

## Better Images. Better Decisions. Better Process Control.

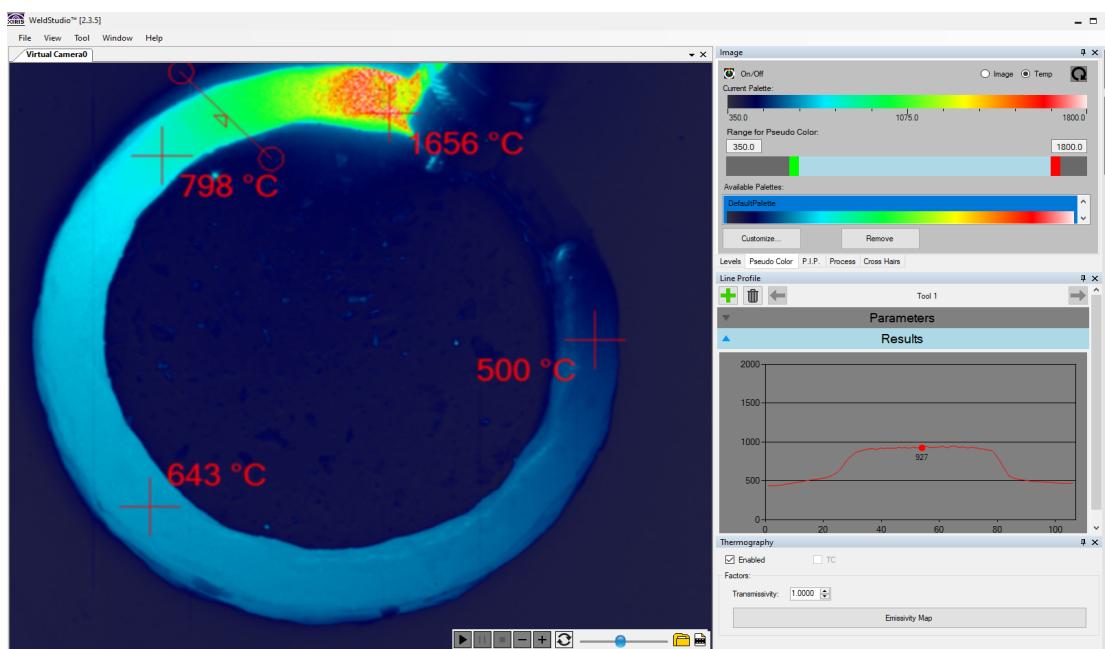
The **XIR-1800** is a High Dynamic Range (HDR) thermal camera designed for use in critical metal joining and Additive Manufacturing applications where thermal properties of key features need to be carefully monitored in real-time.

Combining a spectacular 120+ dB HDR capability with sensitivity to the Short-Wave InfraRed (SWIR) spectrum, the XIR-1800 Thermal Camera provides enhanced imaging of metal joining processes beyond what is visible using standard thermal or visible-light cameras.

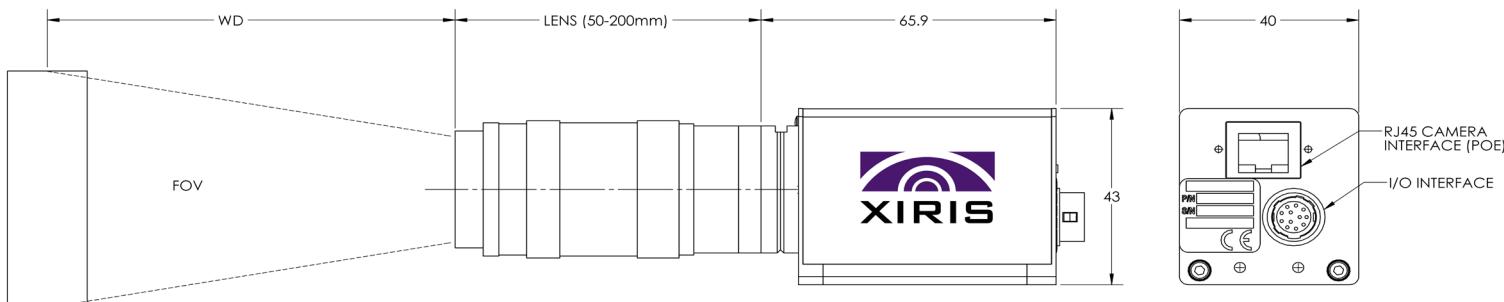


### Benefits

- Enables, high contrast clear images of the welding arc or Laser process, melt pool and surrounding material,
- Provides a thermal temperature map to monitor key weld zones such as the melt pool, deposited material and surrounding base material for in-process control and quality assurance. From ~ 250 to over 1800°C.
- Provides thermal calibrated temperature measurements in the 350-1500 °C range, in Thermal Mode.
- Provides ability to image through smoke or fumes to provide an exceptionally clear, real-time views of any metal additive or welding process.
- Provides ability to capture high speed pulsing processes in real-time using Global Shutter and high frame rates, with or without triggering.
- Integrates with Xiris WeldStudio™ software suite so that multiple Xiris weld cameras (thermal or visual) and a Xiris weld microphone can be integrated together for data synchronization, capture and analysis in one powerful software platform.
- Utilizes C-Mount lenses and can be configured with numerous optics to suit any application.



## Camera Body Outline



## Standard Lens Configurations

WD	F=35mm	F=50mm	F=75mm	F= 100 mm (2x 50)	F = 150mm ( 2x 75)
	FOV	FOV	FOV	FOV	FOV
100	34 x 27	16 x 13	N/A	10 x 8	N/A
200	63 x 51	36 x 28	19 x 16	21 x 17	12 x 9
300	90 x 72	55 x 44	33 x 26	36 x 32	19 x 16
400	118 x 93	75 x 60	46 x 37	43 x 35	27 x 21
500	147 x 118	95 x 76	59 x 47	55 x 44	55 x 44

## Thermal Camera Specifications

Other lens options available

Camera Dimensions	40(W) x 43(H) x 66(L) mm without lens	Image Sensor	1" SWIR HDR InGaAs +120 dB
Camera Weight	140 g without Lens	Wavelength Sensitivity	900 - 1700 nm
Environmental Rating	IP54 (without housing)	Resolution	640H x 512V Pixels (15 µm square pixels)
Shutter Range	10 µs – 5000 µs Exposure	Temperature Sensing Range	~250 - 1800+ °C
Environmental Temperature	Ambient up to 35°C Up to 80°C with cooling plate	Thermally Calibrated	350 - 1500°C
Camera Connectors	Locking RJ 45 Ethernet (Cat 6+) Hirose HR10A for I/O and Trigger	Frame Rate	Up to 180 fps at full resolution; Up to 1000 fps at reduced resolution with AOI
Lens Mounting	C/CS Mount	Thermal Calibrated Mode	100+ fps, hardware dependent
Software	Xiris WeldStudio™ 2.3.5 & later WeldSDK™ 2.2 and later	Image Data Format	14 Bit Imaging 16 Bit Imaging with Thermal Calibration
Humidity	Operating: 20 to 80% (non-condensing)	Camera Controls	Exposure Time, Frame Rate, AOI, Image format, Trigger and I/O,

Other accessories such as optics, cables, controllers, power adapters, etc., can be provided upon request.