

Armor Eye - Single Camera High Quality SDI (1VIS or 1LWIR)

High quality Situational Awareness camera with SDI interface. Part of Kappa's turnkey system solution for efficient latency-free front and rear-view Driver Vision and SAS systems on ground vehicles.











Shown use cases: Installation at the Wisent II vehicle (left), Digging (middle) and driving at high speed (right)

Strong Points

-  High quality low light CMOS or LWIR sensor
-  Latency-free
-  Extreme DRI capabilities
-  Smooth, low-vibration video
-  Homologated components
-  Easy vehicle integration
-  Modular and scalable

Your Benefits

-  Ultra-fast reactions
-  Safe, exact threat detection
-  Day & night missions
-  Nausea & fatigue prevention
-  Istar-free
-  Clear product roadmap for future upgrades
-  Long-term available
-  Turnkey solution with flexible design

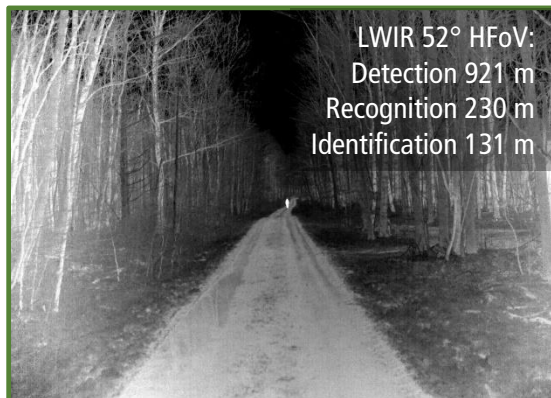
References in the Field

- FFG WISENT II
- Royal Norwegian Army
- Bundeswehr
- JCB High Mobility Engineer
- Excavator



Read more: kappa-optronics.com/dve

See more: Video footage from test drive:



LWIR 52° HFoV:
 Detection 921 m
 Recognition 230 m
 Identification 131 m



VIS 55° HFoV:
 Detection 1.658 m
 Recognition 414 m,
 Identification 236 m

We are constantly checking the accuracy of the technical data. We are prepared to provide more detailed information on request. Technical data are subject to change without notice!

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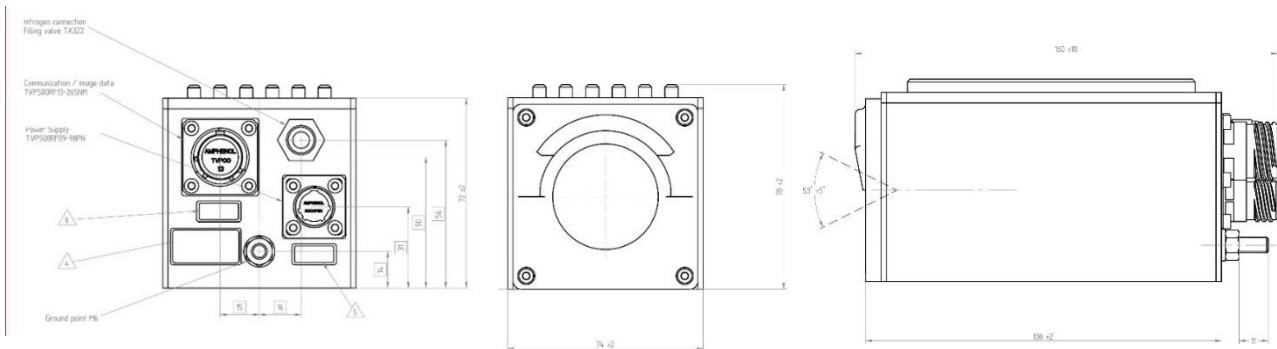
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Technical Data Sensor		
Sensor	Low Light	Thermal
Sensitivity	0.05 lux	< 50 mK
Type	CMOS	Microbolometer a-Si
Shutter	Global	Rolling
Color	RGB	Black hot or white hot
Number of pixels (H x V)	1920 x 1080 pixels (2.1 MP)	1024x768
Interface		
Data interface	HD-SDI (SMPTE 296M and SMPTE 292M) 3G-SDI	HD-SDI (SMPTE 296M and SMPTE 292M)
Control interface	RS422 or CAN on request	
Frame rate	30p or 60p	30p
Latency	< 16.6 ms including the exposure time of maximal 16.67 ms	< 33.34 ms including the exposure time of maximal 33.34 ms
Functions		
Exposure	manual/ automatic 60 fps: 29 µs to 16.6 ms	Shutterless calibrated fixed exposure
Gain	manual/ automatic 0 dB to 24 dB (analog gain)	Automated histogram stretching and tone mapping
Diagnostics	integrated self-test (power supply, temperature)	

Dimensions Construction Drawing



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General Data	VIS	LWIR
Dimensions	160 mm x 74 mm x 78 mm	
Weight	1.800 g	
Power supply	24/28 V DC, max 20 W with heater, max 5 W without heater or 28 V DC MIL1275E	
Connectors	Power D38999 Image Data D38999	
Lenses	55° HFOV, 31° VFOV 95° HFOV, 52° VFOV	52° HFOV, 39° VFOV 106° HFOV, 79° VFOV
Filter	NIR optimized	Without
Inner Housing	Nitrogen flooded	
Cooling	Radiator housing conducted	
Mounting Points	Four mounting holes	
Detection, Recognition, Identification (Humans)	95° HFoV: Detection 911 m, Recognition 227 m, Identification 130 m 55° HFoV: Detection 1.658 m, Recognition 414 m, Identification 236 m	106° HFoV: Detection 392 m, Recognition 98 m, Identification 56 m 52° HFoV: Detection 921 m, Recognition 230 m, Identification 131 m
Detection, Recognition, Identification (Tanks)	95° HFoV: Detection 2.681 m, Recognition 670 m, Identification 383 m 55° HFoV: Detection 4.878 m, Recognition 1.219 m, Identification 696 m	106° HFoV: Detection 1.154 m, Recognition 288 m, Identification 164 m 52° HFoV: Detection 2.710 m, Recognition 677 m, Identification 387 m
Temperature	33 °C to 71 °C (MIL STD 810 G 501.5 - High Temperature Procedure II- operation hot dry (A1)) -51 °C (MIL STD 810 G 502.5 - Low Temperature Procedure II- operation severe cold (C3)) 33 °C to 71 °C (MIL STD 810 G 501.5 - High Temperature Procedure I- storage hot dry (A1)) -51 °C (MIL STD 810 G 502.5 - Low Temperature Procedure I- storage severe cold (C3))	
Relative humidity	MIL STD 810 507.5-5 Natural Cycle B2- Cyclic high humidity	
IP code	IP69K frontal / IP67	
Shock	MIL STD 810 G 516.6 Procedure I - Functional Shock (40 g/ 11 ms)	
Vibration	MIL STD 810 G 514.6 Vibration Category 20 Tracked Vehicle (5 Hz to 2000 Hz) AECTP400 Figure B-3 Heavy Vehicle	
EMI (emissions)	Electric field emissions: RE102-4 (MIL-STD-461G) Conducted emissions: CE102-1, basic curve (MIL-STD-461G)	
EMI (susceptibility)	Radiated susceptibility: RS103, 2MHz to 18GHz (MIL-STD-461G) Conducted susceptibility: CS101-1, CS101-2, CS114-1, CS115-1, CS116-1 (MIL-STD-461G)	
EMI (ESD)	CS118, +/-8 KV contact discharge (MIL-STD-461G)	

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Cameras and Vision Systems for Anything that Drives or Flies

Rugged & certifiable: When lives and safety are at stake, Kappa delivers the best, most reliable, and most precise vision solutions.



Kappa has 40 years of experience with application-specific cameras and vision systems in rugged and certifiable design – in small and mid-sized series.

We offer innovative vision solutions for day and night operations, ensuring maximum performance of higher level systems. Our solutions are especially suitable for safety-critical applications. We provide on-site consulting, dynamic project management, and a highly experienced development team. Special signal processing, mechanical modifications and customer-specific interface configuration are all part of the Kappa concept, as are integration of optical components, illumination and video management.

We are leaders in technology. Moreover, we meet all safety requirements on design assurance procedures in hardware and software development, qualification and certification (up to SIL 2/ASIL-B/ DAL-B, ISO 26262, DO-254, DO-160, DO-178, MIL STD 810/704, Nato-Supplier Code C4792).

Your benefits at a glance

Extremely rugged design | High integration capability | ITAR free |
Certifiable maximum safety | Vision (sub-) systems, glass-to-glass,
board level cameras | Latency-free images | Long-term availability &
functional warranty | Day & night vision, 24/7

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