**DIVISION 28 ELECTRONIC SAFETY AND SECURITY**

**SECTION 28 20 00 ELECTRONIC SURVEILLANCE**

**SECTION 28 23 00 VIDEO SURVEILLANCE**

**SECTION 28 23 29 VIDEO SURVEILLANCE REMOTE DEVICES AND SENSORS**

**1 General**

**1.1 General requirements**

A The components and materials used for the construction of the products are standard type, they are manufactured and available also as spare parts, as long as the products remain on the market.

B All products and versions will be severely tested and validated by the internal laboratories of the manufacturer before being released on the market.

C All products released on the market by the manufacturer are designed for 24x7x365 constant use.

D For all products a Technical Support service is available, for free, via phone, e-mail and ticketing system.

**1.2 Quality**

A The manufacturer has to repair or replace without charge any products in which construction and/or material defects are found for the stated warranty period, starting from the delivery date of the material.

B The specified devices must be manufactured in Italy following the standards of EN ISO 9001: 2008 certification.

**1.3 Environmental sustainability**

A All products must comply with RoHS-6/6 according to the specifications 2011/65/EU, 2005/717/EC, 2006/122/EC and REACH according to the specifications EC 1907/2006.

**1.4 Certifications**

A All products must have the following certifications:

01 Electrical safety (CE): EN60950-1, IEC60950-1

02 Electromagnetic compatibility (CE): EN50130-4, EN61000-6-4, EN55022 (Class A), EN55032 (Class A), FCC Part 15 (Class A)

03 Outdoor installation (CE): EN60950-22, IEC60950-22

04 IP protection degree: EN60529, IP66

05 Salty fog resistance: EN50130-5, EN60068-2-52

06 UL certification: cULus Listed,TYPE 4X (Only 24 Vac and 120 Vac versions)

07 EAC certification

08 Vibration test: EN50130-5 Cl. 22 e Cl. 23 (EN60068-2-6)

**2 Products**

**2.1 Technical data**

**A General**

01 Constructed from aluminium and tecnopolymer

02 Epoxypolyester powder painting, RAL9002 colour

03 Top mount (OTT)

04 Transmission through toothed belt with zero backlash

05 Slip-ring

06 Electronic limit switches

07 Integrated wiper

08 Micro SD slot for configuration and log storage

**B Mechanical**

01 Cable glands: 2xM20 + 1xM16 + unique seal for RJ45 cables

02 Horizontal rotation: continuous

03 Vertical rotation: +90° to -40°

a Pan variable speed: from 0.02°/s up to 100°/s (from 0.02°/s up to 50°/s with illuminators)

b Tilt variable speed: from 0.02°/s up to 50°/s (from 0.02°/s up to 50°/s with illuminators)

04 The unit automatically reduces the speed according to zoom with Add-on camera and motorised lenses with potentiometer

05 Accuracy of preset positions: 0.02°

06 Extremely smooth movement

07 Reading via ONVIF of the pan/tilt/zoom position

08 Internal usable area (WxHxL): 100x100/60x414mm (3.9x3.9/2.4x16.3in) (See drawings)

09 Unit weight: 20.4kg (45lb)

10 Housing with side opening

11 Installation made easier with a single hex key and captive screws

12 Temperature-controlled forced air creates an anti-condensation system for the window

13 De-icing system with self-heating glass, 7W max (optional)

14 Zero compensation on mechanical horizontal axis (pan offset)

15 User configurable electronically limits for vertical and horizontal axis

**C Housing windows**

01 Window for Megapixel cameras: (WxH) 125 x 91 mm

02 Germanium window usable diameter: 61mm

a Thick: 2mm (0.07in)

b External treatment: scratch resistant Hard Carbon Coating (DLC) + non-reflective

c Internal treatment: non-reflective

d Spectral range: from 7.5μm up to 14μm

e Medium transmittance from 7.5μm up to 11.5μm: 90%

f Medium transmittance from 11.5μm up to 14μm: 77%

03 Germanium window usable diameter: 66 mm

a Thick: 4mm (0.2in)

b External treatment: scratch resistant Hard Carbon Coating (DLC) + non-reflective

c Internal treatment: non-reflective

d Spectral range: from 8 μm up to 14μm

**D Electrical**

01 Power supply/Current consumption:

a 230Vac +/-10%, 1.1A, 50/60Hz

b 24Vac +/-10%, 10A, 50/60Hz

c 120Vac +/-10%, 2A, 50/60Hz

02 Power consumption:

a 27W, P&T static, heating switched off, without camera

b 34W, P&T static, heating switched off, 30x camera

c 49W, P&T in motion, heating switched off, 30x camera

d 97W, P&T in motion, heating switched on, illuminators off

e 157W, P&T in motion, heating switched on, illuminators lit, 30x camera

03 Signal cable dimensions: from 1.5mm² (16AWG) up to 0.5mm² (20AWG)

04 Self-powered alarm inputs: 4

05 Relay outputs: 2 (1 A, 30 Vac/dc max)

**E Network**

01 Ethernet connection: 100 Base-TX

a Network protocols: IPv4, HTTP, Bonjour, DNS, NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, ONVIF profile S

b Supported protection systems: password protection (digest-authentication and ws-security)

**F Specifications of the cameras that can be installed**

01 Possible Modes of communication with the IP camera:

a camera controlled by P&T via ONVIF-S (PTZ Master)

b P&T controlled by camera via RS485 serial port (Camera Master)

02 Selection of the communication mode with the IP camera: via dip-switch

03 Nominal bitrate of the video stream (total of the whole camera stream) 60 Mbit/s

04 IP camera configuration via direct connection to the camera's web page

05 PTZ control (only with Camera Master mode): RS485, Pelco-D protocol, baudrate 9600

06 Camera power supply: 12 V, 1.5 A max with "cold start" function

07 Lens motor power supply: 6-9-12-15 Vdc, 200 mA max

08 Lens potentiometer power supply: 5 V, 15 mA max

09 Lens control: common ZF line, separate ZF line or RS485

10 Autofocus motorised lens trigger: relay

11 Autofocus lens trigger management: 500 m/s pulse, 15 s pulse, normally open, normally closed

12 Day/Night camera synchronisation: ONVIF or relay

13 Camera I/O export (only with Camera Master mode): 1 self-powered input, 1 output

14 Minimum operating temperature as stated by the camera/lens' manufacturer: -5°C or below

15 Best operating temperature as stated by the camera/lens' manufacturer: at least 5°C higher than the temperature of the surrounding environment

16 Maximum weight of camera + lens: 2.3 KG

**G Environment**

01 Indoor/Outdoor

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

03 Intervention threshold of the "cold start" function: from -40°C (-40°F) up to -10° (14°F)

04 Relative Humidity 10-95% (no condensation)

05 Wind resistance stationary: 220km/h (136mph) max

06 Wind resistance operational at the maximum speed with LED illuminators: 87 mph (140 km/h)

07 Relative Humidity 10-95% (no condensation)

**H Optional VIDEOTEC camera add-on (Code CAMHD30X)**

01 Day/Night Full HD 30x

02 Image Device: 1/2.8 type Exmor™ CMOS sensor

03 Effective Pixels: approx. 2.38 Megapixels

04 Minimum Illumination, color (ICR-OFF):

a 1.4lx, 1/30s, 50 IRE (Normal mode)

b 0.35lx, 1/30s, 50 IRE (High sensitivity mode)

c 0.19lx, 1/3s, 50 IRE (Normal mode)

d 0.05lx, 1/3s, 50 IRE (High sensitivity mode)

05 Minimum Illumination, B/W (ICR-ON):

a 0.05lx, 1/30s, 50 IRE (Normal mode)

b 0.013lx, 1/30s, 50 IRE (High sensitivity mode)

c 0.002lx, 1/3s, 30 IRE (High sensitivity mode)

06 Lens: f=4.3 mm (wide) ~ 129.0 mm (tele), from F1.6 to F4.7

07 Optical zoom: 30x (360x with digital zoom)

08 Horizontal Viewing Angle: 63.7° (wide end), 2.3° (tele end)

09 Minimum object distance: 10mm (wide) ~ 1200mm (tele)

10 Electronic Shutter: 1/1 to 1/10000 s, 22 steps

11 White balance: Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium vapor lamp (Fix, Auto, Outdoor Auto), One-push, Manual

12 Gain: Auto, Manual, Gain Limit (from 3dB up to 43dB, steps: 3dB)

13 Wide Dynamic Range: On/Off/Visibility enhancer, Light level, Brightness compensation selection, Compensation level

14 Focus System: Auto (Sensitivity: Normal, Low), Manual, PTZ trigger

15 Exposure Control: Auto, EV Compensation, Manual, Priority (Shutter priority, Iris priority), Brightness, Slow AE

16 S/N Ratio: 50dB

17 Wide-D (wide dynamic range): 130dB

18 De-fog: On/Off

19 Speed in proportion to zoom

20 Zone masking (pan angle or pan/tilt angles)

21 Electronic stabiliser

22 Operating temperature when installed in ULISSE2: up to +65°C (149°F)

**B Accessories**

1 **CAMHD30X** Add-on camera Full HD1080p, 30x (4.3-129mm), 60fps, temperature up to +65°C (149°F)

2 UPTBVTR ULISSE2 housing upper part with anti-ice glass and wiper

3 **UPTIRNBKT** Support for mounting of UPTIRN range of LED illuminators

4 **UPTIRN108A00** LED illuminator for ULISSE, 10°, 850nm, 24Vac - 12/24Vdc

5 **UPTIRN308A00** LED illuminator for ULISSE, 30°, 850nm, 24Vac - 12/24Vdc

6 UPTIRN608A00 LED illuminator for ULISSE, 60°, 850nm, 24Vac - 12/24Vdc

7 UPTIRN109A00 LED illuminator for ULISSE, 10°, 940nm, 24Vac - 12/24Vdc

8 UPTIRN309A00 LED illuminator for ULISSE, 30°, 940nm, 24Vac - 12/24Vdc

9 UPTIRN10WA00 LED illuminator for ULISSE, 10°, white light, 24Vac - 12/24Vdc

10 UPTIRN30WA00 LED illuminator for ULISSE, 30°, white light, 24Vac - 12/24Vdc

11 UPTIRN60WA00 LED illuminator for ULISSE, 60°, white light, 24Vac - 12/24Vdc

12 UPTJBUL Junction weatherproof box for cables connexion (according UL norm)

13 WASPT0V5L5M00 Water tank 5l (1 gal), pump with delivery up to 5m (16ft), IN 230Vac-24Vac-120Vac

14 WASPT0V23L5M00 Water tank 23l (6 gal), pump with delivery up to 5m (16ft), IN 230Vac-24Vac-120Vac

15 WASPT0V23L11M00 Water tank 23l (6 gal), pump with delivery up to 11m (36ft) with water floating, IN 230Vac-24Vac-120Vac

16 WASPT1V23L30M00 Water tank 23l (6 gal), pump with delivery up to 30m (98ft) with water floating, IN 230Vac

17 WASPT3V23L30M00 Water tank 23l (6 gal), pump with delivery up to 30m (98ft) with water floating, IN 120Vac

**C Brackets and adaptors**

1 **UPTWBA** Wall bracket with internal cable channel

2 **UPTWBTAB** Parapet bracket with internal cable channel

3 **PTCC1** Pole mount adaptor

4 **WCWGC** Corner mount adaptor

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| ULISSE2 - Configuration options |
|   | **Voltage** | **Camera** | **Options** |   |   |
| **UPTB** | **1** 230Vac | **S** Without camera | **W** With wiper | **A** | **00A** |
|  | **2** 24Vac |  | **G** With Ø66mm germanium window for thermal cameras |  |  |
|  | **3** 120Vac |  | **T** With Ø61mm germanium window for thermal cameras |  |  |