Channel Systems

Specim Spectral Camera Comparison Chart – Quick Reference Guide

Specim

	sCMOS VIS	PFD VIS	sCMOS VNIR	PFD VNIR	FX10	Specim IQ	FX17	SWIR	FX50	OWL	FENIX
Spectral Range	380-800 nm	380-800 nm	400-1000 nm	400-1000 nm	400-1000 nm	400-1000 nm	900-1700 nm	1000-2500 nm	2.7-5.3 µm	7.7-12.3 µm	380-2500 nm
Spectral Resolution	2.3 nm (30 µm slit)	2.0 nm (30 µm slit)	2.9 nm (30 µm slit)	3.0 nm (30 µm slit)	5.5 nm (30 µm slit)	7 nm (42 µm slit)	8 nm (30 µm slit)	12 nm (30 µm slit)	35 nm	100 nm	3.5 nm, 12 nm (30 µm slit)
Spectral Sampling	0.44 - 3.5 nm	0.59 – 4.75 nm	0.63 - 5.07 nm	0.78 – 6.27 nm	2.7 nm	Available on request	3.5 – 14 nm	5.6 nm	8.44 nm	48	1.78, 3.4 or 6.8 nm
Spectral Bands	946	768	946	768	224	204	230	288	154	96	620
Slit Width/Effective Slit Length	30 µm (18, 50, 80 or 150 µm option) / 14.2 mm	30 µm (50 or 80 option) / 10.5 mm	30 µm (18, 50, 80 or 150 µm option) / 14.2 mm	30 µm (18, 50, 80 or 150 µm option) / 10.5 or 14.2 mm	42 µm / 32 µm	42 um / 11.7 mm	42 µm / 32 µm	30 µm (50 or 80 µm option / 9.2 mm	104 µm / 19.2 mm	Available on request	30 µm (VNIR) & 30 µm (SWIR)
Sensor	Temp stabilized sCMOS	CMOS	Temp stabilized sCMOS	CMOS	CMOS	CMOS	InGaAs	MCT	InSb	MCT	CMOS, Stirling Cooled MCT
Spatial Pixels	2184	1312	2184	1312 or 1775 (4K)	1024	512	640	384	640	384	384
Pixel Pitch	6.5 µm	8.0 µm	6.5 µm	8.0 µm	16 µm	17.58 µm	15 µm	24 µm	30 µm	48 µm	16 µm, 24 µm
F Number	F/2.4	F/2.4	F/2.4	F/2.4	F/1.7	F/2.2	F/1.7	F/2.0	F/2.0	F/2.0	F/2.4
QE	Available on request	Available on request	Available on request	Available on request	Available on request	>45%	Available on request	Available on request	Available on request	60% (peak)	50%, >60%
Signal-to-noise ratio	170:1 (no binning) to 680:1 (with binning)	Available on request	170:1 (no binning) to 680:1 (with binning)	Available on request	600:1 (peak)	>400:1 (peak)	1000:1 (peak)	1050:1 (peak)	Available on request	450:1 (peak)	600-1000:1, 1050:1
Interface	CameraLink	CameraLink	CameraLink	CameraLink	GigE or CameraLink	USB Type-C	GigE or CameraLink	CameraLink, USB/ RS 232	GigE	LVDS	2x CameraLink
Frame Rate	100 fps (full frame)	150 fps (full frame)	100 fps (full frame)	150 or 100 (4k) fps (full frame)	330 fps (full frame)	-	670/527 fps (full frame)	450 fps (full frame)	380 fps (full frame)	100 fps (max)	100 fps
Camera Output	16 bit	Digital 12 bit	16 Bit	Digital 12 bit	Digital 12 bit	12 bit	12 bit	16 bit	16 bit	14 bit LVDS	12 bit, 16 bit
Power Consumption	60W	<5 W	60W	<5 W	<4 W	-	Max 24 W	Nominal <50 W	40 W, Max 90 W	Max 230 W (sensor only)	150 W
Size (LxWxH)	400x110x120 mm	330x85x90 mm	400x110x120 mm	330x85x90 mm	150x71x85 mm	207x91x74 mm	150x75x85 mm	470x176x178 mm (sensor only)	300x210x160 mm	255x285x223 mm (sensor only)	387x454x22.5 mm (sensor only)
Weight	2.0 Kg	2.7 Kg	2.0 Kg	2.7 Kg	1.4 kg	1.3 Kg	1.4 kg	14 kg (sensor only)	6.5 kg	13.1 kg (sensor only)	14.6 Kg (sensor only)
Lens Mount	C-Mount	C-Mount	C-Mount	C-Mount	Specim Proprietary	Fixed Lens	Specim Proprietary	C-Mount	Custom Mount	Specim Proprietary	Integrated Lens
Shutter	Electro-mechanical	Electro-mechanical/ USB Controlled	Electro-mechanical	USB Controlled	Integrated mechanical	Integrated mechanical	Electro-mechanical	Electro-mechanical	Electro-mechanical	Electro-mechanical, user controlled by software	Electro-mechanical, user controlled by software
Cooling	TE Cooled	Uncooled	TE Cooled	Uncooled	Uncooled	Uncooled	TE Cooled	Stirling, 25000h MTTF	Stirling, 25000h MTTF	Stirling, 60K	Passive, Stirling Cooled 160K
Operating Temp.	+5 - +40°C non-condensing	+5 - +40°C non-condensing	+5 - +40°C non-condensing	+5 - +40°C non-condensing	+5 - +40°C non-condensing	+0 - +40°C non-condensing	+5 - +40°C non-condensing	+5 - +40°C non-condensing	+5 - +40°C non-condensing	+5 - +40°C non-condensing	+5 - +40 °C non-condensing

Disclaimer: Specifications are subject to change without prior notice. Any errors or omissions are unintentional

For additional product information, visit www.channelsystems.ca

Specim AISA Camera Comparison Chart – Quick Reference Guide

	AisaFENIX	AisaFENIX 1K	AisaKESTREL 10	AisaIBIS	AisaKESTREL 16	AisaOWL
Spectral Range	380-2500 nm	380-2500 nm	400-1000 nm	670 – 780 nm	600-1640 nm	7.7 – 12.3 µm
Spectral Resolution	3.5 nm, 12 nm	4.5 nm, 14 nm	Available on request	Available on request	Available on request	100 nm
Spectral Sampling	1.7, 3.4 or 6.8 nm, 5.7 nm	1.7, 3.4 or 6.8 nm, 6.3 nm	1.75, 3.5, or 7 nm	0.11 nm	4 nm	48 nm
Spectral Bands	348/274	348/274	342	1000	260	96
Sensor	CMOS, Stirling cooled MCT	CMOS, Stirling cooled MCT	CMOS	sCMOS, snapshot mode	InGaAs, TE1 Cooled	Stirling cooled MCT
Spatial Pixels	384	1024	1312 or 2048	384/768	320 or 640	384
F Number	F/2.4	F/2.4	F/2.4	F/1.7	F/2.4	F/2.0
Smile/Keystone	<0.2 pixels	<± 0.35 pixels	<0.5 pixels	Available on request	<0.25/ <0.5 pixels	< 0.2 pixels
Signal-to-noise ratio	600-1000:1, 1050:1	600-1000:1, 1250:1	400-800:1 (peak)	680:1 (peak)	400:1 (peak)	450:1 (peak)
Interface	CameraLink 12, 16 bit	CameraLink 12, 16 bit	CameraLink 12 bit	CameraLink 16 bit	CameraLink 14 bit	LVDS 14 bit
Frame Rate	Up to 100 Hz	Up to 100 Hz	Up to 170 or 100 Hz	Up to 65 Hz	100 Hz	Up to 100 Hz
Integration Time	Adjustable within frame period	Adjustable within frame period	Adjustable within frame period	Adjustable within frame period	Adjustable within frame period	Adjustable within frame period
FOV/ IFOV	32.3°/ 0.084°	40° / 0.039°	40°	32.3°	40°	24° or 32.3°/ 0.063° or 0.084°
Power Consumption	150 W/500 W	150 W, Max 500 W	< 41 W	Nominal 135 W, Max 200 W	< 46 W	Max 230 W (sensor only)
Size (LxWxH)	387x454x222.5 mm (Sensor), 370x195x136 mm (DAC), 370x195x136 mm (PCU)	530x530x210 mm (Sensor), 300x260x195 mm (DPU)	127x180x225 mm (Camera) 165x154x101 mm (DPU) 120x70x40 mm (GNSS/IMU)	588x227x160 mm (Sensor) 300x260x195 mm (DPU)	99x215x240 mm (Camera) 165x154x101 mm (DPU) 120x70x40 mm (GNSS/IMU)	225x285x223 mm (Sensor) 365x194x110 mm (Calibrator)
Weight	14.6 kg (Sensor), 5.7 kg (DAC), 4.4 kg (PCU)	22.5 kg (Sensor), 9.5 kg (DPU)	2.1 kg (Camera), 1.6 kg (DPU), 0.5 kg (GNSS/IMU)	14.2 kg (Sensor), 9.5 kg (DPU)	2.3 kg (Camera), 1.6 kg (DPU), 0.5 kg (GNSS/IMU)	13.1 kg (Sensor), 4.5 kg (Calibrator)
Electromechanical shutter	Yes	Yes	Yes	Yes	Yes	Yes, Dual blackbody calibrator
Swath Width	0.58 x altitude	0.73 x altitude	0.73 x altitude	0.58 x altitude (384 pixel)	0.73 x altitude (40 degree FOV)	0.425 or 0.58 x altitude
Altitude for 1m pixel size	660 m	1400 m	2800 m	660 m	880 m (640 pixel 40 degree lens)	900 m
Cooling	Stirling (MCT)	Stirling (MCT)	Uncooled	Peltier	TE1	Stirling Cooled
Operating Temp.	+5 - +40°C non-condensing	+5 - +40°C non-condensing	+5 - +40°C non-condensing	+5 - +30°C non-condensing	+5 - +40°C non-condensing	+5 - +40°C non-condensing

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