

CHEETAH

RUGGEDIZED CAMERA SERIES

C2880 CMOS 6 MP USB3



Imperx: C2880

The C2880 incorporates the On Semiconductor KAC-06040 CMOS image sensor with a native resolution of 2832 x 2128 in a 1" optical format. The GenICam™ compliant USB3 camera delivers up to 55 frames per second in either global or rolling shutter mode using the USB3 interface. Extended dynamic range technology coupled with extremely robust blooming suppression produce clean imagery in even the most severe uncontrolled lighting applications. Cheetah cameras incorporate "smart" wide dynamic range technology that monitors each pixel's exposure and sets the exposure to one of four user selectable values based on the intensity of the source at the pixel. The camera also provides two acquisition frames for seamless switching between frames independently. CMOS technology eliminates smear columns from areas of ultra-bright intensity and specular reflections in uncontrolled lighting applications.

Specifications

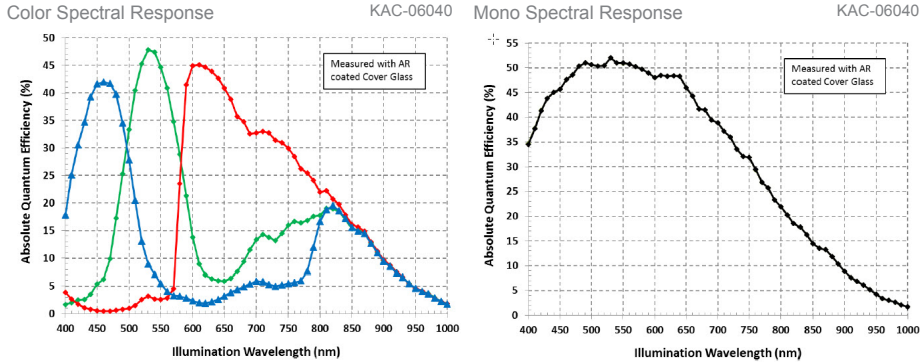
Feature	Description	Feature	Description
Output Interface	USB3	Strobe Output	2 strobes, programmable position and duration
Resolution	2832 (H) x 2128 (V)	Pulse Generator	Yes, programmable
Sensor	KAC-06040, CMOS Color/Mono	Data Correction	Vertical/Horizontal flip. Two 12-bit LUTs pre-programmed with Gamma 0.45 Defective/hot pixel correction (static, dynamic)
Sensor Format	13.1 mm (H) x 10.0 mm (V) 16.65 mm diagonal 1" optical format	Lens Mount	C-Mount (default), F, M42, EF Canon (passive or active)
Pixel Size	4.7 microns square	Supply Voltage Range	12 V DC (5 V – 30 V), 1.5 A inrush without enabled Canon controller 12 V DC (6.5 V – 33 V), 1.5 A inrush with enabled Canon controller
NIR Sensitivity	850 nm: 15%, 950 nm: 5%	Camera Current	Typical: 0.44 A, Maximum: 0.46 A
Shutter	Global shutter (GS), rolling shutter (RS)	Size - Width/Height/Length	72.0 mm (W) x 72.0 mm (H) x 34.4 mm (L)
Sensor Digitization	10-bit or 12-bit	Weight	370 g
Frame Rate	55 fps (8-bit), 43 fps (10-bit), 35 fps (12-bit)	Vibration, Shock	Complies with IEC60068-2-64 and IEC60068-2-27
Dynamic Range	74 dB (RS), 57 dB (GS)	Environmental	-40 °C to +85 °C Operating, -50 °C to +90 °C Storage
Output Bit Depth	8, 10, 12-bit	Humidity	10% to 90% non-condensing
Analog Gain Control	12-bit: 0-12 dB (16 steps); 8 or 10-bit: 0-18 dB (32 steps)	MTBF	>323,000 hours @ 40 °C (Telcordia SR-332)
Digital Gain	24 dB (128 steps)	Military Standard	MIL-STD-810G
Black Level Offset	Manual, 0 to 2048, 1/step	Regulatory	FCC Part 15 Class A, CE, RoHS
White Balance	Manual, Auto, Off		
Shutter Speed	1 µs/step, 5 µs to 1.0 s (GS), 2 µs to 1.0 s (RS)		
Exposure Control	Off, Internal, External		
Regions of Interest (ROI)	1 ROI		
Averaging Decimation	4:1, 9:1 (both color and monochrome)		
Sub-sampling Decimation	N pixels: 2, 4, 6...30 by every M pixels: 2, 4, 6...32		
Trigger Inputs	External, Pulse generator, Software		
Trigger Options	Edge, Debounce		
Trigger Modes	Internal, External, Computer		
Wide Dynamic Range	100 dB (typ.) GS, up to 3 knee points, piece-wise linear		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		

Imperx: C2880 Applications

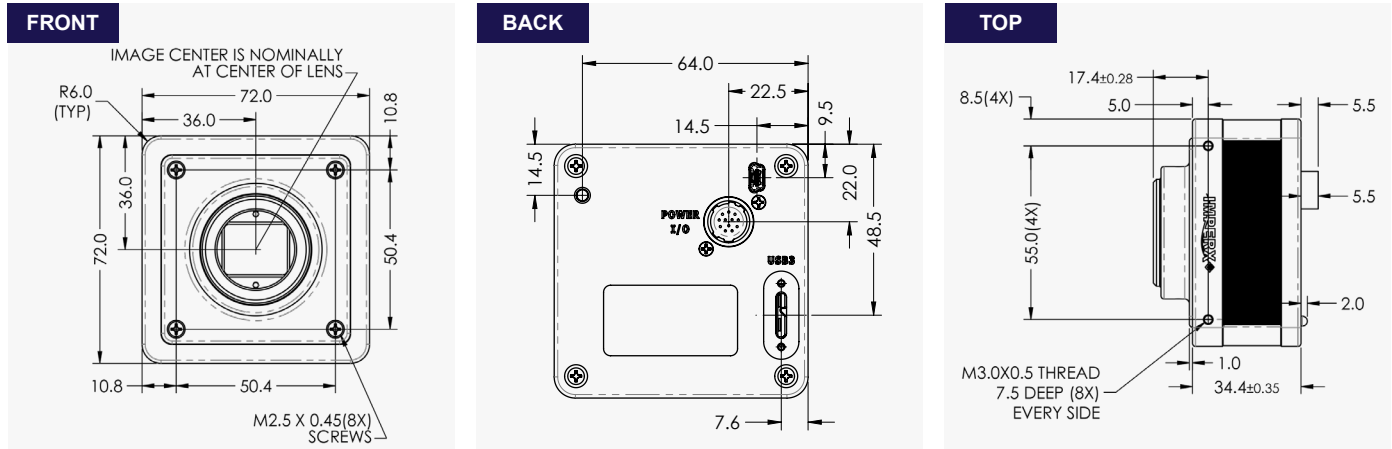
The U3V-C2880 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Aerospace • Satellites • Surveillance • Military and Non-Military Ground Vehicles • Ball Grid Array • Printed Circuit Board Inspection • Motion Analysis • Broadcast Television • Telepresence • Unmanned Aerial Vehicles • Machine Vision • Reconnaissance • Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems • Situational Awareness

Absolute Quantum Efficiency



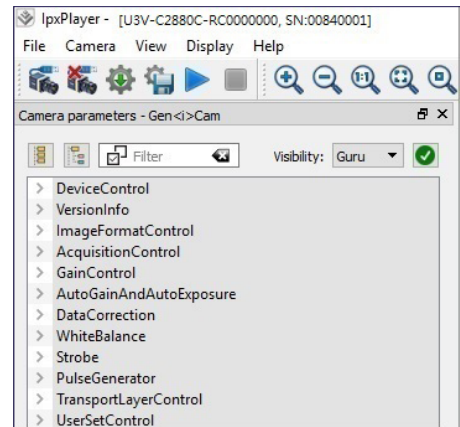
Dimensions



Ordering Information

Output Interface	USB3 (U3V)
Sensor Types available	Monochrome Bayer Color
Lens Mounts	C-Mount (Default) M42 F-Mount EF Canon
Accessories (Sold separately)	PS12V04A-Power Supply w/ 1 input and 1 output

Gen<I>Cam Compliant Camera Configurator



Hirose Connectors

Power and I/O Interface	
	<ol style="list-style-type: none"> 12 VDC Return +12 VDC Reserved Reserved OUT2 OPTO - OUT1 TTL Gnd OUT1 TTL Signal IN1 OPTO + IN2 TTL Signal IN1 OPTO - IN2 TTL Gnd OUT2 OPTO +

Connector: Hirose HR10A-10R-12PB(71)

Rev: u3v_c2880_r1_2019

Quality Management System ISO 9001:2015 Registered
Environmental Management System ISO 14001:2015 Registered
DDTC Registered (Directorate of Defense Trade Controls, US Department of State)



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