

**Technical Specifications**

## Thermal Imaging Bullet IP Camera

- 17  $\mu\text{m}$  uncooled VOx microbolometer
- 320x240 / 640x480 Resolutions
- 30 fps or 9fps version for global commercial applications
- Flexible input power options: AC, DC, PoE
- 802.3af (PoE) simplified installation over a single standard cable
- Two-way audio
- Embedded VCA Technology video analytics
- Embedded Storage and Edge Recording
- Image Contrast Enhancement (ICE) features
- IP and analog connectivity
- Indoor/Outdoor (IP66)



CAMERA MODULE (Pixel Array)	
Array Size (Resolution)	<b>ITC6500QD:</b> 320x240 <b>ITC6500VD:</b> 640x480
Detection Type	Uncooled Vanadium Oxide Microbolometer
Sensor Pixel Size	<b>ITC6500QD / ITC6500VD:</b> 17 $\mu\text{m}$
Spectral Response	8-14 $\mu\text{m}$
Sensitivity (NETD)	< 50 mK at f/1.0
Lens (FOV)	<b>ITC6500QD:</b> 6°, 9°, 16°, 24°, 42°, 60° <b>ITC6500VD:</b> 12°, 18°, 25°, 37°, 50°
Scanning System	Progressive Scan

VIDEO	
Video Compression	H.264 Baseline, Main, High profile(MPEG-4 Part 10/AVC), MJPEG(Motion JPEG)
Video Streaming	Dual Stream, Configurable streams in H.264, MJPEG H.264: Controllable frame rate, bandwidth(VBR/CBR) MJPEG: Controllable frame rate, JPEG quality
Resolutions	<b>ITC6500QD:</b> 640x480 (VGA, Scaled-up), 320x240 (QVGA), 160x120 (QQVGA) <b>ITC6500VD:</b> 640x480 (VGA), 320x240 (QVGA), 160x120 (QQVGA)
Frame Rate	Configurable up to 30 FPS or 9 FPS*
Image Settings	Configurable brightness, contrast, and sharpness
Image Orientation	Flip / Mirror / Corridor Mode(-90°, +90°)
Motion Detection	Supported
Video Stabilization	Supported
Burnt-in Text	Supported
Privacy Mask	4 configurable regions
Image Process	Image Contrast Enhancement (ICETM)
Gain / Level Control	Automatic
Smart Bitrate Control	Supported
Analog Output	NTSC / PAL

AUDIO	
Audio Streaming	Two-way
Audio Compression	G.711-uLaw
Audio Input / Output	Supported

NETWORK	
Ethernet Standard	10 / 100 Base-T
IP	IPv4, IPv6
Protocol	QoS Layer 3 DiffServ, TCP/IP, UDP/IP, HTTP, HTTPS, FTP, RTSP, RTP, RTP/UDP, RTP/TCP, mDNS, UPnP™, SMTP, DHCP, DNS, DynDNS, NTP, SNMP v2c/v3(MIB-II), IGMP, ICMP, SSLv2/v3, TLS, SRTP, RTMP
Security	HTTPS(SSL), SRTP, IP Filtering, Multi-level access with password protection
Users	Live viewing for up to 10 clients

INTEGRATION	
Application Programming Interface	Software Development Kit(SDK) available
ONVIF Compliance	Profile S, Profile G
Event Sources	Sensor(DI); Alarm(DO); Video Motion Detection; Tamper Detection; Video Content Analytics(VCA); Network Loss/Detect; Network Setting Change; Time(Recurrence/Schedule); Storage Error
Event Actions	File upload: E-mail, FTP Notification: E-mail, FTP, HTTP, TCP(push, multicast, TCP event server) Active alarm(DO) Recording Event Log Saving
Event Metadata Streaming (RTSP/RTP)	Video Motion Detection(MD); Video Content Analytics(VCA)

GENERAL	
Material	Poly-carbonate, Aluminum
External I/O Terminals	1x Alarm In, 2x Alarm Out, RS-485
Language on Webpage	Korean, English, Chinese
Power Source / Consumption	DC 12V, AC 24V, PoE / 10W@12VDC
Weight	Approx. 1.2kg(2.65lb)
Dimensions (H x V x D)	3.7" x 3.9" x 11.5" (95 x 98 x 293 mm)

## Technical Specifications

Operating Temperature	-40°C ~ 60°C (-40°F ~ 140°F)
Storage Temperature	-50°C ~ 70°C (-58°F ~ 158°F)
Temperature Shock	-45°C ~ 65°C (-49°F ~ 149°F)
Humidity	Humidity up to 90% RH (non-condensing)
Approvals	KCC, KC safety(SDOC), FCC, CE, IP66, UL (all in progress)
Protection for Water and Dust	IEC 60529 IP66
Functional Vibration	10Hz to 30Hz, Amplitude 3.5mm , 1 hour
Handling Shock	Test Standard ISO 2248, dropping height based on ISTA2008 Resource book
EMI Testing	FCC Part 15 Subpart B Class A
Safety	UL 60065, 7th Edition, 2007-12-11, CAN/CSA-C22.2 No. 60065-03, 1st Edition, 2006-04 + A1:2006
RoHS Compliance	European RoHS directive, 2011/65/EU
CE Mark Certification	Compliant to 2014/30/EU directive

VIDEO ANALYTICS	
High Performance	Advanced tracking algorithm, low false alarm rate
Easy to Use	Intuitive web browser interface
Detection Zones	Multi-segment polygons and lines
On-screen Display	Real-time display of tracking data and events
Tamper Detection	Detect camera tampering
Presence Filter	Detect presence of an object
Detection Behavior	Direction and Dwell filters
3D Behavior	Perspective corrected size, speed filters and calibration

VIDEO ANALYTICS (OPTIONAL FEATURES)	
Detection Behavior	Enter, Exit, Appear, Disappear, Stop, Tailgating filters
Logical Rules	Extends standard rules to allow various combinations of the inputs
Counting Line	High accuracy people and vehicle counting
Counter	20 counters in total
Counting Report	Generates counter reports based on the counter database
Meta Data	Plain XML Format

EDGE STORAGE	
Storage	microSDHC memory card embedded (optional)
Recording Types	Continuous Recording or Event Recording
Continuous Recording	Instant recording; Search & Download
Event Recording	Search of Event Logs; Playback; Download

## Models by Resolution

320x240 Resolution			
Model	FPS	FOV	Standard
ITC6500QD-30A06	30	6.2 x 4.6	QVGA
ITC6500QD-30A09	30	9 X 6.7	QVGA
ITC6500QD-30A16	30	16 X 12	QVGA
ITC6500QD-30A24	30	24 X 18	QVGA
ITC6500QD-30A42	30	41.8 X 31.4	QVGA
ITC6500QD-30A60	30	60 X 45	QVGA
ITC6500QD-9A06	9	6.2 x 4.6	QVGA
ITC6500QD-9A09	9	9 X 6.7	QVGA
ITC6500QD-9A16	9	16 X 12	QVGA
ITC6500QD-9A24	9	24 X 18	QVGA
ITC6500QD-9A42	9	41.8 X 31.4	QVGA
ITC6500QD-9A60	9	60 X 45	QVGA

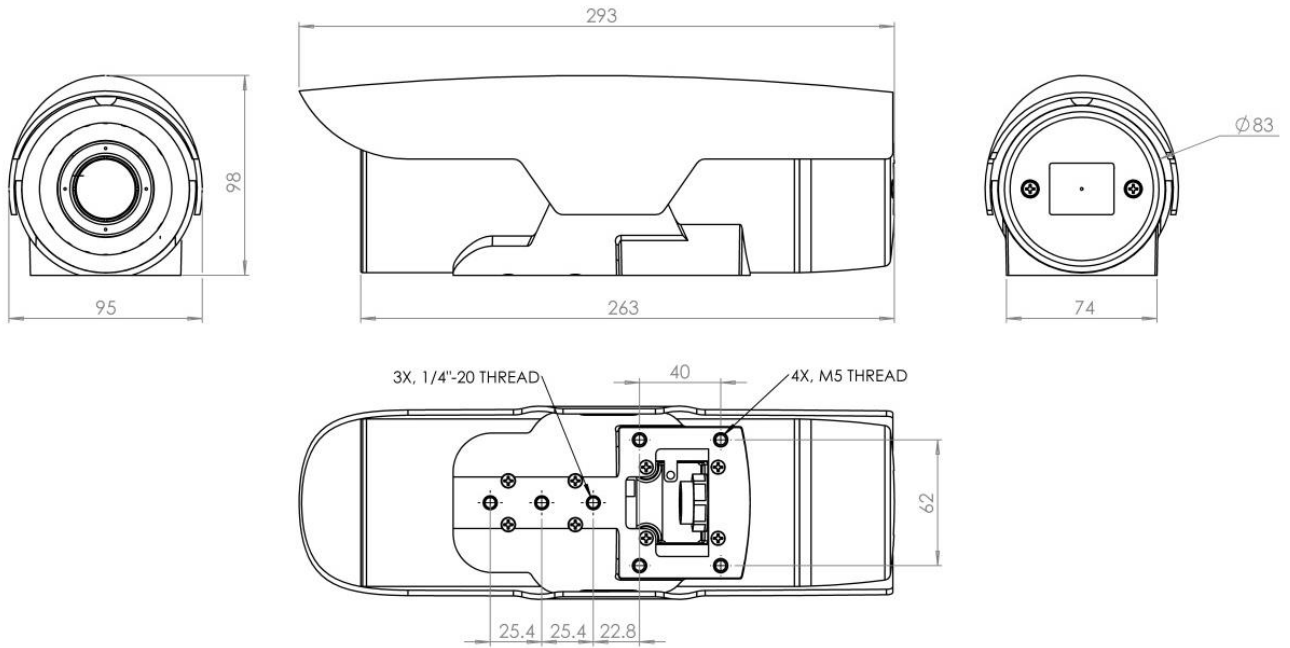
640x480 Resolution			
Model	FPS	FOV	Standard
ITC6500VD-30A12	30	12.4 X 9.3	VGA
ITC6500VD-30A18	30	17.6 X 13.2	VGA
ITC6500VD-30A25	30	24.8 X 18.6	VGA
ITC6500VD-30A37	30	37.5 X 28	VGA
ITC6500VD-30A50	30	49.8 X 37	VGA
ITC6500VD-9A12	9	12.4 X 9.3	VGA
ITC6500VD-9A18	9	17.6 X 13.2	VGA
ITC6500VD-9A25	9	24.8 X 18.6	VGA
ITC6500VD-9A37	9	37.5 X 28	VGA
ITC6500VD-9A50	9	49.8 X 37	VGA

\*9 Hz models are export controlled by the U.S. Department of Commerce under ECCN 6A993.  
 30 Hz models are export controlled by the U.S. Department of Commerce under ECCN 6A003b.4.b.  
 The commodities described herein may require the U.S. Government authorization prior to export or re-export.

**Technical Specifications**

**Dimensions**

(Unit: mm)



**Technical Specifications**

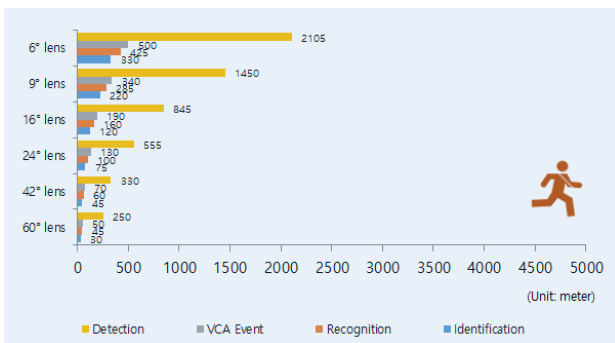
**Detection Range**

\*The detection range is of the maximum values.

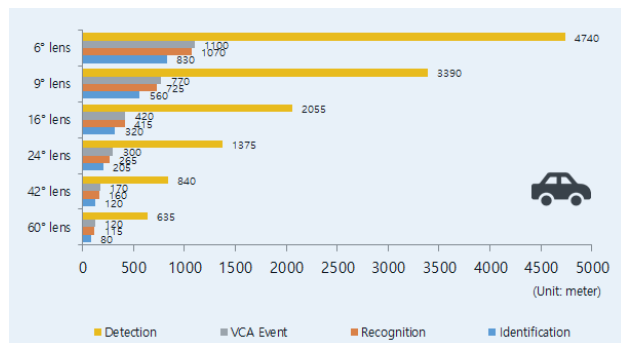
(Unit: meter)

ITC6500QD					
Lens	Object	Detection	VCA Event	Recognition	Identification
6°	Person	2,105	500	425	330
	Vehicle	4,740	1,100	1,070	830
9°	Person	1,450	340	285	220
	Vehicle	3,390	770	725	560
16°	Person	845	190	160	120
	Vehicle	2,055	420	415	320
24°	Person	555	130	100	75
	Vehicle	1,375	300	265	205
42°	Person	330	70	60	45
	Vehicle	840	170	160	120
60°	Person	250	50	45	30
	Vehicle	635	120	115	80

**Person**

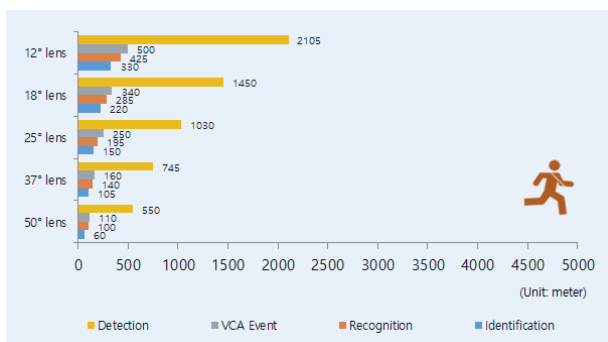


**Vehicle**

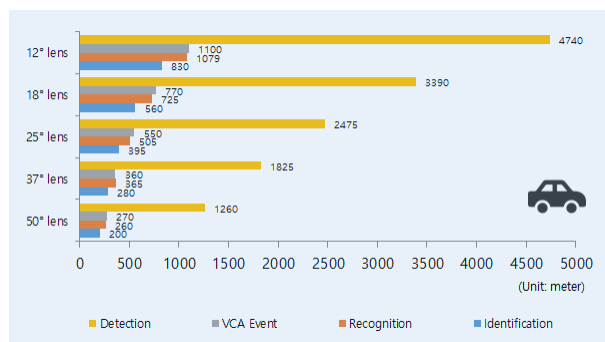


ITC6500VD					
Lens	Object	Detection	VCA Event	Recognition	Identification
12°	Person	2,105	500	425	330
	Vehicle	4,740	1,100	1,079	830
18°	Person	1,450	340	285	220
	Vehicle	3,390	770	725	560
25°	Person	1,030	250	195	150
	Vehicle	2,475	550	505	395
37°	Person	745	160	140	105
	Vehicle	1,825	360	365	280
50°	Person	550	110	100	60
	Vehicle	1,260	270	260	200

**Person**



**Vehicle**



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