

## Surveyor HD PTZ Network Dome Series



- HD 720p resolution at 30 images per second
- 18x optical zoom
- WDR day/night camera (1.8 lux, day/0.02 lux, night)
- Dual encoding generates simultaneous H.264 or M-JPEG video streams
- ONVIF interface provides interoperability with open platform solutions
- High-speed 360° continuous pan
- Advanced titling features
- Scheduling of tours and presets

### System Overview

Vicon has enhanced the proven high-performance design of the Surveyor series of dome cameras with high definition (HD) video. The camera's superb HDTV quality video, low light capabilities and durability deliver a superior pan, tilt and zoom solution to customers. The new design conforms to the ONVIF (Open Network Video Interface Forum) specification, providing interoperability between network video products from different manufacturers. The camera can deliver custom resolutions up to 720P (1280 x 720).

The Surveyor HD supports high-profile H.264 and M-JPEG compression as well as multi-stream format capabilities to deliver bandwidth efficient high quality video. The camera's 18x optical zoom and HDTV resolution deliver the same level of detail as that provided by a standard definition camera with 35x optical zoom, but with a wider field of view.

The Surveyor HD can be programmed directly thru the ViconNet Video Management Systems interface as well as a standard Web Browser. The advanced scheduling capabilities allow users to automate camera positioning based on schedules and alarm inputs. Programmable privacy masks are used to conceal user-defined areas. Limits to the pan and tilt of the unit can also prevent operators from viewing restricted areas. Titles can be programmed in the unit to provide the operator with additional graphical information when controlling the camera (examples: sector titles and compass headings). Motion Detection regions can be programmed based on preset locations and the camera provides video analytics intelligent data to ViconNet Video Management System, which enables users to quickly find activity using a "Museum Search" feature.

### Construction and Installation

Vicon has a variety of hardware available to install the Surveyor HD in almost any environment. For indoor applications, an in-ceiling and pendant style camera is offered; for outdoor installations, a pendant configuration is available with a standard, pressurized, or high-impact housing. The pressurized and impact resistant versions of the lower dome are constructed of impact-resistant, polycarbonate and are secured by tamperproof screws.

The indoor model can be installed with a single Cat5 cable with PoE+. The standard outdoor units are IP66 rated and have built-in heater/blower units that ensure operation in a temperature range of -40° to 132° F (-40° to 55° C). The pressurized version of the camera provides IP67 protection.

The Surveyor HD can be ordered with optional fiber optic kits that are designed to transmit the data over multimode or single mode optical fiber up to 12 miles (20 km) in single mode or 2 miles (3 km) in multimode.

## Network Video Transmission

<b>Compression:</b>	H.264, M-JPEG.
<b>Video Streams:</b>	10 concurrent sessions maximum.
<b>Video Output:</b>	1280 x 720 @ 30 fps.
<b>Audio:</b>	Audio input support.
<b>Programming Interface:</b>	ONVIF, NTCIP or Vicon API.
<b>Protocols:</b>	IP, HTTP, RTSP/RTP, DNS client, FTP, SMTP, PPPoE, TCP/IP, DHCP, UDP, Multicast, NTP, DDNS, IGMP, ARP, SOAP, WSDL, WS-Discovery.

## Electrical

<b>Input Voltage:</b>	18-30 VAC; PoE+ on indoor only.
<b>Current:</b>	Indoor: 1.0 A maximum. Outdoor: 2.2 A maximum.
<b>Maximum Operating Distances:</b>	Refer to Table.
<b>Power Consumption (includes heater):</b>	Indoor: 20 W maximum. Outdoor: 70 W maximum.
<b>Fuse:</b>	Two Resettable 1.35 A, 72 V.
<b>Certifications:</b>	CE; FCC Class A. International Protection (IP) Ratings: Outdoor/Impact-Resistant: IP66. Pressurized: IP67 Indoor Pendant: IP62. In-Ceiling: IP51. NEMA.

## Camera and Optics

<b>Image Device:</b>	1/3-inch solid state progressive scan CCD.
<b>Zoom:</b>	18X optical.
<b>Picture Elements:</b>	1348 (H) x 976 (V), 1.32M total pixels.
<b>Sensitivity:</b>	Color: 0.18 fc (1.8 lux). B&W: 0.002 fc (0.02 lux) at 50 IRE, f/1.6, 1/4s, IRcf Off. IR cut filter is removable.
<b>Horizontal Resolution:</b>	800 TV lines (color and b&w).
<b>Synchronization:</b>	Internal.
<b>Gain Control:</b>	Automatic/Manual.
<b>Backlight Compensation:</b>	On/Off, selectable.
<b>Iris Control:</b>	Automatic.
<b>Wide Dynamic Range:</b>	On/Off, selectable.
<b>Video Focus:</b>	Automatic/Manual (near-far).
<b>White Balance:</b>	Automatic/Manual; Red/Blue gain adjustable.
<b>Shutter Speed:</b>	Automatic/Manual: 1/4 - 10,000 sec.
<b>Focal Length:</b>	4.7 - 84.6 mm.
<b>Aperture:</b>	f/1.6 (wide) - f/2.8 (tele).
<b>Angle of View:</b>	Horizontal: 55.2° wide, 3.2° tele.

Data Sheet Number: V214-01  
Dated: 12/2011

Vicon Data Sheet Part Number: 8009-7214-01-05  
Specifications subject to change without notice.

## Operational

<b>Drive Type:</b>	Electrical motorized pan and tilt with electronic control.
<b>Pan View:</b>	360° continuous.
<b>Tilt View:</b>	-2 to 92°.
<b>Pan Speed:</b>	400°/sec, max.
<b>Tilt Speed:</b>	150°/sec, max.
<b>Optical Zoom/Focus Speed:</b>	1.8 sec, tele to wide.
<b>Preset Capability:</b>	79 individually programmable.
<b>Preset Solving Speed:</b>	1 second nominal.
<b>Preset Accuracy (Pan and Tilt):</b>	0.1° maximum.
<b>Tour Capabilities:</b>	8 tours available. 32 programmable events per tour. Events may be preset positions with speed control, alarm acknowledge, dwell time control, relay control, call autotours, tour repeat or another tour, save/recall camera status.
<b>Autotour Capabilities:</b>	2 autotours available with 256 pan, tilt and zoom functions per autotour. Programming is done in real time with joystick and push buttons.
<b>Sectoring:</b>	16 maximum, programmable for size and titling. Sectors have the capability to be blanked out.
<b>Alarm Capabilities:</b>	4 alarm inputs, individually programmable. Functional state enable/disable. Report state (report on/off). Active state (high/low). Mode (manual, momentary or automatic) with programmable dwell time control. Set and reset action (preset solve, relay on/off, tour, autotour). Alarm titling. 1 relay, momentary or latching. Web browser.
<b>Alarm Output:</b>	1 relay, momentary or latching.
<b>Control Display:</b>	Web browser.
<b>Privacy Masks (future feature):</b>	80 total; 64 rectangular, 16 irregular shape. 10 individual simultaneously on-screen. Programmable, zoom-scalable.
<b>Scheduling:</b>	Real-time clock allows scheduling of up to 32 events, including presets, relays, alarms, tours or autotours.
<b>Multi-Language Menu:</b>	English, Spanish, French, Italian and German.
<b>Camera Features:</b>	Motion detection (Analytics) and image freeze during preset solve. Programmable.
<b>Screen Titling Capabilities:</b>	Programmable On/Off for camera, time/date, preset, sector, lens, aux and alarms. Pressurized version only: pressure, humidity, and temperature. Compass/azimuth, 8 compass headings (N, NE, E, SE, S, SW, W, NW). 20 characters maximum; selectable position. Two text sizes for top 2 lines. Fade capability (except camera, time/date and alarm).

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## Environmental

### Operating Temperature Range:

Indoor units: 32 to 132° F (0 to 55° C).  
 Outdoor units: -29 to 165° F (-34 to 74° C) in accordance with NEMA 2.1.5.1 STD 2; -40 to 132° F (-40 to 55° C), continuous rotation.

### Operating Humidity Range:

Indoor: 0 to 90% relative, non-condensing.  
 Outdoor: 100% relative, non-condensing.

### Storage Temperature Range:

-40 to 150° F (-40 to 65° C).

### Storage Humidity Range:

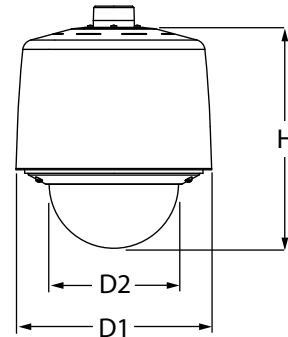
0 to 90% relative, non-condensing.

### Rain/Wind:

Outdoor: Heavy rain up to 4 in./hr at winds up to 90 mph, when mounted on standard Vicon wall mount.

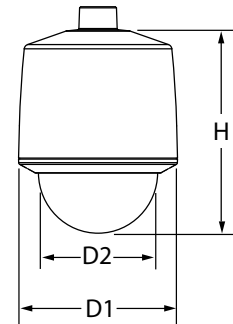
## Outdoor/High-Impact Pendant

- Die-cast aluminum enclosure, molded plastic sunshield
- Vandal-proof clear acrylic/polycarbonate dome
- Standard 1-1/2 inch male NPT fitting or metric equivalent
- Unit Diameter (D1): 9.0 inches (228 mm)
- Lower Dome Diameter (D2): 5.9 inches (150 mm)
- Height (H): 10.3 inches (262 mm)
- Weight: 7.7 lb. (3.5 kg)



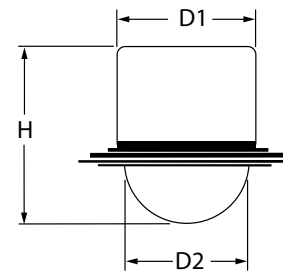
## Indoor Pendant

- Molded plastic enclosure
- Vandal-proof smoked acrylic dome
- Standard 1-1/2 inch male NPT fitting or metric equivalent
- Diameter (D1): 8.0 inches (203 mm)
- Lower Dome Diameter (D2): 5.9 inches (150 mm)
- Height: 10.0 inches (254 mm)
- Weight: 4.7 lb. (2.1 kg)



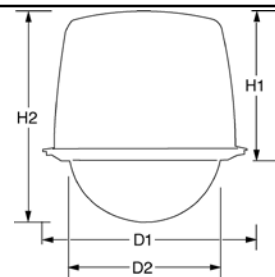
## Indoor In-Ceiling

- Black anodized aluminum
- Vandal-proof smoked acrylic dome
- Diameter (D1): 7.1 inches (180 mm)
- Lower Dome Diameter (D2): 5.9 inches (150 mm)
- Height: 9.7 inches (246 mm)
- Weight: 5.1 lb. (2.3 kg)



## Pressurized

- Die-cast aluminum enclosure; molded plastic sunshield
- Vandal-proof clear polycarbonate dome
- Standard 1-1/2 inch male NPT fitting or metric equivalent
- Unit Diameter (D1): 9.5 inches (241 mm)
- Lower Dome Diameter (D2): 6.0 inches (152 mm)
- Height (H2): 10.2 inches (259 mm); (H1): 7.3 in. (185 mm)
- Weight: 12.0 lb. (5.4 kg)













## Surveyor HD Models

Resolution	Optics	Indoor Environment			Outdoor Environment	
		In-Ceiling	Pendant Mount	Outdoor Dome	High-Impact Dome	Pressurized Dome
1.3	18X	SN118C	SN118D	SN118W	SN118M	SN118P

## Accessories

### Mounts

Description		Model Number	Description		Model Number
	Indoor or outdoor wall mount	SVFT-UWM		Wall mount for pressurized dome	SVFT-PR-WMA
	Indoor or outdoor ceiling mount	SVFT-UCM		Pipe adapter for pressurized dome	SVFT-PR-P
	Indoor or outdoor short wall mount	SVFT-WM		In-ceiling mounting kit	SVFT-IC-KT
	Outdoor parapet mount	SVFT-UPM-1		Ceiling panel for added support	SVFT-UCP
	Outdoor roof mount	SVFT-URM-1		Soffit mount for outdoor and impact-resistant dome	SVFT-SOF

## Power Supplies

Description	Model Number
24 VAC output, 120 VAC input, single-channel	S24WPS-1
24 VAC output, 230 VAC input, single-channel	S24PS-230
28 VAC output, 120 VAC input, single-channel	S28PS-1
24/28 VAC output 120/230 VAC input, single-channel	S28WPS-1/ S28WPS-230
24/28 VAC output 120 VAC input, four-channel	V2448-175PS
24 VAC output 120 VAC input, eight-channel	V248-600PS
24/28 VAC output 120 VAC input, eight-channel	V248-300PS
28 VAC output 120 VAC input, sixteen-channel	V2416-600PS

## Maximum Power Cable Distances

Wire Size (AWG) Annealed Copper Wire	Distance ft (m)	
	Indoor	Outdoor
	24 VAC	24 VAC
20	192 (57)	87 (27)
18	307 (93.6)	140 (43)
16	489 (149)	222 (68)
14	775 (236)	352 (107)
12	1235 (376)	561 (171)