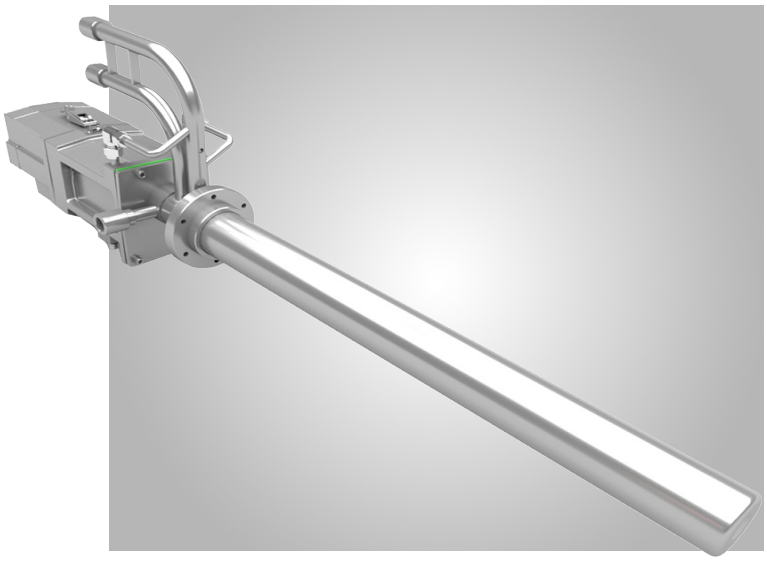


NIR-b-640

Thermal imaging solutions

The NIR-b-640 is a short wavelength infrared borescope imaging camera for continuous temperature measurement in furnace applications with a wide dynamic range.

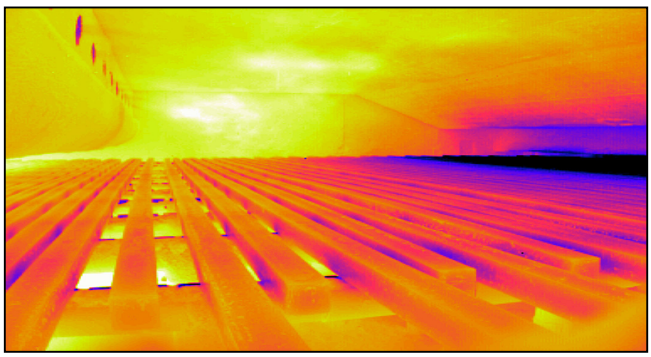
The NIR-b-640 utilises dynamic imaging technology to provide high resolution thermal images, measuring temperatures in the range of 600 to 2000°C.

With the NIR-b-640, it is possible to accurately and continuously profile the temperature of the furnace and the stock, improving data accuracy through automation whilst reducing the risk to personnel by removing the need for regular inspections.

The high resolution image, combined with the wide-angle field of view 44°or 90°, allows multiple areas in the furnace to be measured and simultaneously.

Through advanced digital communications, the image and data can be viewed in real time in the control room. The imager also allows the user to monitor and optimise the performance of the furnace, via the ImagePro thermal imaging software, easily identifying hot and cold areas and any uneven heating can be visualised with corrections viewed in real-time. During start-up and operation phases, any burners that are not operating correctly can be clearly identified, and the effect of any impinging flames can be seen.

NIR-b-640 is the ideal tool for prolonging furnace lifetime and increasing efficiency through improved control of the load temperature.



FEATURES & BENEFITS

- **Wide measuring range** allows hot and cold areas to be measured accuratley in one frame, removing the need to switch between temperature ranges.
- **Advanced Image Processing Software** to control, monitor, analyse and capture data from the thermal imaging camera with ImagePro.
- **Safe 24 hour, 7 day monitoring** guarantees accurate, reliable data from a safe, remote position without risk to the operators.
- **Live thermal data combined with high-resolution, low noise image** allows real time furnace optimisation and the opportunity to improve energy efficiency without degrading furnace/boiler lifetime.

See degrees differently.

SPECIFICATIONS

	NIR-b-640
CAMERA UNIT & HOUSING	
Measurement Range:	600 - 2000 °C / 1112 - 3632 °F
Pixel Resolution:	640x480
Detector:	FPA - Semiconductor
Spectral Response:	1 µm
Frame Rate:	7.5 Hz (full frame mode)
Optic (HFOV x VFOV):	44° x 33° / 90° x 67.5°
Optic (IFOV):	1.2 mrad (44°) / 2.4 mrad (90°)
Repeatability:	1 K
Mounting:	Choice of 3” ANSI 150 RF Flange & Gasket or PN16 DN80 Flange & Gasket with a 12” standpipe
Focus Range:	1 m to infinity
Probe Diameter:	Ø 61 mm / Ø 2.4”
Probe Lengths:	305, 609 or 914 mm (12”, 24” or 36”)
Protection Window:	Sapphire
Accuracy:	1 %K
Noise:	0.5 °C / 0.9 °F RMS
Dimensions:	254 x 560 x 717 mm (or 1021 or 1326 mm) 10 x 22 x 32 in (or 44 or 56 in)
Power Rating:	24 V dc, 0.6 A
Weight:	< 25 kg (for 609 mm / 24 in version)
Ambient Temperature:	0 to 60 °C (specified) -20 to 60 °C (operating)
Environmental Rating:	IP65 / NEMA 4
CAMERA SUPPLY	
Connections:	Digital data over 100 M Ethernet (M12, 8 pin)
Service:	Water, instrument air, power input, located to the rear of the enclosure
THERMAL IMAGER POWER SUPPLY	
Components & Connections:	Power supply, Ethernet switch, Fibre optic data connection (option)
IP Rating:	IP65 / NEMA 4
Size:	380 x 380 x 211 mm / 15” x 15” x 8.3”
Weight:	15 kg (33 lb)
IMAGE PROCESSING	
Software:	IMAGEViewer & IMAGEPro Advanced Image Processing and Controlling Software
Workstation:	PC-Workstation (option)
Interfacing:	Open Data Interface, Modbus TCP/IP, Moxa I/O unit
STANDARD ACCESSORIES	
Accessories (optional):	Auto-retraction systems

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MARCOMS_DOC-00265 NIR-b-640 Brochure Rev 2 EN

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