

MAXIMUS MVXT

HIGH-SPEC EX-PROOF THERMAL CAMERA IN A COMPACT DESIGN



MAIN FEATURES

In electropolished and silicon micro shot peened AISI 316L stainless steel

Certifications for use in Zones 1 and 2, IIC T5 and T6 Group (Gas) and in Zones 21 and 22, IIIC T100°C and T85°C Group (Dust)

Analog or IP (ONVIF S) versions

Thermal cameras:

- Sensor: Uncooled microbolometer (VOx)
- Lenses: 9mm, 13mm, 19mm, 25mm, 35mm, 50mm, 60mm
- Resolution 336x256 or 640x512
- Image frequency: 8.3Hz or 25Hz

1 alarm input and 1 relay output

4m (13ft) / 10m (33ft) preinstalled armored multipolar cable with cable gland or, alternatively, with 4m (13ft) / 10m (33ft) cable tail

Power supply: 12-24Vdc/24Vac

DESCRIPTION

The explosion protected MAXIMUS MVXT thermal camera is perfect for effective video surveillance and process control in harsh settings where the presence of gases or flammable dust can create a potentially explosive environment, a reality often found in the oil and gas industries or marine and industrial sectors.

The thermal camera is able to detect a person or an object in the most difficult environmental conditions, such as total darkness or other levels of lighting, heavy smoke, rain or dust and in the long distances.

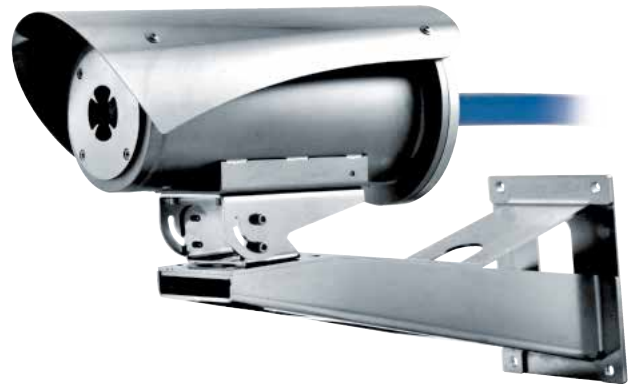
One striking advantage offered by the MVXHD cameras is their extremely easy and secure "plug and play" installation, with multipolar wiring. These cameras arrive ready to use, avoiding the complex electrical connections that are typical of this type of device.

The housing is compact yet functional and is made entirely out of AISI316L stainless steel. Its resistance to corrosion is not only guaranteed, but is also enhanced by way of polishing processes.

Another important feature of the camera is the extended temperature range of -60°C to 65°C, along with a sophisticated cold start system, which allows it to operate in harsh environments as standard.

An equally noteworthy point is that the IP66/IP68 ratings guarantee the complete protection against harsh weather and the submersion in up to 5 metres of water for 2 hours. Moreover the IP69 rating allows the device to be cleaned with high pressure water jets.

The MAXIMUS MVX range of cameras meets every installation need, providing maximum of performance and excellent value for money.



MVXT + NXWBS1



TECHNICAL DATA**GENERAL**

AISI 316L stainless steel construction
 Electropolished and silicon micro shot peened external surfaces
 Silicone O-ring seals
 Plug and play
 Cable gland with gasket Ex d 3/4"NPT and preinstalled multipolar armored cable, 4m/10m (13ft/33ft)

MECHANICAL

Sunshield
 Unit weight: 8kg (18lb)

HOUSING WINDOW

Material: Germanium
 External scratch-resistant treatment: Hard Carbon Coating (DLC)
 Internal antireflection treatment
 Spectral range: from 7.5µm up to 14µm
 Medium transmittance (from 7.5µm up to 11.5µm): 94%
 Medium transmittance (from 11.5µm up to 14µm): 90%

ELECTRICAL

Power supply/Current consumption

- 24Vac, 2.2A, 50/60Hz
- 24Vdc, 2.2A
- 12Vdc, 3.5A

I/O alarm card

- Alarm inputs: 1
- Relay outputs: 1 (1A, 30Vac/60Vdc max)

Heater (Ton 15°C±3°C (59°F±5°F), Toff 22°C±3°C (77°F±5°F))

I/O INTERFACE

Cable length: 200m (656ft) max (analog version)

COMMUNICATIONS

Configuration through OSD

Serial interface

RS-485 line, half-duplex

IP based control mode:

- Compression H.264/AVC and JPEG
- 2 independent video streams
- Web Server
- Compatible with ONVIF protocol, Profile S

PROTOCOLS

Serial communication protocol

- PANASONIC: 9600baud, 19200baud
- PELCO D: 2400baud, 9600baud
- VIDEOTEC MACRO: 9600baud, 38400baud

NETWORK

Ethernet connection: IEEE 802.3 100Base-Tx

NETWORK PROTOCOLS

Protocol: ONVIF, Profile S

Device configuration: TCP/IPv4, UDP/IPv4, HTTP, NTP, DHCP, WS-DISCOVERY, QoS, IGMP (Multicast)

Streaming: RTSP, RTCP, RTP

ENVIRONMENT

Indoor/Outdoor

Environment temperature: T5: from -60°C (-76°F) up to +65°C (149°F) (versions with armoured cable) or from -50°C (-58°F) up to +65°C (149°F) (versions with cable tail)

Environment temperature: T6: from -60°C (-76°F) up to +55°C (131°F) (versions with armoured cable) or from -50°C (-58°F) up to +55°C (131°F) (versions with cable tail)

Operating temperature: from -40°C (-40°F) up to +65°C (149°F)

CERTIFICATIONS

ATEX (EN 60079-0: 2014, EN 60079-1: 2015, EN 60079-31: 2014):

- Ex d IIC T5 Gb
- Ex tb IIIC T100°C Db IP66/IP68
-60°C ≤ Ta ≤ +65°C (versions with armoured cable)
- Ex d IIC T5 Gb
- Ex tb IIIC T100°C Db IP66/IP68
-50°C ≤ Ta ≤ +65°C (versions with cable tail)
- Ex d IIC T6 Gb
- Ex tb IIIC T85°C Db IP66/IP68
-60°C ≤ Ta ≤ +55°C (versions with armoured cable)
- Ex d IIC T6 Gb
- Ex tb IIIC T85°C Db IP66/IP68
-50°C ≤ Ta ≤ +55°C (versions with cable tail)

IECEX (IEC 60079-0: 2011 Ed.6, IEC 60079-1: 2014-06 Ed.7, IEC 60079-31: 2013 Ed.2):

- Ex d IIC T5 Gb
- Ex tb IIIC T100°C Db IP66/IP68
-60°C ≤ Ta ≤ +65°C (versions with armoured cable)
- Ex d IIC T5 Gb
- Ex tb IIIC T100°C Db IP66/IP68
-50°C ≤ Ta ≤ +65°C (versions with cable tail)
- Ex d IIC T6 Gb
- Ex tb IIIC T85°C Db IP66/IP68
-60°C ≤ Ta ≤ +55°C (versions with armoured cable)
- Ex d IIC T6 Gb
- Ex tb IIIC T85°C Db IP66/IP68
-50°C ≤ Ta ≤ +55°C (versions with cable tail)
- IP66/IP68 (2 hours, 5m (16ft), EN/IEC60529)

INMETRO (ABNT NBR IEC 60079-0:2008 + Errata 1:2011, ABNT NBR IEC 60079-1:2009 + Errata 1:2011, ABNT NBR IEC 60079-31:2011):

- Ex d IIC T5 Gb
- Ex tb IIIC T100°C Db IP66/IP68
-60°C ≤ Tamb ≤ +65°C (versions with armoured cable)
- Ex d IIC T5 Gb
- Ex tb IIIC T100°C Db IP66/IP68
-50°C ≤ Tamb ≤ +65°C (versions with cable tail)
- Ex d IIC T6 Gb
- Ex tb IIIC T85°C Db IP66/IP68
-60°C ≤ Tamb ≤ +55°C (versions with armoured cable)
- Ex d IIC T6 Gb
- Ex tb IIIC T85°C Db IP66/IP68
-50°C ≤ Tamb ≤ +55°C (versions with cable tail)

EAC EX and ETL (pending)

TYPE 6P, TYPE 4X (UL50E)

IP69 (EN/IEC60529), housing only

ACCESSORIES

OCTEXP3/4C Conduit cable gland nickel-plated brass 3/4" NPT IECEX-ATEX-EAC EX

BRACKETS AND ADAPTORS

NXWBS1 AISI 316L stainless steel wall bracket with joint
 MHXWFWCA AISI316L stainless steel ball joint
 NXFWBT AISI 316L stainless steel parapet mounting bracket
 NXCOL AISI 316L stainless steel pole adapter module
 NXCW AISI 316L stainless steel corner adapter module

PACKAGE

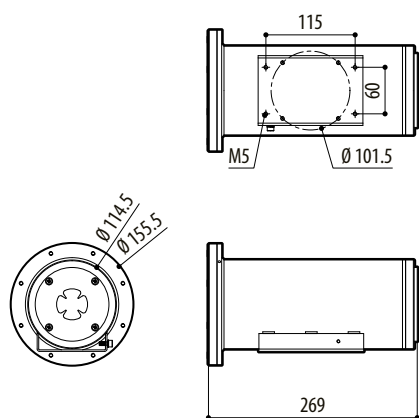
Model Number	Weight	Dimensions (WxHxL)	Master carton
MVXT2A0SAZ00A	12.5kg (28lb)	60x30x60cm (24x12x24in)	-

MAXIMUS MVXT - CONFIGURATION OPTIONS								
	Voltage	Thermal camera		Connections	Video Output	Models		Frequency
MVXT	2 12-24Vdc/ 24Vac	Q0 Thermal camera 9mm, 336x256	S	A Cable gland with gasket Ex d 3/4" NPT and 4m (13ft) armored cable	Z IP H.264/AVC control, Protocol ONVIF Profile S	00 T5 -60°C/+65°C	A	H 25-30Hz
		M0 Thermal camera 13mm, 336x256		B Cable gland with gasket Ex d 3/4" NPT and 10m (33ft) armored cable	0 Analog control	01 T5 -50°C/+65°C ¹		- 7.5-8.3Hz
		Z0 Thermal camera 19mm, 336x256		F 4m (13ft) cable tail		02 T6 -60°C/+55°C		
		L0 Thermal camera 25mm, 336x256		G 10m (33ft) cable tail		03 T6 -50°C/+55°C ¹		
		I0 Thermal camera 35mm, 336x256						
		J0 Thermal camera 50mm, 336x256						
		P0 Thermal camera 60mm, 336x256						
		H0 Thermal camera 9mm, 640x512						
		G0 Thermal camera 13mm, 640x512						
		U0 Thermal camera 19mm, 640x512						
		E0 Thermal camera 25mm, 640x512						
		D0 Thermal camera 35mm, 640x512						
		W0 Thermal camera 50mm, 640x512						
		K0 Thermal camera 60mm, 640x512						

¹ The versions with cable tail have a temperature range of -50°C/+65°C or -50°C/+55°C depending on the temperature class of the product.

TECHNICAL DRAWINGS

Sizes in millimeters.



MAXIMUS MVXT

THERMAL CAMERAS (RESOLUTION 336X256)														
	Lens 9mm		Lens 13mm		Lens 19mm		Lens 25mm		Lens 35mm		Lens 50mm		Lens 60mm	
	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC
Image sensor	Uncooled VOx microbolometer		Uncooled VOx microbolometer		Uncooled VOx microbolometer		Uncooled VOx microbolometer		Uncooled VOx microbolometer		Uncooled VOx microbolometer		Uncooled VOx microbolometer	
Resolution	336x256	336x240	336x256	336x240	336x256	336x240	336x256	336x240	336x256	336x240	336x256	336x240	336x256	336x240
Pixel dimensions	17µm		17µm		17µm		17µm		17µm		17µm		17µm	
Spectral response - long wave infrared (LWIR)	from 7.5µm to 13.5µm		from 7.5µm to 13.5µm		from 7.5µm to 13.5µm		from 7.5µm to 13.5µm		from 7.5µm to 13.5µm		from 7.5µm to 13.5µm		from 7.5µm to 13.5µm	
Internal shutter (only for sensor compensation)	Video stop < 1sec.		Video stop < 1sec.		Video stop < 1sec.		Video stop < 1sec.		Video stop < 1sec.		Video stop < 1sec.		Video stop < 1sec.	
Digital Detail Enhancement (DDE)	✓		✓		✓		✓		✓		✓		✓	
Digital Zoom	2x, 4x		2x, 4x		2x, 4x		2x, 4x		2x, 4x		2x, 4x		2x, 4x	
Image updating frequency	8.3fps	7.5fps	8.3fps	7.5fps	8.3fps	7.5fps	8.3fps	7.5fps	8.3fps	7.5fps	8.3fps	7.5fps	8.3fps	7.5fps
Image updating high frequency	25fps	30fps	25fps	30fps	25fps	30fps	25fps	30fps	25fps	30fps	25fps	30fps	25fps	30fps
Scene range (High Gain)	-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)	
Scene range (Low Gain)	-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)	
Horizontal field of view	35°		25°		17°		13°		9,3°		6,5°		5,5°	
Vertical field of view	27°		19°		13°		10°		7,1°		5°		4,2°	
F-number	F/1.25		F/1.25		F/1.25		F/1.1		F/1.2		F/1.2		F/1.25	
Thermal sensitivity (NEΔT)	< 50mK to f/1.0		< 50mK to f/1.0		< 50mK to f/1.0		< 50mK to f/1.0		< 50mK to f/1.0		< 50mK to f/1.0		< 50mK to f/1.0	
Person (detection / recognition / identification)	250m / 63m / 31m (820ft / 207ft / 102ft)		390m / 95m / 47m (1280ft / 312ft / 154ft)		570m / 144m / 72m (1870 / 472 / 236ft)		820m / 210m / 104m (2690 / 689 / 341ft)		1140m / 280m / 142m (3740ft / 919ft / 466ft)		1500m / 380m / 190m (4921ft / 1247ft / 623ft)		1750m / 450m / 225m (5741ft / 1476ft / 738ft)	
Auto (detection / recognition / identification)	720m / 175m / 88m (2362x574x289ft)		1080m / 275m / 140m (3543ft / 902ft / 459ft)		1550m / 400m / 200m (5085ft / 1312ft / 656ft)		2200m / 580m / 290m (7218ft / 1903ft / 951ft)		3000m / 800m / 200m (9843ft / 2625ft / 656ft)		3900m / 1060m / 540m (12795ft / 3478ft / 1772)		4500m / 1240m / 640m (14764ft / 4068ft / 2100ft)	

THERMAL CAMERAS (RESOLUTION 640X512)														
	Lens 9mm		Lens 13mm		Lens 19mm		Lens 25mm		Lens 35mm		Lens 50mm		Lens 60mm	
	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC
Image sensor	Uncooled VOx microbolometer		Uncooled VOx microbolometer		Uncooled VOx microbolometer		Uncooled VOx microbolometer		Uncooled VOx microbolometer		Uncooled VOx microbolometer		Uncooled VOx microbolometer	
Resolution	640x512	640x480	640x512	640x480	640x512	640x480	640x512	640x480	640x512	640x480	640x512	640x480	640x512	640x480
Pixel dimensions	17µm		17µm		17µm		17µm		17µm		17µm		17µm	
Spectral response - long wave infrared (LWIR)	from 7.5µm to 13.5µm		from 7.5µm to 13.5µm		from 7.5µm to 13.5µm		from 7.5µm to 13.5µm		from 7.5µm to 13.5µm		from 7.5µm to 13.5µm		from 7.5µm to 13.5µm	
Internal shutter (only for sensor compensation)	Video stop < 1sec.		Video stop < 1sec.		Video stop < 1sec.		Video stop < 1sec.		Video stop < 1sec.		Video stop < 1sec.		Video stop < 1sec.	
Digital Detail Enhancement (DDE)	✓		✓		✓		✓		✓		✓		✓	
Digital Zoom	2x, 4x, 8x		2x, 4x, 8x		2x, 4x, 8x		2x, 4x, 8x		2x, 4x, 8x		2x, 4x, 8x		2x, 4x, 8x	
Image updating frequency	8.3fps	7.5fps	8.3fps	7.5fps	8.3fps	7.5fps	8.3fps	7.5fps	8.3fps	7.5fps	8.3fps	7.5fps	8.3fps	7.5fps
Image updating high frequency	25fps	30fps	25fps	30fps	25fps	30fps	25fps	30fps	25fps	30fps	25fps	30fps	25fps	30fps
Scene range (High Gain)	-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)		-40°C ÷ +160°C (-40°F ÷ +320°F)	
Scene range (Low Gain)	-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)		-40°C ÷ +550°C (-40°F ÷ +1022°F)	
Horizontal field of view	69°		45°		32°		25°		18°		12,4°		10,4°	
Vertical field of view	56°		37°		26°		20°		14°		9,9°		8,3°	
F-number	F/1.4		F/1.25		F/1.25		F/1.1		F/1.2		F/1.2		F/1.25	
Thermal sensitivity (NEΔT)	< 50mK to f/1.0		< 50mK to f/1.0		< 50mK to f/1.0		< 50mK to f/1.0		< 50mK to f/1.0		< 50mK to f/1.0		< 50mK to f/1.0	
Person (detection / recognition / identification)	250m / 63m / 31m (820ft / 207ft / 102ft)		390m / 95m / 47m (1280ft / 312ft / 154ft)		570m / 144m / 72m (1870 / 472 / 236ft)		820m / 210m / 104m (2690 / 689 / 341ft)		1140m / 280m / 142m (3740ft / 919ft / 466ft)		1500m / 380m / 190m (4921ft / 1247ft / 623ft)		1750m / 450m / 225m (5741ft / 1476ft / 738ft)	
Auto (detection / recognition / identification)	720m / 175m / 88m (2362 / 574 / 289ft)		1080m / 275m / 140m (3543ft / 902ft / 459ft)		1550m / 400m / 200m (5085ft / 1312ft / 656ft)		2200m / 580m / 290m (7218ft / 1903ft / 951ft)		3000m / 800m / 200m (9843ft / 2625ft / 656ft)		3900m / 1060m / 540m (12795ft / 3478ft / 1772)		4500m / 1240m / 640m (14764ft / 4068ft / 2100ft)	