



# Oculus Ti I-Type

## Rugged Pan/Tilt Unit with Optical and Thermal Cameras

Expanding the successful Oculus family further, the Oculus Ti adds a sensitive thermal module to compliment the high resolution optical zoom camera to give total coverage in all conditions.

The I-Type Oculus Ti is offered as an cost-effective alternative to the standard Oculus Ti camera; providing comparable performance in either 9 or 25Hz variants. This dual-headed camera provides thermal imaging with video verification by means of a high resolution 36x optical zoom module. Delivering man detection to 1km (when using the 12 degree version) via the 384 x 288 resolution thermal core, with simultaneous video verification, this version of the Oculus camera is capable of providing usable images day or night as well as in adverse weather conditions.

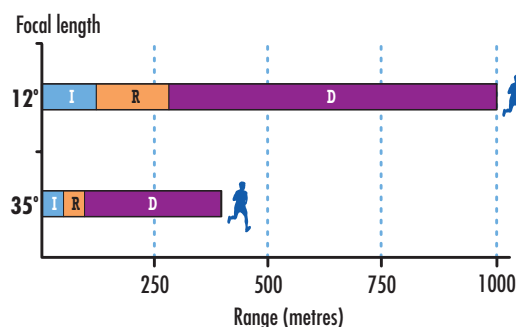
As with all Oculus units, everything is fully housed within a hard anodised aluminium casing, fully rated to IP67 and ready to handle the harshest environments. The toughened, optically flat glass provides clear images, even at the highest zoom levels and can be kept clean at all times by the compact wiper unit. An optional washer kit provides an even higher level of cleaning for the dirtiest deployments. Optical encoders for both the pan and tilt axes provide highly accurate positioning and repeatability, allied with self-correction systems that will counteract any external interference with the moving head.

The Oculus can be mounted upright or inverted and the yoke can be offset to eliminate blindspots through a full 360 degrees of rotation. Mounting accessories are available to suit standard mounting platforms, including 4" PCD.



### Key features

- Vandal resistant
- Combined thermal and optical units
- Simultaneous video and thermal outputs
- High resolution day/night 36x optical camera
- Long range detection up to 1000 metres (12°)
- Multiple thermal lens option
- Thermal white hot and black hot control
- Optical encoders for accurate positioning and repeatability
- Protected to IP67
- Built-in camera lens wiper
- Presets, tours and privacy masking



**Key to Johnson's Criteria charts**

- D** Detection - an object is present (~ 2 pixels)
- R** Recognition - the object can be discerned (~ 8 pixels)
- I** Identification - the object can be identified: e.g. male versus female, a specific car (~ 12.8p)

Note: Ranges may vary depending on atmospheric conditions

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## Optical camera module specifications

Image Sensor	¼" EXview CCD
Signal System	PAL
Number of total pixels	~440000 pixels
Lens	36x optical zoom, f=3.4mm (wide) to 122.4mm (tele), F1.6 to F4.5
Digital Zoom	12x (432x with optical zoom)
Angle of view (H)	57.8° (wide end) to 1500 mm (tele end)
Minimum working distance	320 mm (wide end) to 1500 mm (tele end)
S/N ratio	More than 50dB
Electronic shutter	1/1 to 1/10000s, 22 steps
White balance	Auto, ATW, Indoor, Outdoor, One-push, Manual
Gain	Auto, Manual, (-3 to 28dB, 2dB steps)
AE control	Auto, Manual, Priority Mode, Bright, EV compensation, Back-light compensation
EV compensation	-10.5 to 10.5 dB (1.5dB steps)
Back-light compensation	On / Off
Privacy zone masking	On / Off (24 positions)
Flicker cancel	Auto
Focusing system	Auto, One-push AF, Manual, Infinity, Interval AF, Zoom trigger AF
Picture effects	E-Flip, Mega Art, Black & White, Mirror Image
Camera operation switch	Zoom tele, Zoom wide
Video Output VBS:	1.0 Vp-p (sync negative), Y/C
Camera control interface	VISCA (TTL signal level)
Power consumption	6 to 12V DC / 1.6W (motors inactive), 4.0W (motors active)
Resolution	520TVL

## Thermal camera module specifications

Detector type	Silicon microbolometer
Spectral response	8 to 14µm
Array format	384 x 288 pixels
Pixel pitch	25µm
Sensitivity	<70mK (0.1°C) @ 20°C ambient and 30°C scene temperature (F1.0 lens)
Operating temperature range	-20 to +50°C (optional heater available)
Humidity	10% to 90% non-condensing
Frame rate	9 Hz or 25 Hz (PAL)
Digital zoom	x2 x4
Input voltage	12VDC
Typical current	<300mA

## Mechanical specifications

Pan rotation limit / speed	360° continuous / 180° per second (excluding ramping)
Tilt rotation limit / speed	290° / 180° per second (excluding ramping)
Mounting	Upright or inverted
Pan/tilt bearings	Sealed for life - no maintenance required
Motor drive	Long life toothed polypropylene belt drive Pulleys bonded to keypad shafts for minimum backlash
Environmental rating	IP67
Operating temperature range	-20°C to +50°C
Supplied mounting	4" PCD mount
Connection lead	IP67 multi-way connector with 10m composite lead

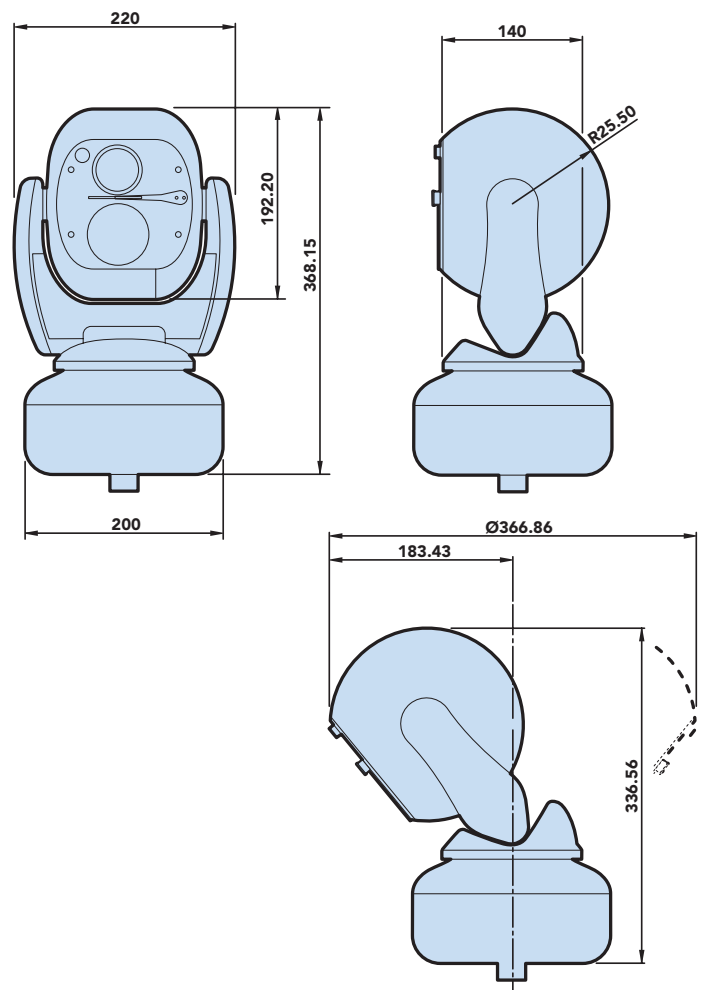
## Electrical, electronic and software specifications

Optical encoder preset accuracy	0.01°
Rotational contacts	Heavy duty slip rings for power, data, video, switching for washer plus bonded earth for lightning protection
Position control	Capable of retaining position without drift Automatic position recovery if forced away by a "non-control" intervention
Roll around mode	Auto 180° pan spin when tilt reaches end of travel while following subjects
Preset memories	32 PTZ positions, 16 tours, 4 one-minute mimic tours, wash position, Up to 24 privacy zones, 4 concurrent
Configuration	Via on screen menus
Communications	Robust RS485 half duplex data comms with absolute positioning output Coaxial telemetry
Supported protocols	360-Vision C-Dome, BBV Serial485, CBC OCP485, DeVue VTC485, Forward Vision FV Mic1-300, Ikegami I-LAN & RS485, Kalatel DP, Pelco D2400, Pelco P4800 & P9600, Philips 2400 & 9600, Samsung SCC2000 & SCC3000, Sensormatic, Ultrak/Honeywell Diamond, VCL, Baxall DC FSK-Standard
Power requirements	At Oculus Ti unit: 20 to 36VDC or 14 to 26VAC, 15W peak Supplied PSU requires 230VAC
Additional details	In-built real-time clock to support configurable alarm events and actions Switch to IR mode via external input (via alarm card)

## Product codes (Black / White finishes)

Oculus Ti I-Type 9Hz thermal (12° FOV) and 36x optical	RC3-51D36112B / RC3-51D36112W
Oculus Ti I-Type 25 Hz thermal (12° FOV) and 36x optical	RC3-51D36112FB / RC3-51D36112FW
Oculus Ti I-Type 9Hz thermal (35° FOV) and 36x optical	RC3-51D36135B / RC3-51D36135W
Oculus Ti I-Type 25Hz thermal (35° FOV) and 36x optical	RC3-51D36135FB / RC3-51D36135FW

## Dimensions



Specifications may be subject to change without notice • DN110201 - 1.0a • © January 2011

Silent Sentinel Limited,  
11 Harforde Court, John Tate Road,  
Foxholes Business Park, Hertford,  
Hertfordshire, SG13 7NW,  
United Kingdom

**Tel** +44 (0)1992 558093  
**Fax** +44 (0)1992 500272  
**Email** info@silentsentinel.com  
**Web** www.silentsentinel.com

**Silent Sentinel**  
Professional Imaging Products