

TT-TYPE™

MULTI-ROLE SEARCH



The TT-Type thermal imaging camera is specially designed to help police, security and law enforcement officers detect the heat signatures of people and objects.

The TT-Type can be used in conditions of zero visibility including complete darkness and smoke. This is because the energy being sensed is heat rather than light allowing the camera to be used in both day and night operations and for many different applications.

The TT-Type is a robust, self-contained, simple-to-operate thermal imaging camera with integrated torchlight. It is lightweight and ergonomic, capable of withstanding harsh environments and contains many of the most advanced features available for any thermal imaging camera.

The TT-Type is available with a 320 x 240 pixel Amorphous Silicon (ASi) Microbolometer Detector and a choice of lenses is available to suit the application. The camera has been designed using advanced digital imaging technology and techniques for superior performance and application specific functionality.

CAMERA STANDARD FEATURES

The TT-Type comes with the most advanced features available in any Thermal Imaging Camera. These include:

Intergrated Torchlight	Direct Temperature Measurement
Dimmable LCD Display	Choice of Colour Modes
Digital Image Capture 1000 images	Customisable Start-up Screen
Digital Video Capture	Time and Date
Image/Video Replay	Digital Zoom
Fast 5 second power-up, standby mode not required	On Screen Set-up Menu
Up to 5 hours Battery Life	

CAMERA STANDARD ACCESSORIES

The TT Type comes with the following accessories as standard:

Quick Start Guide	Video Output Cable
User Manual	Removable MicroSD Card
Rechargeable Battery Pack	USB Cable
Mains Charger	Neck Strap
In-Car Charging Cable	Lens Cloth

CAMERA OPTIONAL ACCESSORIES

AA Battery Holder - ARG_TT_AA
Black Hard Case - ARG_TT_BHC
Soft Case - ARG_TTP_SC
Additional Li-ion battery - ARG_TTP_BP
TT Camera Holster - ARG_TTH

CAMERA ORDER CODES

Code	Resolution	Field of View	Frame rate
TT320B	320x240	50°	30Hz
TT329B	320x240	50°	9Hz
TT320C	320x240	24°	30Hz
TT329C	320x240	24°	9Hz

PERFORMANCE

320 x 240 Pixel Sensor - 50° Field of View lens



320 x 240 Pixel Sensor - 24° Field of View Lens



Note: Identification at 6.25cm/pixel. Recognition as person/object at 25cm/pixel. Detection of person at 66.7cm/pixel.

OPTICAL DATA

Detector	
Sensor type	Un-cooled Microbolometer
Sensor material	Amorphous Silicon (ASi)
Resolution	384 x 288 array (320 x 240) used
Pixel size	25µ
Spectral response	8 – 14µm
MDTD	<100 mK typical (Minimum Discernible Temperature Difference)
Dynamic range	-40°C to 150°C (-40°F to 300°F)
Refresh rate	60Hz
Direct Temperature Measurement (DTM)	-20°C to 150°C (-4°F to 300°F)
Lens	
Lens material	Germanium
Type	B C
Focal length	8.6mm 19mm
Aperture	f/1.0 f/1.3
Field of view	50° 24°
Display	
Type	High grade, Industrial, colour TFT active matrix LCD
Size	90mm (3.5 inch) Diagonal
Pixel format	QVGA 320 x 240, (each pixel RGB format, total pixels 230,400 pixels)
Backlight	High Brightness dimmable
Standard Colour Modes	White hot, Black hot plus 10 other selectable modes
Update rate	30fps (TT--0); 9fps (TT--9)
Image Capture	JPEG or RAW format, 1000 images
Video Capture	AVI (MJPEG) format, approx 0.2GB/hr 10fps (TT--0); 9fps (TT--9)
Torchlight Type	High performance power LED
Beam width	12° typical

ELECTRICAL DATA

Interfaces	
Power	12VDC for use with supplied mains or vehicle adaptor leads
Computer	Mini-USB (USB2) (USB Mass Storage Device)
Video Output	NTSC 525 line 60 Hz, EIA RS-170 30fps (TT--0); 9fps (TT--9)
Memory Card	Compatible with Class10 MicroSD
Power	
Power Consumption	3W typical
Start-up time	5 seconds typical
Battery type	Li-ion (DR5)
Battery life	Up to 5 hours
Battery recharge time	4 hours approx in camera 3 hours approx in external charger
Charging temp.	0°C to 40°C (32°F to 104°F)
Alternative Battery (option)	Lithium AA FR6 Primary x 4
Lithium AA Battery Life	Up to 5 hours
External power/charging	100 - 240 VAC 50/60Hz or 12VDC (with vehicle adaptor)

MECHANICAL DATA

Camera dims (H x W x D)	284mm x 91mm x 73mm
Camera weight	<0.725 kg (1.6 lb) including battery
Hand Grip Diameter	54mm Max

ENVIRONMENTAL DATA

Operating Temperature	-20°C to +60°C (-4°F to 140°F)
Long term storage	-20°C to +60°C (camera) -10°C to +50°C (Li-ion battery)
Sealing	Waterproof (IP65)*
Vibration/Shock	EN 60721-3-2 Class 2M3
EMC Emissions	BS EN & AS/NZ 61000-6-3:2007 EN 50489:2010 FCC CFR 47 PART 15b:2010 ICES-003(2004) (Canada)
EMC Immunity	BS EN 61000-6-2:2005 EN 50498:2010
RoHS	Compliant
Safety	IEC 60950-1 and related national standards

* Connector cover fitted and battery cover closed.

WARRANTY

24-month warranty on camera as standard. Warranty can be extended for up to an additional three years at the time of purchase (exclusions apply).

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