e2v technologies

P4455E
ARGUS® Hand-held Thermal Imager

DESCRIPTION

Argus® is a simple to operate, robust, self-contained Thermal Imaging Camera designed to assist the vision of fire and rescue personnel in smoke and darkness. With fully automatic operation and with a single on/off button, no control or adjustment is required in use.

Argus® is constructed from materials chosen for their strength and resistance to heat, water and impact. Protection from shock is provided by a combination of rugged components and optimum mechanical design. The camera is sealed to withstand driving spray and short-term total immersion in water.

Power is provided by an integral battery pack located behind a quick-release cover in the handle of the unit.



FEATURES

- Solid-state FPA Detector
- Fully Digital Image Processing Circuitry
- On-screen Graphics
- Triple Layer Construction
- Internal Chassis Shock Isolation
- Heat Protection Layer
- One-way Fit Battery Pack for Rapid Change
- User-Replaceable External Fittings

MECHANICAL DATA

Overall dimensions . . . . . see outline
Camera weight . . . . . 2.2 kg (5 pounds) nom

Materials

All externally exposed components are produced from flame retardant materials.

Outer case of camera . . . . . yellow Lexan® 940
Visor . . . . . Neoprene® BR568
Neck straps . . . . . Nomex®
Side straps . . . . . Nomex®

ELECTRICAL DATA

Power Supply

Power is supplied from the rechargeable Ni-MH integral battery packs or eight AA alkaline cells.

Power consumption . . . . . 3.5 W approx
Battery life . . . . . 4.5 hours using NiMH
5.5 hours using 8 x LR6 AA

Video Output

A video signal for connection to a remote monitor is provided. This connection has a 75 Ω characteristic impedance and conforms to EIA RS-170 525-line/60 Hz field standard. Connection is via a BNC socket located under the rubber cover on the camera right-hand side.

ENVIRONMENTAL DATA

Thermal Conditions

The camera is designed to operate for 1 hour minimum at 80 °C (176 °F). Higher temperatures will be tolerated for shorter periods.

Sealing

The camera is sealed to withstand driving spray and short-term total immersion in water.

Storage

The camera may be stored for extended periods. It is recommended that for maximum effective operational life, the storage temperature is kept between −10 and +40 °C (14 and 104 °F).

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OPTICAL DATA

Sensing Optics

Image Sensor

The Argus® uses a state-of-the-art focal plane array detector manufactured by Raytheon and customised to meet the demanding requirements of the fireground. The detector is configured in a 4:3 format.

Lens

The thermal image is focused onto the focal plane array by a purpose-designed, integral germanium lens. An external window provides an IP67 rated seal This has a hard anti-reflective coating and may be cleaned as necessary with a soft cloth.

Focal length	8.5 mm nom
Maximum aperture	f/1.0
Horizontal angle of view	50° nom
Spectral response	8 to 14 μm
Iris	electronic automatic gain control

Viewing Optics

The bi-ocular display image is presented on a 38 mm diagonal CRT, viewed via a lens so that the image plane is at an approximate distance of 0.6 m (2 feet). A rear visor provides smoke exclusion and shielding from ambient light. This is designed to be compatible with the majority of BA masks in current use.

PERFORMANCE

Temperature and Spatial Resolution

The imaging system has an MTF of >70% at 30 line pairs per picture height and >25% at 60 line pairs per picture height for a temperature difference of 5 °C.

Minimum Detectable Temperature Difference

The minimum detectable temperature difference is <0.1 °C at low spatial frequencies.

ACCESSORIES

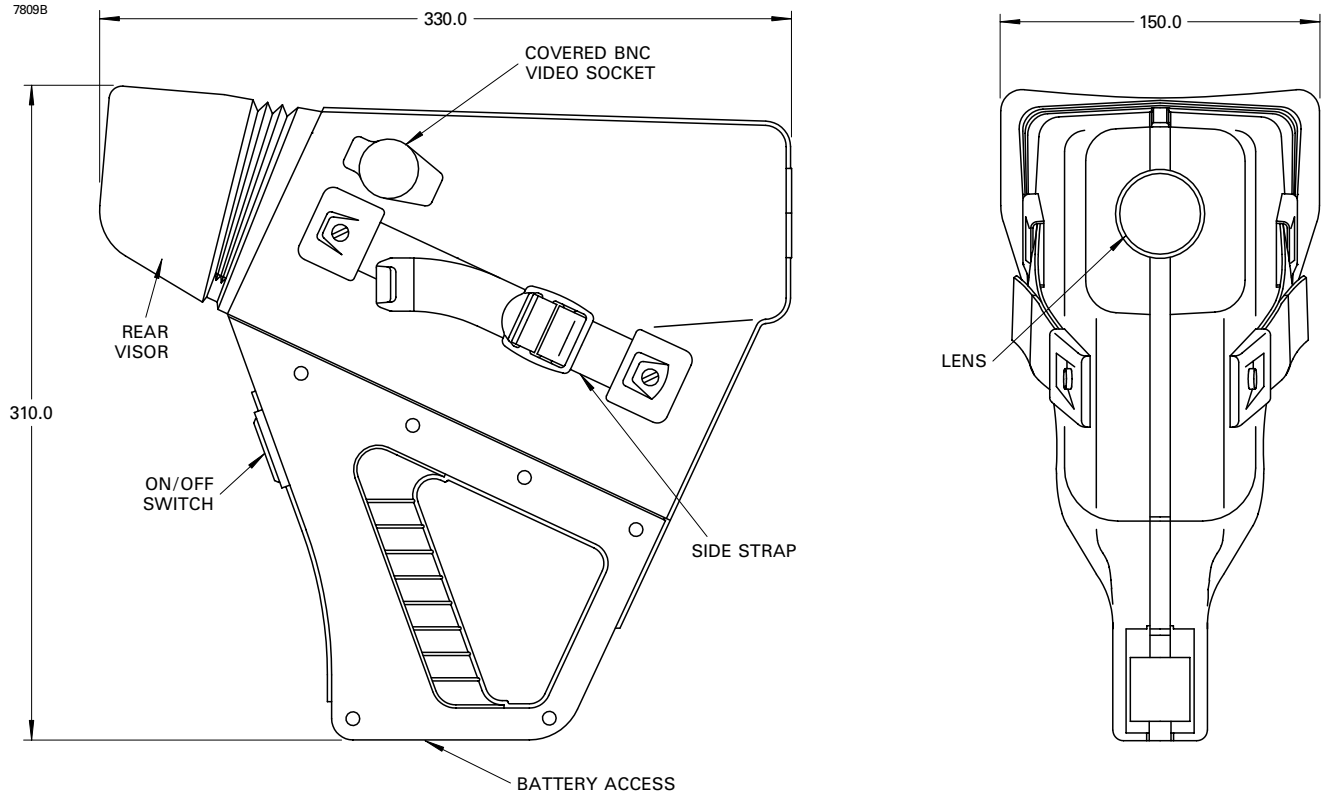
The following accessories are supplied with each P4455E Argus® camera:

Two primary battery packs
Neck strap
Argus® user manual
Argus® intelligent battery charger
Two Ni-MH high capacity rechargeable battery packs
(see separate e2v technologies data sheets for full specification).
Custom carrying case

Argus® trademark licensed from Argus Industries, Inc.

OUTLINE

(All dimensions nominal and in millimetres)



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