

R940

Compact Nuclear Zoom Camera



Nuclear
Power



Homeland
Security
& Defense



Industrial and
Manufacturing



Healthcare



Labs and
Education

OVERVIEW

The R940 compact zoom camera from Mirion has been developed to provide a radiation tolerant zoom facility in a compact 55 mm diameter case. The zoom facility comprises a non-browning 22 to 90mm, f/3.5 to f/45 zoom lens with all the optical functions (ie, focus, zoom, iris and where applicable macro) fully motorized to allow complete remote control via the R90 Mk 3 Camera Control Unit. Housed in a stainless steel case the R940 cameras incorporate a zoom lens that can focus and track from 50mm to infinity. This allows the version without macro focus motor to suit most applications, but for applications requiring very close focusing (less than 250 mm) the version with macro focus motor can be supplied.

The R940 camera is designed to be used in conjunction with 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. External lighting accessories are available.

For integrated system applications the R940 can easily be interfaced with central switching units and remote control panels. Control systems using PC driven SCADA control techniques are also available.

www.mirion.com

KEY FEATURES

- Compact Casing
- Radiation Tolerant
- Non-browning Zoom Lens
- Remotely Controlled
- Lighting

APPLICATIONS

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

TECHNICAL DATA AND PERFORMANCE

General		
	Without Macro	With Macro
	327 mm (12.9")	367 mm (14.5")
	55 mm (2.16")	55 mm (2.2")
	2 kg (4.4 lbs.)	2.3 kg (5.1 lbs)

System Performance	
	600 TV lines per picture height (centre zone)
	20 lux scene illumination (1 volt composite video signal, chalnicon, 80% average scene reflectivity, tungsten illumination 2856 k)
	2 m (6.5')
	4 m (13')

Environmental	
	-0 to 55 °C (32 to 130 °F)
	-10 to 60 °C (14 to 140 °F)
	50 metres (165')
	2 MGy (H ₂ O) [⁶⁰ Co] (2 x 10 ⁸ rads) Total dose
	>30 kGy/hour (>3 x 10 ⁶ rads/hour) Vidicon
	1 kGy/hour (1 x 10 ⁵ rads/hour) Chalnicon

Optics		
	Zoom Out	Zoom In
	23°	6°
	17°	4°
	250 mm (10') to infinity (without macro focus motor) 50mm (0.8') to infinity (with macro focus motor, zoomed out)	
	200 metres (660') max	

Specification Notes

1. The information regarding lighting ranges is approximate only based on tests made in a darkroom viewing scenes with reflectivity of 60% using an R940 camera fitted with a newvicon tube.
2. A "good" picture is defined as one where the illumination available is sufficient for the camera to produce a 1 volt composite video signal with a fully open aperture.
3. 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 volt composite video signal at full aperture.
4. Mirion Technologies should be consulted to very critical viewing requirements, or in cases where there are important lighting, resolution, environmental or viewing angle considerations.
5. 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.
6. 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 9001:2008 certified companies (certificates available on request or at www.mirion.com).

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