

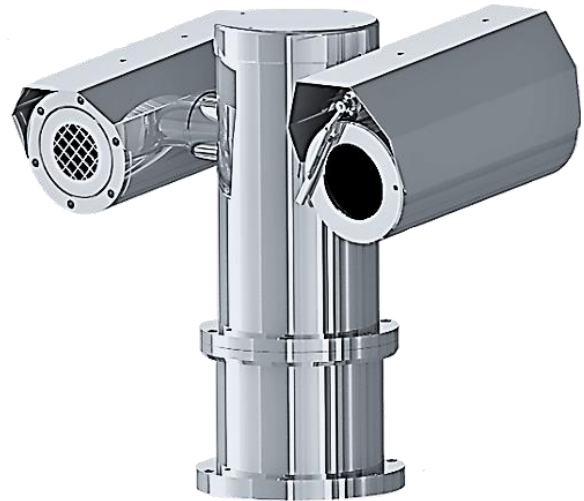
## SX1PTZD-22x4K Series

### Explosion Proof Dual PTZ Camera Station

Integrated with 8MP [4K] 22x Optical Zoom Sony Sensor Camera + Thermal Camera (384x288 or 640x480) Module



SX1PTZD-LEDW-G



SX1PTZD-W-G

### Main Features



Marine grade  
AISI316L Stainless  
Steel material



Ex II 2 G Ex db op pr IIC T6  
Gb / Ex II 2 D Ex tb op pr  
IIC T80°C Db



IP 66 / 68



Vandal-proof IK10  
ratings



Fitted with wiper  
mechanism



8MP [4K] resolution  
22x optical zoom lens



384x288 or 640x480  
resolution for thermal  
camera module



Option for IEEE  
802.3bt PoE++  
(90Watt)

## Technical Data

General	
Certification	Ex II 2 G Ex db op pr IIC T6 Gb / Ex II 2 D Ex tb op pr IIIC T80°C Db
Protection Level	IP 66 / 68, TVS 6000V Lightning Protection, Surge Protection and Voltage Transient Protection
Operating Temperature	-40°C to 60°C
Relative Humidity	≤95%
Mechanical	
Body Material	Stainless steel 316L material
Sight Glass Material	Window with hardened mineral clear tempered glass
	Window with Germanium glass (for SX1PTZD-G models)
Pan & Tilt Speed	Variable speed option: 0.1°/s to 45°/s
Pan & Tilt Movement	Pan: 360° continuously      Tilt: -90° ~ +90°
Overall Dimension (WxHxD)	<i>Please refer to overall dimension drawings of each model.</i>
Cable Entries	1 x M25 (optional additional cable entry upon request)
Weight	Approximate 45KG
Electrical	
Operating Voltage	AC110-240V (0.5A - 1.10A), 50/60Hz Optional: IEEE 802.3bt PoE++(90W)
Power Consumption	Max 110W (110V), Max 120W (240V)
Thermostatically Controlled Heater	T°C on: <10°C, T°C off: >10°C
Optional	
LED Illumination	Up to 200 meters (for SX1PTZ-LEDW model)
Built in Fiber Optic Module	Single Mode or Multi Mode (-SM or -MM model, please refer to below ordering info)
Accessories	
Standard	Sunshield for Camera Housing
Optional	Wall Bracket, Sunshield for Pan & Tilt Body

## IP Camera/Lens

Camera	
Day/Night	Automatically removable IR-cut filter
Shutter Time	1~1/10K s
Noise Reduction	2DNR, 3DNR, NR by motion
Image Settings	Color, Brightness, Sharpness, Contrast, White Balance, Exposure Control, Masking, Text Overlay
Corridor Mode	Corridor Mode 90°, 180°, 270° rotation
Image	
Image Sensor	1/1.8" Progressive CMOS
Effective Pixels	HxV = 3864x2180, 8MP [4K]
Pixel Size	2.0 μm
Lens	f =6.4 mm (wide) to 138.5 mm (tele), F1.5
FOV	Horizontal: 64° (wide), 3° (tele)      Vertical: 37° (wide), 2° (tele)
Zoom	22x Optical zoom, digital zoom ready
Min. Illumination	Color: 0.04Lux      B/W: 0.002Lux
Frame Rate (Maximum)	H265: HDR 4K @30fps + d1@30fps HDR 6M @30fps + 720p @30fps
	H264: HDR 4K @30fps + d1@30fps HDR 6M @30fps + 720p @30fps
	MJPEG: 1080p @30fps
Compression Standard	
Video Compression	H.265/H.264/MJPEG
Video Streaming	Up to 4 individually configurable streams in H.265/ H.264/ MJPEG Configurable resolution/ frame rate/ bandwidth LBR/ VBR/ CBR in H.265/ H.264
Network	
Security	User Authentication/ HTTPS/ IP Filter/ IEEE 802.1x
Supported Protocols	ARP, PPPoE, IPv4/v6, ICMP, IGMP, QoS, TCP, UDP, DHCP, UPnP, SNMP, SMTP, RTP, RTSP, HTTP, HTTPS, FTP, NTP, DDNS
ONVIF	Profile S/ G/ Q/ T conformant
System Integration	
Analytics	Motion Detection/ Tampering
General	
Storage	Support for microSD/ microSDHC/ microSDXC card (up to 512GB) Support for recording to NAS

\*Analog camera and other camera module options are available upon request.

\*Thermal camera options are available for G model. Please contact us for the details

## Thermal Camera/Lens

	384	640
<b>Video</b>		
Type	Uncooled FPA microbolomete	
Resolution	384x288	640x480
Pixel pitch	17μm	
NETD	≤50mK@f1.0, 300K, 30Hz	
Field Frequency	50Hz	
Spectral range	8 ~ 14 μm	
<b>Lens</b>		
Focal Length Options	Motorized focus lens: 4.8mm, 8mm(f0.8), 12mm, 20mm, 35mm, 50mm, 75mm	
Focus Control	Motorized focus by pressing "focus +/-" button	
<b>Operational</b>		
OSD	Off / On (English: 20 characters, 5 Lines)	
Pan & Tilt Control	Yes	
Frame Frequency	25 / 30Hz	
Brightness	Manual adjustment (0~100)	
Gain Control	Manual adjustment (0~100)	
Image Enhancement	On / Off (Edge enhancement only)	
Digital Noise Reduction (DNR)	SSNR (2D) Noise Filter (Off / On)	
Rotate Image	Flip: On / Off, Mirror: On / Off	
Intelligent Video Analytics	Motion Detection	
Alarm Triggers	Temperature Alarm, Motion Detection	
Built-in Motion Detection	Off / On (3 Zones, Rectangular)	
Temperature Alarm Events	Up to 10 rectangular ROIs, temperature setting in each ROI in max., min., or average	
Built-in Motion Detection	Off / On (3 Zones, Rectangular)	
Detection Mode (Thermal Core)	Normal Temperature Range	-20 °C ~ 120 °C
	High Temperature Range	0 °C ~ 500 °C
Measurement accuracy in lab condition	±2°C or ±2% of temperature reading (Thermal camera with normal temperature detection mode has better accuracy than camera with high temp. mode)	
Application	Fire prevention, Preventive maintenance, Intrusion detection (human, animal) and other general analysis application	

Network	
Ethernet	RJ45 (10/100BASE-T)
Video Compression Format	H264 (MPEG-4 Part 10/AVC) : Main/Baseline/High Motion JPEG
Resolution	720x756, 640x480, 584x288, 720x480, 520x240
Max. Frame Rate	[H264] Max 30fps at all resolutions, [MJPEG] Max 15fps@640x480
Bitrate Control Method	CBR or VBR, Motion JPEG: VBR (Bitrate Range: 128K ~ 1M)
Streaming Capability	Multiple Streaming (Up to 3 profiles) Max. Users Number: 10 (total bitrate), Max. Profile Count: 4, Fixed Profile (Default): 2
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, ICMP, IGMP, ARP, DNS, DDNS, SMTP
Security	IP Address Filtering User access Log HTTPS(SSL) Login Authentication, Digest Login Authentication, 802.1X Authentication
Streaming Method	Unicast / Multicast
Max. User Access	Max. 10 users access
API	ONVIF Profile S Ver 2.4
Web Language (17)	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Dutch, Portuguese, Turkish, Polish, Czech, Hungarian, Greek
Web Viewer	Supported OS: Windows XP / VISTA / 7 / 8 / 8.1 / 10 Supported Browser: Microsoft Internet Explorer (Ver. 9~11)

## Thermal Camera Lens FOV and DORI Comparison

Measured max. range for **human** detection, recognition, and identification with 0.5m width x 1.8m height:

Resolution	Lens (mm)	FOV	Detection (m)	Recognition (m)	Identification (m)
640x480	4.8	97.15° x 80.73°	178.58	44.64	22.32
	8	68.43° x 54.04°	297.63	74.41	37.20
	12	48.77° x 37.56°	446.44	111.61	55.80
	20	30.43° x 23.06°	744.07	186.02	93.01
	35	17.67° x 13.30°	1302.11	325.53	162.76
	50	12.42° x 9.33°	1860.16	465.04	232.52
	75	8.30° x 6.23°	2790.24	697.56	348.78
384x288	4.8	68.43° x 54.04°	178.58	44.64	22.32
	8	44.39° x 34.03°	297.63	74.41	37.20
	12	30.43° x 23.06°	446.44	111.61	55.80
	20	18.54° x 13.96°	744.07	186.02	93.01
	35	10.66° x 8.00°	1302.11	325.53	162.76
	50	7.47° x 5.61°	1860.16	465.04	232.52
	75	4.98° x 3.74°	2790.24	697.56	348.78

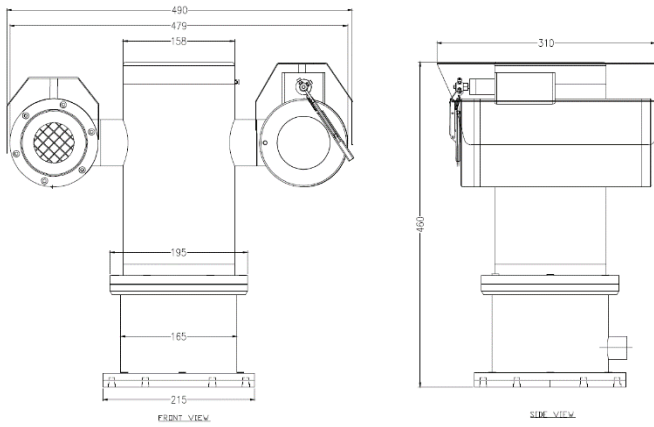
Measured max. range for **small vessel** detection, recognition, and identification with 4.5m width x 2.3m height:

Resolution	Lens (mm)	FOV	Detection (m)	Recognition (m)	Identification (m)
640x480	4.8	97.15° x 80.73°	605.58	151.40	75.70
	8	68.43° x 54.04°	1009.30	252.32	126.16
	12	48.77° x 37.56°	1513.95	378.49	189.24
	20	30.43° x 23.06°	2523.25	630.81	351.41
	35	17.67° x 13.30°	4415.68	1103.92	551.96
	50	12.42° x 9.33°	6308.12	1577.03	788.52
	75	8.30° x 6.23°	9462.18	2365.55	1182.77
384x288	4.8	68.43° x 54.04°	605.58	151.40	75.70
	8	44.39° x 34.03°	1009.30	252.32	126.16
	12	30.43° x 23.06°	1513.95	378.49	189.24
	20	18.54° x 13.96°	2523.25	630.81	351.41
	35	10.66° x 8.00°	4415.68	1103.92	551.96
	50	7.47° x 5.61°	6308.12	1577.03	788.52
	75	4.98° x 3.74°	9462.18	2365.55	1182.77

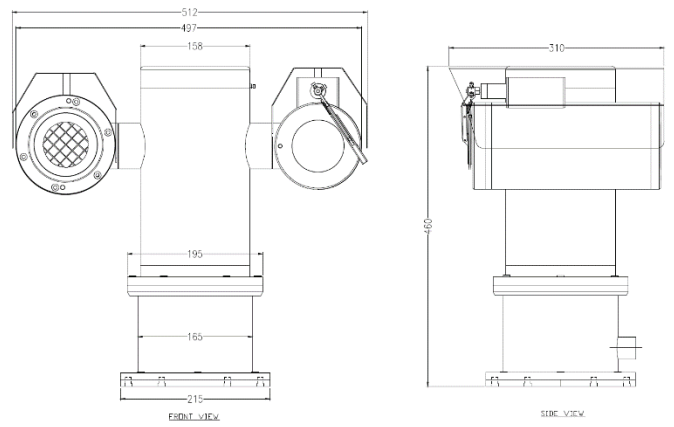
\*Lens 35mm, 50mm and 75mm will need to use GL Housing Series only.

### Lens Comparison Table

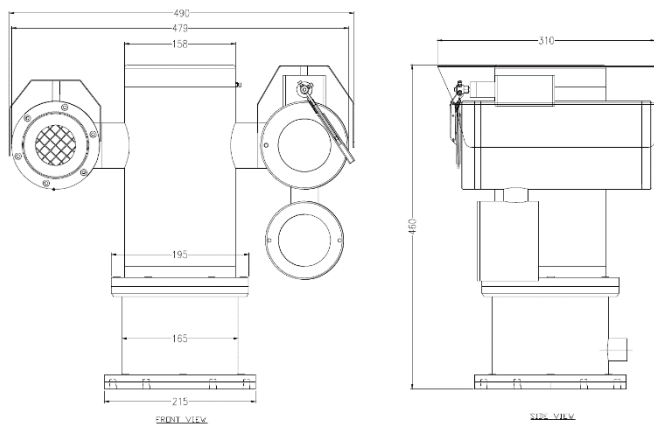
## Outline Dimensions (mm)



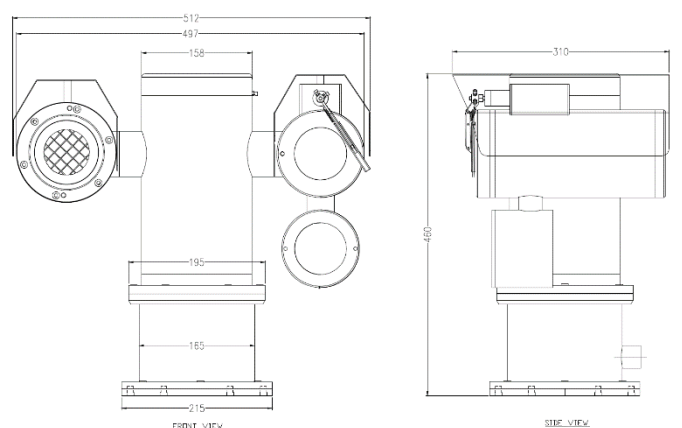
**SX1PTZD-W-G Outline Dimensions**



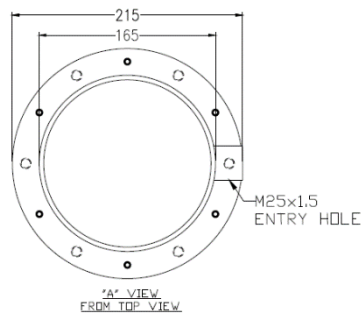
**SX1PTZD-W-GL Outline Dimensions**



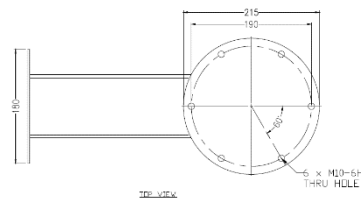
**SX1PTZD-LEDW-G Outline Dimensions**



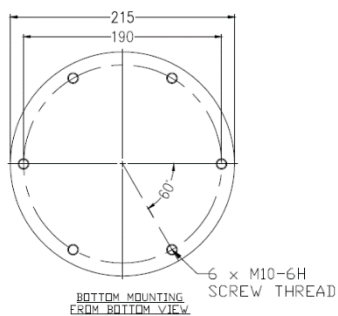
**SX1PTZD-LEDW-GL Outline Dimensions**



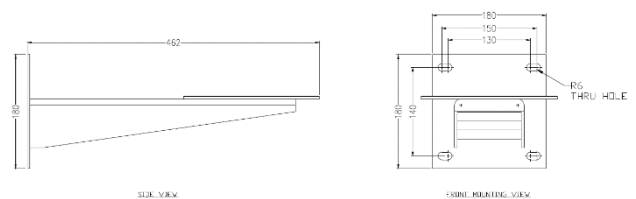
**Base View from Top**



TOP VIEW



**Base View from Bottom for Mounting**



SIDE VIEW

SIDE MOUNTING VIEW

**WB-SX1PTZ - Wall Bracket Outline Dimensions**

## Model & Ordering Code

SX1PTZD - X - X - 22x4K - X - X - X - X - X

Camera Station Options

W : Fitted with wiper  
LEDW : With LED Illuminator and Wiper

Camera Station Options

G : With Germanium Window and Front Guard  
GL : Large Diameter (143 mm) with Germanium Window and Front Guard

Thermal Camera Module Options

384 : 384x288 resolution  
640 : 640x480 resolution

POE Options

Blank : No additional option  
POE : POE++

Built-in Fiber Optic Module Options

SM : Single Mode  
MM : Multi Mode

Detection Mode Options

Blank : Normal Temperature  
H : High Temperature

Thermal Camera Focal Length Options

M4.8 : 4.8 mm motorized lens  
M8 : 8 mm motorized lens  
M12 : 12 mm motorized lens  
M20 : 20 mm motorized lens  
M35 : 35 mm motorized lens  
M50 : 50 mm motorized lens  
M75 : 75 mm motorized lens

*\*Please refer lens comparison table above.*

## Standard Accessories

SCH-SX1PTZD : Sunshield for Camera Housing

## Optional Accessories

WB-SX1PTZ : Wall Bracket  
SPT-SX1PTZD : Sunshield for Pan & Tilt Body