

Atik Cameras Specification Tables

Atik Cameras Astronomy Cameras

	420	Atik 314L+	Infinity	414EX	428EX	460EX	490EX	4120EX
Image sensor	Sony ICX274	Sony ICX285	Sony ICX825	Sony ICX825	Sony ICX674	Sony ICX694	Sony ICX814/5	Sony ICX834AQG
Resolution	1619x1219	1391x1039	1392x1040	1391x1039	1931x1451	2749x2199	3379x2703	4241x2829
Pixel size (µm)	4,4x4,4	6,45x6,45	6,45x6,45	6,45x6,45	4,54x4,54	4,54x4,54	3,69x3,69	3,1x3,1
ADC	16 bit	16 bit	16bit	16bit	16 bit	16 bit	16bit	16bit
Readout noise (Typ.)	3e-	4e-	6e-	4e-	5e-	5e-	5e-	5e-
Cooling Delta	-30	-27	Passive	-30	-25	-25	-25	-25
Regulated cooler	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Water assist	No	No	No	No	No	No	No	No
Maximum exposure	Unlimited	Unlimited	120s	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Minimum exposure	0,001s	0,001s	0,001s	0,001s	0,001s	0,001s	0,001s	0,001s
Maximum Frame Rate	n/a	n/a	3fps	n/a	n/a	n/a	n/a	n/a
Gain Factor	0.13e-/ ADU	0.3e-/ADU	0.37e-/ADU	0.28e-/ ADU	0.27e-/ ADU	0.27e-/ADU	0.19e-/ ADU	0.14e-/ ADU
Full Well Capacity	~9,000e-	~19,500 e-	~24,000e-	~18,000e-	~17,500e-	~18,000 e-	~12,500e-	~9,000 e-
Dark Current	~0.0001 e-/ s at -10°	~0.0002 e-/ s at -10°	n/a	~0.001 e-/ s at -10°	~0.0002 e-/ s at -10°	~0.0004 e-/ s at -10°	~0.0003 e-/ s at -10°	~0.0003 e-/ s at -10°
PC Interface	USB2	USB2	USB2	USB2	USB2	USB2	USB2	USB2
Power requirements	12VDC, 0.9A	12VDC 0.8A	12VDC, 1A	12VDC, 1A	12VDC, 0.9A	12VDC, 0.9A	12VDC, 0.9A	12VDC, 1A
Backfocus distance	13mm ±0.5	13mm ±0.5	13mm ±0.5	13mm ±0.5	13mm ±0.5	13mm ±0.5	13mm ±0.5	13mm ±0.5
Thread on front	M42x0,75	M54x0,75	M42x0,75	M42x0,75	M42x0,75	M42x0,75	M42x0,75	M42x0,75
Weight	400g	400g	340g	400g	400g	400g	400g	400g
Mono or OSC	Either	Either	Either	Either	Either	Either	Either	OSC

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	GP	Titan	One 6.0	One 9.0	383L+	4000	16200	11000
Image sensor	Sony ICX445	Sony ICX424	Sony ICX694/5	Sony ICX814/5	KAF-8300	KAI4022	KAF-16200	KAI11002
Resolution	1296x964	658x492	2749x2199	3379x2703	3354x2529	2047x2047	4499x3599	4007x2671
Pixel size (µm)	3,75x3,75	7,4x7,4	4,54x4,54	3,69x3,69	5,4x5,4	7,4x7,4	6 x 6	9x9
ADC	12bit	16 bit	16bit	16bit	16 bit	16 bit	16 bit	16 bit
Readout noise (Typ.)	7e-	7e-	4e-	4e-	7e-	11e-	9e-	13e-
Cooling Delta	Passive	-20	-38	-38	-40	-40	-45	-38
Regulated cooler	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Water assist	No	No	No	No	No	Yes	No	Yes
Maximum exposure	5s	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Minimum exposure	0,001s	0,001s	0,001s	0,001s	0,2s	0,001s	0,2s	0,001s
Maximum Frame Rate	30 fps	15 fps	n/a	n/a	n/a	n/a	n/a	n/a
Gain Factor	n/a	0.34e-/ADU	0.27e-/ ADU	0.19e-/ADU	0.41e-/ ADU	0.61e-/ADU	0.6e-/ADU	0.92e-/ ADU
Full Well Capacity	n/a	~22,500 e-	~18,000e-	~12,000e-	~26,000 e-	~40,000 e-	~40,000 e-	~60,000 e-
Dark Current	n/a	n/a	~0.0005 e-/ s at -10°	~0.0002 e-/ s at -10°	~0.1000 e-/ s at -10°	~0.0100 e-/s at -20°	~ <0.25 e-/s at 0°	~0.0300 e-/s at -20°
PC Interface	USB2	USB2	USB2	USB2	USB2	USB2	USB2	USB2
Power requirements	USB powered	12VDC, 0.55A	12VDC, 2A	12VDC, 2A	12VDC, 2A	12VDC, 2A	12VDC, 2.5A	12VDC, 2A
Backfocus distance	7mm ±0.5	12mm ±0.5	27mm ±0.5	27mm ±0.5	17mm ±0.5	16mm ±0.5	19.5mm ±0.5	15mm ±0.5
Thread on front	M42x0,75	M42x0,75	M42x0,75	M42x0,75	M42x0,75	M42x0,75	M54x0,75	M54x0,75
Weight	80g	350g	900g	900g	700g	990g	1.3kg	990g
Mono or OSC	Either	Either	Mono	Mono	Mono	Either	Either	Either

Atik Cameras Specification Tables

VS Series for Scientific Applications

Model	Sony Sensor	Diag. mm	Format (Type)	Resolution HxV /Total	Pixel size μm
VS14	ICX-285	11	42769	1392 x 1040 / 1.4M	6.45
VS20	ICX-274	8.923	1/1.8	1620 x 1220 / 2M	4.4
VS28	ICX-674	10.972	42769	1932 x 1452 / 2.8M	4.54
VS50	ICX-655	7.705	1/2.3	2448 x 2050 / 5M	3.45
VS60	ICX-694	15.99	42736	2750 x 2200 / 6M	4.54
VS92	ICX-814	15.972	42736	3450 x 2704 / 9.2M	3.69

Common features for all VS models:

Image acquisition speed	6MPixels/s
Regulated cooling delta T (amb)	-35°C
Total system noise 6e typical	6e typical
Weight	800g (950g with optional integrated filter wheel)
Back focus	13mm

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OEM Solutions

Manf.	p/n	Diag. mm	Sens. Type	Horiz. Res.	Vert. Res.	Total MP	Pixel size μm
Sony	ICX-285	11	2/3	1392	1040	1.4	6.45
Sony	ICX-274	8.923	1/1.8	1620	1220	2.0	4.4
Sony	ICX-674	10.972	2/3	1932	1452	2.8	4.54
Sony	ICX-694	15.99	1/1	2750	2200	6.0	4.54
Sony	ICX-814	15.972	1/1	3388	2712	9.19	3.69

QS14

Sensor Type:	CCD - Sony ICX-285AL
Horizontal Resolution:	1392 pixels
Vertical Resolution:	1040 pixels
Pixel Size:	6.45 μM x 6.45 μM
ADC:	16 bit
Readout Noise:	6 e- typical value
Interface:	USB 2.0 High Speed
Power:	12v DC 0.8A
Max. Exposure:	Unlimited
Min. Exposure:	1/1000 s
Guide Port:	ST-4 compatible
Cooling:	Thermoelectric set point with max $\Delta T = -20^{\circ}\text{C}$
Weight:	approx. 400 gr

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