

VEGA 28E-E

High Sensitivity Shortwave Infrared Camera
Powered by Cardinal 640 Low-Noise

THE HIGHEST SENSITIVITY VIS-SWIR CAMERA ON THE MARKET

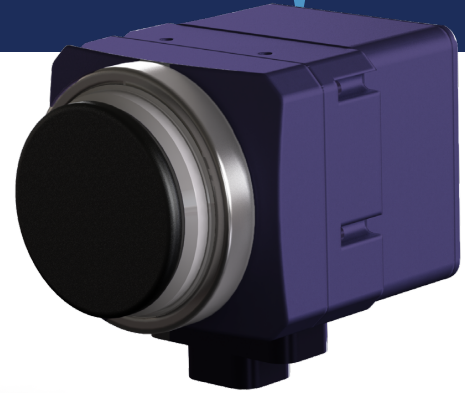
The VEGA 28E-E camera, powered by SCD Cardinal sensor platform, is the Highest Sensitivity VIS-SWIR camera on the market capable of a floor noise less than 25e- RMS enabling long range Identification in compact systems.

The camera uses a 640 x 512 format InGaAs detector with a 15um pixel pitch designed on SCD high volume manufacturing Foundry. Onchip correlated double sampling delivers a dynamic range in excess of 50dB with readout noise of less than 25e- rms electrons making it ideal for long range identification and lightstarved applications.

Available with both 16 bit CameraLink® and analog NTSC output, the VEGA 28E-E will run from 30 FPS to 120 FPS with windowing capability. Automatic gain and exposure control are available to optimize image quality over a large range of imaging conditions, and a proprietary, adaptive 3-point non-uniformity correction provides high quality imagery over -40° to +70° C operating conditions. All of our products are qualified to Mil-Spec Standards.

Noise and image stability is optimized using proprietary thermal stabilization techniques and system performance is assured through 100% testing of each production unit. Full characterization data sets including meanvariance and noise equivalent irradiance plots are provided with each camera delivered.

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VEGA 28E-E

BENEFITS

Low Power

With configurable cooling set-point to optimize power/performance.

Low Image Lag

Eliminates image persistence issues.

Extended Spectral Range

Increases sensitivity and allows shorter wavelength illuminators.

Compact Size

Standard camera fits into a small space.

APPLICATIONS

- UAV Applications
- Semiconductor Inspection
- Airborne reconnaissance
- Bio Applications

SYSTEM FEATURES

- 640 x 512 resolution, 30fps as default setting (29.97 fps in NTSC mode)
- 16-bit digitization
- Low read noise of <25e- rms in high gain mode with CDS
- Two Gain Modes (High Gain 12ke-, and Low Gain 300ke-)
- Extended spectral response from 0.4μm to 1.7μm
- Snapshot image capture (to avoid rolling shutter artifact)
- Programmable operation (NUC, AGC, Trigger)
- Camera Link and NTSC
- Mil-spec environment
- Internal "free running" mode or external trigger configurable
- Custom housings and configurations available

VEGA 28E-E

PARAMETER	VALUE	COMMENTS
Sensor Type	InGaAs	
Sensor Readout	Full-frame	Snapshot Mode
Image Format	640 x 512	
Pixel Size	15μm x 15μm	
Active Area	100% fill factor	
Spectral Response	0.4μm to 1.7μm	See QE plot
Read Noise-High Gain	<25e-rms	Typical 20e- RMS. 12ke- Cap
Read Noise-Low Gain	<200e-rms	Typical 180e- RMS. 300ke- Cap
Frame Rate	30Hz	Adjustable up to 120Hz
Dynamic Range	60dB	Typical
Power Dissipation	5 Watts	Typical at 30° case

MECHANICAL

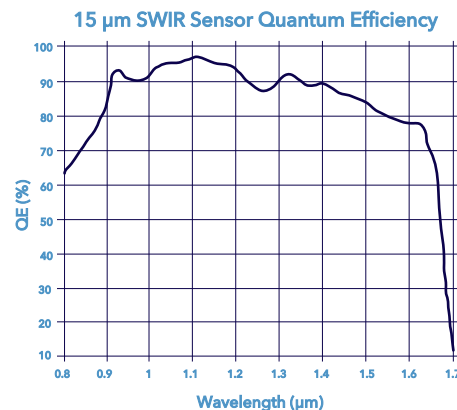
Housing Material	Aluminum	
Lens Mount	C-mount/M42	
Weight	< 4oz	
Dimensions	1.75" x 1.5" x 1.8"	See drawing

POWER AND SIGNAL INTERFACE

Power Input	+12VDC	Omnetics A22045-001
Data	Base Camera Link*	Adjustable up to 120Hz
Trigger/Sync		Samtec MCX and Camera Link* CC1
Mode Control	Serial port	Via Camera Link*

ENVIRONMENTAL

Operating Temp	-30°C to +60°C	Full Performance
	-40°C to +70°C	Degraded performance (random noise)
Storage Temp	-50°C to +85°C	
Humidity	Up to 90%	Non-condensing



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FIRST TO SEE

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