

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)



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

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.



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
• 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 card:

- 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: 2007, EN 60079-31: 2009):

- ⊕ II 2 G Ex d 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: 2007-04, IEC 60079-31: 2008):

- Ex d 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

CNEEx (The IP H.264/AVC versions are not CNEEx certified):

- Ex d IIC T6 Gb Tamb-40~60°C
- DIP A21 TA T6 Tamb-40~60°C

INMETRO:

- Ex d 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
- Class II, Division 2, Groups F and G

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

- Class I, Zone 1, Ex d IIC T6 Gb
- Class II, Groups E, F and G
- Class I, Division 2, Groups A, B, C, and D
- Class II, Division 2, Groups F and G

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) |
| OCTEX1/2-3/4C | Cable glands reduction in nickel-plated brass 3/4" - 1/2" NPT IECEX-ATEX-EAC Ex |
| 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 ¹ | | 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 The IP H.264/AVC versions are not CNEC certified

| 1/2" NPT CABLE GLAND SELECTION GUIDE | | | | | | |
|---|------------------|-------------------|------------------------------------|--------------|---------------------------|-------------------------------------|
| Zone, Gas | Cable gland type | Certification | Operating temperature | Cable | Cable glands product code | Diameter of the external cable (mm) |
| IIC, Zone 1 or Zone 2 IIB or IIA, Zone 1 | Barrier | IECEX/ATEX/EAC Ex | -60°C / +80°C (-76°F / +176°F) | Not armoured | OCTEXB1/2C | 3 - 8 |
| IIB or IIA, Zone 2 | 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 |

| 3/4" NPT CABLE GLAND SELECTION GUIDE | | | | | | | |
|---|------------------|-------------------|------------------------------------|--------------|---------------------------|-------------------------------------|---------------------------------|
| Zone, Gas | Cable gland type | Certification | Operating temperature | Cable | Cable glands product code | Diameter of the external cable (mm) | Under armor cable diameter (mm) |
| IIC, Zone 1 or Zone 2 IIB or IIA, Zone 1 | 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 | - |
| IIB or IIA, Zone 2 | 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)

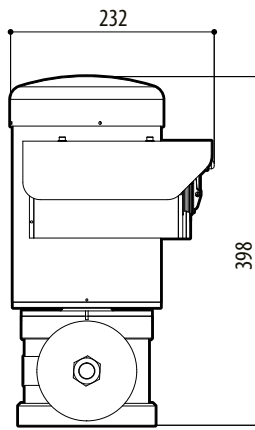
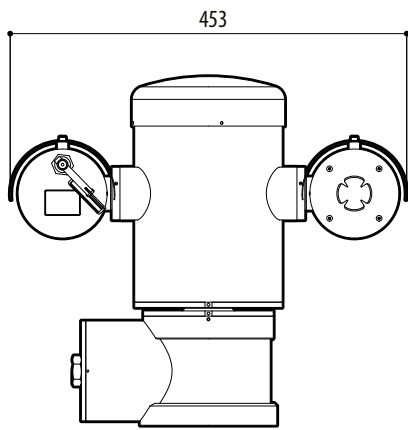
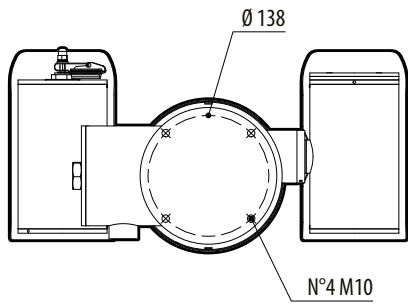
| | Lens 19mm | | Lens 25mm | | Lens 35mm | |
|---|---|---------|--|---------|--|---------|
| | PAL | NTSC | PAL | NTSC | PAL | NTSC |
| Image sensor | Uncooled VOx microbolometer | | Uncooled VOx microbolometer | | Uncooled VOx microbolometer | |
| Interpolated resolution | 640x512 | 640x480 | 640x512 | 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