



#### FEATURES/BENEFITS

- High-intensity white LED lighting with independently controllable 'spot' and 'flood' lights.
  - Continuous pan and +/- 120° tilt, each with variable speed which can automatically reduce as the camera is zoomed in.
  - The compact housing allows deployment through openings as small as 65mm diameter (2.56").
  - Outstanding viewing performance achieved by using a high performance CCD module with 10:1 optical and 4:1 digital variable speed zoom.
  - Slip clutch for fail-safe retrieval.
  - Position feedback system to provide for preset positioning and adjustable end stops.
  - Temperature sensing to provide for temperature alarms and thermal management.
  - Optional radiation dosimetry.
  - Sealed housing for in-air and underwater operation.
  - Optional high power tracking light for underwater use.
  - S-Video output on rack mounted controller.
  - Rack mounted controller with remote control capability.
- or

Optional folding case, portable controller with integrated flat screen monitor.

## IST-REES MINI PTZ MK2

Mini PTZ Integrated High Resolution Color CCD Inspection Camera Systems with High-Intensity Lighting Array

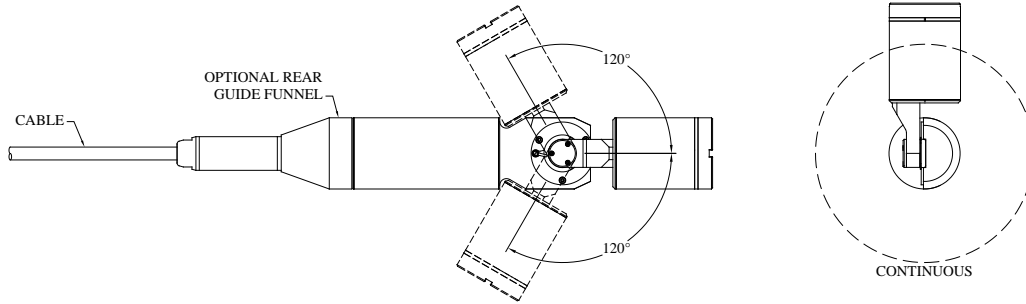
The IST-Rees Mini PTZ Mk2 provides a complete inspection system including a sealed, underwater capable, high performance, pan/tilt/zoom color CCD camera. The camera's compact housing provides for cable or pole deployment through small openings while its unique slip clutch design allows fail-safe retrieval. The integrated high-intensity white LED lighting provides sufficient illumination for most inspection applications. The integrated microcontroller supports many additional features including position feedback, thermal management and also optional radiation dosimetry when the camera is used in radiation environments. An intelligent controller, available in a rack mounted or robust portable enclosure, provides a convenient user-interface to utilize the system's advanced features.

imaging systems

A Mirion Technologies Division

Featuring:

The logo for ist-rees, featuring a stylized globe icon to the left of the text 'ist-rees' in a bold, lowercase sans-serif font.



## SPECIFICATIONS AND PERFORMANCE

CAMERA	
Image Sensor	1/4" EX-view HAD CCD™
Temperature Rating (Camera Module)	0°C - 50°C (32°F - 122°F)
Resolution	NTSC 470 TV lines PAL 460 TV Lines
Zoom	10:1 optical (4.2mm - 42mm) 4:1 digital
Focus	Manual or auto
Angle of View (H)	46° (Wide) to 5° (Tele)
Minimum Object Distance in Air	10mm (0.4") wide angle 1000mm (39") narrow angle
Minimum Object Distance in Water	13mm (0.5") wide angle 1330 (52") narrow angle
Iris Control	Manual or Auto
Maximum Aperture	f/1.8 @ f = 4.2mm f/2.9 @ f = 42mm
Sensitivity	1.5 lux (f/1.8, 1/60s (NTSC) or 1/50s (PAL)) 0.1 lux (f/1.8, 1/4s (NTSC) or 1/3s (PAL))
Auto Gain Control	-3dB to 28dB
Electronic Shutter	Auto 1/1 - 1/10,000 sec.
Overall Dimensions	Diameter: 63.5mm (2.5") Length: 345mm (13.6")
Construction	Stainless steel housing
Weight	2.4kg (5.3 lbs)
Depth Rating	60m (197')
Radiation Tolerance	100Gy [ <sup>60</sup> Co] (H <sub>2</sub> O) 10 <sup>4</sup> Rad [ <sup>60</sup> Co] (H <sub>2</sub> O)
Operating Dose Rate	100 Gy/hour (10 <sup>4</sup> Rad/hour)
Range - Pan	Continuous
Range - Tilt	+/-120°
Speed - Pan	Variable (up to 30°/sec)
Speed - Tilt	Variable (up to 15°/sec)

LIGHTING	
LEDs x 4 (Spot)	Beam Angle 12°. Up to 550 lux at 1m
LEDs x 4 (Flood)	Beam Angle 30°. Up to 200 lux at 1m
Available External Lamps (Tracking)	Underwater 50W lamp. External lamps require a separate lighting power supply (see Accessories).

CAMERA PART NUMBERS	
PAL Camera	C913PTA03A
PAL Camera with External 50W Lamp	C913PTA05A
PAL Camera with Dosimetry	C913PTA06A
PAL Camera with Dosimetry and External 50W Lamp	C913PTA09A
NTSC Camera	C913PTA13A
NTSC Camera with External 50W Lamp	C913PTA15A
NTSC Camera with Dosimetry	C913PTA16A
NTSC Camera with Dosimetry and External 50W Lamp	C913PTA19A

## CAMERA CONTROL UNIT SPECIFICATIONS

### 19" RACK MOUNT UNIT FOR FIXED INSTALLATIONS

<b>Operating Temperature</b>	0°C to 40°C (32°F to 104°F)
<b>Storage Temperature</b>	-20°C to 60°C (-4°F to 140°F)
<b>Humidity</b>	95% non-condensing
<b>Power Input</b>	90 to 264VAC, 47 to 64 Hz, 45VA max
<b>Dimensions</b>	483mm W x 88mm H x 353mm D (19.1" W x 3.5" H x 14" D)
<b>Weight</b>	5 kg (11 lbs)

Part Number: C913MCA03A



### ROBUST PORTABLE SELF CONTAINED UNIT WITH INTEGRATED FLAT SCREEN MONITOR

<b>Operating Temperature</b>	0°C to 40°C (32°F to 104°F)
<b>Storage Temperature</b>	-20°C to 60°C (-4°F to 140°F)
<b>Humidity</b>	95% non-condensing
<b>Power Input</b>	90 to 264VAC, 47 to 64 Hz, 75VA max
<b>Dimensions (Case Closed)</b>	406mm W x 330mm H x 174.5mm D (16" W x 13" H x 6.9" D)
<b>Dimensions (Case Open)</b>	406mm W x 330mm H x 443mm D (16" W x 13" H x 17.4" D)
<b>Weight</b>	8.5 kg (18.7 lbs)

Part Number: C913MCC03A



### CAMERA CONTROL: FEATURES/BENEFITS

Dedicated controls for basic functions	Pan (Joystick)
	Tilt (Joystick)
	Zoom (by joystick twist)
	Iris
	Focus
	Lights
Graphic LCD display with soft key system for advanced functions	Pan/tilt incremental angular position feedback
	Preset set/recall (16 presets: Pan/tilt/zoom/focus)
	End stop set/clear
	Set pan/tilt speed proportional to zoom
	Pan normal/reverse (for inverted operation)
	Read current temperature/maximum temperature
	Clear over-temperature alarms
	Thermal management/temperature alarm select
	Set temperature display units F°/C°
	Read integrated radiation dose, up to 1.5 x 10 <sup>4</sup> Rads (requires dosimetry option)
	Freeze frame
	Caption on/off (up to 20 characters)
	Time/date on/off
	Camera status information on/off
	Set time/date

Video outputs	S-Video* Composite
Configuration	Caption programming via PC keyboard (USB or PS2) connected to front panel RS-232 port for in-field software updates
External Control	Connector for remote keyboard* Lighting power supply connector for external lights* Ethernet for future expansion

\* 19" rack mount unit only.

### ACCESSORIES

Cable - Standard 16.0m (50')	C913CAB03A
Cable - Standard 31.0m (100')	C913CAB05A
Cable - Optional 16.0m (50') Extension*	C913CAB04A
Cable - Optional 31.0m (100') Extension*	C913CAB06A
Lighting Power Supply	R905LPK03A
Pole (Pole adaptors are available. For example, for Master-Lee™. Please enquire)	Various
Mounting Plate, Fixed Offset	C912PTA033
Mounting Plate, Fixed Concentric	C912PTA030

\*Maximum Cable Length = 91.4m (300ft)

### SYSTEM PART NUMBERS

PAL Camera	NTSC Camera	50' Minikevlar Camera	100' Minikevlar Camera	Rack Mount Controller	Portable Controller	50W External Lamp & Lighting Power Supply	Part no
✓		✓		✓			C913SYS03A
✓			✓	✓			C913SYS04A
	✓	✓		✓			C913SYS05A
	✓		✓	✓			C913SYS06A
✓		✓		✓		✓	C913SYS07A
✓			✓	✓		✓	C913SYS08A
	✓	✓		✓		✓	C913SYS09A
	✓		✓	✓		✓	C913SYS10A
✓		✓			✓		C913SYS11A
✓			✓		✓		C913SYS12A
	✓	✓			✓		C913SYS13A
	✓		✓		✓		C913SYS14A



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