

# IRIS POWER

## **RIV 800**

Robotic Inspection Vehicle and  
Camera System



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The RIV800 is a Trademark of Iris Power LP - a Qualitrol Company

  
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## Low Profile Robotic System for Stator Core Testing and Inspection

The magnetically supported Robotic Inspection Vehicle (RIV 800) has been developed to provide an automated scanning method for the ELCID stator core interlaminar insulation test equipment. The vehicle allows scanning of the stator bore of a generator or large motor, in order to test the integrity of the stator lamination insulation out more efficiently. The equipment can also be adapted to carry other lightweight attachments for stator inspection including the mini-camera or wedge tightness probe. A single control unit is used to provide power and control to the vehicle and camera module.

The RIV 800 is primarily designed for automated testing stator cores with EL CID with the rotor removed however, is also can be used to test machines by insertion into the air-gap with the rotor in place if the rotor retaining ring to stator gap is sufficiently large.



### Features and Benefits of the RIV

- Reduce overall cost of maintenance by providing faster testing with only one operator
- Reduce human fatigue, stress and accessibility concerns
- Fits into the air gap for rotor-in-place testing
- Operates with ELCID, Stator Wedge Analyzer and Camera systems
- Magnetically self supporting on steel surface
- Guidance system detects the edges of the stator teeth to follow a straight line and measures distance using an encoder wheel.
- Curvature adjustment accommodates the tractor in stator cores of various sizes
- AUTO mode allows the RIV to stop at a pre-set distance and then move only in the opposite direction



### Iris Power RIV Camera System

The Iris Power RIV Camera System provides a flexible system for Rotor-in-Place inspections of large generators. It is fitted to the Iris Power Robotic Inspection Vehicle which can be moved along the stator slots. The camera system includes an integral light. The camera and light are directed at a 45° mirror, which can be remotely rotated through 360° to allow scanning of the stator or rotor as well as looking forward along the air-gap. The camera can also be focused remotely. The system allows a visual inspection of the generator stator and rotor, including checking the air vents for debris, without removing the rotor. The video output is displayed on a 150 mm color TFT LCD integral monitor in the control unit. Composite video output is provided for feeding to a second monitor or video recorder.

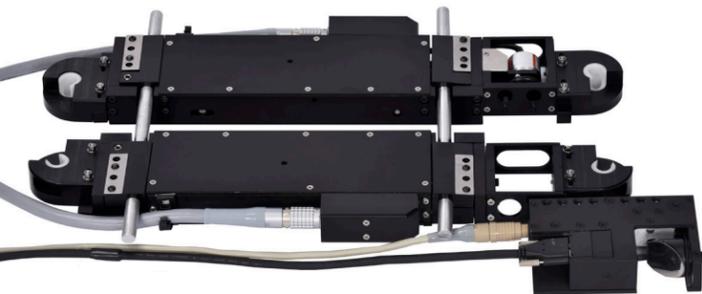
Robotic Inspection Vehicle - No Camera



Robotic Inspection Vehicle Specifications

Overall Length	350mm with Chattock Holders
Overall Width	Adjustable from 18 to 30cm
Maximum Payload	2kg in vertical climb mode
Slot Pitch	65 mm to 210 mm
Guidance	Automatic Using Magnetic Sensors
Distance Measurement	0 to 9.99m
Controls	Speed, Direction, Auto Stop Distance
Outputs	X Axis Pulses for ELCID
Power Requirement	85 - 264 V, 50/60 Hz
Operating Temperature	0° to +50°C (+32° to +122°F)
Standards	EN61010-1, ENG61326

Robotic Inspection Vehicle - Camera Installed



### Features and Benefits of the Camera System

- Visually inspect stator and rotor for defects and damage with rotor in place with a low profile of 30mm
- Focus on the stator core surface, stator air vents, or rotor surface
- Scans image while conducting wedge tightness or ELCID test
- Fits to the Robotic Inspection Vehicle for moving along stator slots
- Assists positioning for Rotor-in-Place wedge tightness testing
- Check for debris in the air-gap
- Image can be adjusted for angle and focus
- Built-in light source



Camera System Specifications

Viewing Angle	51° x 40° (F3.8) 360° Continuous rotation
Focusing	Remotely Operated Via Control Unit
Operating Temperature	0° to +50°C (+32° to +122°F)
Illumination	Integral With Camera Assembly
Lamps	Permanently Wired LED
Standards	EN61010-1, ENG61326

