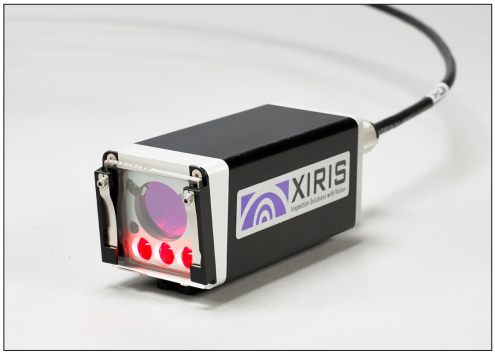
Xiris® *XVC-1000e/1100e Weld Camera*

Better Images. Better Decisions. Better Process Control.

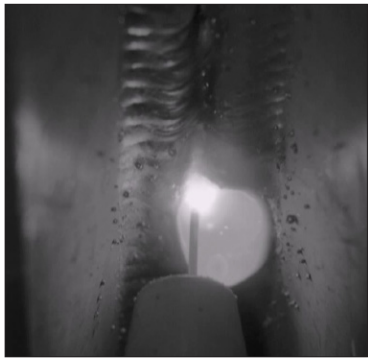
The Xiris XVC-1000e/1100e weld camera delivers all the benefits of the XVC-1000 camera but is designed to maximize usability for the welding and additive manufacturing industry with, +140 dB high dynamic range capability, integrated solid state lighting, arc detection, motorized focus, in a ruggedized housing with integrated cooling, and easily replaceable protective windows.

The XVC-1000e/1100e is intended for reliable remote monitoring of all open arc processes such as MIG/MAG, TIG, Plasma, Laser, Stick Welding and Additive Manufacturing, up to 100 m away.



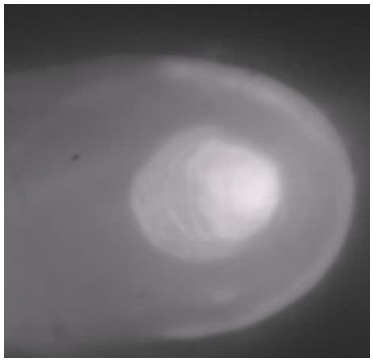
GTAW/TIG

GMAW/MIG



Plasma

Laser



High Dynamic Range (HDR)

With a dynamic range image + 140 dB, the XVC-1000e/1100e can acquire images with a greater range of tonal detail than any standard camera. This is particularly important for welding processes where there is a very bright light source in the image that needs to be seen in great detail as well as the darker surrounding background features. The XVC-1000e is the monochrome version; the XVC-1100e is the color version.

Color When You Need It

With HDR color imaging, the XVC-1100e can acquire color images for various welding processes, such as GTAW, where color provides extra information such as: the boundary of the Heat Affected Zone, oxidation of the melt pool and tip, and shielding gas presence. The very bright weld arc can be seen in color without saturation as well as its darker surrounding background features.

Welding Specific Functionality

The integrated hardware and intuitive software features such as weld arc photodetector, image triggering, general purpose I/O, crosshairs and image processing control make XVC-1000e/1100e ideal for production systems.

Software

The camera works with Xiris SeamMonitor™, XVC-1X00e System or WeldStudio™ software suite running on Microsoft Windows 7/10. These include the Xiris camera GigE interface(s), camera controls and enhanced imaging software tools to provide unprecedented image quality and process information of a variety of welding and laser processes. Also included is a full video recording and playback utility.

Triggering

Hardware and software triggering to synchronize image acquisition to an external device such as a welding power supply, light source or to other cameras. Supported modes include free running, external, and single shot triggering, with an optional trigger delay.

Opto-Isolated GPIO

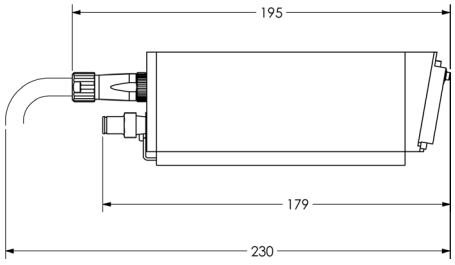
Opto-isolated GPIO protects the camera from noise generated by external devices typically found in a welding environment, such as welding power supplies, motors, etc., as well as power issues caused by malfunctioning devices attached to the camera.

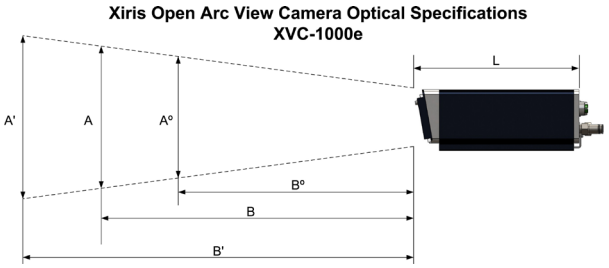
Accessories

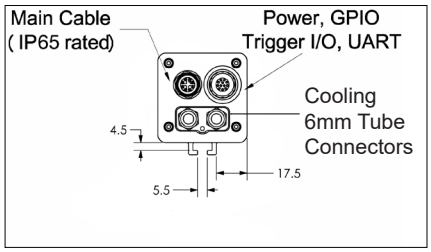
Customize your system to meet your needs. All the accessories you need to get up and running, such as HMI/Controllers, camera mounting and cooling options, different cable lengths, and power adapters from Xiris.

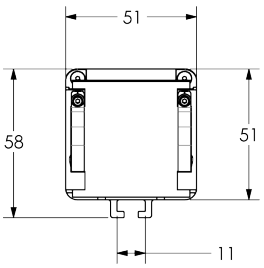
XVC-1000e/1100e Specifications

Image Sensor	2/3" Mono HDR CMOS (1000e); 2/3" Color HDR CMOS (1100e)		
Speed/Resolution	Up to 55 FPS at 1280 (H) x 1024 (V) pixels	Shutter Range	1 µs - 53s Exposure
Pixel Size	6.8 µm square (8.7 mm x 7 mm (0.34 x 0. 26") active area for full sensor)	Imaging Controls	ROI, exposure time, shutter mode, trigger delay, image format
Environmental Rating	IP65	Dimensions	51 x 51 x 179 mm (2 x 2 x 7")
Shutter	Global or Rolling	Weight	0.6 kg (1.3 lbs)
Dynamic Range	140+ dB	Mounting	T-Slot, Compatible with M5 or 10-32 Screws
Bit Depth	12 bits	Power Consumption	15±1V nominal via GPIO interface, maximum 15 W
Image Data	Mono 8/16, Bayer 8/16	Connectors	IP65, X-coded Ethernet, Hirose HR10A-10R-12P (73)
Max. Cable Length	100 m	Max. # of Cameras	Hardware dependent, Typically up to 4
Trigger Options	• Free-running • External/delayed trigger • Single shot	Temperature	Operating: 0 ° to 45 ° C (0 ° to 113 ° F) with Air/Water cooling: up to 75 ° C (up to 167 °F) with HT cooling kit: up to 260 ° C (up to 500 °F)
Synchronization	Via external trigger or software trigger	Humidity	Operating: 20 to 80% Storage: 20 to 95% (no condensation)
Trigger Inputs	2 high-speed opto-isolated, 5-24 VDC	Video Recording	Recording & Playback utility integrated
Strobe Outputs	1 opto-isolated open-collector, max 40 VDC	Camera Control	Via Xiris WeldStudio™, SeamMonitor™, or XVC-1x00e System
GP Inputs	2 opto-insolated 5-24 VDC	Compliance	CE, FCC-B, RoHS
GP Outputs	2 opto-insolated open-collector, max 40 VDC	Operating System	Windows 7/8/10 (32 or 64 bit)
Communications	Gigabit Ethernet, opto-insolated UART interface	Photodiode	Detects presence of weld arc









All dimensions in mm unless otherwise stated

XVC-1000e/1100e Optical Specification Chart

	XVC-1x00e125	XVC-1x00e90	XVC-1x00e50	XVC-1x00e40
A°	91x73 mm	70x55 mm	46x37 mm	26x21 mm
A	127x102 mm	89x71 mm	51x41 mm	40x32 mm
A'	208x167 mm	125x100 mm	57x46 mm	56x46 mm
B°	240 mm	185 mm	180 mm	190 mm
B	345 mm	240 mm	200 mm	300 mm
B'	570 mm	340 mm	230 mm	455 mm
L	156 mm	156 mm	156 mm	156 mm

Notes:
A – Field of View
B – Camera Working Distance
L – Camera Body Length
A°, A', B°, B' range are achievable via the remote focus in the camera module.
Data in this chart is approximate.

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