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
Corrosion Class	C5 (ISO 12944)
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
Max wind velocity	240 km/h (150 mph)
Operating temperature	-34 °C to +74 °C (-29 °F to 165 °F) - per Nema TS-2
- Continuous (sheltered, air temp)	-30 °C to +55 °C (-22 °F to 131 °F)
- Cold start	-30°C (-22 °F)
Relative Humidity	5% to 100%
Dry heat test	+75 °C, 24 hours
Weight	2.5 kg

Thermal imager (Txxxx)

	7.5 mm	9 mm	13 mm	19 mm	25 mm	35 mm
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					
Color 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

Specs

Video stream

	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
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; 12 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,
	IEEE 802.1x (EAP-MD5 or EAP TLS), IGMP, SNMP, QoS, ONVIF, TLS1.2, NTCIP-1205
Password levels	Viewer, Operator and Administrator
Supported browsers	Edge, 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

Specs

Ordering information

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
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)

220

4 x M4 ⌄10

92.62

126.6

366x256: Detect, Recognize, and Identify

Lens	Identify	recognize	detect
35 mm	194	387	775
25 mm	138	276	553
19 mm	106	211	422
13 mm	71	142	284
9 mm	50	100	200
7.5 mm	38	76	152

PID detection with 336x256 module - 6m high pole

	35 mm	25 mm	19 mm	13 mm	9 mm	7.5 mm
D1 [m]	44	32	24	16	11	8
D @ 4p [m]	387	276	211	142	100	76

640x512: Human Detect (2p), Recognize (4p), and Identify (8p)

	Identify	recognize	detect
35 mm	189	379	758
25 mm	135	271	541
19 mm	105	209	418
13 mm	72	145	290
9 mm	44	87	175
7.5 mm	30	60	120

▶ [m]

PID detection with 640x512 module - 6m high pole

	35 mm	25 mm	19 mm	13 mm	9 mm	7.5 mm
D1 [m]	23	16	12	8	4	2
D @ 4p [m]	379	271	209	145	87	60

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

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