



Innovative Industrial Solutions

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N65HR Underwater Radiation Hardened Camera

N65HR is an underwater radiation hardened monochrome tube TV-camera. The camera is fitted with a special radiation hardened non-browning Chalnicon, Saticon or Vidicon camera tube, which combines high sensitivity and high temperature tolerance.



N65HR

N65HR is a reliable solution for both single-camera application and for multi-camera CCTV networks. No separate adjustment of the camera is needed during or before operating.

It is equipped with non-browning lens and front-glass that withstands high radiation without decreasing its optical performance.

It is compared to conventional monochrome tube cameras, a high-resolution camera designed for excellent image reproduction as well as high radiation tolerance.

Application

Special inspection in high radiation areas with 3x to 6x optical zoom

Monitoring offload and refueling of fuel assemblies and control rods

Core grid verification

Innovative Industrial Solutions, Inc.
2830 Skyline Dr. Russellville, AR 72802
479-968-4266

www.i-i-s.net



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NG5HR Radiation Hardened Camera



Benefits

Ideal for inspections of high radiation parts of reactor vessels and internal parts in reactors of any type
Special inspection of areas with high radiation and spaces with difficulties of access

Core grid verification

Surveillance during fuel assembly examinations

Features

High image quality

3x and 6x zoom lens available, standard lenses 9 mm (54°) or 25mm (20°) High sensitivity only 15 lux with AGC

Minimum object-to-lens distance 50 mm

Close-range focusing, high resolution

Resolution more than 700 TV lines

Remote control of focus and iris

Radiation tolerance (total dose) $>5 \times 10^5$ Gy ($>5 \times 10^7$ rads)

Radiation tolerance (dose rate) $>10^4$ Gy ($>10^6$ rads)

Compatible with

Camera control unit

PIS 180 and P150R

Technical data

Diameter

65 mm

Length

175 mm (including internal focus option)

Length with zoom lens

275 mm (zoom lenses 8-24mm, 12-72mm)

Weight

1 kg (2 kg with the zoom lens)

Housing material

EN 1.4301/EN 1.4436, AISI 304/AISI 316, EN AW-6082,
Alloy 6082

Front window

Non browning glass

Connector

C32M-19P or C30M-24

Maximum temperature in air

50°C (122°F)

Watertight to

5 bar (73 lbs²)

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Electrical data

Tube	2/3" high radiation non-browning Chalnicon or Vidicon
Video signal	1 V composite to CCIR standard; peak white limit at +0.9V; sync pulses -0.3V. Black level clamp, variable gamma correction, aperture correction
Scanning system	625 lines, 50 fields/sec, 2:1 interlace (CCIR) or 525 lines, 60 fields/sec, 2:1 int. (EIA RS170)
Resolution	>650 TV-lines
Video out	1 V p-p, 75 Ω , unbalanced
Signal-to-noise ratio	>52 dB
Minimum illumination	15 lux
Sensitivity	1.5 lux on faceplate for full image quality 0.15 lux at max. video gain (reduced quality)

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