



RADIATION TOLERANT CAMERA

R942™

Compact Nuclear Zoom Camera



A compact radiation-tolerant zoom camera capable of being remotely controlled and designed to be configured based on user needs.

The R942 compact zoom camera from Mirion has been developed to provide a radiation tolerant zoom facility in a compact 76 mm diameter case. The zoom facility features a non-browning 12 to 72 mm, f/1.8 to f/22 zoom lens. Lens is capable of all the optical functions (i.e., focus, zoom, iris and macro) while being fully motorized to allow complete remote control via the R90™ Mk 3 Camera Control Unit. Housed in a stainless steel case, the R942 camera incorporates a zoom lens that can focus and track from 50 mm to infinity.

The R942 camera is designed to be used in conjunction with Mirion's R90 Series Mk 3 Camera Control Units. Fully compatible with international video standards, R90 Mk 3 Control Units can be integrated or locked to external sources, image processors or machine vision systems. A range of portable or rack mounted versions are available with local control, or remote control over twisted pair or video coaxial cables.

FEATURES

- ✓ Compact Casing
- ✓ Radiation Tolerant
- ✓ Non-browning Zoom Lens
- ✓ Remotely Controlled
- ✓ Compatible with Mirion's pan and tilt unit

APPLICATIONS

- ✓ Fuel Inspection
- ✓ Search and Retrieval
- ✓ Reactor Inspection
- ✓ Robotics and Manipulator Surveillance

R942 COMPACT NUCLEAR ZOOM CAMERA

SPECIFICATIONS AND PERFORMANCE

GENERAL

- Length (without connector): 390 mm (15.4 in)
- Diameter: 76.2 mm (3 in)
- Weight (approximate): 3.7 kg (8.2 lb)

SYSTEM PERFORMANCE

- Resolution: 600 TV lines per picture height (center zone)
- Sensitivity: 30 lux scene illumination (1 V composite video signal, Chalnicon, 80% average scene reflectivity, tungsten illumination 2856 K)

ENVIRONMENTAL

- Operating Temperature: -0 to 55 °C (32 to 130 °F)
- Storage: -10 to 60 °C (14 to 140 °F)
- Depth Rating: 50 m (165 ft)
- Radiation Tolerance:
2 MGy (H₂O) [⁶⁰Co] (2 x 10⁸ rads) Total dose
>30 kGy/hour (>3 x 10⁶ rads/hour) Vidicon
1 kGy/hour (1 x 10⁵ rads/hour) Chalnicon

OPTICS

- Iris Range: f/1.8 to f22
- Viewing Angles in Air:
Zoom Out
Horizontal 40°
Vertical 30°
Zoom In
Horizontal 7°
Vertical 5°
- Focus Range: Tracking 50 mm (1.96 in) to infinity 0 mm to infinity (using macro and fully zoomed out)
- Cable Length: 100 m (328 ft)

SPECIFICATION NOTES

1. A “good” picture is defined as one where the illumination available is sufficient for the camera to produce a 1 V composite video signal with a fully open aperture.
2. A “usable” picture can usually be obtained, dependent on the scene viewed and environmental factors, etc., when the illumination available is only one third that required to achieve a 1 V composite video signal at full aperture.
3. Mirion Technologies should be consulted for very critical viewing requirements, or in cases where there are important lighting, resolution, environmental or viewing angle considerations.
4. In applications where there are severe space constraints, care should be taken to allow for the size of the camera cable mating connector and if necessary, the bend radius of the connecting camera cable. Please refer to the R90 series cables and connectors data sheets.
5. Mirion Technologies should be consulted if longer cable lengths are required.



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Specifications may vary according to system configuration. We reserve the right to modify or amend the information herein without prior warning. Please contact your Mirion representative for further information.

Mirion Technologies (IST) Ltd and Mirion Technologies (Imaging), LLC are ISO 9001:2015 certified companies (certificates available on request or at www.mirion.com).

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