OPTIX JSC
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OPTIX GUARD G150

Surveillance system for long-range distances

APPLICATIONS:
Border control & observation

OPTIX GUARD G150 is surveillance system that can be placed (almost) on any sites.
The Integrated system includes OPTIX GUARD G150 multi-sensor system which includes the following sensors:

- Uncooled thermal imaging camera OPTIX Goliath;
- Powerful day color camera OPTIX DayBreaker;
- Laser rangefinder OPTIX LRF;
- Pan/tilt unit OPTIX PAnORAMIx360°.

The Goliath is an ideal solution for an application that requires a high optical magnification. The system is designed for 24/7 use. Typical applications that the Goliath may be used for:

- Day and night observation (for targets detection, recognition and identification);
- Intruder detection for border control;
- Ground operation (installed on a mast or remote-controlled robot);
- Illegal drug interdiction and detection of smuggling activities;
- Maintenance and fault detection of high-tension cables.

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OPTIX GUARD G150 - General technical characteristics

All components of the multisensor are built to withstand extreme conditions.
The Multisensor is rigidly constructed and without a general roof / sunshade that would cause wind resistance. Each device (thermovision camera, colour camera, laser rangefinder, Pan/tilt unit, power box) is equipped with its own individual roof / sunshade to minimize wind resistance. All external components is designed to operate in high humidity, very low and very high temperatures. The cameras are in the same housing.

Camera video output	Two separate independent H.264 video streams, one for each camera.
Consumption	300 W
Control interface	Serial and Ethernet
Supported control protocols	ONVIF Profile S
Supported video outputs	RTSP H.264 video streams and ONVIF profile S
Operating temperature range	From -32°C to +55°C
Operating voltage	18 to 32 Vdc
Weight	<45 kg
Environmental	IP67

OPTIX Goliath 150 technical characteristics:

TECHNICAL CHARACTERISTICS		OPTIX Goliath 150
FOCAL PLANE ARRAY	Type	Uncooled LWIR VOx Microbolometer
	Pixel Count (Resolution)	640x512
	Pitch size	12 µm
	Spectral Response	8 ÷ 14 µm
	Thermal Sensitivity (NETD)	≤40 mK
OPTICS	Focal Length of Objective Lens	30-150 mm
	Focus	Automatic or Manual (remote)
	Optical Zoom	Up to 5x
	Digital Zoom	Up to 8x
	FOV	14.6°- 3.0° (H)
	Analog Video Output Format	Analog, RTSP H.264 Ethernet stream, OSD

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VIDEO	Control interface	Serial, Ethernet
Image	Image stabilization	Video processing unit -NViS Server (VPU/ST)
	Image processing	Tunable Digital Detail Enhancement Brightness Contrast Digital Noise Reduction Non uniformity correction White Hot / Black Hot Colour Palette
CONSUMPTION & VOLTAGE	Power Consumption	15 W typical, <60W maximum with heaters /lens defrost
	Operating Voltage	18 - 32 Vdc
STATIC RANGE PERFORMANCE The distances defined are calculated in geometrical values only human (1.8 m x 0.5 m), vehicle (2.3 m x 2.3 m) .	Human Detection Range	> 6380 m
	Human Recognition Range	> 2280 m
	Human Identification Range	> 1170 m
	Vehicle Detection Range	> 11150 m
	Vehicle Recognition Range	> 5280 m
	Vehicle Identification Range	> 2740 m
	Method:	STANAG 4347
	$\Delta T0(K)$	2
	σ[km−1]	0.2
	Probability	50 %
	Background temperature	288 K
ENVIRONMENTAL CHARACTERISTICS	Operating Temperature Range	-32°C to +55°C
	Storage Temperature Range	-50°C to +60°C

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According to MIL-STD-810	IP Protection rating	IP 67
PHYSICAL CHARACTERISTICS	Weight	< 14 kg
	Dimensions	Max 600 x 225 x 220 mm

OPTIX DayBreaker Technical characteristics

TECHNICAL CHARACTERISTICS		OPTIX DayBreaker
IMAGE SENSOR CHARACTERISTICS	Sensor type	1/1.9" Progressive CMOS
	Resolution	1920x1080
	Sensitivity	Colour 0.001 Lux @ (F1.5, 25 fps);
	Digital Optical Zoom	Up to 8x
	Optical Zoom (Continuous)	Up to 30x
	FOV Range (horizontal)	59°- 2.25°
	Focus mode	Automatic or Manual (remote)
	Optical filters	Colour: IR Cut filter / B&W: Defog Filter – NIR only
IMAGE	BLC (Back Light Compensation)	Support
	Image processing	Auto / Manual White Balance Auto / Manual Gain Control Wide Dynamic Range Digital Fog Removal / Auto Contrast Dynamic Noise Reduction
	Optical defog	Support
	Image stabilization	Support
	Day / Night Switch	Support
	3D Noise reduction	Support

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	Video outputs	HD-SDI or analog, optional RTSP H.264
	Control interface	Serial, Ethernet
	Consumption Wide Dynamic Range Digital Fog Removal / Auto Contrast	15 W typical, < 60 W maximum with heaters / lens defrost
	Operating voltage	18 - 32 Vdc
	Dimensions	Max. 490 x 170x 175 mm
	Weight	Max. 8 kg
ENVIRONMENTAL CHARACTERISTICS	Operating Temperature Range	-32°C to +55 °C
	Storage Temperature Range	-40°C to +70°C
	IP Protection rating	IP67 built according to MIL-810

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OPTIX LRF 30 technical characteristics

TECHNICAL CHARACTERISTICS	OPTIX LRF 10
Laser safety class	1
Ranging capability	50m - 32 000 m
Measurement range (Standard target)	10 000m – Target size 2.3 x 2.3 m, visibility 15 km, target reflectivity 30%, detection probability >90%
Measurement rate	10 measurements per min (up to 40 meas. per min with reduced power / range)
Precision (depending on the distance and target reflectivity)	0.5 – 1.5 m
Beam divergence	0.35 mrad
Wave length	1.54 µm
Control interface	Serial, Ethernet
Operating voltage	18 - 32Vdc
Power consumption	3 W on standby, 7 W max on measurement
IP rating	IP67, built according to MIL-810
Operating temperature range	-32°C to +55°C
Storage temperature range	-40°C to +60°C
Dimensions	172 x 151 x 75 mm with connector
Weight	Up to 2 kg

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OPTIX PAnORAMIx360° technical characteristics

TECHNICAL CHARACTERISTICS	OPTIX PAnORAMIx360°
Pan axis speed	from 0.001°/s to 60°/s
Tilt axis speed	0.001°/s to 60 °/s
Accuracy	0.02°
Payload capacity	35 kg / 60 Nm
Backlash	None
Brake	Self-Locking
Operating voltage	18 - 32 VDC
Maximum power	160 W
Communication to the unit	Eth 10/100 Base-T, RS-232, RS-485, RS-422 (optional)
Control protocol	Optix protocol, PelcoD
Protection / IP rating	IP67, built according to MIL-810
Weight	Up to 25 kg
Pan axis range / angle	n x 360°
Dimensions (HxWxL)	Max. 325 x 220 x 340 mm (without arms)
Materials	Aluminum
Operating temperature	-32°C to +55°C