Xiris Weld Cameras

XIRIS

Open Arc Monitoring

In all open arc welding processes such as MIG, TIG, Plasma, Laser and more, the challenge is to see in one image: the weld arc detail, the melt pool, the weld seam and the immediate background.

All Xiris open arc weld cameras use an extreme +140 dB High Dynamic Range (HDR) sensor that allows you to capture all the details of the weld process in full 1280 x 1024 pixel resolution.

Using a fully digital GigE protocol, the open arc weld cameras produce robust, high bandwidth image transmission up to 100 meters from the point of welding, without any image quality degradation.

XVC-1000 Weld Camera

Ideal for welding research, precision welding applications, laser welding, welding education and more.

- Small size format (42x40x70 mm)
- Multiple mounting points
- Maximum flexibility with easy to swap out lenses and filters
- Available in monochrome (XVC-1000) or color (XVC-1100)

XVC-1000e Weld Camera

Ideal for harsh environments, cladding/overlay, welding seamers, orbital welders and more.

- Ruggedized IP65 rated housing suitable to withstand airborne particulates
- Air or water cooled housing
- Motorized remote focus and LED lighting
- Available in monochrome (XVC-1000e) or color (XVC-1100e)

XVC-700 Weld Camera

Ideal for robotic welding, orbital welding, ID cladding in small diameter pipe or if weight and size are a critical factor.

- Lightweight slimline size format (89g, 22x22x107 mm)
- Optics can be angled from 0-90° for more flexibility and help in minimizing the weld head size of automated equipment
- Cooling options and lighting accessories are available
- Available in monochrome (XVC-700), color (XVC-710) or near infrared (XVC-750)

Open Arc Monitoring (Continued)

XVC-310 Tiny Camera

A lipstick style color camera designed to remotely view and monitor GTAW and Plasma welding processes where space is limited such as in narrow gap and orbital welding applications.

- 17mm diameter compact form factor
- Full color HDR video
- Cooling/lighting block available

Welding Cell Monitoring

CellView Camera

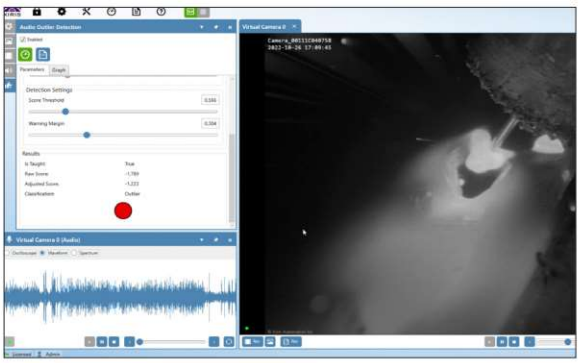
Provides a wide angle view of welding cells to provide an overall view of the manufacturing process during set up and while operating.

- Fully integrated with the WeldStudio™ software so that the welding cell and the welding process can be monitored simultaneously
- Helps improve productivity by reducing the amount of time needed for set-up or in-process adjustments
- Ideal for training, as it allows the instructor to view the student's form, relative torch position, etc.

Audio Monitoring

WeldMic™

Delivers operators real time audio of the welding process. The audio can be recorded in Xiris WeldStudio™ along with video (when used in conjunction with a Xiris weld camera).

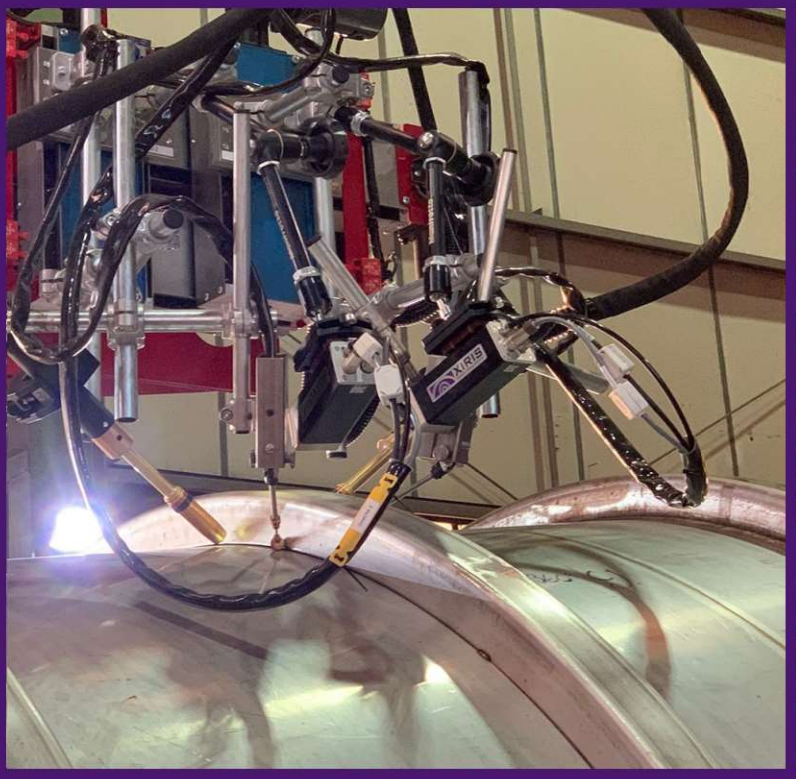


Audio AI Tool

Used in conjunction with the WeldMic™, the Audio AI tool monitors the audio signature of the welding process and compares this to the known good audio signature.

Using a powerful AI algorithm, it can detect audio anomalies caused by welding process issues (ie., loss of gas or wire feed) and will automatically generate alarms to alert the operator.

Xiris Cameras in Action on Various Applications

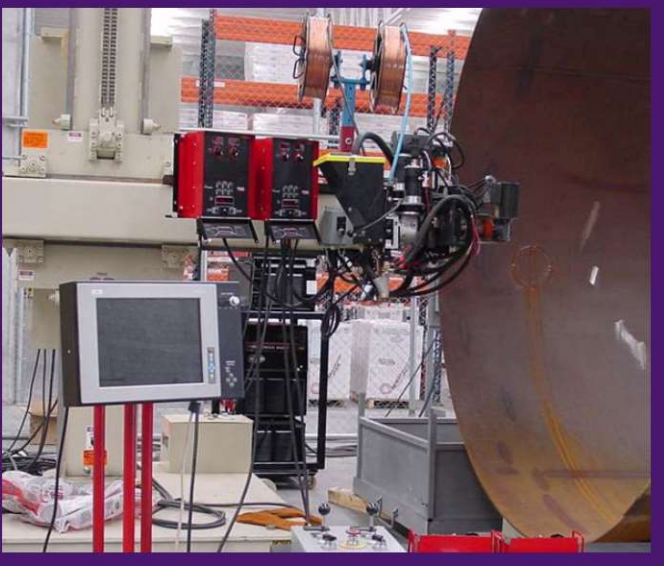


For various welding processes:

- MIG
- TIG
- Stick
- Laser
- Plasma
- Metal AM
- And more

For various types of welding automation:

- Manual and semi-automated
- Orbital welders
- Cladding/overlay
- Welding tractors
- Automated seamers
- Robotic welders
- And more

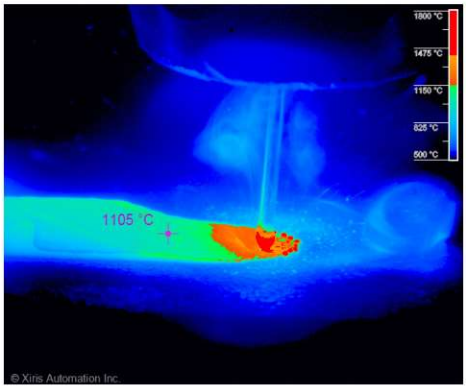


Thermal Analysis & Monitoring

Combining 120+dB High Dynamic Range (HDR) capability in the Short Wave InfraRed (SWIR) spectrum, the thermal monitoring camera provides enhanced imaging of metal joining processes.

With real time 2D imaging and a temperature map, it can measure metal transition points, producing high temperature measurement accuracy while being able to see through water vapor, smoke and fumes.

Using a fully digital GigE protocol, the thermal camera produces robust, high bandwidth image transmission up to 100 meters from the point of welding, without any image quality degradation.



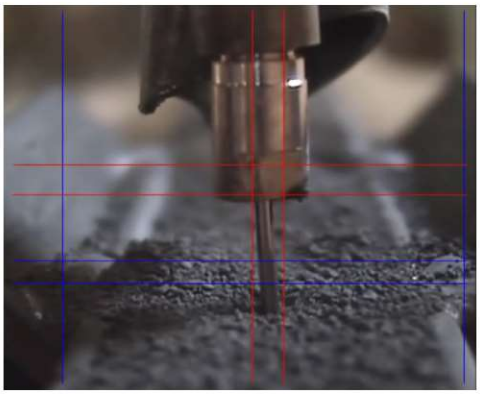
XIR-1800 Thermal Camera

Ideal for additive manufacturing or welding processes where thermal quality assurance is critical such as DED, WAAM additive manufacturing, weld overlay, laser cladding, and more. The XIR-1800 thermal camera features:

- SWIR InGaAs Sensor technology with HDR (+120 dB) imaging capability
- Calibrated temperature measurement capability in the range of 350-1800°C

Sub Arc Monitoring

For submerged arc welding (SAW) applications, the XVC-S series features a low light sensitivity camera in a robust air cooled housing, with adjustable LED lights designed to survive the toughest environments.



XVC-S Weld Camera

Ideal for all sub-arc welding applications.

- Economical solution with analog video feed, no computer required
- Single or dual crosshairs and adjustable field of view
- Optional OEM control box, monitor mount, and camera mount

XVC-S100 Weld Camera

Ideal for advanced sub-arc and multi-process welding applications.

- Digital video feed compatible with Xiris WeldStudio™ software
- Optional integration with Xiris open-arc cameras
- Optional laser pointer

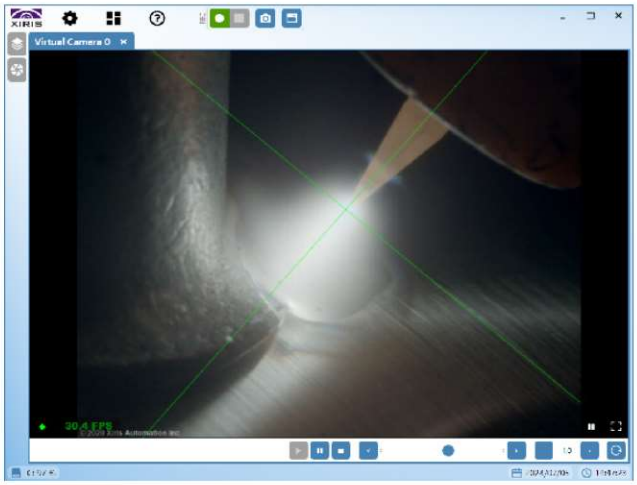
Software

Xiris WeldStudio™ Software

WeldStudio™ is the industry leading software that provides users with the ability to monitor, record, playback, and analyze images from their welding or additive manufacturing process.

Features of the software include:

- Image processing tools to improve image quality
- Integrated video player, including slow motion and looping
- Digital zoom, available in both the live view and the player
- Split screen with two or more cameras (for example, leading and trailing views)
- Integrated audio from the Xiris WeldMic™ audio sensor
- Optional MQTT protocol to synchronize data available from select welding power supplies



Xiris WeldStudio™ Pro Software

WeldStudio™ Pro includes all the features from the base WeldStudio™ software, plus additional advanced analytical, thermal, and Machine Vision tools.

Features exclusive to WeldStudio™ Pro include:

- A full suite of Machine Vision tools, including Melt Pool dimensioning, Edge Detection, and Caliper.
- Data-logging allows all tool measurements to be output to a .csv file for offline analysis.
- Customizable Dashboard feature provides real-time, graphical summary of the analytical tools in use.
- A full suite of thermal analysis tools available when used with the Xiris XIR-1800 SWIR Thermal Camera.
- Real-time data integration with third-party controllers and devices with the optional OPC/UA, Modbus TCP, or Beckhoff ADS protocols.
- Audio AI Tool provides real-time audio feedback and anomaly alerts for MIG\MAG\GMAW welding processes when used with a Xiris WeldMic™ audio sensor.
- Distance monitoring over internal networks available with the optional Real Time Streaming Protocol (RTSP).

Xiris WeldSDK

WeldSDK provides users with the ability to create custom image processing, display, and analysis applications using Xiris cameras and software analytical tools that can be fully integrated into other control systems.

Supported platforms:

- Windows (using C++ or .NET language)
- Ubuntu (C++ only)
- CentOS / RedHat Enterprise Linux (C++ only)

Fanless PC Options

PFI-1 Compact Fanless PC

- Ideal for single camera use
- View images clearly on a large display using VGA or HDMI ports and up to 4K resolution
- Download recorded videos using integrated USB 3 and ethernet ports
- Ideal for automated welding equipment such as seamers, welding robots, and cobots, where only a single camera is needed

PFI-2 / PFI-4 Industrial Fanless PC

- Powerful PC capable of supporting up to two (PFI-2) or four (PFI-4) cameras simultaneously
- Integrated mounting bracket makes it easy to mount either horizontally or vertically
- Remote power and set-up features
- Ideal for automated welding equipment such as seamers, cladding systems, welding robots, and cobots, where multiple cameras are needed

HMI PC Options

PHR-2 HMI Controller

- Highest protection from metal dust and electrical interference in a welding environment
- Responsive touchscreen, even with the use of gloves
- Simple installation with camera GigE ports, Vesa mounting capabilities, and integrated power for Xiris cameras
- Ideal for hard automation applications such as column and boom

PHI-1 Fanless HMI

- Clear view of the weld from a comfortable distance with large 24" display
- Easy integration with fanless design and Vesa mounting capabilities
- Download recorded video files using integrated USB 3 and ethernet ports
- Ideal for welding automation for seamers, cladding, and robotic cells

PHR-1 Portable Tablet HMI

- Easy to use, sunlight-readable touchscreen display
- Extremely rugged, meeting latest military specifications
- Simple and modular configuration to meet on-site needs
- Ideal for applications such as mobile welding automation

Kits and Enhancements

Camera Trigger Kit

Engineered for use with a Xiris open arc camera, this system uses an electrical trigger signal to consistently capture images of advanced pulsed GMAW or CMT welding processes.

Weld Camera Kit

A complete, turnkey solution featuring the XVC-1000/XVC-1100 camera with all the accessories required to start watching and recording the welding process, all contained in a durable storage case. Ideal for schools, training centers, R&D labs and when sharing between departments.

xiris.com

Visit our weld video library blog.xiris.com/video-library

Please contact your local representative for more information

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Inspection Solutions with Vision