
Spectral Band	8-14 µm
NETD (#F1.0)	<=20mK
Optic/Digital Zoom	7x Optical (+2x digital)
Focus	Continuous
Auto Focus	✓
Built In Test	✓
Window Defrost	Optional
Power Consumption	<3W Nominal
NATO Tank Target (m)	Tank (2.3 x 2.3)
Detection Range (km)	2.88 min 20.13 max
Recognition Range (km)	0.96 min 6.70 max
Identification (km)	0.48 min 3.36 max
Human Target(m)	Human (1.7 x 0.7)
Detection Range (km)	1.36 min 9.55 max
Recognition Range (km)	0.46 min 3.18 max
Identification (km)	0.23 min 1.59 max
Day TV Camera	
Sensor Type	Global shutter CMOS (Harrier 40x)
Optic Zoom	40x (for SD video quality)
Focus	Continuous
FOVs	62.9° - 2.2°(h) x 37.9° - 1.3° (v)
Resolution	1280x720px
Frame Rate	60 Hz
Illumination	<.001 Lux
Pixel Size	<3,5 µm
Digital Zoom	4x
Image Stabilisation	✓
Anti Blooming	✓
Auto Focus	✓
Window Defrost	Optional
Power Consumption	<6W Nominal
Detection Range	< 25 km
Recognition Range	< 19,5 km
Identification	< 11 km
Laser Range Finder	
Resolution	1550 nm
Max. Range (Static Application)	Up to 10.0km
Max. Range (Dynamic Application)	Up to 5.0km
Accuracy	±15m
Resolution	±0,5 m
Classification	Class I (eyesafe)
Laser Painter / Illuminator / Designator	
Power	20-80 mJ
Wavelength	1064 nm
Cooling	Uncooled/Cooled
Classification	Class II
Coding	STANAG 3733
Pan & Tilt Systems	
System Type	2 axis mechanical stabilization / 3 axis electronical stabilization
Pan	n x 360°
Pan Velocity	120°/s
Pan Acceleration	>10 rad/s2
Pan Accuracy	20 arcsec
Pan Repeatability	10 arcsec
Pan Angular Velocity Error	≤ 0.1°/s

Tilt	+10° / -80°
Tilt Velocity	45°/s
Tilt Acceleration	>10 rad/s2
Tilt Accuracy	20 arcsec
Tilt Repeatability	10 arcsec
Tilt Angular Velocity Error	≤ 0.1°/s
Position Accuracy without power	±0.01°
Pressurization	✓
Joystick Control	✓
SW Control	✓
Position Control	✓
Velocity Control	✓
Tracker Control	✓
Image Tracker	Day TV + IR Tracker
Stabilization	100 Hz
Gyro Noise	6 uRad
Stabilization	<75 µrad RMS
Motors	Direct Drive
Electronic Units	✓
P&T Status Control	✓
Digital Video Output	Ethernet (>3Mbps)
Video Source	Selective
Controls	RS232/Ethernet
Built-In-GPS	Dual
GPS Antenna Connector	SMA
Interface Connector	Axon Micro-D
Built-In-INS	Dual MEMS
Temperature Sensor	✓
Pressure Sensor	✓
BIT	✓
USB Ports	✓
Min Time for Operation	< 30 s
Max Operational Time	240 min
Voltage	24-33 VDC
Power Consumption	35W typical / 150W peak
Internal Navigation System	
IMU and GPS	Fully integrated, tightly coupled for Geo Pointing and real time Target GEO location
Accuracy	0.3° RMS heading / 0.1° RMS roll/pitch
Navigation data computing frequency	400Hz
System Support	MGRS and decimal degree system support
Software	Uploaded
Gimbal Controls	✓
Video Display	✓
Video Enhancement	✓
Video Recording	32GB
Video Encoder	H.264 and H.265
Picture-in-Picture Dual Video	✓
Adjustable bitrate and resolution	✓
Image Capture	✓
DHCP or static IP addressing	✓
Unicast and Multicast video stream	Unicast/Multicast
Firmware Upgrade	✓
Thermal Camera White Hot Black Hot	✓
Thermal Camera Colored Imaging	✓
Operator API	✓
Map	✓
Moving Map	Optional
Moving Target Detection	✓
Auto Object Tracking	✓
Moving Target Tracking	✓
Multiple Target Tracking	✓
Target Location	✓
Geo Location	Independent
Balistic Calculation	✓