D3 Embedded

DESIGNCORE® DISCOVERY *PRO* SERIES
FEATURING THE ISX031 (IMX623-I) SENSOR

Pre-configured rugged camera modules for demanding embedded vision applications designed for rapid prototyping and scalable OEM/ODM customization

Supported Processor Platform:

NVIDIA Elite Partner

Dominate dynamic lighting with the DesignCore® Discovery *PRO* ISX031.

Featuring the next generation of rugged camera modules from *D3 Embedded*:

ReDefined image science tuning optimized for AI out-of-the-box.

ReDesigned optics that maximize your signal with higher resolving power and wider apertures.

ReDeployed on the industry's latest NVIDIA platforms.

- ✓ Smart Camera Compatible with NVIDIA® Jetson Orin™ Platforms
- ✓ Latest-Generation High Dynamic Range (HDR) and LED Flicker Mitigation (LFM) for Dynamic Lighting Conditions
- ✓ Frame Sync to Enable Multi-Camera Systems
- ✓ Onboard ISP Facilitates Fast Integration
- ✓ IP67 Ingress Protection
- ✓ Premium Lenses
- ✓ Lens-Specific Image Science Tuning

APPLICATIONS

AUTONOMOUS VEHICLE AND ROBOTICS

SAFETY	Wide 150° HFOV camera to cover blind spots
NAVIGATION	Medium 98° HFOV cameras for surround view.
IDENTIFICATION	Narrow 65° HFOV camera to read QR codes or AprilTags.
ORIENTATION	Combine any camera with a D3 Embedded radar sensor, or use a pre-configured fusion module, to access full 3D resolution.

INDUSTRIAL IOT AND MACHINE VISION

SAFETY	Wide 150° HFOV camera to direct foot traffic
NAVIGATION	Medium 98° HFOV cameras for gesture control.
IDENTIFICATION	Narrow 65° HFOV camera to classify items on a checkout or assembly line.
ORIENTATION	Combine any camera with a D3 Embedded radar sensor, or use a pre-configured fusion module, to access full 3D resolution.

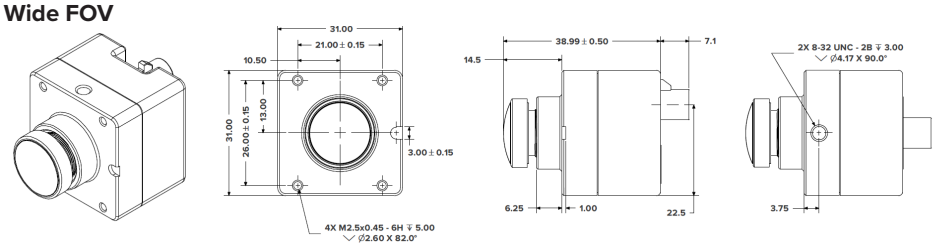
SPECIFICATIONS

Series	DesignCore® Discovery *PRO*
Sensor	Sony ISX031 (IMX623 With On-Sensor ISP Tuned By D3)
Maximum Resolution	1920 x 1440
Pixel Pitch	3.0 x 3.0 µm
Bit Depth	8-bit YUV Rendered
Shutter	Rolling
Maximum Frame Rate	30 FPS at 1920 x 1440
Spectrum	Color (RGB)
Nominal Operating Voltage	12V
Operating Temperature Range [Celsius]	-40 to 85 °C
Operating Temperature Range [Fahrenheit]	-40 to 185 °F
Seal Rating	IP67
Connector	FAKRA Straight Plug, Code – Z (Fits All)
Serial Interfaces	FPDLink™ III, GMSL2, MIPI A-PHY
Pre-Configured Drivers and Image Tuning	Download From D3 Embedded After Purchase (As Loadable Kernel Modules)

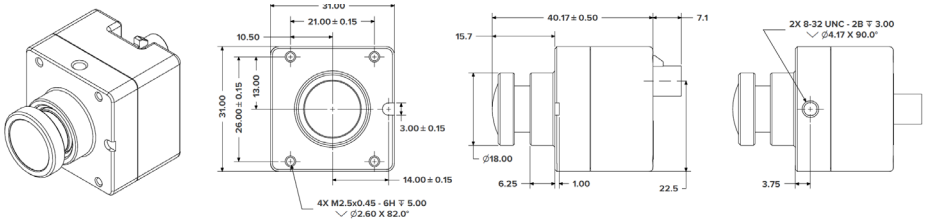
LENS SPECIFICATIONS

	Wide	Medium	Narrow
Focal Length	2.40mm	2.80mm	5.05mm
Aperture	F/1.9	F/2.8	F/2.6
Horizontal Field of View (HFOV)	150°	98°	65°
Vertical Field of View (VFOV)	108°	79°	49°
Diagonal Field of View (DFOV)	190°	113°	82°
Operating Focal Range [cm]	27 - ∞ cm	27 - ∞ cm	97 - ∞ cm
Operating Focal Range [in]	11 - ∞ in	11 - ∞ in	39 - ∞ in
IR Cut Edge	660nm	660nm	650nm
Full Fill	Yes	Yes	Yes
Mounting	Integral M12	Integral M12	Integral M12

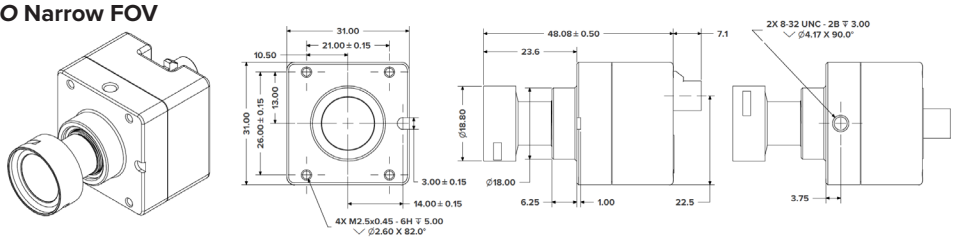
ISX031 *PRO* Wide FOV



ISX031 *PRO* Medium FOV



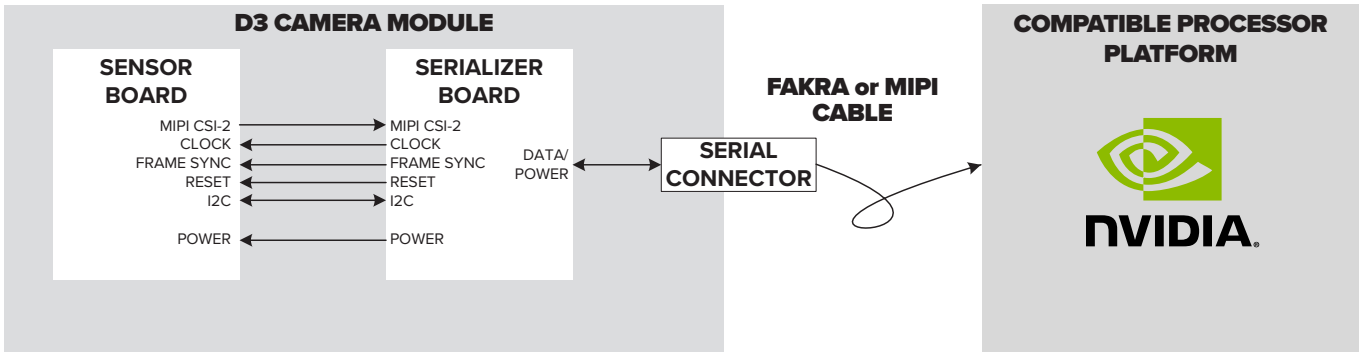
ISX031 *PRO* Narrow FOV



3D models available in camera selection tool

Measurements in mm

DEVELOP YOUR EMBEDDED VISION SYSTEM WITH D3 EMBEDDED CAMERAS AND PLATFORMS



ACCELERATE TIME TO MARKET WITH THE D3 PRODUCT DEVELOPMENT PROCESS

DEFINE: Enable off-the-shelf cameras with software pre-configured on D3 Embedded's compatible NVIDIA, Texas Instruments, and Intel processor platforms to quickly find the vision system that best suits your application.

DESIGN: Work with our design services team to customize off-the-shelf cameras for your use case and volume production requirements.

DEPLOY: Leverage D3 Embedded's dependable capabilities as an American original design manufacturer to deploy your product faster than the competition.

When the **possibilities** *are endless, D3 makes the best solution* **possible.**

Proud to Collaborate with Our Sensor Partner:

SONY

ORDERING INFORMATION

DesignCore® Discovery *PRO* Series (ISX031 Sensor)

Buy online and request volume pricing through our camera selection tool:
D3Embedded.com/product-category/camera-modules

CALL: 585-429-1550
EMAIL: Sales@D3Embedded.com
VISIT: D3Embedded.com

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