

SX1PTZD-37x4M Series

Explosion Proof Dual PTZ Camera Station

Integrated with 4MP 37x Optical Zoom Sony Sensor Camera Module with built-in edge analytics + 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 IIIC T80°C Db, IP 66 / 68



4MP resolution 37x optical zoom lens



Option for LED illuminator available



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



(Optional) 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>
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 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

IP Camera/Lens

Sensor	
Image Sensor	1/1.8" Sony Progressive Scan CMOS
Effective Pixels	HxV = 2688x1520 (4.53 MP)
Lens	
Focal Length	6.5 mm (wide) to 240 mm (tele)
Zoom	37x Optical Zoom (with up to 16x Digital Zoom)
Aperture	FNo: 1.5 ~ 4.8
FOV	Horizontal: 61.8° (wide), 1.86° (tele) Vertical: 37.2° (wide), 1.05° (tele)
Close Focus Distance	1m (wide) to 1.5m (tele)
Image	
Day/Night	Auto (ICR) / Manual (Color, B/W)
Image Settings	Saturation, Brightness, Contrast, Sharpness, Gamma, Exposure, WDR, BLC, HLC, White Balance (WB), Defog, Electronical Image Stabilization (EIS)
Exposure Model	Auto/Manual/Aperture Priority/Shutter Priority/Gain Priority
Flip Image	Support
AGC	Support
Noise Reduction	2D / 3D
S/N Ratio	≥ 55dB (AGC Off, Weight ON)
Min. Illumination	Color: 0.01Lux
Video	
Video Compression	H.265/H.264/H.264H/MJPEG
Resolution	Main Stream: 2688x1520@50/60fps; 1080P@25/30fps; 720P@25/30fps
	Sub Stream1: D1@25/30fps; CIF@25/30fps
	Sub Stream2: 1080P@25fps; 720P@25/30fps; D1@25/30fps
Video Streaming	Up to 3 individually configurable streams Configurable resolution/ frame rate/ bandwidth
Video Bit Rate	32kbps ~ 16Mbps
Network	
Supported Protocols	ONVIF, HTTP, RTSP, RTP, TCP, UDP
System Integration	
General Events	Motion Detection/ Tampering / Scene Changing / SD Card / Network / Illegal Access
Intelligent Video Analytics	(optional upon request) Human, Vehicle & Object Detections for Tripwire / Intrusion / Loitering / Abandoned Object / Missing Object / Parking Detection / Crowd Detection
Advanced Analytics	(optional upon request) Fire Detection or Smoke Detection
Intelligent Platform	(optional upon request) Simplify Unified Intelligent Platform Integration, Radar Tracking Integration
General	
Storage	TF card (up to 1TB)

*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

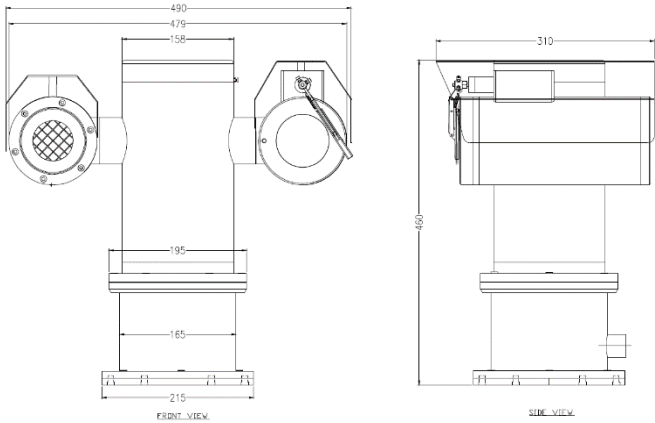
Measured max. range for **small vessel** detection, recognition, and identification with 4.5m width x 2.3m height:

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

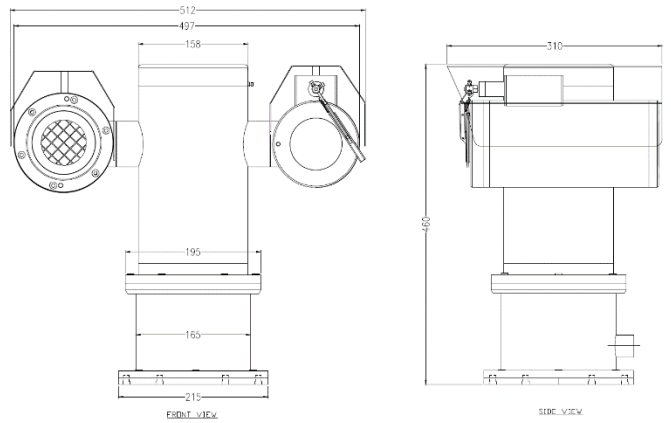
*Lens 35mm, 50mm and 75mm will need to use GL Housing Series only.

Lens Comparison Table

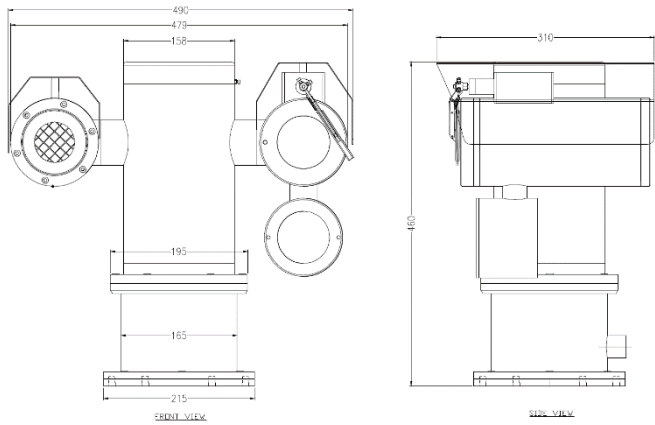
Outline Dimensions (mm)



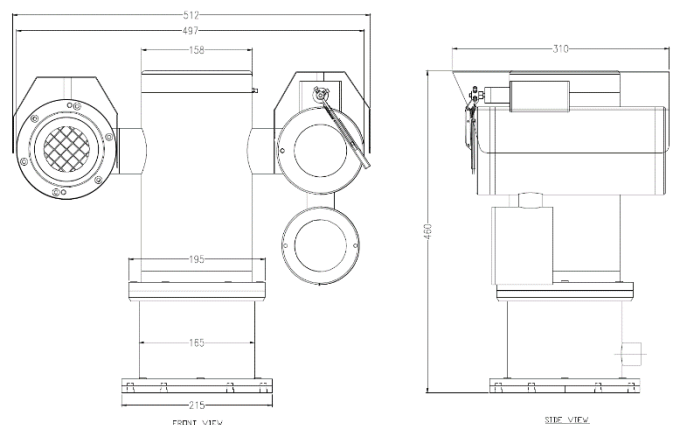
SX1PTZD-W-G Outline Dimensions



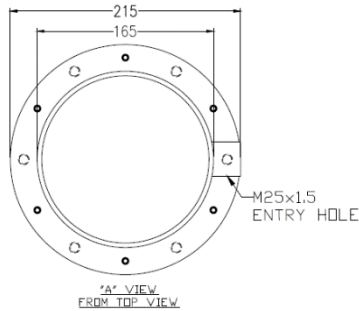
SX1PTZD-W-GL Outline Dimensions



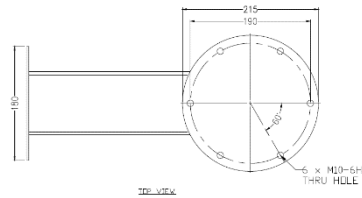
SX1PTZD-LEDW-G Outline Dimensions



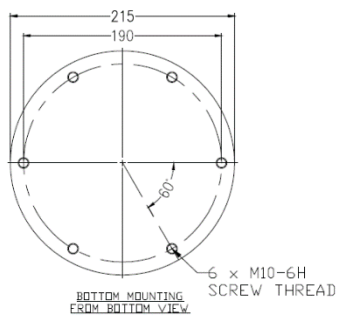
SX1PTZD-LEDW-GL Outline Dimensions



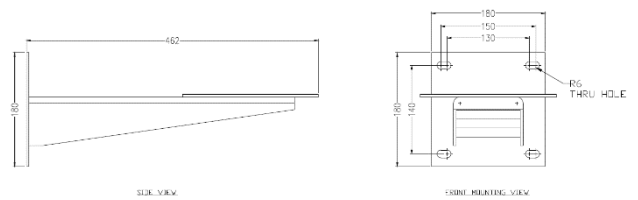
Base View from Top



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 - 37x4M - 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
 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