



## EOS-ZS20 Long-Range Marine PTZ Thermal Imaging Camera

Models	EOS-ZS20GIS
Distance	The recognition distance to the boat is 8000m, to the car is 6000m, to the person is 3000m
Thermal imaging	<ol style="list-style-type: none"> <li>1.Detectors: refrigerated focal plane array MCT detectors/uncooled vanadium oxide focal plane detectors</li> <li>2.Resolution: 640 × 512</li> <li>3.The wavelength is 3.7 μm ~ 4.8 μm/8 μm ~ 14 μm</li> <li>4.NETD: 20mK</li> <li>5.Lens: 30-300mm/25mm-75mm</li> <li>6.Lens control: Electric Zoom; Manual/Automatic Focus, 3A adaptive active focus algorithm, support a variety of trigger mode, accurate high-speed; 3CAM mode and AS + DOE opto-mechanical structure, high infrared transmittance, no empty focus and small axis in the zoom process</li> <li>7.Image Enhancement: SDE Digital Image Enhancement Technology, enhance image details, support 255 levels of thermal image enhancement adjustment</li> <li>8.Pseudo-color polarity: 16 pseudo-colour images, hot black/white two polarity</li> <li>9.Image parameters: AGC automatic gain control, brightness, contrast</li> <li>10.Electronic doubling: 1.0-8.0 × continuous doubling (step size 0.1), support optical electron relay doubling, support global hawk-eye map</li> <li>11.Range ruler: Support Range Ruler</li> <li>12.Bad Spot Correction: support bad spot correction function</li> <li>13.Image Correction: support manual correction, background correction, automatic correction interval</li> <li>14.Strong Light Protection: supports protection against Sun Damage</li> </ol>
Visible Light	<ol style="list-style-type: none"> <li>1.Sensor type: back-lit ultra-low-illumination star-level CMOS</li> <li>2.Minimum illumination: colour: 0.0005 lux; black and white: 0.0001 lux; 0lux (IRON)</li> <li>3.Lens: 7-330mm HD Electric Zoom; Manual/Automatic Focus, 3A adaptive active focus algorithm, support a variety of trigger modes, high-speed precision</li> <li>4.Image Processing: support white balance, electronic shutter, frame accumulation, backlight compensation, strong light suppression, 2D/3D</li> </ol>



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Laser Ranging (optional)	<p>1.Range: 50-6000 meters</p> <p>2.Ranging accuracy: <math>\pm 3</math> meters</p> <p>3.Range frequency: 0.2 Hz</p> <p>4.Laser wavelength: 1570nm</p>
Laser lighting (optional)	<p>1.Laser type: new infrared GHT-III high-definition flood uniform light source, no speckle particles</p> <p>2.Wavelength: 810nm Military Grade Infrared Laser</p> <p>3.Illumination Angle: <math>2^{\circ} \sim 40^{\circ}</math> , DSS digital step illumination Angle Control Technology</p> <p>4.Homogenization: the patented technology of super-homogenization for GHT-II high-definition lens group, the luminance equilibria of the full-focus segment are all <math>&gt; 92\%</math></p> <p>5.Laser Security: ZQB laser beam security processing patent technology, in line with the international IEC 60825 safety standards</p>
Audio and video	<p>1.Thermal image resolution: <math>1920 \times 1080</math>; <math>1280 \times 1024</math>; <math>1280 \times 960</math>; <math>1024 \times 768</math>; <math>1280 \times 720</math>; <math>704 \times 576</math>; <math>640 \times 512</math>; <math>640 \times 480</math>; <math>400 \times 300</math>; <math>384 \times 288</math>; <math>352 \times 288</math>; <math>352 \times 240</math></p> <p>2.Visible light resolution: <math>2592 \times 1520</math>; <math>2560 \times 1440</math>; <math>1920 \times 1080</math>; <math>1280 \times 1024</math>; <math>1280 \times 960</math>; <math>1024 \times 768</math>; <math>1280 \times 720</math>; <math>704 \times 576</math>; <math>640 \times 512</math>; <math>640 \times 480</math>; <math>400 \times 300</math>; <math>384 \times 288</math>; <math>352 \times 288</math>; <math>352 \times 240</math></p> <p>3.Video Coding: H. 265/h. 264/MJPEG, supports multiple streams</p> <p>4.Video rate: 32kbps <math>\sim</math> 16Mbps</p> <p>5.Audio Coding: G. 711A/G. 711U/G726</p> <p>6.Image Flip: left/right/up/down/diagonal</p> <p>7.OSD settings: Support Channel name, time, cloud position, field of view angle, focal length of OSD display settings, support preset bit name settings</p>



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Intelligent function	<ol style="list-style-type: none"><li>1.Intelligent Analysis: support for intrusion detection, cross-border detection, entry/exit zone detection, movement detection, loitering detection, people gathering, rapid movement, target tracking, item legacy, item retrieval; Human/vehicle target detection, face detection; support for 16 regions; support for intrusion detection, vehicle filtering function; support for target temperature filtering function</li><li>2Automatic tracking: support single scene tracking/support multi-scene tracking/support panoramic tracking/support alarm linkage tracking</li><li>3.Intelligent Information Fusion: support for 512 AR intelligent information fusion, Fire Point, intelligent analysis video identification information fusion, support azimuth angle, field of view, focus, multiple information fusion</li><li>4.Image Fusion: support 18 dual-light fusion mode, support picture-in-picture function</li><li>5.Alarm management: Support Alarm capture upload</li></ol>
Enhancements	<ol style="list-style-type: none"><li>1.Ranging function: support passive ranging</li><li>2.Strong light protection: support, anti-sunburn function</li><li>3.Temperature Correction: non-thermal design, imaging clarity is not affected by temperature</li><li>4.Scene mode: support multi-configuration scene, adapt to different environment application</li><li>5.Auto-focus tuning: support remote auto-focus precision parameter adjustment, adapt to different scenarios</li><li>6.Day and Night Cruise: Day and night group cruise different preset group, day cruise 1-40 preset position, night cruise 41-80 preset position, according to the light-sensitive state automatically switch day and night, adapt to different space-time scene</li><li>7.Lens servo: support lens preset position, focal length return, focal length positioning function</li><li>8.Power-off memory: support can restore the position before power-off, pre-position state, cruise state, line scan state</li><li>9.Off-line continuous transmission: support</li><li>10.Camera diagnosis function: support network alarm, support IP conflict alarm, support illegal access alarm (illegal access times, lock time can be set) , support SD card abnormal alarm (SD space is insufficient, SD card error, no SD card) , video occlusion alarm, anti-sun damage (support threshold, occlusion time can be set)</li></ol>



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<p>Enhancements</p>	<p>11.Life Cycle Management: Health Index record function, support working time, shutter times, working temperature, limit temperature, zoom lens and the cumulative working time of each motor, etc.</p> <p>12.Remote Maintenance: with fault query, self-check, remote restart function; online upgrade, remote upgrade</p> <p>13.Keyframe settings: support for 100-level keyframe interval adjustable</p> <p>14.Configuration File: Support Configuration File Import, export function</p> <p>15.Web Access: support WEB full-featured configuration, remote online upgrades</p>
<p>Security control</p>	<p>1.Support illegal access alarm: illegal access times, lock time can be set</p> <p>2.Support three levels of user rights management, administrators, operators, ordinary users</p> <p>3.Security mode: authorized user name and password, support IP whitelist and blacklist, Mac whitelist and Blacklist</p> <p>4.User error logon lock</p>
<p>Servo turntable</p>	<p>1.Structure: spherical, multi-dimensional free-form surface shape, small wind resistance, strong anti-shake, can withstand 12 levels of strong wind</p> <p>2.Windows: double/triple windows, 2/3 band sensors can be carried at the same time</p> <p>3.Horizontal range: <math>N \times 360^\circ</math> continuous rotation</p> <p>4.Pitch Range: <math>-45^\circ \sim +90^\circ</math>, with soft limit function, program can be set</p> <p>5.Rotation Speed: horizontal <math>0.01^\circ \sim 80^\circ/s</math>, pitch <math>0.01^\circ \sim 60^\circ/s</math></p> <p>6.Acceleration: level <math>120^\circ/s^2</math>, pitch <math>120^\circ/s^2</math></p> <p>7.Speed self-adapting: it has the function of intelligent induction and speed changing, and supports the function of lens focal length speed self-adapting</p> <p>8.Driving mode: High Torque Rare Earth permanent magnet synchronous motor direct drive, high speed start-stop</p> <p>9.Positioning accuracy: better than <math>0.02^\circ</math></p> <p>10.Positioning time: less than 4s</p> <p>11.Zero setting: support level and pitch zero setting</p> <p>12.Preset position cruising: 3000, support 16 cruising routes, each can support 256 preset position</p> <p>13.PATH scan: Support Preset Point Cruise, day and night cruise, line scan, frame scan, apple peel scan, scan speed can be set</p>



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Servo turntable	<p>14.Watch: preset position/pattern scan/cruise scan/vertical scan/frame scan/panoramic scan/apple peel scan/horizontal fan scan</p> <p>15.Motor Protection: turntable block protection, high reliability</p> <p>16.Gyro stabilization: Two-axis gyro stabilization, pitch <math>\leq \pm 10^\circ</math>, period &gt; 6 seconds, stabilization accuracy <math>\leq 2\text{mrad}</math> (RMS)</p>
Electrical interface	<p>1.Network interface: 1-way RJ45,10/100base-t adaptive</p> <p>2.Network protocols: support HTTP, HTTPS, FTP, SMTP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, ICMP, DHCP network protocols; support ONVIF and GB28181 protocols</p> <p>3.Secondary development: provide free SDK, easy to use or convenient secondary development</p> <p>4.Physical interface: alloy waterproof aviation plug</p> <p>5.Optical network: (optional built-in fibber module, single-mode fibber output, improve anti-interference)</p>
Power consumption	<p>1.Power supply: DC24V, with ultra-wide input power adapter, AC90V-305V to DC24V</p> <p>2.Power consumption: peak power consumption <math>\leq 250\text{W}</math>, stable power consumption <math>\leq 60\text{W}</math></p>
Environmental indicators	<p>1.Working Temperature: <math>-40^\circ\text{C} \sim +60^\circ\text{C}</math></p> <p>2.Storage Temperature: <math>-45^\circ\text{C} \sim +70^\circ\text{C}</math></p> <p>3.Humidity: &lt; 90%</p> <p>4.Lightning protection: built-in surge protection for interface circuit, 6000V</p> <p>5.Anti-salt spray: at PH 6.5-7.2, continuous spray 96 hours, no change in the surface</p> <p>6.Protection Level: IP67</p>
Size and weight	<p>1.Size: 280mm <math>\times</math> H430MM</p> <p>2.Total weight: <math>\leq 18\text{kg}</math></p>