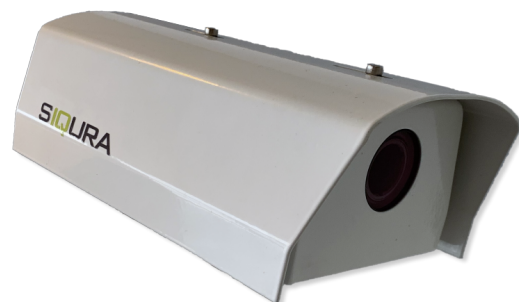**TKH GROUP**
TKH SECURITY

XCU C THERMAL
XCU Compact 316L intelligent thermal camera

DESCRIPTION

Rugged thermal imaging camera for demanding environments. Thermal cameras can be used 24/7 for al sorts of monitoring or detection purposes. The XCU Compact Thermal is fitted with video analytics to actively help with perimeter surveillance, fire detection, flare monitoring, and hotspot detection. The XCU and its accessories are double protected against corrosion; they are entirely made of powder-coated 316L stainless-steel. The housing is hermetically sealed against water and dust, which makes it ideal for harsh environments like traffic, tunnels, marine, offshore, heavy industry, waste management, etc.

FEATURES

Uncooled thermal imager

Compact, robust, and corrosion free

powder-coated 316L stainless steel housing

Choice of lenses

Plug & Play

Built-in analytics

Water and dust tight: IP66 & IP67

ONVIF Profile S

Description

The XCU Fusion is designed to operate in harsh and aggressive environments. Typical applications are found in the heavy industry, traffic, tunnels, waterways, waste treatment and even in the salty environment of the marine. The XCU Compact Thermal is fitted with an uncooled thermal imager with a choice of lenses.

Plug & Play
Installing and commissioning IP cameras has become child's play. The XCU Compact click's into place with its versatile mounting accessories and is operational by plugging in the external connector. No need to open the unit; all connections can be prepared in advance.

Integrated thermal camera
The XCU Compact Thermal is fitted with a highly sensitive uncooled microbolometer for thermal imaging. It detects temperature differences as small as 50 mK and can spot heat sources invisible to the naked eye. When the darkness obscures the vision of an ultra-low light CCTV camera, the thermal camera gives a clear overview of what's going on.

Multi-streaming and multicasting
The XCU Compact Thermal has multi-streaming capabilities for simultaneous transmission of one or more H.264 streams combined with MJPEG. This guarantees interoperability with existing VMS systems. Multiple combinations of resolution and frame rate can be configured to satisfy different live-viewing and recording scenarios. In addition, multicasting is supported for complex, multi-user video networks.

Open standards
Out of the box, the XCU Fusion integrates with the common VMS systems. Being ONVIF Profile S compliant, the camera is supported by most video management systems. When needed, the camera can be controlled through a comprehensive HTTP API (Siqura Programming Interface). This specifically enables deployment in projects with custom requirements.

Built-in video analysis
The XCU Compact Thermal is fitted with on-board analytics, called FlameGuard and FenceGuard.

FlameGuard is a specialized algorithm for 24/7 flare monitoring and fire/hotspot detection. The XCU Compact R1 version is able to accurately measure temperatures within a zone in combination with TKH Security Sense for early detection of e.g. spontaneous combustion.

FenceGuard detects intrusion detection or crossing of virtual fences in the highest possible accuracy and lowest number of nuisance alerts.

Camera housing

Body material	316L stainless steel
Finishing	Powder coated (RAL9016)
Sunshield	316L powder coated, (RAL9016)
Heater/Demister	Standard
Ingress protection	IP66, IP67
Impact rating casing	IK10
Solar radiation test	MIL-STD-810, method 505.4 (p.4)
Shock test (transportation)	MIL-STD-810, method 516.5
Vibration (IEC 50068-2-6)	10 Hz to 150 Hz, 0.5g, all 3 axes, 1 oct/min, 1 sweep
Operating temperature	-30 °C to +75 °C (-22 °F to 167 °F) - per Nema TS-2
Relative Humidity	5% to 100%
Dry heat test	+75 °C, 24 hours
Weight	2.5 kg

Thermal imager (Txxxx)

Imager	uncooled micro-bolometer					
Pixel pitch	17 µm					
Resolution						
- Txx-S6 or Txx-F6	640x512					
- Txx-S3	366x256					
Focal length (xx=)	7.5 mm	9 mm	13 mm	19 mm	25 mm	35 mm
- Field of view 640x512 (S6)	90°x69°	69°x56°	45°x37°	32°x26°	25°x20°	18°x14°
- f-number	f/1.4	f/1.4	f/1.25	f/1.25	f/1.1	f/1.5
- Field of view 366x256 (S3)	45°x35°	35°x27°	25°x19°	17°x13°	13°x10°	9.3°x7.1°
- f-number	f/1.4	f/1.25	f/1.25	f/1.25	f/1.1	f/1.5
Spectral bandwidth	7.5 µm to 13.5 µm (LWIR)					
Max frame rate						
- TxxSx version	8.3/7.5 fps					
- TxxFx versions	25/30 fps					
Sensitivity (NEdT)	< 50 mK @ f/1.0					
Time to image	< 60 s					
Digital zoom	No					
Colour palette	10 selectable color palettes with freely adjustable temperature thresholds					

Video stream

Number of streams	2x
Aspect ratio	5:4
Compression algorithm(s)	H.264 BP/MP/HP (H.264/MPEG-4 AVC), MJPEG
Supported output resolutions	Output images are up- or down-scaled
	1920x1080; 1280x1024; 1280x720; 720x576; 704x576; 640x480;
	480x576, 352x576; 704x288; 352x288; 320x240, 176x144
Compression bit rate control	Variable bit rate (VBR)
Output bit rate (per H.264 stream)	Up to 6Mb/s

Specs

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Video stream

Number of video output streams	Up to 20 (RTSP) per input
Total output data rate (max)	50Mb/s
Video overlay	3x Text, 1x bitmap (BMP, GIF) in both optical and thermal image

Analytics

FenceGuard	Intrusion detection. Free form zones or detection lines
- Detection line	Touch, Cross (directional sensitive), Cross
- Detection zone	Touch, Enter, Inside, Exit
FlameGuard	Hotspot detection in two zones or Flare-on, Flare-off and Flare-too-large monitoring
- Measuring range	-40°C to 550°C
- Accuracy	+/- 20 °C (T 100 °C)
- Improved temp. reading accuracy	Only for versions TxxS3R1/TxxS6R1/TxxF6R1
	+/- 5°C (T 100 °C); +/- 2°C typical
Event time	0 to 10 s
Event output	generic ONVIF, SPI

Electrical

Supply voltage	24 Vac 50/60 Hz or 24 Vdc (Galvanic isolated)
PoE	IEEE802.3at type I, IEEE 802.3af
Power consumption	9 W heater off; 13 W heater on
Power connector	3-pin 7/8" Conec
Network connector	Conec IP67 RJ45

Network

Interface(s)	100 Mb Ethernet, auto negotiating, MDI/MDX
Protocols	IPv4, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, ICMP, FTP, SMTP, DHCP, UPnP, IGMP, SNMP, QoS, ONVIF, TLS1.2, NTCIP-1205
Password levels	User and Administrator
Supported browsers	Internet Explorer (9.0+), Chrome, Firefox, Safari
User accounts	20

Ordering information

XCU-C T75S3	XCU Compact 316L intelligent thermal imager 336 45° 8.3fps
XCU-C T09S3	XCU Compact 316L intelligent thermal imager 336 35° 8.3fps
XCU-C T13S3	XCU Compact 316L intelligent thermal imager 336 25° 8.3fps
XCU-C T19S3	XCU Compact 316L intelligent thermal imager 336 17° 8.3fps
XCU-C T25S3	XCU Compact 316L intelligent thermal imager 336 13° 8.3fps
XCU-C T35S3	XCU Compact 316L intelligent thermal imager 336 9.3° 8.3fps
XCU-C T75F3	XCU Compact 316L intelligent thermal imager 336 45° 30fps
XCU-C T09F3	XCU Compact 316L intelligent thermal imager 336 35° 30fps
XCU-C T13F3	XCU Compact 316L intelligent thermal imager 336 25° 30fps
XCU-C T19F3	XCU Compact 316L intelligent thermal imager 336 17° 30fps
XCU-C T25F3	XCU Compact 316L intelligent thermal imager 336 13° 30fps

Specs

Ordering information

XCU-C T35F3	XCU Compact 316L intelligent thermal imager 336 9.3° 30fps
XCU-C T75S6	XCU Compact 316L intelligent thermal imager 640 90° 8.3fps
XCU-C T09S6	XCU Compact 316L intelligent thermal imager 640 69° 8.3fps
XCU-C T13S6	XCU Compact 316L intelligent thermal imager 640 45° 8.3fps
XCU-C T19S6	XCU Compact 316L intelligent thermal imager 640 32° 8.3fps
XCU-C T25S6	XCU Compact 316L intelligent thermal imager 640 25° 8.3fps
XCU-C T35S6	XCU Compact 316L intelligent thermal imager 640 18° 8.3fps
XCU-C T75F6	XCU Compact 316L intelligent thermal imager 640 90° 30fps
XCU-C T09F6	XCU Compact 316L intelligent thermal imager 640 69° 30fps
XCU-C T13F6	XCU Compact 316L intelligent thermal imager 640 45° 30fps
XCU-C T19F6	XCU Compact 316L intelligent thermal imager 640 32° 30fps
XCU-C T25F6	XCU Compact 316L intelligent thermal imager 640 25° 30fps
XCU-C T35F6	XCU Compact 316L intelligent thermal imager 640 18° 30fps
Add ...R1	For accurate temperature readings

Mounting accessories

XCUWM01	XCU 316L Wall/Pole mount with swivel, RAL9016
XCUCM01	XCU 316L Rugged ceiling mount, RAL9016
XCUSW01	XCU 316L Swivel Mount (swivel only), RAL9016

Cable connectors

XCUCNC-PWR01	XCU IP67 power connector straight, cable part (included)
XCUCNC-2SM	XCU IP67 SM fiber connector straight, cable part (included)

DIMENSIONS IN [MM]

220

4 x M4 ⤓10

92.62

126.6

FenceGuard detection with 640x512 module - 6m high pole

	100 mm	60 mm	50 mm	35 mm	25 mm	19 mm	13 mm	9 mm	7.5 mm
■ Deadzone [m]	70	42	35	24	17	13	8	4	2
■ Detect (4p)	1108	659	552	379	271	209	145	87	45
■ Recognition (6p)	739	440	368	253	180	139	97	58	40
■ Ident (12p)	365	219	185	129	92	70	47	33	25

FenceGuard detection with 336x256 module - 6m high pole

	35 mm	25 mm	19 mm	13 mm	9 mm	7.5 mm
■ deadzone [m]	43	30	23	15	10	7
■ Detect (4p)	387	276	211	142	100	76
■ Recognition (6p)	258	184	141	95	67	51
■ Ident (12p)	129	92	70	47	33	25

Hot-spot detection 640x512 - 6m high pole

	35 mm	25 mm	19 mm	13 mm	9 mm	7.5 mm
■ Deadzone [m]	24	17	13	8	4	2
■ Fire detection [m]	152	108	84	58	35	24

Hot-spot detection 336x256 - 6m high pole

	35 mm	25 mm	19 mm	13 mm	9 mm	7.5 mm
■ deadzone	39	28	21	14	9	7
■ Fire detection [m]	155	111	84	57	40	30

Flare= 1/2 image height
Thermal resolution: 336x256

Flare= 1/2 image height
Thermal resolution:640x512