MAXIMUS MPXT

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

VIDEOTEC

| Ex | IP66 | TYPE 4X | | | |

IP | Onvif
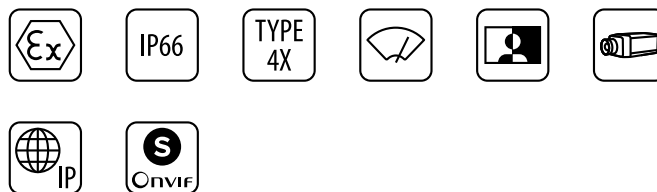
MPXT

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.

The MAXIMUS MPX series products are Lloyd's Register Type Approval System Test Specification Number 1 certified and therefore can be used in Marine and Offshore applications for environmental categories ENV1, ENV2, ENV3 and ENV5

CERTIFICATIONS

ATEX | IECEx | EAC | Ex | INMETRO | KC | S | c UL us LISTED | LR APPROVED TYPE APPROVAL SCHEME

MAIN FEATURES

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

Marine Certification: Lloyd's Register Marine Type Approval

Electropolished AISI 316L stainless steel ex-proof PTZ unit

Dual independent video output

Thermal camera:
- Sensor: Uncooled microbolometer (VOx)
- Lenses: 35mm (1.38in), 25mm (0.98in) 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

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):

    ⟨Ex⟩ II 2 G Ex db IIC T6 Gb T_a -40℃ to +60℃

    ⟨Ex⟩ II 2 D Ex tb IIIC T85℃ Db T_a -40℃ to +60℃

    IP66

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

    Ex db IIC T6 Gb T_a -40℃ to +60℃

    Ex tb IIIC T85℃ Db T_a -40℃ to +60℃

    IP66

EAC EX:

    Ex II 2G Ex db IIC T6 Gb T_a -40℃ to +60℃, IP66

    Ex II 2D Ex tb IIIC T85℃ Db T_a -40℃ to +60℃, IP66

INMETRO:

    Ex db IIC T6 Gb -40 ℃ ≤ T_a ≤ +60 ℃

    Ex tb IIIC T85℃ Db -40 ℃ ≤ T_a ≤ +60 ℃

    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℃

    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℃ 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℃

    -40 ℃ ≤ T_a ≤ +60 ℃

Lloyd's Register Marine Type Approval (install the product at a distance of at least 18.8m (61.7ft) from the VHF antennas, the 24Vac and 120Vac versions require a filter accessory FM1010)

    • Test Specification Number 1:2015 (ENV1, ENV2, ENV3, ENV5)

BRACKETS AND ADAPTORS

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

ACCESSORIES

WASEX2T4AT	Tank 10l (2.6gal) with integrated manual pump controlled by ATEX certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc
WASEX2T4GOR	Tank 10l (2.6gal) with integrated manual pump controlled by EAC EX certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc
WASEX2T4IN	Tank 10l (2.6gal) with integrated manual pump controlled by INMETRO certified solenoid valve, delivery head up to 20m (66ft) max, IN 24Vac/Vdc
OCTEX3/4C	Cable gland in nickel-plated brass with gasket EX 3/4" NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEXA3/4C	Cable gland in nickel-plated brass with gasket EX 3/4" NPT, armoured cable IECEX-ATEX-EAC Ex
OCTEXB3/4C	Barrier cable gland in nickel-plated brass 3/4" NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEXBA3/4C	Barrier cable gland in nickel-plated brass 3/4" NPT, armoured cable IECEX-ATEX-EAC Ex
OCTEX3/4	Cable gland in nickel-plated brass with gasket EX 3/4" NPT, unarmoured cable ATEX
OCTEXA3/4	Cable gland in nickel-plated brass with gasket EX 3/4" NPT, armoured cable ATEX
OCTEXB1/2C	Barrier cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEX1/2C	Cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEXS1/2C	Cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEX-ATEX-EAC Ex
OCTEXA1/2C	Cable gland in nickel-plated brass EX 1/2" NPT armoured cable IECEX-ATEX-EAC Ex
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℃ (-76℉) up to +80℃ (+176℉))
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
FM1010	EMC filter for Marine certification

For further details about cable glands part numbers, please refer to the relevant table.

PACKAGE

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

ANALOGUE CAMERAS (DAY/NIGHT)

	Day/Night 36x	
	PAL	**NTSC**
Optical zoom	36x	
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	
High horizontal resolution	Up to 550 TV Lines	
Day/Night (Auto ICR)	✓	
Image Sensor	1/4" EXView HAD CCD	
Number of effective Pixels	~ 440000 pixel	~ 380000 pixel
Min. Lighting Colour (IR-Cut Filter = OFF) (Interlace Mode)	1.4 Lux / 1/50s 0.1 Lux / 1/3s	1.4 Lux / 1/60s 0.1 Lux / 1/4s
Min. Lighting B/W (Interlace Mode)	0.01 Lux / 1/3s	0.01 Lux / 1/4s
"Shutter Time" automatic increase to improve the night surveillance	✓	
S/N ratio	More than 50dB	
AE control	Automatic, Shutter priority, Diaphragm priority, Brightness priority and Manual	
Back light compensation	On/Off	
Spherical masking (3D) of Privacy zones with automatic upgrade	✓	
Privacy Zone Masking	On/Off (24 positions)	
Maximum number of masking blocks to be displayed	8	
Resolution of masking blocks	160x120 HxV	
Masking	Up to 15 different masking types: 14 colour types or mosaic	
Focusing system	Auto (Sensitivity: Normal, Low), Trigger PTZ, Manual	
"Smart" lens control	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	
Digital Zoom	12x (432x with optical zoom)	
Horizontal field of view	57.8 degrees (wide) to 1.7 degrees (tele)	
Minimum object distance	10mm (0.4in) (wide) to 1500mm (59.1in) (tele)	
Shutter speed	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 (NEdT)	< 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/ 820ft)		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 (NEdT)	< 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)	

1/2" NPT CABLE GLAND SELECTION GUIDE

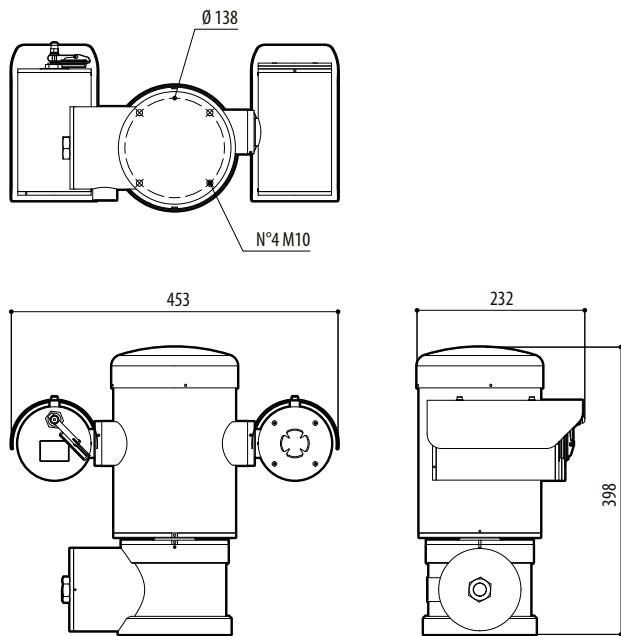| Cable gland type	Certification	Operating temperature	Cable	Cable glands product code	Diameter of the external cable (mm)	Under armor cable diameter (mm)
Barrier	IECEX/ATEX/EAC Ex	-60°C / +80°C (-76°F / +176°F)	Unarmoured cable	OCTEXB1/2C	3 - 8 (0.12 - 0.3in)	–
With gasket	IECEX/ATEX/EAC Ex	-60°C / +100°C (-76°F / +212°F)	Unarmoured cable	OCTEX1/2C	3.2 - 8 (0.13 - 0.3in)	–
			Unarmoured cable	OCTEXS1/2C	6.5 - 11.9 (0.26 - 0.47in)	–
			Armoured cable	OCTEXA1/2C	12.5 - 20.5 (0.49 - 0.8in)	10 - 14.3 (0.4 - 0.56in)

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)	Unarmoured cable	OCTEXB3/4C	13 - 20.2 (0.5 - 0.8in)	–
			Armoured cable	OCTEXBA3/4C	16.9 - 26 (0.67 - 1in)	–
With gasket	IECEX/ATEX/EAC Ex	-60°C / +100°C (-76°F / +212°F)	Unarmoured cable	OCTEX3/4C	13 - 20.2 (0.5 - 0.8in)	–
		-60°C / +80°C (-76°F / +176°F)	Armoured cable	OCTEXA3/4C	16.9 - 26 (0.67 - 1in)	11.1 - 19.7 (0.44 - 0.78in)
	ATEX	-40°C / +100°C (-40°F / +212°F)	Unarmoured cable	OCTEX3/4	14 - 17 (0.55 - 0.67in)	–
			Armoured cable	OCTEXA3/4	18 - 23 (0.7 - 0.9in)	14 - 17 (0.55 - 0.67in)

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	N	Day/Night camera 36x optical zoom lens, NTSC	B	Thermal camera 25mm, 336x256				Z	IP H.264/AVC, Protocol ONVIF Profile S	H	25-30Hz
	3	120Vac			D	Thermal camera 35mm, 640x512							
					E	Thermal camera 25mm, 640x512							
					V	Thermal camera 19mm, 336x256							

Not all combinations are possible.

TECHNICAL DRAWINGS

The dimensions of the drawings are in millimetres.

Ø 138

N°4 M10

453

232

398

MAXIMUS MPXT