

- High resolution color sensor camera
- New patented design – for excellent protection of camera and electronics
- Integrated radiation sensors
- Pan / Tilt / Zoom with variable speed
- 28x optical zoom
- Focus: Auto / Manual
- Iris: Auto / Manual
- 2x halogen lamps, spot & wide
- Video output: Coax and 2-wire
- Audio output: FM audio via 2-wire
- Communication ports
 - LONWORKS® with protocol for AVISS
 - RS-485 with protocol to other systems
- Advanced self diagnostics
- Trouble-free installation and service
- Custom adopted to existing
- Cable connector and bracket
- Option: Rugged Microphone Kit



RadCam®

RADCAM® IS A COLOR SENSOR CAMERA WHICH IS DESIGNED FOR INSTALLATION WITHIN THE REACTOR CONTAINMENT BUILDING AND OTHER RADIOACTIVE AREAS

“Nothing Goes Undetected”

LEADING RADIATION TOLERANT CAMERA SYSTEMS

The RADCAM® is a proven standard when it comes to advanced audiovisual process surveillance within NPPs.

With its patented neutron absorbing outer body, its high tolerance to gamma radiation, and an effective on board cooling system, the RADCAM® from ISEC is a camera that is designed to survive within the harshest of environments.

The RADCAM® is the first of a new series of cameras developed for the specific needs and environment in the NPPs. All camera models are adapted to be integrated with the AVISS system and they can also easily be integrated with other control systems. RADCAM®

incorporates a new patented camera shielding and cooling technology that will protect the CCD camera and its control logic. The result is a camera that is very reliable in the environment of the reactor containment building and other radioactive areas.

The RADCAM® also has additional qualities that are requested in a modern control room by the reactor and turbine operators - high availability, brilliant picture and sound quality, auto focus, 28x optical zoom, low light sensitivity, high temp tolerance (up to 90°C) and easy maintainance (replacement of spare parts in less than 5 minutes) makes RADCAM® the ideal camera for nuclear power plants.

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	radcam® E	radcam® Ω
Camera module Sensor Minimum lighting Optical zoom Viewing horizontally S/N ratio Focus Iris Signal output	1/4" day/night color sensor w/670 TVL 0.7 lux at F1.6, 1/50s and 50 IRE 25x f=3.5mm (Wide) to f=91mm (Tele) 42°-1.6° from wide to tele 75 dB due to thermoelectric cooling Yes, auto and manual Yes, auto and manual PAL or NTSC	Utilizes the same camera module as used in the RADCAM
Microphone (optional) Microphone element Characteristics Frequency Response	Designed to withstand radiation Omni directional 20 – 20,000 Hz, ± 3 dB	Designed to withstand radiation Omni directional 20 – 20,000 Hz, ± 3 dB
Pan/Tilt unit Pan Tilt Protected position Variable speed pan/tilt Manually adjustable pan limits Lamp(s)	± 180°, .045° / step, full turn in 11 s ± 90°, .045° / step, half turn in 7 s Yes, Automatic in use with AVISS Yes, 0 – 45° / s Yes, limits are set via internal keyboard 2x 35W following the Pan/Tilt	± 165°, .045° / step, full turn in 11 s ± 90°, .045° / step, half turn in 7 s Yes, Automatic in use with AVISS Yes, 0 – 45° / s Yes, limits are set via internal keyboard 2x 35W following the Pan/Tilt
Video output Unbalanced for coax Balanced for 2-wire	BNC Connector: 1 VPP / 75Ω System connector: 1 VPP / 120Ω	BNC Connector: 1 VPP / 75Ω System connector: 1 VPP / 120Ω
Audio output Modulation Balanced for 2-wire	Frequency modulation, 400 kHz Syst. Connector: FM-signal 1 Vpp/120Ω	Frequency modulation, 400 kHz Syst. Connector: FM-signal 1 Vpp/120Ω
Communication ports LonWorks RS-422 / RS-485 /	System Connector in use with AVISS Optional: Different protocols installed	System Connector in use with AVISS Optional: Different protocols installed
Power requirements Voltage and frequency Effect Fuse	Power: 230/110/100/24 VAC - 50/60 Hz 200 VA Slow 2A/230 VAC and 5A/ 100-110 VAC	Power: 230/110/100/24 VAC - 50/60 Hz 200 VA Slow 2A/230 VAC and 5A/ 100-110 VAC
Physical characteristics Size Free space around unit Weight	H: 430mm L: 460mm W: 350mm Radius: 320mm, Height: 430mm 26.5 Kg (58.4 Lb.)	H: 394mm L: 410mm W: 300mm Radius: 277mm, Height: 394mm 19.5 Kg (42.9 Lb.)
Environment IP class Operational temperature °C Operational temperature °F Humidity Vibration Pressure	IP 65 (camera module) 5 – 65°C, max 90°C for 8 hours 40 – 150°F, max 195°F for 8 hours 0 – 100% RH, non-condensing 2 – 9 Hz 1.5mm, 9 – 200 Hz acc. 5m/s ² 5 Bar above normal atm. pressure	IP 65 5 – 60°C, max 85°C for 8 hours 40 – 140°F, max 185°F for 8 hours 0 – 100% RH, non-condensing 2 – 9 Hz 1.5mm, 9 – 200 Hz acc. 5m/s ² 5 Bar above normal atm. pressure
Radiation Type of protection Internal sensor(s)	Neutron and gamma protection Internal radiation sensors	Neutron and gamma protection Internal radiation sensors
EDP numbers 230 VAC (audio ready) 115 VAC (audio ready) 24 VAC (audio ready)	PAL 992-0334 992-0335 992-0336	NTSC 992-0340 992-0341 992-0342
Options Radiation hardened Microphone Kit Camera Module PAL Camera Module NTSC Control Module CPU w. cooling pod Spare Part Kit PAL* Spare Part Kit NTSC*	992-0310 992-0304 992-0305 992-0311 992-0301 992-0300	992-0310 992-0304 992-0305 992-0311 992-0301 992-0300



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* consists of 1 Camera Module, 1 Control Module, 2 fans and 2 halogen lamps