



Argus® P-Type: Thermal Imaging Camera for Law Enforcement

Introduction

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

The Argus® P-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 Argus® P-Type is a robust, self-contained, simple-to-operate thermal imaging camera with interchangeable lenses allowing the camera to be used effectively for differing operational distances. 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 Argus® P-Type is available with either a 320 x 240 pixel or 160 x 120 pixel Amorphous Silicon (ASi) Microbolometer Detector. The camera has been designed using advanced digital imaging technology and techniques for superior performance and application specific functionality

Camera Standard Features

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

- Interchangeable Lenses
- Shuttered OLED Display
- Digital Image Capture
1000 images (option)
- Digital Video Capture
(option)
- Image/Video Replay (option)
- Fast 5 second power-up.
standby mode not required
- Up to 5 hour Battery Life
- Direct Temperature Measurement
- Choice of Colour Modes
additional colour modes optionally available
- Customisable Start-up Screen
- Time and Date
- Digital Zoom
- On Screen Set-up Menu

Camera Accessories

Supplied Accessories:

- Quick Start Guide
- User Manual
- Rechargeable Battery Pack
- Mains Charger
- In-Car Charging Cable
- Video Output Cable
- 4GB Memory Card
- USB Cable
- Neck Strap
- Lens Cloth

Optional Accessories:

- Force Application Colour Modes - ARG_TTP_AM_F
- Sport Application Colour Modes - ARG_TTP_AM_S
- Specialist Application Colour Modes - ARG_TTP_AM_SS
- Marine Application Colour Modes - ARG_TTP_AM_M
- Image and Video Capture - ARG_TTP_IV
- Black Hard Case - ARG_P_BHC
- Argus Soft Case - ARG_TTP_SC
- Additional Li-ion battery = ARG_TTP_BP

Order Codes

Cameras

PB160 (160 x 120 Sensor)
PB169 *9Hz version*
PB320 (320x 240 Sensor)
PB329 *9Hz version*

Lenses (order separately)

ARG_PLENSB
ARG_PLENSC
ARG_PLENSD
ARG_PLENSE
ARG_PLENSF

Performance

LENS: 'ARG_PLENS'	B	C	D	E	F
Identification approx.	24m	50m	90m	115m	165m
Recognition approx.	90m	190m	350m	460m	650m
Detection approx.	230m	500m	950m	1250m	1750m
Field of View (Horizontal) With 160 x 120 Sensor.	26°	12°	6.5°	5°	3.5°
Field of View (Horizontal) With 320 x 240 Sensor	50°	24°	13°	10°	7°

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

Camera Specification

Optical Data

Detector

Sensor type	Uncooled Microbolometer				
Sensor material	Amorphous Silicon (ASI)				
Resolution	384 x 288 array (320 x 240 used) or 160 x 120				
Pixel size	25 µm				
Spectral response	8 – 14 µm				
MDTD	<100 mK Typical				
Scan rate	60Hz (PB320), 120Hz (PB160)				
Direct Temperature measurement range	0°C to 150°C (32°F to 300°F)				

Lens

Type	B	C	D	E	F
Focal length	8.6	19	35	46	65
Aperture	f/1.0	f/1.3	f/1.2	f/1.0	f/1.3
Horz. Field of View PB160	26°	12°	6.5°	5°	3.5°
Horz. Field of View PB320	50°	24°	13°	10°	7°
Material	Germanium				

Image Presentation

Display Type	OLED Microdisplay
Pixel Format	QVGA: 320 x 240 x RGB
Pixel Count	320 x 240 x 3 = 230,400 Pixels
Diopter Adjustment	+2 to -4
Standard Colour Modes	White hot, Black hot
Update rate	PB160/320 30fps; PB169/329 9fps
Image Capture	JPEG or RAW format, 1000 images
Video Capture	AVI (MJPEG) format, approx. 0.2GB/hr PB160/320 10fps; PB169/329 9fps

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 60Hz, EIA RS-170 PB160/320 30fps; PB169/329 9fps
Memory Card	Compatible with MicroSD

Power

Power Consumption	3 W 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 Temperature	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

Physical

Overall Dimensions	232mm x 93mm x 77mm With B or C lens and cover fitted. Excludes removable eyecup & straps
Weight	<0.95 kg (<2.1 lb) including battery. B or C lens, straps and cover

Environmental

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	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

Warranty

24 - month warranty as standard (exclusions apply)

*Connector cover fitted, lens fitted and battery cover closed.