

SX1PTZ-AVI Series

Explosion Proof Dual PTZ Camera Station

Integrated with Avigilon Camera with optional built-in edge analytics + Thermal Camera (384x288 or 640x480) Module



SX1PTZ-LEDW-G



SX1PTZ-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



Multiple lens options available



Option for LED illuminator available



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



Intelligent Video Analytics for Human, Vehicle & Object Detection



(Optional) Advanced Analytics Fire or Smoke Detection



(Optional) Simplify Unified Intelligent Platform & Radar Tracking Integration

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>
Weight	Approximate 45KG
Wiper Mechanism	Available for all model
Cable Entries	1 x M25 (optional additional cable entry upon request)
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 or Dual Mode (-SM or -MM or -DM model, please refer to below ordering info)
Accessories	
Standard	Sunshield for Camera Housing
Optional	Wall Bracket, Sunshield for Pan & Tilt Body

	Self-learning Video Analytics Range					
	2MP, 18x Zoom	2MP	4MP (9)	4MP (22)	6MP	8MP [4K]
Sensor	1/2.8"			1/1.8"		
Focal Length (mm)	4.7 - 84.6	3.3 - 9	3.3 - 9	9 - 22	4.9 - 8	4.9 - 8
Focus	F1.6	F1.3	F1.3	F1.6	F1.8	
Effective Pixels (HxV)	(16:9) 1920 x 1080		(16:9) 2560 x 1440 (4:3) 2304 x 1728		(16:9) 3200 x 1800 (3:2) 3027 x 2048	(16:9) 3840 x 2160
Horizontal Angle of View	(16:9) 4.1° - 60°	(16:9) 34° - 99°	(16:9) (4:3) 34° - 92°	(16:9) 14° - 31° (4:3) 11° - 24°	(16:9) 52° - 92° (3:2) 41° - 73°	(16:9) 52° - 92°
Max Image Rate	(50 Hz/60 Hz): 25 fps/30 fps		WDR off (50 Hz/60 Hz): 25 fps/30 fps WDR on (50 Hz/60 Hz): 20 fps/20 fps		(50 Hz/60 Hz): 25 fps/30 fps	
Day/Night Control	Automatic, Manual					
Illumination Requirement	Color: 0.039Lux B/W: 0.02Lux	Color: 0.027Lux B/W: 0.014Lux	Color: 0.03Lux B/W: 0.015Lux	Color: 0.058Lux B/W: 0.029Lux	Color: 0.055Lux B/W: 0.028Lux	
Image Compression Method	H.264 HDSM SmartCodec, H.265 HDSM SmartCodec, Motion JPEG					
Protocols	IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, Zeroconf, ARP					
Supported Video Analytics Events	Objects in Area, Loitering, Crossing Beam, Object Appears or Enters Area, Object Not Present in Area, Objects Enter Area, Objects Leave Area, Object Stops in Area, Direction Violated, Tamper Detection					
Advanced Analytics	<i>(optional upon request)</i> Fire Detection or Smoke Detection					
Intelligent Platform	<i>(optional upon request)</i> Simpniify Unified Intelligent Platform Integration, Radar Tracking Integration					

*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
Video		
Type	Uncooled FPA microbolomete	
Resolution	384x288	640x480
Pixel pitch	17μm	
NETD	≤50mK@f1.0, 300K, 30Hz	
Field Frequency	50Hz	
Spectral range	8 ~ 14 μm	
Lens		
Focal Length Options	Motorized focus lens: 4.8mm, 8mm(f0.8), 12mm, 20mm, 35mm, 50mm, 75mm	
Focus Control	Motorized focus by pressing "focus +/-" button	
Operational		
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

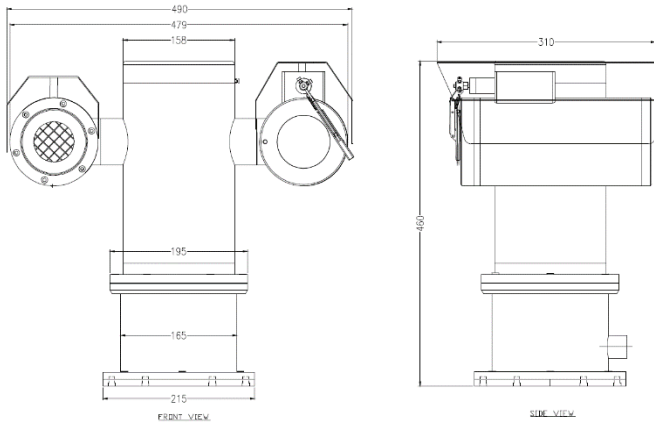
Measured max. range for **small vessel** detection, recognition, and identification with 4.5m width x 2.3m height:

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

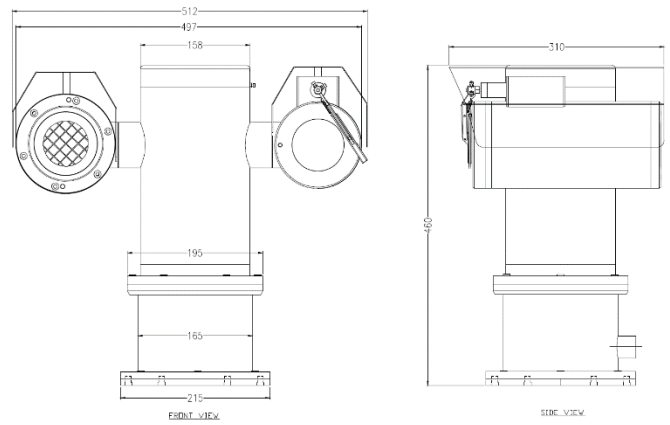
*Lens 35mm, 50mm and 75mm will need to use GL Housing Series only.

Lens Comparison Table

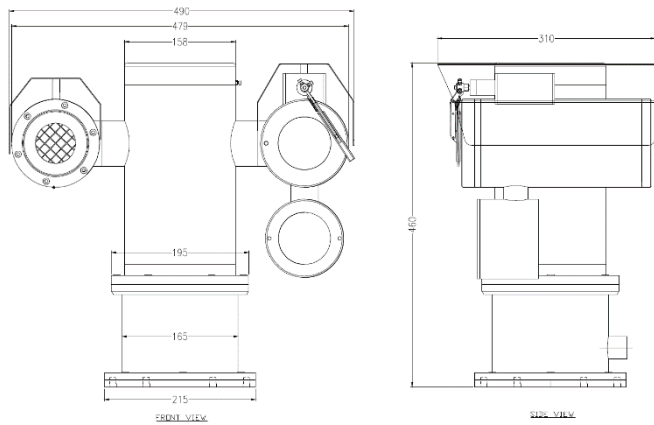
Outline Dimensions (mm)



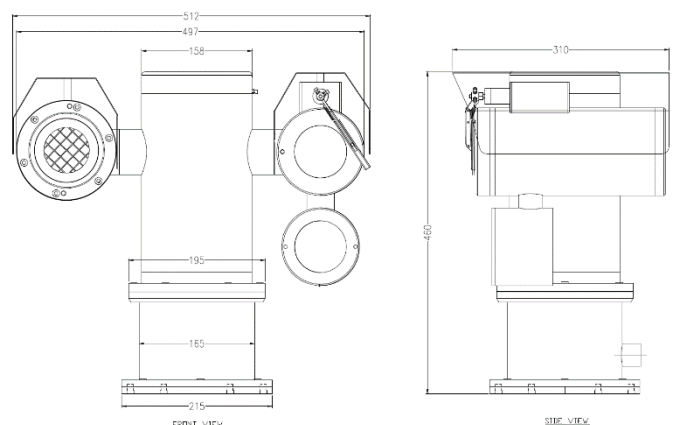
SX1PTZD-W-G Outline Dimensions



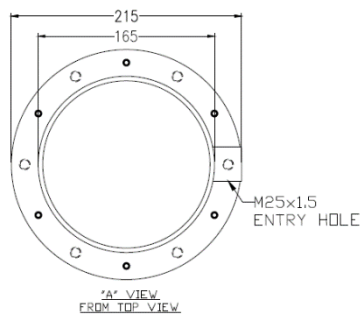
SX1PTZD-W-GL Outline Dimensions



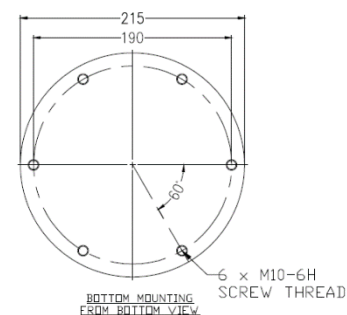
SX1PTZD-LEDW-G Outline Dimensions



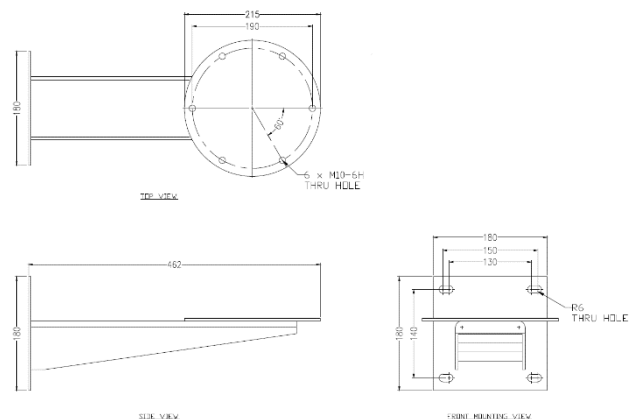
SX1PTZD-LEDW-GL Outline Dimensions



Base View from Top



Base View from Bottom for Mounting



Model & Ordering Code

SX1PTZD - X - X - AVI - X - 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

Camera Module Options

18x2M : 2MP, 18x Zoom, IP with Self-learning Video Analytics
2M : 2MP, IP with Self-learning Video Analytics
4M (9) : 4MP (3.3-9mm), IP with Self-learning Video Analytics
4M (22) : 4MP (9-22mm), IP with Self-learning Video Analytics
6M : 6MP, IP with Self-learning Video Analytics
8M : 8MP, IP with Self-learning Video Analytics

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
DM : Dual 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