

MAXIMUS MPXT

EX-PROOF DUAL VISION PTZ CAMERA, DAY/NIGHT AND THERMAL



MAIN FEATURES

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

Electropolished AISI 316L stainless steel ex-proof PTZ unit

Dual independent video output

Thermal camera:

- Sensor: Uncooled microbolometer (VOx)
- Lenses: 35mm, 25mm o 19mm
- Resolution 336x256 or 640x512

Day/Night camera:

- True Progressive Scan
- High resolution: up to 550 TV Lines
- Advanced image stabiliser (Stable Zoom Mode)
- Day/Night (Auto ICR: automatic removal of IR filter)

Up to 2 simultaneous video streams for each camera (IP-based version)

Variable speed: 0.1°-100°/s Pan and Tilt

Position accuracy: 0.02°

¾" NPT threaded hole for use of cable glands or conduit

Extremely easy electrical connections directly into the unit, thanks to the explosion-proof inspection box

Integrated wiper

Total control of the auxiliary functions through the Videotec PTZ ASSISTANT (IP-based version)

Operating temperature: from -40°C (-40°F) up to +60°C (140°F)

OPTIONS

IP-based control, H.264/AVC and JPEG, 25fps, Full D1 (compatible with ONVIF protocol, Profile S)

Prewired versions with cable and barrier cable gland (IEC/EN 60079-14) (except for UL versions). Option supplied as accessory

DESCRIPTION

MAXIMUS MPXT provides dual vision in real time, incorporating a Day/Night camera and thermal camera for applications that require a field of view in complete darkness, fog, rain, smoke or for large distances.

MAXIMUS MPXT is ideal 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 area is always monitored, thanks to the speed and detection accuracy of the target.

All models are available in Analogue or IP version.

The flexible operator control of pan/tilt/zoom functions allows the video transmission over the local area network (LAN) or over the Internet with the H.264/AVC compression, compatible with ONVIF Profile S.

The Videotec's PTZ ASSISTANT plug-in software supports any VMS with the control of all special functions such as wiper and washer pump.

The WASEX washer kit, with tank and pump controlled by an ex-proof solenoid valve, allows flawless and maintenance-free cleaning of the front glass.



WASEX - STAINLESS STEEL WASHER PUMP WITH EX-PROOF SOLENOID VALVE FOR MAXIMUS RANGE (REF. ACCESSORIES IN TECHNICAL DATA)



TECHNICAL DATA

GENERAL

AISI 316L stainless steel construction
Passivated and electropolished external surfaces
Dynamic positioning control system
Functions: Autopan, Preset, Patrol, Tour (maximum 3), Autoflip
Up to 999 units, addressable by means of dip-switches

MECHANICAL

1 3/4" NPT hole for cable glands
Zero backlash
Horizontal rotation: 360°, continuous rotation
Vertical rotation: from -90° up to +90°
Horizontal speed (variable): from 0.1° to 100°/s
Tilt speed (variable): from 0.1° to 100°/s
Accuracy of preset positions: 0.02°
Integrated wiper
Unit weight: 31kg (68lb)

HOUSING'S WINDOW

Window with extra clear tempered glass
• Thick: 12mm (0.47in)
Germanium window
• Thick: 8mm (0.3in)
• External treatment: antiscratch (Hard Carbon Coating - DLC), antireflection
• Internal treatment: antireflection
• Spectral range: from 7.5µm up to 14µm
• Medium transmittance (from 7.5µm up to 11.5µm): 87.5%
• Medium transmittance (from 11.5µm up to 14µm): 72.1%

ELECTRICAL

Supply voltage/Current consumption:
• 230Vac, 0.5A, 50/60Hz
• 24Vac, 5A, 50/60Hz
• 120Vac, 1A, 50/60Hz
Power consumption:
• 120W max

NETWORK

Connector (only for the IP versions of the product):
• RJ45, 10BASE-T/100BASE-T

SERIAL COMMUNICATIONS

Serial communication protocol: AMERICAN DYNAMICS, ERNITEC, PANASONIC, PELCO D, VIDEOTEC MACRO

Maximum number of presets for serial communication protocol

- VIDEOTEC MACRO: 250
- ERNITEC: 250
- PANASONIC: 250
- PELCO D: 99
- AMERICAN DYNAMICS: 95

Firmware updating from console in remote mode (PELCO D, VIDEOTEC MACRO)

Configuration through OSM

Fiber optic connector: ST (standard)

Version uncabled or with MPXCABL:

- 2 half-duplex serial RS-485 interfaces or full-duplex RS-422

VIDEO

Analog version:

- 2 video outputs 75 Ohm 1Vpp (PAL/NTSC)
- 16-character string for zone and preset titling

IP version:

- Video encoder
- Communication protocol: ONVIF, Profile S
- Device configuration: TCP/IPv4-IPV6, UDP/IPv4-IPV6, HTTP, NTP, DHCP, WS-DISCOVERY, QoS, IGMP (Multicast)
- Streaming: RTSP, RTCP, RTP/IPv4
- Video compression: H.264/AVC, MJPEG
- Independent video streams: 2
- Image resolution: from Full D1 (720x576 for PAL, 720x480 for NTSC) to 352x240 in 18 steps
- Web Server

I/O INTERFACE

I/O alarm board:

- 5 alarm inputs
- 2 relay outputs (1A 30Vac/60Vdc max)

ENVIRONMENT

For installation indoors and outdoors

Operating temperature: from -40°C (-40°F) up to +60°C (140°F)

Surge immunity: up to 2kV line to line, up to 4kV line to earth (Class 4)

Relative humidity: from 10% up to 95% (no condensation)

CERTIFICATIONS

ATEX (EN 60079-0: 2012+A11: 2013, EN 60079-1: 2014, EN 60079-31: 2014):

- ⊕ II 2 G Ex db IIC T6 Gb T_a -40°C to +60°C
 - ⊕ II 2 D Ex tb IIIC T85°C Db T_a -40°C to +60°C
- IP66

IECEX (IEC 60079-0: 2011, IEC 60079-1: 2014-06, IEC 60079-31: 2013):

- Ex db IIC T6 Gb T_a -40°C to +60°C
 - Ex tb IIIC T85°C Db T_a -40°C to +60°C
- IP66

EAC EX:

- Ex d IIC T6 Gb X
- Ex tb IIIC T85 Db X

INMETRO:

- Ex db IIC T6 Gb -40 °C ≤ T_a ≤ +60 °C
 - Ex tb IIIC T85°C Db -40 °C ≤ T_a ≤ +60 °C
- IP66

cULus Listed, TYPE 4X (only for 24Vac version)

UL listed for USA (only for 24Vac version):

- Class I, Zone 1, AEx d IIC T6
- Zone 21, AEx tb IIIC T85°C
- Class I, Division 2, Groups A, B, C, and D, T6
- Class II, Division 2, Groups E, F and G, T6

UL listed for Canada (only for 24Vac version):

- Ex db IIC T6 Gb
- Ex tb IIIC T85°C Db
- Class I, Division 2, Groups A, B, C, and D, T6
- Class II, Division 2, Groups E, F and G, T6

KCs 16- KA4BO-0309X - 16- KA4BO-0310X

- Ex d IIC T6
- Ex tb IIIC T85°C
- 40 °C ≤ T_a ≤ +60 °C

BRACKETS AND ADAPTORS

MPXWBA	AISI 316L stainless steel wall bracket
MPXCW	AISI 316L stainless steel corner adapter module
MPXCOL	AISI 316L stainless steel pole adapter module
MPXWBTA	AISI 316L stainless steel parapet or ceiling mounting bracket

ACCESSORIES

WASEX2T4AT	Tank 10l with integrated manual pump controlled by ATEX certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc
WASEX2T4GOR	Tank 10l with integrated manual pump controlled by EAC EX certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc
WASEX2T4IN	Tank 10l with integrated manual pump controlled by INMETRO certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc
OCTEX3/4C	Cable gland with gasket EX 3/4" NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEXA3/4C	Cable gland with gasket EX 3/4" NPT, armoured cable IECEX-ATEX-EAC Ex
OCTEXB3/4C	Barrier cable gland 3/4" NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEXBA3/4C	Barrier cable gland 3/4" NPT, armoured cable IECEX-ATEX-EAC Ex
OCTEX3/4	Cable gland with gasket EX 3/4" NPT, unarmoured cable ATEX
OCTEXA3/4	Cable gland with gasket EX 3/4" NPT, armoured cable ATEX
OCTEXB1/2C	Barrier cable gland EX 1/2" NPT unarmoured cable ATEX-IECEX-EAC Ex
OCTEX1/2C	Cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEX-ATEX-EAC Ex, with gasket from 3 to 8mm (0.12 to 0.31in)
OCTEXS1/2C	Cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEX-ATEX-EAC Ex, with gasket from 7.5 to 11.9mm (3 to 4.7in)
OCTEXA1/2C	Cable gland in nickel-plated brass EX 1/2" NPT armoured cable IECEX-ATEX-EAC Ex, with gasket
OCTEX1/2-3/4C	Cable glands reduction in nickel-plated brass 3/4" - 1/2" NPT IECEX-ATEX-EAC Ex
OCTEXP3/4C	Conduit cable gland nickel-plated brass 3/4" NPT IECEX-ATEX- c CSA us - EAC Ex (operating temperature: from -60°C (-76°F) up to +80°C (+176°F))
OEXPLUG3/4	Plug EX 3/4" NPT IECEX-ATEX-EAC Ex
MPXCABL4	Cabling for MPX/MPXT, 4m (13ft) (unarmoured cable and barrier cable gland): 2 Ethernet cables, 3 power supply wires, 2 coaxial video cables, 15 wires for alarms, relays and telemetry
MPXCABL10	Cabling for MPX/MPXT, 10m (394in) (unarmoured cable and barrier cable gland): 2 Ethernet cables, 3 power supply wires, 2 coaxial video cables, 15 wires for alarms, relay and telemetry

PACKAGE

Model Number	Weight	Dimensions (WxHxL)	Master carton
MPXT1QAW000A	35kg (77lb)	54x31x49cm (21x12x19in)	-

MAXIMUS MPXT - CONFIGURATION OPTIONS

	Voltage	Day/Night camera	Thermal Camera		Video Output	Frequency
MPXT	1 230Vac	P Day/Night camera 36x optical zoom lens, PAL	A Thermal camera 35mm, 336x256	W With wiper	0 0 Analog control	00A - 7.5-8.3Hz
	2 24Vac	Q Day/Night camera 28x optical zoom lens, PAL	B Thermal camera 25mm, 336x256		Z IP H.264/AVC, Protocol ONVIF Profile S	H 25-30Hz
	3 120Vac	N Day/Night camera 36x optical zoom lens, NTSC	D Thermal camera 35mm, 640x512			
		M Day/Night camera 28x optical zoom lens, NTSC	E Thermal camera 25mm, 640x512			
			V Thermal camera 19mm, 336x256			

1/2" NPT CABLE GLAND SELECTION GUIDE

Cable gland type	Certification	Operating temperature	Cable	Cable glands product code	Diameter of the external cable (mm)	Under armor cable diameter (mm)
Barrier	IECEX/ATEX/EAC Ex	-60°C / +80°C (-76°F / +176°F)	Not armoured	OCTEXB1/2C	3 - 8	–
With gasket	IECEX/ATEX/EAC Ex	-60°C / +100°C (-76°F / +212°F)	Not armoured	OCTEX1/2C	3 - 8	–
			Not armoured	OCTEXS1/2C	7.5 - 11.9	–
			Armoured	OCTEXA1/2C	12.5 - 20.5	8.4 - 14.3

3/4" NPT CABLE GLAND SELECTION GUIDE

Cable gland type	Certification	Operating temperature	Cable	Cable glands product code	Diameter of the external cable (mm)	Under armor cable diameter (mm)
Barrier	IECEX/ATEX/EAC Ex	-60°C / +80°C (-76°F / +176°F)	Not armoured	OCTEXB3/4C	13 - 20.2	–
			Armoured	OCTEXBA3/4C	16.9 - 26	–
With gasket	IECEX/ATEX/EAC Ex	-60°C / +100°C (-76°F / +212°F)	Not armoured	OCTEX3/4C	13 - 20.2	–
			Armoured	OCTEXA3/4C	16.9 - 26	11.1 - 19.7
	ATEX	-20°C / +80°C (-4°F / +176°F)	Not armoured	OCTEX3/4	14 - 17	–
			Armoured	OCTEXA3/4	18 - 23	14 - 17

ANALOGUE CAMERAS (DAY/NIGHT)				
	Day/Night 36x		Day/Night 28x High sensitivity	
	PAL	NTSC	PAL	NTSC
Optical zoom	36x		28x	
Wide Dynamic Range (ON, OFF, Auto)	✓		-	
True progressive SCAN	✓		-	
Digital image stabilisation	✓		✓	
White balance	Auto, ATW, Indoor, Outdoor (Fix/Auto), Sodium Vapor Lamp (Fix/Auto), Manual		Auto, ATW, Indoor, Outdoor (Fix/Auto), Sodium Vapor Lamp (Fix/Auto), Manual	
High horizontal resolution	Up to 550 TV Lines		Up to 550 TV Lines	
Day/Night (Auto ICR)	✓		✓	
Image Sensor	1/4" EXView HAD CCD		1/4" Super HAD CCD II	
Number of effective Pixels	~ 440000 pixel	~ 380000 pixel	~ 440000 pixel	~ 380000 pixel
Min. Lighting Colour (IR-Cut Filter = OFF) (Interlace Mode)	1.4Lux / 1/50s 0.1 Lux / 1/3s	1.4Lux / 1/60s 0.1 Lux / 1/4s	0.25Lux / 1/50s 0.16 Lux / 1/3s	0.25Lux / 1/60s 0.16 Lux / 1/4s
Min. Lighting B/W (Interlace Mode)	0.01 Lux / 1/3s	0.01 Lux / 1/4s	0.0015 Lux / 1/3s	0.0015 Lux / 1/4s
"Shutter Time" automatic increase to improve the night surveillance	✓		✓	
S/N ratio	More than 50dB		More than 50dB	
AE control	Automatic, Shutter priority, Diaphragm priority, Brightness priority and Manual		Automatic, Shutter priority, Diaphragm priority, Brightness priority and Manual	
Back light compensation	On/Off		On/Off	
Spherical masking (3D) of Privacy zones with automatic upgrade	✓		✓	
Privacy Zone Masking	On/Off (24 positions)		On/Off (24 positions)	
Maximum number of masking blocks to be displayed	8		8	
Resolution of masking blocks	160x120 HxV		160x120 HxV	
Masking	Up to 15 different masking types: 14 colour types or mosaic		Up to 15 different masking types: 14 colour types or mosaic	
Focusing system	Auto (Sensitivity: Normal, Low), Trigger PTZ, Manual		Auto (Sensitivity: Normal, Low), Trigger PTZ, Manual	
"Smart" lens control	Automatic Lens Reset		Automatic Lens Reset	
High Zoom and Wide Horizontal Field of View Capability	✓		✓	
Optical zoom	36x, f=3.4 (wide) to 122.4mm (tele) / F1.6 to F4.5		28x, f=3.5 (wide) to 98mm (tele) / F1.35 to F3.7	
Digital Zoom	12x (432x with optical zoom)		12x (336x with optical zoom)	
Angle of view (A)	57.8 degrees (wide) to 1.7 degrees (tele)		55.8 degrees (wide) to 2.1 degrees (tele)	
Minimum object distance	10mm (0.4in) (wide) to 1500mm (59.1in) (tele)		10mm (0.4in) (wide) to 1500mm (59.1in) (tele)	
Electronic Iris Speed	1/1 ÷ 1/10000s		1/1 ÷ 1/10000s	

THERMAL CAMERAS (RESOLUTION 336X256)

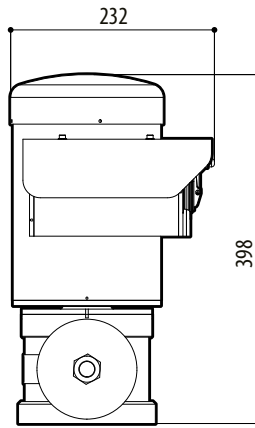
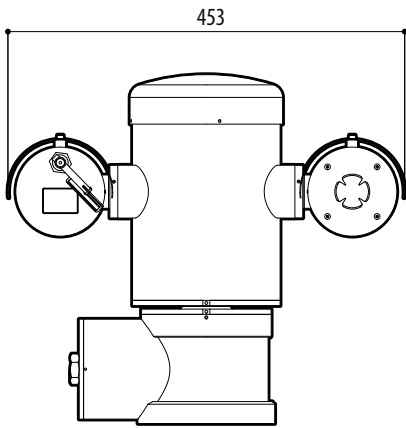
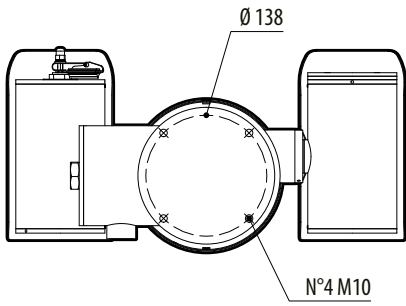
	Lens 19mm		Lens 25mm		Lens 35mm	
	PAL	NTSC	PAL	NTSC	PAL	NTSC
Image sensor	Uncooled VOx microbolometer		Uncooled VOx microbolometer		Uncooled VOx microbolometer	
Interpolated resolution	640x512	640x480	640x512	640x480	640x512	640x480
Pixel dimensions	17µm		17µm		17µm	
Spectral response - long wave infrared (LWIR)	from 7.5µm to 13.5µm		from 7.5µm to 13.5µm		from 7.5µm to 13.5µm	
Internal shutter (only for sensor compensation)	Video stop < 1sec.		Video stop < 1sec.		Video stop < 1sec.	
Digital Detail Enhancement (DDE)	✓		✓		✓	
Digital Zoom	2x, 4x		2x, 4x		2x, 4x	
Image updating frequency	8.3fps	7.5fps	8.3fps	7.5fps	8.3fps	7.5fps
Image updating high frequency	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)	
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)	
Horizontal field of view	17°		13°		9,3°	
Vertical field of view	13°		10°		7,1°	
F-number	F/1.25		F/1.1		F/1.2	
Thermal sensitivity (NEΔT)	< 50mK to f/1.0		< 50mK to f/1.0		< 50mK to f/1.0	
Person (detection / recognition / identification)	640m / 160m / 80m (2099ft / 524ft / 262ft)		930m / 230m / 116m (3051ft / 754ft / 380ft)		1280m / 320m / 160m (4199ft / 1049ft / 525ft)	
Auto (detection / recognition / identification)	1950m / 500m / 250m (6397ft / 1640ft 820/ ft)		2800m / 710m / 360m (9186ft / 2329ft / 1181ft)		3850m / 950m / 295m (12631ft / 3116ft / 967ft)	

THERMAL CAMERAS (RESOLUTION 640X512)

	Lens 25mm		Lens 35mm	
	PAL	NTSC	PAL	NTSC
Image sensor	Uncooled VOx microbolometer		Uncooled VOx microbolometer	
Resolution	640x512	640x480	640x512	640x480
Pixel dimensions	17µm		17µm	
Spectral response - long wave infrared (LWIR)	from 7.5µm to 13.5µm		from 7.5µm to 13.5µm	
Internal shutter (only for sensor compensation)	Video stop < 1sec.		Video stop < 1sec.	
Digital Detail Enhancement (DDE)	✓		✓	
Digital Zoom	2x, 4x, 8x		2x, 4x, 8x	
Image updating frequency	8.3fps	7.5fps	8.3fps	7.5fps
Image updating high frequency	25fps	30fps	25fps	30fps
Scene range (High Gain)	-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)	
Horizontal field of view	25°		18°	
Vertical field of view	20°		14°	
F-number	F/1.1		F/1.2	
Thermal sensitivity (NEΔT)	< 50mK to f/1.0		< 50mK to f/1.0	
Person (detection / recognition / identification)	820m / 210m / 104m (2690ft / 689ft / 341ft)		1140m / 280m / 142m (3740ft / 919ft / 466ft)	
Auto (detection / recognition / identification)	2200m / 580m / 290m (7218ft / 1903ft / 951ft)		3000m / 800m / 200m (9843ft / 2625ft / 656ft)	

TECHNICAL DRAWINGS

The dimensions of the drawings are in millimetres.



MAXIMUS MPXT