



FEATURES

- High radiation tolerance 1MGy
- Compact
- Non-browning optics (6:1 zoom & fixed lenses)
- Remotely controlled focus, iris and zoom features
- Air/underwater operation

APPLICATIONS

- Corrosion identification
- Fuel monitoring
- Serial number verification
- Robotic and manipulator surveillance
- Search and retrieval

IST-REES RC991 SERIES Radiation Tolerant Colour Camera

The IST-Rees RC991 series of high radiation tolerant colour cameras have been designed for the nuclear industry. The camera contains a $\frac{2}{3}$ " Saticon tube which can operate in high radiation fields and will survive a high accumulated dose. The RC991 is available with a range of non-browning 6:1 zoom lens. The zoom lens optics are constructed of clear non-browning glass (as opposed to yellow-tinted glass) to provide optimum colour image quality. Optional, fixed focal length lenses are also available. Recognizing the importance of field serviceability of components, the RC991 offers interchangeability of multiple camera heads and camera control units without difficult alignment procedures.

imaging systems

A Mirion Technologies Division

Featuring:

 **ist-rees**

SPECIFICATIONS AND PERFORMANCE

SYSTEM PERFORMANCE	
Sensor Tube	$\frac{2}{3}$ " Saticon, magnetic focus, electrostatic deflection
Horizontal Resolution	350 tvl centre per picture height (T.05 chart & high resolution monitor)
Sensitivity	350lx for full video
Minimum Illumination	200lx for a usable picture
Geometric distortion	<2% (excluding lens)
Video output	1V p-p into 75 ohms, NTSC
Signal to noise ratio	36dB (agc at minimum gain)

ENVIRONMENT (CAMERA HEAD)	
Accumulated dose	1MGy (H ₂ O) [⁶⁰ Co] (1 x 10 ⁸ rads)
Maximum dose rate	1kGy per hour (1 x 10 ⁵ rads per hour)
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-25°C to 60°C (-13°F to 140°F)
Operating depth	60m (200ft) (water)

ENVIRONMENT (CONTROLLER)	
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-25°C to 60°C (-13°F to 140°F)
Humidity	85%, non-condensing

CAMERA HEADS - RC991 CMB 6:1 ZOOM	
Length (excluding connector)	304mm (12")
Diameter	80mm (3.15")
Lens	12 to 72mm, f/1.8NB
Focus range (in air)	800mm (42") to infinity
Focus range (in water)	1.1m (39.37") to infinity
Horizontal angle of view	40° to 7° (in air) 30° to 5° (in water)

CAMERA HEADS - RC991 CMK 6:1 ZOOM	
Length (excluding connector)	304mm (12")
Diameter	80mm (3.15")
Lens	24 to 144mm, f/3.6NB
Focus range (in air)	800mm (42") to infinity
Focus range (in water)	1.1m (39.37") to infinity
Horizontal angle of view	40° to 7° (in air) 30° to 5° (in water)

CAMERA HEADS - RC991 CMF 6:1 ZOOM WITH MACRO FOCUS (FOR USE WITH PAN AND TILT)	
Length (excluding connector)	304mm (12")
Diameter	106mm (4.17")
Lens	12 to 72mm, f/1.8NB
Focus range (in air)	10mm (0.4") to infinity (wide angle with macro focus) 330mm (13") to infinity (telephoto with macro focus)
Focus range (in water)	15mm (0.5") to infinity (wide angle with macro focus) 440mm (17") to infinity (telephoto with macro focus)
Horizontal angle of view	40° to 7° (in air) 30° to 5° (in water)

OPTIONAL - RC991 FIXED 25mm LENS	
Lens	Non-browning 25mm with remote iris facility f/2.5
Focus range	70mm (2.75") to infinity (in air) 95mm (3.65") to infinity (in water)
Horizontal angle of view	20° (in air) 15° (in water)

CAMERA CONTROLLERS - RC991 CUA PORTABLE CONTROLLER	
Width	400mm (15.75") (including carrying handle)
Height	96mm (3.78")
Depth	340mm (13.39") (excluding feet and protective hood)
Power requirements	90V to 264V, 50/60Hz, 50VA maximum (without lighting psu)

CAMERA CONTROLLERS - CONNECTORS	
AC power	IEC 320
Camera	Burndy Metalok Bantam, 28 way
Video output	75 ohm BNC
Y/C output	4 way mini DIN

CAMERA CONTROLLERS - CONTROLS	
Power	On/off (rear panel)
Image	Lens motor speed, macro, focus, iris, zoom
Lights	Off/intensity
Camera	Electronic focus Auto gain control on/off Colour temperature (red/blue) Colour uniformity (pre-set control)
Indicators	Power, Motor limit, Agc on, Illumination level

CONTROLLER FOR CAMERA, PAN AND TILT, LIGHTS	
Width	438mm (19")
Height	88mm (3.5")
Depth	359mm (14.1"), excluding controls and connectors

CONTROLLER FOR CAMERA, PAN AND TILT, LIGHTS POWER REQUIREMENTS - CONNECTORS	
AC power	IEC 320
Camera	Burndy Metalok Bantan 48-way
Video output	75 ohm BNC
Y/C output	4-way Mini DIN

CONTROLLER FOR CAMERA, PAN AND TILT, LIGHTS POWER REQUIREMENTS - CONTROLS	
Power	On/off (front panel)
Image	Lens motor speed, macro, focus, iris, zoom, pan
Pan and Tilt	Four controls (pan right, pan left, up, down)
Indicators	Power, motor limit, AGC on illumination level

CONTROLLER FOR CAMERA, PAN AND TILT, LIGHTS CABLE (CAMERA ONLY)	
Type	Minikevlar
Diameter	11.3mm (0.44")
Maximum length	100m (328 ft) 50m (164 ft) with high powered lights
Camera Connector	IST C991, 24 way
Controller connector	Burndy Metalok Bantam, 28 way

CONTROLLER FOR CAMERA, PAN AND TILT, LIGHTS CABLE (FOR PAN, TILT, LIGHTS)	
For other cable lengths with 3 x 75W lights, please contact Mirion Technologies. Note: Pan, Tilt, Zoom with Light requires TV36 cable. Minikevlar can be used if lights are not required.	
Type	TV36
Diameter	16.45mm (.64")
Maximum length	50 metres (164 ft)

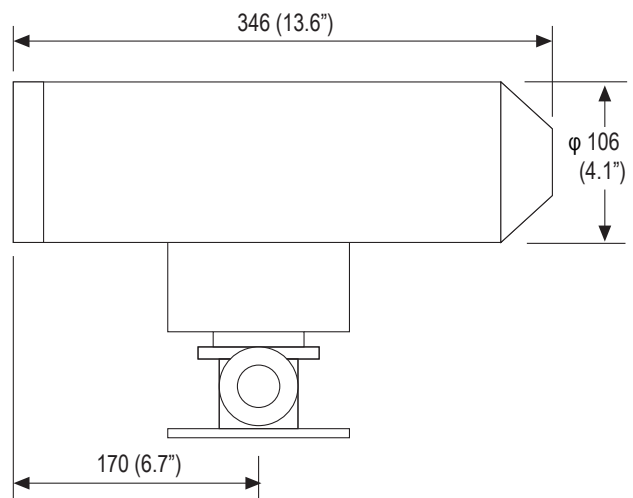
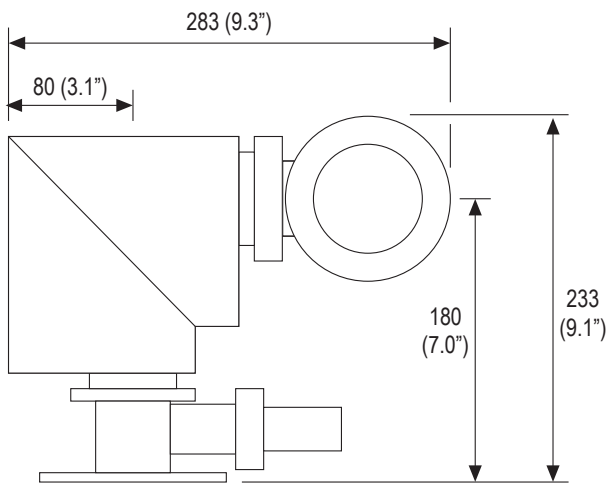
SPECIFICATION NOTES

1. 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 iris.
2. A "usable" picture can usually be obtained depending on the scene viewed and environmental factors, etc., when the illumination available is only 1/2 that required to achieve a 1 volt composite video signal with a fully open iris.

OPTIONS

Pan and Tilt Equipment - Lighting

- 50 W 12 volt dc Safelight spot lamp
- 50W 12 volt dc Safelight flood lamp
- 75W 12 volt dc Safelight spot lamp
- 75W 12 volt dc Safelight flood lamp



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200 IST Center
 Horseheads, NY 14845
 USA
 T +1.607.562.4300
 +1.800.432.1478
 F +1.607.562.4392

Station Road
 Alton, Hampshire
 GU34 2PZ, UK
 T 01420.541600
 F 01420.541700

Kaiser-Konrad-Str 93a
 D 53225 Bonn
 Deutschland
 T 0228.625088
 F 0228.626300

