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Vision Technologies

**AVT Manta series
Type A / Type B differentiation**

August 2013



Overview



- ✓ Model Overview
- ✓ Technical data
- ✓ Mechanical differences
- ✓ Electronic differences
- ✓ LED behavior
- ✓ Firmware differences

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Manta Type A / Type B

Model overview

Due to the different hardware architecture to provide optimal support for the different sensor types we have slight differentiations between the two types of Manta cameras.

Type A = Contains Sony single tap sensors

Type B = Sony multi tap sensors and CMOS sensors

	G-031 B/C	G-032 B/C	G-033 B/C	G-046 B/C	G-095 B/C	G-125 B/C	G-145 B/C	G-145 B/C 30fps	G-145 B NIR	G-146 B/C	G-201 B/C	G-201 B/C 30fps	G-223 B/C	G-223 B NIR	G-282 B/C	G-283 B/C	G-419 B/C	G-419 B NIR	G-504 B/C	G-609 B/C	G-917 B/C	
Type A	✓	✓	✓	✓	✓	✓	✓	✓	✓										✓			
Type B													✓	✓	✓	✓	✓	✓		✓		✓

Manta Type A / Type B

technical data

	Manta Type A	Manta Type B
Interface	GigE (PoE optional)	GigE (PoE optional)
Size (H x W x L) incl. connectors	29 x 44 x 86.4 mm	29 x 44 x 86.4 mm
Operating temperature	5°C to 50°C (environment)	5°C to 45°C (environment)
Sensor range	VGA to 5 MP	2 MP to 9 MP
Sensor size	1/4" to 2/3"	1/1.8" to 1"
Sensor type	CCD	CCD / CMOS
I/O configuration	Optical isolated: 2 In / 2 Out	Optical isolated: 2 In / 2 Out
Lens control	Video Iris	Video Iris
Lens mounts	C / CS – Mount	C / CS – Mount
RS-232	Yes, full level	Yes, full level

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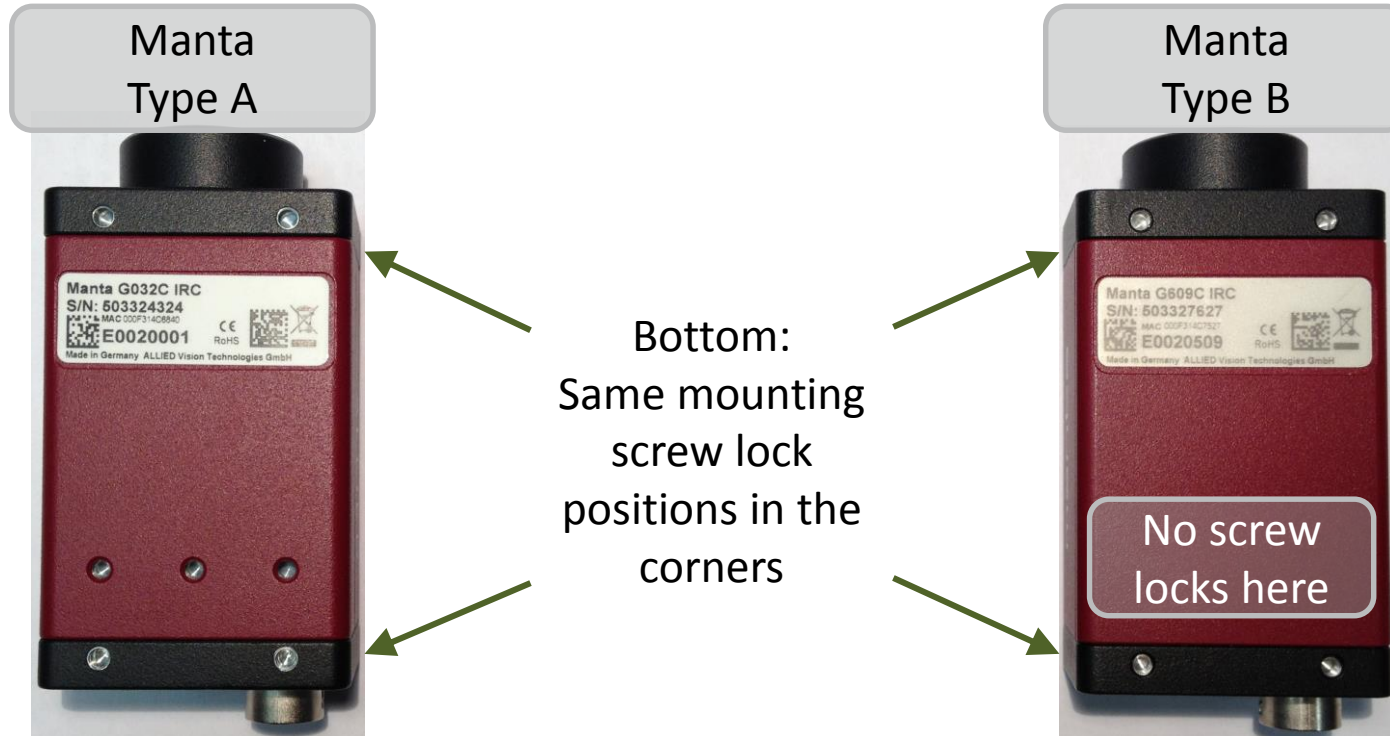
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Manta Type A / Type B Mechanics

To keep housing size at the same level as the type A Manta models we had to give up three mounting holes at the bottom.

Category	Feature	Type A	Type B CCD	Type B CMOS
Mechanics	Angled head variants	Yes	No (in preparation)	No (in preparation)
	Board level variants	Yes	No (in preparation)	No (in preparation)
	RJ-45 connector	4 screw lock positions (left / right + up / down)	2 screw lock positions (left / right)	2 screw lock positions (left / right)
	Bottom: Screw mounting positions	7 screw mounting positions (compatibel as well to Stingray / Marlin)	4 screw mounting positions (compatible to Type A)	4 screw mounting positions (compatible to Type A)
	Tripod Adapter	NEW: AVT Manta Mount (item #5153) Old: AVT Standard Mount (item #E5000007)	NEW: AVT Manta Mount (item #5153) Note: same optical position as with the former AVT standard mount	NEW: AVT Manta Mount (item #5153) Note: same optical position as with the former AVT standard mount

Manta Type A / Type B Mechanics



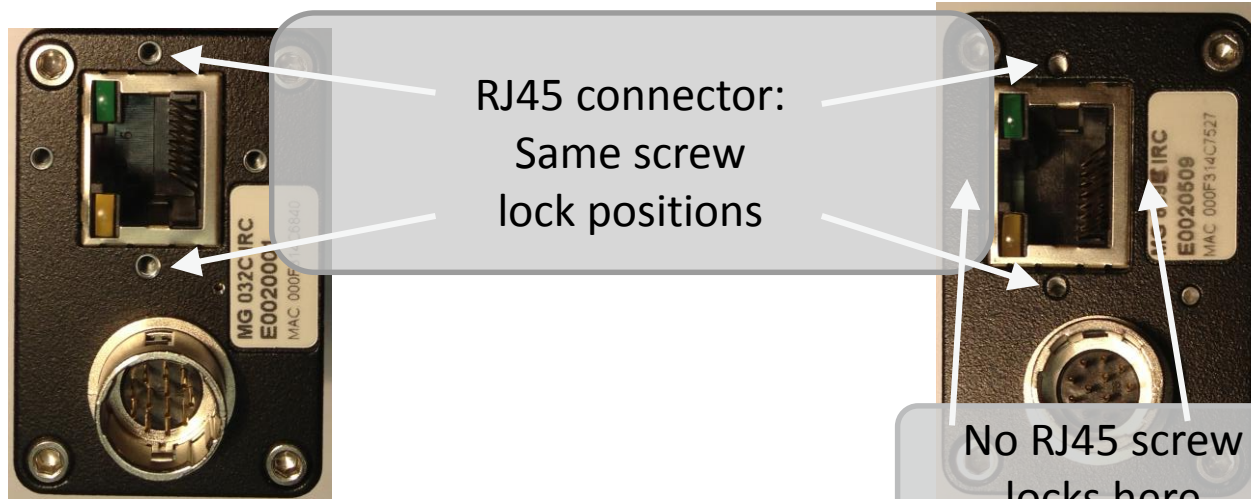
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Manta Type A / Type B Mechanics

Manta
Type A

Manta
Type B



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Manta Type A / Type B Electronics

To make the new Manta models more convenient for future use AVT spend some additional electronics to the Manta type B models

Category	Feature	Type A	Type B CCD	Type B CMOS
Electronics	Memory	32 MB	128 MB	128 MB
	A/D Conversion	12bit (ICX424) 14 bit (all other sensors)	14 bit	10 / 12 bit depending on internal CMOS A/D converter
	LED configuration for details: see next slide	No status messages available	Status messages added	Status messages added
	Temperature sensor	No	Yes	Yes

Manta Type A / Type B LED behavior

Both Manta types have a different LED configuration
AVT added in Manta type B status information

LED behavior Manta Type A vs. Manta Type B		Manta Type A			Manta Type B (All)		
		Power LED	Left RJ45 LED orange	Right RJ45 LED green	Power LED	Left RJ45 LED orange	Right RJ45 LED green
Boot	GigE	ON	Initialization of camera: off Initialization NW: solid	off	No	Network Traffic	slow blinking
	100MBit	ON	off	Initialization of camera: off Initialization NW: solid	No	Network Traffic	slow blinking
in operation	GigE	ON	Network Traffic	off	No	Network Traffic	ON
	100MBit	ON	off	Network Traffic	No	Network Traffic	ON
fault	GigE	ON	Network Traffic	off	No	Network Traffic	fast blinking
	100MBit	ON	off	Network Traffic	No	Network Traffic	fast blinking

Manta Type A / Type B Firmware

Due to larger FPGA resources AVT were able to add further features to Manta type B models.

Category	Feature	Type A	Type B CCD	Type B CMOS
Firmware	LookUp Table selector in user set available	No	Yes	Yes
	Gamma correction	3 fixed values shared with look up table position 1	Enhanced to support float values between 0.25 and 4 Standalone module without any resource sharing.	Enhanced to support float values between 0.25 and 4 Standalone module without any resource sharing.
	Bayer Interpolation	2 x 2	3 x 3	3 x 3
	PTP	No	Yes	Yes

Terminology



PoE	Power Over Ethernet
RCG	Removed cover glass
ASG	Transparent cover glass (German abbr. for Ab Schluss G las)
IRC	Infrared Cut Filter
FFC	Flat Field Correction
PTP	IEEE 1588 Precision Time Protocol. Software clock synchronization.
ROI	Region Of Interest. Hardware based windowing.
SNR_{MAX}	Signal to Noise Ratio, as defined in equation 35 of EMVA Standard 1288 v3.0.
LUT	Look Up Table. Map any pixel value to another pixel value. Applies to entire image.

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