PROSILICA ALLIED Vision Technologies CANADA

GC-Series Specifications

Specifications

	GC640 / GC640C	GC650 / GC650C	GC655 / GC655C	GC660 / GC660C	GC750 / GC750C	GC780 / GC780C	GC1020 / GC1020C	GC1280	GC1290 / GC1290C	GC1350 / GC1350C	GC1380 / GC1380C	GC1380H / GC1380CH	GC1600 / GC1600C	GC1600H / GC1600CH	GC2450 / GC2450C
Resolution	659x493	659x493	659x493	659x493	752x480	782x582	1024x768	1280x1024	1280x960	1360x1024	1360x1024	1360x1024	1620x1220	1620x1220	2448 x2050
Sensor	1/2" CMOS progressive scan MT9V403	1/3" CCD progressive scan Sony ICX424	1/2" CCD progressive scan Sony ICX414	1/4" CCD ExView HAD progressive scan Sony ICX618	1/3" CMOS progressive Scan MT9V022	1/2" CCD progressive scan Sony ICX415	1/3" CCD progressive scan Sony ICX204	2/3" CMOS progressive scan IBIS5B	1/3" CCD ExView HAD progressive scan Sony ICX445	1/2" CCD Super HAD progressive scan Sony ICX205	2/3" CCD ExView HAD progressive scan Sony ICX285	2/3" CCD ExView HAD progressive scan Sony ICX285	1/1.8" CCD progressive scan Sony ICX274	1/1.8" CCD progressive scan Sony ICX274	2/3" CCD Super HAD progressive scan Sony ICX625
Pixel Size (um)	9.9 x 9.9	7.4 X 7.4	9.9 x 9.9	5.6 x 5.6	6.0 x 6.0	8.3 x8.3	4.65 x 4.65	6.7 x 6.7	3.75 x 3.75	4.65 x 4.65	6.45 x 6.45	6.45 x 6.45	4.4 x 4.4	4.4 x 4.4	3.45 x 3.45
Maximum Frame Rate (full resolution)	197 fps	90 fps	90 fps	119 fps	60 fps	64 fps	33 fps	27 fps	32 fps	20 fps	20 fps	30 fps	15 fps	25 fps	15 fps
Lens Mount	C-mount	C-mount with adjustable back focus	C-mount with adjustable back focus	C-mount with adjustable back focus	CS-mount	C-mount with adjustable back focus	C-mount with adjustable back focus	C-mount	C-mount with adjustable back focus	C-mount with adjustable back focus	C-mount with adjustable back focus	C-mount with adjustable back focus	C-mount with adjustable back focus	C-mount with adjustable back focus	C-mount with adjustable back focus
Digital Interface*	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0	GigE Vision 1.0
Interface Type	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT	IEEE 802.3 1000baseT
Exposure Range	10us to 60s	10us to 60s	10us to 60s	10us to 60s	100us to 1s	8us to 60s	10us to 60s	10us to 1s	12us to 60s	10us to 60s	10us to 60s	10us to 60s	10us to 60s	10us to 60s	25us to 60s
Gain Range	0 to 16dB	0 to 19dB	0 to 22dB	0 to 34 dB	0 to 48 dB	0 to 23 dB	0 to 22 dB	0 to 15 dB	0 to 24 dB	0 to 22dB	0 to 27dB	0 to 33 dB	0 to 21dB	0 to 30 dB	0 to 24 dB
Region of Interest (ROI)	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolutio	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution	Independent x and y control; 1 pixel resolution
Frame Rate at 100 x 100 ROI**	935 fps	300 fps	300 fps	316 fps	227 fps	269 fps	136 fps	1300 fps	172 fps	58 fps	85 fps	132 fps	84 fps	118 fps	68 fps
Binning	N/A	Independent H and V control; 1 pixel resolution	Independent H and V control; 1 pixel resolution	Independent H and V control; 1 pixel resolution	N/A	Independent H and V control; 1 pixel resolution	Independent H and V control; 1 pixel resolution	N/A	Independent H and V control; 1 pixel resolution	Independent H and V control; 1 pixel resolution	Independent H and V control; 1 pixel resolution	Independent H and V control; 1 pixel resolution	Independent H and V control; 1 pixel resolution	Independent H and V control; 1 pixel resolution	Independent H and V control; 1 pixel resolution
Horizontal Binning Range	N/A	1 to 8 columns	1 to 8 columns	1 to 8 columns	N/A	1 to 8 columns	1 to 8 columns	N/A	1 to 8 columns	1 to 8 columns	1 to 8 columns	1 to 8 columns	1 to 8 columns	1 to 8 columns	1 to 8 columns
Vertical Binning Range	N/A	1 to 493 rows	1 to 493 rows	1 to 16 rows	N/A	1 to 582 rows	1 to 768 rows	N/A	1 to 16 rows	1 to 1024 rows	1 to 1024 rows	1 to 14 rows	1 to 1220 rows	1 to 16 rows	1 to 14 rows
2x2 binning max. framerate**	N/A	160 fps	160 fps	196 fps	N/A	119 fps	59 fps	N/A	59 fps	29 fps	34 fps	52 fps	27 fps	51 fps	25 fps
Imaging Modes	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigger	External Trigger, Fixed frame rate, Software trigge
Fixed Frame Rate Control	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate	0.001 fps to maximum frame rate
External Trigger Modes	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low	Rising edge, Falling edge, Any edge, Level high, Level low
External Sync Modes	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO
Trigger Delay Control Range	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments	0 to 60s in 1 us increments
Trigger Latency	6.1 us	1.0 us	1.0 us	2 us	31 us	1.0 us	2.8 us	31 us	2 us	3.5 us	3.7 us	2 us	2.3 us	2 us	2 us
Trigger Jitter	+/-20ns	+/-20ns	+/-20ns	+/-20ns	+/-20ns	+/-20ns	+/-20ns	+/-20ns	+/-20ns	+/-20ns	+/-20ns	+/-20ns	+/-20ns	+/-20ns	+/-20ns
External Trigger/Sync Connection	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose	12-pin Hirose
Monochrome Modes	Mono8, Mono16†	Mono8, Mono16†	Mono8, Mono16†	Mono8, Mono16†	Mono8, Mono16†	Mono8, Mono16†	Mono8, Mono16†	Mono8	Mono8, Mono16†	Mono8, Mono16†	Mono8, Mono16†	Mono8, Mono16†	Mono8, Mono16†	Mono8, Mono16†	Mono8, Mono16‡
Color Modes	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	N/A	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24,	Bayer8, Bayer16	Bayer8, Bayer16

	RGBA24, BGRA24	RGBA24, BGRA24	RGBA24, BGRA24	RGBA24, BGRA24	RGBA24, BGRA24	RGBA24, BGRA24	RGBA24, BGRA24		RGBA24, BGRA24	RGBA24, BGRA24	RGBA24, BGRA24	RGBA24, BGRA24	RGBA24, BGRA24		
GPIO	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O
Power Consumption	2.3 W (12V)	3 W (12V)	3 W (12V)	3 W (12V)	2.2 W (12V)	2.7 W (12V)	2.9 W (12V)	2.3 W (12 V)	3 W (12V)	3W (12V)	3.3W (12V)	3.5W (12V)	3.2W (12V)	3.3W (12V)	3.8 W (12V)
Max. Operating Temperature	50 C	50 C	50 C	50 C	50 C	50 C	50 C	50 C	50 C	50 C	50 C	50 C	50 C	50 C	40 C
Housing Size (not including lens mount and connectors)	33x46x33 mm	33x46x38 mm	33x46x38 mm	33x46x38 mm	33x46x33 mm	33x46x38 mm	33x46x38 mm	33x46x33 mm	33x46x38 mm	33x46x43 mm	33x46x43 mm	33x46x43 mm	33x46x43 mm	33x46x43 mm	33x46x43 mm
Total Size Envelope (HxWxL)	33x46x51 mm	33x46x59 mm	33x46x59 mm	33x46x59 mm	33x46x45 mm	33x46x59 mm	33x46x59 mm	33x46x51 mm	33x46x59 mm	33x46x59 mm	33x46x59 mm	33x46x59 mm	33x46x59 mm	33x46x59 mm	33x46x59 mm
Weight	92g	99g	100g	105g	85g	100g	99 g	93g	106g	100 g	104 g	111g	97 g	105 g	106g
Conformity	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS
Digitization	10 bits	12 bits	12 bits	12 bits	10 bits	12 bits	12 bits	10 bits	12 bits	12 bits	12 bits	12 bits	12 bits	12 bits	12 bits
Spectral Sensitivity Range	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm	400 - 1000 nm

Notes

Specifications are subject to change without notice

*GigE Vision™ is a trademark of the Automated Imaging Association.

**These figures are given as an example. There are a wide range of settings and speeds possible. Smaller ROI and/or higher binning modes will give even faster maximum framerates.

†Mono16 is available on monochrome models only.
‡Mono8 and Mono16 are available on the monochrome models only.

BOCK OPTRONICS INC.
14 Steinway Blvd., Unit 7
Toronto, Ontario M9W 6M6, Canada
Tel: 416-674-2804 **Fax:** (416) 674-1827

Quebec & Eastern Canada
Tel: 450-662-9889
Fax: 450-662-9063

Website: www.bockoptronics.ca
E-mail: sales@bockoptronics.ca