**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): EN610000-6-4, EN50130-4, EN55022 (Class A), EN61000-6-4, FCC Part 15 (Class A)

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

04 IP protection degree: EN60529 (IP66)

05 UL certification: cULus Listed (TYPE 4X)

06 EAC certification

**2 Products**

**2.1 Technical data**

**A  General**

01 Constructed from aluminium and tecnopolymer

02 Epoxypolyester powder painting, RAL9002 colour

03 Germanium window for thermal camera

04 Easy installation thanks to the self-centring connector

05 Zero backlash

06 Quick configuration and setup

07 Dynamic positioning control system

08 16-characters string for zone and preset titling

09 Functions: Autopan, Preset, Patrol, Tour (maximum 3), Autoflip

**B  Mechanical**

01 Cable glands: 2xM16, 2xM12

02 Horizontal rotation: continuous

03 Vertical rotation: -90° to +90°

04 Horizontal speed (variable): from 0.1° up to 200°/s

05 Tilt speed (variable): from 0.1° up to 200°/s

06 Accuracy of preset positions: 0.05°

07 Unit weight: 12.5kg (28lb)

**C  Electrical**

01 Supply voltage/Current consumption:

a  230Vac, 0.4A, 50/60Hz

b  24Vac, 4A, 50/60Hz

c  120Vac, 0.8A, 50/60Hz

02 Power consumption

a  40W: P&T static, heating switched off

b  60W: P&T in motion, heating switched off

c  125W: peak at start-up, heating switched on

03 Cables input section: from 1.5mm² (16AWG) up to 0.75mm² (19AWG)

04 Cables signal section: from 1.5mm² (16AWG) up to 0.14mm² (30AWG)

05 Video line: coaxial cable (1Vpp, 75Ohm)

06 I/O alarm card

a  Alarm inputs: 6

b  Relay outputs: 2 (2A, 30Vac/60Vdc max)

**D  Communications**

01 Configuration through OSD

02 Half-duplex serial RS485 interface, full-duplex RS422 and daisy-chain architecture

03 Firmware updating from console in remote mode (only VIDEOTEC MACRO and PELCO D protocols)

04 Up to 1023 units, addressable by means of dip-switches

**E  Protocols**

01 AMERICAN DYNAMICS, ERNITEC, PANASONIC, PELCO D, VIDEOTEC MACRO

02 Maximum number of presets for protocol

a  AMERICAN DYNAMICS: 95\*

b  ERNITEC: 250

c  PANASONIC: 250

d  PELCO D: 99\*

e  VIDEOTEC MACRO: 250

\*250, from OSD only (On Screen Display)

**F  Environment**

01 Indoor/Outdoor

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

03 Relative Humidity 10-95% (no condensation)

04 Wind resistance

a  Operational: up to 160km/h

b  Stationary: up to 210km/h

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

**G Analog cameras (Day/Night)**

01 Optical zoom: 36x (Day/Night 36x), 28x (Day/Night 28x High sensitivity)

02 Wide Dynamic Range (Fix/Auto): Yes (Day/Night 36x), No (Day/Night 28x High sensitivity)

03 True progressive SCAN: Yes (Day/Night 36x), No (Day/Night 28x High sensitivity)

04 Digital image stabilisation: Yes

05 White balance: Auto, ATW, Indoor, Outdoor (Fix/Auto), Sodium Vapor Lamp (Fix/Auto)

06 High horizontal resolution: Up to 550 TV Lines

07 Day/Night (Auto ICR): Yes

08 Image Sensor: 1/4" EXView HAD CCD (Day/Night 36x), 1/4" Super HAD CCD II (Day/Night 28x)

09 Number of effective Pixels: ~ 440 000 pixel (PAL), ~ 380 000 pixel (NTSC)

10 Min. Color illumination (IR-Cut Filter = OFF): 1.4Lux / 1/50s, 0.1Lux / 1/3s (PAL, Day/Night 36x), 1.4Lux / 1/60s, 0.1Lux / 1/4s (NTSC, Day/Night 36x), 0.25Lux / 1/50s, 0.16Lux / 1/3s (PAL, Day/Night 28x High sensitivity), 0.25Lux / 1/60s, 0.16Lux / 1/4s (NTSC, Day/Night 28x High sensitivity)

11 Min. B/W illumination: 0.01Lux / 1/3s (PAL, Day/Night 36x), 0.01Lux / 1/4s (NTSC, Day/Night 36x), 0.0015Lux / 1/3s (PAL, Day/Night 28x High sensitivity), 0.0015Lux / 1/4s (NTSC, Day/Night 28x High sensitivity)

12 High Zoom and Wide Horizontal Field of View Capability:Yes

13 Optical zoom:36x, f=3.4 (wide) to 122.4mm (tele) / F1.6 to F4.5 (Day/Night 36x), 28x, f=3.5 (wide) to 98mm (tele) / F1.35 to F3.7 (Day/Night 28x High sensitivity)

14 Digital Zoom:12x (432x with optical zoom) (Day/Night 36x), 12x (336x with optical zoom) (Day/Night 28x High sensitivity)

15 Angle of view (A):57.8 degrees (wide) to 1.7 degrees (tele) (Day/Night 36x), 55.8 degrees (wide) to 2.1 degrees (tele) (Day/Night 28x High sensitivity)

16 Min. Object Distance:320mm (12.6in) (wide) to 1500mm (59.1in) (tele) (Day/Night 36x), 10mm (0.4in) (wide) to 1500mm (59.1in) (tele) (Day/Night 28x High sensitivity)

17 Electronic Iris Speed: 1/1 ÷ 1/10000s

18 “Shutter Time” automatic increase to improve the night surveillance: Yes

19 S/N ratio: More than 50dB

20 AE control: Automatic, Shutter priority, Diaphragm priority, Brightness priority and Manual

21 Back light compensation: On/Off

22 Spherical masking (3D) of Privacy zones with automatic upgrade: Yes

23 Privacy Zone Masking: On/Off (24 positions)

24 Maximum number of masking blocks to be displayed: 8

25 Resolution of masking blocks: 160x120 HxV

26 Masking: Up to 15 different masking types (14 colour types or mosaic)

27 Focusing system: Auto (Sensitivity: Normal, Low), Trigger PTZ, Manual

28 "Smart" Lens Control: Automatic Lens Reset

**H Thermal cameras available (resolution 336x256)**

01 Image sensor: Uncooled VOx microbolometer

02 Resolution: 320x256 (PAL), 320x240 (NTSC)

03 Pixel dimensions: 17μm

04 Spectral response - long wave infrared (LWIR): from 7.5μm a 13.5μm

05 Internal shutter (only for sensor compensation): Video stop < 1sec.

06 Digital Detail Enhancement (DDE): Yes

07 Digital Zoom: 2x, 4x

08 Image updating frequency: 8.3fps (PAL), 7.5fps (NTSC)

09 Image updating high frequency: 25fps (PAL),30fps (NTSC)

10 Scene range (High Gain): -40°C ÷ +160°C (-40°F ÷ +320°F)

11 Scene range (Low Gain): -40°C ÷ +550°C (-40°F ÷ +1022°F)

12 Thermal sensitivity (NEdT): < 50mK to f/1.0

13 Horizontal field of view: 13° (lens 25mm), 9.3° (lens 35mm)

14 Vertical field of view: 10° (lens 25mm), 7.1° (lens 35mm)

15 F-number: F/1.1 (lens 25mm), F/1.2 (lens 35mm)

16 Person (detection / recognition / identification): 930m / 230m / 116m (3051ft / 754ft / 380ft) (lens 25mm), 1280m / 320m / 160m (4199ft / 1049ft / 525ft) (lens 35mm)

17 Auto (detection / recognition / identification): 2800m / 710m / 360m (9186ft / 2329ft / 1181ft) (lens 25mm), 3850m / 950m / 295m (12631ft / 3116ft / 967ft) (lens 35mm)

**I Thermal cameras available (resolution 640x512)**

01 Image sensor: Uncooled VOx microbolometer

02 Resolution: 640x512 (PAL), 640x480 (NTSC)

03 Pixel dimensions: 17μm

04 Spectral response - long wave infrared (LWIR): from 7.5μm a 13.5μm

05 Internal shutter (only for sensor compensation): Video stop < 1sec.

06 Digital Detail Enhancement (DDE): Yes

07 Digital Zoom: 2x, 4x, 8x

08 Image updating frequency: 8.3fps (PAL), 7.5fps (NTSC)

09 Image updating high frequency: 25fps (PAL),30fps (NTSC)

10 Scene range (High Gain): -40°C ÷ +160°C (-40°F ÷ +320°F)

11 Scene range (Low Gain): -40°C ÷ +550°C (-40°F ÷ +1022°F)

12 Thermal sensitivity (NEdT): < 50mK to f/1.0

13 Horizontal field of view: 18° (lens 35mm), 25° (lens 25mm)

14 Vertical field of view: 14° (lens 35mm), 20° (lens 25mm)

15 F-number: F/1.1 (lens 25mm), F/1.2 (lens 35mm)

16 Person (detection / recognition / identification): 820m / 210m / 104m (2690ft / 689ft / 341ft) (lens 25mm), 1140m / 280m / 142m (3740ft / 919ft / 466ft) (lens 35mm)

17 Auto (detection / recognition / identification): 2200m / 580m / 290m (7218ft / 1903ft / 951ft) (lens 25mm), 3000m / 800m / 200m (9843ft / 2625ft / 656ft) (lens 35mm)

**2.2 Accessories**

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

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

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

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

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

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

**2.3 Brackets and adaptors**

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

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

**C** UCCMA Ceiling bracket for upside down mounting and working of ULISSE COMPACT

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| ULISSE COMPACT THERMAL - Configuration options |
|   | **Voltage** | **Day/Night camera** | **Thermal camera** |   |   | **Video Output** |   | **Frequency** |
| **UCT** | **1** 230Vac | **P** Day/Night camera 36x optical zoom lens, PAL | **A** Thermal camera 35mm - 336x256 | **W** With integrated wiper | **A** | **0** Analog control | **00A** | **-** 7.5-8.3Hz |
|  | **2** 24Vac | **Q** Day/Night camera 28x optical zoom lens, PAL | **B** Thermal camera 25mm - 336x256 |  |  |  |  | **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 |  |  |  |  |  |