

GigE-Vision Cameras for vicosys®

AVT - Manta

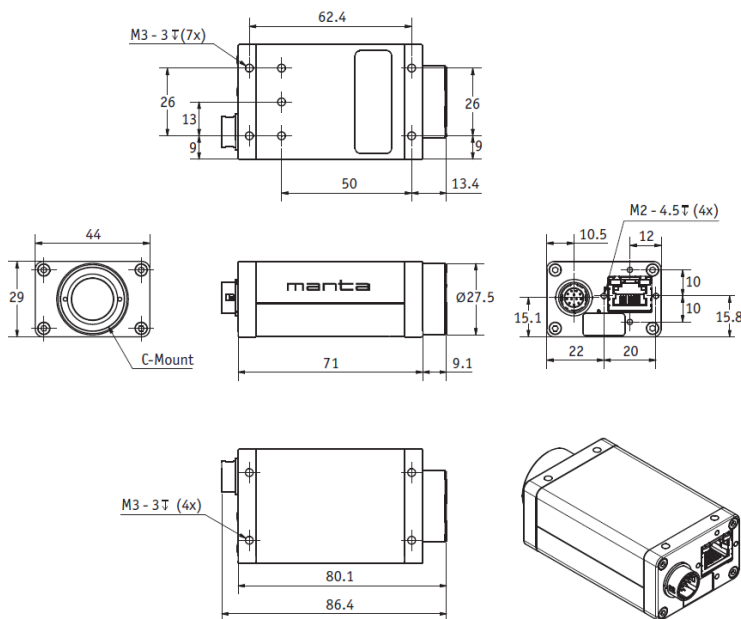
Monochrome and Colour cameras of Manta series

Product features

- VGA to 9 Megapixels, CCD (Sony) and CMOS (CMOSIS) sensors
- Two configurable inputs, two configurable outputs (all optocoupled)
- Gigabit Ethernet interface
- Cable lengths up to 100m



Engineering drawing



Definition

The cameras of the AVT Manta series are available as monochrome and also as color cameras (NIR models: monochrome only).

The GigE-Vision cameras of the AVT Manta series differs only in the characteristics of the chip and the maximum framerate.

Power-over-Ethernet

The cameras of the AVT - Manta series do not support PoE (Power-over-Ethernet). You can find PoE capable cameras in the "AVT - Manta PoE" series.

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General technical data

	Manta series
Data interface	IEEE 802.3 1000baseT (GigE Vision V1.2)
External Trigger	Yes
Opto-coupled I/Os	2 inputs, 2 outputs
Power requirements	8 - 30 VDC only via 12-pin HIROSE: external power supply needed
Weight	200g
Dimensions	86.4 x 44 x 29 mm incl. connectors
Lens mount	C/CS-Mount
Operating temperature	+5 ... +45 °Celsius
Storage temperature	-10 ... +70 °Celsius

Technical data

Name	Manta G-031B	Manta G-031C	Manta G-032B	Manta G-032C
Order no.	4-22-201	4-22-202	4-22-203	4-22-204
Sensor	Sony ICX618 with EXview HAD CCD II; microlens	Sony ICX618 with EXview HAD CCD II; microlens	Sony ICX424 with HAD; microlens	Sony ICX424 with HAD; microlens
Sensor type	Mono	Farbe	Mono	Farbe
Sensor technologie	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD
Shutter type	Global Shutter	Global Shutter	Global Shutter	Global Shutter
Sensor size	1/4" 4.46 mm x 3.80 mm	1/4" 4.46 mm x 3.80 mm	1/3" 4.9 mm x 3.7 mm	1/3" 4.9 mm x 3.7 mm
Resolution total Resolution effective*	656 x 492 640 x 480	656 x 492 640 x 480	656 x 492 640 x 480	656 x 492 640 x 480
Pixel size	5.6 µm x 5.6 µm	5.6 µm x 5.6 µm	7.4 µm x 7.4 µm	7.4 µm x 7.4 µm
Frame rate	125 fps	125 fps	80 fps	80 fps
Gain control	Manuell: 0 ... 32 dB; Auto Gain	Manuell: 0 ... 32 dB; Auto Gain	Manuell: 0 ... 36 dB; Auto Gain	Manuell: 0 ... 36 dB; Auto Gain
Shutter (exposure time)	58 µs ... 60s, Auto Shutter	58 µs ... 60s, Auto Shutter	26 µs ... 60s, Auto Shutter	26 µs ... 60s, Auto Shutter
Power consumption	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)

Name	Manta G-033B	Manta G-033C	Manta G-046B	Manta G-046C
Order no.	4-22-205	4-22-206	4-22-207	4-22-208
Sensor	Sony ICX414 with HAD; microlens	Sony ICX414 with HAD; microlens	Sony ICX415 with HAD; microlens	Sony ICX415 with HAD; microlens
Sensor type	Mono	Farbe	Mono	Farbe
Sensor technologie	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD
Shutter type	Global Shutter	Global Shutter	Global Shutter	Global Shutter
Sensor size	1/2" 6.5 mm x 4.9 mm	1/2" 6.5 mm x 4.9 mm	1/2" 6.5 mm x 4.8 mm	1/2" 6.5 mm x 4.8 mm
Resolution total Resolution effective*	656 x 492 640 x 480	656 x 492 640 x 480	780 x 580 ---	780 x 580 ---
Pixel size	9.9 µm x 9.9 µm	9.9 µm x 9.9 µm	8.3 µm x 8.3 µm	8.3 µm x 8.3 µm
Frame rate	88 fps	88 fps	67 fps	67 fps
Gain control	Manuell: 0 ... 35 dB; Auto Gain	Manuell: 0 ... 35 dB; Auto Gain	Manuell: 0 ... 31 dB; Auto Gain	Manuell: 0 ... 31 dB; Auto Gain
Shutter (exposure time)	26 µs ... 60s, Auto Shutter	26 µs ... 60s, Auto Shutter	26 µs ... 60s, Auto Shutter	26 µs ... 60s, Auto Shutter
Power consumption	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)

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Monochrome and Colour cameras of Manta series

Name	Manta G-095C	Manta G-125B	Manta G-125C	Manta G-145B
Order no.	4-22-209	4-22-210	4-22-211	4-22-212
Sensor	Sony ICX692 with EXview HAD CCD II; microlens	Sony ICX445 with EXview HAD CCD; microlens	Sony ICX445 with EXview HAD CCD; microlens	Sony ICX285 with EXview HAD CCD; microlens
Sensor type	Farbe	Mono	Farbe	Mono
Sensor technologie	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD
Shutter type	Global Shutter	Global Shutter	Global Shutter	Global Shutter
Sensor size	1/3" 6.04 mm x 4.0 mm	1/3" 4.8 mm x 3.6 mm	1/3" 4.8 mm x 3.6 mm	2/3" 9.0 mm x 6.7 mm
Resolution total Resolution effective*	1292 x 734 1280 x 734	1292 x 964 1280 x 960	1292 x 964 1280 x 960	1388 x 1038 ---
Pixel size	4.08 µm x 4.08 µm	3.75 µm x 3.75 µm	3.75 µm x 3.75 µm	6.45 µm x 6.45 µm
Frame rate	40 fps	30 fps	30 fps	16 fps
Gain control	Manuell: 0 ... 32 dB; Auto Gain	Manuell: 0 ... 31 dB; Auto Gain	Manuell: 0 ... 31 dB; Auto Gain	Manuell: 0 ... 33 dB; Auto Gain
Shutter (exposure time)	45 µs ... 60s, Auto Shutter	21 µs ... 60s, Auto Shutter	21 µs ... 60s, Auto Shutter	38 µs ... 60s, Auto Shutter
Power consumption	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)

Name	Manta G-145B-30fps	Manta G-145B-NIR	Manta G-145C	Manta G-145C-30fps
Order no.	4-22-215	4-22-214	4-22-213	4-22-216
Sensor	Sony ICX285 with EXview HAD CCD; microlens	Sony ICX285 MonoNIR enhanced with EXview HAD CCD; microlens	Sony ICX285 with EXview HAD CCD; microlens	Sony ICX285 with EXview HAD CCD; microlens
Sensor type	Mono	Mono	Farbe	Farbe
Sensor technologie	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD
Shutter type	Global Shutter	Global Shutter	Global Shutter	Global Shutter
Sensor size	2/3" 9.0 mm x 6.7 mm	2/3" 9.0 mm x 6.7 mm	2/3" 9.0 mm x 6.7 mm	2/3" 9.0 mm x 6.7 mm
Resolution total Resolution effective*	1388 x 1038 ---	1388 x 1038 ---	1388 x 1038 ---	1388 x 1038 ---
Pixel size	6.45 µm x 6.45 µm	6.45 µm x 6.45 µm	6.45 µm x 6.45 µm	6.45 µm x 6.45 µm
Frame rate	30 fps	15 fps	16 fps	30 fps
Gain control	Manuell: 0 ... 33 dB; Auto Gain	Manuell: 0 ... 33 dB; Auto Gain	Manuell: 0 ... 33 dB; Auto Gain	Manuell: 0 ... 33 dB; Auto Gain
Shutter (exposure time)	37 µs ... 60s, Auto Shutter	38 µs ... 60s, Auto Shutter	38 µs ... 60s, Auto Shutter	37 µs ... 60s, Auto Shutter
Power consumption	< 3.6 W (@ 12 V DC)	< 4.2 W (@ 12 V DC)	< 3.7 W (@ 12 V DC)	< 4.5 W (@ 12 V DC)

Name	Manta G-146B	Manta G-146C	Manta G-201B	Manta G-201C
Order no.	4-22-200	4-22-217	4-22-218	4-22-219
Sensor	Sony ICX267 with HAD; microlens	Sony ICX267 with HAD; microlens	Sony ICX274 with Super HAD; microlens	Sony ICX274 with Super HAD; microlens
Sensor type	Mono	Farbe	Mono	Farbe
Sensor technologie	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD
Shutter type	Global Shutter	Global Shutter	Global Shutter	Global Shutter
Sensor size	1/2" 6.5 mm x 4.8 mm	1/2" 6.5 mm x 4.8 mm	1/1.8" 7.1 mm x 5.4 mm	1/1.8" 7.1 mm x 5.4 mm
Resolution total Resolution effective*	1388 x 1038 ---	1388 x 1038 ---	1624 x 1234 1600 x 1200	1624 x 1234 1600 x 1200
Pixel size	4.65 µm x 4.65 µm	4.65 µm x 4.65 µm	4.4 µm x 4.4 µm	4.4 µm x 4.4 µm
Frame rate	17 fps	17 fps	14 fps	14 fps
Gain control	Manuell: 0 ... 33 dB; Auto Gain	Manuell: 0 ... 33 dB; Auto Gain	Manuell: 0 ... 31 dB; Auto Gain	Manuell: 0 ... 31 dB; Auto Gain
Shutter (exposure time)	33 µs ... 60s, Auto Shutter	33 µs ... 60s, Auto Shutter	51 µs ... 60s, Auto Shutter	51 µs ... 60s, Auto Shutter
Power consumption	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)	< 3.6 W (@ 12 V DC)

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Name	Manta G-201B-30fps	Manta G-201C-30fps	Manta G-504B	Manta G-504C
Order no.	4-22-220	4-22-221	4-22-222	4-22-223
Sensor	Sony ICX274 with Super HAD; microlens	Sony ICX274 with Super HAD; microlens	Sony ICX655 with Super HAD; microlens	Sony ICX655 with Super HAD; microlens
Sensor type	Mono	Farbe	Mono	Farbe
Sensor technologie	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD	Progressive Scan CCD
Shutter type	Global Shutter	Global Shutter	Global Shutter	Global Shutter
Sensor size	1/1.8" 7.1 mm x 5.4 mm	1/1.8" 7.1 mm x 5.4 mm	2/3" 8.5 mm x 7.1 mm	2/3" 8.5 mm x 7.1 mm
Resolution total Resolution effective*	1624 x 1234 1600 x 1200	1624 x 1234 1600 x 1200	2452 x 2056 ---	2452 x 2056 ---
Pixel size	4.4 µm x 4.4 µm	4.4 µm x 4.4 µm	3.45 µm x 3.45 µm	3.45 µm x 3.45 µm
Frame rate	30 fps	30 fps	9 fps	9 fps
Gain control	Manuell: 0 ... 31 dB; Auto Gain	Manuell: 0 ... 31 dB; Auto Gain	Manuell: 0 ... 32 dB; Auto Gain	Manuell: 0 ... 32 dB; Auto Gain
Shutter (exposure time)	10 µs ... 60s, Auto Shutter	10 µs ... 60s, Auto Shutter	38 µs ... 60s, Auto Shutter	38 µs ... 60s, Auto Shutter
Power consumption	< 4.6 W (@ 12 V DC)	< 4.6 W (@ 12 V DC)	< 3.9 W (@ 12 V DC)	< 3.9 W (@ 12 V DC)

* To improve the display on the monitor, the resolution is adjusted to common monitor resolutions. Thus, the occurrence of black bars is prevented without distorting the image. This only affects cameras whose resolution is slightly larger than the standard monitor resolutions.

Notes

If you have any questions or if you need professional support with selecting the right optics and illumination components give us a call. Our competent and experienced experts are happy to advise you in order to find the best possible solution for your application.

Accessories

Order no.	Name	Description
4-40-283	I/O cable, 3 m	12-Pin Hirose to open end for camera Manta
4-40-280	I/O cable, 5 m	12-Pin Hirose to open end for camera Manta
4-40-284	I/O cable, 10 m	12-Pin Hirose to open end for camera Manta
4-40-120	Ethernet cable f. GigE cameras	Patch cable Cat.6(A), 3 m 2 x RJ45, 1200 MHz, grey
4-40-279	Cable CAT5 8pol., 10m	for torsional stress for camera Manta
4-44-121	Cable GigE, CAT.6, 2xRJ45, 5m	, S/STP
4-44-122	Cable GigE, CAT.6, 10m,	2xRJ45, S/STP
4-44-123	Cable GigE, CAT.6, 20m,	2xRJ45, S/STP
4-44-124	Cable GigE, CAT.6, 30m,	2xRJ45, S/STP
4-44-125	Cable GigE, CAT.7, 50m,	2xRJ45, S/STP
4-44-126	Cable GigE S/STP (CAT6), 5 m	screwlock horizontal os, high flex
4-44-127	Cable GigE S/STP (CAT6), 10 m	screwlock horizontal os, high flex
4-44-128	Cable GigE S/STP (CAT6), 20 m	screwlock horizontal os, high flex
4-44-129	Cable GigE S/STP (CAT6), 25 m	screwlock horizontal os, high flex

Scope of delivery

- Manta camera

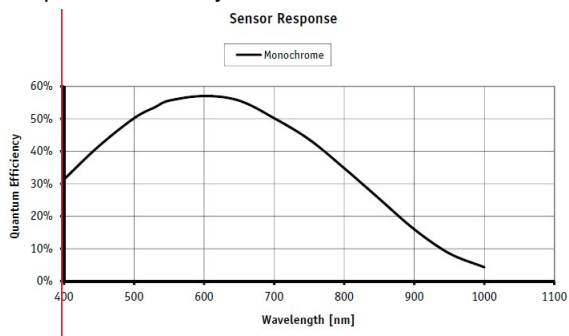
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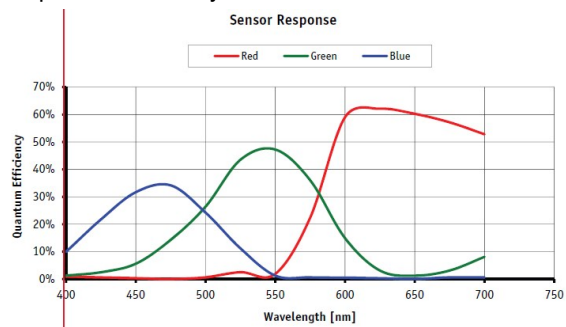
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Spectral sensitivity

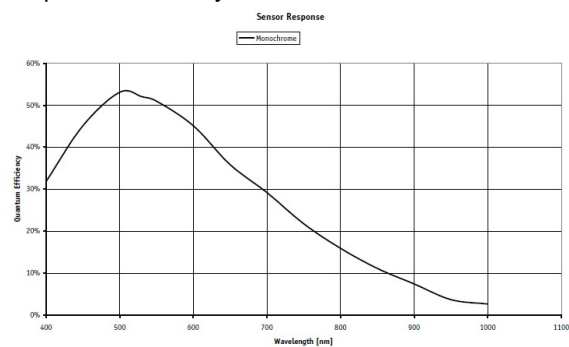
Spectral sensitivity Manta G-031B



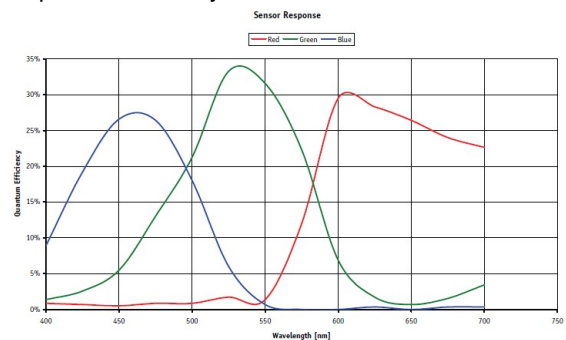
Spectral sensitivity Manta G-031C



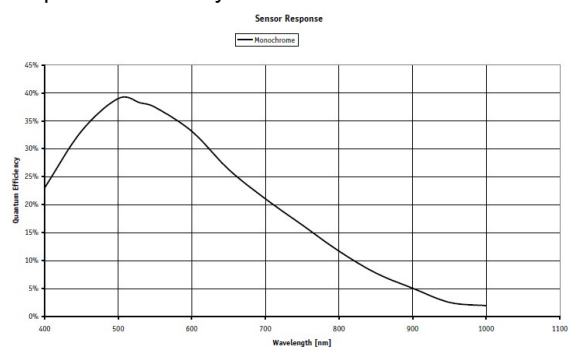
Spectral sensitivity Manta G-032B



Spectral sensitivity Manta G-032C



Spectral sensitivity Manta G-033B



Spectral sensitivity Manta G-033C

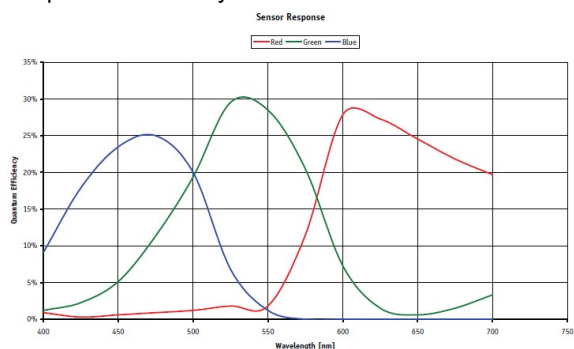


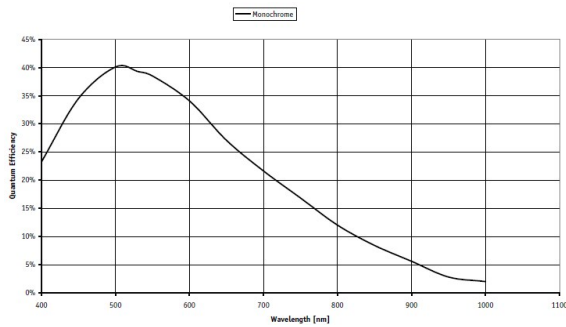
Figure 5: Spectral sensitivity of Manta G-033B

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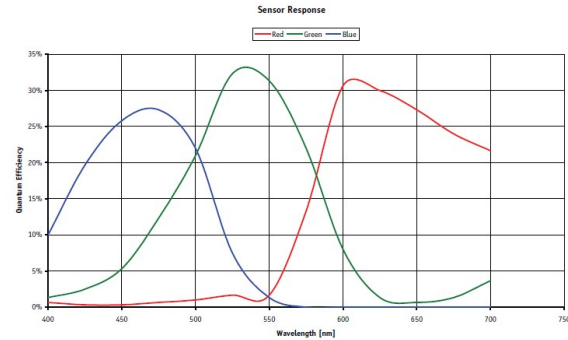
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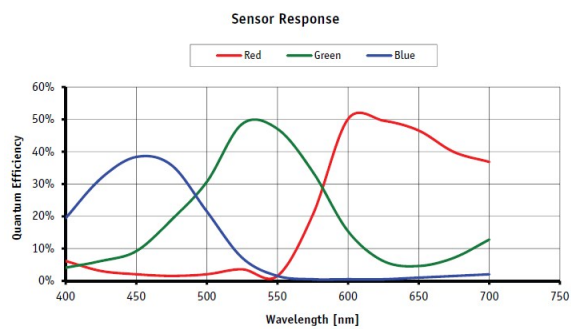
Spectral sensitivity Manta G-046B



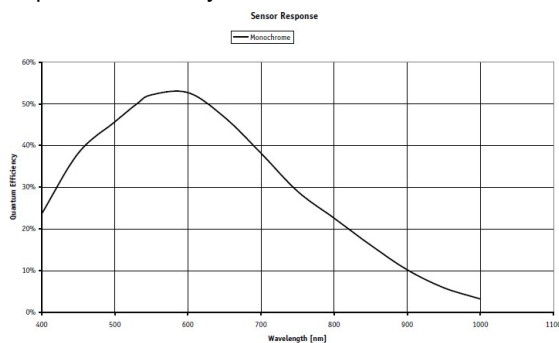
Spectral sensitivity Manta G-146C



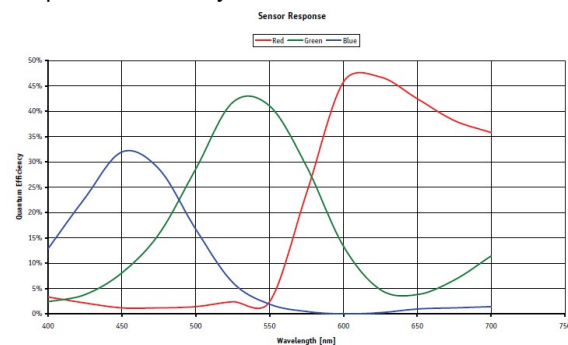
Spectral sensitivity Manta G-095C



Spectral sensitivity Manta G-125B



Spectral sensitivity Manta

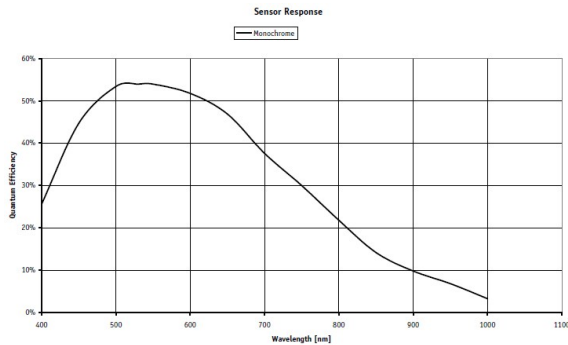


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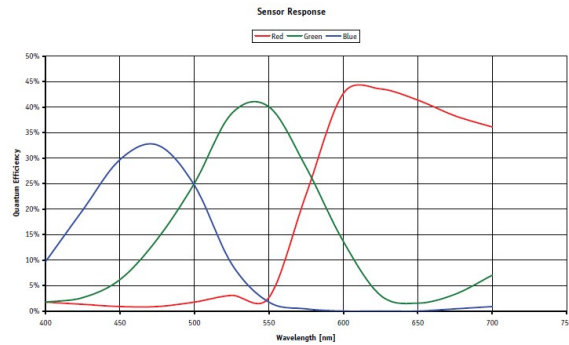
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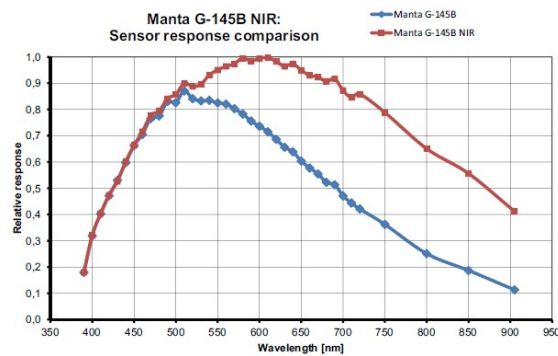
Spectral sensitivity Manta G-145B/ G-145B
(30fps)



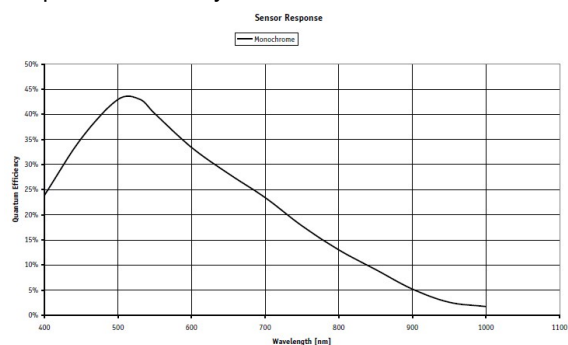
Spectral sensitivity Manta



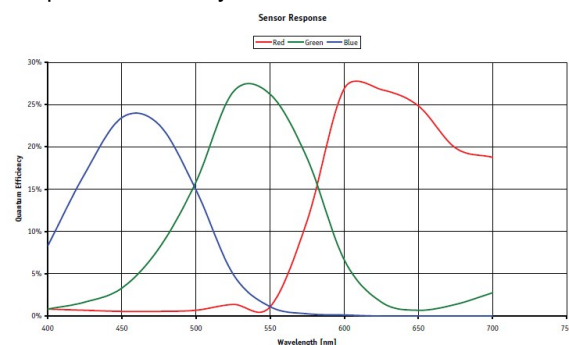
Spectral sensitivity Manta G-145B/ G-145B-NIR



Spectral sensitivity Manta



Spectral sensitivity Manta

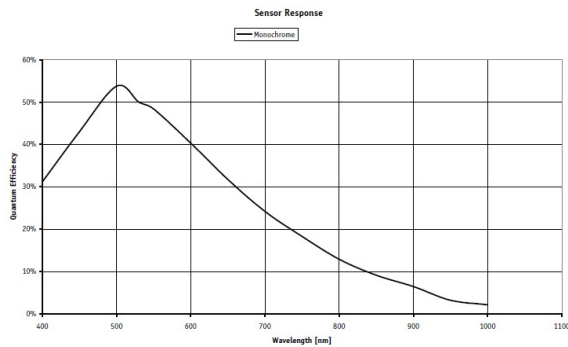


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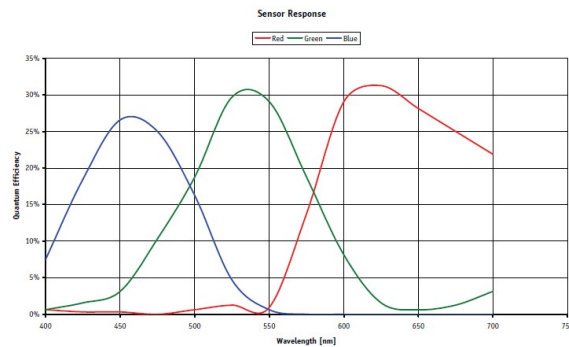
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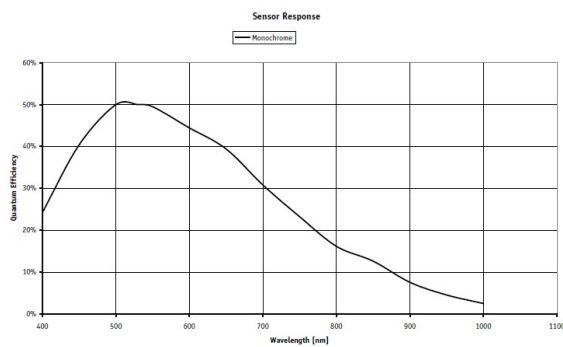
Spectral sensitivity Manta



Spectral sensitivity Manta G-201C/ G-201C (30fps)



Spectral sensitivity Manta



Spectral sensitivity Manta G-504C

